

South Carolina Department of Natural Resources

Board Meeting Agenda and Materials and Monthly Division Reports



DNR

**Board Meeting Scheduled
for**

SC DNR – Marine Resources Division
Eltzroth Building Conference Room – Third Floor
217 Ft. Johnson Road
Charleston, SC
February 17, 2022 10:00 am

Agenda

AGENDA

SC DEPARTMENT OF NATURAL RESOURCES BOARD

SC DNR – Marine Resources Division
Eltzroth Building Conference Room – Third Floor
217 Ft. Johnson Road
Charleston, SC
February 17, 2022 10:00 am

<https://scdnr2.webex.com/scdnr2/j.php?MTID=mac4d9addef3cc853430ee1cc0f255877>

Telephone: 1-844-992-4726
Access Code: 2633 216 8735##

Casual attire is suggested for this meeting

Transportation for a tour of Crab Bank, following the meeting, will be provided for Board members and DNR staff

- I. Call to Order..... Norman Pulliam, Chairman, SC DNR Board
- II. Videoconference Guidelines..... Valerie Shannon, Facilitator
- III. Invocation
- IV. Pledge of Allegiance..... Mike Hutchins, Vice Chairman, SC DNR Board
- V. Chairman’s Comments
- VI. Introduction of GuestsEmily Cope, Deputy Director for Wildlife and Freshwater Fisheries
- VII. Constituent Comments (Comments are limited to 5 minutes) Emily Cope
- VIII. Introduction of Staff
- IX. Approval of Minutes from January 20, 2022 meeting
- X. Presentations/Commendations
- XI. Advisory Committee Reports
 - A. Wildlife and Freshwater Fisheries..... Mike Hutchins, Chairman
 - B. Governor’s Cup Billfishing SeriesJ. Carlisle Oxner III, DNR Board Representative
 - C. Heritage Trust..... Jake Rasor, Jr., DNR Board Representative
- XII. Item(s) for Board Information
 - A. Crab Bank Lorianne Riggan, Director, Office of Environmental Programs
and
Felicia Sanders, Wildlife and Freshwater Fisheries Division
 - B. Patriot’s Point EasementBill Craver, General Counsel
Patriots Point Development Authority
 - C. Recent Earthquake Activity in Southwestern Kershaw County Scott Howard
Land, Water and Conservation Division
 - D. Climate Update..... Hope Mizzell, Land, Water and Conservation Division

- XIII. Director's Briefings
 - A. Executive OfficeRobert H. Boyles, Jr., Director
 - 1. Legislative Report..... Kevin R. Ryan, Director, Government Affairs
 - 2. Environmental Report Lorianne Riggan, Director, Office of Environmental Programs
 - B. Deputy Directors' Reports
 - 1. Wildlife and Freshwater Fisheries Emily Cope
 - 2. Law Enforcement..... COL Chisolm Frampton
 - 3. Marine Resources.....Blaik Keppler
 - 4. Administration.....Angie Cassella
 - 5. Land, Water and Conservation Ken Rentiers
- XIV. Item(s) for Board Action
 - A. Extension of Conservation Easement in Charleston County Ken Prosser
Asst. Deputy Director, Wildlife and Freshwater Fisheries
 - B. Approval of Expenditure from SHEP Mitigation Trust Fund
Savannah River Sturgeon Monitoring Ross Self
Wildlife and Freshwater Fisheries Division
 - C. Approval of Expenditure from Haile Gold Mine Mitigation Trust Fund – Management of
Wateree River Heritage Preserve and
Rainbow Ranch Properties Billy Dukes, Wildlife and Freshwater Fisheries Division
 - D. Approval of Expenditure from Lake Richard B. Russell Mitigation Trust Fund – Management
of Palachucola WMA Billy Dukes
 - E. Approval of Expenditure from Lake Richard B. Russell Mitigation Trust Fund – Management
of Donnelley WMA.....Billy Dukes
 - F. Crab Bank Heritage Preserve commitment to Corpus of Heritage Trust Ken Prosser
 - G. Clear Creek Heritage Preserve Dedication and Commitment to the
Corpus of Heritage Trust Ken Prosser
 - H. Property Purchase in Lexington County..... Sean Taylor
Land, Water and Conservation Division
 - I. Final Approval to Purchase Approximately 86.22 acres in Edgefield County Sean Taylor
 - J. Potential Property Acquisition in Greenville County Ken Prosser
 - K. Potential Property Acquisition in Greenville County Ken Prosser
- XV. Executive Session (if necessary)
- XVI. Comments..... Board Members
- XVII. Time and Location of Next Board Meeting..... Board Members
- XVIII. Adjournment

Minutes

Minutes
Board of the South Carolina Department of Natural Resources
Virtual Meeting
Columbia, SC
January 20, 2022 11:00 AM

The regular meeting of the Board of the South Carolina Department of Natural Resources was held, virtually, at 10:00 a.m., January 20, 2022. Notice of the date, time and place of the meeting was posted and mailed to the news media. Chairman Norman Pulliam presided at the meeting. Board members present included Dr. Mark Hartley, Mike Hutchins, Jerry Lee, Carlisle Oxner, Jake Rasor, Jr., and Duane Swygert. Director Boyles and staff members of the Department of Natural Resources were present at the meeting.

- I. **Call to Order**
Chairman Norman Pulliam called the meeting to order and welcomed everyone to the meeting.
- II. **Invocation**
Chaplain Dave Tafaoa, SC Law Enforcement Assistance Program (SC LEAP), offered the invocation.
- III. **Pledge of Allegiance**
Mr. Hutchins led the group in the Pledge of Allegiance.
- IV. **Introduction of Guests**
Blaik Keppler, Acting Deputy Director for Marine Resources, introduced Tiara Pitts, SC Realtors Association; Coyet Green, Department of Administration; Riley Egger, Coastal Conservation League; Angie Price, Renewable Water Resources; and Sammy Fretwell, *The State*.
- V. **Constituent Comments**
Ms. Keppler reported that there were no requests for comment.
- VI. **Approval of Minutes**
Chairman Pulliam asked if there were any additions, deletions or corrections to the minutes of the November 18, 2021 10:00 AM and 11:00 AM meetings. *Dr. Hartley made a motion that the Board approve the minutes of the November 18, 2021 10:00 AM and 11:00 AM meetings as presented. Mr. Swygert seconded the motion and the motion carried unanimously.*
- VII. **Presentations/Commendations**
Director Boyles commended staff who helped with the Celebration of Life Ceremony on January 3 for Deputy Director Phil Maier commemorating his life and service to the State and who helped in support of Phil's family and staff during his illness and passing. Director Boyles commended SCLEAP Chaplain Dave Tafaoa for his steadfast support of the family and staff. The contributions of Marine Division Acting Deputy Director Blaik Keppler, Tom Salisbury, Maia Ingle, Erin Weeks, Tanya Darden, Olivia Bueno, Tim Snoots, Colonel Chisolm Frampton and other Department staff who offered support and assistance were acknowledged.

Director Boyles commended Mark Litz, Director of Information Technology of the Administration Division, for his leadership as they focus on how IT can evolve to better meet the needs of the diverse user base at SCDNR. Mark has started the process by reaching out to all SCDNR staff with a request to assist IT in reviewing all its internal business processes to improve services and to pass along any suggestions or needs.

Director Boyles commended Officer Jason Davis of Law Enforcement who was commended in an email from a constituent praising Officer Davis' professionalism and concern for their family in the search and recovery of a missing boater on Lake Murray. He noted "He is a wonderful young man, a great ambassador for DNR and a valuable asset to your team."

Director Boyles commended Preston Chrisman of Wildlife and Freshwater Fisheries for his podcast highlighting his fisheries work and making that work available to a podcast audience.

Director Boyles commended Brooke Myres and Deanne Myrick of Land, Water and Conservation and Zadok Moss of Wildlife and Freshwater Fisheries for their participation in the Palmetto Leadership in the Environment, Agriculture and Forestry (PLEAF) Institute. Brooke Myres participated in Cohort 1 and is scheduled to finish in March and Deanne Myrick and Zadok Moss will participate in Cohort 2. PLEAF is a two-year commitment and attracts the brightest and best of SC's current and future leaders in the environmental, agricultural, forestry and natural resources sector.

VIII. Advisory Committee Reports

Marine

Mr. Swygert reported that the Marine Advisory Committee met virtually on January 7, 2022. The Advisory Committee received reports on Applied Mariculture Research to Improve Marine Fish Production at the Waddell Mariculture Center, Blue Crab Status and Engaging the Next Generation of Coastal Stewards.

IX. Items for Board Information

A. Climate Update

Melissa Griffin, Land, Water and Conservation Division, reported on the recent snow event. Ms. Griffin informed the Board of the SC 2021 – Weather and Climate Annual Review to be held virtually on January 27, 2022. Ms. Griffin provided rainfall totals, precipitation percentiles, streamflow, lake levels, groundwater monitoring wells around the state, precipitation forecast and temperature forecast.

B. Overview of Oyster Shell Recycling Program

Ben Dyar, Marine Resources Division, gave the Board a brief presentation on the Oyster Shell Recycling Program. The presentation included the oyster life cycle; the economic, supporting, maintaining and cultural value; the history of the recycling program; the number of bushes recycled by season; sources of shell; and oyster shell planting.

X. Director's Briefings

Director Boyles thanked Mr. Hutchins for attending the House Ways and Means Subcommittee meeting.

Director Boyles asked Caleb Cohoon to give the Board a brief auditing report. Mr. Cohoon reported on the State Auditor's Report, the State Fiscal Accountability Authority report and the US Fish and Wildlife Service – Wildlife and Sport Fish Restoration Program audit.

Director Boyles gave the Board an update on the conservation easement that DNR holds at Patriots Point. The option to extend the conservation easement would be considered soon and a recommendation on that may be presented to the Board at its next meeting.

XI. Legislative Report

Kevin Ryan, Director of Government Affairs, reported on S. 980 – Red Snapper Bag and Size Limits in State Waters, the Wildlife Subcommittee Meeting, Recovering America's Wildlife Act (RAWA) and deer-dog hunting.

XII. Environmental Report

Nothing further to report.

XIII. Deputy Directors' Reports

A. Wildlife and Freshwater Fisheries

Emily Cope, Deputy Director for Wildlife and Freshwater Fisheries, informed the Board of the "Partner with a Payer" event that highlighted the use of Sportfish Restoration funding. Ms. Cope also reported on the Striped Bass Challenge held January 8.

B. Law Enforcement

LTC Jamie Landrum reported on the swearing in of the new class of officers. LTC Landrum stated that 10-15 officers should be hired by May 1. LTC Landrum that 107 officers were on ice and snow detail during the last event and 119 officers will be on ice and snow detail for the upcoming event.

C. Marine Resources

Ms. Keppler announced that Dr. Tanya Darden has been selected to serve as the Director of the Marine Resources Research Institute.

D. Administration

Angie Cassella, Deputy Director for Administration, gave the Board an update on the Brandt conversion.

E. Land, Water and Conservation

Nothing further to report.

XIV. Item(s) for Board Action

Approval of Craven Creek Fish Kill Report

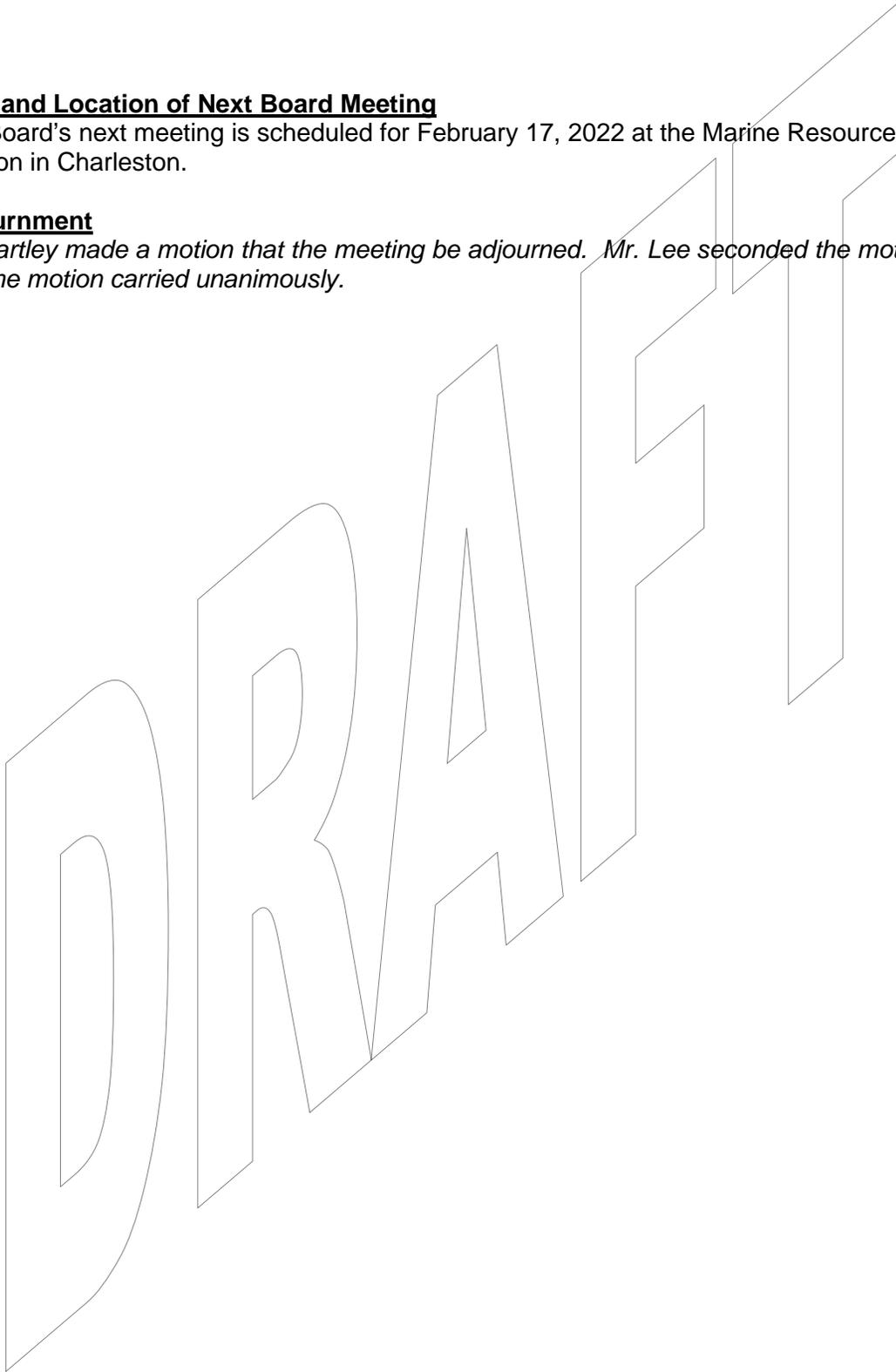
Ross Self, Wildlife and Freshwater Fisheries Division, reviewed the Craven Creek Fish Kill Report, as included in the meeting packet. *Mr. Hutchins made a motion that the DNR Board approve the Craven Creek Fish Kill Report as presented and recommended by staff. Mr. Swygert seconded the motion and the motion carried unanimously.*

XV. Time and Location of Next Board Meeting

The Board's next meeting is scheduled for February 17, 2022 at the Marine Resources Division in Charleston.

XVI. Adjournment

Dr. Hartley made a motion that the meeting be adjourned. Mr. Lee seconded the motion and the motion carried unanimously.



Item(s) for Action

South Carolina Department of
Natural Resources



Robert H. Boyles, Jr.

Director

Emily C. Cope
Deputy Director for
Wildlife and Freshwater Fisheries

MEMORANDUM

To: SCDNR Board

From: Ken Prosser

Date: February 8, 2022

Subject: Patriots Point Conservation Easement
(Regular Session Item)

The question before the Board is whether to renew and extend the 21.22-acre conservation easement at Patriots Point for an additional 25-year term spanning January 21, 2023, to January 20, 2048. (*See the attached conservation easement, map, and related information.*) The recommendation of the SCDNR staff is to renew and extend the conservation easement.

Among its other provisions, the Conservation Easement states:

At any time within one year of the expiration of the Initial Term of this Easement, [SCDNR] has the option, solely at its discretion, to renew and extend this Easement for another twenty-five (25) year term. Prior to the expiration of any term of this Easement, the parties agree to use their best efforts to analyze and discuss the propriety of extending the term of this Easement Agreement.

The final year during which renewal could be invoked is January 21, 2022, through January 20, 2023.

On December 8, 2021, SCDNR received a request, dated September 15, 2021, from Patriots Point Development Authority (PPDA) to terminate the existing 21-acre conservation easement and offer a new conservation easement on two separate parcels comprising approximately 8 acres northwest of the site for a 15-year term with a right to renew for 10 years. The PPDA request reflects their desire to not extend the conservation easement on the 21-acre tract and, in part, explains:

At present, Patriots Point is developing income producing uses on the tract of land directly across the road from the [21-acre conservation easement tract]. Patriots Point would like to use the [21-acre conservation easement tract] in conjunction with development of the parcels that are adjacent to the pier as follows: (1) serving as the location for the Vietnam Support Base, employee

parking for Patriots Point, and Patriots Point's maintenance facility; (2) drainage for abutting parcels; and (3) redevelopment of the golf course.

It is also worth noting that on April 8, 2016 (subsequently amended), PPDA entered into a long-term lease (99+ years) with Patriots Annex, LLC for 61.75 acres that includes the conservation easement tract.

Wildlife and Freshwater Fisheries Division staff and Marine Resources Division staff evaluated PPDA's termination / replacement request and informed PPDA on January 26, 2022, that the proposal was rejected. As summarized in the attached January 7, 2022, memo from Emily Cope to Robert Boyles, the beneficial characteristics of the 21-acre conservation easement site are briefly described. Those beneficial habitat and ecological functions and scenic beauty of this natural area / green space would persist for 25 more years at no cost to SCDNR if the conservation easement is renewed and extended.

Taking into consideration PPDA's stated intended uses for and desire not to renew and extend the conservation easement on the 21-acre tract, and the beneficial aspects identified by SCDNR, the SCDNR staff recommendation is to renew and extend the conservation easement.

Attached please find the following documents:

1. Patriots Point Conservation Easement.
2. Area maps showing Conservation Easement boundary.
3. Request from PPDA to relocate existing easement at Patriots Point.
4. Memo from Emily Cope to Robert Boyles dated January 7, 2022.
5. Photographs (3) of the existing easement area and the proposed relocation site.
6. Letter to SCDNR Board from Craver Law Firm dated February 2, 2022.
7. Email message from Van Whitehead to Bill Craver dated February 3, 2022.

STATE OF SOUTH CAROLINA)
)
COUNTY OF CHARLESTON) CONSERVATION EASEMENT

DEED OF CONSERVATION EASEMENT

THIS GRANT DEED OF CONSERVATION EASEMENT is made this 2nd day of January, 1998, by and between Patriots Point Development Authority ("Patriots Point"), a public body corporate and agency of the State of South Carolina ("Grantor"), and the South Carolina Department of Natural Resources ("DNR"), an agency of the State of South Carolina ("Grantee").

WITNESSETH:

WHEREAS, the State of South Carolina has facilitated the dedication and conservation of areas which are unique and deserving of protection in their natural and cultural characteristics by enactment of the Conservation Easement Act of 1991; and

WHEREAS, Pursuant to S.C. Code Ann. § 51-13-710 et seq. (Law. Co-op. 1976 & Supp. 1996), Grantor is the sole owner in fee simple and has exclusive jurisdiction of certain real property in Charleston County, South Carolina, more particularly described in Exhibit A attached hereto and incorporated by this reference (the "Property"); and

WHEREAS, the property possesses scenic values of great importance to Grantor and the people of the State of South Carolina; and

WHEREAS, Grantor hereby agrees to dedicate and Grantee agrees to accept the Property for protection and conservation of the Property's scenic value consistent with the terms set forth herein; and

WHEREAS, Grantor intends that the conservation values of the Property be preserved and maintained by the continuation of land use patterns, including, without limitation, those relating to education and public recreation that do not significantly impair or interfere with those values; and

WHEREAS, Grantor further intends, as owner of the Property, to convey to Grantee the right to preserve and protect the conservation values of the Property for a term provided herein and in a manner consistent with the terms of this Conservation Easement and the laws of the State of South Carolina; and

WHEREAS, Grantee agrees by accepting this grant to honor the intentions of Grantor stated herein and, through enforcement of this Conservation Easement, to preserve and protect the conservation values of the Property for the benefit of this generation and the generations to come;

NOW THEREFORE, in consideration of the above and the mutual covenants, terms, conditions, and restrictions contained herein, and pursuant to the Conservation Easement Act of 1991 and the laws of the State of South Carolina, Grantor hereby voluntarily grants and conveys to Grantee a conservation easement over the Property of the nature and character and to the extent hereinafter set forth ("Easement"):

1. **Purpose.** It is the purpose of this Easement to assure that the Property will be materially retained in its scenic condition existing at the time of execution of this Conservation Easement, and to prevent any use, inconsistent with the terms herein, of the Property that will significantly impair or interfere with the conservation values of the Property. Grantor intends that this Easement will confine the use of the Property to such activities, including, without limitation, those involving education and public recreation, as are consistent with the purpose of this Easement.
2. **Term.** The term of this Easement shall be twenty-five (25) years (the "Initial Term") commencing on the date of consent by the South Carolina Budget and Control Board to this Easement, ("Commencement Date"), unless terminated, extinguished or extended in accordance with the terms herein. At any time within one year of the expiration of the Initial Term of this Easement, Grantee has the option, solely at its discretion, to renew and extend this Easement for another twenty-five (25) year term. Prior to the expiration of any term of this Easement, the parties agree to use their best efforts to analyze and discuss the propriety of extending the term of this Easement Agreement.

3. **Rights of Grantee.** To accomplish the purpose of this Easement the following rights are conveyed to Grantee by this Easement:
- (a) To preserve and protect the scenic conservation values of the Property;
 - (b) To enter upon the Property at reasonable times in order to monitor Grantor's compliance with and otherwise enforce the terms of this Easement; provided that such entry shall be upon prior reasonable notice to Grantor, and Grantee shall not unreasonably interfere with Grantor's use and quiet enjoyment of the Property; and
 - (c) To prevent any activity on or use of the Property that is inconsistent with the purpose of this Easement and to require the restoration of such areas or features of the Property that may be damaged by any inconsistent activity or use, pursuant to paragraph 5.
4. **Prohibited Uses.** Any activity on or use of the Property inconsistent with the purpose of this Easement is prohibited. **Without limiting the generality of the foregoing, the following activities and uses are expressly prohibited:**
- (a) Execution of any permanent improvements, except such minimal improvements necessary for the security, safety or convenience of the public, or to carry-out such uses of the Property as permitted hereunder, and those improvements necessary for maintenance of the Property; and
 - (b) Cutting, burning or removing timber or wood, or other destruction of flora or fauna, provided that the above shall be permitted for purposes of restoration or preservation of a particular vegetation type or of an endangered species of flora, fauna or wildlife, or to enhance the scenic value of the Property. Nothing herein shall be construed to limit the right of Grantor to maintain nature and/or hiking trails, camping areas, and similar permitted uses of the Property in a manner consistent with terms herein; and
 - (c) Erection of signs, billboards or other advertising of any kind; however, Grantor shall have the express right to erect informational and directional signs consistent with

the scenic character of the Property and permitted uses hereunder; and

- (d) Mining and exploration for mineral resources; and
 - (e) Use of motorized vehicles, except as required for Grantor's maintenance of Property and in order for Grantor to effectuate permitted uses of Property.
5. **Reserved Rights.** Grantor reserves to itself, and to its personal representatives, heirs, successors, and assigns, all rights accruing from ownership of and jurisdiction over the Property, including the right to engage in or permit or invite others to engage in all uses of the Property that are not expressly prohibited herein and are not inconsistent with the purpose of this Easement.
6. **Grantee's Remedies.** If Grantee determines that Grantor is in violation of the terms of this Easement or that a violation is threatened, Grantee shall give written notice to Grantor of such violation and demand corrective action sufficient to cure the violation and, where the violation involves injury to the Property resulting from any use or activity inconsistent with the purpose of this Easement, to restore the portion of the Property so injured. If Grantor fails to cure the violation within sixty (60) days after receipt of notice thereof from Grantee, or under circumstances where the violation cannot reasonably be cured within a sixty (60) day period, fail to begin curing such violation within the sixty (60) day period, or fail to continue diligently to cure such violation until finally cured, Grantee may bring an action at law or in equity in a court of competent jurisdiction to enforce the terms of this Easement, to enjoin the violation, and to require the restoration of the Property to the condition that existed prior to any such injury. Grantee's rights under this paragraph apply equally in the event of either actual or threatened violations of the terms of this Easement, and Grantor agrees that Grantee's remedies at law for any violation of the terms of this Easement are inadequate and that Grantee shall be entitled to the injunctive relief described in this paragraph, both prohibitive and mandatory, in addition to such other relief to which Grantee may be entitled, including specific performance of the terms of this Easement, without the necessity of proving either actual damages or the inadequacy of otherwise available legal remedies. Grantee's remedies described in this paragraph shall be cumulative and shall be in addition to all remedies now or hereafter existing at law or in equity. Nothing hereunder shall be interpreted to limit, in any manner, the right of the Parties to utilize alternative dispute resolution.

7. **Costs of Enforcement.** Any costs incurred by Grantee in enforcing the terms of this Easement against Grantor, including, without limitation, costs of suit and attorneys' fees, and any costs of restoration necessitated by Grantor's violation of the terms of this Easement shall be borne by Grantor, to the extent allowed by law.
8. **Grantee's Discretion.** Enforcement of the terms of this Easement shall be at the discretion of Grantee, and any forbearance by Grantee to exercise its rights under this Easement in the event of any material breach of any term of this Easement by Grantor shall not be deemed or construed to be a waiver by Grantee of such term or of any subsequent breach of the same or any other term of this Easement or of any of Grantee's rights under this Easement. No delay or omission by Grantee in the exercise of any right or remedy upon any breach by Grantor shall impair such right or remedy or be construed as a waiver.
9. **Acts Beyond Grantor's Control.** Nothing contained in this Easement shall be construed to entitle Grantee to bring any action against Grantor for any injury to or change in the Property resulting from causes beyond Grantor's control, including, without limitation, fire, flood, storm, and earth movement, or from any prudent action taken by Grantor under emergency conditions to prevent, abate, or mitigate significant injury to the Property, or to Grantor's surrounding property interests, resulting from such causes.
10. **Access.** No right of access by the general public to any portion of the Property is conveyed or affected by execution of this Easement.
11. **Costs and Liabilities.** Grantor retains all responsibilities and shall bear all costs and liabilities of any kind related to the ownership, operation, upkeep, and maintenance of the Property in the same manner as prior to execution of this Easement.
12. **Extinguishment.** If circumstances arise in the future such as render the purpose of this Easement impossible to accomplish, this Easement can be terminated or extinguished, whether in whole or in part, by written agreement by and between the Parties hereto. Grantor and Grantee specifically agree that Grantor may assert the common law doctrine of "changed conditions" as grounds to terminate, modify or change this Easement, in whole or in part. For purposes of this Easement, the term "changed circumstances" shall mean any circumstance arising or becoming known to Grantor after the execution of this Easement that materially impedes the accomplishment of any of the stated purposes and permitted uses of this Easement.

13. **Condemnation.** Any condemnation of the Property, through the power of eminent domain, shall extinguish and immediately terminate this Easement only if, and to the extent, such condemnation makes the continued operation and effect of this Easement null and void or materially unsuitable for the purposes stated herein.
14. **Assignment.** This Easement is transferable, but Grantee may assign its rights and obligations under this Easement only to another agency or entity of the State of South Carolina and with the advice and consent of Grantor.
15. **Subsequent Transfers.** Grantor agrees to incorporate the terms of this Easement in any deed or other legal instrument by which it divests itself of any interest in all or a portion of the Property, including, without limitation, a leasehold interest. Grantor further agrees to give written notice to Grantee of the transfer of any interest at least twenty (20) days prior to the date of such transfer. The failure of Grantor to perform any act required by this paragraph shall not impair the validity of this Easement or limit its enforceability in any way.
16. **Estoppel Certificates.** Upon request by Grantor, Grantee shall within thirty (30) days execute and deliver to grantor any document, including an estoppel certificate, which certifies Grantor's compliance with any obligation of Grantor contained in this Easement and otherwise evidences the status of this Easement as may be requested by Grantor.
17. **Notices.** Any notice, demand, request, consent, approval, or communication that either party desires or is required to give to the other shall be in writing and either served personally or sent by first class mail, postage prepaid, to the Chief Executive Officer or Chief Legal Counsel of each party and addressed as follows:

To Grantors: Patriots Point Development Authority
40 Patriots Point Road
Mt. Pleasant, South Carolina 29464

To Grantee: South Carolina Department of Natural Resources
Post Office Box 167
Columbia, South Carolina 29202

or to such other address as either party from time to time shall designate by written notice to the other.
18. **Recordation.** Grantee shall record this instrument in timely fashion in the official records of Charleston County, South Carolina and may

re-record it at any time as may be required to preserve its rights in this Easement.

19. **General Provisions.**

- (a) **Controlling Law.** The interpretation and performance of this Easement shall be governed by the laws of the State of South Carolina.
- (b) **Liberal Construction.** Any general rule of construction to the contract notwithstanding, this Easement shall be liberally construed in favor of the grant to effect the purpose of this Easement and the policy and purposes of S.C. Code Ann. § 27-8-10 *et seq.* (Law. Co-op. 1976 & Supp. 1996). If any provision in this instrument is found to be ambiguous, an interpretation consistent with the purpose of this Easement that would render the provision valid shall be favored over any interpretation that would render it invalid.
- (c) **Severability.** If any provision of this Easement, or the application thereof to any person or circumstance, is found to be invalid, the remainder of the provisions of this Easement, or the application of such provision to persons or circumstances other than those as to which it is found to be invalid, as the case may be, shall not be affected thereby.
- (d) **Entire Agreement.** This instrument sets forth the entire agreement of the parties with respect to the Easement and supersedes all prior discussions, negotiations, understandings, or agreements relating to the Easement, all of which are merged herein. [No alteration or variation of this instrument shall be valid or binding unless contained in an amendment that complies with paragraph "j" (see supplementary provisions re: Amendment.)]
- (e) **No Forfeiture.** Nothing contained herein will result in a forfeiture or reversion of Grantor's title in any respect.
- (f) **Joint Obligation.** The obligations imposed by this Easement upon Grantor shall be joint and several.

- (g) **Successors.** The covenants, terms, conditions, and restrictions of this Easement shall be binding upon, and inure to the benefit of, the parties hereto and their respective personal representatives, heirs, successors, and assigns and shall continue as a servitude running for the term of this Easement with the Property.
- (h) **Termination of Rights and Obligations.** A party's rights and obligations under this Easement terminate upon transfer of the party's interest in the Easement or Property, except that liability for acts or omissions occurring prior to transfer shall survive transfer.
- (i) **Captions.** The captions in this instrument have been inserted solely for convenience of reference and are not a part of this instrument and shall have no effect upon construction or interpretation.
- (j) **Amendment.** The parties may amend, change or modify the terms of this Easement only by writing signed by both parties.
- (k) **Counterparts.** The parties may execute this instrument in two or more counterparts, which shall, in the aggregate, be signed by both parties; each counterpart shall be deemed an original instrument as against any party who has signed it. In the event of any disparity between the counterparts produced, the recorded counterpart shall be controlling.

TO HAVE AND TO HOLD unto Grantee, its successors, and assigns forever.

IN WITNESS WHEREOF Grantor and Grantee have set their hands on the day and year first above written.

WITNESSES AS TO GRANTOR:

FOR THE GRANTOR:

PATRIOTS POINT DEVELOPMENT AUTHORITY, a public body corporate and agency of the State of South Carolina

Sign Name: [Signature]

Print Name: H. E. PEARCE JR

Sign Name: [Signature]

Print Name: James H. Flatley III

By: [Signature]

Its: Chairman

Dated: 12-16-97

Attest: [Signature]

STATE OF SOUTH CAROLINA)

COUNTY OF Charleston)

ACKNOWLEDGMENT

I, Judith L. McClinton, Notary Public for the State of South Carolina, do hereby certify that Jesse A. Colee, Jr. as Chairman of PATRIOTS POINT DEVELOPMENT AUTHORITY, a public body corporate and agency of the State of South Carolina, personally appeared before me this day and acknowledged the due execution of the foregoing instrument on behalf of such entity.

SWORN and subscribed to before me this 16th day of December, 1997.

Notary Public for [Signature]
State of South Carolina

My commission expires 9/20/06
(SEAL)

WITNESSES AS TO GRANTEE:

GRANTEE:

SOUTH CAROLINA DEPARTMENT OF NATURAL RESOURCES, an agency of the State of South Carolina

Sign Name: Rose Marie Scheibler

By: Paul A Sandifer

Print Name: Rose Marie Scheibler

Its: Director

Sign Name: Mary Q Pugh

Dated: 1-21-98

Print Name: Mary Q Pugh

Attest: Boyd L. Maly Jr

STATE OF SOUTH CAROLINA)
 Richland)
COUNTY OF CHARLESTON)

ACKNOWLEDGMENT

I, Mary Q Pugh, Notary Public for the State of South Carolina, do hereby certify that Paul A Sandifer, personally appeared before me this day and acknowledged the due execution of the foregoing instrument on behalf of such entity.

SWORN and subscribed to before me this 21st day of January, 1998

Notary Public Mary Q Pugh
Notary Public for State of South Carolina

Rose Marie Scheibler

My commission expires 6-6-06
(SEAL)

The South Carolina Division of General Services,
Budget and Control Board hereby consents to this Deed
of Conservation Easement .

By: _____

Title: _____

Pursuant to Budget and Control Board action of
July 9, 1996, this Conservation Easement to the
Department of Natural Resources is exempt from
Board approval.



Robert W. McClam
Assistant Director
Office of General Services

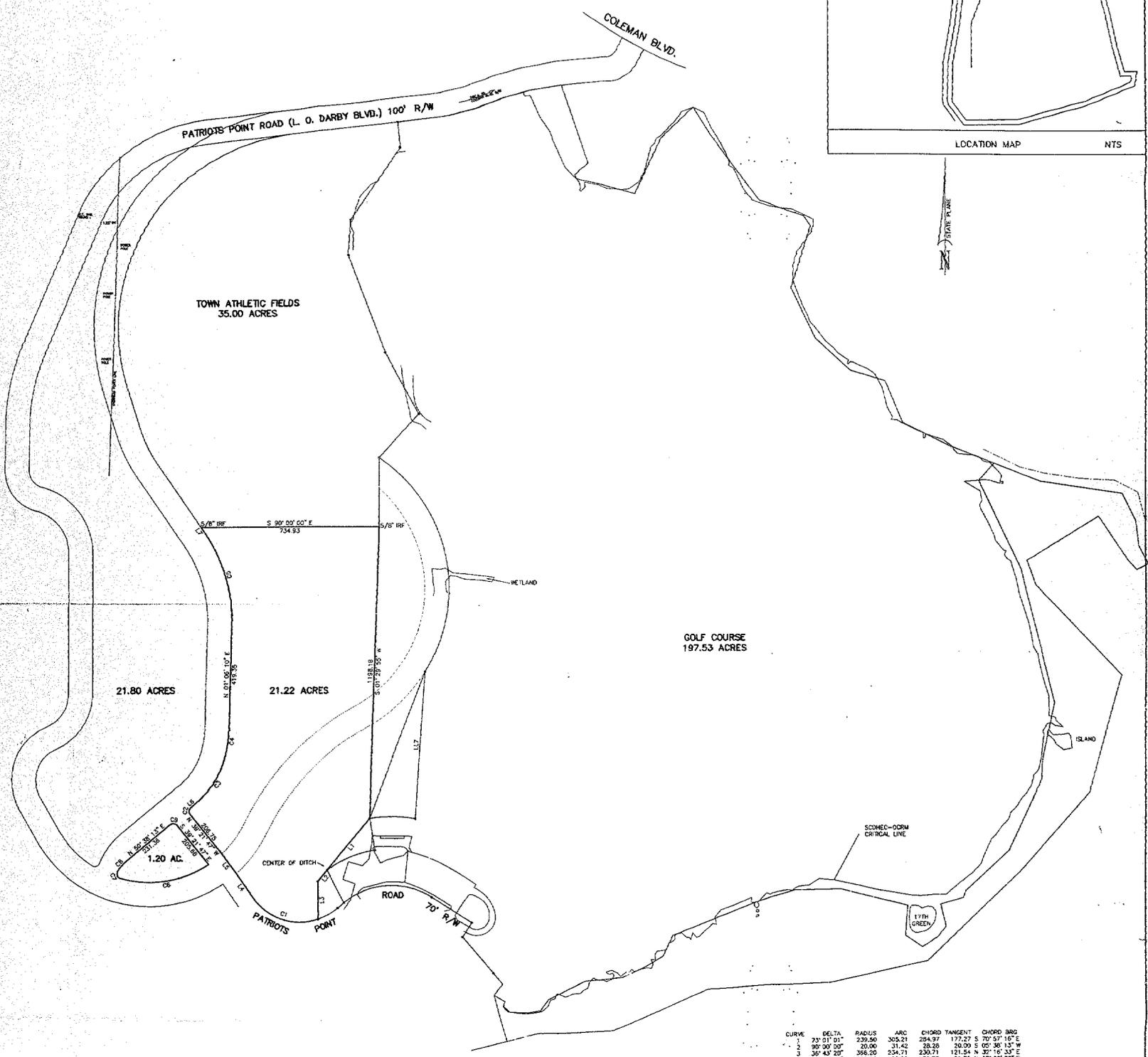
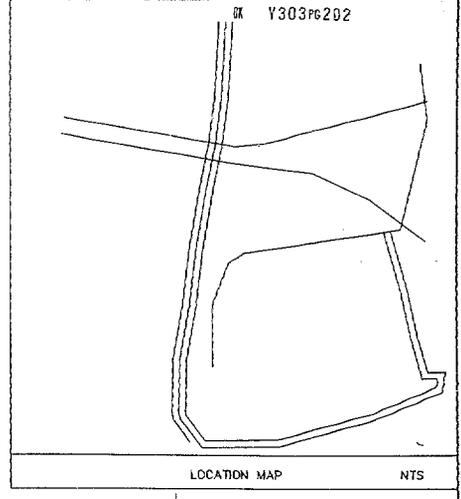
BK Y303PG201

EXHIBIT A

DESCRIPTION OF A 21.22 ACRE
TRACT AT PATRIOTS POINT LOCATED ADJACENT
TO THE GOLF COURSE, TOWN ATHLETIC FIELDS
AND FUTURE ENTRANCE ROAD

BEGINNING AT A POINT AT THE INTERSECTION OF THE SOUTHERN RIGHT OF WAY LINE OF THE 100 FOOT WIDE SECTION OF PATRIOTS POINT ROAD WITH THE EASTERN RIGHT OF WAY LINE OF THE 70 FOOT WIDE SECTION OF PATRIOTS POINT ROAD (WHICH LEADS TO THE GOLF COURSE),
THENCE N 36°52'30"W FOR A DISTANCE OF 100.47 FEET TO A POINT,
THENCE N 39°21'47"W FOR A DISTANCE OF 206.75 FEET TO A POINT,
THENCE AROUND A CURVE TO THE RIGHT WITH A RADIUS OF 20.00 FEET, A DELTA ANGLE OF 90°00'00", AN ARC OF 31.42 FEET, A TANGENT OF 20.00 FEET, A CHORD OF 28.28 FEET AND A CHORD BEARING OF N 05°38'13"E TO A POINT,
THENCE N 50°38'13"E FOR A DISTANCE OF 25.34 FEET TO A POINT,
THENCE AROUND A CURVE TO THE LEFT WITH A RADIUS OF 366.20 FEET, A DELTA ANGLE OF 38°43'20", AN ARC OF 234.71 FEET, A TANGENT OF 121.54 FEET, A CHORD OF 230.71 FEET AND A CHORD BEARING OF N 32°16'33"E TO A POINT,
THENCE AROUND A CURVE TO THE LEFT WITH A RADIUS OF 550.00 FEET, A DELTA ANGLE OF 12°48'43", AN ARC OF 122.99 FEET, A TANGENT OF 61.75 FEET, A CHORD OF 122.73 FEET AND A CHORD BEARING OF N 07°30'32"E TO A POINT,
THENCE N 01°08'10"E FOR A DISTANCE OF 419.35 FEET TO A POINT,
THENCE AROUND A CURVE TO THE LEFT WITH A RADIUS OF 650.00 FEET, A DELTA ANGLE OF 36°04'57", AN ARC OF 409.34 FEET, A TANGENT OF 211.71 FEET, A CHORD OF 402.61 FEET AND A CHORD BEARING OF N 16°58'18"W TO A POINT,
THENCE N 34°58'48"W FOR A DISTANCE OF 20.49 FEET TO A POINT,
THENCE ALONG THE COMMON PROPERTY LINE WITH THE TOWN OF MT. PLEASANT'S ATHLETIC FIELDS S 90°00'00"E FOR A DISTANCE OF 734.93 FEET TO A POINT,
THENCE S 01°29'55"W FOR A DISTANCE OF 1198.18 FEET TO A POINT,
THENCE S 40°08'45"W FOR A DISTANCE OF 278.17 FEET TO A POINT,
THENCE S 40°08'45"W FOR A DISTANCE OF 61.78 FEET TO A POINT,
THENCE S 00°46'34"E FOR A DISTANCE OF 155.62 FEET TO A POINT,
THENCE ALONG THE RIGHT OF WAY LINE OF THE 70 FOOT WIDE SECTION OF PATRIOTS POINT ROAD AROUND A CURVE TO THE RIGHT WITH A RADIUS OF 239.50 FEET, A DELTA ANGLE OF 73°01'01", AN ARC OF 305.21 FEET, A TANGENT OF 177.27 FEET, A CHORD OF 284.97 FEET AND A CHORD BEARING OF N 70°57'16"W TO A POINT,
THENCE N 34°28'45"W FOR A DISTANCE OF 118.17 FEET TO A POINT,
SAID POINT BEING THE POINT OF BEGINNING.

THIS PROPERTY IS MORE FULLY SHOWN ON A PLAT BY E. M. SEABROOK, JR., INC. DATED MAY 2, 1997 AND TITLED "TOWN OF MT. PLEASANT, CHARLESTON COUNTY, S. C., PATRIOTS POINT, PLAT OF A 21.22 ACRE TRACT AND A 1.20 ACRE TRACT OWNED BY PATRIOTS POINT DEVELOPMENT AUTHORITY AND SURROUNDING TRACTS"



LINE	BEARING	DISTANCE
1	S 40° 08' 45" W	228.13
2	S 40° 08' 45" W	61.75
3	S 00° 46' 34" E	155.62
4	N 34° 26' 45" W	118.17
5	N 30° 52' 30" W	100.47
6	N 50° 30' 13" E	25.34
7	N 34° 58' 46" W	20.49

CURVE	DELTA	RADIUS	ARC	CHORD	TANGENT	CHORD BRG
1	23° 01' 01"	239.50	305.21	284.37	177.27	S 70° 57' 10" E
2	80° 00' 00"	20.00	31.42	28.09	28.09	S 69° 40' 13" W
3	38° 43' 20"	386.20	234.71	230.71	121.54	N 37° 16' 33" E
4	12° 48' 43"	550.00	122.99	122.73	81.75	N 07° 30' 33" E
5	38° 04' 57"	630.00	409.34	402.61	211.71	N 18° 58' 18" W
6	48° 39' 55"	440.64	381.92	370.08	203.89	N 50° 54' 50" E
7	108° 00' 03"	20.00	37.75	32.39	27.81	S 20° 10' 30" E
8	18° 44' 03"	200.00	38.41	58.21	28.42	S 42° 16' 11" W
9	90° 00' 00"	20.00	31.42	28.08	28.08	N 04° 21' 47" W

TOWN OF MT. PLEASANT
 CHARLESTON COUNTY, S. C.
 PATRIOTS POINT
 PLAT OF A 21.22 ACRE TRACT AND A 1.20 ACRE TRACT
 OWNED BY PATRIOTS POINT DEVELOPMENT AUTHORITY
 AND SURROUNDING TRACTS

I hereby state that to the best of my knowledge, information, and belief, the survey shown hereon was made in accordance with the requirements of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina, and meets or exceeds the requirements for a Class A survey as specified therein.

