

**Minutes**  
**Board of the Department of Natural Resources**  
Santee Coastal Reserve  
220 Santee Gun Club Road  
McClellanville, SC  
May 23, 2012 10:00 a.m.

The regular meeting of the Board of the South Carolina Department of Natural Resources was held at 10:00 a.m., May 23, 2012, at Santee Coastal Reserve, McClellanville, SC. Notice of the date, time and place of the meeting was posted and mailed to the news media. Chairman John Evans presided at the meeting. Board members present included Cary Chastain, Michael Hutchins, Randy Lowe, Caroline Rhodes and Larry Yonce. Board member Norman Pulliam's absence was excused. Staff members of the Department of Natural Resources were present at the meeting.

**I. Call to Order**

Chairman John Evans called the meeting to order at 10:00 a.m. and welcomed everyone to the meeting.

**II. Invocation**

Chaplain Eddie Driggers, Coastal Crisis Chaplaincy, offered the invocation.

**III. Pledge of Allegiance**

Randy Lowe led the group in the Pledge of Allegiance.

**IV. Introduction of Guests**

Don Winslow, Chief of Staff, introduced Jay Herrington, US Fish and Wildlife Service; Jim Westerhold, Horry-Georgetown Technical College; Jim Lee, HGTC student; Michael Walker, Tych and Walker Architects; Josh Addy, Clemson student – SC DNR intern; Ken Kinard, Trout Unlimited; Bob Bailey, Trout Unlimited; Joe Demichael, Trout Unlimited; Shawn Kenny, Trout Unlimited; Capt. Ben Lee, Lake Murray Striper Guide; Phil Wilkinson, retired DNR employee; Mark Bara, retired DNR employee; Harby Moses, Coastal Structures; and Scott Whitaker, Coastal Conservation Association.

**V. Constituent Comments**

Jim Westerhold, Horry-Georgetown Technical College, spoke of the partnership that the Wildlife and Forestry Program of HGTC has with local SC DNR staff on various projects.

Michael Walker, Tych and Walker Architects, and Harby Moses, President of Coastal Structures, provided an overview of the restoration of the Santee Gun Club.

Bob Bailey, Trout Unlimited, discussed the changing trout population in the Saluda River. The members of Trout Unlimited requested that the Department conduct a study of the trout population and consider making changes in their management in the Saluda.

**VI. Approval of Minutes**

Chairman Evans asked if there were any amendments, additions, deletions or corrections to the April 17, 2012, meeting minutes. *Mike Hutchins made a motion that the Board approve the minutes of the April 17, 2012, meeting as submitted. Caroline Rhodes seconded the motion and the motion carried unanimously.*

Chairman Evans noted that Col. Taylor is attending a mandatory Hurricane Table Top Exercise and Robert Boyles, Deputy Director for Marine Resources, will be his representative at this meeting.

**VII. Presentations/Commendations**

Mr. Boyles commended Amanda Stroud on her graduation from the Budget and Control Board's Certified Public Manager program.

Mr. Boyles commended David Lucas and staff for the *South Carolina Wildlife's 2011-2012 Sportsman's Calendar and Almanac's* selection to receive one of the SC State Library's ten Notable State Document Awards for 2011.

Chairman Evans opened the floor for nominations for the position of Vice Chairman. Mr. Yonce nominated Cary Chastain. The nomination was seconded and the vote was unanimous.

Chairman Evans informed the Board that Don Winslow will serve as the Deputy Director for Outreach and Support Services.

**VIII. Advisory Committee Reports**

**A. Law Enforcement**

Major William Poole reported that the Law Enforcement Advisory Committee met on May 3 at the Environmental Learning Center, Edisto Island. The Advisory Committee welcomed new members Paul Napper and Johnny Williamson. The Advisory Committee received updates on recent law enforcement activities, the new command structure and a turkey baiting case from the upstate. The Advisory Committee received presentations on the education program and Botany Bay. The Advisory Committee discussed and nominated a new member for the Board to consider.