Lewis E. Seabrook
 LEWIS E. SEABROOK
 CIVIL ENGINEER & LAND SURVEYOR
 S. C. REG. NO. 09650
 P. O. BOX 96
 MT. PLEASANT, S. C. 29465
 (803)884-4496



SCALE: 1" = 200'

MAY 2, 1997

STATE OF SOUTH CAROLINA
COUNTY OF _____

AFFIDAVIT

PERSONALLY appeared before me the undersigned, who being duly sworn, deposes and says:

1. I have read the information on this Affidavit and I understand such information.
2. The property is being transferred BY Patriots Point Development Authority (Grantor)
TO S.C. Carolina Department of Natural Resources (Grantee) ON January 21, 1998
3. Check one of the following: **The DEED is**
 - (a) _____ subject to the deed recording fee as a transfer for consideration paid or to be paid in money or money's worth.
 - (b) _____ subject to the deed recording fee as a transfer between a corporation, a partnership, or other entity and a stockholder, partner, or owner of the entity, or as a transfer to a trust or as distribution to a trust beneficiary.
 - (c) XX EXEMPT from the deed recording fee because (exemption# 2)
(Explanation If required) Conservation Easement to state agency,
S.C. Department of Natural Resources
(If exempt, please skip items 4-6, and go to item 7 of this affidavit.)
4. Check one of the following if either item 3(a) or item 3(b) above has been checked.
 - (a) _____ The fee is computed on the consideration paid or to be paid in money or money's worth in the amount of \$ _____.
 - (b) _____ The fee is computed on the fair market value of the realty which is \$ _____.
 - (c) _____ The fee is computed on the fair market value of the realty as established for property tax purposes which is \$ _____.
5. Check YES__ or NO__ to the following: A lien or encumbrance existed on the land, tenement, or realty before the transfer and remained on the land, tenement, or realty after the transfer. If "YES," the amount of the outstanding balance of this lien or encumbrance is \$ _____.
6. The DEED Recording Fee is computed as follows:
 - (a) _____ the amount listed in item 4 above
 - (b) _____ the amount listed in item 5 above (no amount place zero)
 - (c) _____ Subtract Line 6(b) from Line 6(a) and place the result.
7. As required by Code Section 12-24-70, I state that I am a responsible person who was connected with the transaction as: Chief Counsel for SC Department of Natural Resources
8. I understand that a person required to furnish this affidavit who wilfully furnishes a false or fraudulent affidavit is guilty of a misdemeanor and, upon conviction, must be fined not more than one thousand dollars or imprisoned not more than one year, or both.

Buford S. Mabry Jr
Grantor, Grantee, or Legal Representative
connected with this transaction

BUFORD S. MABRY, JR.
Print or Type Name here

Sworn to before me this 29th
day of May 19 98
Margie W. Rish
Notary Public for South Carolina
My Commission Expires: 9-10-2000

Margie Rish
SCDNR
PO. Box 167
Columbia, SC 29202

BK Y303PG204

FILED

Y303-190
98 JUN -2 PM 2:36
CHARLIE LYBRAND
REGISTER
CHARLESTON COUNTY SC

(E)
NKWI
JBL

Recording Fee 20.00
State Fee EXEMPT
County Fee _____
Postage _____
TOTAL 20.00
B^C

Recorded this 2 day of June Year 98
On Property Record Card
Deputy A. Mosley
Auditor Charleston County

PID VERIFIED
ASSR _____
DTD _____



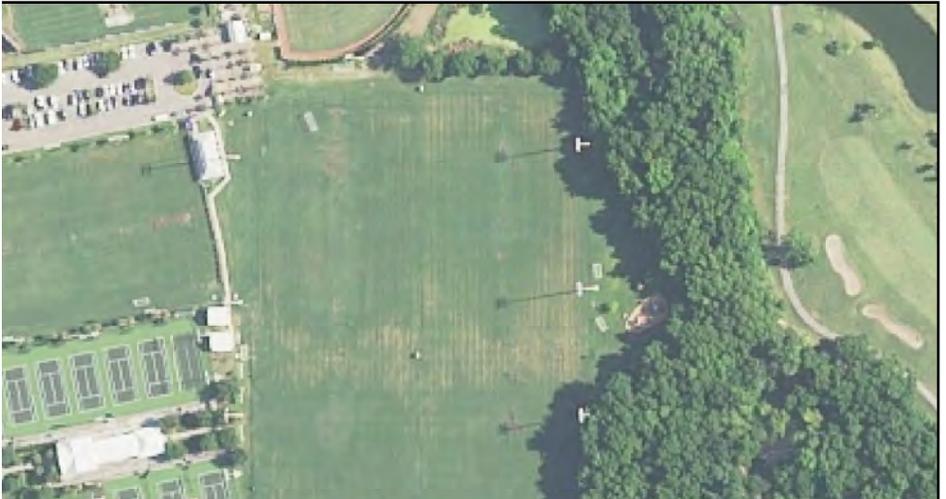
 Conservation Easement
 LWCF Grant Parcel

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

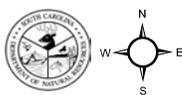
0 0.13 0.25 0.5 Miles



Patriots Point LWCF Grant Parcel
& SCDNR Conservation Easement



0 0.03 0.05 0.1 Miles



Patriots Point Conservation Easement
Aerial Imagery- 2015

Request to Relocate Existing Easement at Patriots Point

To: South Carolina Department of Natural Resources (“**SCDNR**”)

From: Patriots Point Development Authority (“**Patriots Point**”)

Date: September 15, 2021

Re: Proposal for the SCDNR to Permit the Relocation of the Existing Easement at Patriots Point

The numbers set forth below correspond to the numbered sections on the South Carolina Department of Natural Resources Board Policy Number 400.01.

1. **The name(s) and address(es) of all persons or entities on whose behalf the request is made:**

Patriots Point Development Authority
40 Patriots Point Road
Mt. Pleasant, SC 29464

2. **The specific parcel of property which is the subject of the request and the specific area or acreage of the property which is the subject of the request:**

Two groups of parcels are subject to this request, identified below and depicted on the attached **Exhibit A**:

2.1. **Parcels currently encumbered by the Existing Easement (“Proposed Released Parcels”):**

2.1.1. Parcel 2-A (12.88 acres)

2.1.2. Parcel 2-B (7.19 acres)

2.1.3. Total 20.07 acres

2.2. **Parcels proposed for the location of the New Easement (“Proposed Encumbered Parcels”):**

2.2.1. Parcel 4a (2.824 acres)

2.2.2. Parcel 5/6 (5.569 acres)

2.2.3. Total 8.393 acres

3. **A brief description of the nature of the request; e.g., request to purchase; request for property exchange; request for a right-of-way, rental or temporary use, etc.:**
- 3.1. Patriots Point granted to SCDNR an Existing Easement (“**Existing Easement**”) on the Proposed Released Parcels in the location depicted on **Exhibit A**.
 - 3.2. The Existing Easement upon the Proposed Released Parcels is for the purpose of protecting and conserving the “scenic value” of the property, and has a 25 year term expiring on June 1, 2023, with an option to renew the term for another 25 years. In the more than 20 years since Patriots Point granted the Existing Easement to the SCDNR, Patriots Point has been working to achieve the best use of the property for the conservation of the natural habitat while complimenting this unique property with public walking trails.
 - 3.3. As Patriots Point’s development of the peninsula has unfolded over the decades, visions to accomplish its goals have expanded and transformed, and this evolution has included a desire to relocate the Existing Easement. At present, Patriots Point is developing income producing uses on the tract of land directly across the road from the Proposed Released Parcels. Patriots Point would like to use the Proposed Released Parcels in conjunction with development of the parcels that are adjacent to the pier as follows: (1) serving as the location for the Vietnam Support Base, employee parking for Patriots Point, and Patriots Point’s maintenance facility; (2) drainage for abutting parcels; and (3) redevelopment of the golf course. These modifications will benefit the public by enabling development of the property adjacent to the pier, enhancing the use of the golf course, and relocating the Vietnam Support Base, the maintenance facility and employee parking, all of which will enable the new development to provide needed revenue to Patriots Point to assist in needed maintenance and preservation of the museum ships.
 - 3.4. In exchange for SCDNR releasing the Existing Easement from the Proposed Released Parcels, Patriots Point proposes to establish a new easement (the “**New Easement**”) on the alternate Proposed Encumbered Parcels, which are waterfront parcels at Patriots Point. Considering the Existing Easement’s purpose of preserving the scenic value on the peninsula, the Proposed Encumbered Parcels’ locations are more desirable and valuable for conservation than the Proposed Released Parcels. Patriots Point proposes that the New Easement on the Proposed Encumbered Parcels be a version of the Existing Easement amended to allow a waterfront board walk, hiking trails, and related uses to be installed, and for the New Easement to have an initial term of 15 years with a right to renew for 10 years.
 - 3.5. Given the features of the Proposed Released Parcels and the Proposed Encumbered Parcels, the Proposed Released Parcels are more useful to Patriots Point for development in order to generate income, and these tracts are considerably less attractive for their “scenic value;” whereas, Patriots Point envisions the Proposed Encumbered Parcels to be

areas more advantageous for guests to the peninsula to experience the waterfront views, the natural habitat, and plant and animal life of the coastal area.

4. **The duration of the requested use; e.g. permanent, thirty days, twelve months with renewal, etc.:**

4.1. **Proposed Released Parcels:** Permanent relinquishment of the Existing Easement.

4.2. **Proposed Encumbered Parcels:** A New Easement with an initial term of 15 years with an option to renew the New Easement for an additional 10 years.

5. **The type of use and the expected frequency of use; e.g., light truck travel – weekly, heavy equipment travel for duration of project, etc.:**

5.1. **Proposed Released Parcels:** These parcels will be used in connection with the development of adjacent properties owned by Patriots Point including development of the parcels that are adjacent to the pier as follows: (1) serving as the location for the Vietnam Support Base, employee parking for Patriots Point, and Patriots Point's maintenance facility; (2) drainage for abutting parcels; and (3) redevelopment of the golf course. These modifications will benefit the public by enabling development of the property adjacent to the pier, enhancing the use of the golf course, and relocating the Vietnam Support Base, the maintenance facility and employee parking, all of which will enable the new development to provide needed revenue to Patriots Point to assist in needed maintenance and preservation of the museum ships.

5.2. **Proposed Encumbered Parcels:** These parcels will provide the public with a prime location on the peninsula to appreciate the scenic value of the property by using the Proposed Encumbered Parcels for hiking, walking trails, and a waterfront boardwalk.

6. **What benefit will accrue to the public if the Department grants request?:**

6.1. **Proposed Released Parcels:** Would allow development of the parcels that are adjacent to the pier as follows: (1) serving as the location for the Vietnam Support Base, employee parking for Patriots Point, and Patriots Point's maintenance facility; (2) drainage for abutting parcels; and (3) redevelopment of the golf course. Modifying the uses to the property to be more efficient and planned will result in the property producing increased revenue to Patriots Point to enable needed maintenance and preservation of its museum ships.

6.2. **Proposed Encumbered Parcels:** This parcel is more interesting from a natural perspective than the Proposed Released Parcels. The Proposed Encumbered Parcels offer the public an optimal location and setting to observe, value, and enjoy the unique coastal setting of the peninsula. The Proposed Encumbered Parcels will allow for hiking

and walking trails, a waterfront boardwalk, and preserved natural condition of the environment.

7. **Whether alternate route or locations not on state property have been investigated and why they cannot be used in lieu of state property:** N/A
8. **The anticipated impact on the natural or cultural resources; anticipated impact on Department programs; anticipated impact on current or future Department use of the property; and any anticipated impact on any surrounding property:**
 - 8.1. **Natural or cultural resources:** The Proposed Released Parcels will be used in development of the property, but will be replaced by the Proposed Encumbered Parcels, which are more appealing and relevant with regards to the purpose of the Existing Easement.
 - 8.2. **SCDNR programs:** N/A
 - 8.3. **Current or future SCDNR use of the property:** To our knowledge, SCDNR does not use the Proposed Released Parcels.
 - 8.4. **Any anticipated impact on any surrounding property:** Releasing the Existing Easement and creating the New Easement on the Proposed Encumbered Parcels would benefit the people of the State by:
 - 8.4.1. Facilitating the development of adjacent properties owned by Patriots Point including development of the parcels that are adjacent to the pier as follows: (1) serving as the location for the Vietnam Support Base, employee parking for Patriots Point, and Patriots Point's maintenance facility; (2) drainage for abutting parcels; and (3) redevelopment of the golf course; thereby providing needed funds to Patriots Point for the maintenance and preservation of its museum ships; and
 - 8.4.2. Providing a more suitable location for observation of the scenic value of the property using hiking and walking trails, and a waterfront boardwalk, showcasing the preserved natural condition of the environment.
9. **What mitigation or compensation is offered for the use of the property?:** Proposed New Easement on the Proposed Encumbered Parcels in exchange for releasing the Existing Easement from the Proposed Released Parcels.
10. **Whether the requesting entity expects exclusive use of the property or whether the intended use will allow other members of the public to make a similar use of the property:** The public will have access to and use of both the Proposed Released Parcels

(differently than before) and the Proposed Encumbered Parcels (similar to the prior use of the proposed Released Parcels) in ways that benefit the public and the State of South Carolina.

10.1. **Patriots Point's expected use of the Proposed Released Parcels:** These parcels will be used in connection with development of the parcel adjacent to the pier, redevelopment of the golf course, and drainage for abutting parcels. The Proposed Released Parcels will also provide a location for the Vietnam Support Base, employee parking for Patriots Point, and Patriots Point's maintenance facility. These enhancements to Patriots Point will result in a more planned layout with efficient use of the property, which will make for a more pleasurable experience for the public when visiting Patriots Point.

10.2. **Patriots Point's expected use of the Proposed Encumbered Parcels:** These parcels will be available for the public to use to enjoy the scenic value of the property. The Proposed Encumbered Parcels will allow for hiking and walking trails, a waterfront boardwalk, and preserved natural condition of the environment.

11. In evaluating requests for use or acquisition of real property or interest therein under the jurisdiction of SCDNR, the Department must consider those requirements outlined in S.C. Code Ann. § 10-1-130 and -135, as amended. Those are:

11.1. **Does the proposed use materially impair the utility of the property or damage it?** No, the proposed change will alter the use, but the change substitutes another property in place of the Existing Easement, a property that is more significant for the purposes of the Existing Easement and better suited to achieve the goals and intentions of the Existing Easement.

11.2. **Is there an important public necessity for the encroachment?** Yes, the proposed exchange in location of the Existing Easement to the location of the New Easement will increase the public's overall enjoyment of the property by providing a property to the public that is more desirable from a conservation stand-point, and the release of the Existing Easement from the Proposed Released Parcels permits Patriots Point to more efficiently use and develop those parcels, which will enhance the public's use and enjoyment of the property and provide needed funds to Patriots Point for the maintenance and preservation of its museum ships.

11.3. **Are there alternate routes or locations not on State property which are either prudent or feasible?** No.

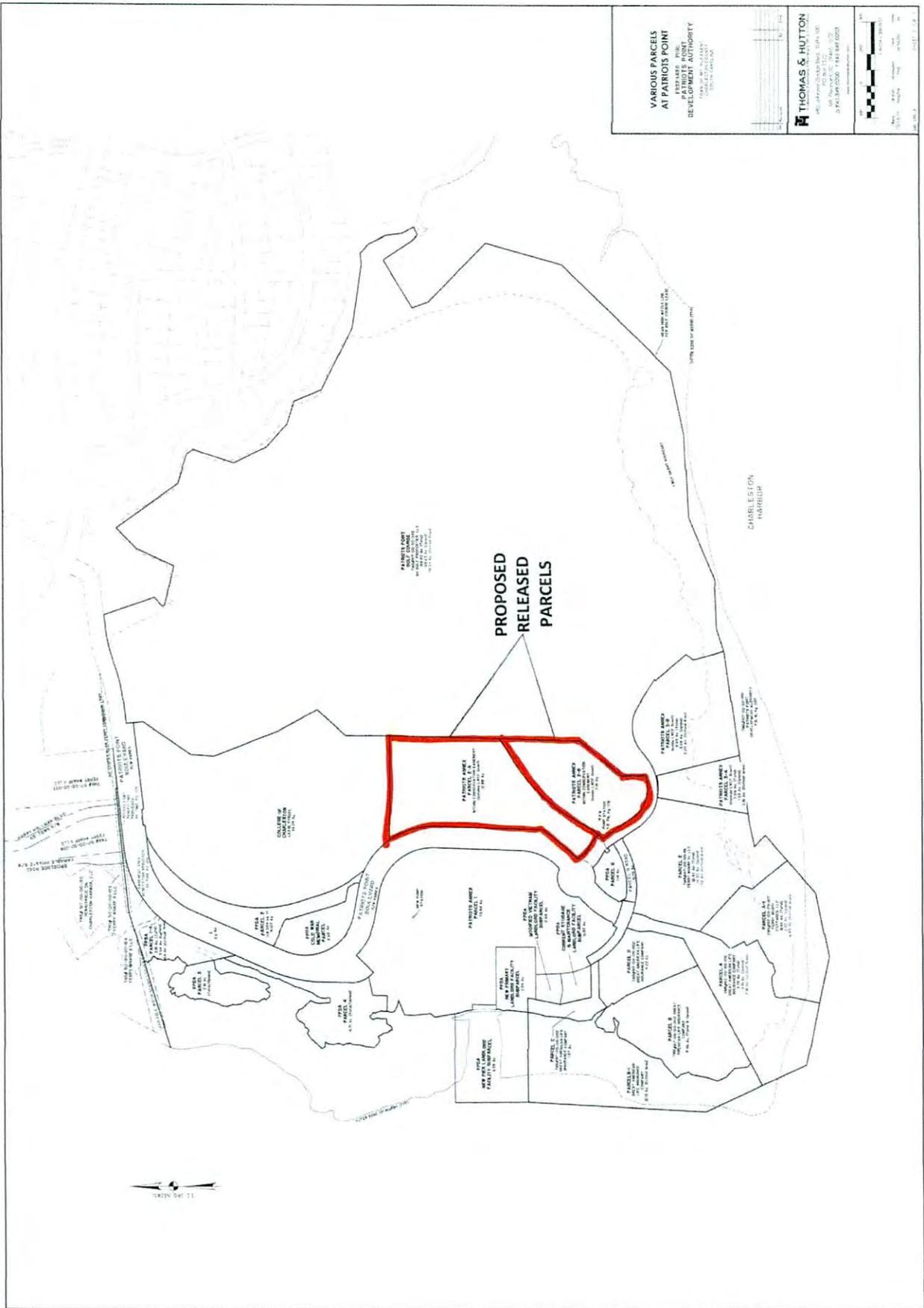
11.4. **Is the proposed encroachment disruptive of the existing or planned uses of State property?** No, the proposed location of the New Easement is not disruptive,

but it shifts the current encumbrance of two parcels to two different parcels that are better suited for the purposes of the Existing Easement.

11.5. **What reasonable mitigation of the impacts is proposed by the entity requesting the encroachment?** Patriots Point desires to offer substitute property for the Existing Easement.

12. **Requests for use or acquisition of real property or interest therein associated with the Heritage Trust Program (Heritage Site, Heritage Preserve, or Heritage Trust properties) must also be evaluated by the Department under the requirements of the Heritage Trust Act, S.C. Code Ann. §51-17-10, *et seq.* and, if affiliated with National Register of Historic Places features, S.C. Code Ann. §60-12-10, *et seq.*:** Neither the Proposed Released Parcels nor the Proposed Encumbered Parcels are subject to the Heritage Trust Program via a Dedication Agreement, nor have either of these properties been listed on the National Register of Historic Places.

Exhibit A
See Attached 2 Pages of Plats



**VARIOUS PARCELS
AT PATRIOTS POINT**

1333 EAST 10TH
PATRIOTS POINT
BEAUFORT, NC 28516

PHONE: 252-751-1234
FAX: 252-751-1235

NO.	DATE	DESCRIPTION	BY

THOMAS & HUTTON
 400 S. Salisbury Street, Suite 100
 Raleigh, NC 27601
 375.340.0000 375.340.0003



**PROPOSED
RELEASED
PARCELS**

PATRIOTS POINT
 1333 EAST 10TH
 PATRIOTS POINT
 BEAUFORT, NC 28516

CHARLESTON
HARBOR

100' WIDE ROAD

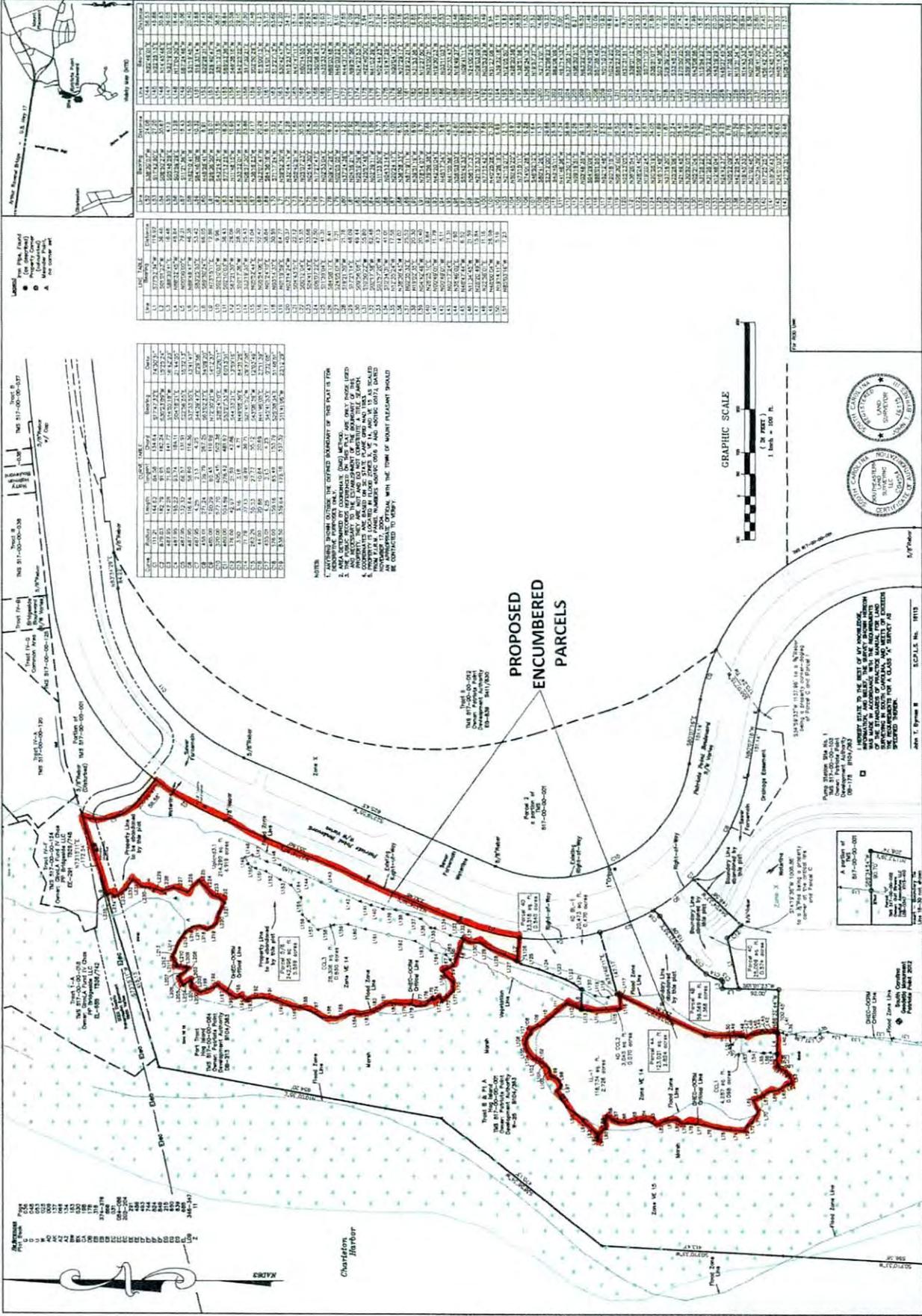


**A SUBDIVISION PLAT OF
COMMERCIAL & MUSEUM PARCEL
TMS 517-00-00-01
LOCATED IN THE TOWN OF MOUNT PLEASANT
OWNED BY PATRIOTS POINT DEVELOPMENT AUTHORITY
CHARLESTON COUNTY, SOUTH CAROLINA**

**SOUTHEASTERN
LAND SURVEYING LLC**
1025-B EMMONS ROAD
CHARLESTON, SC 29407
(843) 795-9330 www.sesl.com

NO.	DATE	DESCRIPTION
1	8-13-2020	Revised plat sheet boundaries
2	7-20-2020	Revised plat sheet boundaries
3	7-09-2020	Revised plat sheet boundaries

DATE: May 7, 2020
DRAWN BY: JTB
CHECKED BY: JTB
SCALE: AS SHOWN
SHEET: 1 OF 1



AREA TABLE

NO.	AREA (AC)	AREA (SQ FT)
1	1.00	69,696.00
2	1.00	69,696.00
3	1.00	69,696.00
4	1.00	69,696.00
5	1.00	69,696.00
6	1.00	69,696.00
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45	1.00	69,696.00
46	1.00	69,696.00
47	1.00	69,696.00
48	1.00	69,696.00
49	1.00	69,696.00
50	1.00	69,696.00

NOTES

1. ALL DIMENSIONS ARE IN FEET, UNLESS OTHERWISE NOTED.
2. AREA DETERMINED BY COMPUTATION (DUAL) METHOD.
3. ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD, UNLESS OTHERWISE NOTED.
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South Carolina Department of
Natural Resources



Robert H. Boyles, Jr.

Director

Emily C. Cope
Deputy Director for
Wildlife and Freshwater Fisheries

MEMORANDUM

To: Robert Boyles

From: Emily Cope

Date: January 7, 2022

Subject: Request to Relocate Existing Conservation Easement at Patriots Point

Patriots Point Development Authority (PPDA) has requested DNR relocate an existing conservation easement held by the department from an existing 21-acre parcel to two parcels comprising approximately 8 acres northwest of the current site. The 21-acre site contains primarily scrub understory with a large mix of invasive species. It provides prime habitat for migratory birds and wintering birds as well as a refuge for large mammals. More than 125 bird species have been documented on the existing easement site and over 50 are noted as priority species in the State Wildlife Action Plan. The size of the area limits disturbances to the birds and it is a popular location for bird watchers who utilize a hiking trail and observation tower on the property. Also, part of the property is restricted to public outdoor recreation in association with a federal grant PPDA received from the Land and Water Conservation Fund.

The proposed easement relocation area contains two separate parcels comprising 5.5 acres and 2.7 acres. They are adjacent to Charleston Harbor and contain a large mix of invasive species, but very little understory. The habitat is similar to the existing easement area. The proposed sites are lower in elevation than the existing easement area, which leaves them vulnerable to sea level rise and erosion.

Following DNR Policy No. 400.01, WFF and MRD staff have evaluated the request by PPDA and do not support granting it. Due to its size and amount of understory, the existing easement area is superior to the proposed relocation area. Also, properties adjoining the north and south sides of the current easement area have been left uncut, which help minimize disturbances and enhances protection of the 21-acre site. Due to the small size of the proposed easement relocation parcels, disturbances would likely increase and lead to fewer birds utilizing the areas.

Attached is correspondence from PPDA concerning Policy 400.01, notes from staff and several photos of the site. Please let me know if you need any additional information.

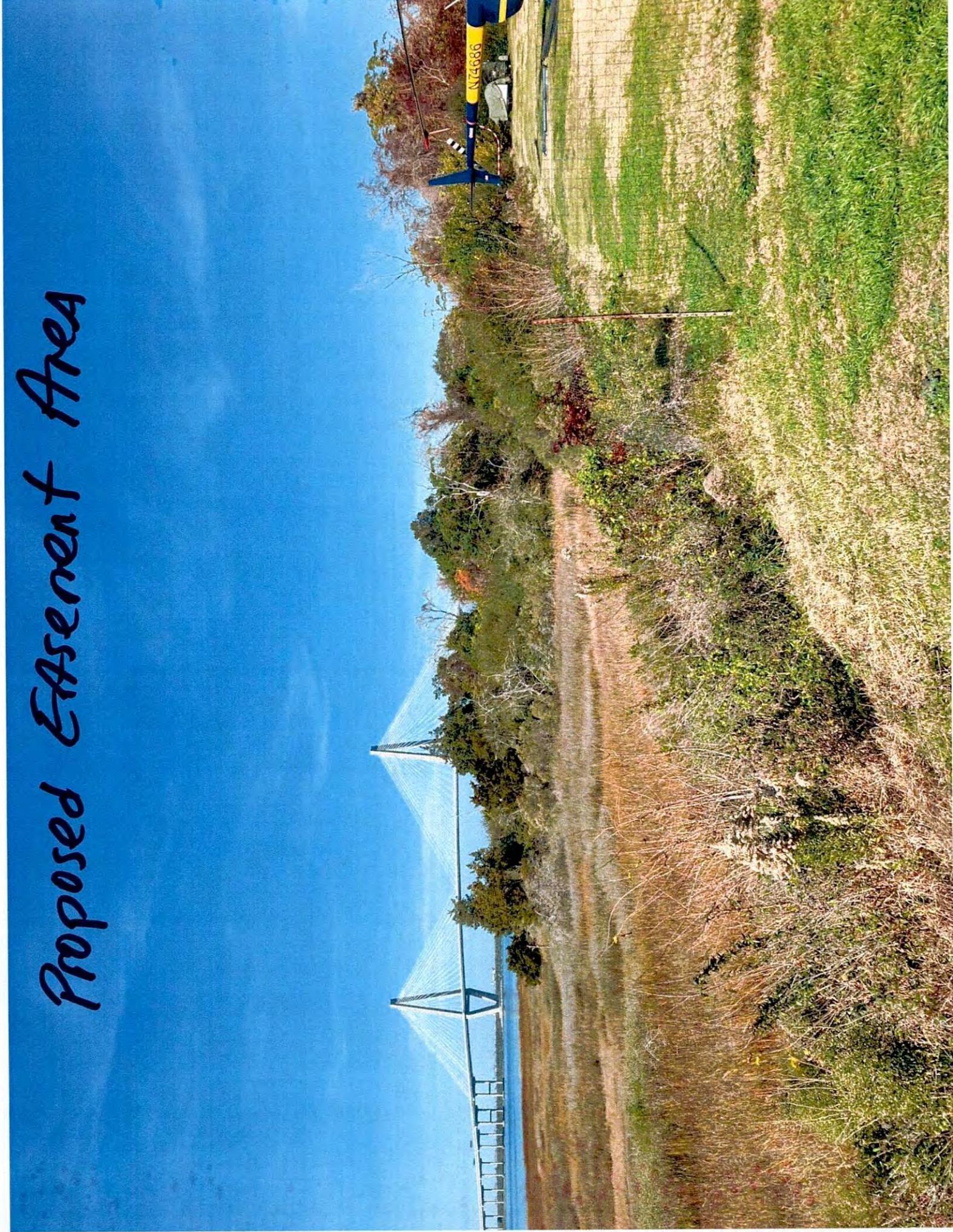
Existing Easement Area



EXISTING STAIRS - AREA



Proposed Easement Area



CRAVER LAW FIRM, PA
ATTORNEYS AND COUNSELORS AT LAW
THE FRANKE BUILDING
171 CHURCH STREET, SUITE 120A
CHARLESTON, SOUTH CAROLINA 29401

William E. Craver, III
Rebecca C. Achey

Post Office Box 1016
Charleston, SC 29402-1016
Telephone: (843) 577-7557
Facsimile: (843) 577-0811

February 2, 2022

DNR Board Members
c/o Mr. Ken Prosser
South Carolina Department of Natural Resources
Post Office Box 167
Columbia, SC 29202-0167
prosserk@dnr.sc.gov

Re: Withdrawal of Request to Relocate Existing Easement at Patriots Point

Gentlemen:

I am submitting this letter on behalf of Patriots Point Development Authority. The purpose of this letter is two-fold:

- (1) to withdraw that Request to Relocate Existing Easement at Patriots Point, and
- (2) to ask DNR to postpone any consideration of extending the easement until the parties have an opportunity to analyze and discuss the propriety of extending the Easement as required by Section 2.

Section 2 of the Easement provides as follows:

Term. The term of this Easement shall be twenty-five (25) years (the "Initial Term") commencing on the date of consent by the South Carolina Budget and Control Board to this Easement, ("Commencement Date"), unless terminated, extinguished or extended in accordance with the terms herein. **At any time within one year of the expiration of the Initial Term of this Easement, Grantee has the option, solely at its discretion, to renew and extend this Easement for another twenty-five (25) year term. Prior to the expiration of any term of this Easement, the parties agree to use their best efforts to analyze and discuss the propriety of extending the term of this Easement Agreement.**

The term of the Easement expires June 1, 2023, so DNR has until June 1, 2024 (over 2 years) to make the decision whether to extend the easement.

Craver Law Firm, PA

DNR Board Members
South Carolina Department of Natural Resources
February 2, 2022
Page 2 of 2

In connection with making that decision, the Easement requires the “**parties to use their best efforts to analyze and discuss the propriety of extending the term of this Easement Agreement.**” No such analysis and discussion has taken place between DNR and Patriots Point. Further, there is no time pressure to make a decision before the parties have been very deliberate and conscientious about analyzing and discussing the propriety of extending the term of the existing conservation easement.

Please confirm your agreement

1. to allow Patriots Point to withdraw the request to relocate the Easement, and
2. for the DNR Board to postpone consideration of extending the easement for 25 years until the requirement has been met that the parties have used their best efforts to analyze and discuss the propriety of extending the term of this Easement Agreement.

Based on this request, Patriots Point is not planning to submit additional materials to DNR in anticipation of the February 17, 2022 meeting. Please let me know as soon as possible if the requested withdrawal and delay are not granted.

Kind regards.

Sincerely,

William E. Craver, III

cc (via email): Wayne Adams, Vice Chairman, Patriots Point Development Authority
Rorie Cartier, Executive Director, Patriots Point Development Authority

From: [Van Whitehead](#)
To: [William Craver](#)
Subject: RE: Patriots Point - SCDNR Conservation Easement - term
Date: Thursday, February 3, 2022 10:30:14 AM
Attachments: [image001.png](#)

Dear Bill,

I hope you are well.

I've reviewed your letter to the DNR Board from yesterday evening. The sentence at the end of the first page caught my eye in that it appears PPDA and DNR have differing views on the term of the conservation easement and the time during which it may be renewed.

On the face of the conservation easement, it leads by stating that the easement is made on January 21, 1998 which comports with the December 16, 1997 signature by PPDA and January 21, 1998 signature by DNR. Looking next to the "Term" paragraph which states "The term of this Easement shall be twenty-five (25) years (the "Initial Term") commencing on the date of consent by the South Carolina Budget and Control Board to this Easement, ..." As reflected on page 11 of the Conservation Easement, the B&CB confirmed the conservation easement was exempt from B&CB approval. Therefore, the easement became effective on January 21, 1998 as agreed by the parties and would expire on January 20, 2023. PPDA suggests a June 1, 2023 expiration date.

Next, I'm also puzzled by the suggestion that under the PPDA view the easement could be extended during the year after it has expired. Given that the Term provision states "Prior to the expiration of any term of this Easement..." and taking into consideration the standard practice of renewing agreements prior to expiration, DNR has a different view. The renewal decision will be made prior to the expiration date.

I'd welcome the opportunity to hear your thoughts on this and discuss it so please call me this morning after you've had a chance to review this.

Van

Van Whitehead
Deputy General Counsel
S.C. Department of Natural Resources
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whiteheadv@dnr.sc.gov
www.dnr.sc.gov



Empowering South Carolinians to *Live Life Outdoors*

**Savannah River Sturgeon Monitoring – SHEP Mitigation
Mitigation Trust Fund
Presented for DNR Board Action
February 17, 2022**

In 1996 the State Legislature established the *Mitigation Trust Fund of South Carolina* (Section 50-3-180) for the purpose of receiving proceeds for mitigation for impacts to natural resources. This legislation established the chairman and members of the South Carolina Department of Natural Resources (DNR) Board as the Board of Trustees with authority over administration of the Mitigation Trust Fund (Fund).

SECTION 50-3-180. Mitigation Trust Fund.

(A) The Mitigation Trust Fund of South Carolina is credited for the purposes of receiving gifts, grants, contributions, and other proceeds for mitigation projects in the State. The Board of Trustees for the Mitigation Trust Fund is the chairman and the members of the South Carolina Department of Natural Resources Board with full authority over the administration of the funds deposited in the fund. The State Treasurer is the custodian of the fund and shall invest its assets in an interest-bearing account pursuant to South Carolina law.

(B) The Mitigation Trust Fund may receive appropriations of state general funds, federal funds, donations, gifts, bond issue receipts, securities, and other monetary instruments of value. Reimbursement for monies expended from this fund must be deposited in this fund. Funds received through sale, exchange, or otherwise, of products of the property including, but not limited to, timber and utility easement rights, accrue to the Mitigation Trust Fund. Funds recovered for losses or damages to natural resources must be deposited to the Mitigation Trust Fund to be used first for restoration in the areas affected and then as provided in subsection (C) of this section.

(C) The income received and accruing from the fund must be spent only for the acquisition, restoration, enhancement, or management of property for mitigation for adverse impacts to natural resources.

(D) The proceeds from this fund may be carried forward from year to year and do not revert to the general fund of the State.

HISTORY: 1996 Act No. 458, Part II, Section 66A; 1998 Act No. 419, Part II, Section 43A.

Today we are presenting the DNR Board with a budget request to access monies from the Fund to support sturgeon monitoring and research on the lower Savannah River.

As part of the Savannah Harbor Expansion Project (SHEP), the US Army Corps of Engineers, Savannah District (Corps) committed to monitor the distribution of sturgeon in the Savannah River Estuary. The DNR was selected to conduct these telemetry studies, collect biological information, analyze data, and provide reports to the Corps.

However, because hydrographic models used by SHEP showed potential impacts to nursery grounds for shortnose sturgeon thus rendering them unsuitable, the Corps agreed to provide mitigation for this potential impact by providing fish passage at the New Savannah Bluff Lock and Dam (NSBL&D) near Augusta GA. The South Carolina Coastal Conservation League, Savannah Riverkeeper, South Carolina Wildlife Federation, the Savannah River Maritime Commission, and the South Carolina Department of Health & Environmental Control deemed proposed mitigation for sturgeon and other impacts caused by SHEP unacceptable. Therefore, a legal decision was reached to provide an additional ~\$37million dollars for SHEP mitigation, the cost to be shared by Corps and the Georgia Ports Authority (GPA). As part of this agreement, GPA will contribute \$3,000,000 to the DNR to be used solely and

exclusively for monitoring and research of shortnose and Atlantic sturgeon and their habitat in the estuaries of the Savannah River. The \$3,000,000 was deposited in a subaccount of the Fund.

DNR plans to conduct mark/recapture and telemetry studies to address annual status of stocks for both Atlantic and shortnose sturgeon in the Savannah River.

Proposed Budget for 2022-2023:

Personnel and Fringe	\$602,000
Operating	\$258,000
Total	\$860,000

Action requested:

We ask that the Board approve the expenditure of \$860,000 for Savannah River sturgeon monitoring and research, as provided for in the settlement agreements for the Savannah Harbor Expansion Project.

SOUTH CAROLINA MITIGATION TRUST FUND
BOARD OF TRUSTEES

The Board of Trustees for the South Carolina Mitigation Trust Fund does hereby authorize the release from the fund of \$860,000 as requested by the South Carolina Department of Natural Resources for purposes of conducting monitoring and research of sturgeon in the Savannah River with funds provided through the Savannah Harbor Expansion Project mitigation agreement.

The South Carolina Department of Natural Resources will conduct mark/recapture and telemetry studies to address annual status of the stocks for both Atlantic and shortnose sturgeon in the Savannah River.

Approved by the Board of Trustees of the Mitigation Trust Fund on February 17, 2022

Norman F. Pulliam
Chairman, South Carolina Mitigation Trust Fund

Savannah Harbor Mitigation

Proposed Motion: I move that the DNR Board approve the expenditure of \$860,000 from the Savannah Harbor Mitigation – Sturgeon mitigation account to support sturgeon monitoring and research on the lower Savannah River.

**Management of Wateree River Heritage Preserve and Rainbow Ranch Properties
Mitigation Trust Fund - Haile Gold Mine Mitigation
Presented for DNR Board Action
February 17, 2022**

In 1996 the State Legislature established the *Mitigation Trust Fund of South Carolina* (Section 50-3-180) for the purpose of receiving proceeds for mitigation for impacts to natural resources. This legislation established the chairman and members of the Department of Natural Resources (DNR) Board as the Board of Trustees with authority over administration of the Mitigation Trust Fund (Fund).

SECTION 50-3-180. Mitigation Trust Fund.

(A) The Mitigation Trust Fund of South Carolina is credited for the purposes of receiving gifts, grants, contributions, and other proceeds for mitigation projects in the State. The Board of Trustees for the Mitigation Trust Fund is the chairman and the members of the South Carolina Department of Natural Resources Board with full authority over the administration of the funds deposited in the fund. The State Treasurer is the custodian of the fund and shall invest its assets in an interest-bearing account pursuant to South Carolina law.

(B) The Mitigation Trust Fund may receive appropriations of state general funds, federal funds, donations, gifts, bond issue receipts, securities, and other monetary instruments of value. Reimbursement for monies expended from this fund must be deposited in this fund. Funds received through sale, exchange, or otherwise, of products of the property including, but not limited to, timber and utility easement rights, accrue to the Mitigation Trust Fund. Funds recovered for losses or damages to natural resources must be deposited to the Mitigation Trust Fund to be used first for restoration in the areas affected and then as provided in subsection (C) of this section.

(C) The income received and accruing from the fund must be spent only for the acquisition, restoration, enhancement, or management of property for mitigation for adverse impacts to natural resources.

(D) The proceeds from this fund may be carried forward from year to year and do not revert to the general fund of the State.

HISTORY: 1996 Act No. 458, Part II, Section 66A; 1998 Act No. 419, Part II, Section 43A.

Today we are presenting the DNR Board with request for approval of the yearly budget for management of properties acquired through mitigation for the Haile Gold Mine. Funds for this effort are made available through the mitigation agreement for Haile Gold Mine. The mitigation agreement for the mine includes the protection of three properties - Rainbow Ranch, Cooks Mountain and Goodwill Plantation and an endowment to manage and maintain these properties.

The following budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat, as well as to continue assessment and preparation for required restoration activities. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel will be required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs.

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to gather baseline information on wildlife populations and establish long-term monitoring programs.

Status Surveys: Resource conditions, especially those related to restoration activities must be assessed during restoration activities.

Archeological Surveys: Surveys will continue to assess historical and archeological resources. Areas must be surveyed prior to restoration work on streams, wetlands, and uplands.

Proposed Budget for 2022:

Wildlife Section Operations	\$500,000
Archeological Surveys and Supplies	\$150,000

Total Budget Request	\$650,000
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Action requested:

We ask that the Board approve the expenditure of \$650,000 from the Mitigation Trust Fund of South Carolina, Haile Gold Mine Mitigation Maintenance and Management Endowment for management and archeological surveys of the Rainbow Ranch, Cooks Mountain, and Goodwill Plantation Tracts.

Norman F. Pulliam
Chairman, SCDNR Board

Date

SOUTH CAROLINA MITIGATION TRUST FUND

BOARD OF TRUSTEES

The Board of Trustees for the South Carolina Mitigation Trust Fund does hereby authorize the release from the fund of \$650,000 as requested by the South Carolina Department of Natural Resources for purposes of maintenance and management of the Rainbow Ranch, Cooks Mountain, and Goodwill Plantation tracts with funds provided by the Haile Gold Mine mitigation agreement.

Collectively, these properties comprise 4,389 acres in Lancaster and Richland counties. These properties will be dedicated under the Heritage Trust Act and will be managed for public access under the Wildlife Management Area program. Budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat, as well as to continue assessment and preparation for required restoration activities. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel will be required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs.

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to gather baseline information on wildlife populations and establish long-term monitoring programs.

Status Surveys: Resource conditions, especially those related to restoration activities must be assessed prior during restoration activities.

Archeological Surveys: Surveys are required for mitigation activities, and additional archeological surveys will document the history of human occupation of the property.

Approved by the Board of Trustees of the Mitigation Trust Fund on February 17, 2022

Norman F. Pulliam
Chairman, South Carolina Mitigation Trust Fund

SOUTH CAROLINA MITIGATION TRUST FUND

BOARD OF TRUSTEES

The Board of Trustees for the South Carolina Mitigation Trust Fund does hereby authorize the release from the fund of \$750,000 as requested by the South Carolina Department of Natural Resources for purposes of maintenance and management of Palachuola Wildlife Management Area with funds provided by the Richard B. Russell Dam and Lake mitigation agreement.

Palachuola WMA comprises 6,492 acres in Hampton County. These properties are being managed for public access under the Wildlife Management Area program. Budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat, as well as to begin assessment and preparation for required restoration activities. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel are required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs. In addition, renovations and restoration is needed on the historic Mistletoe Grove house on Palachuola WMA

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to monitor wildlife populations.

Archeological Surveys: Surveys to assess historical and archeological resources required for management activities.

Approved by the Board of Trustees of the Mitigation Trust Fund on February 17, 2022

Norman F. Pulliam
Chairman, South Carolina Mitigation Trust Fund

**Management of Donnelley WMA
Mitigation Trust Fund – Lake Richard B. Russell Mitigation
Presented for DNR Board Action
February 17, 2022**

In 1996 the State Legislature established the *Mitigation Trust Fund of South Carolina* (Section 50-3-180) for the purpose of receiving proceeds for mitigation for impacts to natural resources. This legislation established the chairman and members of the Department of Natural Resources (DNR) Board as the Board of Trustees with authority over administration of the Mitigation Trust Fund (Fund).

SECTION 50-3-180. Mitigation Trust Fund.

(A) The Mitigation Trust Fund of South Carolina is credited for the purposes of receiving gifts, grants, contributions, and other proceeds for mitigation projects in the State. The Board of Trustees for the Mitigation Trust Fund is the chairman and the members of the South Carolina Department of Natural Resources Board with full authority over the administration of the funds deposited in the fund. The State Treasurer is the custodian of the fund and shall invest its assets in an interest-bearing account pursuant to South Carolina law.

(B) The Mitigation Trust Fund may receive appropriations of state general funds, federal funds, donations, gifts, bond issue receipts, securities, and other monetary instruments of value. Reimbursement for monies expended from this fund must be deposited in this fund. Funds received through sale, exchange, or otherwise, of products of the property including, but not limited to, timber and utility easement rights, accrue to the Mitigation Trust Fund. Funds recovered for losses or damages to natural resources must be deposited to the Mitigation Trust Fund to be used first for restoration in the areas affected and then as provided in subsection (C) of this section.

(C) The income received and accruing from the fund must be spent only for the acquisition, restoration, enhancement, or management of property for mitigation for adverse impacts to natural resources.

(D) The proceeds from this fund may be carried forward from year to year and do not revert to the general fund of the State.

HISTORY: 1996 Act No. 458, Part II, Section 66A; 1998 Act No. 419, Part II, Section 43A.

Today we are presenting the DNR Board with request for approval of mitigation trust funds for management of Donnelley WMA, partially acquired through mitigation for the construction of Lake Richard B. Russell. Funds for this effort are made available through the mitigation agreement for Lake Richard B. Russell.

The following budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel will be required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs.

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to gather baseline information on wildlife populations and establish long-term monitoring programs.

Archeological Surveys: Surveys to assess historical and archeological resources required for management activities.

Proposed Budget for 2022:

Wildlife Section Operations	\$250,000
Comprehensive Archeology Survey	\$200,000

Total Budget Request	\$450,000
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Action requested:

We ask that the Board approve the expenditure of \$450,000 from the Mitigation Trust Fund of South Carolina, Donnelley Management Account for management of Donnelley WMA.

Norman F. Pulliam
Chairman, SCDNR Board

Date

SOUTH CAROLINA MITIGATION TRUST FUND

BOARD OF TRUSTEES

The Board of Trustees for the South Carolina Mitigation Trust Fund does hereby authorize the release from the fund of \$450,000 as requested by the South Carolina Department of Natural Resources for purposes of maintenance and management of Donnelley Wildlife Management Area with funds provided by the Lake Richard B Russell mitigation agreement.

Donnelley WMA comprises 8,035 acres in Colleton County. These properties are managed for public access under the Wildlife Management Area program. Budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat, as well as to begin assessment and preparation for required restoration activities. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel will be required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs.

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to monitor wildlife populations.

Archeological Surveys: Surveys to assess historical and archeological resources required for management activities.

Approved by the Board of Trustees of the Mitigation Trust Fund on February 17, 2022

Norman F. Pulliam
Chairman, South Carolina Mitigation Trust Fund

**Management of Palachucola WMA
Mitigation Trust Fund – Lake Richard B. Russell Mitigation
Presented for DNR Board Action
February 17, 2022**

In 1996 the State Legislature established the *Mitigation Trust Fund of South Carolina* (Section 50-3-180) for the purpose of receiving proceeds for mitigation for impacts to natural resources. This legislation established the chairman and members of the Department of Natural Resources (DNR) Board as the Board of Trustees with authority over administration of the Mitigation Trust Fund (Fund).

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(B) The Mitigation Trust Fund may receive appropriations of state general funds, federal funds, donations, gifts, bond issue receipts, securities, and other monetary instruments of value. Reimbursement for monies expended from this fund must be deposited in this fund. Funds received through sale, exchange, or otherwise, of products of the property including, but not limited to, timber and utility easement rights, accrue to the Mitigation Trust Fund. Funds recovered for losses or damages to natural resources must be deposited to the Mitigation Trust Fund to be used first for restoration in the areas affected and then as provided in subsection (C) of this section.

(C) The income received and accruing from the fund must be spent only for the acquisition, restoration, enhancement, or management of property for mitigation for adverse impacts to natural resources.

(D) The proceeds from this fund may be carried forward from year to year and do not revert to the general fund of the State.

HISTORY: 1996 Act No. 458, Part II, Section 66A; 1998 Act No. 419, Part II, Section 43A.

Today we are presenting the DNR Board with request for approval of the yearly budget for management of Palachucola WMA, acquired through mitigation for the construction of Lake Richard B. Russell. Funds for this effort are made available through the mitigation agreement for Lake Richard B. Russell.

The following budget is needed for staff, supplies and equipment in order to provide safe, controlled public access and accomplish necessary enhancements to facilities and habitat. Actions covered under this work plan include, but are not limited to:

Road and Facilities Maintenance: Grading and application of gravel will be required to improve and maintain roads for access by public. Signage and gates are other important aspects of public access programs. In addition, funds are needed for restoration and maintenance of the historic Mistletoe Grove House on Palachucola WMA.

Habitat Restoration and Enhancement: Planting of supplemental food sources for upland wildlife and waterfowl will enhance wildlife populations as well as hunting and wildlife viewing opportunities.

Wildlife Research and Monitoring: A variety of research and monitoring techniques will be employed to monitor wildlife populations.

Proposed Budget for 2022:

Wildlife Section Operations	\$250,000
Restoration of Treadwell House	\$500,000
Total Budget Request	\$750,000

Action requested:

We ask that the Board approve the expenditure of \$750,000 from the Mitigation Trust Fund of South Carolina for management of Palachucola WMA and the renovation of the historic Mistletoe Grove house on Palachucola WMA.

Norman F. Pulliam
Chairman, SCDNR Board

Date

South Carolina Department of
Natural Resources



Robert H. Boyles, Jr.

Director

Emily C. Cope
Deputy Director for
Wildlife and Freshwater Fisheries

MEMORANDUM

To: SCDNR Board

From: Ken Prosser

Date: February 7, 2022

Subject: Dedication/Inclusion of SCDNR Properties into the SC Heritage Trust
(Regular Session Item)

SCDNR is seeking approval to commit one tract to the corpus of the SC Heritage Trust as outlined in the Heritage Trust Act. SCDNR also requests approval to dedicate one tract as a heritage preserve and commit it to the corpus of the SC Heritage Trust. The properties are as follows:

1. Heritage Preserve (HP) Property to be Committed to the Corpus of the SC Heritage Trust:

a. Crab Bank HP (32 ac)

Draft Motion: I move the SCDNR Board accept the recommendation as approved by the Heritage Trust Advisory Board and commit Crab Bank Heritage Preserve to the corpus of the SC Heritage Trust.

2. Property to be Dedicated as a Heritage Preserve and Committed to the Corpus of the SC Heritage Trust:

a. Clear Creek HP (18 ac)

Draft Motion: I move the SCDNR Board accept the recommendation as approved by the Heritage Trust Advisory Board and dedicate Clear Creek Heritage Preserve as a heritage preserve and commit it to the corpus of the SC Heritage Trust.

Environmental Report



Office of Environmental Programs DNR Board Briefing – February 17, 2022

Stormwater Infrastructure GP, S.C. Department of Health and Environmental Control's Office of Ocean and Coastal Resource Management (DHEC OCRM), GP-2022-SWI1, GP-2022-SWI2, GP-2022-SWI3.

On January 31, 2022, DHEC-OCRM issued the Storm Water Conveyance System General Permit (GP), HNN-YHHV-10ZR3. The GP cover stormwater conveyance projects within the tidelands and Critical Area of SCDHEC OCRM in the eight coastal counties. This GP will authorize State agencies, county governments and local municipalities to conduct activities required for the re-establishment, improvement or maintenance of existing public stormwater conveyance systems in the tideland. The purpose of this GP is to provide a simplified and expeditious means to authorize routine public stormwater infrastructure projects undertaken by state agencies, county governments and local municipalities that are similar in nature and result in only minimal individual and cumulative impacts to the tidelands critical area within the State of South Carolina. This permit has been in review since 2019. In a letter dated April 23, 2019, DNR expressed various concerns regarding the issuance of this GP and the potential significant and cumulative impacts to important estuarine resources. DNR staff provided recommendations for minimizing potential impacts. Staff also participated in a follow-up meeting to further discuss concerns of the various commenting agencies. This GP was officially noticed in August of 2020; OEP staff made additional recommendations for minimizing potential impacts. Based on received comments the final GP does not include new stormwater conveyance, placed special condition to protected threatened and endangered species and reduced the tideland critical area impact threshold. 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

Abbeville Hydroelectric Project (FERC Project No. 11286). The City of Abbeville filed a request for a temporary drawdown of Lake Secession to an elevation of 528 ft mean sea level (msl), 12 feet below the seasonal minimum elevation of 540 ft msl in accordance with Article 401 of the project's license. The licensee stated that the drawdown was necessary to conduct repairs to the penstock fill valve. Article 403 of the project's license requires the licensee to consult with SCDNR and the US Fish and Wildlife Service (USFWS) to develop and approve a reservoir drawdown plan if the proposed drawdown is more than eight feet. The SCDNR FERC Coordinator was contacted by the licensee on November 2, 2021, regarding the proposed drawdown. At that time, SCDNR reminded the licensee of their requirements under Article 403 and urged the licensee to create a drawdown plan for the resource agencies, SCDNR and USFWS, to review. The licensee submitted a draft Reservoir Drawdown Plan (Drawdown Plan) to the resource agencies on November 4, 2021 and SCDNR responded with comments submitted on November 23, 2021. The comments focused on monitoring aquatic species during the drawdown and notifying the agency of the following: 1) when the drawdown begins, 2) if any distressed or dying fish were observed during the drawdown, and 3) when the reservoir returns to normal pool elevation. SCDNR comments also encouraged the licensee to make all efforts to return to normal pool elevation before the fish spawning season begins, which is based on a temperature threshold.

Since the November request for variance, the Commission has followed up with the licensee with an Additional Information Requests (AIR) on December 2, 2021 and January 20, 2022. The January 20, 2022 AIR addressed a discrepancy with the reservoir drawdown plan noting that the licensee had altered the Drawdown Plan's aquatic monitoring without approval from the resource agencies as well as the licensee's failure to follow the project's Cultural Resources Management Plan, which requires consultation with the South Carolina State Historic Preservation Office (SHPO). In addition, the Commission found that the drawdown had the potential to affect an archaeological site on the shoreline of Lake Secession. Subsequently, the Commission required the licensee to consult with SHPO and federally recognized tribes in the area.

On January 21, 2022, SCDNR's FERC Coordinator received a phone call from the licensee; the licensee stated that the drawdown's approval was being delayed by the Commission due to cultural resource concerns, but they had begun the drawdown anyway so that the reservoir would have time to refill before the spring spawning season. The licensee stated that a dam safety representative from the FERC had visited the Abbeville Project the day before (Jan 20) and that the Commission was aware of the non-approved drawdown. On January 28, 2022, the Commission issued a letter ordering the licensee to cease drawing down the reservoir and refrain from proceeding with any associated work until the project has received authorization or approval from the Commission. Per email correspondence with the licensee, SCDNR staff became aware of the licensee's intent to ignore the Commission's orders. SCDNR contacted and met with Commission staff on February 1, 2022 to notify the Commission of the findings and the agency's intent to submit comments on the matter following a report from the licensee of what occurred.

Coneross Hydroelectric Project (FERC Project No. 6731). The Coneross Hydroelectric Project was issued a 40-year license from the Commission on February 1, 2022. SCDNR staff contributed and participated throughout the relicensing process for the hydro project to ensure protections for natural resources during the relicensing process. Due to SCDNR's involvement during relicensing, measures in the license include protection and enhancement of water quality, wildlife and aquatic resources, threatened and endangered species, and recreational resources at the project.

Below are a few highlights of some of these measures:

- In order to protect aquatic resources, recreational resources, and water quality in the bypassed reach, the license requires Coneross Power, to release a year-round continuous minimum flow of 35 cfs, or inflow, whichever is less, into the bypassed reach through the sluice gate.
- In order to protect aquatic resources in the reservoir, the license requires Coneross Power to limit the reservoir's water level fluctuation to no more than six inches year-round between 729 ft and 729.5 ft. NGVD29.
- Coneross Power must develop an Operation Compliance Monitoring Plan in consultation with SCDNR, SCDHEC, and USFWS that will document compliance with the operational requirements of the license including the minimum flow requirement and impoundment level fluctuations.
- To protect aquatic resources in the impoundment and downstream during drought conditions, the license requires Coneross Power to develop a new Drought Management Plan in consultation and approved by the SCDNR and USFWS.
- To protect water quality and aquatic resources in the impoundment and downstream, the license requires Coneross Power to develop a new Sediment Management Plan in consultation with and approved by the SCDNR and USFWS.
- Coneross Power must avoid and minimize the disturbance of riparian vegetation on the Project lands that are 1) owned and/or controlled by the Licensee, 2) outside the developed areas used for Project operations and facilities, and 3) within 50 feet of the ordinary high water mark of Coneross Creek and the Project impoundment.
- In order to protect northern long-eared bat habitat, the licensee must 1) avoid cutting trees equal to or greater than three inches in diameter at breast height within the Coneross Project boundary

- from April 1 through October 31, unless they pose an immediate threat to human life or property; and 2) where trees need to be removed, only remove trees between November 1 and March 31.
- Within two years of the license issuance, the licensee must complete recreational improvements at the Coneross Impoundment Access Facility, the angler access trail, and a new impoundment access trail from the boat ramp to a hand-carry boat launch area.

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.

Caw Caw Mitigation Bank Final MBI

The proposed bank consists of establishing a freshwater wetland mitigation bank in the Stono River watershed (USGS 8-digit Hydrologic Unit Code 03050202) and the Middle Atlantic Coastal Plain ecoregion of South Carolina. The proposed 4,347-acre mitigation site includes 3,810 acres of freshwater wetlands, 503 acres of uplands, and 34 acres of interior silviculture roads. According to the Prospectus, the mitigation work plan includes the enhancement/restoration of 1,049 acres of palustrine forested wetlands by the removal of pine species and the planting of bottomland hardwood seedlings; and the preservation of 2,761 acres of palustrine forested and scrub shrub wetlands and 503 acres of upland buffers. The bank will be owned by the Charleston County Parks and the conservation easement will be held by Ducks Unlimited, Inc with portions of the bank already held by the East Edisto Conservancy. Prospectus comments were submitted February 12, 2015, and DMBI comments on May 14, 2020. **The FMBI is currently under review and will be provided to the Corps by February 18, 2022.** DNR Project Manager: Maggie Jamison

Monthly Division Reports

EXECUTIVE OFFICE

OFFICE OF THE DIRECTOR

JANUARY 2022 HIGHLIGHTS

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

On State Holiday, Monday, January 3, Director Boyles participated in the Celebration of Life ceremony at the Marine Center to celebrate the life and career of Deputy Director Phil Maier followed by a reception in the Outdoor Classroom at Fort Johnson where Phil spent his career of service and dedication. Later in January, Director Boyles met with Beth Maier at the Marine Center to follow-up on her and her family.

Director Boyles, DNR Board Member Jerry Lee and staff met with Representative Phillip Lowe at the Samworth Wildlife Management Area for a tour and overview of the Samworth habitat rehabilitation. Later, they were joined by PRT Director Duane Parrish and State Parks Director Paul McCormack to discuss partnerships in habitat management.

Director Boyles and General Counsel Shannon Bobertz had several January virtual meetings with Jill Hufnagel following up on the leadership training she conducted for staff.

Director Boyles met with Deputy Director Angie Cassella, Amanda Stroud, Kristen Coulter and Maria LaRocca to discuss an agency style guide and branding for the agency.

Director Boyles spoke at the Basic Law Enforcement Class 750 Graduation at the Criminal Justice Academy which included two SCDNR graduates.

On Saturday, January 8, Director Boyles met with Representative Bill Hixon at the Grand American Coon Hunt at the Orangeburg County Fairgrounds in Orangeburg.

Director Boyles met with Deputy Directors Emily Cope and Ken Rentiers for a discussion about aquatic plant management. Director Boyles chaired the Deputy Directors-Senior Staff monthly meeting in the Board Room.

Director Boyles and Kevin Ryan had several meetings in January with Representative Bill Hixon to discuss legislation.

Director Boyles and Board Vice-Chairman Mike Hutchins represented SCDNR at the House Ways and Means Law Enforcement and Criminal Justice Subcommittee meeting for the SCDNR Budget Hearing on our FY23 Budget Request.

Director Boyles participated virtually in the Freshwater Fisheries Technicians meeting and thanked them for their hard work and dedication.

Director Boyles met with Representative Phillip Lowe who stopped by his office to discuss legislation and constituent concerns.

Director Boyles participated in several Executive Conference Calls with Governor McMaster and the Emergency Management Division for the January 15-17 Winter Weather Event. He also participated in an Executive Conference Call on January 20 for an additional Winter Weather Event.

Director Boyles participated in the USDA State Partner Call whereby USDA confirmed the highly pathogenic Avian Influenza in a wild bird in South Carolina.

Director Boyles participated in and conducted the swearing-in of the new SCDNR Law Enforcement Class held in the Styx Classroom on January 18.

Director Boyles attended the House Wildlife Subcommittee meeting with several bills relating to SCDNR on the agenda. He also participated in the Conservation with the Conservationists event conducted by Senator Thomas McElveen at the State House.

At the invitation of Governor McMaster, Director Boyles attended the Governor's State of the State Address on the evening of January 19 at the State House.

Director Boyles participated in the DNR Board Meeting on January 20 in the Board Room in Columbia. Later that evening, he participated in a virtual Leadership Share Session with fellow agency directors from across the country hosted by the Association of Fish and Wildlife Agencies (AFWA).

At the request of Sea Grant Consortium Board of Directors Chairman Dr. Bob Jones, Director Boyles talked to Dr. Susan Lovelace, Executive Director of the Sea Grant Consortium, about Sea Grant's FY23 budget request.

Director Boyles, Col. Chisolm Frampton, Eva Smith and Scott Speares participated in a SC Law Enforcement Compensation Study Kick-off Meeting at the invitation of the Department of Administration

and hosted by them. Later, Director Boyles met with Col. Frampton and Eva Smith for a follow-up to this meeting.

Director Boyles hosted a “Lunch & Learn – Coffee & Conversation with the Director” special event that included an overview of the agency’s FY23 budget and the budget process, followed by questions from the group, and presented as an opportunity for staff across the agency to learn more about the budget process and our budget request.

Director Boyles participated in the Freshwater Fisheries Biologists Virtual Meeting and greeted the group virtually and thanked them for their hard work and dedication.

Director Boyles participated in the Law Enforcement Training Council January 26 quarterly meeting at the Criminal Justice Academy. Director Boyles participated virtually in the National Bobwhite Conservation Initiative (NBCI) Management Board of Director’s Meeting.

Director Boyles completed the required four-hour driver’s training on January 27 at the Marine Center in Charleston.

Director Boyles along with staff of the Department of Administration and the Medical University of South Carolina participated in a conference call to discuss potential property transfer at Fort Johnson.

Director Boyles, General Counsel Bobertz, Acting Deputy Director Blaik Keppler and Mel Bell participated in a conference call to talk to outside counsel about the Defenders of Wildlife vs. DNR and Charles River Lab lawsuit regarding horseshoe crab permitting.

Director Boyles spoke by phone with Patriots Point Development Authority Board Member General Darwin Simpson regarding the conservation easement at Patriots Point.

Director Boyles had a conference call with the Pew Environmental Group about coastal habitat protection in South Carolina. Later, he had a conference call with Dorothy Lowman, consultant for the Walton Family Foundation, to discuss improvements in federal fisheries management.

Marine Resources Division

Marine Resources Research Institute (MRR)

Grant Proposals

Submitted: A. Tweel. Exploring the distribution of microplastics in estuarine sediment and associated organisms in the Port Royal Sound. Port Royal Sound Foundation, \$25,576.

Submitted: A. Tweel. Linking the coastal salinity index with ecological threshold responses in marsh and benthic habitats of the southeastern US. National Integrated Drought Information System, NOAA, \$25,000.

Funded: A. Tweel and C. Parker. Kiawah Island Pond Water Quality Project. Kiawah Island Community Association, \$21,600.

Submitted: S. Lovelace, A. Watson, J. Broach, F. Casu, E. Levesque, S. Pedigo, G. Gaines, and M. Gorstein. Development and Application of Size-Selective Zooplankton Harvesters for Marine Finfish Production. 3-year. \$312,154 to SCDNR. NOAA- Marine Finfish Aquaculture: Juvenile Production Technologies.

Publications

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

Submitted: Zokan, M., D. Wyanski, D.B. White, G. Sedberry. Life history of the Spotted Moray, *Gymnothorax moringa*, off the southeastern Atlantic coast of the United States: age, growth, and reproduction. Fishery Bulletin.

Accepted: Shopnitz, F., C. Ohs, A. Collins, J. Patterson, M. DiMaggio, E. Silvy, and J. Broach. Evaluation of Anesthesia Protocols for Handling Hogfish *Lachnolaimus maximus* using Tricaine Methanesulfonate and AQUI-S 20E. North American Journal of Aquaculture.

Submitted: 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.

Submitted: Larkin, M.E.M., A.M. Watson, A.R. Place. Gluten-Free fish? Marine carnivores Cobia (*Rachycentron canadum*) and European Sea Bass (*Dicentrarchus labrax*) have different tolerances to dietary wheat gluten. Journal of Marine Science and Engineering.

Presentations

Michael Kendrick. Blue crab update. Marine Advisory Council, virtual meeting. January 7, 2021, approximately 20 participants.

Jason Broach. Applied Mariculture Research to Improve Production of Important Marine Fish at the Waddell Mariculture Center. Marine Advisory Committee; January 7, 2021, approximately 20 participants.

Jeff Brunson, Kim Sitta, Michael Kendrick, Peter Kingsley-Smith. Long-term fishery independent data reveal a sex bias in pot-based sampling of blue crabs in South Carolina. 2022 Meeting of the American Fisheries Society Southern Division, Charleston, SC. January 22, 2022. Approximately 60 participants, technical audience.

Lukas Troha, Walter Bublely, Chip Collier, & Joseph C. Ballenger. Tag-Reporting Rate of Red Drum (*Sciaenops ocellatus*) in South Carolina. EFR Science Discussion. 20 participants, technical audience.

Maeghen Wedgeworth, Robert Mollennhauer, & Shannon K. Brewer. Temporal and spatial variability of Prairie Chub *Machrybopsis australis* spawning probability and frequency within the upper Red River basin. EFR Science Discussion. 20 participants, technical audience.

Elizabeth Bullard, Michael Kendrick, Andrew Tweel, & Joseph C. Ballenger. Spatial differences in estuarine finfish community structure: a case study of South Carolina coastal estuaries. Poster presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 300 participants, technical audience.

Jacob Cashour, Gorka Sancho, Joseph C. Ballenger, Bryan Frazier, & Jody Beers. Physiological stress response and post-release mortality of the Bonnethead, *Sphyrna tiburo*. Oral presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 50 participants, technical audience.

Kenneth Erickson, Justin West, Michael Dance, Troy Farmer, Joseph C. Ballenger, & Steven Midway. Changing climate associated with the range-wide decline of an estuarine finfish. Oral presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 50 participants, technical audience.

Morgan Lattomus, Barbara Beckingham, Bryan Frazier, Ashley Galloway, & Gorka Sancho. Ingestion of microplastics by young-of-the-year sharks in ACE Basin NERR and Bulls Bay, South Carolina. Oral presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 50 participants, technical audience.

Lukas Troha, Wally Bublely, Chip Collier, & Joseph C. Ballenger. Tag-Reporting Rate of Red Drum (*Sciaenops ocellatus*) in South Carolina. Oral presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 50 participants, technical audience.

Maeghen Wedgeworth, Robert Mollennhauer, & Shannon K. Brewer. Temporal and spatial variability of Prairie Chub *Machrybopsis australis* spawning probability and frequency within the upper Red River basin. Oral presentation, SDAFS 2022 Annual Meeting, Charleston, SC. 50 participants, technical audience.

Robin Minch & Tracey Smart. Do environmental conditions drive ray abundance and distribution? Comparing estimates from single and multispecies models. Southern Division of the American Fisheries Society Annual Meeting. January 21, Charleston, SC. Poster presentation. 75 professional attendees.

Marcel Reichert. MARMAP - 50 Years of Marine Fishery Independent Monitoring in the SE Region. Southern Division of the American Fisheries Society Annual Meeting. January 22, Charleston, SC. Oral presentation. 50 professional attendees.

Rebekah Ravago, Dr. Marcel Reichert, Dr. Wally Bublely, Dr. Allan Strand & Dr. Annette Watson. Utilizing FT-NIR to Determine the Age of Black Sea Bass and White Grunt with Otoliths and Scales. Southern Division of the American Fisheries Society Annual Meeting. January 21, Charleston, SC. Poster presentation. 75 professional attendees.

Tracey Smart, Pearse Webster, Amy Zimney, Jeanne Boylan & Marcel Reichert. Long-term Surveys Face Increasing Challenges with Age and Longevity: The Case Study of the SEAMAP-SA Coastal Trawl Survey. Southern Division of the American Fisheries Society Annual Meeting. January 22, Charleston, SC. Oral presentation. 50 professional attendees.

Tracey Smart & Amy Zimney. Impacts of incomplete sampling and standardization on indices of abundance from a fishery-independent trawl survey off the Southeast U.S. Atlantic coast. Southern Division of the American Fisheries Society Annual Meeting. January 22, Charleston, SC. Oral presentation. 50 professional attendees.

Kevin Spanik, Walter Bublely & Tracey Smart. Small-Scale Variability in a Fishery-Independent Reef Fish Survey Revealed by Repeated Measures Sampling. Southern Division of the American Fisheries Society Annual Meeting. January 22, Charleston, SC. Oral presentation. 50 professional attendees.

Peter Kingsley-Smith. Invasive species in the southeastern U.S. – an overview of key legislation, policies, and regulations. Graduate Program in Marine Biology Marine Policy and Conservation class. January 26, 2022. Grice Marine Laboratory, Rm 101. 5 student attendees.

Outreach

Graham Wagner provided the SC update for the 2021 Annual Habitat Hotline Atlantic (http://www.asmfc.org/uploads/file/61c218caHabitatHotlineAtlantic_2021.pdf) highlighting work by the Shellfish Research Section to create living shorelines and improve coastal resiliency.

Staff (Jason Broach, Jake Morgenstern, Evan Bowman, Erin Levesque) from the Waddell Mariculture Center participated in a group tour for the Beaufort area Grady White Club. A tour of the hatchery and ponds was provided to a group of 9 people, some of whom have contributed to cobia research by providing broodstock and fin clips. Some of these citizens also expressed an interest in assisting with flounder data collection as well.

One80 Place Fish Donation: Staff donated 113 lbs of fish to One80 Place who were very appreciative of this donation.

Staff from the Crustacean Research and Monitoring Section compiled information about horseshoe crab ecology and the group's current horseshoe crab research for the annual *Loggerheadlines* turtle survey newsletter.

Daniel Sasson was interviewed in 2020 for a podcast, The Wild Life, about horseshoe crab behavior, ecology, and evolution. That podcast episode was published this week.

Volunteers

Tess Masselink, a visiting graduate student from Amsterdam (Netherlands) assisted with sampling associated with the Shellfish Research Section's blue crab habitat use project on January 24 in Bulls Bay.

Progress Report and Activities

Coastal Research Section

Miscellaneous: Marcel Reichert and Tracey Smart attended a meeting with SEAMAP-SA Chair Roger Pugliese and Coordinator Sarah Murray to discuss leadership transition and work groups on January 11, 2022. Marcel Reichert and Tracey Smart attended Nature Conservancy webinars as part of the Seafloor Team to discuss development and progress of the TNC's Southeast Marine Mapping Tool on January 10 and 13. Dawn Glasgow participated in the MRRI Intern Mentor Meeting on January 27, 2022. Marcel Reichert coordinated a symposium on Value and Challenges of Long-Term Fishery Independent Surveys at the Southern Division of the American Fisheries Society Annual Meeting on January 22. The symposium included an overview of 50 years of MARMAP at SCDNR, 15 oral presentations and a discussion about long-term surveys in the region. The section presented 4 talks during this symposium. **Tracey Smart was presented the Jack Bayless Best Professional Presentation award for the 2021 SCAFS meeting during the SDAFS for her Red Porgy work published in 2020.** Many staff worked various positions and shifts at the SDAFS meeting contributing to the successful meeting last week.

Reef Fish Survey (MARMAP and SEAMAP-SA): The 2021 Annual Reef Fish Survey (MARMAP/SEAMAP-SA) cruise report was submitted to staff at the South Atlantic Fisheries Management Council and NOAA's Southeast Region Office and Southeast Fisheries Science Center on January 11. Tracey Smart provided a summary of 2021 Red Snapper mini season samples to SERO in support of their efforts to set the 2022 Red Snapper fishing season. Staff met with Vessel Ops to discuss and finalize the 2022 vessel schedules 1/27. Kevin Spanik, Wiley Sinkus, David Wyanski and Joe Evans met with NMFS biologist Scott Van Sant to determine annulus counting methodology for Hogfish.

South Atlantic Deep-water Longline Survey (SADLS): The coordinating group had their weekly calls Jan. 4, 11, and 25.

Life History MARFIN: Sample reading is on track.

Short Bottom Longline MARFIN: Staff continue to refine the habitat and bathymetry characterization strategy. In addition, James Brooks and Will McNew have been repairing gear from 2021. The 2022 vessel time request was submitted to Vessel Ops and schedule finalized on January 27.

Gear Selectivity MARFIN: Stephen Long has been coordinating gear purchases. Some issues with availability have been encountered but the lead time may not affect the beginning of the sampling. Stephen Long and Homer Hiers have been testing the new stereo cameras for battery life and performance. Staff met on January 25 to discuss details for gear, data collection, and schedule needs.

Juvenile Survey MARFIN: Staff met on January 25 to discuss details for gear, data collection, and schedule needs. Staff are refining the supplies and gears needed and have submitted requests to Vessel Ops for ship time in 2022 and those times were finalized on January 27.

Coastal Trawl Survey (SEAMAP-SA): Staff continue to process life-history samples collected during 2021 and conduct QA/QC on data. They are also working on a review of recent ledger updates. All specimens collected for others during 2021 have been distributed. Jonathan Jones has agreed to assist the Diadromous Species Section with field efforts during their upcoming busy season. Staff attended the schedule coordination meeting for users of the MRD large vessel fleet on January 27.

Data Management: Michelle Willis and Tracey Smart attended a SECOORA PI webinar on January 12 to discuss 6-month progress reports for the new 5-year award. The two also attended a call with Axiom Data Science on January 6 to discuss where the last funded project left off and moving to the next objectives. Jeanne Boylan reviewed the tagging data and code tables for conversion to DarwinCore and provided them to Axiom Data Science. Jeanne Boylan worked with the grants and business offices to finalize the 2016-2021 FL subrecipient contract and set up the 2021-2026 contract.

In-water sea turtle research: Revisions to the *Endangered Species Research* (ESR) manuscript were completed and the document was sent to co-authors for review before re-submission to the journal by mid-February. One satellite transmitter attached to a juvenile green sea turtle in October continues to transmit daily; data for all six green sea turtle tracks were provided to NMFS for inclusion in a regional assessment of critical habitat for this species. Analysis began for a combined Turtle Trawl Survey (TTS) and SEAMAP-SA Coastal Trawl Survey (CTS) companion (to the ESR paper) paper on loggerhead size/age structure that we hope to submit to *Global Change Biology* by the end of March.

Characterization of shrimp fishing and ESA-species interactions: A time depth recorder (TDR) was field tested aboard the R/V Silver Crescent as part of the Estuarine Trawl Survey on January 13. The first round of site visits to meet with vendors in the southern part of the state were completed on 11 January. Paperwork for a fixed price bid was submitted for processing in SCEIS for participation in the TDR data collection aspect of this study (i.e., Job 1). The PI met with co-investigators to discuss upcoming (February) water sampling for Job 2 (eDNA), as well as coordinating logistics for green sea turtle data collection (Job 3) that will commence in June 2022.

Diamondback terrapin research: One citizen-scientist report was received this month: a young of the year emergence on the steps of the Marriott noticed during set up for the SD AFS meeting!

Coastal acoustic receivers (DJ): The PI began planning the CY2022 field schedule, coordinating annual dive gear evaluation, and coordinating dive physical renewals due this year.

Mitigation Reef Monitoring: The 2021 Annual Report has been delayed until next month to allow the Army Corps of Engineers to provide bathymetry change data for inclusion in analysis of biotic change at the sites since 2019.

Stock Assessment activities: Wally Bublely and Tracey Smart attended a SEDAR Procedural Workshop (Indices) webinar on January 10. The group discussed approaches and assignments to prepare for their in-person workshop scheduled for April 2022.

Personnel: Dr. Marcel Reichert announced his retirement from the agency effective March 31 after almost 30 years as a SC State Employee, including close to 18 years with SCDNR. Robin Minch started as an hourly with the section.

Ecosystem Research Section

SCECAP: Benthic taxonomy is underway for the 2021 samples, with samples over $\frac{2}{3}$ complete. The database is being prepared for a biennial report, and preparation of gear for the 2022 sampling season is underway. For the annual report,

trends in weakfish, spot, and Atlantic croaker were statistically examined using two primary measures: occurrence (percent of stations where present) and abundance (density of individuals only at stations where present). Weakfish show evidence of similar levels of occurrence and abundance over the 1999-2020 survey period, spot continue to show decreasing trends in both occurrence and abundance, and Atlantic croaker show an increasing trend in occurrence paired with stable abundance where present over time. A student in the Graduate Program in Marine Biology has been identified to develop a thesis investigating microplastics in sediments and organisms along the SC coast.

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. All of the benthic sample sorting and taxonomic identifications are complete for this project. Sediment sample processing is complete. The first six fecal samples have been analyzed for genetic fragments to identify prey species; a project meeting will be held next week to discuss next steps.

Intertidal Genetics SWG: This project complements the ongoing shorebird habitat project. This project will target benthic specimens for genetic sequencing and additions to a global database. These will benefit the former project by allowing a more complete diet analysis. Staff have identified sampling sites that are popular shorebird foraging areas, to maximize the likelihood of finding desirable organisms, and have begun sampling at several local sites.

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. Staff have been working with the Port Royal Sound Foundation on their upcoming Symposium, to be held on February 11, 2022.

Kiawah Pond Project: Staff completed sampling on January 20. No blooms were detected and dissolved oxygen levels remained within normal ranges. The pH has increased compared to summer months, which is consistent with past years.

ACE Basin NERR: Staff conducted the water quality instrument swaps at the six water quality sites in the ACE Basin on January 12 along with the collection of nutrient and chlorophyll grab samples. Anna Turano, new biologist with the ACE and ERS, participated in the field work. Staff redeployed the ISCO autosampler and successfully collected the January diel nutrient and chlorophyll samples every 2 hours and 4 minutes for a total of 13 samples from low tide to the following 2 low tides. The chlorophyll samples have been processed for January 2022. Staff are preparing the quarter 4 water quality and meteorological data and metadata submissions. ACE and SRS staff participated in the drone project call to discuss the processing of the vegetation imagery. Staff collected the winter quarter surface elevation table (SET) measurements at Jehossee Island. Staff participated in the HiTIDER advisory committee meeting and reviewed the ArcGIS files produced for the ACE. A suitable candidate for the ACE Bio I position was identified, but withdrew their application. The position has been posted externally.

Miscellaneous: Andrew Tweel assisted the Shellfish Research Section (SRS) in collecting sediment samples on January 13 for the ongoing monthly survey of Crab Bank. Andrew Tweel and Denise Sanger participated in ongoing discussions with the SC Regional Sediment Management Group about the potential for thin layer placement (TLP) of sediment on the marsh surface in an effort to increase marsh resilience. Staff participated in a call with other DNR staff to discuss TLP with a private consultant. Led by Catharine Parker, staff are preparing for the upcoming laboratory safety day.

Estuarine Finfish Research Section

Southern Flounder: An early year, mid-winter, catch of two southern flounder occurred as part of trammel net sampling in Charleston Harbor. These fish were retained to add to the growing Southern Flounder broodstock collection. The fish was prophylactically treated and introduced to a quarantine tank. Parasitic chemicals and smaller PIT tags have been received to treat and tag fish before moving into a new system while a new filter is being installed on the current system. A new flounder broodstock conditioning cycle has been developed based on a hybrid of the Texas and North Carolina schedule which is more suited to SC water temperatures and lighting. This preliminary investigation will inform juvenile flounder production in the future. Environmental room #3 is currently being cleaned and retrofitted to be a future home for live feed production, a requirement for larval rearing of flounder. Potential markers were identified from southern flounder whole genome sequencing data, and screening of primers is progressing. Fin clips were received from NC and GA, with sample import and labeling ongoing.

Cobia: SEAMAP provided staff with four juvenile cobia caught in their routine sampling in the fall. Justin Yost showed mariculture staff how to work up these fish. Histological samples are being organized for processing. 2021 cobia collection data is being imported into databases before fin clip samples and otolith samples are processed. A mid-term report and annual invoicing for an ASMFC funded grant was completed. The goal of this grant is to evaluate sub 33" FL cobia for sexual maturity and process a backlog of genetic samples for an updated genetics-based population structure analysis later this year.

Red drum: 2021 red drum samples from the North Edisto have been received from Bear's Bluff National Fish Hatchery. Data from these samples are being imported before sending vials to genetics for analyses.

SCSG Brewery By-Product Evaluation: The digestibility study has concluded and fish were removed from systems and put in holding tanks outside. These fish will be held until the spring when a SCDNR organized kids fishing tournament is scheduled at Colonial Lake downtown. Small juveniles have been size-graded and distributed at 25 fish/tank in the HML. These fish will be used in the next phase of the brewery by-product study which should start in the coming month. Graded inclusion level diets are being mixed currently and diet manufacturing will begin next week. Digestibility trial diets and fecal samples have been sent to the University of Missouri for analyses.

SRAC Artemia Replacement- Spot and pinfish broodfish have been successfully induced to spawn. Trials were started with pinfish larvae on 1/19 to evaluate the potential for Artemia replacement. Another round of pinfish or spot larvae will be ready to begin another trial once the first has concluded.

SWG Terrapins: A final report was submitted for the project SC-T-F16AF00713 "Optimal nesting microhabitat for diamondback terrapins in South Carolina".

Insect Meal Feed Replacement Study: Salmon plasma and feed samples from a recent feeding trial conducted by collaborators in Baltimore were received and will be analyzed using NMR-based metabolomics to evaluate the effects of insect meal inclusion in a diet compared with a fishmeal-based diet on salmon plasma metabolite profiles. The results will provide preliminary data for potential future continued collaborations.

Adult Red Drum and Shark Longline Survey: Data entry of 2021 data is ongoing, all data should be entered by early February.

Atlantic Menhaden: An update to the electrofishing survey relative abundance index for Atlantic Menhaden through the 2021 field season is underway as part of the update assessment of Atlantic Menhaden being conducted by the ASMFC. Staff are also acquiring the data from the SEAMAP-SA Coastal Trawl Survey so that index can be updated through the 2021 field season as well.

Black Drum: Staff have been requested to develop age-specific indices based on the trammel net survey by the ASMFC stock assessment sub-committee. Staff are currently working to compile these indices.

Bonnethead Post-Release Mortality Study: The North Edisto array of acoustic receivers were recently downloaded. Data is being processed and analyzed for multiple studies. Data will be distributed to telemetry networks as well.

Electrofishing Survey: Unfortunately, the final day of electrofishing for 2021 (a trip to the Cooper River rescheduled from earlier in the month) was cut short due to outboard motor mechanical failure. The issue has since been resolved, and January electrofishing sampling was completed as scheduled in the Combahee, Edisto, Cooper, and Winyah Bay/Waccamaw Rivers.

Estuarine Trawl Survey: Bycatch monitoring of finfish catches via the estuarine trawl survey during the monthly Charleston Harbor cruise was successfully completed on 1/13.

Fish Kill Response: Staff responded to a reported fish kill (tilapia) in a retention pond on Edisto Island; likely the result of the low temperatures last week.

NIR Spectroscopy and Fish Aging: Staff finished scanning 2018 Red Drum, second scans with cap.

Red Drum: A panel of SCDNR biologists and managers was convened to discuss recent data regarding red drum in preparation for our participation in a Red Drum Panel being held at the 2022 GA AFS annual meeting in Jekyll Island the 1st week of February. Topics of discussion include South Carolina data and trends, results of the simulation assessment, and reports from charter boat and recreational anglers.

Red Drum Stock Assessment: The final draft simulation assessment report was compiled and distributed to the Red Drum technical committee. The TC will review the report on January 28 and determine if it should be submitted for external peer review.

Reproductive Studies: Staff read 2018-2021 Cobia samples, organized and sent results to Mariculture staff.

Trammel Net Survey: All five strata for January have been sampled successfully (CH, WB, RH, LW, and AB).

SDAFS 2022: Multiple EFR staff were substantially involved with successful organization, hosting and participation of the 2022 Southern Division of the American Fisheries Society.

2021 EFR Fin Clip Archiving: Staff are preparing all data and fin clips from 2021 collections for archiving and sample processing.

Crayfish Genetics: Genotyping of field samples with the new microsatellite marker panel is nearing completion, and analyses to detect potential hybridization are underway. Preparations for our annual report are underway.

SCSG Cobia Sex Identification Tool: Bioinformatic analyses are underway to identify potential markers.

Sandhills Chub: The initial set of samples are being organized for import/labelling; these will be used to test microsatellite markers from closely-related species.

Carolina Heelsplitters: Staff tested DNA extraction and PCR of glochidia (larval samples). A brief report outlining the mixed results of the glochidia extraction/PCR was provided to Clemson University. In short, DNA quantity was low, but PCR was possible.

Robust Redhorse: Staff are continuing to test the new eDNA markers for robust redhorse and are collaborating with UGA partners on further testing to confirm species specificity.

Shortnose Sturgeon Genetic Tool Development: Data from whole genome sequencing was received and prepared for microsatellite discovery and primer development. A no cost extension was prepared and approved for the project.

Shortnose Sturgeon Aging Project: Study will combine various aging techniques (NIRS, telomere size estimate, fin spine/ray annuli counts) for captive raised shortnose sturgeon. Samples have been obtained by staff and are being curated before analysis begins. Our Year 1 Annual Interim Report was completed and submitted.

Snakehead eDNA Tool Development: Staff are working on the development of an eDNA tool for detecting the presence of multiple invasive snakehead species; the tool is now being tested against multiple co-occurring species to ensure specificity.

Striped Bass: Genotyping has begun on the 2021 NCWRC samples. Parentage results for prioritized samples was provided to NCWRC while genotyping of other samples has continued. We received a small (n=10) set of striped bass samples from Francis Marion University (Jason Doll), collected from the Intracoastal Waterway near Little River. The intent is to genotype and determine if wild/cultured and, if cultured, state/hatchery of origin.

Bartram's Bass: Staff are continuing to genotype a new batch of fin clip field samples from Clemson and FWF collaborators.

Black bass genetics: Staff met with SCDNR Freshwater Fisheries to discuss future black bass genetics studies. Planning is underway to implement a SNP genotyping protocol utilizing the new MiSeq instrument at HML. Matt Walker and Katherine Silliman attended at two day virtual training on using the new Illumina MiSeq at HML, along with other members of the Fort Johnson community.

Piping Plover: The second batch of samples was submitted for metagenomic sequencing; results have been analyzed for prey identification. Processing of the remaining samples for amplicon sequencing is underway.

White Seabass Genetics: Staff have completed genotyping samples and are starting parentage analyses.

Black Banded Sunfish eDNA: Staff are assisting VIMS researchers in troubleshooting their implementation of our eDNA tool in their lab; our lab's results are consistent with VIMS and we met to discuss the sensitivity of the assay, troubleshoot methods, field sampling protocols, and water filtering protocols. Staff are coordinating with the USFS for upcoming eDNA surveys in the Francis Marion Forest.

ESA Species Interactions: Planning for five eDNA collection field trips in February is underway to begin an evaluation of the ability of eDNA as a detection tool for protected species in oceanic environments.

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

HML: NOAA remains in Phase I occupancy (25% capacity). Fabio Casu continues to assist NIST with cryogen fills for the NMR due to NIST staff shortages.

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

HML Research Committee: Daniel Farrae attended the monthly meeting.

Aquaculture 2022 Meeting: Aaron Watson took part in a USAS Professional Achievement Awards telcon to discuss nominations and determine awardees for the upcoming meeting.

Coastal Conservation Careers MRD Internship Program: Fabio Casu participated in a meeting with Olivia Bueno and Dawn Glasgow to discuss recruitment for the upcoming internship program.

South Carolina Sea Grant Consortium Shellfish Aquaculture Program Advisory Board: Erin Levesque accepted an invitation to join the board.