**B. Governor's Cup Billfishing Series**

Mr. Boyles reported that the Governor's Cup Billfishing Series Advisory Committee met April 25 in Charleston. The Advisory Committee received updates on the status of series tournaments and the budget. The Advisory Committee discussed their agreement with the Harry Hampton Memorial Wildlife Fund and three members whose terms expire in July. The Advisory Committee made three nominations which have been sent to the Board for their consideration.

**C. Saltwater Recreational Fisheries**

Mr. Boyles reported that the Saltwater Recreational Fisheries Advisory Committee met May 8 in Charleston. The Advisory Committee received an overview of the budget outlook. The Advisory Committee received updates on legislation and the breakdown of licenses sold by type. The main purpose of the meeting was to review the 2013 proposed projects for funding with Saltwater Recreational Fisheries License Funds.

**IX. Items for Board Information**

**A. Proposed Projects for Funding with FY 2013 Saltwater Recreational Fisheries License Funds**

Mr. Boyles briefly reviewed the proposed projects as included in the meeting package and requested that it be on the June agenda for action.

**B. Overview of Santee Coastal Reserve**

Greg Lynch, Wildlife and Freshwater Fisheries Division, gave the Board a brief overview of the projects and programs at Santee Coastal Reserve.

**X. Items for Board Action**

**A. Authorization to use Wildlife Endowment Fund Investment Earnings for FY 2013**

Don Winslow, Deputy Director for Outreach and Support Services, reviewed the request to use the interest from the Wildlife Endowment Fund, not to exceed \$328,000, for the appropriate license revenue expenditures. *Mrs. Rhodes made a motion that the Board approve the use of interest from the Wildlife Endowment Fund as presented. Mr. Hutchins seconded the motion and the motion carried unanimously.*

**B. Proposed Changes to WMA Draw Hunts**

Derrell Shipes, Wildlife and Freshwater Fisheries Division, reviewed the proposed changes included in the Board meeting package and also reviewed the two documents that were distributed. Mr. Shipes noted that the proposed changes have been approved by the Wildlife and Freshwater Fisheries Advisory Committee. *Mrs. Rhodes made a motion that the proposed changes to WMA Draw Hunts be approved as presented. Mr. Hutchins seconded the motion and the motion carried unanimously.*

**C. Jocassee Trust Fund Expenditures**

Emily Cope, Deputy Director for Wildlife and Freshwater Fisheries, reviewed the request for Jocassee Trust Fund expenditures as included in the Board meeting package. *Mr. Hutchins made a motion that the Board approve the expenditure of up to \$249,000 to construct a work center and equipment storage area. Mr. Yonce seconded the motion and the motion carried unanimously.*

**XI. Director's Briefings**

Mr. Boyles asked Board members to refer to the written report included in the Board meeting package.

**XII. Environmental Report**

Bob Perry, Director, Office of Environmental Programs, highlighted the following proposed projects: the draft Savannah River Drought Contingency Plan, the South Island Dredging Association, the O.V. Associates commercial oyster growing project, and the extension granted for comments on the Savannah Harbor Expansion Project. Mr. Perry reported on the Coastal Terminals, LLC public notice for a midstream anchorage facility in Winyah Bay. Mr. Perry indicated that the Department will recommend to the Army Corps of Engineers that they request an Environmental Assessment. Mr. Perry briefly reported on the Savannah River Maritime Commission meeting. The Commission has made the case that they are the permitting authority for navigable waters. They have proposed to grant a permit at the 45 foot level.

**XIII. Deputy Directors' Reports**

**A. Outreach and Support Services**

Mr. Winslow informed the Board that one of his first tasks, as Deputy Director, will be to try to move the Department's IT forward. Mr. Winslow also noted that there will probably be some restructuring within the division.