USFWS Refuge Collaborations: Inshore staff participated in a meeting with USFWS Refuge staff and MRD partners to discuss mechanisms going forward to continue our collaborative survey and monitoring efforts within refuge properties.

Waddell Renovations: An elevation certificate was completed for the pumphouse site at the bluff. Matthew Brown met with Ryan Yocco on January 18th (from the engineering group CDDC, LLC) to discuss preliminary plans for the renovation of the pumphouse supported by FEMA funding.

Laboratory Safety: Lab hoods checked, eyewashes and shower tested. HML Monthly Safety Reports were prepared and submitted for the months of December and January.

Staff: John Archambault, a long time (1989-present) employee of the Inshore Fisheries Research Section and more generally the Marine Division has announced his intention to retire, with a target effective date of Feb. 1. John's many long years of dedicated service to this agency and the acquired institutional knowledge he contains will be irreplaceable. An in-person interview for the second Genetics Assistant Marine Scientist position was conducted; the selection committee is determining next steps.

Shellfish Research Section

South Carolina Oyster Demographic Assessment (SCODA) survey: Staff collected samples from multiple sites this month; to date 26 of 35 sites have been collected and samples from 22 of those sites have been processed in the lab and data have been entered into the database. Dermo (*Perkinus marinus*) data, determined from RFTM analyses, have all been collected, while prepared MSX (*Haplosporidium nelsoni*) histology slides collected last summer are still being read by staff.

Dingell-Johnson (WSFR) / SRFAC funding: Staff completed three requests from OFM to create new shellfish permit maps.

309 monitoring of living shorelines: Staff continue to work on data collected during the 2021 monitoring season in preparation for the final project report and for several journal publications. Staff have completed some of the initial analyses

using stake-based measurement responses. All quadrat data have been processed and QA/QC is complete. All shorelines for the project have been digitized in preparation for analyses. Staff have begun sediment sample processing. Staff submitted a quarterly progress report on the status of the project to SCDHEC. Staff have scheduled an update meeting with SCDHEC-OCRM staff to discuss progress and the potential for additional monitoring.

NMFS Community-Based Restoration project: Staff from the Shellfish Research Section and the Shellfish Management Section discussed the status of this project and have begun looking towards spring fieldwork and the evaluation of the current date for completion of the project (September 30, 2022) in terms of remaining finances and performance progress. This project will need a no cost extension for a fourth year due to impacts on volunteer opportunities resulting from the pandemic, and therefore obstacles to community-based restoration efforts.

Several staff participated in a planning call with colleagues across MRD sections and partner agencies (Sea Grant, TNC, DHEC, SC Sea Grant) to begin the development of a syllabus for living shoreline contractor training to be offered through the Clemson University Online platform. The goal is for this course to be available in the fall of 2022. A draft outline was created and is under review by participants.

Unoccupied Aerial Vehicle (UAV) research: Staff corresponded with a graduate student (Ben Aland) and a faculty member from University of SC about potential UAV methods and datasets. Gary Sundin intends to serve as external committee member / internship supervisor for this student. Staff conducted a virtual review session for Part 107 training, attended by four section staff, two CRO staff, and one USC graduate student. Staff assisted coastal geologist Katie Luciano with mapping a section of Pockoy Island (Botany Bay Wildlife Management Area & Heritage Preserve) to assist with an ongoing study of coastal erosion. Staff met with SCDNR coastal bird biologists to explore the possibility of conducting trials to explore the effects of uncrewed aerial vehicles (UAV) on foraging shorebirds.

Crab Bank monitoring project: The second round of post-placement monitoring was completed on January 13, 2022. Section staff were assisted by colleagues from the Environmental Research Section in the collection of UAV map data, sediment samples, and GNSS transect data. Data were processed and preliminary analyses suggest there was not a significant loss of high-ground elevation between the December 1 and the January 13 monitoring time-points. The bank continues to conform well to its original footprint and elevation and the surface features created on the bank (primarily piles of sand 1 - 1.5 meters high) remain intact.

NOAA Marine Debris project: Staff completed the first round of side-scan sonar mapping for this project, mapping an area of the lower Combahee River near St. Helena Sound to document the locations of derelict crab pots. Staff have acquired and installed the necessary software and have begun learning how to process this new data type. Several staff participated in a meeting of NOAA's regional Derelict Fishing Gear working group.

Estuarine Trawl Survey (ETS): Sampling in the Charleston area for January 2022 was completed on January 13, 2022. Overall, the catch of white shrimp was slightly below the time-series mean and white shrimp were generally smaller than normal. Blue crab catch was below the time-series mean. Salinity was similar to the time-series mean and temperature was above average. Staff are currently investigating ways to retrieve trawl gear that has been lost in the Ashley River over the past year.

Creek trawl survey: The January creek trawl survey was completed on January 11 and 12 in the Ashley and Wando Rivers, respectively. The long term juvenile trawl survey typically does not sample in January, but started year round sampling in 2020, such that long-term abundances are not available for this month of the year. Overall abundances at all stations were low. Very few brown shrimp were collected and no white shrimp were collected. Staff have completed QA/QC of this database in preparation for using these data in multiple funded projects. Rigging of the new 10-ft creek trawl net was completed by Beaufort Marine Supply.

Horseshoe crab bleeding effects: Daniel Sasson met with College of Charleston co-PI Jody Beers and the graduate student (Kerryanne Litzenberg) that will be working on the project to discuss a timeline for the start of this recently-funded SC Sea Grant Consortium project scheduled (due to start February 1, 2022; however, the section received notification of delays in the issuance of official notices of award).

Horseshoe crab spawning habitats: Staff met with Felicia Sanders and Janet Thibault to discuss collaborating in the spring on a study to relate migratory shorebird presence with horseshoe crab spawning activity. This work will also involve testing the use of drones to monitor shorebirds. Staff plan to begin initial testing of field methods for this project in the coming weeks.

Jeff Brunson and Daniel Sasson attended (virtually) the ASMFC Winter Meeting Webinar of the Horseshoe Crab Management Board on January 26, during which 2021 Revisions to the Adaptive Resource Management (ARM) framework were discussed.

Norm Shea from the Environmental Research Section trained Daniel Sasson on the process to conduct sediment size analyses. Daniel has begun these analyses to compare grain sizes between beach and marsh habitats where horseshoe crabs spawn. Lexi Mitchell, a GPMB graduate student working in the section, has also helped with these analyses.

Shrimp reproductive phenology: GPMB student Lexi Mitchell (Michael Kendrick, major advisor) began her research assistantship for this project on January 10. Preparations are underway for initial collections for this project, planned for the February 2022 Estuarine Trawl Survey.

Shrimp climate project: Staff continue to prepare datasets and analyze time-series trends for this NERRS Science Collaborative-funded project. A project meeting took place on January 27 at which SCDNR data sources were discussed as the project team prepares for analyses.

Blue Crab DJ Project: This project seeks to better understand juvenile blue crab habitat use and its relationship to red drum habitat use in Bulls Bay and Charleston Harbor. Field sampling for this project began this month, with sampling conducted on January 24 and 25, in Bulls Bay and in Charlestowne Creek, off the Ashley River, respectively. Juvenile blue crab traps were placed along transects from the shallow subtidal zone to the inner salt marsh. Trawls were pulled at each site to compare catches across gear types. Prototype habitat traps were deployed in the inner marsh at Charlestowne Creek. No juvenile crabs were caught in Bulls Bay, but four juvenile crabs were caught in the Charlestowne Creek between the subtidal traps and the net trawls. Staff continue to analyze blue crab size data from the creek trawl survey to assess the potential for tracking growth patterns.

Ecology of *Distocambarus* crayfishes: Staff are in the process of setting up contractual/subrecipient agreements and coordinating at least one additional meeting prior to the onset of this project's field season. Sampling for the project is scheduled to begin on February 15, 2022.

Roadside habitats and *Distocambarus* crayfishes: Staff have begun sampling for this SCDOT-funded project that aims to investigate the importance of roadside ditches to *Distocambarus* crayfishes. Staff have completed two sampling days so far (January 20 and on January 25). *Distocambarus* specimens were collected on both days from previously-documented sites, and while burrows were observed no crayfish were captured at newly sampled sites. Staff will continue to analyze existing site locations in conjunction with habitat variables to better predict additional site locations. Staff intend to key out the collected specimens, and will return to the field following additional rain events after which crayfish should be more accessible with a higher water table.

Invasive crayfish: Staff completed sampling efforts in the Pee Dee basin comparing the capture success rate of electrofishing and dip netting for native and co-occurring invasive crayfish. Lab work to identify specimens is ongoing. Staff also received preliminary DNA results on hybridization between the native *Procambarus troglodytes* and the invasive *Procambarus clarkii*. From the samples tested, *P. troglodytes* and *P. clarkii* do not appear to be hybridizing; additional samples from sites where the species ranges' overlap more consistently are scheduled for additional analyses.

Crayfishes of Savannah basin: Staff continue working with crayfish samples collected from the Savannah River basin to compare crayfish assemblages across physiographic provinces of SC.

Juvenile portunids: Staff continue to collect juvenile portunid specimens from the Estuarine Trawl Survey to assess abundance patterns of both native and non-native species. To date, over 100 specimens and genetic tissue samples have been collected from the *Callinectes*, *Arenaeus*, and *Achelous* genera. Samples from the January 2022 Estuarine Trawl Survey have been processed to archive tissues for genetic analyses.

White Spot Syndrome Virus (WSSV): Staff continued setting up room F-126 in the HML building in preparation for the WSSV experimental trials.

Monarch butterflies: Staff have begun analyzing the 25-year monarch butterfly tagging dataset to document the life history of coastal monarch butterflies in South Carolina. Staff continue to capture and tag monarch butterflies during their winter residency in coastal South Carolina. Staff are also continuing to document locations of aquatic milkweed (*Asclepias perennis*), an important larval host plant and adult nectar plant for monarchs and have compiled and mapped the coordinates for the aquatic milkweed sites.

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.

Personnel: Interviews for a new Wildlife Biologist II in the Crustacean Research and Monitoring Section are ongoing.

Miscellaneous: Staff prepared summaries of shellfish extent, condition, and commercial importance for the upcoming Port Royal Sound Foundation Symposium presentation by Dr. Peter Kingsley-Smith. Six staff members have begun the Introduction to Python training course offered by Geoff Timms. Biologist Lauren Faulk completed safety training for section lab spaces.

Seven staff members attended the 2022 Meeting of the American Fisheries Society Southern Division.

Daniel Sasson met multiple times with the DISTEM committee to help organize a charter for the committee and put together an end-of-year survey that was sent out to members of the Ft. Johnson campus.

Peter Kingsley-Smith and Michael Kendrick accepted invitations to join the South Carolina Sea Grant Consortium Shellfish Aquaculture Program Advisory Board, given their respective expertise in shellfish aquaculture, oyster reef restoration, and/or shellfish ecology.

Office of Fisheries Management (OFM):

Commercial Shellfish Management; Culture & Mariculture Permits and State Grounds **Culture Permits and State Grounds**

The assessed planting quota for the state's 104 culture permits is 95,539 U.S. bushels. Shellfish seed may be planted throughout the calendar year; by S.C. law (§ 50-5-940), cultch must be placed between 01 May and 31 August to receive planting credit. On January 24, 2022, the department sent first planting notices, with included calendars and information on various methods of meeting the planting requirements, to 100 current culture permit holders. As of January 31, 2022, only one permit holder has requested verification of legally required culture permit plantings for their permit. That planting included 20 bushels of "spat on shell" for which bushel credit is currently being determined.

The Shellfish Permitting Committee met on January 24th and voted to revoke one permit. Three other culture permits were surrendered. Currently there are four culture permits available for application. Six additional culture permit areas will be made available for application in February.

Acreage and rent were determined for 2022 calendar year for culture and mariculture permits.

One new culture permit, C-082 Battery Creek in Beaufort County, completed its conditional approval requirements for public notice and the final permit was signed by the permittee.

Mariculture/Importation

Annual hatchery affirmation forms were sent to 2 hatcheries for potential affirmation to import seed into SC for calendar year 2022. To this date those are the only hatcheries that have requested the affirmation form for 2022. Staff conducted a phone call with Port Royal Sound Foundation to discuss application that the foundation has submitted for a small floating gear project at their dock. Shellfish management is still working through the process of the application to determine its validity.

With shellfish permit committee recommendation, an "Intent to Proceed" has been approved by OFM Director, to a bottom clam application in Port Royal Sound. The "Intent to Proceed" letter and application has been sent to ACOE and OCRM.

Mariculture application info was sent to two potential applicants.

The mariculture working group, including DNR, ACOE and OCRM reengaged its monthly meetings and recently met to discuss potential upcoming applications. Next meeting is scheduled for Wednesday February 23rd.

Compliance checks were conducted on 3 permits (M-157, M-188, M-706F) and found all permits to be in good working order.

SCORE – South Carolina Oyster Recycling and Enhancement

Shell recycling and planting; Recreational management

Shell Recycling

In the January recycling period 3,624 bushels of oyster shells were recycled. The public drop off locations at Fort Johnson, Carrigg's Seafood, Gilligan's Seafood – Goose Creek, Gilligan's Seafood – Moncks Corner, Gilligan's Seafood – Johns Island, Gilligan's Seafood – Summerville, and Jessen Boat Landing were emptied totaling 1,612.75 bushels. The restaurant route contributed 1,035.25 bushels across 50 partner restaurants. Twenty roast events were serviced in this recycling period totaling 340 bushels. 4 caterers contributed 636.5 bushels. Three new partners have been added to the recycling efforts: Shuckin' Shack West Ashley, Three Sirens, and Bexley Fish and Raw Bar. They were all given cans, new partner stickers and have been added to the restaurant route. Combined, these new restaurants are expected to contribute 12-15 bushels a week. Staff worked with partner organization, the Coastal Conservation Association (CCA), to plan the recycling of shells from the annual Lowcountry Oyster Festival at Boone Hall Plantation. This event is the largest producer of recycled shell for the program, with about 1,000 bushels (50,000 lbs.) expected to be recycled from this year's event. Equipment maintenance continued this recycling period. The F-250 was taken to the shop for a regular PM, new tire installation, flat tire (new tire) repair, and new battery replacement. The Bobcat S175 had its air filter cleaned. The dump truck was given a new quart of oil. One 150-bushel trailer had new crossmembers installed by Williamsons Welding (Johns Island) and was added to the recycling fleet for the first time this recycling season. A 100-bushel trailer was taken to Williamsons Welding for installation of door hinges and doors and cutting of excess metal. This trailer formerly held an unusable Tommy Lift-Gate, which was removed by staff in December. Williamsons Welding holds an open PO that the recycling program has been using for emergency welding services. The section's John Deere tractor had about seven gallons of hydraulic/transmission oil added to it. Repairs to the John Deere's hydraulic lines and linkages are planned for the coming month with guidance from Rustin Gasperson (MRD Physical Plant).

The Coastal Conservation Association (CCA), longtime SCORE partner organization, donated \$11,209.15 to the SCORE program in the form of a new 7'x14' PJ hydraulic dump trailer purchased new from Steen Enterprises Inc. (Adams

Run, SC). This new trailer can haul 160 bushels of shell and up to 11,000lbs, which could include the section's Bobcat loaders and John Deere tractor. This will be the largest hydraulic dump trailer in the recycling fleet and will greatly impact the section's ability to recycle more shell.

The CCA also donated ~\$1,000 worth of lumber for the construction of a new 10'x12' permanent recycling bin located at the Oakbrook Convenience Center in Ladson, SC (Dorchester County). Staff decommissioned the bin at Jessen Landing and worked earlier in the year with the Town of Summerville and Dorchester County officials to install at least one permanent recycling bin in the Summerville area, of which the new Oakbrook Bin is apart. The CCA is interested in donating more money for multiple bin construction projects around the state.

Staff are working with CCA for donations of 60 new, smaller, volunteer-friendly wheeled cans for deployment in Beaufort, Greenville and new planned and upcoming recycling hubs in the Grand Strand. These 60 new 2.5-bushel cans will replace the 40 old 4-bushel cans currently being used by volunteers in Greenville and Beaufort, which will come to the Charleston area to be deployed at new partner restaurants added this month. Staff are also working with CCA on the purchase of 40 new "livability" cans that will allow for the recycling of shell from several large producer restaurants through the summer months, when they have had to stop recycling in past years due to livability issues.

Staff have been communicating with the Town of Mt. Pleasant to load and haul approximately 3,000 bushels of shell from the 6-Mile facility. Once this shell is removed, the Town of M t. Pleasant will begin to overhaul the 6-mile facility and have agreed to allow the SCORE program to install a new, permanent wooden recycling bin.

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

Beaufort volunteers donated 87 hours recycling 114 bushels of oysters. Charleston volunteers donated 18.5 hours recycling 84.25 bushels of oysters. Greenville volunteers donated 10.5 hours recycling 85.5 bushels of oysters. Two new restaurants were added to the volunteer recycling route in Beaufort, The Bluffton Room and Octagon at Palmetto Bluff. They are both expected to contribute 1-2 bushels of shell a week but will contribute all year.

SCORE staff, spearheaded by Michael Hodges, has planned a March workshop in Murrells Inlet targeting new partners in the Grand Strand area with facilitation help from the North Inlet – Winyah Bay National Estuarine Research Reserve (NERR). Staff prepared and sent an email to civic organizations and government entities who are planning to discuss infrastructure and planning of a new recycling program. Staff have sent a letter to Grand Strand restaurants that serve oysters preparing them for the future rollout of this program, with the intent of inviting participating restaurants to an additional workshop held shortly after the initial workshop with the intent of planning details of the new volunteer recycling program.

Beaufort's shell recycling education team tabled at The Beaufort Oyster Festival to raise awareness of the need for shell recycling volunteers. Three Bluffton restaurants were added to Beaufort's shell recycling efforts: May River Grill, Octagon at Palmetto Bluff, and The Bluffton Room.

Volunteers from Charleston Waterkeeper, Grit and Grace, and SCORE's listserv sorted 266 pounds of trash from the recycled oyster shell quarantining at Veterans Terminal.

Shell Planting for State Managed Grounds

Pre-planning for summer planting season has begun. Purchase requisitions will go out in January to contract planting by barge as well as purchase and transport shell.

Grant and Contract-funded Projects

Community Based Restoration

SCORE hosted fourteen volunteer events, during this reporting period, with 161 volunteers totaling 418.5 volunteer hours. These events included trash sorting, marsh grass seedling planting, manufactured wire reef fabrication, shell recycling, and bagging events. Approximately 11,900 marsh grass seedlings were planted by Charleston Waterkeeper, Palmetto Scholars Academy, The Citadel, and SCORE listserv volunteers. A total of thirty-three triangular prism manufactured wire reefs were constructed by volunteers from Casual Crabbing with Tia and the Poplar Grove Fishing Club. The Outside Foundation of Hilton Head made 122 bags of oyster shell which is stored at Honey Horn Plantation and will be used during Hilton Head-based bagged shell reefs. One volunteer event was cancelled due to inclement weather and has been rescheduled to a later date. Two bag dissection events were held at the Academic Magnet High School for a total of twenty-five students, and a MWR based presentation event was given to nine members of the Poplar Grove Fish Club. Shell bagging supplies were delivered to Cape Romain Environmental Education Charter School.

Michael Hodges met with Mark Sramek (SARP), Lisa Vandiver (NOAA) and EV Bell (SC Sea Grant) to discuss a proposal for funding through NOAA Fisheries Office of Habitat Conservation and the National Fish Habitat Partnership. A proposal titled "Developing a proof of concept for enhancing engagement of underrepresented communities in recreation fishing and habitat conservation programs in SC" will be submitted in February. The proposal will focus on working with one

Title 1 elementary, middle and high school. Students will be involved in recreational crabbing and fishing, as well as oyster and marsh restoration activities. This proposal builds off of existing funding through the National Fish Habitat Partnership. An interim report was submitted for the NFHP-ASMFC recreational fishing grant.

Mitigation

Site assessment photos were taken of the sites associated with the City of Charleston/The Citadel mitigation projects. An annual report was submitted for this project and funds associated with Year Two monitoring were received.

Miscellaneous

Ben Dyar gave a presentation to the DNR Board entitled “Oyster Shell Recycling – Completing the Cycle”.

Barry Sturmer took a position with DNR Law Enforcement. He was a Tech III with the shell recycling program for nearly 4 years.

Andy Hollis was hired and started on January 18th to fill vacancy left by Lee Taylor.

Ben Dyar along with other MRD management met with USFW to discuss Special Use Permit determination for DNR conducting management and research activities withing SC Refuges.

Ben Dyar and Michael Hodges created a budget and narrative proposal for Parris Island Marine Depot for potential requests of Dept. of Navy funding for marsh restoration for the purposes of carbon sequestration. Sites chosen included previously identified areas by Michael Hodges and locations identified on a scouting visit by Michael Hodges and Ben Dyar along with Parris Island environmental personnel.

Meetings

Michael Hodges and Holly Kight Sommers met with Charleston Waterkeeper to discuss a marsh grass restoration partnership with FreeFly Outfitters.

Michael Hodges met with Zach Bjur, Sustainable Ocean Alliance, to discuss partering together on SCORE community-based activities.

Michael Hodges and Holly Kight Sommers attended the Living Shorelines Contractor Training planning meeting.

Michael Hodges, Holly Kight Sommers, Kevin Swain, Christian Sergent, Kelly Lambert, and Matthew McDonald met to discuss spring/summer goals and priorities.

Henry Davega and Ben Dyar met virtually with Katie Sheehan from UGA to discuss user conflicts and permitting process in SC. This information is to gain knowledge from other states as they work through public notice and user conflicts with permitting mariculture in GA.

Ben Dyar and Michael Hodges met virtually with Michelle Pate on potential impacts to restorations sites near newly identified turtle nesting areas on Parris Island.

Ben Dyar attended meeting as part of Contaminants of Concern sub-committee for Water Chats, led by Sea Grant and Clemson Extension.

Statistics:

Fisheries Statistics Section:

- Delinquent letters for late submission of December 2021 mandatory logbooks were mailed on January 19, 2022 (246 letters) to license holders for Wholesale Seafood Dealers and For-Hire Charter Vessels for December 2021 reports not yet received by the January 10th, 2022, deadline.
- The affidavit list and action list for December was provided to Law Enforcement on February 7, 2022.
- Several data requests were completed during this month for commercial data including the following: overall landing by commercial fisherman, species grouping, and specifically annual species summaries on Blue Crab, and Red Snapper. SCDNR charter database also had data requests including specific species of Spanish Mackerel, Red Drum and Red Snapper for catch and effort, and a data review for landed HMS species. Additionally, OFM Statistics Section contributed to the MRD 2021 Accomplishments Report, providing metrics on our amazing teams efforts.
- The distribution of funds for the second allocation for the CARES Act have begun, with \$1.69 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 January, the single OFM Port Agent intercepted 4 commercial trips and collected 83 length frequencies along with obtaining 79 associated age structures. The four-month shallow-water grouper closure is now in effect through the end of April; most sampling efforts will be to other open season snapper grouper species. Additionally, Ernest Muhammad, resigned after 21 years of service to SCDNR. He is now working for the City of Charleston in the Community Planning Department utilizing his recent master's degree in Community Development. We thank Ernie for his many years of service, he will be missed, and we are excited he is pursuing his new passion.

Recreational Statistics Section Summary

- In January OFM staff conducted the recreational finfish and shellfish survey. Data entry for will be completed by March.
- OFM staff sampled commercial shrimp landings to collect data and make observations on species, size, black gill occurrence and abundance.
- Additional activities during the reporting period included: working closely with commercial seafood dealers to ensure compliance with reporting, assisting the SCDNR oyster shell recycling, distributing rules & regulations books and fish rulers to coastal businesses as requested.

Coastal Reserves & Outreach (CRO):

Public Outreach

Outreach to Coastal Residents and Visitors

- Staff started advertising and coordinating training for people interested in becoming a Saltwater Certified Fishing Instructor. This includes a virtual component as well as an in-person training, broken down into the North Coastal Area, Mid Coastal Area, and Low Coastal Area. Training will be held at Huntington Beach State Park, the Marine Resources Complex, and the Port Royal Maritime Center in Beaufort. Staff updated and printed the new Volunteer Handbook for fishing instructors. No Saltwater Family Fishing Clinics (FFC) were hosted or held during January due to the cold weather. The "Walk the Dock" and "Walk the Pier" Program are also on break because the piers are closed.
- Staff lead an "Art in Fisheries Conservation" workshop and information about SCDNR's Marine Tagging Program at the Southern Division of the American Fisheries Society meeting. Staff also attended symposiums and talks.
- Staff discussed and demonstrated fish tagging techniques during a "Partner with the Payer" event with USFWS and fishing industry partners.
- Through the Marine Game Fish Tagging Program, 7 active participants tagged and released 46 fish, primarily red drum, flounder, black drum, and sheepshead. Additionally, 13 anglers reported 15 recaptures. Of these recaptures, 100% were re-released. Staff processed the tagging and recapture data, and rewards were mailed to anglers who reported recapture(s).

Media and Communications

- In early January, staff worked to develop materials for Phil Maier's celebration of life (i.e., program).
- Staff worked on the 2022 Species Snapshot documents for red drum and blue crab, a new series designed to give readers a quick look at the status reports for five of South Carolina's most economically and culturally important marine species.
- Staff met with colleagues from SCORE and the Marine Turtle Conservation Program to discuss 2022 plans for outreach on their respective topics.
- Staff provided design, multimedia, and writing/editing services for seven projects, including additional revisions of Sea Science publications.
- Staff responded directly to 15 media inquiries in January 2022.
- In January 2022, 23 clips in print and digital media referenced SCDNR Marine Division programs or staff.

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 January, 40 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.

In January, in coordination with other CRO staff, staff began advertising for an internship program with the Coastal Conservation Careers grant funded by SC SeaGrant Consortium.

- In January, Spartina marsh grass cultivation started for the From Seeds to Shoreline Project. This year, 352 students will grow marsh grass in school throughout the winter and spring to plant in eroded areas to promote marsh health.

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. This month, SCDNR entered into a Subrecipient Agreement with Dolphin Cove Marina to develop transient boater facilities at the rapidly developing Charleston Neck area. Renovations should begin immediately. At the Charleston City Marina, a highly anticipated expansion of the Megadock has reached a significant milestone as preliminary construction activity is set to begin next month.
- 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. For this fiscal year, the Clean Marina Program is working with 24 marinas and partners to provide pumpout opportunities to boaters. In January, work was completed on a renovation of a pumpout system at Lake Murray Marina.
- CVA outreach staff conducted weekly visits to local marinas, promoting awareness about the CVA, the Clean Boater (CBP) and Clean Marina Programs. CVA staff attended the 2022 Charleston Boat Show in conjunction with SCDNR-Law Enforcement. At the event, staff communicated with over 60 boaters about programmatic goals of the Clean Vessel Program and various other programs.
- Stewardship staff continues to provide support and consultation on Motus Wildlife Tracking Systems for various federal, state and private partners. In January, SCDNR assisted the Nemours Foundation, Harbor Island, Fort Moultrie, and Port Royal Sound Maritime Center, Spring Island Trust, Edisto Beach State Park, Audubon, Daufuskie Island, and Fripp Island with the construction, maintenance and data collection of Motus towers.
- The Coastal Training Program connects coastal decision makers with scientific information about water quality, habitat conservation, community resilience and public access. In January, staff co-coordinated a meeting of living shorelines experts to kick off the creation of a training course for marine contractors, in partnership with Clemson Extension.
- The program continued working with Clemson University on the Edisto Watershed Based Plan, strategizing how to incorporate feedback from the December stakeholder workshop.
- The Coastal Training Program Graduate Assistant, Sean Cannon, successfully defended his masters' internship proposal, which addresses communication gaps surrounding successful implementation of stormwater pond buffer zones.

Coastal Reserves

- Stewardship staff assisted the NOAA Margaret A. Davidson Fellow's project to characterize visitor use in the ACE Basin to better understand impacts on natural resources.
- ACE Basin NERR staff continue to maintain South Fenwick Island to provide habitat management and public access opportunities. Trails and fields were mowed, sprayed and cleared of invasive species.
- Staff continue to monitor Chinese Tallow within the St. Helena Sound WMA and South Fenwick Island WMA.
- In January, stewardship staff worked with Wildlife and Freshwater Fisheries staff to determine hunting regulations and permitting strategies for St. Helena Sound Heritage Preserve/Wildlife Management Area and South Fenwick Island Wildlife Management Area.
- In January, Capers Island saw 110 campers on 19 permits.
- In January, 4,777 people visited Botany Bay Plantation HP/WMA. Volunteers provided 590 hours of service. During this time they performed maintenance activities at the office building and property. The property was closed to general access for dove and deer hunts on several days (numbers are reported in the Wildlife and Freshwater Fisheries section).

Protected Species

- One live juvenile green sea turtle stranding event was reported and transported to rehab center.

- Hopper dredging associated with the Post-45 Charleston Harbor Deepening project is expected to start up again in February.
- Completed annual update to internal tagging database and submission of data to UF ACCSTR.
- Completed quality control and assurance review of stranding records in the database.
- Advertised for and conducted interviews for new summer tech positions at Botany WMA.
- Initiated discussions with Yawkey manager for sea turtle project summer tech positions.
- Reviewed annual reports for permitted facilities in the state with captive animals.
- Initiated annual sea turtle program permit process for aquaria and volunteer networks including preparations for annual volunteer regional training events.
- Initiated pre-season maintenance on program equipment to include the program boat and ATVs.
- Finalized end of season quality control and assurance review of 2021 nesting data records.
- Coordinator continues to work on a long term QA/QC and data entry project - historical paper nest record data entry into the database.
- Developed content for annual *Loggerheadlines* publication, working with Media to create this past year's issue.
- Conducted online polls of volunteer networks, reviewed existing outreach material for development of new program outreach materials working with other CRO outreach biologists; projects affiliated with marinas, piers, anglers and the program's volunteer networks.
- The state eagle biologist responded to calls regarding updates on known nests. 2021 updates were entered into the eagle nest database, including any reports made to SCDNR Natural Heritage Trust Program website to facilitate planning and scheduling of annual monitoring flights.

WILDLIFE AND FRESHWATER FISHERIES

ASSISTANT DEPUTY DIRECTOR'S OFFICE

Completed administrative and budgetary tasks. Processed commercial use permit for DNR properties in Colleton and Charleston Counties. Prepared response to request for relocation of conservation easement on property in Charleston County. Reviewed request for access easement on DNR land in Marion County. Obtained asbestos report on building at Belfast WMA. Prepared and submitted documentation to Department of Administration (DOA) to establish potential property acquisition in Lancaster County. Prepared and submitted documentation to DOA for final approval of property donation in Lancaster County. Reviewed sub-award from TNC concerning property acquisition in Jasper County. Hired attorney for property purchase in Horry County. Submitted documents concerning to SC Conservation Bank concerning recently purchased tract in Chester County. Spoke to realtors about tracts for sale in Bamberg and York Counties. Examined tract for sale in Aiken County. Spoke to Barnwell County administrator about improvement work at Lake Brown. Continued work on 10 other real estate projects. Engaged in conversations with Naturaland Trust, Lowcountry Land 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, Joint Bond Review Committee meeting, State Fiscal Accountability Authority meeting, Habitat Protection Committee meeting, DNR Building Committee meeting, and conference call on property acquisition in Lexington County.

SWG/FOREST LEGACY COORDINATOR

State Wildlife Action Plan (SWAP) Implementation & State Wildlife Grants (SWG & CSWG) Coordination

[Anna Smith]

Grant report reminders were sent to all PIs. A preliminary CSWG grant was discussed with NBCI and SCDNR staff on Bobwhite Quail and Monarch Butterfly habitat restoration. A draft of this grant was read and edited to inform the participating states of what is needed before this grant is ready for submittal. It was decided to hold off until another cycle because partner states were not participating. Two herp reports were reviewed and comments provided to the PI. A justification was written and submitted for an objective change for the CSWG gopher frog Webb wetland restoration project. The USFWS approved it and the annual report was subsequently submitted to the USFWS. The final report for the CSWG Multistate Sandhills Phase 4 grant was also submitted this month. TRACS info was gathered from PIs. One TRACS input was created for the SC portion of the CSWG Black Rail project. The CSWG Sandhills Chub grant TRACS inputs are being done by the lead state, NC. The lead state for the CSWG Brook Floater grant, MA, is working on the TRACS inputs for each state. All CSWG award letters were sent to SC PIs. The interim report for the SWG Green Salamander grant was read and edited for the PI. The final report for the SWG Diamondback Terrapin grant was submitted as well as the final report for the SWG Hammerhead trace elements grant. All grant reports due this month were submitted on time. A SWAP Chapter 9 summary was received for the hammerhead grant. Landowner information for points of interest for Bog Turtle research were compiled and sent to Grosse, Attaway, and Cloninger for investigation.

Forest Legacy Program (FLP) Coordination [Anna Smith]

The annual FLP report for the SC Forestry Commission was written and submitted. Possible Aiken County project tracts were reviewed with OSI. The annual report for the FLP FY21 admin grant was completed and submitted. A Civil Rights form was completed for the USFS. The proposed budget for SCDNR's FY22 FLP Admin Grant was written and approved internally. A site visit was conducted on 1/28/22 in Aiken County for the ~1,900-acre Edisto Farm Reserve Tract which is being considered as a project.

Other Acquisition Grants [Anna Smith]

A meeting was held with the Baxter family in Hampton County about their property being proposed for conservation through SCDNR. They were the recipient of a NCWC grant in 2015 but the deal did not happen due to media interference and the family changing their minds under pressure. Three NCWC grant interim reports were completed in Grant Solutions: Meyer Lake, River Oaks, and Santee Island. A SCCB application was completed with the help of archeologist Taylor for Congaree Creek Phase I and passed along to OSI for final edits and submittal. SCDNR staff discussed LRCF grant ideas for the upcoming cycle. Smith investigated the Upstate Land Conservation Fund and spoke to NLT about focus areas.

Habitat Protection Committee (HPC) [Anna Smith]

The Sigo Tract was discussed with Berry (OSI) and Atkinson. Budget plans were submitted to the SCCB for upcoming grant cycles. The Fort Lawn tract was discussed with Johnson (TCF). Three evaluations were completed: Buckfield, Fort Lawn, and Tarborro (Baxter). A conference call was had with SCDNR staff and OSI staff on the Congaree Creek SCCB grant proposal. A map of the potential NLT Spartanburg donation was created. Action items from the last meeting were completed and updates sent to the HPC. The Vereen Tract was uploaded to the HPC dashboard.

Field Work, TWS, SEAFWA-WDC, etc. [Anna Smith]

Smith mentored a Wando high school graduate on wildlife careers and universities providing degrees. Smith also directed a landowner to NRCS Farm Bill programs for pond construction for wildlife and cattle. A Golden Eagle mount that SCDNR had procured was picked up from the taxidermist as it cannot be repaired. USFWS Special Agent Woodruff met with Smith to evaluate the mount. Parts will be salvaged for education purposes and the rest destroyed per USFWS. The permit will be amended. Smith provided a quote for an Employee of the Year nomination. As part of this month's SC Chapter of TWS meeting, the NC TWS agenda was reviewed for meeting ideas as well as a Carolina Bay protection white paper provided by the LLA. Smith read the SCDOT grant quarterly update report prepared by Lemeris. The draft outline for the SASMI Funding Team was reviewed and edited online. (Smith is on the Steering Committee.) Smith assisted Sabine and Waters with a road project inspection through Driftwood Plantation (TNC) in Awendaw, SC where it will cross a wetland. Continuing education consisted of field work, watching webinars (see summary below), and reading journal articles.

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

- Watched recorded TWS Talks: "Eastern Black Rail Ecology and Habitat Management in South Carolina" [C. Hand, SCDNR] (1/4/22); "Pyrodiversity and Biodiversity: State of the Science and Research Needs" [G. Jones, USFS-RMRS] (1/29/22)
- USFWS/NatureServe Southeast Project Steering Committee Meeting (1/3/22)
- SASMI Steering Committee meeting (1/18/22)
- House Natural Resources Committee Hearing on RAWA (1/19/22)
- SEAFWA-WDC monthly call (1/20/22)
- Wildlife Viewing Study update meeting (1/20/22)
- SC Chapter of TWS Board Meeting (1/21/22)
- SCDNR Bats in Transportation Structures call (1/25/22)
- SCNPS recorded presentation: "Native Plants for Healthy Estuarine Ecosystems and Coastal Communities" [M. Snyder & J. Plunket, NOAA/NERRS]

Natural Heritage – GIS Manager/Analyst – [Joe Lemeris]

Meetings:

- 1/5: Lemeris attended NatureServe's monthly US Section Council meeting, which discussed various updates to government relations, NatureServe's BWB conference, NatureServe Explorer Pro, and more.
- 1/6: Lemeris, Arrington and Kingsley-Smith met with EDDMaps staff to discuss potential products/sites available to SCDNR for recording invasive species information internally and with the public. A follow-up meeting with the larger Working Group will take place in February.
- 1/7: Lemeris met with SCPRT staff to discuss options for sharing new properties acquired by SPRT for incorporation into TNC protected lands data.
- 1/7: Lemeris, Arrington, and Thachik attended a biweekly check-in call with Esri staff for updates to project status, training opportunities and prioritizing next steps.
- 1/10 & 1/13: Lemeris met with Esri staff to discuss and deploy several minor updates to the Species Reviewer geoprocessing tool. Updates were successfully implemented.

- 1/13: Lemeris and Smith attended a steering committee meeting to discuss the status and next steps for the Southeast FWS NatureServe modelling project, modelling several at-risk species across the Southeastern US.
- 1/14: Lemeris and James attended the quarterly coastal GIS user group meeting (virtual), to discuss various project updates across participating organizations.
- 1/18: Lemeris attended the monthly SCDNR GIS webinar.
- 1/19: Lemeris and Arrington met with Riggin to discuss the opportunity to identify priority dams in SC for potential removal based on potential improvements to priority species habitat. Analysis for this project will take place in February.
- 1/19: Lemeris attended a monthly NatureServe network topic call, which focused on anti-racism and diversity in biodiversity data.
- 1/21: Lemeris, Arrington, and Thachik attended a biweekly check-in call with Esri staff for updates to project status, training opportunities and prioritizing next steps.
- 1/21: Lemeris met with Esri staff to discuss final products related to species modelling report template scripts. Products will be passed over to SCDNR in February.
- 1/25: Lemeris attended a Lunch and Learn webinar with Director Boyles, where he discussed the details behind this year's budget request for the agency.
- 1/26: Lemeris and Arrington attended a troubleshooting session to identify issues related to publishing raster functions on the image server.
- 1/27: Lemeris and Arrington met with Esri EAP staff to discuss potential next steps related to seeking an Enterprise agreement with Esri. Esri also informed SCDNR that we will be receiving a new technical adviser to our advantage program due to staffing changes internal to Esri.
- 1/28: Lemeris and Turner assisted SCDNR the bat culvert technician in surveying 7 culverts in Richland, Aiken, Orangeburg, and Calhoun Counties. 10 Tricolored Bats were documented.
- 1/31: Lemeris, Arrington, and Thachik attended a biweekly check-in call with Esri staff for updates to project status, training opportunities and prioritizing next steps.

Project Progress Updates:

- Esri Enterprise Advantage Program Update:
 - February will begin initial meetings surrounding managed lands applications/sites, picking up where we left off with our beta templates.
 - Distribution Modelling Workflows: In January Lemeris continued to test these workflows and fine-tune modelling report templates with Esri staff. Outputs for Gopher Tortoise have been hosted on the image server for review by SCDNR staff. Model review applications will be developed in the coming months.
 - Esri has made progress in creating a tool to automatically generate a modelling validation/statistics report with any generated model output. Additional configuration/finalization will be completed in the coming months.
 - Additional credits will be used to pursue an infrastructure health check to identify methods for improving our architecture in the future.
- The Natural Heritage Hub Site has been viewed 900 times in January (17,000 all time since April 2020), and 5 new users (total of 366 since April 2020) from state/federal/local agencies, land trusts, and private environmental consultants have requested/gained access to review species data and generate reports.
- 125 of 534 users accessed the Heritage Trust GIS Portal in January, compared with 101 in December.
- 169 new records were added to the database in January, including a mix of herp, fish, and plant records.
- 102 species reviews were completed automatically using the new species reviewer tool for environmental professionals in January, compared with 133 in December.
- Lemeris assisted various staff in the development of maps for projects, informational documentation, advisory board materials, etc.
- Turner (hourly intern) has been working on various data entry tasks (adding new species records to the database), georeferencing map documents, and designing Survey123 forms.

SCDNR/SCCB GIS Analyst [Megan James]

Meetings:

- 1/6: Attended a meeting with EDDMaps staff on incorporating their invasive species database in SCDNR applications and processes
- 1/10: Met with Conservation Bank staff to discuss publishing the dashboard I created on their website
- 1/14: Participated in the Coastal GIS Users Meeting where Bailey Horn (CofC Masters Student) presented on her upcoming project using satellite derived bathymetry to determine historical trends in shoaling and erosion behind Morris Island
- 1/18: Met with Conservation Bank staff to discuss work completed in the last week and upcoming meetings
- 1/19: Attended Nature Serve's meeting on anti-racism and diversity in biodiversity data
- 1/20: Attended the SECAS third Thursday webinar where they discussed updates to the TNC resiliency model
- 1/24: Met with Conservation Bank staff to discuss maps that need to be created for the upcoming Land Trust Network Retreat
- 1/25: Participated in the Lunch and Learn where Director Boyles gave an overview of the agency's budget request
- 1/26-27: Attended the Land Trust Network Retreat at Table Rock State Park where we met with the state's land trusts, attended meetings on conservation priorities, and presented on updates to the Conservation Bank's priority model

Trainings:

- 1/18: Attended the SCDNR GIS training where Tanner Arrington presented on GIS priorities for 2022

Project Updates/Ongoing Tasks:

- SCDNR
 - Continued to create distribution models for Gopher Tortoises, adding in burrow location data
 - Finished assigning conservation ranks to unranked species that we track in the Heritage Program's Database
 - Finished reformatting Bird Banding Laboratory data to include in the Heritage database
 - Gathered data needed to create a solar suitability model and created the model following the approach used to create Georgia's Low Impact Solar Siting tool
 - Created maps for the Habitat Protection Committee of potential acquisition sites
- SCCB
 - Scored previously funded properties using the 2019 priority model to compare the difference between past and new scoring procedures
 - Acquired more of the data needed to start updating the priority model
 - Built a layout that will be used in the scoring process for January applications
 - Created maps for and scored January application properties
 - Began work on updating webpages to include more graphics and statistics that update automatically
 - Created a map of the Ace Basin area showing protected lands and soon to be developed lands to be used to display where conservation priorities should be focused

FRESHWATER FISHERIES

Highlights

Staff assisted with fish handling at the annual Striped Bass Challenge held at Green Pond Landing on Lake Hartwell. 106 Striped Bass and Hybrid Striped Bass were weighed, measured, and returned to Lake Hartwell.

Staff conducted gill net sampling at Lake Wateree for 3 nights, pulling otoliths from striped bass, white bass, black crappie, and blue catfish for age/growth studies.

During January approximately 5,166 catchable-sized (mean TL = 9.9 inches) rainbow trout were stocked at three locations in the Lower Saluda River to provide a put and take cold-water fishery in the Columbia area. Approximately 43,470 two-inch fingerling rainbow trout were stocked by boat as part of trout stocking evaluation.

The winter gillnet survey on lakes Marion and Moultrie continued in January with all eight sites being sampled. Fifty-Four Striped Bass were collected among the eight sites in January, bringing the cumulative total to 168 STB. Fin clips and otoliths were taken from all specimens for further analyses.

Staff continued evaluation of genetic data for the C-SWG Bartram's Redeye Bass conservation study in collaboration with the SCDNR Population Genetics Lab, Clemson University and the University of Georgia to assess the distribution, genetic integrity and conservation of this priority species.

This month 7,838 grass carp were processed for sterility testing at Cohen Campbell Fisheries Center. Three (3) vendor permits were issued for grass carp distribution statewide.

Storm damage clean-up was completed at Lake Long, Lake Johnson, and Sunrise Lake from the winter storm.

Diadromous Fishery 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

Freshwater Mussel Project Staff continued work on potential safe harbor agreement hosting internal meetings.

Aquatic Education staff is partnering with Coastal Reserves and Outreach to submit RBFF R3 grant which could expand tackle loaner sites

Coordination (Chief's Office)

Staff meeting with Section staff to review upcoming freshwater mussel management and culture plans.

Staff participated in a Virtual Leadership conference.

Staff participated in a freshwater mussel management planning meeting with the USFWS.

Staff attended a virtual meeting of the Diadromous Fishery project.

Staff attended and participated in the annual Striped Bass Challenge tournament on Lake Hartwell.

Staff participated in the annual meeting of Section Technicians virtually

Staff participated in the monthly AFWA Fish Chief's call.

Staff conducted the monthly meeting of Section Coordinators virtually

Staff participated in interviews for the Campbell Hatchery Technician 3 vacancy.

Staff conducted the annual meeting of the Section Biologists virtually.