**B. Land, Water and Conservation**

Ken Rentiers, Deputy Director for Land, Water and Conservation, gave the Board a brief update on Envirothon, the SC Springs project and the deep well project in Colleton County. Mr. Rentiers also reported on water planning progress and Heritage Trust revenue.

**C. Wildlife and Freshwater Fisheries**

Mrs. Cope informed the Board that Johnny Stowe has been invited by the Wildland Fire Canada Committee to speak at their upcoming conference on prescribed burning. Mrs.

Cope reported on the upcoming WMA alligator season and youth hunt results. Mrs. Cope gave the Board a brief update on Duck Unlimited's Canada Project.

**D. Law Enforcement**

Major Poole briefed the Board on Law Enforcement's plans for National Boating Safety Week. Major Poole also reported on the fishing rodeo held in Darlington County.

**E. Marine Resources**

Mr. Boyles informed the Board that the Reef Ex will be held Saturday, June 23, 2012, at Murrell's Inlet.

Mike McShane, DNR Board representative on the Savannah River Maritime Commission, gave the Board an update on the Commission's May 8 meeting. Mr. McShane reported that the Commission has proposed to grant a permit for the depth limitation of 45 feet for navigable waters. The permit is open for comment until May 25. Mr. McShane spoke briefly of the S.C. Supreme Court action regarding the authority and jurisdiction of the Maritime Commission and DHEC. Mr. McShane asked the Chairman if it would be possible for him to brief the Board on a legal issue during executive session.

**XIV. Executive Session**

*Mrs. Rhodes made a motion for the Board to hold an Executive Session to discuss personnel matters. Mr. Chastain seconded the motion and the motion carried unanimously.*

**XV. Open Session**

*Mr. Yonce made a motion that the Board return to regular session, noting that no actions were taken during Executive Session. Mr. Chastain seconded the motion and the motion carried unanimously.*

*Mr. Chastain made a motion that the Board give final approval to accept a donation of 80 acres of land in Georgetown County. Mr. Hutchins seconded the motion and the motion carried unanimously.*

*Mrs. Rhodes made a motion that the Board approve the nominations for the Governor's Cup Billfishing Series Advisory Board (Tommy Hancock, Summerville, SC; Stevie Leasure, Charleston, SC; and Wesley "Bucky" Morris, Charleston, SC) and recommended they be sent to the Governor's Office for final approval and appointment. Mr. Lowe seconded the motion and the motion carried unanimously.*

*Mr. Lowe made a motion that the Board approve the appointment of Foster McKissick, Greenville, SC, to the Law Enforcement Advisory Committee. Mr. Yonce seconded the motion and the motion carried unanimously.*

*Mr. Hutchins made a motion that the Board authorize the purchase of furniture and fixtures for the Dennis Building according to statute. Mr. Lowe seconded the motion and the motion carried unanimously.*

*Mr. Yonce made a motion that the Chairman name a senior manager from within the agency who shall serve in the Director's place if a personnel action as provided in Section 8-13-750 (a) or (b) is required. Mr. Hutchins seconded the motion and the motion carried unanimously.*

**XVI. Time and Location of the Next Meeting**

The June Board meeting will be held Wednesday, June 27, 2012, in Charleston, SC.

**XVII. Adjournment**

There being no further business to be brought before the DNR Board at this time, the meeting was adjourned.

## EXECUTIVE OFFICE

### OFFICE OF THE DIRECTOR

Director Alvin Taylor attended Senate Finance Committee meetings on May 1 and May 8 in Columbia. On the evening of May 2, Director Taylor had dinner with staff and members of the Law Enforcement Advisory Committee at the Edisto Interpretative Center before their scheduled advisory committee meeting the next morning.

Chief of Staff Don Winslow participated in the agency's Red Cross Blood Drive on the morning of May 1. Breck Carmichael participated in a South Atlantic Landscape Conservation Cooperative Steering Committee meeting by conference call on May 2. On May 3, Mr. Winslow met with Kimberly Spears, Director of the Anderson County Art Museum, for a discussion of the agency's duck stamp program.