Staff attended the meeting of the Lake Paul Wallace Authority.

Region 1

Staff ran gill nets on Lake Jocassee targeting stocked Brown Trout to assess growth and survival. Staff delivered blood samples from Lake Jocassee Brown Trout and a coulter counter to Cohen Campbell fisheries center.

Staff prepared presentations to give to Clemson University classes, at the annual hatchery meeting, and for a local Trout Unlimited meeting.

Staff participated in the annual Biologists meeting where they presented an update on activities accomplished or started since the last biologists meeting in Jan 2020.

Staff planned and participated in the virtual Technicians' meeting.

Staff assisted with fish handling at the annual Striped Bass Challenge held at Green Pond Landing on Lake Hartwell. 106 Striped Bass and Hybrid Striped Bass were weighed, measured, and returned to Lake Hartwell.

Staff attended the Southern Division of the American Fisheries Society meeting where they networked with other resource managers and researchers from around the southeast, attended technical meetings, participated in workshops, and attended contributed talks and symposia.

Staff collaborated with Clemson University faculty and students on collaborative work being presented at the Southern Division meeting.

Staff assisted Deon Kerr, a Graduate Student at Clemson University with acoustic tracking of Largemouth Bass and Alabama Bass in Lake Hartwell as part of his graduate project evaluating fish response to an ongoing Lake Hartwell habitat enhancement project being conducted by SCDNR staff.

Staff received job applications for the Pigpen SWG project. Candidates were chosen and interview dates set up.

Staff cut trees for habitat sites on Lakes Hartwell (Keowee WMA) and Thurmond.

Staff entered data from gill net sampling on Lake Hartwell and Lake Jocassee, tournament data from a Crappie USA tournament, trout streams, and the Striped Bass Challenge.

Staff took pictures at Star Fort Pond for presentation.

Staff spent time on transportation of vehicles from Clemson to Greenwood after multiple repairs were needed on vehicles.

Trout stocking staff completed stocking in Lake Jocassee. 15,000 Rainbow Trout were stocked in the Lower Saluda River below Lake Murray. All mountain lakes and Delayed Harvest areas were stocked. A bucket stocking was conducted on the Big Eastoe in the Delayed Harvest area at Dug Mountain. Staff cleared roads of downed trees.

Staff spent time investigating potential special fisheries projects to fulfill SCDNR's Memorandum of Understanding requirements with Duke Energy.

Staff continued creel survey on Lake Greenwood. Creel biologist Staff presented Lake Keowee Creel and standardized sampling results to Lake Keowee Anglers group. Creel biologist also presented the Saluda River Creel at the Greenwood County virtual meeting.

Habitat crew hauled 45 loads of concrete to the staging area.

Staff continued to work on completing the 2020-2021 annual report.

Region 2

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

Staff conducted gill net sampling at Lake Wateree for 3 nights, pulling otoliths from striped bass, white bass, black crappie, and blue catfish for age/growth studies.

A total of 226 discarded Christmas trees were collected from York and Marlboro County convenience sites for habitat deployment as follows: 92 for Mountain Lakes 1, 65 for Mountain Lakes 2, and 71 trees for Lake Paul Wallace.

Florence personnel participated in a career Fair Day at Carver Elementary School for approximately 500 students.

Technicians Edge and Michaeli attended a virtual Technicians meeting.

A required conference call was attended, and minutes provided to staff.

Staff participated in a TEAMS Dam/Fish Barrier meeting, ground truthing 2 sites in York County for an ASMF database.

Seventy-one Christmas trees were installed in Lake Wallace, creating 0.115 acres of fish habitat.

Biologist Stroud attended a virtual Southern Division American Fisheries Society Pollution Committee Meeting, reporting on 2021 S.C. fish kills investigated by the Freshwater Fisheries Section of SCDNR.

Biologist Chrisman attended a SDAFS Small Impoundments Committee Meeting, reporting on statewide SCDNR's efforts for 2021.

Biologist Chrisman attended the SDAFS Meeting in Charleston, S.C., chairing the Poster Committee and attended an intermediate R Workshop.

Staff initiated ageing of black crappie from fall 2021 trap net sampling on Lake Wateree.

Staff completed ageing of multi species otoliths from summer 2021 Broad River sampling with Region 1 personnel.

A 2 day virtual Biologist meeting was attended with Biologists Marsik and Chrisman providing reports on Region 2 activities.

One mile of trail maintenance at Worth Mountain WMA was conducted.

Ninety-one Christmas trees were installed in Mountain Lake 1, creating approximately 0.15 acres of fish habitat.

Staff conducted a planning session for February 2022 activities.

Staff met with Chief Self and the Kershaw County Council Chairman to discuss the status of largemouth bass fishing in Lake Wateree.

Staff provided review of 4 Scientific Collection Permit applications.

There were no weed identifications nor water quality tests performed in Rock Hill nor Florence during the month.

There was one telephone pond consult conducted at the Rock Hill Office regarding pond stocking and 13 calls regarding fisheries information received at the Florence Office with 1 of those calls being pond related (1 pond stocking). Constituents seeking fisheries information were served by Ginger Ridgill, Jason Marsik, or Gatlin Edge in Florence and by Robert Stroud, Preston Chrisman, or Alex Michaeli at the Rock Hill Workstation.

Recommendations and pertinent pond management literature was disseminated as necessary via telephone, in-person, through the US Postal Service, or by email to pond owners.

Contact with NGOs: None.

Region 3

Annual sampling of the Lake Murray striped bass population was completed during January. A 300' experimental gillnet was fished overnight on January 18th at the forks of the Saluda and Little Saluda River. One-hundred and fifty-six striped bass and 25 black crappie were captured. Striped bass mean total length was 484 mm (Range; 285 – 660) and mean weight was 1.25 kg (Range; 0.31 – 3.39 kg). Catch rates of striped bass were much higher during 2021 than during 2020; however, only 20% of the fish captured were greater than the legal length limit which was the lowest observed since 2011. The low proportion of legal-size fish is attributed to a striped bass fish kill that occurred in Lake Murray during summer 2021.

As part of a pilot study to determine relative abundance of pelagic species, including striped bass, three 110' x 6' gillnets were fished overnight at three randomly selected sites in upper Lake Murray on January 24th. Among the species relative abundance was highest for black crappie (30%), striped bass (26%), gizzard shad (26%) and white perch (17%). Capture rates for striped bass were low (4.0 fish/net night) and similar to December collections (3.7 fish/net night).

Staff continued collecting discarded Christmas trees and procuring supplies for the refurbishment of fish attractors at Lake Murray and Brown.

Staff assisted the OMO Division with an upcoming video on waterfowl hunting. Video for the piece was recorded at Santee Coastal Reserve. Staff assisted the South Carolina Wildlife Magazine with collecting still images and video of winter-time Striped Bass fishing for an upcoming article.

During January approximately 5,166 catchable-sized (mean TL = 9.9 inches) rainbow trout were stocked at three locations in the Lower Saluda River to provide a put and take cold-water fishery in the Columbia area. Approximately 43,470 two-inch fingerling rainbow trout were stocked by boat as part of trout stocking evaluation.

Staff virtually attended the annual Biologist and Technician meetings. Two staff attended the Southern Division American Fisheries Society annual meeting in Charleston where they participated in Technical Committee assignments, a professional development workshop and attended fisheries management and research presentations. Staff also met with Clemson University Fisheries faculty to discuss collaborative fisheries studies. Staff met with other partners to identify potential dam removal projects and attended the Regional HUB meeting.

During January there were no requests from landowners for pond management assistance. Staff responded to 22 calls or emails seeking information on boat titling, regulations, fishing licenses, Lower Saluda River trout stocking and Region 3 fisheries among other things.

Region 4

Technical/Meetings

SC Plant Council

Staff attended the January meeting of the SC Plant Management Council. The main topics of discussion were covering old business, an update from Santee Cooper on the results of the 2021 hyperspectral imagery survey, an update from Santee Cooper on the 2021 herbicide applications on lakes Marion and Moultrie, and an update on the Grass Carp population condition.

Meeting with American Rivers

Coordinators from the FWF section met with Gerrit Jobsis and Erin McCombs of American Rivers to discuss potential projects that would qualify for funding under the recent passing of the Infrastructure Investment and Jobs Act. Specifically, a portion of money has been set aside for dam removal. With collaboration among the section, a prioritization of dams, watersheds, and/or species to focus efforts on for these funds is being developed.

EUS occurrence on Santee Experimental Forest

Staff met with representatives from the USFS, Clemson University, SCDHEC, and the Southeastern Fish Parasite and Disease Coop to discuss the occurrence of epizootic ulcerative syndrome (EUS) found in fish on the Santee Experimental Forest. The occurrence was discovered in a pool below a weir dam on WS77 of the forest following a clear-cutting event. It was agreed on that the presence of EUS represents an opportunity for learning and may warrant continued monitoring, but no immediate cause for concern is warranted due to the common occurrence of the causal pathogen in that area of the state.

Robust Redhorse Meeting

Staff met with representatives of the Savannah and Altamaha TWGs to discuss potential Robust Redhorse conservation actions in relation to the pending CCAA with GA Power. Although most of the potential work

discussed would occur wholly within GA, continued tagging and monitoring events on the Savannah population was proposed. This work is currently completed with cooperation among SCDNR's FWF section and would require the continuance of that cooperation.

Southern Division American Fisheries Society

Staff attended the annual SDAFS meeting held in Charleston, SC. Data collected and analyzed from the 2021 Crappie USA tournament held on lakes Marion and Moultrie was presented by region IV staff. A statewide update was provided for the catfish technical committee as well.

Annual Fisheries Biologists Meeting

All Region IV biologists participated in the two-day virtual biologist's meeting.

Field Work

Gillnetting

The winter gillnet survey on lakes Marion and Moultrie continued in January with all eight sites being sampled. Fifty-Four Striped Bass were collected among the eight sites in January, bringing the cumulative total to 168 STB. Fin clips and otoliths were taken from all specimens for further analyses. Gillnetting will continue in February.

Statewide Research

We met with collaborators in the Office of Environmental Programs and continued data analysis for the development of reference (least-disturbed) stream fish assemblage criteria to evaluate stream biotic integrity in South Carolina. This study will define the expected (least-disturbed) fish assemblage composition for regional stream types across the state to serve as the reference condition against which streams are evaluated for impairment. These biological criteria will be integrated with the Stream Quantification Tool (SQT) for use in stream restoration and mitigation applications, enabling standard evaluation procedures for stream ecological integrity.

Staff attended the Southern Division American Fisheries Society meeting in Charleston, hosted by SCDNR. Staff were coauthors on contributed presentations and also represented SCDNR on the Warmwater Streams Technical Committee. Staff exchanged information on aquatic resource conservation and management in South Carolina with affiliated professionals from agencies and universities in the Southern Division states; several states expressed interest in the efforts employed by SCDNR in assessing aquatic resources and evaluating conservation priority among freshwater fishes.

We continued evaluation of genetic data for the C-SWG Bartram's Redeye Bass conservation study in collaboration with the SCDNR Population Genetics Lab, Clemson University and the University of Georgia to assess the distribution, genetic integrity and conservation of this priority species.

Staff attended a virtual meeting hosted by American Rivers and SARP on SCDNR Priorities related to dam removal and culvert replacement in the state, as part of SC Aquatic Connectivity Team activities.

A final draft of the chapter for the forthcoming book *Rivers of North America Vol. II* titled 'Atlantic Coast Rivers of the Southeastern United States' with staff as coauthor was submitted to the book editors.

Four abstracts with staff as coauthors were submitted for review as proposed platform presentations at the Joint Aquatic Science Meeting to be held in Grand Rapids, MI on May 14-20, 2022.

Respective staff attended the virtual Freshwater Fisheries Technician and Biologists to share information and update colleagues on activities.

Hatcheries and State Lakes Activities

Coordination

This month 7,838 grass carp were processed for sterility testing at Cohen Campbell Fisheries Center.

Three (3) vendor permits were issued for grass carp distribution statewide.

Dennis Wildlife Center (DWC) and Bayless Hatchery

Preparations for the upcoming striper season have started at the DWC and Bayless Hatchery. Supplies such as chemicals, salt, and other necessary materials have been ordered, as well as the servicing of the chiller and heat exchanger at Bayless Hatchery. All DWC ponds have been drained for fingerling production and seasonal staff applications have been submitted.

The 4-week transmitter mortality study was completed for Phase II striped bass on site. The study was completed without a single mortality and the fish were released in the Great Pee Dee River at Dewitt's Bluff Landing.

Phase II striped bass specimens were sent to the South Carolina Aquarium to be used in their display tanks. A new Santee Accord American shad biologist, Caroline Beasley, started at DWC.

DWC staff assisted the Spring Stevens Hatchery with the harvest and distribution of redbreast sunfish.

Staff attended a one-day Technician Meeting via Zoom, the Diadromous Annual Meeting via Zoom, a two-day Annual Biologist Meeting via Microsoft Teams, and the Southern Division AFS meeting in Charleston. In addition, all Bayless Hatchery personnel attended a beginning of the year meeting on site at DWC.

Jarrett Gibbons turned in his commission, DLEO gear, and accessories at the STYX receiving compound.

An HVAC system in the DWC administration office was replaced.

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

A total of approximately 56,000 trout were stocked during January.

Staff continued to monitor incubating rainbow trout eggs, along with rear fry and fingerlings.

A significant winter storm caused delays and issues for several weeks; hatchery staff are still being impacted by the issues caused by the storm.

Cohen Campbell Fisheries Center/Barnwell Substation

One (1) channel catfish vat was harvested at Cohen Campbell – 3,580 fish, weighing a total of 480.8 kilograms, were stocked at numerous locations, including: Goose Creek Municipal Center, Draper WMA, and Worth Mountain WMA.

The reshaping of pond 9 was completed and the reshaping of pond 4 began at the Cohen Campbell Fish Hatchery.

Staff conducted fish health evaluations and haul for the Striped Bass Challenge on Lake Hartwell.

Staff attended the Annual Technicians Meeting via online remote access.

Staff completed interviews for the vacant Cohen Campbell Tech III position.

Staff certified three (3) grass carp tests, totaling 7,838 fish; certifications were performed for Southland Fisheries and Owen 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

Cheraw Fish Hatchery staff assisted in the preparation, harvest, and distribution of fingerling from four (4) redbreast sunfish ponds at the Spring Stevens Fish Hatchery.

The mandatory technicians and biologist meetings were attended virtually by staff personnel.

Surveillance cameras caught a lone otter breaking into the fish holding house and removing seven (7) brood smallmouth bass in one evening. The facility was re-secured, and the otter was sufficiently deterred from entering again.

An electrical service outlet was installed at the last production pond without power. A new shop heater was purchased and installed.

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

Staff continued daily standard fish husbandry tasks (i.e., daily water chemistry, aeration maintenance, feeder maintenance, tank maintenance, etc.); maintenance of fish in ponds and tanks is part of the daily routine. General hatchery ground maintenance, equipment maintenance, and building maintenance was also conducted.

Spring Stevens State Fish Hatchery

Routine care and maintenance of the facility was taken over by Assistant Hatchery Manager and Hourly Technician.

Harvested four (4) ponds of Redbreast fingerlings 517,890 redbreast. Hatchery retained 1,136 adult redbreast and 1,685 advanced fingerlings for the next production season.

Clean up around the hatchery and community was completed in wake of recent winter storms.

Purchase requisitions regarding effluent line repair work were submitted.

Continued community outreach efforts by contacting three (3) local schools and several town officials to establish a long-term working relationship.

State Lakes

Storm damage clean up was completed at Lake Long, Lake Johnson, and Sunrise Lake from the winter storm. Assisted with harvest and fish distribution for Springs Stevens Hatchery (redbreast). Staff attended the Annual Technicians Meeting via online remote access. An interview for the vacant Tech II position was held. Lime was delivered to Lake Cherokee and Lake Long. New signage was installed in kiosks. Performed routine maintenance at all 18 State Lakes.

“Fresh Eyes” Program

Fresh Eyes Coordinator completed tenure as Spring Stevens point of contact as the Assistant Manager and Technician started work. Prior to resuming normal duties, five additional ordered parts were received by the Fresh Eyes Coordinator for the Spring Stevens Hatchery.

Assisted with harvest and fish distribution for Springs Stevens Hatchery (redbreast). Five (5) site visits to State Lakes for the month of January were conducted. Attended the Annual Technicians Meeting via online remote access. Began process of completing the fish sanctuary signage issues for the six (6) sanctuaries. All monthly paperwork assigned completed.

Outreach and Training

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, such the annual Santee Accord American Shad Monitoring report and the Savannah Harbor Expansion Project Quarterly report.

Breakdown of Project Activities

Great Pee River Sturgeon Project

January’s efforts were focused on presenting at the SDAFS conference, servicing the receiver array, and gear preparation for spring sturgeon sampling. One trip was made to download receivers in the Winyah Bay System, Atlantic sturgeon nets were mended and built, and routine maintenance was completed for boats and truck.

Winyah Bay Juvenile Sturgeon Project

Five sampling trips were conducted in the Winyah Bay System this month for a total of 19.98 100-yard net set hours. Three sturgeon were captured: one first capture shortnose sturgeon and two first capture Atlantic sturgeon. Both 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 750 mm fork length. Sampling nets were repaired and maintained.

Savannah River Sturgeon Egg Project

The Savannah River Egg Project downloaded and performed receiver maintenance on the lower Santee River array. Personnel assisted ACFMCA with two field days shad fishing on the Santee River and four field days assisting with the eel ladder on the Goose Creek Reservoir. Maintenance was performed on project boats and trailers.

Savannah Harbor Expansion Project (SHEP)

The SHEP project downloaded the Savannah River estuary receivers, completed manual tracking, and completed the quarterly report. SHEP staff also assisted ACFMCA with American shad and American eel field work.

Atlantic Coastal Fisheries Cooperative Management Act (ACFCMA)

Project ACFCMA began this year’s shad sampling season on January 11th. Nets were prepared and field equipment was checked before the season started and repairs were made when necessary. Seven fishing days were logged between the Santee and Waccamaw Rivers. Five roe American shad were captured, four of which received a

dart tag. The eel ramp at the Goose Creek Reservoir was monitored at least once a week this month. A total of 13 eels were captured, two glass eels and 11 pigmented eels. Detailed pigmentation analysis will begin next month. All eels were measured and released. Additionally, new staff were trained on monitoring protocols at the eel ramp, including safety procedures, proper collection methods, and record keeping.

Santee Accord Juvenile American Shad Study

Project staff performed maintenance and continued preparing equipment for the start of the season. Gillnet sampling began for American shad on the Santee River at the Blowout site. One trip consisting of four sets was completed, however no American shad were caught.

Rediversion Project

American eel passage at the St. Stephen dam continued without pause this month, totaling 328 eels measured and passed upstream into Lake Moultrie. St. Stephen Dam demonstrated short periods of peak discharge (generally less than four hours) intermittently through the end of the month, but no-flow conditions have persisted otherwise. Specifically, minimal flow conditions have been observed since January 25, resulting in water depth dropping from > 15 feet to ~7 feet. Mean dissolved oxygen concentrations have remained above 10 mg/L, and water temperatures have declined to ~8°C. Project staff continued discussions with USACE in preparation for the upcoming fish passage season, and the seasonal crew meeting occurred, along with associated creel clerk and fish lift operator training. Staff continued to assist the juvenile sturgeon gill netting project in Winyah Bay and downloaded receivers in the Santee River. Rediversion project focus is now guided toward in-season fish lift and creel survey activities, helping other diadromous projects, and continuing the dialogue between all partner groups.

Meetings and Outreach

Staff participated in multiple meetings and conference calls regarding:

- Wildlife and Freshwater Fisheries Biologist and Technician meetings,
- Annual Diadromous Fishes Program meeting,
- Columbia Fishway annual meeting,
- Discussion with Duke Energy regarding American shad passage at Wateree Dam,
- Catawba-Wateree Diadromous Fish Monitoring Team meeting,
- Discussion about current and future sturgeon studies with NMFS Protected Resources Division,
- Discussion about ESA permit modifications with NMFS Permitting Division,
- Aquatic connectivity issues with American Rivers and SARP,
- River herring Steering Committee meeting,
- Discussions regarding plans for habitat mapping above NSBLD in the Savannah River,
- Annual SCDNR St. Stephen fish lift preseason staff meeting,
- Monthly St. Stephen fish lift meeting with USACE partners,
- Southern Division meeting of the American Fisheries Society including a presentation on sturgeon in the Great PeeDee River.
- Project planning and update meetings with Coastal Carolina University partners.

Mussels

General

Staff continued work on potential safe harbor agreement hosting internal meetings.

Staff hosted the SC mussel meeting with USFWS and NC.

Staff hosted USFWS Bears bluff staff for hatchery tour.

Staff attended the FF technician and biologist meetings.

Staff attended SDAFS.

Staff attended meeting with American rivers to discuss DNR Priorities related to Dam Removal and Culvert Replacement.

Staff attended Brook Floater working group meeting.

Mussel Culture

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 assisted with Bat culvert survey to determine possible implementation of culvert surveys during upcoming field season.

Aquatic Education

Family Fishing Clinics & Certified DNR Fishing Instructors

Continued communicating schedule changes to volunteers and the public

Consolidated gear and new combos

Hosted certified fishing instructor training on 1/29 for 6 new instructors

Fishing Rodeos

On-going participant survey data collection

Finalized participant materials

Collecting dates and details for 2022 events

Fishing Tackle Loaner Program

Site user logs collected for data collected for input

Collecting follow up surveys from participants

Creating digital sign-out logs

New equipment and materials sent to: Dreher Island State Park

Trout in the Classroom (TIC)

Receiving inquiries and applications for upcoming school year

Supporting schools and troubleshooting

Planning for spring fish releases

Youth Bass Fishing Club

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

Working with Tourism council to develop accommodation packages

Received \$1,000 Sponsorship from Santee Cooper

Updated website and communicated with coaches

Black Bass Slam

Mailed brochures to Orvis Greenville and Chattooga River Fly Shop

Finalized designs for 2022 participant materials

Other

Participated in EOD talk with Fish and Wildlife

Partnering with Coastal Reserves and Outreach to submit RBFF R3 grant which could expand tackle loaner sites

Attended and AREA board meeting

Presented updates to Freshwater Fisheries Technician and Biologists meetings

Attended Diversity Equity and Inclusion talk

Staff attended Lunch and Learn series

Provided content for the Friday Flies series on Social Media platforms

Outreach materials provided to: 4 members of the public and 5 phone interactions

WILDLIFE SECTION STATEWIDE PROGRAMS

Coordination and Administration

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. Worked with staff to identify potential section 6 projects. Participated in interviews for Small Game Biologist and Shorebird Steward Positions. Participated in numerous meetings including: SCDNR leadership conference, Wildlife and Freshwater Fisheries monthly staff meeting, WMA and Wildlife Restoration social media, Chief's Retreat at Donnelly WMA, numerous Avian Influenza discussions and meetings, assisted in development and distribution of Avian Influenza information, attended virtual NCWRC regulations meeting, and Dept. of Transportation meeting to discuss bats in culverts and other transportation structures. Worked on developing invited talk for the NEAFWA Turtle Trade workshop.

Big Game Program

General Activities

Responded to 68 phone calls and 84 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 18 e-mails approximately 2.8 hours). Consulted directly with field officers (5) related to exotic deer, DNA testing, and sick deer.

Worked with procurement to post an RFP solicitation for a new multi-year contract for deer and turkey tag fulfillment. Due to supply chain and manufacturing issues the current contract, which was to expire in April, was extended through the 2022 deer season so deer tags supplies could be ordered now to make sure supplies are available for the July initial fulfillment.

Coordinated with OMO on planning and drafting news releases, social media posts, mass emails, etc. related to deer hunter surveys and upcoming changes to harvest reporting for wild turkeys. Submitted multiple samples to SCWDS for diagnostic disease testing including samples from deer, a wild hog, and a Cooper's hawk.

Participate in USGS virtual meeting related to Highly Pathogenic Avian Influenza (HPAI). Drafted letter for wildlife rehabbers and falconers regarding HPAI.

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

Participated in 2 interviews with the media.

Completed 4 surveys from other agencies/entities.

Deer Research and Management Project

The Deer Quota Program (DQP) required effort primarily related to developing and mailing the reminder for cooperators to report their harvest. This immediately set off receipt of reports and daily data entry to update harvest records. During the month approximately 477 reports were received and entered. Approximately 1,394 cooperators were in the program in 2021.

The 2021 Deer Hunter Survey was executed the first week in the month. Completed surveys are being received and sorted daily.

Began the process of working with The Sourcing Group to order supplies for deer tag fulfillment. This required working with OMO to update printed materials on the tag forms and envelopes. With supply chain and manufacturing delays ordering months in advance is necessary to meet the mid-July initial fulfillment time frame.

Contacted Regional staff to begin the process of scheduling antler measuring sessions and planning for antler measuring efforts at the Palmetto Sportsman's Classic.

Ongoing effort was required on the project with Cornell University to develop a chronic wasting disease risk assessment and surveillance plan. The draft plan was edited and returned to Cornell.

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. Current activities include metabarcoding of samples for diet analysis. Preliminary diet analysis indicates that turkeys do not appear to be a significant diet item for coyotes.

Deer Depredation Permits were entered as they were received. To date approximately 628 permits have been recorded.

Received 3 requests for Urban Deer Management Permits to remove overabundant deer in resort/residential communities. After reviewing the requests, the permits were issued.

Measured 8 sets of antlers in the office by appointment.

Wild Turkey Research and Management Project

Work began 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.

A great deal of time was devoted to testing the new turkey harvest reporting system that Brandt, the new customer service provider, is providing. This included testing the mobile app and the web-based reporting system. The system will also include reporting by phone including texting to report. This testing effort is ongoing as turkey season approaches.

Continued working with OMO, Licensing, and The Sourcing Group to procure supplies (tag forms, envelopes, inserts, etc.) and update printed material for turkey tag fulfillment for the spring 2022 season. The initial fulfillment for turkey tags will be in mid-February.

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 began during the month with a total of 52 birds captured (36 females and 16 males) and instrumented with GPS units. This project will continue until 2024 and findings will continue to be provided as they become available.

Black Bear Research and Management Project

Completed survey forms from the 2021 Bear Hunter Survey were forwarded to the data entry company.

Furbearer and Alligator Program

Furbearer Project

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

Completed the 6th year of the coyote tagging incentive program. This month, nine additional coyotes were tagged and released. This included four in Game Zone 1, two in Game Zone 2, and three in Game Zone 4. In addition, one tagged coyote was reported killed from the 2019 releases. To date, 96 coyotes have been tagged and released with 42 being reported killed since the program began. A news release was prepared announcing the completion of tagging for the year and will be sent out the first week in February.

A Coyote Trapping and Management Workshop was scheduled for the Webb Center in March. A Gov Delivery email was prepared and sent out to advertise the workshop. Also, information about the event was sent to the Society of American Foresters for evaluation of Continuing Education Credits for registered foresters that attend and complete the workshop.

Continued background investigations into past weasel occurrences in South Carolina in anticipation of potential upcoming weasel camera studies to detect weasel presence in the state. Data on weasels is extremely lacking.

Gathered feedback for proposed national trap testing from the Southeastern region for the annual AFWA Fur Resources Trap Testing virtual meetings in the first week of February.

Distributed liver sample collection kits to a few selected licensed trappers for obtaining background rodenticide levels for second generation rodenticides. These toxicants are already associated with bobcat mortalities at Kiawah Island and may be impacting other species as well.

Received a couple of calls about a letter that a number of wildlife rehabilitators received pertaining to the seizure of a fairly large number of opossums from a home of a DNR-listed wildlife rehabilitator. This letter was written as a sort of press release describing the charges against the rehabilitator and mentioned the condition of the opossums seized along with DNR contact information. DNR officers and staff did not participate in the arrest of the rehabilitator.

Permitting and Lottery Hunt Program

Biologist Kears and administrative specialist Trista Bishop continued to review and process permits. These permits consisted of 63 field trial permits, 10 scientific collection permits, 8 bird banding permits, 1 migratory bird permit, 1 falconry permit, 1 special use permit, 2 fox rehabilitation permits, 4 airport/airfield depredation permits, and 17 furbearer depredation permits.

Prepared for the turkey lottery by obtaining hunt dates from property managers and updating the Public Lottery Hunts webpage. The turkey lottery application went live January 19th and will close on March 1st. The opt-in with the South Carolina Wildlife Partnership (SCWP) will be available again this turkey season.

Continued to try to accommodate waterfowl lottery hunters having to cancel due to COVID illness and fill slots when possible.

Biologist Kears attended two virtual meetings; one with the South Carolina WHEP committee and another with the South Carolina Chapter of the Wildlife Society Executive Board.

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

Other

A radio interview on armadillos was given to Tut Underwood with South Carolina Public Radio in Columbia.

Continued to meet with the new licensing vendor on multiple occasions to discuss lottery hunts, tag issuance, harvest reporting, and wildlife permitting. Testing continued with the new system and their new hunt manager module as well as their new mobile application.

Assisted with the Hunting and Fishing License RFP panel meeting to select a new license fulfillment vendor.

Alligator Project

Received a FOIA request notice for information related to recent alligator attacks in the state.

Biologist Hart Activity:

General Activities and Accomplishments

- Monitored movement of GPS tagged alligators.
- Final troubleshooting for Access database and adding data for all non-public hunt alligator permits
- Troubleshooting final Access database for Captive alligator permits
- Coordinating regularly with Clemson researchers regarding alligator movements
- Ongoing permitting website and data management improvements
- Working on harvest summaries and reports for all types of harvest.
- Organizing and entering nuisance harvest data
- Hired Biologist II to assist program
- Organizing and entering harvest data for yearend nuisance permits
- Issued renewal Research and Captive alligator permits

Alligator Program Biologist Accomplishments

- Display/Transport Permits - 5
- Private Lands Permit Packages approved - 2
- Nuisance Calls - 4
- Nuisance Permits- 0
- Media Inquiries- 0
- Presentations- 0

Herpetology Conservation Program – Biologist Grosse

General Activities and Accomplishments

-Social Media video – Webster’s Salamanders/Surveys

-Savannah River Site CAT Training

-Meeting with USFWS/Todd Pierson regarding Chamberlains Dwarf Salamander SSA – 1/11/2022

-Collaborative to Combat the Illegal Trade in Turtles (CCITT) annual report update – 1/21/2022

-Presented to group virtually

-Submitted Annual Report for Surveys on Carolina Sandhills National Wildlife Refuge in 2021 – 1/13/2021

-Assisted with Bat culvert surveys – 1/25/2022

-River frog repatriation/genetics virtual meeting with the NC Wildlife Commission – 1/31/2022

McCrary/Clarke’s Hill Herpetological Surveys - Clarke’s Hill Training Center surveys for Websters/Tiger Salamanders

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

Multi-State Sandhills Restoration Project – Tillman

-Submitted Final Report – 1/15/2022

-Submitted combined Phase 3/Phase 4 summaries for SWAP – 1/24/2022

Multi-State Wetland Restoration Project – Webb

-Submitted interim Report – 1/15/2022

-Deployed Frogloggers in wetlands at Webb – 1/27/2022

-Tour of restored wetlands with USFWS lead for Gopher Frog SSA – 1/27/2022

Gopher Frog Population Augmentation and Headstarting - Metamorphs reared at Riverbanks Zoo will remain until spring when they will be released at the Webb Center – Total Released 2021 = 288

Camera Fence Surveys

Moved Fence at Santee Coastal Reserve – 1/10/2022

Processed 241 photos from Santee Coastal Reserve – 1/10/2022

Added a camera fence to the Black River Preserve – 1/19/2022

Moved Fence at Tillman Sand Ridge Heritage Preserve – 1/20/2022

Processed 173 photos from Tillman Fence – 1/20/2022

Removed Fence at Aiken GTHP – 1/24/2022

Processed 293 photos from Aiken GTHP Fence – 1/26/2022

Processed 222 photos from Hamilton Ridge Fence – 1/27/2022

Exotic Species – No activity during the month

Misc. SWAP species Surveys

-Chamberlains Dwarf Salamander documented at Aiken Gopher Tortoise HP – 1/4/2022

-Chamberlains Dwarf Salamander documented at Aiken State Park – 1/24/2022

Gopher Tortoise Population Augmentation with Waifs – Aiken Gopher Tortoise HP - Pulled up pen 4 – 1/4/2022

State Wildlife Grant – Conservation of Coastal Reptiles and Amphibians

-Wetland check for gopher frog breeding in wetlands on private lands in Berkeley Co – 1/3/2022

-Deployed Frogloggers in wetlands on private land in Berkeley Co – 1/16/2022

-Deployed Frogloggers in wetlands at the Webb – 1/27/2022

-Wetland recon at Buckfield Plantation – 1/28/2022

-Constructed Snake trap poles – 1/26/2022

Green Salamander Population Assessment across Forest Disturbance Gradient (Clemson)

-Genetics samples being processed and analyzed

-Submitted interim report – 1/19/2022

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

Pine Snake Movements Lewis Ocean Bay (Coastal Carolina) - Currently tracking 5 adult snakes – 2 females/3 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

-Submitted disease testing swabs/waiting on results

Statewide Bat Project

Conducted 102 culvert surveys for hibernating bats; continuing to find Tri-colored, Rafinesque's big-eared, and Southeastern bats hibernating interstate and highway culverts. Began meeting with OEP and DOT staff to determine guidance on repairs needed to I-26 culvert holding second largest Tri-colored bat population in the state. Finished sending thank you letters and 2021 results to NABat partners. Submitted hiring paperwork for Lead Bat Technician. Submitted multiple PO's for upcoming field season equipment. Worked with Jessie on Social media post with Sunrift/PAWS for last SC Bat Week.

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

- Jan 4: Culvert surveys
- Jan 6: WNS call
- Jan 7: Culvert surveys
- Jan 11: Culvert surveys
- Jan 12: Culvert surveys
- Jan 12: SBDN conf planning mtg
- Jan 17: OFF
- Jan 20: Meeting with Susan Loeb, WNS call
- Jan 21: Met with Austen to pick up kayak needing repair for middle tunnel survey.
- Jan 24: Internal DOT/DNR Bats in Transportation Structures mtg
- Jan 26: SBDN conf planning mtg
- Jan 28: DOT/DNR Bats in Transportation Structures mtg regarding major hibernating PESU colony in I-26.
- Organized Maria computer files, backed up, erased from old computer.
- Worked with Mary Lucas regarding data sharing and NABat. Once that was sorted, I approved a request to share DNR bat hibernacula data with gps coordinates obfuscated to the grid cell (10 x 10 Km) level.
- Thank you certificates for Jon, Sunrift, McCrady
- Finished sending thank you notes and 2021 results to NABat partners
- Social media post Sunrift/paws

- Respond to DOT about culvert. Began meetings with DOT, Lorianne and Will about next steps for bat hibernaculum culvert replacement.
- Began OEP discussions for more bat recommendations.
- Obtained NABat 2021 notes and contacts list for upcoming season
- Scheduled housing for Kaitlyn winter surveys
- Sent in account information for Adobe renewals
- Responded to Stacy RE: Hampton CORA; potential bat exposure at Sesquicentennial SP; Table Rock survey plans, etc.
- Sent Kaitlyn Travel packet/information, worked with Kaitlyn, Jessica Shealy, Rachel Craig on travel.
- Submitted Lead Bat Tech hiring paperwork to post
- Mist net PO paperwork submitted. Addressed vendor address issue. Will resubmit once new vendor number is updated.
- Transmitter PO paperwork submitted.
- Communicated with Stacy Scherman about state parks and bat projects.
- FY23 Bat projects staff info and truck needs for bat projects sent to Will.
- Communicated with Christy Jeffcoat for mid-winter bat pickup, to send rabies negative bats to SCWDS.
- Continued to work with SBDN exec team to plan virtual meeting in 2022. Updated SBDN Meeting Program, took on role of completing final, managing working group meetings planned.
- Repairing kayak for middle tunnel survey end of Feb.
- Managed account charges and paperwork on and between all statewide bat grants and projects. Working on CRA and SWG spending to balance out by Sep 31, 2022.
- Responded to bat nuisance and information calls.

WNS: Hourly technician

- Hiring paperwork submitted.

DOT: Hourly culvert technician, Kaitlyn Vredevoogd

- Completed online SCDNR Security Training for new hires
- Generated mid-season summary of culvert survey project for SCDOT
- Began draft of bats in translation structures management plan
- Coordinated volunteers for culvert surveys, managed survey schedules and locations
- Surveyed 102 culverts

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 65 phone calls and numerous emails requesting technical assistance.

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

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

Program Leader Hook met with Clemson University Graduate Student, Michael Adams, to pick up digital listening devices used on his Ruffed Grouse and Golden-winged Warbler survey.

Preparations continued for the 2022 Quail Management Seminar. A news release was submitted to Greg Lucas.

Program Leader Hook, Assistant Chief Dillman, and SCBI Biologist Carmichael spent two days interviewing candidates for the Assistant Small Game Program Leader position.

Small Game Biologist Small prepared GPS radio tags for deployment in cooperation with the Eastern Woodcock Migration Project.

Issued 2 shooting preserve licenses. All preserve harvest data entered into the database. Received legislative approval for two new shooting preserves. A status memo was forwarded to each applicant.

Posted 1 social media post on SCDNR Facebook, Twitter and Instagram feeds: Small Game Hunter Survey Request (1/17). Conducted one radio interview regarding small game hunting.

Mourning Dove Project

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

Bobwhite Quail Project

Program Leader Hook participated in the virtual National Bobwhite Technical Committee Executive Steering Committee where he serves as the Chair Elect.

Program Leader Hook completed a site visit with John Downing in Green Pond, SC to discuss habitat management for bobwhite quail.

Program Leader Hook and SCBI biologist Carmichael visited a landowner with property in Spartanburg County and provided habitat management recommendations.

Program Leader Hook and SCBI biologist Carmichael visited a landowner with property in Greenwood and Abbeville counties and provided habitat management recommendations.

Program Leader Hook and SCBI Biologist Carmichael participated in the monthly Indian Creek Habitat Restoration Committee meeting in Newberry.

SCBI Biologist Carmichael visited a landowner with property in McCormick County and provided habitat management recommendations.

Small Game Biologist Small spent 8 days rehabbing and reclaiming field borders at Oak Lea WMA.

Farm Bill/Ag Liaison Activities

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

Farm Bill Biologist Peeples completed the Natural Resources Conservation Service's required "Certified Conservation Planner Level 1" training and is nearing completion of the Level 3 training.

Farm Bill Biologist Peeples spent time on the Oak Lea Wildlife Management Area to interact with quail hunters and to assist Biologist Small with mulching/mastication work on the quail field borders.

Farm Bill Biologist Peeples also arranged for and assisted SCDNR video production staff with a film project about quail hunting and quail management. The film will be used during various outreach events including SEWE and the Sportsman's Classic.

Farm Bill Biologist Krieg complete 6 site visits in Darlington and Williamsburg Counties and wrote 3 management plans for potential EQIP and CSP applicants.

Farm Bill Biologist Krieg visited Santee Coastal WMA in Charleston County to make Pollinator Planting Recommendations.

Farm Bill Biologist Krieg completed NRCS's Level 1 Conservation Planner Training.

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 5 permits to further bird research in South Carolina.

Reviewed and provided comments on a proposed coastal CCF Harbor Fund project.

Provided and sent Patriots Point information to appropriate SCDNR staff regarding the current conservation easement and a proposed easement for exchange.

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

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

Reviewed and provided comments on a NRCS guidance document regarding threatened and endangered species.

Participated in USFWS webinar about considering the ivory-billed woodpecker to be extinct.

Provided information to Bird Conservation staff about the detection of H5N1 in SC, and sent 2 birds to SCWDS for testing.

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.

Provided technical assistance on 5 bald eagle nests.

Participated in virtual Crab Bank meetings to discuss logistics for celebration events and the coastal bird conservation fund and provided edits to Crab Bank press releases.

Reviewed and provided comments about birds on a video created by SCDNR media staff.

Monitored loggerhead shrike on 4 days to help determine conservation priorities for the species.

Participated in International Loggerhead Shrike Working Group calls.

Reviewed and provided comments regarding proposed osprey platform locations on Lake Wylie and also provided a guidance document.

Provided SC state regulation information to a company that monitors osprey nests on cell towers during tower maintenance.

Continued developing a more efficient way to organize and maintain past and future landbird data sets. Made changes to the relational database, began creating a spreadsheet to more easily import data from different databases, and submitted banding data to the Bird USGS Bird Banding Lab.

Conducted routine activities for the Atlantic Coast Joint Venture, Partners in Flight, Atlantic Flyway, and other committees.

Directed activities of landbird, wading bird, marshbird, shorebird, and seabird SCDNR

staff by providing guidance on projects, developing grant proposals, and managing budgets.

Answered over 200 calls and emails related to technical assistance and other bird conservation efforts.

Red-cockaded Woodpecker Project

Conducted annual site visits to 10 properties enrolled in the Safe Harbor Program in: Beaufort, Berkeley, Darlington, Dorchester, Georgetown, Hampton, and Williamsburg counties.

Conducted site visit to assess habitat of one Lee County property in the process of Safe Harbor enrollment.

Conducted surveys of all artificial cavities on Donnelley WMA and Santee Coastal Reserve to inform Winter insert replacements which account for current subadult occupation.

Conducted survey of translocated birds at Tillman Sand Ridge HP to assess Fall 2021 translocation success.

Finalized and sent paperwork for landowner signature to two properties in the process of Safe Harbor enrollment in Allendale County.

Submitted for landowner review one draft Safe Harbor Agreement for a property in Charleston County.

Submitted for landowner review one draft Safe Harbor Agreement transfer for an enrolled property in Allendale County.

Completed and submitted USFWS Annual RCW Property Reports for SCDNR's 12 RCW properties. Reports were compiled using RCW nesting season data and land management data from each property.

Reviewed one state banding permit renewal.

45 phone calls and 184 emails were received and responded to regarding Safe Harbor and wildlife assistance and information.

Waterbird Project

Prepared for and participated in annual Wood Stork Research and Monitoring Working Group, which was head virtually. Gave presentation to update the group about the status of storks in South Carolina.

Prepared for 2022 field season on the Wading Bird and Black Rail projects.

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. Conducted call-playback surveys for Black Rails within research equipment arrays. These data will be used to compare detection methods and ensure future Black Rail monitoring is as efficient and effective as possible.

Manually reviewed audio files collected using ARUs to evaluate the effectiveness of automated recognizers. SCDNR's extensive ARU dataset from wetlands occupied by Black Rails is being used for testing the capabilities of two types of automated call recognizers (BirdNET/Cornell and MATLAB/Adam Smith, USFWS I&M). If the recognizers produce accurate results, they may be used to analyze past and future recordings to determine site occupancy and improve the accuracy and efficiency of Black Rail monitoring.

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.

Participated in monthly virtual meeting for the Firebird Project (Gulf Coast rails), Firebird Sampling Design meeting and annual Firebird Adaptive Management Workshop. Shared information about results from SCDNR's research and tools used by the SCDNR Black Rail Project.

Worked with USFWS biologists on plans for monitoring for Black Rails and water levels in a wetland where USFWS funded infrastructure improvements on a private property.

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

Completed annual Mid-winter Bald Eagle surveys at Bear Island WMA, the Berkeley County Landfill, Lake Moultrie Dams, Bulls Island and South Santee. These annual surveys provide Bald Eagle population data.

Participated in the annual Sea Island Circle Christmas Bird Count (CBC) by covering Deveaux Bank, an adjacent sandbar, and nearby creeks. Also participated in the Charleston CBC, covering portions of Bulls Island. Compiled data and reported to primary leader. Long term CBC data provides information on avian population trends.

Conducted 2nd month of winter Piping Plover surveys at 4 sites for Captain Sam's Inlet relocation project and Hunting Island State Park renourishment project. These surveys provide information about location of banded birds, abundance, and migratory patterns.

Met with partners at Nemours Foundation, College of Charleston and Folk Land Management about a funding opportunity to study sea level rise and coastal marsh habitat via bird communities. The group talked about methodology, protocols, and survey techniques.

Worked with partners at Audubon South Carolina on spreading the word about Crab Bank's creation and rules and regulations for the Seabird Sanctuary. Audubon created and generated a flyer to businesses, restaurants and ecotour groups operating in the Shem Creek area of Mount Pleasant.

Gave an interview to local affiliate ABC News 4 about the completion of Crab Bank and what we expect to see for coastal bird nesting this season.

Removed the antennae equipment on Deveaux Bank to salvage parts for next year's Whimbrel tagging project. High tides this month knocked down the tower on the southwest side of the island.

Sent photos of shell rake habitat from South Carolina to the administrator of the American Oystercatcher Working Group website. The page is undergoing a redesign.

Resighted banded American Oystercatchers at high tide roosts and Black Skimmers and Red Knots observed during Piping Plover surveys.

Attended the annual nonbreeding Piping Plover meeting held via Zoom.

Conducted International Shorebird Surveys (ISS) at Bird Key, North end Capers and adjacent sand bar, and at Sand Island. Data are collected on species and number present at each site and entered into a national database which is part of a larger study to better estimate shorebird populations during migration throughout their range.