Director Taylor met with Ron Regan, Executive Director of the Association of Fish & Wildlife Agencies (AFWA), who flew in from Washington on the morning of May 3 for a briefing on AFWA, its projects and partnership opportunities.

Mr. Carmichael evaluated State lake facilities in Lancaster County on May 4 for compliance with the Americans with Disabilities Act (ADA). On May 7, Director Taylor and Deputy Director Rentiers met with Catherine Templeton, DHEC Director, for a discussion of state water issues.

Mr. Winslow attended the SC State Library's Notable State Document Awards Ceremony on the morning of May 7, at which time the *DNR Sportsman's Calendar and Almanac* was recognized as one of the State's 10 Notable State Documents of 2011.

Director Taylor and Mr. Carmichael attended the Savannah River Maritime Commission meeting on the morning of May 8 in the Gressette Senate Office Building in Columbia. Mr. Carmichael represented DNR at the Southeast Regional Partnership for Planning and Sustainability (SERPPAS) Principals Meeting on May 9-11 in Charleston.

On May 9, Director Taylor participated in the Law Enforcement Training Council meeting at the Criminal Justice Academy. He later met with Lt. Governor Glenn McConnell on the State Water Plan. He also met with Mr. Winslow, Mr. Speares and Mr. Scurry to discuss the agency's information technology plans and needs. Later that afternoon, Director Taylor and Col. Frampton met with Leroy Smith and Col. Mike Oliver of the Department of Public Safety to discuss issues of mutual interest, partnership opportunities and the new 100 Deadly Days of Summer campaign.

Mr. Winslow chaired the agency's Rules and Regulations Committee meeting on the morning of May 11, and that evening, he represented the Executive Office at the annual Harry Hampton Spartanburg Banquet in Spartanburg.

Director Taylor and Col. Frampton participated in the Governor's Operations and Evacuation Training Seminar at the Emergency Management Division (EMD) Headquarters in West Columbia on the afternoon of May 14.

Director Taylor met with Mr. Winslow and the Deputy Directors on the morning of May 15, at which time he announced that Don Winslow would be taking on the role of Deputy Director of Outreach & Support Services (OSS) for the agency.

On May 16, Director Taylor attended the Senate Fish, Game & Forestry Committee meeting in Columbia. That afternoon, Director Taylor spoke with Rebecca Wodder, Senior Advisor to the Secretary of the Interior, about the upcoming announcement of a River Restoration & Recreation Project in each state including South Carolina.

Director Taylor participated in a Budget & Control Board Hay Salary Study Interview on May 17 at the Archives & History Center, with Board Chairman Johnny Evans attending on the Director's behalf.

Mr. Carmichael completed a 4-hour Driver Improvement class at the Styx Hunter Education classroom on May 18. On May 21, he inspected and certified Land and Water Conservation Fund projects in Dillon, Darlington and Florence counties. He attended an Engineering Section staff meeting on May 22 and also met with DNR Attorney League and Scenic Rivers Coordinator Marshall to discuss a conservation easement issue. On May 21 and 22, Director Taylor participated in a Deputy Directors Workshop at the Donnelley Wildlife Center to brainstorm and discuss future plans for the agency.

Director Taylor met with Miriam Atria, President/CEO of Lake Murray Country, in his office on the morning of May 23 to discuss her group's future plans and partnership opportunities. Later, Director Taylor and Col. Frampton participated in the Governor's Mandatory Annual Hurricane Table Top Exercise at EMD Headquarters in West Columbia. Deputy Director Robert Boyles represented Director Taylor at the DNR Board Meeting on the morning of May 23 at the Santee Coastal Reserve in McClellanville. Mr. Carmichael attended the Board Meeting as well as met with the Deputy Directors to discuss planning for the upcoming Association of Fish & Wildlife Agencies annual meeting to be hosted by DNR in Hilton Head on September 9-12.