Maintenance of signage at Bird Key Seabird Sanctuary. After storms and excessive tide events, seasonal sanctuary signs must be replaced or moved. These signs inform the public of regulations pertaining to the site.

Met with Audubon South Carolina staff to discuss stewarding at Crab Bank Seabird Sanctuary. Crab Bank is a newly restored site for nesting and roosting seabirds and shorebirds and stewarding minimizes harmful disturbance.

Met with Cape Romain NWR staff to discuss stewarding partnership goals and needs at seabird nesting sites for the upcoming season.

Gave a presentation to the Bonneau Garden Club regarding last season's seabird nesting, Crab Bank restoration, and the Whimbrel discovery at Deveaux Bank. These presentations educate the public regarding SCDNR programs.

Assisted Cape Romain NWR staff with posting a nesting area; designation of nesting sites with signs educates the public to avoid disturbance to nesting and roosting seabirds and shorebirds.

Visited McAlhaney Preserve, a property owned by the Charleston Natural History Society, to determine if suitable habitat was present to warrant placement of Barn Owl nest boxes. The Society requested an assessment.

Completed interviews and paperwork to hire a Biologist II position focused on shorebird outreach. Organized and participated in a Southeast Red Knot working group meeting to discuss goals of collaborative tagging, survey and grant opportunities for 2022.

WILDLIFE SECTION

Regional Operations Activity Summary

Wildlife technical guidance was provided to 417 contacts along with 20 technical guidance site visits. Two (2) programs/presentations were given with 110 people in attendance. Nine (9) management plans were written. Other agencies were assisted on 45 occasions requiring 49 person-days. One hundred seventy-one (171) nuisance wildlife complaints (including 11 bear and 11 alligator calls) were handled. Nine (9) nuisance site visits were made. Six (6) news releases were submitted and 1 interview was granted. Field studies required 51 person-days and data analysis required 52.5 person-days. Six (6) quail surveys, 50 bat surveys and 6 other surveys were conducted. Seventy (70) bluebird boxes were checked. Twenty-five (25) antlers were scored. One (1) hunt club analysis was conducted. Thirteen (13) wood duck boxes were checked and 6 wood duck boxes were installed. There were a total of 78 water level management days.

Heritage Preserve (HP) Habitat Management Summary

Heritage Preserve staff conducted 357 site visits. One (1) field trip was conducted. Exotic control occurred on one (1) heritage preserve covering 3 acres. Fifteen (15) acres were mowed/bushhogged, 62 miles of trails were maintained, 3 miles of road were mowed, 2 miles of roads were scraped and 35 miles of fire lanes were disced.

Wildlife Management Area Habitat Management Summary

Field agricultural activities on WMAs included 135 acres mowed/bushhogged, and 281 acres disced. Seven (7) miles of roads were mowed, 114 miles of roads were scraped and 0.1 mile of road was graveled. Eleven (11) miles of trails were mowed, 4 miles of dikes were mowed and 2 miles of dikes were retopped. Prescribed burning occurred on 1030 forest acres and 7 agricultural acres. Agriculture herbicide occurred on 12 acres and forest herbicide occurred on .25 acres. Sixty-three (63) miles of fire lanes were disced. Eighty-two (82) acres of annuals were planted. One hundred seventy (170) WMA signs were posted covering 27 miles, 30 HP boundary signs and 47 other signs were posted. Two (2) water control structures were installed, 18 gates were refurbished or installed and 3 miles of boundaries were cleared/painted. Three hundred seventy-six (376) WMA phone calls were answered.

Wildlife Management Area Hunts and Visitation

Marsh WMA – 311 visitors, of which 309 were hunting or scouting and 2 were fishing. Hunters harvested 13 raccoons, 2 rabbits, 14 squirrels, 5 woodcock, and 52 ducks.

Woodbury WMA – 263 visitors, of which 262 were hunting or scouting and 1 was fishing. Hunters harvested 15 ducks, 33 squirrels, 1 hog, and 31 raccoons.

Pee Dee Station Site – 105 visitors, of which all were hunting or scouting. Hunters harvested 16 doves, 8 raccoons, 1 duck, and 3 squirrels.

Great Pee Dee HP - 249 visitors, of which 185 were hunting and 45 were sightseeing. Hunters harvested 19 ducks, 15 raccoons, and 54 squirrels.

McBee WMA - 31 visitors, including 28 hunting, 2 hiking, and 1 birding. Nine rabbits and 20 crows were harvested.

Draper WMA - 62 total hunters - 2 coyote hunters (1 harvested), 15 squirrel hunters (4 harvested), 10 dove hunters (10 harvested), 4 quail hunters, 8 woodcock hunters (2 harvested) and 23 rabbit hunters (39 harvested).

Worth Mountain WMA - 91 total users – 11 youth deer hunters, 4 coon hunters, 23 squirrel hunters (11 harvested), 8 woodcock hunters, 12 rabbit hunters, 15 dove hunters (21 harvested), 1 quail hunter, 2 coyote/hog hunters, 5 goose hunters and 10 hikers.

Broad River WMA - 44 hunters harvested 49 ducks.

Liberty Hill WMA - 114 visitors, including 56 hunting, 19 scouting, 24 sightseeing, 6 fishing, 4 hiking, 2, birding, 2 biking and 1 photographing. Three squirrels and 2 ducks were harvested.

Landsford Canal FLA Bird Dog Training Area - 7 total users- 6 hunting and 1 bird dog training (released 10 quail and harvested 9).

Angelus Bird Dog Training Area - 9 visitors, including 2 hunting, 1 hiking and 7 bird dog training. Four crows were harvested. Bird dog trainers released 23 quail and harvested 19 birds.

Belfast WMA - 74 small game hunters

Wateree River WMA - 147 hunters small game

Enoree Waterfowl Area - 109 hunters harvested 56 ducks

Wateree River WMA - 4 lottery hunts: 17 hunters harvested 30 ducks

Love WMA TOMO Hog Hunt - 6 hunters harvested 1 pig

Crackerneck WMA - 329 hunters and fishermen. Harvest: 51 feral hogs, 11 woodcock, 11 wood ducks, 8 hooded mergansers, 2 raccoons, 1 cottontail rabbit, 14 Channel Catfish, and 5 Largemouth Bass.

Oak Lea WMA - 11 hunters; shot 31 times and harvested 5 doves.

Bland Field - 6 hunters; shot 10 times and harvested 0 doves
Toumey Field - 4 hunters; shot 9 times and harvested 1 dove
Santee Cooper WMA - 15 hunters; shot 45 times and harvested 22 ducks
Hickory Top WMA - 72 hunters; shot 300 times and harvested 38 ducks
Potato Creek WMA - 1 hunters; shot 8 times and harvested 1 duck
Bonneau Ferry WMA - 4 CAT I Youth Waterfowl Hunts, 4 days, 26 hunters, 47 ducks harvested. Small Game Hunts: 58 hunters, 3 raccoons, 17 squirrels, 9 woodcocks harvested.
Sandy Beach WMA - 4 CAT I Waterfowl Hunts, 15 hunters, 30 ducks harvested.
Bear Island WMA - 12 CAT I Waterfowl Hunts: 135 Hunters, 243 ducks harvested.
Botany Bay WMA - Small Game Hunts: 53 Hunters harvesting 1 squirrel, 18 raccoons, 3 opossums.
Donnelley WMA - Small Game Hunts: 83 Hunters, 19 Squirrels, 8 Raccoons harvested. 4 CAT I waterfowl Hunts: 6 Hunters, 8 ducks harvested. CAT II Waterfowl Hunts: 76 Hunters, 121 ducks harvested.
Edisto River WMA - Small Game Hunts: 31 days offered with no harvest results.
Webb, Palachucola, Hamilton Ridge WMA: Small Game Season: 26 Days, 289 total hunter days. 25 Squirrels, 9 raccoons, 37 waterfowl, 5 woodcock, 9 hogs, 1 rabbit, 1 coyote, and 1 otter harvested. Quail Hunts: 4 days, 15 parties (27 Hunters). 52.5 Hours of total hunting effort, 7 coveys found, and 2 birds harvested
Santee Coastal Reserve WMA - 12 CAT I Waterfowl Hunts: 161 hunters harvested a total of 539 ducks.

Wildlife Section Activities and Accomplishments (Chief)

Meetings attended during the month include the monthly DNR Board meeting, a WFF senior staff meeting, an interdivisional meeting to discuss pending Permanent Improvement Projects, a DNR Habitat Protection Committee meeting, a State Fiscal Accountability Authority meeting, the quarterly Aquatic Plant Management Council meeting, a meeting with Bird Conservation Program staff to discuss pending regulations, a meeting of the Executive Board of the SC Chapter of the The Wildlife Society, and a meeting of the SC Prescribed Fire Council Steering Committee.

Legislative meetings attended during the month include an Equine Industry Support Measures

Attended a 1-day Leadership Training Workshop coordinated by the DNR Executive Office.

Hosted and coordinated a 2-day Wildlife Section Chief's work session at Donnelley WMA with all Assistant Chiefs and Deputy Director Cope in attendance.

Participated in a Q & A session and field tour of Samworth WMA with Representative Philip Lowe, DNR Board Member Jerry Lee, and Directory Boyles in attendance.

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 revised banding permit to all banding personnel, distribution of data requests to banding personnel, 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 purchase requisitions, receiving and inspection reports, and personnel transactions forms. Submitted purchase card summaries by email for Regions 1&3 Staff on January 10 and 12. Met with Scott Spears several times about requesting an increase in budget authority for Beaverdam Waterfowl Area Project. Sent out emails about the 2022 Summer Wildlife Internship Program. Met with Deputy Director Cope, Chief Dukes, Assistant Chiefs Chappelle and Dillman to discuss different topics and issues. Attended a meeting with Coordinator Cloninger and Heritage Preserve Biologist Attaway to discuss heritage preserve in Region 1. Attended and represented the department at the Aquatic Plant Management Council on January 11 at Poinsett State Park. Attended the Chief's Meeting to discuss various topic on January 13 and 14 at Donnelley Wildlife Management Area. Conducted the Hub Meeting for Region 3 on January 19th at Styx Office. Met with Valerie Duncan to discuss the issue with State Fleet not informing employee when there is a change in price on tractor work. Met with Mark Litz to discuss the possibility of going with phone and internet service providers that could save the department money. Met with Ken Prosser and several other staff to look at a 3200-acre tract in Aiken County to see if the department was interested in purchasing the property. Assisted with updating the United State Department of Agriculture Cooperative Agreement. Looked into a possible issue with baiting on Love Wildlife Management Area on January 27. Visited the following heritage preservers, waterfowl areas, and wildlife management areas in

Regions 1&3; Beaverdam, Belfast, Clemson, Congaree Bluffs, Fant's Grove, Henderson, Janet-Harrison High Pond, Love Farm, Peachtree Rock, Shealy's Pond, Santee Dam 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. Spoke with and/or met with Regional Coordinators Stokes and Farrell on various topics. Participated in a tour of the impoundments at Samworth with Representative Lowe and other senior DNR staff. DNR senior staff and myself met with PRT concerning management of Ramsey Grove Plantation. Met with Van Whitehead, Chief Dukes, and Deputy Director Cope concerning upcoming NAWCA projects. Met with Scott Speares multiple times throughout the month concerning ongoing and upcoming capital improvement projects. Attended WFF staff meeting in Columbia. Attended Wildlife Section senior staff retreat at Donnelley. Met with MRD staff along with Regional Coordinator Farrell and Assistant Regional Coordinator Hook concerning hunting opportunities on South Fenwick Island. Met with Human Resources Director concerning DNR directives. Met with Donna Maples and Carmen Addison concerning FEMA project reimbursements.

Attended virtual leadership training class. Attended a meeting with Region 4 staff who build and install trunks on our managed waterfowl areas. Participated in addressing the Avian Influenza that was detected in waterfowl harvested from Bear Island. Observed lottery waterfowl hunts on Bear Island and Santee Coastal Reserve. Significant time was spent resubmitting requested documentation for FEMA projects from Flood 2015, Hurricane Matthew 2016, and Hurricane Irma 2017. Spent time working on necessary paperwork to start the NAWCA Project on Santee Delta. Began working on first draft of the Rules and Regulations brochure. Submitted paperwork for hiring on various vacant positions. Compiled data for an alligator FOIA request. Inspected Waccamaw River HP (Edge Tract) for encroachment violations. Inspected Lewis Ocean Bay HP for encroachment violations. Inspected Carter Stilley mitigation tract. Met on site with technician Harkins and Biologist Carlisle to inspect firelines on Bonneau Ferry WMA.

Wildlife Region 1

Summary

Spent significant time prepping firelines and creating burn plans for prescribed burns. Investigated a request for additional mobility impaired access. Worked with state herpetologist to identify potential bog turtle habitat locations. Completed temporary repairs to a major dike breach at Clemson Waterfowl Area. Conducted a midwinter bald eagle survey on Lake Greenwood. Assisted the Big Game Project and LE with deer issues in Spartanburg County. Collected GPS data for the hardwood stand improvement project at Cliff Pitts WMA. Coordinated and closed all roads on Jocassee for several days due to a winter storm. Assisted Asst. Chief Simmons with FY23 budget preparation. Met with an adjoining landowner at Peters Creek HP to document a new dwarf flowered heartleaf population and discuss illegal trails. Met with Hawkins towing company, Friends of Bald Rock, and Greenville County litter to discuss and plan a workday to remove abandoned cars from the bottom of the rock face at Bald Rock HP. Turned DLEO equipment at Styx.

Region 1 Coordinator

Completed administrative activities including budgeting, purchasing, personnel actions, correspondence, and mobility impaired vehicle permits. Turned in DLEO equipment at Styx. Met with Biologist Swaynham to review GIS data for Jocassee. Spent significant time updating the Tall Pines WMA management plan to include the Pacolet-Milliken tract. Met with HP manager onsite to review burn units at Ashmore and Brasstown Creek HPs. Attended the Clemson University Animal Care and Use Committee meeting and reviewed 2 research protocols. Checked WMAs including Beaverdam, Fant's Grove, and Jocassee. Checked Brasstown Creek and Ashmore HPs.

Nuisance Wildlife Activities

Conducted 58 nuisance wildlife investigations, made five site visits, and issued six depredation permits. Assisted landowners with complaints on deer damage, beavers, raccoons, skunks, and coyote issues.

Upstate Bear Report

Staff handled 7 bear complaint calls/sightings. There were no roadkill bears reported.

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

Worked to maintain proper water levels in the waterfowl areas. Monitored pig damage and worked two trap sites. Boundary lines were checked on several properties and WMA signs were replaced as needed. Staff scored deer as requested in the Clemson office.

Property Management Activities:

Beaverdam Waterfowl Area – Met with contractors twice onsite to discuss sediment removal project.

Worked on maintaining proper water levels and stabilizing dikes. Hosted four waterfowl draw hunts.

Caesars Head WMA – Checked boundaries on WMA and reposted signs as needed.
Clemson Waterfowl Area – Monitored water levels and removed beaver dams. Made temporary repairs to major dike breach. Hosted four youth waterfowl draw hunt.
Fant's Grove WMA – Reposted boundary lines as needed. Updated dove field information boards.
Keowee WMA – Checked boundaries on WMA and reposted signs as needed.
Long Creek Tracts WMA – Monitored dove field conditions. Removed storm debris from roads.
Pickens Rifle Range Dove Field – Monitored dove field conditions. Installed T-post barriers to limit illegal ATV access.
Ross Mountain Dove Field – Monitored dove field conditions and one pig trap.
Tall Pines WMA – Removed beaver dams from spillway several times. Repaired two gates and picked up litter in parking areas and around the lake. Installed information boards at dove field entrances.
Sumter NF - Andrew Pickens WMA – Worked with USFS staff to assist with storm damage clean up and hog trapping. Reposted WMA signs as needed.

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

Spent significant time prepping firelines and conducting prescribed burns. Wood duck boxes were checked, and new boxes were installed. Conducted a midwinter bald eagle survey on Lake Greenwood. DLEO equipment was turned in at Styx.

Property Management Activities:

Bordeaux Dove Field – Applied herbicide to field.
James L. Mason WMA – Completed timber harvest and mastication project. Flagged firelines for prep work.
Russell Creek Waterfowl Area – Monitored waterfowl hunts.
USACE-owned "unnamed" WMA – Conducted prescribed burn at "Torchia's Store". Removed trees from roads at "Hester's Point" and "Noble's Cemetery". Removed trees from road, masticated, and conducted prescribed burn at "Greenoaks". Masticated at "Old Augusta". Applied herbicide to sweetgums, masticated, and prescribed burned at "Bordeaux". Applied herbicide to Japanese climbing fern and conducted prescribed burn at "Small Game Area".

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

Conducted two private lands site visits to provide technical assistance to landowners and managers. Assisted LE and big game project. Conducted office ceiling repairs to old ceiling tiles and lighting fixtures. Attended the Indian Creek Focal Area meeting at the Newberry SC Forestry Commission office. Wrote article to submit for the Indian Creek quarterly newsletter. Flagged and recorded GPS data for hardwood stand improvement project at Cliff Pitts WMA. Monitored all waterfowl areas and entered hunt data. Measured four white-tailed deer for SC records program and one Coues deer for Boone and Crockett records program.

Property Management Activities:

Blalock WMA – Collected and entered waterfowl hunt data.
Cliff Pitts Bird Dog Training Area – Winter disked portions of training area.
Cliff Pitts WMA – Flagged and collected GPS data for hardwood timber stand improvement project.
Sumter NF - Dunaway WMA – Collected hunt data and entered waterfowl hunt data.
Sumter NF - Duncan Creek WMA – Collected hunt data and entered waterfowl hunt data.
Sumter NF - Tyger WMA – Collected hunt data and entered waterfowl hunt data. Repaired riser boards.
Thurmond Tract WMA – Installed additional fiberglass posts for electric deer fence and repaired broken fence. Built berms around new parking area on Black Bottom Road.

Unit 1D (Jocassee Gorges – Oconee, Pickens)

Completed administrative activities including personnel, correspondence, and purchasing. Responded to 72 email and telephone inquiries. Met with an adjacent landowner on Cane Creek project issues, Greg Lucas on outreach needs, and Naturaland Trust. Investigated a request for increased mobility impaired access. Closed all roads on Jocassee for several days due to a winter storm. Researched a road access issue with an adjacent landowner. Responded to American Legion on Sassafras flag request. Two employees continued on-line LE training. Assisted Asst. Chief Simmons with FY23 budget preparation. Procured supplies for Sassafras and the Jocassee work center. Conducted maintenance on vehicles and equipment.

Property Management Activities:

Jocassee WMA – Cleared saplings from Jumping Off Rock overlook. Installed two culverts and finished renovating Mule Gap Road. Pushed firelines around two burn units. TNC assisted with 3 miles of fire line prep. Inspected all roads and removed many fallen trees after winter storm event. Continued timber marking on the Canebreak Road white pine stand. Moved 4 gates and installed them on problem areas. One gate was repaired and reinstalled.

Sassafras Tower – Regular restroom cleaning, inspections and public assistance were carried out. Continued preparations to replace secondary overlook and to pave access trail.

Heritage Preserve Activities

Completed administrative tasks including paperwork to register technicians Conley and Taylor for the CPFM course with the SC Forestry Commission and review of a research permit for a patch-nosed salamander study in Brasstown HP. Scored one set of deer antlers. Issued a warning letter to the owners of a property adjacent to Blackwell HP to stop them from cutting trees on the preserve. Biologist Attaway and Technician Conley met with Gill Newberry at Peters Creek HP to document a new dwarf flowered heartleaf population and discuss illegal trails. Assisted the state bat biologist with planning a bat survey on Stumphouse Mountain HP in February. All HP staff conducted maintenance and repairs on gators and water pumps to prepare for controlled burn on Ashmore HP.

Property Management Activities:

Ashmore HP – Inspected property. Cleared trees from trail. Snagged fire line.

Bald Rock HP – Picked up litter four times.

Blackwell HP – Checked property. Discovered encroachment issue. Cut down approximately 25 sweet gum trees in the field. SC Native Plant Society held volunteer event to remove Chinese privet.

Brasstown Creek HP – Put down seed and straw and installed water bars for erosion control on management roads. Posted 5 miles of boundary signs along Bull Sluice Road. Inspected headwaters of Battle Creek for potential rare plants. Identified possible burn units.

Bunched Arrowhead HP – Inspected and cleared trails. Picked up litter.

Buzzard Roost HP – Re-installed HP lock on the gate of the south access road. Inspected road in preparation for controlled burn.

Chandler HP – Property and trail inspected.

Chestnut Ridge HP – Checked roads. Cleared trees from road and trail.

Clear Creek HP – Inspected bunched arrowhead site.

Glassy Mountain HP – Installed sign. Cleared trail.

Peters Creek HP – Inspected trail. Met with Gil Newberry to document new population of dwarf flowered heartleaf.

Stevens Creek HP – Property and trail inspected.

Watson-Cooper HP – Met with gravel company to discuss road work and estimates of gravel needed.

Wildlife Region 2

Summary

Staff began to prepare (firebreak plowing/fire management plans) for prescribed burn season. Staff adhered to SCDNR COVID-19 emergency protocols in field work and office work, following social distancing and sanitation measures. The department has continued to provide personal protective equipment and sanitation supplies to staff to help us work safely and productively. Heritage Preserve management staff worked on endangered species and ecosystem monitoring, restoration and management; on longleaf and shortleaf pine, piedmont savanna and prescribed fire management, outreach, policy and education; on management plans; on conservation planning, and on maintaining and improving access and other preserve attributes. Staff attended wildland fire safety and physical fitness training.

Regional Operations Activities

Unit 2A

Biologist Oates and Administrative Assistant Ridgill distributed 45 wood duck boxes and predator guards. Biologist Oates and Admin Assistant Ridgill submitted a requisition for the replacement of 27 windows in Marsh Clubhouse. Biologist Oates and Technician Fitts turned in their DLEO duty weapons. Biologist Oates repaired the Florence SCDNR office sign that was knocked over during a storm. Biologist Oates issued a local processor/taxidermist 12 CITES tags for alligators. Biologist Oates investigated a nuisance bear complaint in Marion and distributed a dozen bear pamphlets and spoke with several neighbors about the bear. Biologist Oates and technician Parsons completed the midwinter bald eagle survey on the Great Pee Dee River. Tracy's Logging moved equipment into Woodbury WMA to begin the thinning of 1004 acres of longleaf pine and 128 acres of loblolly pine.

Technician Kennon Parsons resigned from SCDNR and his position was posted and interviews with potential candidates were scheduled. Technician Parsons and Alston graded 22 miles of roads at Marsh WMA and 5 miles of roads in Woodbury. Technician Alston disked 4 acres of brood rearing patches at Marsh WMA. Technician Fitts spread lime on 38 acres at Pee Dee Station. Technician Fitts took soil samples at Pee Dee Station and Lake Wallace dove fields. Technician Alston disked 6 miles of firebreaks at Marsh WMA and 2 miles at Woodbury WMA. Unit technicians checked roads and removed debris after the ice storm. Technician Parsons met with SCE&G to give access to gas line at Pee Dee Station. Region staff had 81 technical assistance contacts (mostly phone calls) pertaining to wildlife and regulations, 39 WMA lands calls, and 10 nuisance calls (2 nuisance bear).

Unit 2B

Unit 2B staff spent considerable time on scheduled equipment and depot maintenance. Technician Moses maintained roads and wildlife openings and monitored visitor use at Draper WMA. Technician Wyatt maintained roads and monitored visitor use at Worth Mountain, McConnell's, Ross and Kirsh WMAs. Staff continued monitoring of crops at Broad River Waterfowl Management Area. Staff continued maintaining duck blinds, administering waterfowl hunts, and submitting harvest data at Broad River Waterfowl Management Area. Technician Smith monitored water levels, beaver activity in ditches, and water control structures at Broad River WMA. Unit 2B staff monitored mitigation project and visitor use at Landsford Canal WMA/Bird Dog Training Area.

Unit 2C

Biologist Cockman scored one set of deer antlers at the Camden office. Biologist Cockman submitted an article for the Technician newsletter. Cockman resigned his DLEO commission and turned in LE credentials/equipment on Jan 5. Staff spent considerable time on prescribed burn preparations (fire management plans, firebreaks) at Liberty Hill and McBee WMAs. Biologist Cockman completed prescribed fire management plans for Liberty Hill, McBee, Angelus and Campbell's Crossroads WMAs.

Biologist Cockman completed prescribed fire refresher training at the Carolina Sandhills NWR. Staff, with assistance from Regional Coordinator Stokes, completed 2 site prep prescribed burns totaling 78 acres. The two sites will be planted in longleaf pine in February. Staff conducted its final two quail hunts of the season at McBee WMA on January 8th and 12th with four hunters finding 6 coveys and harvesting 7 birds. For the season, hunters hunted 9 of the 14 available days (64%), finding 19 coveys and harvesting 21 birds.

Biologist Cockman compiled and analyzed deer and quail harvest data for Liberty Hill WMA and McBee WMA, respectively, and submitted to DNR Program Leaders. Biologist Cockman assisted the Broad River Waterfowl Management Area staff with a waterfowl hunt on January 15. Technician Lowder distributed 20 bushels of supplemental quail feed (Jan 10 & 27), cool season disked 4 acres of brood patches, and disked 16 miles of firebreaks at McBee WMA. Technician McManus used the dozer to construct 1 mile of new firebreaks at McBee WMA. Carolina Sandhills NWR equipment operator disked 2 miles of firebreaks adjoining the refuge and Angelus WMA/Bird Dog Training Area. Technician McManus prepared (disk, grade, and leaf blow) 2 miles of firebreaks, and staff removed 80 trees from roadways at Liberty Hill WMA.

Wildlife Management Area Management Summary

Throughout Region 2, burned 78 acres, staff mowed 25 acres, scraped 34 miles of roads, disked 4 acres of brood patches, disked 55 miles of firebreaks, cleared debris from roads following ice storm.

Property Management Activities

Marsh WMA - Scraped 22 miles of roads. Disked 4 acres of brood rearing patches. Disked 6 miles of firebreaks. Got quote and submitted requisition for replacement windows for clubhouse. Cleared debris from the road after ice storm.

Woodbury WMA - Scraped 5 miles of roads. Disked 2 miles of firebreaks. Logging crew began thinning of 1132 acres. Cleared debris from the road after ice storm.

Pee Dee Station WMA - Checked roads and fence after ice storm. Met with SCE&G for gas line access. Mowed 25 acres of dove field.

Lake Wallace Dove Field - Checked fences and roads after storm. Fixed fence and removed trees and debris.

McBee WMA - Administered two quail hunts. Monitored visitor use. Supplemental fed 20 bushels of sorghum. Prepared 17 miles of firebreaks. Cool-season disked 4 acres of brood patches.

Liberty Hill WMA - Bladed 2 miles of firebreaks/roads. Cut 80 trees from roadways after ice/snowstorms. Monitored visitor use.

Angelus Bird Dog Training Area - Disked 2 miles of firebreaks. Monitored visitor use.

Catawba River WMA - Loggers repaired 3 gates at the Heritage Tract (west). Put up 3 WMA signs at Heritage Tract (east).

Draper WMA - Performed general depot and equipment maintenance and repair. Monitored visitor use.

Graded/graveled 2 miles of roads. Cut sprouts in wildlife openings and treated ¼ acre with herbicide.

Worth Mountain WMA - Perform general depot and equipment maintenance and repair. Cleaned debris from pipe in roads. Disked 1 mile of firebreaks. Mowed 2 miles of roads. Scraped 3 miles of road. Put up 20 WMA signs.

Broad River Waterfowl Management Area - Performed general depot and equipment maintenance and repair.

Administered 4 waterfowl hunts. Maintained duck blinds. Performed 9 days of water level management.

Landsford Canal FLA - Inspected mitigation project and monitored visitor use.

Heritage Preserve Management Activities

Heritage preserve (HP) management staff worked on endangered species and ecosystem monitoring, restoration and management; on longleaf and shortleaf pine, piedmont savanna and prescribed fire management, outreach, policy and education; on management plans; on conservation planning; on fire and safety training; and on maintaining and improving access and other preserve attributes. Stowe attended RT-100 (Wildland Fire Safety Training Annual Refresher) and passed the NWCG physical fitness pack test (arduous level). Staff took online chainsaw training focused on safety, sharpening and other techniques. Staff attended virtual US Forest Service Climate Change Round Table. Staff's foreword to the Southeast Prescribed Fire Training Needs Survey Report, a document published by the National Cohesive Wildland Fire Prescribed Fire Training Coordination Work Group, was published. Staff centered this introduction on economics, specifically on how we have created a regional demand for prescribed fire that is far exceeding supply and therefore must look for a market-based solutions to the problem of getting more fire on-the-ground. The foreword can be seen at <https://serppas.org/media/3304/serxfire-trainingneeds-finalreport-lr.pdf> (p 2). Staff dozer-cleared 15 miles of firebreaks (Lynchburg Savannah HP/WMA (3 miles), Longleaf Pine HP/WMA (9 miles), Woods Bay HP (3 miles). Staff discussed grant funding and potential additions to Forty Acre Rock HP/WMA with Ken Prosser and Anna Huckabee, bridge issues with SCDNR Engineers, and protection of the Gregory Graveyard on the preserve with family member Bill Gregory (former SC Senator C.J. Gregory's family). Staff assessed firebreaks, soil and water-table conditions, and fuels; cleared around RCW cavity trees as well as snags, cat-faced or hollowed trees, gates, signs, utility poles and other hazards and sensitive elements; worked on equipment, gathered supplies and trained in preparation for prescribed fire. Staff discussed Great Pee Dee River HP/WMA public access, easement and new neighbor issues on-site with Region 2 LEOs Austin Holland and David Gaskins. Staff discussed boardwalk repair/replacement on Segars-McKinnon HP with SCDNR Engineers, and overall HP management with the Segars family. Staff maintained preserves by assisting the SCDNR LED with enforcement, by monitoring for abuse, by removing trash, by managing vegetation and by maintaining gates, trails, parking areas and boundaries.

Property Management Activities

Forty Acre Rock HP/WMA - Staff hand-cleared, raked sensitive elements on 10 miles firebreaks (raking and leaf-blower) in sensitive areas (Catoe graveyard, main road-trail to The Rock and on the Rock. Staff maintained the preserve by assisting game wardens with surveillance (SCDNR Law Enforcement Division 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 - Replaced sign-in book.

Longleaf Pine HP/WMA - Staff dozer-cleared 9 miles of firebreaks and hand-cleared around all cavity trees of the federally-endangered-cockaded woodpecker (RCW: *Picoides borealis*) (6 clusters/45 trees) and around snags and other sensitive elements around five burn units (5.5 miles of firebreaks) in preparation for prescribed fire.

Lynchburg Savanna HP/WMA -: Staff dozer-cleared 9 miles of firebreaks and hand-cleared around all RCW cavity trees (2 clusters/7 trees) and around snags, cat-faces, mailboxes and bluebird boxes and other sensitive elements around all (four) burn units in preparation for prescribed fire.

Woods Bay HP - Staff dozer-cleared 6 miles of firebreaks, cut and raked snags, cut wilding loblolly and misshapen longleaf pines) along firebreak in preparation for prescribed fire.

Wildlife Region 3

Summary

Staff hosted a multitude of hunts and conducted management activities across the region's wildlife management areas. Regional Coordinator Kesler and Biologist Bennett met with flight command staff at McEntire

Joint National Guard Base concerning low elevation flights over waterfowl impoundments at Wateree and Love WMAs. Biologist Shuler and staff assisted with an annual youth raccoon hunt in the Orangeburg area and continued monitoring at Hickory Top Greentree Reservoir. Biologist Forehand showed Kesler around Crackerneck and brought him up to date on the management objectives included in the newest management plan including a new dove field. Biologist Bennett and staff repaired the water control structure in the fishpond at Wateree River Heritage Preserve and Wildlife Management Area. Biologist Young and Technician Kiker have begun to set back the understory in areas at Congaree Bluffs Heritage Preserve where fire is not practical by using the mulcher.

Regional Coordinator

Assisted regional staff with management activities and administrative duties related to the region's heritage preserves and wildlife management areas. Assisted Region 2 staff with lottery waterfowl hunts at Broad River Waterfowl Management Area. Attended a site visit in Ridge Spring for a prospective property acquisition. Assisted with interviews for summer interns. Visited the following heritage preserves and wildlife management areas in region 3; Belfast, Crackerneck, Peachtree Rock, Shealy's Pond, Henderson, Janet Harrison High Pond, Ditch Pond, Love and Wateree River.

Regional Operations Activities

Unit 3A

Regional staff spent a significant amount of their time prepping and conducting lottery waterfowl hunts. Staff has pre-baited and prepped sites for the annual winter turkey surveys on Belfast Wildlife Management Area and Wateree River Heritage Preserve Wildlife Management Area. A tractor and a no-till grain drill were ordered with intended use throughout the region. Biologist Bennett and Kesler met with McEntire Flight Simulation Instructor Pilot Tom Meribel to discuss newly approved flight patterns around and above the waterfowl impoundments at Wateree River HP/WMA and Love Wildlife Management Area.

The Wateree River HP/WMA lottery waterfowl hunts kept staff scouting ducks for successful applicants. Waterfowl impoundments are still being monitored for hog intrusion daily at Wateree River HP/WMA. The waterfowl impoundment on the Cook's Mountain side of the property still doesn't have water on it due to pump malfunction. The trash rack on the overflow pipe of the fishpond has been removed and replaced. The beaver pond below the fishpond has been rehabbed and the dike rebuilt. Water levels are being monitored daily on all impoundments. Hog trapping on Wateree River WMA has ceased due to small game season. Technician Flemming filled in potholes along Goodwill Road. Several portions of roads within Wateree River HP/WMA have been motor graded. Technician Kiker spent several days clearing roads and trails throughout the property due to extreme weather conditions. Technician Baldwin responded to gate issues and fallen trees due to extreme winter weather conditions. Law enforcement issued five warnings which included no hunting license, no WMA permit, alcohol on WMA, and an uncased gun on Water River HP/WMA.

The impoundment at Love WMA has been monitored and scouted for overflow lottery waterfowl hunts. Baldwin cleared roads and dikes due to extreme weather events. Hog panel fencing was repaired and replaced around impoundments as needed. Baldwin has taken advantage of high river levels capturing water in an oxbow just off the river. Hog trapping on Love WMA has ceased due to scheduled TOMO hog hunts. Site contractors have completed the parking pad and rocked the road. The primary masonry work on the trap houses is complete. We are in the planning stages of determining the spacing and tree type needed for the fall out area of the range.

Logging operations continue at Belfast WMA. With intentions to minimize any rutting or road damage due to wet weather, staff is monitoring logging crews. Technician Stephens met with a roof contractor to look at repairing the Belfast shop. Technician Rex has been constructing hog traps and deer stands. Stephens and Bennett turned in their DLEO credentials and equipment at Styx. With the forecasted cold weather all pumps were drained, and facilities winterized to try and prevent any freezing and breakage. Rex assisted Region 1 on a waterfowl hunt at Broad River. Belfast staff provided maintenance on the areas rifle and pistol ranges in the absence of the Law Enforcement range manager. The roads on Belfast WMA were cleared of downed trees from this month's ice storm. Stephens assisted the United States Forest Service with cleanup of their roads as a result of the same storm. The South Carolina Forestry Commission utilized the current logging operations on Belfast WMA to conduct a training session on measuring trees for their employees. Stephens and Rex met with nuisance agents with the United States Department of Agriculture working on private and Government lands in the area to discuss the on-going hog problem.

Unit 3B

Forehand and Technicians Chapman and Rinder manned and worked the gate for all

open days and completed the Savannah River Site Consolidated Annual Training (GET). Rinder bushhogged 20 acres at the Crackerneck dove field, scraped 25 miles of roads, and worked on equipment for 2 days. Chapman planted 15 acres of food plots, 10 acres of Hallman dove field, and winter disked 10 acres. Forehand planted 5 acres of food plots and met with Savannah River Site Forest Service about progress with the new dove field.

Unit 3C

All staff worked public duck hunts and the annual youth raccoon hunt as needed. The raccoon hunt, which is a part of the youth series of coon hunts, was held in cooperation with the South Carolina State Raccoon Hunters Association and the Orangeburg Raccoon Hunters Association. We had 39 total youth participants with 23 hunting in the hunt and 8 in the bench show. Technician Mackay and Technician Greenthaler repaired roads and equipment on Santee Cooper Wildlife Management Area. New fence was put up in places and the old fence repaired around the dove field. All risers were maintained and water levels checked while flooding continued in the greentree at Hickory Top. Staff took down all youth deer stands on Santee Cooper Wildlife Management Area. Equipment was cleaned and maintained. Staff completed online training. Shuler answered multiple calls from the public concerning wildlife management areas and opportunities.

Heritage Preserves

Technician Cameron Foster started full time this month with the Region 3 Heritage Preserve section. Heritage Preserve Coordinator Young, Technician Kiker and Foster conducted numerous site visits to the heritage preserves and wildlife management areas within Region 3. Young assisted Unit 3A Biologist Bennett in clearing a dike at Wateree River Heritage Preserve. Young and Foster moved equipment from Wateree River Heritage Preserve to Congaree Bluffs Heritage Preserve. Young and Kiker have been mulching encroaching understory along firebreaks at Congaree Bluffs Heritage Preserve preparing for prescribed fires. Kiker has been clearing trees growing around the kiosks at the parking lots of heritage preserves. Foster has been conducting trail maintenance at Congaree Bluffs Heritage Preserve and Janet Harrison High Pond Heritage Preserve. Young and Foster repaired the chain link rope around the big Peachtree rock at Peachtree Rock Heritage Preserve. Constituents have been tampering with the chain, removing it, and dragging it away into the woods. A camera is going to be placed up at the site to monitor any further destruction to the facilities at Peachtree Rock Heritage Preserve. Young plowed the firebreaks on the eastern side of Peachtree Rock Heritage Preserve to prepare for an upcoming prescribed fire to be conducted in cooperation with The Nature Conservancy. A small wildfire was reported at Henderson Heritage Preserve at Croft Mill Road for the second time in the past two months. Aiken Department of Public Safety responded to the scene to report the fire was out. Young attended a meeting at Samworth Wildlife Management Area regarding the upcoming Mallard transmitter/banding operations that will begin in February. After the numerous winter storms and high wind events, Congaree Bluffs Heritage Preserve experienced some tree damage, which has been cleaned up. Young and Foster have begun to replace the wooden boards and ramp on an old trailer to be used for hauling equipment. Kiker has cleaned up litter at Congaree Bluffs Heritage Preserve, Ditch Pond Heritage Preserve, and Peachtree Rock Heritage Preserve. Young continues to receive reports about the public accessing Savannah River Bluffs Heritage Preserve after hours.

Wildlife Region 4

Highlights

January activities throughout Region 4 focused on planning and conducting lottery waterfowl hunts, cool season disking, preparing fire breaks, and conducting prescribed burns. Staff from coastal Waterfowl Management Areas convened for a meeting to discuss techniques for constructing and installing trunks and bulkheads. Region 4 Unit D staff began a project to expand the Webb WMA "Airstrip" Public Dove Field.

Regional Coordination

Significant time was spent on administrative tasks. The pre-bid meeting for an upcoming contracted project on Murphy Island was attended. A FOIA request regarding alligator/human interactions was complied with. A lottery duck hunt was staffed. One HP was visited to monitor water levels. A meeting with MRD staff was attended to discuss deer hunting and regulations on MRD managed WMAs. A meeting of trunk building experts, installers, and users from SCDNR was planned and attended. Coordinator Farrell toured impoundments at Samworth WMA with Deputy Director Cope, Chief Dukes, Assistant Chief Chappellear, Waterfowl Biologist Kneece, and Representative Lowe.

Assistant Regional Coordination

Assistant Regional Coordinator Hook monitored water levels and activity at Dungannon HP, one day was spent clearing windstorm debris from roadways. Multiple CAT I Lottery Waterfowl hunts were assisted with.

Arrangements for Region 4 staff to attend Certified Prescribed Fire Manager course was completed. A meeting regarding deer hunting and regulations on MRD managed WMAs was attended. A meeting regarding trunks and bulkheads was attended. Hook monitored timber stand conditions on Santee Coastal Reserve and Bonneau Ferry WMAs. Hook, Waterfowl Biologist Kneece, and HP Biologist Young met to discuss waterfowl research, and rocket netting supplies were delivered to various locations. Continued to submit permitting work to OEP for completed projects on WMAs.

Unit 4A: Horry & Georgetown

Coastal Bear: There were 2 nuisance calls and 1 roadkill reported. One site visit was conducted in Plantation Lakes (Carolina Forest). In addition, door hangers (50) and information bear magnets (40) were dropped off with HOA representative to be distributed to residents.

Unit 4A Heritage Preserves: Heritage Preserves in Horry County were visited 18 times. Biologist Brantley continued assisting with Heritage Preserve matters and keeping in close contact with Heritage Preserve staff. Staff worked closely with HP crew on various tasks. Brantley spent 2 days GPS mapping new roads and updating maps.

Samworth WMA Uplands: Routine administrative duties were carried out. The uplands boundary was repaired. Limbs were picked up from recent cold fronts/windstorms that moved through the area. A windshield was delivered to the John Deere dealership in Bishopville so it could be installed on the 6110 JD.

Unit 4B: Berkeley & Charleston

January activities were dominated by conducting waterfowl hunts, equipment maintenance, and spring planning.

Bonneau Ferry WMA: 79 general visitors and 75 hunters utilized Bonneau Ferry. Equipment was serviced and grounds cleaned and maintained. Staff planned for and conducted youth duck hunts. Boundary marking continued. Roads were cleared following two wind events. Staff baited and scouted hogs. Staff met on site to discuss property line and fire breaks along inholding. Staff loaded and hauled off scrap culverts.

Canal WMA: Staff continue to work with USACE personnel via weekly conference calls. Equipment was serviced and cleaned as needed. Fence material was taken down and planning for next year's fence is underway.

Sandy Beach, Cross Generating Station, and North Dike WMA: Staff scouted for ducks and conducted lottery duck hunts. Shed improvements continued. Removed blind material from deer stands and loosened their chains.

Francis Marion National Forest: Wildlife openings were planted and fertilized in the Waterhorn Unit. Staff baited and ran hog traps; one hog was removed incidentally by staff. Staff trimmed fruit and oak trees and disked around them in advance of burning.

Other Unit Activities: Staff compiled hunter harvest data. Staff measured 4 deer and 1 bear. Staff turned in their DLEO equipment and commission credentials. Staff submitted Technician of the Year nominations. Staff gave one wildlife presentation to a scout group with the mayor of Mt. Pleasant. Staff attended prescribed fire manager training. Staff attended driver safety training. Staff wrote their report for the technicians meeting newsletter. New technician, Cameron Felkel, attended orientation.

Wildlife: A total of 73 wildlife calls were handled at the Charleston office (6 alligator and 67 other nuisance animals). There were 9 licensing/boat titling calls emailed to the licensing/permitting office. Hunting regulation and property calls were handled for 1 caller.

Unit 4C: Colleton & Dorchester

Routine administrative and management duties were conducted for the month. Visits were made to WMAs within the unit to assess habitat conditions and other management items. Water levels in all impoundments on Donnelley and Bear Island were monitored and adjusted appropriately. All water control structures have been set to make food readily available for wintering waterfowl and waterbirds. Staff were busy conducting waterfowl hunts, servicing and fixing equipment, winter discing, grading roads, and planting winter crops. A meeting was attended by two staff to discuss water control structure construction/installation strategies. There was a minimum of 4,777 visitors and 233 hunters for the month in Unit 4-C.

Bear Island WMA: Agriculturally, six areas had fire lines cut around them, they were burned and winter disced. These winter disced areas should provide some diverse natural growth. Duck season lottery hunts encompass the majority of the staff's hours, but several winter maintenance items are fit in when possible. Fluid and filter changes were conducted on 4 pieces of machinery and tie rods are being changed on the JD6115. Ti-Ti Road was graded and will have some rock applied as needed after this set of King tides pass. We moved the Cat longarm to Donnelley for a couple of winter projects. Construction/maintenance Technician Armstrong is currently coordinating refurbishing the bathrooms in Donnelley Lodge, erecting an additional tractor shed at Bear Island and replacing the door and windows at the Botany Bay main house.

Botany Bay Plantation: Staff repaired equipment for upcoming spring planting. Staff cut fire lines throughout the property to prepare for spring burns. Staff winter disced 25 acres in fallow fields to control unwanted woody vegetation and encourage native vegetation beneficial to wildlife. Staff planted 20 acres of native sunflowers in the dove fields that receive high levels of deer depredation. These native sunflowers can withstand browse. Volunteers continued cutting limbs overhanging field edges to allow tractors to get under. Volunteers also repaired martin houses; put in 6 new walkways to go over ditches for bluebird houses; and finished fields on the Big House side of the avenue. The bird walk trailer tour was cancelled twice in January due to bad weather. Volunteer hours totaled 590. We had 4,777 visitors and 1,645 vehicles. There was 1 horseback riding party with 2 riders for the month of January.

Donnelley WMA: Agriculturally, we bush hogged the remaining standing crops in the dove fields and started discing it under. Approximately 20 acres were planted in Native Sunflowers. Several winter discing plots were installed in some of our bigger fields to encourage natural diversity. Donnelley roads were graded several times around rain events. Four increasingly popular CAT II hunts and four youth lottery hunts were conducted. Small game hunting is currently open at Donnelley with a steady attendance of mostly squirrel and racoon hunters. Miscellaneous jobs addressed during the month include, offered duck box pick up location, prepared structures for freezing temperatures, began removal of failed trunk, and started pump project on Office Backwater impoundment.

Edisto River WMA: Two days were spent moving blown over trees out of the roads and unclogging drainage pipes that were stopped up by beavers. A burn plan was developed and will be implemented as weather allows this spring. Staff monitored Bird Dog Training Area use and kept maps and supplies stocked in the kiosks.

GIS/GPS/Miscellaneous: Grid maps were edited/generated for Edisto River WMA to assist staff with prescribed burn planning. Edisto River WMA was checked for downed trees after a recent storm in early January. The kiosk supplies at Edisto River WMA were monitored. Assistance was provided with mapping and calculations for RCW foraging areas at Lewis Ocean Bay HP/WMA. Maps were printed and laminated for the biologist at Samworth WMA. Edited burn maps (24x36) were printed and laminated for the area manager at Bonneau Ferry WMA to assist with property management. Botany Bay stand maps were printed for the area manager to assist with property management activities. The 2021 deer hunt information was removed at Dungannon HP/WMA. Miscellaneous GIS work was conducted.

Unit 4D: Beaufort, Hampton, & Jasper

Staff time was focused on conducting prescribed burns and winter disking for wildlife management. Staff spent significant time expanding the Airstrip dove field on Webb WMA. Significant time was spent with facility projects on the property. 313 Users signed in at the Palachucola Shooting Range. 86 non-hunting users signed in to the 3 WMAs during the month with activities including: scouting for hunting, birding, wildlife viewing, 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 and worked on procuring bids and writing specifications for multiple projects for the unit. Biologist Atkinson turned in DLEO equipment for staff on project, attended SoloAce meeting (virtually) and scored two white-tailed deer antlers for state record book. Atkinson and Moss traveled to Hampton Hall community in Beaufort County to assess nuisance turkeys. Biologists Atkinson and Moss, Technicians Deloach, Tant, Wargo, Klinedinst, Pollock, and Klecan, and Building and Grounds Specialists Graham, Williams, and Garving attended the driver training at Webb. Webb staff & facilities did not host any meetings in January. Lower Coastal Alligator activity for the month: issued 0 commercial permits, 0 individual permits, and received 1 nuisance call.

Habitat Management: Staff spent significant time winter disking approximately 108 acres of wildlife openings. Significant time was spent expanding the Webb dove field to ~30 acres. This included significant work with the bulldozer and excavator clearing trees and preparing the ground. Staff disked the Palachucola WMA dove field. Staff spent significant time conducting prescribed burns on 607 acres for wildlife management. Staff drum chopped ~4 acres. Time was spent controlling ~5 acres of midstory with the tree mower.

Facilities & Infrastructure Maintenance: Staff graded 21 miles of roads. Approximately 3 miles of firebreaks were disked. 6 Culverts were cleaned out. Significant time was spent checking, replacing, and cleaning bluebird boxes on the WMAs. Staff spent significant time with grounds maintenance around the Webb facilities. Staff installed 4 new gates on Hamilton Ridge and painted 4 gates on Webb. Staff spent time constructing and preparing a new shed for Webb meetings. Staff conducted regular maintenance and clean-up of Palachucola Range.

Equipment Maintenance: Staff picked up the Bobcat from the repair shop. Staff repaired disk harrows. Time was also spent on general equipment maintenance & repairs.

Upper Coastal Waterfowl Project

Santee Coastal Reserve WMA

Upland: The exterior dike on Big Well was re-topped at a length of 1,800 feet. A trunk on Big Well was repaired. The trunk's bulkhead was extended, and broken cables were replaced with stainless steel rods. The repaired trunk was then re-topped. Storm damage was cleaned up. The lawns along the avenue and in front of the office were mowed. Fallen trees were bucked up and cut into firewood for the gazebo. The area around the workshop was cleared using a mini excavator with a cutterhead. Both sides of the boat dock road were cleared with the mini excavator. The majority of upland trails were mowed to remove small storm debris. Vines were cleared by hand off trees near the workshop.

The Cape: Water levels were monitored, and adjustments were made as necessary. Four waterfowl draw hunts were conducted. Salinities and water temperatures were measured and documented.

Murphy Island: A pre-bid meeting was held with contractors and DU for the upcoming Boggy Unit project. The long-reach excavator re-topped 1,500 feet of cross dike between the Thompson Creek and Black Point impoundments. The long-reach excavator was repeatedly refueled. Four waterfowl draw hunts were conducted. Water levels were monitored, and adjustments were made as necessary. Salinities and water temperatures were measured and documented.

Cedar Island: Water levels were monitored, and adjustments were made as necessary. Four waterfowl draw hunts were conducted. Salinities and water temperatures were measured and documented.

Repairs: All wooden signs along the main avenue were taken down, sanded and re-painted. A vehicle was taken to the dealership for a new starter. A boat trailer tire was replaced.

Other: One project equipment operator resigned from SCDNR. Caradinta and Treptow attended the DNR trunk workshop at Fort Johnson. The NOAA water gauge was emptied. Treptow passed his recurrent FAA Part 107 remote pilot test.

Santee Delta WMA

All gates, dikes and impoundments were repeatedly checked on Delta East and Delta West.

Samworth WMA

The amphibious excavator continued work on the Big Carr Impoundment. Approximately 950 Linear Feet of perimeter dike along Big Carr Creek was retopped. Approximately 370 Linear Feet of berm enhancement was completed. A leaking trunk along Big Carr Creek in the Big Carr Impoundment was examined due to a leak and repairs have been planned. Also in the Big Carr Impoundment, small plots totaling 4 acres were roller chopped. A rocket net was removed from Big Carr. The net was dried at the shop and stored. A hydraulic generator was removed from the field and transferred to Santee Coastal Reserve. Forty WMA boundary signs were assembled and installed on the Upper Units. A shelving unit was assembled, and the shop was cleaned and organized. Material was picked up and used to construct 6 swim-in duck traps for the statewide waterfowl project. Representative Phillip Lowe, Deputy Director Emily Cope, Chief of Wildlife Billy Dukes, Assistant Chief Sam Chappelle, and Region 4 Coordinator Alicia Farrell participated in a tour of the Samworth Impoundments.

Habitat Report: Water levels in all flooded impoundments have been routinely monitored. All Upper Unit Impoundments are flooded except for Pullfare.

Repairs: A work truck was serviced. Decking on the DNR boat dock was repaired.

Contractor Updates: Contractors continue to make progress on both Upper and Lower Middleton renovations. On Lower Middleton, the contractor has completed the first phase of re-establishing a berm in a corner of perimeter dike along the Pee Dee River. They continue to make good progress with retopping. On Upper Middleton, retopping is nearing completion. One trunk remains to be installed, along with approximately 250 Linear Feet of bulkhead along Middleton Cut.

Other: Kneee attended a meeting about rice trunk and bulkhead construction and installation at Fort Johnson.

Heritage Preserves

The Heritage Coordinator position remains vacant as well as 2 technician positions. 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. All RCW trees were prepped for prescribed burning.

Cartwheel Bay HP: Staff conducted property checks multiple times throughout the month. Two trees were moved from interior roads.

Dungannon HP: Assistant Regional Coordinator Hook continued to adjust water levels. The rookery is being drawn down to review the possibility of mechanical manipulation of rank vegetation to optimize habitat for nesting wood storks.

Lewis Ocean Bay HP: Staff conducted multiple property/road checks. Staff continued monitoring trail cameras on the parking areas. Staff worked with Unit 4A crew to rake and clear debris from around all RCW trees (16 clusters). 225 tons of #57 granite stone was chain spread on Billy K Trail. One culvert was installed to allow easier access into RCW cluster. Two RCW clusters were mulched for understory management.

Little Pee Dee HP: Routine property checks were conducted on all tracts. Several fallen trees were removed from the road in Gunter's Island and the 917 tracts. Firebreaks were disked and one new line was installed at the Hog Farm Tract.

Tillman Sand Ridge HP: Technician Kalinowsky returned from his annual break in service. Perimeters were checked and trash was collected routinely at gates. Multiple fallen trees and limbs were removed from roads and firebreaks due to recent cold front/storms. It was noted that the preserve had an unusually high number of herpetologists visit during the first week of Kalinowsky's return to work. The RCW crew completed their first assessment of the new RCW clusters (success). There are currently three clusters now. Firebreaks were plowed and red batons were added to a few new burrows, only to have them mowed by SCDOT contract mowing crew. State Herpetologist Grosse and Kalinowsky moved the camera fence into the interior of the preserve hoping to get photos of Pine snakes and Eastern Diamondbacks. Quarterly pictures were taken at the 9 restoration area centroids on TSRHP.

Waccamaw River HP: Fence posts were replaced at Schultz tract from public destruction. Gates were checked at Bridges, Carter Stillely, and Simpson Creek. It was noted that two gates were vandalized.

Miscellaneous: Large equipment was cranked weekly. An initial inspection was conducted on the generator at LOBHP by a CAT representative. Staff was present to ask and answer questions. Electrical was installed in the Conex boxes. The front windshield on the 6110 JD was repaired through state fleet. The mini excavator mulching head was taken to welding shop for repairs. Hydraulic lines were repaired on the 5525 JD loader. All fire suppression equipment was ensured to be in operational readiness. Staff collectively made 30 site visits to 5 preserves this monthly including Tillman Sand Ridge, Lewis Ocean Bay, Waccamaw River, Cartwheel Bay, and Little Pee Dee River HPs.

Tom Yawkey Wildlife Center

Habitat and Infrastructure Maintenance

Five miles of roads were graded and shaped and four miles of dikes and roads were side cut.

Three-hundred feet of the Lower Reserve setback dike was re-topped along Mosquito Creek. A severe winter storm broke a piling on the primary floating dock along the Intracoastal Waterway allowing the dock to move in the current and strike the swing bridge. Moderate damage occurred to the boat that was moored to the dock at the time. An amphibious track-hoe was borrowed from the Upper Coastal Waterfowl Project and a new piling was installed by staff. Bid specifications were developed and advertised on the South Carolina Business Opportunity page for a new metal roof on the Carpentry Shop. A pre-bid meeting was held onsite for interested contractors. Two staff members attended the South Carolina Forestry Commission certified prescribed fire managers course in Florence.

Research and Survey

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 5,511 waterfowl and 719 wading birds. Staff conducted the annual bald eagle transect survey. Five eagles were observed along the route. Staff conducted the annual pre-season nesting meeting with the SCDNR sea turtle project staff. A job description was produced, and advertisements issued for two hourly sea turtle beach monitoring technicians. Jennifer Tyrell with the South Carolina Audubon Society conducted a site visit to look for suitable locations for a new MODUS tower. MODUS towers allow for the passive tracking of tagged birds as they travel along the coast. The Yawkey Foundation provided a grant to SC Audubon to fill in a gap in the coverage in the Winyah Bay and Santee Delta portions of the coast. Clemson University PhD candidate Meghan Keating started field work on a bobcat home range and toxicology project on the South Island portion of the property. The project will capture and GPS collar bobcats over the next several months. Mississippi State University PhD candidate Stephen Clements collected waterfowl diet samples as part of a large-scale bioenergetics study along the Atlantic seaboard.

Education and Outreach

Staff developed 4 social media posts that had 14,431 interactions. Reviewed requests for and issued 3 camping permits for YWC beaches. Staff provided input into proposed regulations related to dogs on YWC beaches. Two students from Wofford College spent three weeks on-site for an environmental science interim. The

education program conducted 12 socially distanced programs for 160 participants. Students and faculty from Horry Georgetown Technical College conducted four forestry and wildlife management labs on Cat Island for 46 students.

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). Attended virtual SCPFC steering committee meeting. Continued various duties as SEAFWA representative to the regional Longleaf Partnership Council (LPC). 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 (timber marking contracted). Continued collaboration with USFS on Good Neighbor Authority project on the Enoree RD of the Sumter NF. Recently awarded timber sale (579 acres of loblolly pine thinning) has not yet commenced. Planning for further herbicide work on isolated wetlands (gopher frog project) at Webb. Planning for winter tree plantings at McBee WMA and Love Farms (Receiving bids). Brood field clearing project at McBee WMA has stalled with contractor issues, roughly 70% completed. Monitored and administered ongoing timber harvesting operations. Assisted Chief Dukes and Asst. Chiefs with timber budgets.

Harvesting operations remain suspended at Hamilton Ridge WMA (618 acres of plantation loblolly second thinning and 77 acres of clearcut) 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 one of two timber sales at Hamilton Ridge WMA (521 and 504 acres of plantation loblolly first thinning) continued early in the month before being delayed due to wet ground conditions. Harvesting operations at Palachucola WMA (270 acres planted loblolly and slash marked thinnings and 138 acres clearcut for longleaf restoration) temporarily delayed (scheduled to resume early Feb.), close to completion. Harvesting continued into the month at James L. Mason WMA (408 acres natural loblolly marked thinnings) before being delayed due to wet ground conditions but are nearing 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 throughout the month and continued to make substantial progress. Timber sale at Love Farms (64.5 acres planted loblolly pine for dove field expansion and shooting complex, 7.6 acres of thinning) has been completed, except for a few acres. Awarded timber sale at Santee Coastal Reserve timber sale (338 acres of marked natural mixed pine thinning, 81 acres of natural mixed pine clearcut) has yet to commence. Awarded timber sale at Woodbury WMA (1,132 acres planted longleaf and loblolly) commenced late in the month. Continued working with staff on planning/preparation of numerous upcoming sales.

Waterfowl Project

Much effort was invested this month making final preparations for land access to capture, band, and transmit mallards. This effort officially begins in February as part of an Atlantic Flyway research project titled, Mallard Migration Ecology and Demographics Throughout the Full Annual Cycle. During this project, 10-15 transmitters are anticipated to be attached to female mallards following duck hunting season each winter, over the next 4 years. Molly Kneece, Andrew Hook, and Hunter Young assembled a field day to test new trapping equipment, and to review procedures for aging winter mallards and transmitter attachment protocols.

Representative Phillip Lowe, Director Robert Boyles, Deputy Director Emily Cope, Chief Billy Dukes, Assistant Chief Sam Chappellear, Region 4 Coordinator Alicia Farrell, and State Waterfowl Biologist Molly Kneece participated in a tour of the Samworth WMA waterfowl area. Contract projects and in-house wetland renovation activities were examined. General waterfowl interests and management in the Greater Georgetown area was also discussed.

Eight hunters having harvested web-tagged wood ducks were notified of banding locations, date of banding, and age of their respective wood ducks harvested. This effort is in conjunction with a research project conducted by Clemson University and Nemours Wildlife Foundation on the recruitment of female wood ducks from artificial nesting cavities.

Biologist Kneece attended a meeting convened in Region 4 at Fort Johnson to discuss the construction and installation of rice trunks and bulkheads on our coastal waterfowl properties. Challenges, tips and tricks were exchanged among staff. Plans to modify and standardize blueprints of trunks and bulkheads for contract projects was

also discussed. Modified plans will be discussed and finalized with Ducks Unlimited Engineers in the coming months.

Law Enforcement

DIVISION SUMMARY – COL CHISOLM FRAMPTON

Officers issued 487 summonses and 928 warnings with 1036 cases clearing court with fines totaling \$155,222.50 being assessed. A total of 2258 hours were spent on boating patrols resulting in 1951 boats being checked. Officers spent 132 hours on Homeland Security, 578 hours on litter patrols and a total of 886 hours were spent patrolling Heritage Trust Preserve properties. Officers also spent 2981 hours on night patrols. A total of 211 JEA hours were worked.

SEAHAWK – FSGT GREGG BROWN

SeaHawk IOC personnel assisted with 356 requests from 32 different agencies during the month of January 2022.

- *FSGT Brown assisted Region 4 with a boating fatality in the North Edisto River, Charleston County.*
- *Illegal Dumping – (SCDNR) – IOC analysts were sent a photo of a partial tag on a vehicle that was involved in illegally dumping. IOC analysts were able to narrow the tag down to 1 in the area that was .63 miles from the dumping site. The information was sent back to the requesting agency who advised it was the vehicle they were looking for. Charges made.*
- *Illegal Dumping – (SCDNR) - IOC analysts were sent a photo of a partial tag on a vehicle that was involved in Illegally Dumping. IOC analysts were able to narrow the tag down to 1 in the area that matched the decals in ALPR and partial tag list. Information was sent back to the requesting agency. They advised that the vehicle provided was the vehicle they were looking for. Charges made.*
- *MASFO – Wando Terminal – January 13, 2022 – 1200-1600:* We had 13 different agencies participated in the MASFO with 34 personnel. 75 CMV's and 59 POV's = 134 vehicles - were stopped, visually scanned and several physically searched. 139 people were run through the databases for warrants/DMV status. POV's searched prohibited items on the port alcohol and ammunition were found. SCSPA was notified and issued a total of 3 NOV. Two vehicles were searched and found to have duplicate TWIC cards inside. One vehicle had 3 duplicates, and another just had 1 duplicate. Those were confiscated by USCG. USCG Prevention inspected 44 Containers none were placed on hold. 1 Container is pending enforcement. 7 PD warnings were issued. 3 were for equipment violations and 4 were for No DL in Possession. 1 PD citation was issued for an expired license plate. 139 TWIC cards were scanned using the mobile app and 2 were confiscated. One was expired and one was cancelled. 134 trucks/cars were scanned with PRD's and radiation detection equipment with 0 alerts.
- *MASFO – North Charleston Terminal – January 25, 2022 – 1200-1600*
14 different agencies with a total of 33 personnel. 79 CMV's and 22 POV's = 101 vehicles - were stopped, visually scanned and several physically searched. 103 people were run for warrants/DMV status. 2 POV's were searched and found to have alcohol. SCSPA was notified and issued an NOV. 1 POV was searched and found to alcohol. SCSPA was notified and advised to discard the alcohol and have the vehicle depart the port. 0 NOV was issued. 1 POV was stopped, and the passenger did not have a TWIC. SCSPA was advised and responded. SCSPA issued both the driver and passenger NOV's. SCSPA contacted the NRC and notified them of the Breach of Security. An NRC was generated. USCG Prevention conducted an interview with the SCSPA gate personnel, and the USCG Prevention team plan to follow up with further investigation. 1 PD warning was issued for an expired decal. USCG Prevention inspected 41 Containers - none were placed on hold. 103 TWIC cards were scanned by the mobile APP all came back clear. 101 trucks/cars were scanned with PRD's and radiation detection equipment with 0 alerts

K9 TEAM – LTC JAMIE LANDRUM

K9 Team – LT Brady Branham

- K9 Teams were called out 13 times and deployed 6 times during month.
 - 8 were DNR related resulting in 54 cases being made
 - 5 were other agency assist.
- K9 Teams were instrumental in assisting field officers this month with a variety of waterfowl cases. They assisted Horry County officers two separate late shooting cases resulting in waterfowl over bait, late shooting, over the limit of waterfowl, lead shot, and more.
- K9 Teams continue to assist investigators with hunting accident investigations.

Community Relations, Officer Wellness, & Diversity Recruitment – CPT Henry Stackhouse

- SCDNR/SCLEAP Celebration of Life for Deputy Director Phil Maier at SCDNR, Fort Johnson MRD Lab.
- Debriefing with North Charleston PD at Hanahan FOP lodge SCLEAP.
- LE Recruitment planning meeting in Columbia, SC.
- Attended a class at Tri-County Tech. College for Fair & Impartial Policing and Mind Armor.

INVESTIGATIONS / REGION 4 – MAJ GARY SULLIVAN

Investigations – MAJ Sullivan/ LT Tony Spires

***Thank you to the officers and dive team members for their continued help with abandoned boats.**

Investigators issued 2 summons and 5 warnings. Investigators inspected 10 boats, 1 motor, and accrued 61 boating hours. Investigators conducted 48 night patrol hours, 53 search and rescue hours 189 boating accident investigations hours and attended or assisted with 12 hours of training this month.

Aids to Navigation/Dive Team

- Aids to Navigation received 6 maintenance requests from the Charleston Office.
- The investigations office received 4 zoning requests this month.
- There were 312 hours of Aids to Navigation work.
- There were 3 dive assignment this month.
- There were 92 Marine Event Permits approved and the year to date total is 92.

Investigations/Marine Theft

- The investigations office received 4 boating accident reports bringing the year to date total to 4.
- We had 2 boating fatalities this month, bringing us to 2 year-to-date.
- Investigators conducted 199 Marine Theft Investigations hours.

Region 4 – CPT Michael Paul Thomas

Officers issued 223 summonses and 428 warnings. 512 cases cleared court, with fines of \$74,214.00 being assessed. Officers checked 2,273 hunters and 1,145 fishermen, with a total of 1,619 hours spent on boating patrols resulting in 1,290 boats inspected. Officers spent 24 hours on Homeland Security, and 50 hours on litter patrols. A total of 654 hours were spent on patrol of the Heritage Trust Preserve properties. A total of 725 hours were spent on night patrols. Officers gave a total of 21 public presentations. Officers also spent 211 hours on JEA patrols. There were 10 hunting accident investigation hours, 14 boating accident investigation hours conducted and 1 BUI case written.

Captain's Spotlight

Horry county officers had been working to catch a group of individuals who had been repeatedly shooting after hours, over bait, and over the limit. The group's activities had been reported because of social media posts throughout the season. 4 subjects on Harris Road attempted to flee when vehicles approached but were apprehended by FSGT Pardue, CO's Dorroh, Hemmingway, Winkler, and LCPL Branham. BSGT Earhart responded with his dog to locate items dropped and thrown when the subjects ran. LCPL's Burton, Baxley, Urquhart, and BSGT Earhart apprehended the 6 subjects on Hwy 308. A total of 44 citations and 4 warnings were issued for trespassing to hunt waterfowl, hunting over bait, after hours, over the limit, unplugged gun, lead shot, and multiple license violations. 30 birds were seized for evidence along with firearms and ammunition.

Unit 4A (Horry) FSGT Kevin Pardue

- LCPL Chanaca and DLEO Spivey located a bait site and caught 4 subjects hunting it. Through investigation, additional charges were made on the subjects along with other violators who hunted the site on a different day. Subjects were all trespassing to hunt waterfowl also.

Unit 4B (Georgetown) FSGT Ryan Williams

- LCPL's Kaminskis & Graham and PFC's Dozier & Hamblen caught 2 subjects harvesting shellfish more than 2 times in a 7-day period in Murrells Inlet.
- PFC's Dozier & Hamblen caught 1 subject over the limit of oysters by 1.5 bushels.
- FSGT Williams & PFC Hamblen caught 3 subjects trespassing to hunt waterfowl and shooting after hour

Unit 4C (Charleston North) FSGT Huger McClellan

- LCPL Duncan caught a duck hunter at the Santee Coastal Reserve with over limit of waterfowl (Pintails).
- LCPL Duncan caught a duck hunter trespassing to hunt waterfowl.
- PFC Beckett and CO Lofton wrote 6 tickets on commercial saltwater captains who failed to report.

Unit 4D (Berkeley) FSGT Brian Crawford

- PFC Angotti Smith caught a group of duck hunters in the national forest shooting late. Citations were issued for license issues as well as improper plug.
- PFC Ellis received a tip of an illegal bait site on the WMA. He placed a camera on the site and when the subject returned to hunt over the bait, PFC Ellis wrote several violations to include placing bait in the national forest.

Unit 4E (Charleston South)

- Officers worked a SAR for a duck hunter that went missing in the North Edisto area. The individual's boat was found circling in the North Edisto with no one on board. A total of 623 hours was spent trying to make a recovery and is currently ongoing.
- PFC Bissell caught an individual harvesting shellfish in a closed area with no saltwater fishing license.
- LCPL Luper caught an individual hunting ducks on the Edisto River with an unplugged gun and no hunting license.

Unit 4F (Dorchester/ Colleton) FSGT JP Jones

- While patrolling Donnelly WMA for duck hunters, PFC Riley checked 2 groups of hunters coming out in kayaks. Upon inspection, 2 subjects did not have valid WMA permits, 3 subjects did not have PFDs, and multiple subjects did not have license/stamps in their possession. 5 tickets and 11 warnings were issued to the group of hunters.
- LCPL DeLoach and PFC Woodward caught 2 individuals hunting waterfowl over bait. Individuals were charged for hunting and taking over bait. The two individuals also had unplugged guns and multiple license violations.
- PFC Woodward caught several individuals hunting waterfowl over bait. PFC Woodward issued 6 summonses: hunting waterfowl over bait, taking waterfowl over bait, no state hunting license, no state stamp, no federal stamp, and one warning for no HIP.
- BSGT Richardson worked a case from the tip line and wrote 1 case for no hunting license, no big game permit, and a warning for no deer tags. The investigation started in December.

Unit 4G (Beaufort) FSGT Adam Henderson

- Information was received on a subject, suspended from a former commercial saltwater investigation, that he was still engaged in fishing and selling flounder to local restaurants. PFC Cooler identified the restaurant. PFC Gantt and CO Campbell conducted an inspection leading to citations to the restaurant. After the investigation, a warrant was obtained for the commercial fishermen for engaging in commercial activity while under suspension.
- PFC Cooler and CO Alexander, while conducting a waterfowl patrol in the Combahee River, heard shots coming from a closed area near the US Wildlife Refuge. 2 subjects were located and charged with trespass to hunt waterfowl.
- PFC Pritcher located a bait site and a hunting blind on Victoria Bluff WMA. During the investigation, 2 hunters were located the next day. During the interview, they admitted to placing and hunting over the bait on the WMA. They were issued one summons for baiting on WMA and one summons for prohibited weapon on WMA.

Unit 4H (Jasper/ Hampton) FSGT Earl Pope

- LCPL Baxter and PFC's Moskos & Moore worked complaints on an individual taking artifacts from Hamilton Ridge WMA. While investigating the complaint officers found 4 trail cameras 15ft off the ground being used by the suspect. Officers caught the individual/charged him with removing artifacts from state property & digging/excavating on WMA.
- LCPL Mills and PFC Wells & Moore worked a joint operation with GADNR on the Savannah River for duck hunting issues. A group was caught late shooting with multiple boat and licenses violations.
- LCPL Mills caught 4 subjects taking/hunting ducks over bait, shooting before legal shooting time, using lead shot, and numerous license violations.

FIELD OPERATIONS REGIONS 1-3 – MAJ Mike Isaacs

Region 1 – CPT DJ Riley

Officers issued 76 summons and 204 warnings with 227 cases clearing court with fines totaling \$33,718.00 being assessed. Officers checked 483 fishermen, 924 hunters checked, and a total of 250 hours were spent on boating patrols resulting in 234 boaters checked. Officers gave a total of 13 public presentations. Officers spent 51 hours on Homeland Security, 309 hours on litter patrols. A total of 50 hours was spent patrolling Heritage Trust Preserve properties. A total of 63 hours was spent patrolling Jocassee Gorges resulting in 10 summons and 27 warnings being issued. Officers also spent 821 hours on night patrols. During the month, there was 1-hunting incident.

Captain's Spotlight:

FSGT Davis, LCPL Harvey and PFC Jones worked a duck bait site in Edgefield County for 19 days eventually catching 3 adults and 1 juvenile on January 2. The baited pond was found after hearing numerous shots coming from the property on the opening day of the second season in December. LCPL Harvey and PFC Jones located a large amount of corn in a flooded pond and kept up the documentation throughout the period. On the morning charges were made, a bait scoop was run in the pond and a large amount was still present. Charges were made for taking waterfowl in a baited area, possession of lead shot, improper plug, and several license/stamp/permit violations.

Unit 1A (Oconee / Pickens) FSGT Ron Hedden

- All of Unit 1A officers assisted with the inclement weather detail on interstate I-85 from exit # 1 in Oconee County to exit # 66 in Spartanburg County.
- Officers logged a total of 19 hours on litter patrol resulting in 1 summons and 3 warnings being issued.

Unit 1B (Greenville / Spartanburg) FSGT Frank Jordan

- PFC Sherbert and LCPL Holliday followed up on information regarding a baited pond in Spartanburg County. After documenting corn dispersed in the pond, both officers wrote multiple cases for migratory bird violations including hunting ducks over bait and preparing a baited area.
- All Unit 1B officers assisted Highway Patrol in multiple snow detail deployments

Unit 1C (Cherokee / Union) FSGT John McCraw

- FSGT McCraw, Officer's Gardner & Price worked night patrol on the last day of deer season and caught 2 subjects for shining in Cherokee County.

- Officers worked 125 hrs. of littering patrol during the month of January. Cameras have been placed at various dump sites throughout the unit. With the help of Seahawk, Officers were able to identify 2 vehicles involved in illegal dumping. 1 summons and 2 warnings had been issued for littering. Several other cases are still pending.

Unit 1D (Greenwood / Laurens) FSGT Travis Dudley

- While patrolling for duck hunting activity in Greenwood County PFC Adair along with DLEO Parks checked duck hunters resulting in cases and warnings being issued for stamp violations, hunting licenses and a plug violation.
- While on routine litter patrol Officer Sprouse came across a dumped gun safe and other sporting items. Sprouse contacted the Union County Sheriff's Office who stated they were working a stolen safe case and would return the items to the victim

Unit 1E (Abbeville / Anderson) FSGT Rhett Barwick

- LCPL's Ginn & Moon received \$1000.00 restitution for hunting under suspension to be deposited in the County Game and Fish Violations.
- Officers worked the Striped Bass Challenge on Lake Hartwell, with over 100 boats involved.

Unit 1F (Edgefield / McCormick) FSGT Michael Davis

- On January 1, FSGT Davis checked a second bait site LCPL Harvey, and PFC Jones had been working on WMA in Edgefield County. A bag of corn was found in the back of the truck. Harvey and Jones walked in with 1 of the 2 hunters' while FSGT Davis stayed back and talked with the other. LCPL Harvey and PFC Jones talked with the hunter to determine his knowledge of the bait. As they approached the area Harvey found an empty bag of corn matching the bag found in the hunter's truck. The hunter admitted to placing the corn and his friend did not help but did know about the corn being placed. Both were charged with hunting waterfowl in a baited area. The hunter that placed the bait was charged with preparing a baited area, and warnings for license violations were written.
- LCPL Harvey, and PFC's Jones & Rowland made 5 cases for illegal dumping in McCormick and Edgefield.

Region 2 – CPT Matt McCaskill

Officers issued 98 summons and 138 warnings with 187 cases clearing court with fines of \$32,650.50 being assessed. Officers checked 1,075 hunters and 151 fishermen, and a total of 100 hours were spent on boating patrols resulting in 182 boats inspected. Officers spent 4 hours on Homeland Security and 80 hours on litter patrols, and a total of 123 hours were spent patrolling Heritage Trust Preserve properties. Officers gave a total of 6 public presentations. Officers also spent 647 hours on night patrols. There were 5 hunting accidents, 1 boating accident, and 1 drowning.

Captain's Spotlight

Officers David Tanner and Brant Elliott made 1 case each for jump shooting waterfowl and 2 cases for hunting waterfowl after hours.

Unit 2A (Chester, York) FSGT Jason Plemmons

- Officer Owen located some duck bait. The next day he apprehended 3 subjects for hunting over the bait. Officers Owen and Oliver issued 3 summonses for hunting waterfowl over bait and 2 warnings for other waterfowl violations.
- Officer Oliver saw a vehicle traveling in the wrong direction on Hwy 9. The subject almost hit several vehicles head on. Officer Oliver conducted a traffic stop and found the subject to be extremely intoxicated. SCHP was notified and the subject was arrested for DUI, driving without a license, no insurance, and no registration. The subject blew a .18. Officer Oliver may have saved a life that night.

Unit 2B (Fairfield, Lancaster) FSGT Will Coleman

- Officers focused on waterfowl activity. They made several charges for unplugged guns, license and stamp violations, and several boating violations.
- Officers Kimbrell and Timmons made 4 cases for fishing in a state sanctuary.

Unit 2C (Kershaw, Lee) FSGT JC Hough

- Officer Bessinger received a tip about trespassing and baiting waterfowl. The landowner provided trail camera photos of the individuals in the act of baiting their pond. After a short investigation, Officers Bessinger & Poeta were able to track 3 individuals who confessed to everything. All were charged with trespassing to hunt waterfowl & 2 were charged with hunting waterfowl over bait.

Unit 2D (Marlboro, Chesterfield, Dillon) FSGT John Hillian

- Officer Gallien made 1 shining case, one litter case, and one case for WMA violations while working hunting activity in Chesterfield County.
- Officer Jacobs made 2 boating cases and wrote 3 warnings for waterfowl hunting in Chesterfield County.

Unit 2E (Florence, Darlington) FSGT John A Perry

- Officers Stevens, Driggers, Newell, & Urquhart made 4 cases for hunting waterfowl over bait in Florence County and also made an additional case for the same thing a few days prior.

Unit 2F (Williamsburg, Marion) FSGT William Huggins

- Officers Huggins & David Tanner caught 3 subjects hunting waterfowl over bait and 2 of the subjects were charged with taking over the limit of wood ducks and Officer Elliott made 2 cases for hunting waterfowl over bait and 2 cases for over the limit of mallard hens.
- Officer Britt made 2 cases each for over the limit wood ducks and hunting waterfowl over bait and Officer A. Branham made 3 cases for trespassing to hunt waterfowl, 1 case for hunting over bait, 1 case for Wanton Waste, and 1 case for over the limit of wood ducks.

Region 3 – CPT John Bedingfield

Officers issued 88 summonses and 153 warnings. 110 cases cleared court, with fines of \$14,640.00 being assessed. Officers checked 1,658 hunters and 186 fishermen checked, with a total of 228 hours spent on boating patrols resulting in 235 boats inspected. Officers spent 53 hours on Homeland Security, and 139 hours on litter patrols. A total of 59 hours were spent on patrol of the Heritage Trust Preserve properties. A total of 740 hours were spent on night patrols. Officers gave a total of 9 public presentations. There were 2 hunting accident investigation hours and 58 boating accident investigation hours conducted.

Captain's Spotlight

In early January, CO Jeremiah Grooms received a complaint about individuals hunting waterfowl after hours. Grooms worked the area several times trying to determine the exact location of the shots. On January 28, he observed a subject hunting a beaver pond one afternoon but never shot. Afterwards, Grooms walked the beaver pond and documented it for bait. On January 30, Grooms caught the same subject shooting waterfowl after hours. LCPL Baxley and CO Becker were called to assist. The subject was hunting with a stolen firearm. The subject was charged for Placing Bait, Hunting Over Bait, and Hunting Waterfowl After Legal Hours. Warnings were issued for Lead Shot, No Plug, No License, No Stamps, and No HIP Permit. The gun was seized and charges for the firearm are still being investigated.

Unit 3A (Lexington) FSGT Hunter Robinson

- Officers had 38 waterfowl related contacts including a 3 for Hunting Over Bait made by LCPL Johnson working information from PFC Drew Miller.

Unit 3B (Richland) FSGT Stephen Bryant

- All unit officers patrolled Lake Carolina for a missing kayaker who disappeared on Christmas morning. With continued efforts to locate the subject utilizing boat patrols, sonar scans, aerial support, cadaver dogs, divers and surface scans, the subject was located, bringing closure to family.
- PFC Thornton investigated an illegal litter dump site, issuing one summons for Littering and one for Littering Over 15lbs.

Unit 3C (Saluda / Newberry) 1st Marcus Smith

- FSGT Smith contacted PFC Miller about a dove hunt in progress. PFC Miller checked the field and issued two summonses for Unplugged Gun and two warnings.

Unit 3D (Barnwell / Aiken) FSGT Steve Terry

- PFC Boulware and CO Pierson charged 8 individuals for Hunting Waterfowl Over Bait in a pond in Barnwell County.
- LCPL McDaniel charged 2 individuals for Trespassing to Hunt Waterfowl.

Unit 3E (Allendale / Bamberg) FSGT Adrian Priester

- While patrolling Allendale County, CO Baker encountered six hunters shooting a roost pond 26-minutes after official shooting time. Upon further investigation, CO Baker discovered three overlimit cases and multiple license's violations. The investigation is ongoing.
- Unit 3E responded to an overturned boater at Claude's Landing in Bamberg County. Upon arrival, Unit 3E officers were able to locate the boater and return him to safe/warm shelter.

Unit 3F (Orangeburg / Calhoun) FSGT Eddie Lee

- PFC Thomas and LCPL Collins worked a baited pond where they caught and charged 5 people for Hunting Waterfowl Over Bait, Unplugged Gun, and license/stamp violations.
- PFC Thomas and CO Dantzer worked a baited area on the N. Edisto River. They caught and charged 2 hunters with Hunting Waterfowl Over Bait, Preparing a Baited Area, and license/stamp violations.

Unit 3G (Clarendon / Sumter) FSGT Cary Robinson

- On the last day of deer season, LCPL Baxley and CO Becker made contacts for Renegade Dog Hunting, 2 Borrow/Lend of Tags, Improper Tag, Fail to Tag at Point of Kill, and No Deer Tags on the same group that was charged the exact same day a year ago.
- LCPL Laney gave three public presentations this month.

STAFF OPERATIONS – MAJ BILLY DOWNER

Education – CPT Steve Simpson

A total of 106 presentations were given to the public.

- **73** students certified in 2 Hunter Education classes; **462** students certified in Hunter Education Internet classes
- **102** students certified in 2 Boater Education classes; **109** students certified in Boater Education Internet classes.

- SCDNR Transportation Flight- 10 flight hours
- SCDNR Training Flights – 7.2 flight hours
- SCDNR Law Enforcement Flight – 6.9 flight hours

Receiving– Laken Riddle Williams

- 2021 New Hires trucks were prepped, and transfer paperwork finalized for swear in.
- Rearranged bullpen with remaining trucks for 2022 New Hire class.
- Towed trucks to My Mechanic for maintenance work needed for 2022 new hire class.
- Boats and motors taken to McLean for installation.
- Glock and shotguns buyback lists submitted to vendor – TBA date for Glock and shotgun pick up.

Supply—Hayley Mitchum

- Continued to get Glock and paperwork together for Glock 9mm transition classes.
- New Hires were issued their 1st boxes of uniforms and equipment.
- Certified New Hires were also issued their 2nd box of uniforms and equipment.
- Collected guns, duty gear, and credentials from DLEO's not continuing.
- Issued out Danner boots and Salomon boating shoes from annual order.
- Received, R&I'd/GR, and issued out duty gear, jackets, range finders, uniform items, etc.

Communications – Toby Freeman

- Attended SC Communications Interoperability Workshop.
- Working on preparation for Aiken repeater site move at the beginning of March.
- Working on coordination of Aynor repeater site renewal or relocation.
- Working on Santee Tower lighting replacement and tower structural maintenance plan.
- Assisted various state agencies during winter storms with communications support.

Radio Communications Center – SSGT Jason Smith

- Five dispatchers attended and passed the Full Function class.
- Worked on Winter Storm plans and deployments.
- Gave EMD and Radio Room presentations to new officers.
- Attended nuclear escort training in Charleston
- Calls for Service: Injured Animal (136); General Information (135); Trespass to Hunt/Fish (77)
- Warrants: Entered: 0 Arrest/ 0 Bench Cleared: 0 Arrest/ 2 Bench
- Transmissions: 800: 17,314 Phones: 6,423 VHF: 720

LAND, WATER & CONSERVATION

STATE CLIMATE OFFICE

The SCO answered 19 data requests on various topics from the general public, law firms as well as various state and federal agencies. One media interview was provided.

The State Climate Office and Flood Mitigation Program try to meet virtually once a month to stay connected, share work activities, training opportunities, and provide encouragement.

Melissa presented in multiple virtual presentations. She provided basic meteorology and climatology instruction to a group of Girl Scouts as a part of the National Weather Service's Weather-Ready Nation Scouting Merit Badge event (Sunday Jan 9). Melissa also finished the 2021 CoCoRaHS Newsletter and the 2021 South Carolina Climate and Weather Annual Report. She assisted in developing the SCDNR January Lunch and Learn presentation on the State Climatology Office and conducted an interactive trivia game with attendees. She assisted in developing the presentation for the first ever Weather Year in Review Webinar. Melissa's provided an interview about the value of CoCoRaHS and citizen science with SciStarter program (<https://scistarter.org/>), a globally acclaimed online hub of citizen projects hosted by Arizona State University and the National Science Foundation was published (<https://scistarter.org/podcast>). She gave the Weather and Climate Presentation to the SCDNR Board. She drafted and posted four weekly weather summaries 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 is working with CISA in the planning efforts to host four Climate Connection Workshops across the State. She answered ten (10) data requests, three (3) of which were a certified lawyer's report, and two (2) from state agencies, including the South Carolina Emergency Management Division and the Law Enforcement Division of the SC Department of Natural Resources. The remaining data requests focused on obtaining temperature and precipitation data for general interest or reporting purposes.

During January, 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 efforts for the archival effort for drought conditions on the SC drought website, and participated in multiple meetings/calls/workshops/webinars. For drought monitoring, he led the efforts of USDM input for SC for 9 weeks, created 8 infographics released to DNR social media and released 8 infographics to GovDelivery for weekly changes in USDM conditions that was sent out to the SC Drought Response Committee, and created 9 weeks of maps (18 maps in total) for CMI and PDSI drought indicators. Beyond drought monitoring, he coordinated the efforts for updating and archiving drought data on the SC Drought page (4 weeks), participated in 26 different meetings or calls, and attended 3 webinars. Beyond typical duties, he worked on 6 different office tasks/projects: created and presented the Post-Harvest Weather and Water Status Update webinar (1 presentation), continued working on updating the climate normals maps, worked with Kirstin Lackstrom at CISA to work on the Local Drought Planning Guide, completed the training for Data Science using R Programming, and created an updated NWS field office map of South Carolina, assisted Hope with preparation and conducting the SC Drought Response Committee and he conducted field work for soil and crop conditions in Richland and Sumter Counties. He drafts a Monthly Water Resources Summary which discusses climate, water resources and drought conditions each month. He provides the drought conditions overview and serves as "editor" and point of contact for the report. Melissa provides a climate overview and Priyanka provides a water resources overview.

Frank attended four meetings or webinars during January and numerous briefings from the National Weather Service on the three winter storms that affected South Carolina. He issued fourteen weather alerts for the winter storms. He attended seven County State Emergency Response Team videoconferences and four Executive Calls for the winter storm events. He answered specialized forecast requests from state agencies (Clerk of Senate, SCDNR, Department of Public Safety, Sheriff Association, SC Fire Academy). Briefings were required by SCDOT, DPS and DNR law enforcement in the days leading up to each of the three winter storms. A total of 11 such briefings were provided which included a customized briefing packet. Frank reviewed and corrected errors in the SC Winter Weather Database. Frank used Twitter to relay weather and forecast information. He generated a summary report on the high winds of January 2-3. He began work on the Open File Reports for the January 16 and January 21 Winter Storms. He worked on a spring season outlook for the Feb 1 Drought Response Committee Meeting. He issued 412 tweets, around 70 percent of them were to pass along weather information to the public.

Hope provided one television interview and responded to two data requests. She participated in 15 meetings/calls/webinars. She participated in six meetings as a part of the Statewide Resilience Planning effort (full advisory committee meetings, two subcommittee meetings, additional planning meetings). She assisted in developing the

SCDNR January Lunch and Learn presentation on the State Climatology Office and the first ever Year in Review Webinar. She attended five County State Emergency Response Team videoconferences and three Executive Calls for the winter storm events. She participated in Frank's Winter Storm Briefings (11 total) for SCDNR Law Enforcement, Department of Public Safety, Department of Transportation, Sheriff Association, and SC Fire Academy. She provided specialized forecasts for the winter weather events for SCDNR Board Members, four businesses located in Greenville/Spartanburg area and the general public. She coordinated calls and interaction between the Statewide Office of Resilience and NOAA for the NOAA Atlas 14 update for SC. She continues to quality control Hydrometportal and conducted one call with DTN. She provided regular guidance for office intern and staff.

The office intern, Caiden Dinkin, worked on rainfall analysis for the NOAA Atlas 14 project.

Additional Information on Staff Activities

- Melissa serves as a co-host with Valerie Shannon to help facilitate SCDNR and Harry Hampton virtual board meetings.
- Hope serves as the SCDNR representative on the SC Statewide Resilience Plan Advisory Committee
- Hope serves on the Citadel Climate Center Advisory Committee
- Hope serves as the SCDNR representative on the SC State Hazard Mitigation Plan Advisory Committee
- Elliot serves as a member of the SC Water Chats Advisory Committee
- 38,867 Weather Alert subscribers

Conferences, Meetings, and Presentations

- Melissa: NWS Wilmington Winter Weather Outlook – January 4
- Melissa: CISA and SCSCO Climate Connections Meetings – January 5, January 11, January 18, January 25
- Melissa: CU Weather Meeting with C. Thomas – January 6
- Melissa: NWS Weather-Ready Nation Scouting Merit Badge Event – January 9
- Melissa: SCDNR Lunch/Learn Series State Climate Office Presentation – January 12
- Melissa: 2021 North Carolina Weather and Climate Review – January 18
- Melissa: SCDNR Virtual Board Meeting Facilitation – January 20
- Melissa: Climate and Weather Presentation to SCDNR Board – January 20
- Melissa: AMS Virtual Poster Session – January 25
- Melissa: South Carolina 2021 Weather and Climate Annual Review – January 27
- Melissa: National Climate Assessment SE Engagement Workshop – January 31

- Elliot: Weekly NC DMAC call - January 4, 11, 18, and 24
- Elliot: Call with Josh Palmer for conditions in the Upstate - January 4
- Elliot: PPAC meeting - January 6
- Elliot: Planning for SE DEWS Meeting -January 7
- Elliot: Southeast Climate Monthly Webinar - January 11
- Elliot: SCDNR Lunch and Learn: State Climate Office Presentation
- Elliot: Call with CISA for Drought Planning Guide - January 14
- Elliot: Edisto River Basin Council Meeting -January 19
- Elliot: Cotton Grower's Annual Meeting (SC Dept. of Agriculture event) –January 25
- Elliot: Peanut Grower's Annual Meeting (SC Dept. of Agriculture event)- January 27
- Elliot: Two Lectures at USC for Biology 301: Ecology and Evolution –January 31

- Frank: SCDNR LWC File Storage Meeting – January 3
- Frank: 7 NWS Briefings for January Winter Weather Events
- Frank: SCDNR Lunch and Learn Series State Climate Office Presentation – January 12

- Hope: Statewide Resilience Planning Webinar with Rutgers – January 4
- Hope: SCDNR Adaptive Leadership Training – January 5
- Hope: SCDNR HMGP Kickoff Meeting – January 10
- Hope: Statewide Resilience Planning Call with NOAA Atlas 14 Team – January 11
- Hope: Catawba Wateree Low inflow Protocol Monthly Meeting – January 11
- Hope: SCDNR Lunch and Learn Series State Climate Office Presentation – January 12
- Hope: Statewide Resilience Plan Advisory Committee Meeting - January 13
- Hope: Conference Call with AASC Leadership – January 14

- Hope: Statewide Resilience Plan – Building Codes Subcommittee Meeting– January 19
- Hope: Statewide Resilience Plan – Environmental Subcommittee Meeting – January 19
- Hope: South Carolina 2021 Weather and Climate Annual Review – January 27
- Hope: National Climate Assessment SE Chapter Engagement Workshop – January 31

GEOGRAPHIC INFORMATION SYSTEMS

General

Work this month continued development of the Winter Weather and SCGS Drillhole databases. New projects began with the Scenic Rivers Program and the Flood Mitigation Group. An application was developed in for the Conservation Program. Two internal department webinars were attended.

The Lake Marion Tree Study application was created to show areas of Lake Marion where the removal of trees could be beneficial to the public. Using nautical charts, approximate boat-travel corridors were created. More information was added, including marinas and boat ramps, along with all tree-related boating accidents dating back to 2010. The Law Enforcement helped in obtaining this information. Finally, polygons were created showing areas where tree removal could be most beneficial. This application’s development and use are expected to continue.

Attended the monthly SCDNR GIS Users Group Meeting. Discussion was focused mainly on geospatial initiatives for 2022. This included a potential change in the department-wide licensing structure and an outlined vision for enhanced collaboration between groups. Attended the Climatology Group Lunch and Learn Event; presentations were given by Hope Mizzell, Melissa Griffin, Elliot Wickham, and Frank Strait that showed the research, monitoring, and outreach done by the Climatology group.

State Climate Office

Continued to edit and correct historical narratives and extents in the Winter Weather Database. Several events remain to finish.

Discussion on creating a South Carolina Tornado Database. While still preliminary, development is expected to progress in the coming months. This database would be structured like the Hurricane and WW Database with storm track information, associated narratives, and weather event information.

Earth Science Group (ESG)

Minor work this month with the ESG group on the SCGS Drillhole Database. Drilling has started again, and personnel have been focused mainly on that for the past several weeks. The development will continue as time and personnel become available.

Flood Mitigation Program

An application was developed to record and address issues with FEMA Flood Management products. The application tracks and maintains new and existing errors that have been marked for review. It was built in coordination with Jessica Artz, and it allows FMP to coordinate efforts with the contractors AECOM and ESP Associates. FMP can now mark areas of interest and log all necessary information to be reviewed by the contractor. Project development is essentially complete, with only minor functionality left to resolve.

Scenic Rivers

Development began on an application for the Ashley River Watershed. This application shows land-cover changes between 2001 and 2019. Using the National Land Cover Dataset (NLCD), an application is being developed to show side-by-side and interactive views of these changes to better understand the rapid development in this area. This app will help visualize how impervious infrastructure has increased in the Ashley River Watershed.

Hydrology

No GIS work done this month.

Archaeology

No GIS work this month.

RIVER CONSERVATION PROGRAM

River Conservation / Scenic Rivers:

- Black River: Staff participated in the Black Scenic River Advisory Council meeting of January 18, which included SC State Parks Director, Paul McCormack, to address questions and concerns about the proposed state park on Black River.
- Ashley River: Staff participated in the Ashley Scenic River Advisory Council meeting of January 19 to address several land development concerns affecting the river and related historic district.
- State Water Planning: Staff participated in the PPAC meeting of January 6, 2022.
- Paddle SC Website: Staff continued updating and correcting information presented on the SCDNR supported website, Paddle SC (gopaddlesc.com).

Aquatic Nuisance Species: Staff participated in the January 11 Aquatic Plant Management Council meeting to approve the Draft 2022 Aquatic Plant Management Plan.

Heritage Trust: Staff participated in the Habitat Protection Committee meeting of January 18 to address ongoing land conservation activities and contributed to property evaluations of the Committee.

BOTANY AND PLANT CONSERVATION PROGRAM

Tracked Plant List Revision:

Efforts to revise the Track Species List have continued through December and will be a focus of the program through the winter. We anticipate having a major revision for the year completed by March, with new additions of overlooked rare species, removals of more common species, and re-ranking of most species currently listed.

- Reviewed and annotated herbarium specimens at the University of South Carolina, University of North Carolina, Clemson University, and Furman University, 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.
- Technicians (Csilla Czako, Celeste Gross) continue to make 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 DNRs 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 almost executed to be able to contract Amanda Harmon to update all data on Federally listed and At-Risk Plant Species.

Field Surveys and Monitoring:

- Conducted surveys of rare plants, invasive plants, and assessed management needs at Botany Bay Plantation Heritage Preserve, and on St. Helena Island.
- Processed data from 2021 field surveys and entered rare plant data into Heritage Trust database.

Conservation and Management:

- Conducted augmentation of Godfrey's privet (*Forestiera godfreyi*) at South Bluff HP. We met on site with DNR Archeologist Karen Smith to plan the augmentation. The Archaeology team dig test pits in advance of our planting to document the site. We then planted 7 plants, mainly females, to augment the population of only 3 males currently on the property.
- Planned bog daylighting in upstate heritage Preserves to improve habitat for the Federally Endangered Mountain sweet pitcher plant (*Sarracenia jonesii*). We are collaborating with Austen Attaway (WFF) and the Atlanta Botanical Garden to plan statewide conservation of this species.
- Planned invasive plant removal to protect Federally Endangered Relict Trillium (*Trillium reliquum*), and At-Risk Ocmulgee Skullcap (*Scutellaria ocmulgee*) at Greystone Preserve, North Augusta. Restoration is being funded by the USFWS Partners Program in cooperation with the owner and manager, Central Savannah River Land Trust. Participated in conference call with the Atlanta Botanical Garden and the Southeastern Plant Conservation Alliance on their project, "Regional Species of Greatest Conservation Need".

- Participated in kickoff meeting for the upcoming Species Status Assessment for Bog spicebush (*Lindera subcoriacea*).
- Met with Merry Conlin and Alexander Krings of North Carolina State University to discuss habitat preferences and conservation of Federal At-Risk species Raven's Seedbox (*Ludwigia ravenii*).
- Processed data for Carolina-birds-in-a-nest (*Macbridea caroliniana*) in preparation for a potential Species Status Assessment.

Habitat Protection Committee:

- Participated in bimonthly committee meeting.
- Surveyed a potential acquisition site in Aiken County.

Other:

- Reviewed draft journal article naming a new species of plant in the South Carolina Upstate
- Provided list of native plant species of South Carolina to the South Carolina Native Plant Society for publication on their website.
- Prepared for February Lunch & Learn presentation on the Botany & Plant Conservation Program
- Advised Office of Environmental Programs on conservation of Carolina Bishopweed (*Ptilimnium ahlesii*) in Georgetown County
- Participated with partners (University of South Carolina, Furman University), on planning for implementation of a South Carolina Plant Atlas, and processed floristic data for the project.
- Attended file storage meeting in preparation for DNR office relocation.
- Participated in steering committee conference calls with University of South Carolina A.C. Moore Herbarium.
- Processed herbarium specimens collected in 2020/2021 for deposit at the University of South Carolina A.C. Moore Herbarium and Clemson University Herbarium.

CULTURAL PRESERVES PROGRAM

Meg Gaillard:

- Managed Parker Annex logistics and maintenance – Xerox installation, HVAC quarterly maintenance, pest control quarterly maintenance, IT department working on computers in Parker.
- Attended the North American Heritage at Risk (NAHAR) weekly virtual meetings/lectures each Friday morning at 9am.
- Wrote letters of recommendation for various former interns who are applying to graduate schools.
- Met virtually with a few students and recent graduates who need academic and career advice.
- Continue to monitor and grade coursework from the Fall 2021 Project Archaeology Investigating Shelter virtual workshop. I provided an extension to all participants until January 31, 2022.
- January 1 – Distributed the January 2022 SCDNR Archaeology newsletter (13,641 subscribers)
- January 4 – attended a meeting for the National Estuarine Research Reserve System (NERRS) grant I am a contributing researcher/collaborator on. Florida archaeology colleagues are serving as the PIs on this grant.
- January 5 – 8 – attended and presented at the Society for Historical (SHA) conference.
- Paper – “Heritage at Risk Research as Part of the Archaeology Internship Program at the South Carolina Department of Natural Resources” with Karen Smith.
- Poster – “Recent Archaeology at the John Joyner Smith Plantation on the Fort Frederick Heritage Preserve, Beaufort County, South Carolina” with Karen Smith
- Discussant in the 3-minute Climate Stories short documentary film session.
- January 14 – presented “While I Breathe, I Hope: The South Carolina Archaeological Archive Flood Recovery Project” to the NAHAR research collective. Presentation is recorded here - <https://nahar.hcommons.org/past-nahar-events/>.
- January 15 – submitted a journal article about the SCDNR Archaeological Archive Flood Recovery Project following the 2015 Flood for a special thematic journal volume highlighting work done by the Heritage at Risk Committee. To be published by the Society for Historical Archaeology.
- January 18 – shovel testing at South Bluff Heritage Preserve (Beaufort County) prior to planting of native species on the shell ring.
- January 24 – attend the virtual Southeastern NAGPRA Community of Practice (SNACP) meeting.
- January 27 – provide a virtual presentation (Down to the Wire: Rapid Excavations of the Pockoy Island Shell Ring Complex) to residents of Kiawah Island for their “Our World Lecture Series”.
- January 31 – met with Ella and Lelia to sketch out a new direction for public outreach projects for 2022.

Ella Goulding:

- Continued archiving books into LibraryThing
- Attended SHA conference in Philadelphia (January 5-8)
- Continued research into State Hospital
- Edited lesson plans

Lelia Rice:

- Attended SHA Conference (January 5-8)
- Reviewed Lesson Plans
- Planned Children's Programing
- Presented Two Virtual Programs - Jan. 25th, and Jan. 31st

Gabe Donofrio:

- Photogrammetry and 3D modeling of artifacts

AQUATIC NUISANCE SPECIES PROGRAM

Technical:

- Staff completed the Draft 2022 Aquatic Plant Management Plan.
- Staff coordinated with staff from the Santee Cooper Biological Program to develop a plan for the Santee Cooper Lake System and adjacent WMA's for inclusion in the 2022 plan.
- Staff convened the 138th Aquatic Plant Management Council Meeting at Poinsett State Park.
- Staff posted the Draft 2022 Aquatic Plant Management Plan on the DNR web site for public dissemination and review.
- Staff began receiving and compiling public comments for the 2022 Aquatic Plant Management Plan.

Outreach:

- Staff attended the SC Aquatic Plant Management Society board meeting.
- Staff answered calls and questions from the public.

Other:

- Staff continued maintenance on all boats to prepare them for the next spray season.
- Staff began to organize the office space to adjust for staffing changes.

CONSERVATION DISTRICTS

Statewide Projects

Staff attended/participated in:

- Attended Darlington, Sumter, Aiken Conservation Districts' meetings and swore in 5 Commissioners
- Local Work Group Committee Meetings
- NCF-Envirothon Operating Committee Meeting
- SCDNR Lunch and Learn on the SCDNR Budget
- Planning continues for Annual Partnership Conference
- Meeting with SC Ethics Commission

Staff also:

- Presented at Fisheries Biologist Meeting
- Assisted Lee, Florence, and Dorchester and Dillon districts with Farm Bill programs
- Completed final draft of SCDNR-Conservation Districts Strategic Plan
- Collected Annual Reports from each of the 46 Soil and Water Conservation Districts
- Continued to deliver SC Envirothon Training Trunks to Soil and Water Conservation Districts with active SC Envirothon teams
- Planned for the SC Envirothon 2022 Season including the Coaches Training on February 5

Watershed:

- Met with American rivers to discuss PL566 Dams.
- Attended Strategic Planning Session in Columbia and followed up with an additional virtual meeting.

- Continued development of Watershed Strategic Plan.
- Shared information regarding recent NRCS Watershed webinar.
- Gathered information and materials for Watershed District/Director of the year awards.
- Disseminated information regarding PL 566 watershed project opportunity through NRCS.
- Shared budget and ethics information with Watershed Districts.
- Secured presenters for annual SCACD conference.
- 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

Aiken Conservation District – Jeremy Walther was installed as a commissioner to fulfill Melanie Shull’s term. Melanie has moved to an appointed position. Staff also spent time contacting area schools about 2022 poster contest. We also sent information to area high schools on the \$2500 scholarship we offer to a deserving senior who will major in an ag related field of study. We are looking forward to the partnership conference next month.

Anderson District – we have been promoting several different things this month; Envirothon, 2020 Mini Grant, and our open Coordinator position. We have 4 commissioners and 1 district employee attending the Partnership Conference. We will be kicking off our Spring Seed Library in March 2022. Our District Manager has been busy working with NRCS on their EQIP 2022 applications making field visits.

Berkeley District – Our **Earth Team** volunteers will join us for a thank-you luncheon at the next monthly board meeting. The Earth Team volunteers continue to do cleanup at Bushy Park Boat Landing and are preparing Valentine items to sell in the Berkeley County Museum, proceeds go to the museum. **Berkeley Outdoor Life:** 16 of the 20 Berkeley Bikeways are now complete. We are now reaching more than 5,000 people a month on social media. Our anticipated completion of Berkeley Outdoor Life is still mid-February. Our district continues to work closely with NRCS on cost sharing of administrative and technical projects.

Beaufort District – Beaufort SWCD received an Envirothon Training Trunk and have taken it to our team. Brooke Myres Zoomed with us and one of our new coaches about the Envirothon Competition. We met with a new school that we will be helping mentor for the Green Steps School Program. We participated in a planning meeting for KidFest, had a staff planning meeting for upcoming spring festivals, and attended a NACD Webinar on a Solar Pollinator Trail. Staff input our program statistics from 2021 on the Clemson Activity Database for the MS4 permits report in Beaufort County and its municipalities.

Chester District – CSWCD no-till seed drills were used on 18 acres. Both drills received repairs and maintenance. Affiliate Membership drive began. Annual Work Plan was formulated and approved.

Clarendon District – Held our monthly board meeting; submitted the DNR newsletter; affiliate newsletter & affiliate membership renewals; completed end of the year payroll documentation; W-2’s; prepared for the 2022 partnership conference; assisted NRCS with CSP, EQIP deadlines; handled appointments and telephone calls.

Colleton District – Commissioners are making plans to attend the 2022 Annual Partnership Conference and SC Soil & Water Conservation Society Symposium in Charleston. Our Annual Poster and Essay Contest ended in January. All entries will be judged, and the winners will be recognized in our local newspaper, *The Press & Standard*. The District Commissioners began discussing plans for FY 2022. Commissioner I.M. Benton attended the Cattlemen’s Association Meeting. Chairman Gary Herndon attended the SC Cotton Growers Meeting and the Ft. Stewart /Altamaha Longleaf Partnership Meeting. A big thank you to all our Conservation Friends who continue to support our conservation program.

Dorchester District – held its monthly board meeting on January 18, 2022, at Reevesville Town Hall. The SC Association of Conservation Districts (SCACD) meeting was discussed and at this time we have 3 people attending, while some are waiting closer to time to make that decision due to Covid-19. The district is beginning the annual affiliate drive in January along with planning its annual banquet. In efforts to increase participation in the district poster contest, a teacher incentive (\$50 Amazon Gift Card) has been added to our poster contest prizes.

Fairfield District – New Annual Report was completed in December and was emailed to DNR/ Conservation Districts Manager. New Online Ethics Filing was completed and e-mailed. We have a new FSWCD Commissioner on board. One of our long-time serving commissioners resigned as they relocated. The commissioners were asked by SCACD to contact their local Senator and Representative and explain to them why their support was needed regarding the "Conservation

Districts Program Support and Funding to SWCD's" in DNR's budget request. Reminders were sent to local schools regarding the FSWCD's Annual Photo Contest. Assistance continues in helping NRCS with the Farm Bill Program.

Hampton District – Staff from the district attended a feral hog zoom meeting with federal, state, and local partners to provide updates on the pilot program. Staff updated the conservation district's required SC Ethics Commission entity information. The Hampton Conservation

District Board met for its monthly meeting. District staff is working on a flyer to promote the 2022 Conservation Poster Contest on a local level.

Jasper District - completed our yearend report to SCCD for 2021. We celebrated many accomplishments with assisting landowners with contacts for supplies, information, and technical assistance for planting, growing, and harvesting loblolly pines. Our partnership with Hampton County for the Feral Hog Farm Bill Pilot program has been very productive removing 246 hogs from Jasper County properties. We are planning our 2022 educational programs with the schools and focusing on conservation education utilizing the Blue Heron Nature Center for classes and seminars to educate on resource topics for rural communities. The District has planned Earth Day featuring the Columbia Marionette Theater performing their "Litter Trashes Everyone" puppet show for our 1-2 grades, and we are reaching out to the schools and the community with presentations on litter, recycling, container gardening, and local wildlife habitats. Keep Jasper County Beautiful litter prevention program is growing with 12 Adopt A Highway groups 500+ volunteers and we have 2 grants totaling approximately \$35,000 dedicated to Jasper County.

Laurens District – we are super busy planning for Team Ecology. This is an event for all the public-school 3rd graders of Laurens County, held at the Adair Outdoor Education Center, March 28- April 1. Volunteers are needed, please contact us if you are interested! We have 8 stations, all teaching the students about protecting our natural resources. 2020 was canceled & 2021 was virtual, so we are super excited to have the kids back in nature this year.

Lexington District - Held Arbor Day Event in honor of Pleasant Hill Elementary for receiving the Champions of the Environment -Merit Award. LSWCD provided and helped plant an oak tree and installed a plaque in recognition of this achievement. Solicited for LSWCD Affiliate Members. Received three Mini-Grant Applications for Conservation Education in the classroom. All 3 were selected to receive a \$500.00 Mini-Grants each. Provided three county schools with gift cards to give to deserving families in hopes to make their Holiday Season enjoyable and able to cover need expenses. Helped plan bi-yearly meeting of the Hollow Creek Watershed District Directors.

McCormick District – we are now open to the public but continue to retain social distancing by handling all request via email, voice mail and/or by appointment. The district held its monthly board meeting January 19,2022. NRCS partner Matt Brown updated the district on the progress of EQIP with a written report on the status of the EQIP contracts for our area. We have received the Middle School submissions on the essay contest, Benefits of Control Burning. Essays are being reviewed and winners will be announced at the February meeting. Awards will be presented to the winners and photos will be taken later that month. The Board completed their annual report and submitted to Columbia.

Newberry District – Grinding of the Greens Jan 8, 2022; grant Proposal submission; quarterly *Affiliate Newsletter*; meeting with SCDNR and NRCS for Feral Hog program update from Sylvia Harris; finalized February Partnership Conference Meeting in Charleston; opening of Annual Photo Contest for Earth & Sky- winner to be announced in November 2022; Pollinator Garden /Rain Barrel workshop with Mid Carolina school; website & social media maintenance; delivered Envirothon kit of Mid Carolina School; delivered 2022 budget to Newberry County; Assisted NRCS with clients. *Keep Newberry County Beautiful* work includes Trash receptacle art project begins– Newberry theme- gave out 4 barrels to complete; Volunteer campaign started for Great American Cleanup; Whitmire Cleanup in January – supplies donated; met with SCDOT to adopt a highway program.

Orangeburg District – The OCSWCD held its monthly board meeting on January 25, 2022, as a teleconference since the Orangeburg Field Office is operating at 25% capacity and limited visitors. Staff completed the NACD Technical Support Grant Quarterly Report for October, November, and December 2021. Our no till drill has been active lately. Staff has been assisting NRCS with administrative tasks and offering support where needed. Keep Orangeburg County Beautiful staff planted trees for Arbor Day in December at 6 different schools. This was a rewarding experience as students assisted us and learned why SC celebrates Arbor Day in December instead of the spring.

Richland District – hosted a presentation on Water Resource Protection in the Pee Dee by Associate Commissioner and SC Rural Water Association Watershed Protection Specialist James Kilgo during the January board meeting. Staff and Associate Commissioner Charles Weber mentored gardening and composting Green Steps School projects at Brockman Elementary School. The District co-hosted the January Midlands Meetup for environmental educators; 23 people participated in the event. Staff provided support to the Midlands Local Food Collaborative; Project Learning Tree Steering Committee and Marketing Subcommittee; SC Forage and Grazing Lands Coalition Board and Committees;

Environmental Education Association of SC Board and Conference, Awards, and Executive Committees; Southeastern Environmental Education Alliance Leadership Team; SC Conservation District Employees Association Training Committee; and Clemson University's Sustainable Agriculture Research and Education Program Advisory Committee. The District's monthly e-newsletter reached >3,000 subscribers and social media posts reached >2,000 followers.

Spartanburg District – We have seen an additional 5 species of birds at our Project Feeder Watch station...and a few more brought in by the snow that were not there on count days. Our "Around the Edges" short videos about bringing wildlife to the edges of your property continue to be consistently viewed. In preparation for spring, we have begun to receive seed donations for the seed library. Word is getting out about this year's Poster Contest; I look forward to seeing what comes in! Lastly, we are looking forward to the conference and are getting our raffle donation in place. I hope to meet some of you there!

Sumter District – Sumter SWCD has been working closely with NRCS to complete all tasks and meet deadlines, as we still have no active or acting DC. MOU signed and Commissioner Alston sworn in for another four years at January board meeting. The district has advertised and is currently accepting applications for the vacant seat on the board. These applications will be reviewed at the February board meeting. Fellowship recipients are reaching out to and coordinating with Pocatigo easement property owners to discuss cleanup and tree planting efforts.

Williamsburg District – our Board members wrote Senator Sabb to request that he continue with his litter pickup campaign which was suspended due to Covid. The Board met on January 11 to conduct regular business. A representative from *Keep Williamsburg Beautiful* attended the meeting to request that the Board become the sponsoring affiliate for the group. The Board of Commissioners and the SC Forestry Commission are planning to hold another *Learn to Burn* Workshop in February. The annual Essay and Poster Contests have begun with the rules and information being sent to all local schools.

York District – YSWCD and Farm Bureau hosted their annual legislative dinner which had a great turn out. Associate Commissioner Lee Petitgout was awarded Champion of Conservation for her work with FFA and Envirothon. Staff is finishing up with annual tax information processing.

EARTH SCIENCE GROUP

Earthquake Activity: Since December 27th and the initial M3.3 earthquake near Elgin-Lugoff, there have been 17 additional earthquakes. The character of these events shows some similarities to aftershock events and to an earthquake swarm (see attached figure.) This series of events is undergoing further studies, and a summary report will be produced.

Special Mentions: Andy Wykel and Jacky Steen are recognized for their efforts to get the drilling program restarted.

South Carolina Geological Survey Geological Information

STATEMAP: The OSL samples were sent to Utah State the first week of January; samples arrived at USU, and Dr. Doar and Mr. Wykel addressed questions about the samples for the USU lab. Robby Morrow completed six (6) traverses in north Edgefield Quadrangle, Edgefield County. Fieldwork focused on identifying and tracing the contact between the Persimmon Fork and Richtex Formations, and collecting samples for thin sections, geochemistry, and zircon analyses.

Other Mapping including Outsource Mapping:

Earth Mapping Resources Initiative: Minor revisions were made to the new focus areas submitted last month to Earth MRI coordinators. Robby Morrow made the revisions and resubmitted. Andy Wykel reviewed drill logs around the Wolfon quadrangle in preparation for drilling. Drilling restarted for E-MRI after several months of drill-rig repairs and staffing issues. Robby Morrow, Scott Howard, and Will Doar met online with Anji Shaw (USGS) and Jim Kellogg (USC Geology) to discuss collaborating on interpreting structures imaged by the 2020 airborne geophysical surveys. Twenty-five (25) samples were delivered to USC Geochron lab for U-Pb Zircon analyses. Robby Morrow submitted a grant proposal to Data Preservation for funds to attend the 2022 Earth MRI Critical Minerals Workshop. Andy Wykel and Michael Georgopoulos spotted 15 holes in the Wolfon Quadrangle in Orangeburg. A second no-cost extension was approved for Earth MRI. Because of the uncertainty of when lab results would be available, it was necessary to extend the grant so that lab costs could be covered.

General: Will Doar attended the January online Mapping Forum. Robby Morrow gave a presentation on Gold in South Carolina to the National Academy of Sciences Committee on the Potential Impacts of Gold Mining in Virginia.

Staffing

Katie Luciano participated in final (online) session of SCDNR Adaptive Leadership Training. SCGS acquired donated furniture from HDR including 4 map cabinets in excellent condition. Jordan Suttles last day was 1/7. Kyle Gawinski is interested in becoming a volunteer with the Geological Survey, primarily as a field mapper. Paperwork is being processed. Although two people were selected to fill the Drilling Assistant positions, both declined the offers made to them. Scott Howard wrote two letters of recommendation for current and former employees.

Drilling Services and Core Repository

The new drill rig returned from Florence shop, and after negotiations with service department there was no cost to state for repairs. The bill was covered by the Columbia shop because they created the issues. Drilling resumed for Earth MRI project, Orangeburg County; three holes (176 ft) were drilled in Wolfton quad; one practice hole was drilled prior to test rig repairs and refamiliarize drill crew in operations. Cleaned and stocked drill rig for drilling, purchased safety gear (hard hats, boots, vest, gloves, and cold weather gear) for new drill crew members and replaced worn and damaged items. Installed a bookshelf above the repo office, continued sorting older publications, and repaired generator. Conducted safety meeting with entire drill crew.

Digital Products and the Digital Information Program (DIP).

STATEMAP and Earth MRI: Taylor Turbyfill created ArcPro templates for the upcoming FY21 STATEMAP products for a more effective workflow process for the mapping geologists.

Other Mapping including Outsource Mapping: Taylor Turbyfill created ArcPro templates for the FY19 Earth MRI quadrangles providing a more efficient workflow process for the mapping geologists. Darby DeBruhl made about 1/2 of SCGS style file; the map units that are up in the air have been set aside in a spreadsheet to be decided on later; she also reached out to MAPublisher staff for advice on implementing this in our cartography workflow and got some advice from Dave Soller (USGS) and Utah Geological Survey for implementing this for distribution in a GeMS map database, and she completed most of the metadata for the Fork Level-3 database.

Data Preservation:

Geologic Map Schema (GeMS): Taylor Turbyfill developed and supervised a project for interns (Hana Donnelly and Jerry Krieger) to complete updating existing GeMS (Geologic Map Schema) map databases.

General: Taylor Turbyfill created a dashboard of the Mentimeter poll results from the December DMT meeting highlighting the issues that state surveys are having with migrating their databases to the GeMS schema. Darby DeBruhl finished most of a new earthquake database export tool. Taylor Turbyfill made updates to SCGS website and submitted new publication records to the National Geologic Map Database. Katie Luciano organized a meeting of the Coastal GIS Users Group; she also began a 7-week class on Introduction to Programming with Python.

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) and preliminary writing for associated report.

Surface Elevation Tables-SET

Katie Luciano and Dr. Will Doar continued writing and editing an Open-File Report detailing how SET stations are built, maintained, and monitored; after discussions with Matt Wellslager, SC Geodetic Survey, on how to convert early SCGS geodetic data from the SETs so that it is comparable to modern data, it was decided to involve the National Geodetic Survey in this conversation. Katie Luciano and Will Doar performed annual boat and trailer maintenance.

NOAA

Katie Luciano attended an Advisory Committee for NERRS Science Collaborative project History and Topography to Improve Decision-Making for Estuary Restoration (HiTIDER).

USACE-South Atlantic Coastal Study (SACS)

Katie Luciano and the SC Regional Sediment Management Working Group discussed with consultant Ross Nelson the potential for thin-layer placement (TLP) pilot projects in the Charleston Harbor area.

Botany Bay and Pockoy Island Projects

Katie Luciano measured the erosion transects twice at Pockoy Island (Botany Bay Plantation Heritage Preserve) The first measurements were done in conjunction with Gary Sundin (SCDNR MRD), who flew UAV of the southern part of the island collecting high-resolution imagery.

BOEM

Ms. Luciano participated in a virtual stakeholder assessment discussion about the BOEM Marine Minerals Information System (MMIS). The MMIS is an online data portal supporting BOEM coastal recovery and resilience projects. Ms. Luciano was interviewed by a firm hired by BOEM (Kearns & West) to conduct the assessment of the MMIS. They asked for input on how she interacted with the portal and to provide ideas for future improvements to the data portal. Ms. Luciano and Scott Howard were invited to participate in a meeting organized by the Virginia Geological Survey and BOEM on the potential for offshore mining of critical minerals. Other invitees include Delaware, Maryland, North Carolina, and Georgia.

General

Katie Luciano attended a meeting Geological Society of America's Marine and Coastal Geosciences Division and worked on bi-annual division newsletter. Ms. Luciano and Dr. Doar attended a UNESCO International Geoscience Program virtual workshop on Radiocarbon: Applications, Approaches, and Pitfalls; and they responded to a request for comments from SCDNR Office of Environmental Programs on how the placement of sandbags on ocean-facing beaches of barrier islands impacts geomorphology and sediment dynamics.

General and Outreach

General: General information was provided to 22 customers; 13 meteorite IDs; 0 gold RFI; 1 sinkhole inquiry; one (1) request for blue granite; three (3) Rock and Mineral kits, four map (4) and three publication (3) orders.

Katie Luciano talked with a group of students and teachers (13 people) from the Governor's School for Science and Mathematics about coastal geology and erosion at Pockoy Island. This outreach was coordinated by Meg Gaillard (LWC-Archaeology) and led by Botany Bay Plantation Wildlife Management Area's volunteer coordinator Bess Kellett. Will Doar answered questions from a consultant about the geology of the central portion of the Brookgreen quad, Horry County. The questions were about interpreting the Owens (1990) map considering existing borehole logs and SCDOT geotechnical logs. Dr. Doar concluded that interpretations based on the Owens map were wrong. Dr. Doar answered additional questions from Dr. Rick Berquist (VA DMME-retired) about geochronological ages of SC's late Pleistocene deposits and sea-level highstands. Evidently, each state has a highstand preserved that the other does not. Dr. Doar, at request of the New Jersey Geological Survey, completed a review of a geologic map of the Medford Lakes 7.5-minute quadrangle and accompanying text. Chris Moore (USC Archaeology) inquired about SCGS cores from the Great Pee Dee River floodplain in Darlington County. He is looking to do paleoclimatology in that area. Unfortunately, SCGS has no shallow cores in that area but may be willing to assist core collection. Robby Morrow gave a presentation on earthquakes in South Carolina to the Hades Creek Homeowners Association, Kershaw County, and to a 6th-grade class at Longleaf Middle School. Andy Wykel and Jacky Steen examined a sinkhole on a property in Richland County. The most probable cause of the sinkhole was a leaking-failed underground utility. It was recommended the owners contact SC811 to get the lines marked in their yard.

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	

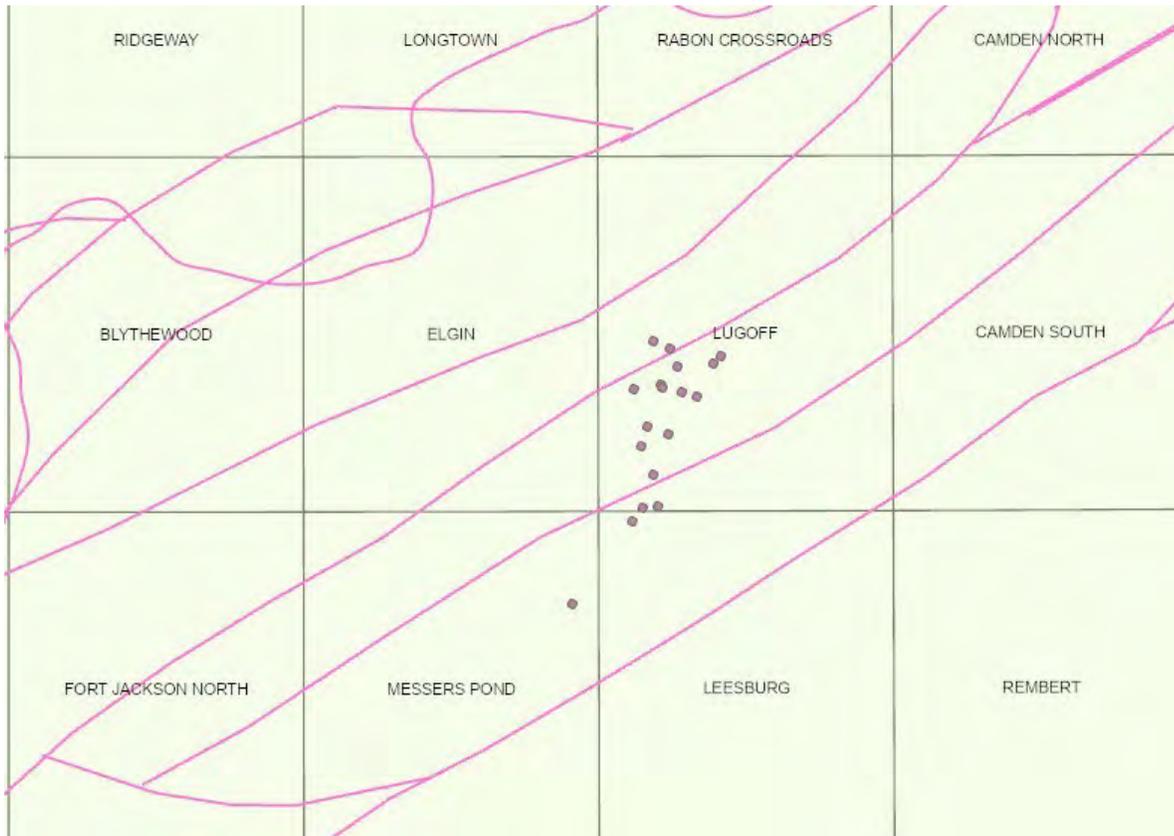


Figure showing distribution of earthquakes in Elgin-Lugoff area between 12/27/21 and 1/31/22. The quadrangle outline shows 7.5-minute boundaries. The purple lines are fault structures interpreted from geophysical data. The earthquakes occur along a trend that is more northerly than the northeast trend of the Eastern Piedmont Fault System possibly indicating a splay fault off a major fault.

HYDROLOGY

Water Planning

Edisto River Basin Planning: Andy Wachob, Priyanka More, and Alex Pellet attended an Edisto River Basin Council (RBC) meeting held virtually on January 19th. Mr. Harder, Mr. Wachob and Joe Gellici participated in a Planning Team meeting on January 28th to review the previous meeting and prepare for the next meeting in February. 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, Inc, 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 met with CDM Smith, Inc. and a hydrologist from the Santee Experimental Forest on January 11th to discuss evapotranspiration rates for various land use categories and potential impacts to streamflow from converting from one land use type to another.

Broad River Basin Planning: Mr. Harder compiled River Basin Council applications and updated maps showing the geographical and categorical distribution of applicants in preparation for two Planning Process Advisory Committee meetings held on January 6th and January 24th. Mr. Wachob and Mr. Gellici also attended these meetings. Mr. Harder communicated with several applicants regarding their applications to discuss their qualifications and interest category preferences. Mr. Harder communicated with several stakeholders in the state to solicit additional applications for the Industry and Economic Development interest category. Mr. Harder also reached out to a stakeholder for the Water-based Recreational interest category and was able to secure an application.

A Request for Proposals (RFP) regarding a Facilitator for the Broad basin was awarded to CDM Smith, Inc. Mr. Harder met with CDM Smith, Inc. and Clemson University to discuss the date and location for the first RBC meeting.

Pee Dee River Basin Planning: Mr. Harder coordinated with Clemson University and Coastal Carolina University to secure venues for two public meetings scheduled for March 21st and 22nd. Mr. Harder prepared and submitted documentation for an RFP regarding the RBC Facilitator to the business office, and the RFP was officially posted.

Other: Mr. Harder coordinated with Clemson University to develop a scope of work, budget, and formal agreement for Clemson to provide technical support to future RBCs regarding the application of their recently completed flow-ecology relationships study.

Surface Water Program

Water-Demand Projections: Mr. Pellett continued preparing draft water-demand projections for the Broad basin which incorporates data through 2020.

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 prepared hydrologic information summarizing surface and groundwater conditions in the State and presented the information at the December 9th State Drought Committee meeting. Ms. More prepared a statement for the press release regarding drought conditions in the State.

Ms. More continued to develop an R-script to update monthly groundwater level percentiles for existing and future telemetry sites in the groundwater monitoring network. The script is part of a larger R-Package that focuses on drought related work including the extraction of recent data for updating the monthly drought status maps. The script also has been used to develop percentile bin plots used for groundwater drought assessments and a map showing the drought status of wells in drought monitoring network. The goal is to automate as much of the data processing and map generation as possible and is a work in progress.

Ms. More and Mr. Harder attended a Catawba-Wateree Drought Management Advisory Group (DMAG) meeting on January 11th to review drought conditions in the basin, which recently reached a Stage 0 designation. This designation triggered implementation of the DMAG's low inflow protocol.

Streamflow Monitoring: Mr. Harder met with the USGS to discuss issues with discharge measurements from a streamflow gage recently installed on Thompson Creek in the Pee Dee basin. Upon the USGS's recommendation to move funding to a different site, Mr. Harder began exploring other site options in the basin.

Water-use Analyses: Ms. More continued to develop an R-package that produces a water withdrawal summary report for the Pee Dee basin using data from the SCDHEC water use database. The report provides a set of tables and plots on water withdrawals by source as well as by withdrawal category. Ms. More met with Mr. Harder, Mr. Wachob and Mr. Gellici to discuss a draft version and to receive feedback on the reports content. Based on this feedback, Ms. More began working on a new draft. The long-term goal is to prepare a water use summary report for each basin on an annual basis.

Outreach and Other Work

Mr. Pellett attended six sessions of the Catawba-Wateree Citizens Academy.

Groundwater Program

Groundwater Modeling: Mr. Harder, Mr. Gellici, Mr. Wachob, Brooke Czwartacki, and Mr. Pellett participated in numerous meetings with the USGS and DHEC throughout the month to discuss ongoing issues, problems, and progress with the groundwater modeling. After the USGS identified several wells that had problems with either aquifer designation or pumping rates, SCDNR and SCDHEC worked to resolve these problems, allowing the modeling to proceed. The USGS provided preliminary modeling results, which SCDNR and SCDHEC reviewed to identify areas where predicted groundwater levels were significantly different from observed levels and to assess the overall performance of the groundwater model. Because of the delays caused by the problems with some well data, it was agreed the USGS would not present any model results at the January Edisto RBC meeting. The USGS indicated that they would probably have model results from two scenarios ready to present at the February RBC meeting.

Mr. Pellett continued updating and refining the water-use data used in the groundwater model and developed summary files of model input data to facilitate comparisons to model output data. Mr. Pellett provided the USGS with water-use data sets for both the "current use" and "fully permitted" scenarios.

The Edisto RBC's Groundwater Subcommittee met for the first time on January 12th to review the different groundwater pumping scenarios being modeled, to understand the various problems the USGS has encountered with the groundwater model, and to review preliminary output from the groundwater model, and to discuss ways to present this information to the Edisto RBC.

Groundwater Monitoring Network: Josh Williams continued training Sam Jennings, who started working for SCDNR in December, on the procedures for downloading and processing groundwater-level data from the SCDNR monitoring network. Mr. Williams and Mr. Jennings downloaded water-level data and made manual measurements from 15 wells in Allendale, Barnwell, and Hampton Counties (Regions 3 and 4). Mr. Jennings processed recently uploaded water-level data from 30 wells. Ms. Czwartacki downloaded water-level and conductivity data collected from 19 network wells in Berkeley, Charleston, Colleton, and Williamsburg Counties (Regions 2 and 4) and completed processing all data collected since November.

The USGS agreed to take over monitoring of the SCDNR network well DIL-0174 in Dillon County (Region 2) and equip the well with real-time monitoring equipment.

Mr. Harder produced an updated map of the SCDNR groundwater monitoring network that also includes all USGS groundwater monitoring wells.

Potentiometric Mapping: Ms. Czwartacki and Mr. Wachob completed the SCDNR Water Resources Report 66 *Potentiometric Surface of the Crouch Branch Aquifer in South Carolina, November-December 2020*, which is now available on the Hydrology Section's web page.

Ms. Czwartacki, Mr. Williams, Mr. Jennings, and Mr. Gellici measured water levels in 34 wells in Allendale, Barnwell, Berkeley, Charleston, Colleton, and Hampton Counties (Regions 3 and 4), completing the field work associated with the production of the 2021 potentiometric maps for the Floridan and Gordon aquifers. Ms. Czwartacki began processing the water-level data in preparation for contouring the potentiometric maps by reviewing data for accuracy and performing tidal corrections on water levels in some coastal wells.

Outreach and Other Work

Hydrology staff provided hydrologic and water-well information or other technical assistance to 11 groundwater customers.

Mr. Gellici contacted the Savannah River National Laboratory (SRNL) to discuss the possibility of SCDNR taking possession of numerous core samples that were collected at the Savannah River Site but will no longer going to be kept by SRNL. Mr. Gellici also contacted Scott Howard (SC Geological Survey) to discuss the possibility of storing some of the SNRL cores at the Geological Survey's repository.

Ms. Czwartacki attended a meeting with members of the of the SCDNR Office of Environmental Programs and the U. S. Army Corps of Engineers regarding a mitigation bank that is not meeting hydrology performance standards. Two other mitigation banks—one in Berkeley County (Region 4) and one in Richland County (Region 3)—were reviewed and comments were submitted to the Office of Environmental Programs.

Ms. More used the SCDHEC water-use database to extract groundwater use and well pumping information in Florence County (Region 2) to assist in an evaluation of groundwater use in that area. Ms. More continued working with the Soil-Water-Balance model to evaluate the impact land use changes might have on soil recharge rates.

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 35 technical assistance requests. Laura closed 1 CAV and closed 2 CAVs. Laura is studying for the CFM exam, reviewing Guidance for Conducting Community Assistance Contacts and Community Assistance Visits manual, updated the local Floodplain Managers contact list, scanning/filing annexations, LOMAs and LOMRs, and is conducting the registration for 3 classes. She is also sending out notifications on Gov Delivery: Silver Jackets Monthly Webinar Series, virtual trainings and SCAHM Conference. Laura, Jessica, and Maria conducted Getting to know the NFIP (1/25) and Implementing the NFIP (1/26). Jessica provided assistance regarding the FMA grant program in regard to scope of work changes, questions form sub-applicants and fielded questions from potential new applicants. She reviewed 4 FMA sub applications, submitted the SCDNR sub application and submitted the SC FMA grant to FEMA. The total for the SC FMA grant was approximately \$1.5 million. Jessica attended the monthly Mitigation Coordination call with SCOR and EMD (1/5), FMA Coordination Call (1/6), SCAHM Board Meeting (1/14) and SC Safe Home Advisory Meeting (1/25). Maria attended the Leaders in Conservation program (1/10 -1/24). She also met with the consultants for the new NOAA facility regarding NFIP compliance (1/27). Maria is also working on the HMGP grant that is building the SC Flood IMPACT website. Maria is the Co-Chair of the Association of State Floodplain Managers Mapping and Engineering Policy Committee. She is also serving on the FEMA Technical Mapping Advisory Council.

Handouts and Presentations