On May 24, Director Taylor and Mr. Carmichael attended the agency's March of Dimes Breakfast for Babies fundraiser event. On May 28, the National Memorial Day State Holiday, Director Taylor worked with officers in Law Enforcement Region 4 in their annual courtesy boating inspections at local boat landings.

Director Taylor and Col. Frampton met with DeWitt Zemp on the morning of May 29, at Mr. Zemp's request, to discuss the agency's public safety announcement program and possible partnership opportunities. That afternoon,

Director Taylor met with Mr. Carmichael and other involved staff to discuss a proposed expansion of the DNR Communications Center and Hunter Education Facility at the Styx Complex.

On May 30, Mr. Carmichael evaluated State Lake facilities in York and Cherokee counties for compliance with the ADA as well as inspected a boating access site on the Broad River in York County.

Director Taylor met with Jim Goller, Executive Director of the Harry Hampton Memorial Wildlife Fund, at his request, on May 31 to discuss future plans and opportunities.

During the month of May, Director Taylor met with numerous senators and representatives and staff to discuss DNR's budget and legislative issues. Mr. Carmichael continued working with the Information Technology Section on the development of a web page for persons with disabilities and the web page celebrating the 75<sup>th</sup> Anniversary of the Wildlife and Sportfish Restoration Program.

## Marine Resources Division

### Office of the Deputy Director

Mr. Boyles began the Month of May, 2012 in Alexandria, VA to attend the Atlantic States Marine Fisheries Commission Spring Meeting (May 1-2). On May 8<sup>th</sup> Mr. Boyles hosted the Saltwater Recreational Fisheries Advisory Committee meeting at the Marine Center on Fort Johnson. On May 14<sup>th</sup> Mr. Boyles gave the Welcome Address to the SC Minorities in Marine and Environmental Sciences Intern Program (MIMES) participants at Fort Johnson. On May 15<sup>th</sup> Mr. Boyles travelled to Columbia to attend a SCDNR Deputy Director's meeting as well as spend some time at the State House monitoring the Senate budget debate. Mr. Boyles travelled to the Donnelley Wildlife Management Area May 21-22 to take part in the SCDNR Deputy Directors Retreat. On May 23<sup>rd</sup> to Mr. Boyles travelled to McClellanville, SC to attend the May SCDNR Board meeting. My Boyles also attended the 45th Annual Georgetown Blue Marlin Tournament on May 23<sup>rd</sup>. On May 31<sup>st</sup> Mr. Boyles met with Atrium Builders & Meadors Architects at Fort Johnson to discuss the final phases of the Eltzroth Building renovation.

### Marine Resources Research Institute (MRRI):

#### Grant Proposals

Funded: The Marfin project "A molecular approach to assess future fertility in black sea bass (*Centropristis striata*)" submitted to the National Marine Fisheries Service (NMFS) under the MARFIN program, has been recommended for funding at the following amounts (**Year 1: \$112,250; Year 2: \$99,654, and Year 3: \$104,992**, with the 3 year total of \$315,896). This is collaboration with NCSU (C. Sullivan) and SCDNR (R. Chapman and J. Ballenger) with the total SCDNR budget of 165,896

Funded: SEFIS funding for MARMAP was received in the amount of \$351K. SC-DNR's SEAMAP-SA funding allocation for FY12 (covering 7/1/2012 – 6/30/2013) was \$1,379,577. This was a reduction of 3.9% over FY11, but 13.6% under the requested FY12 level. An amended scope and budget was submitted to NMFS.

Funded: A NOAA aquaculture proposal has also been funded for \$93,000 to evaluate Low Polluting Aquaculture Feeds for Red Drum. Denson and Leffler.

Awarded: "Assessing the Effects of Road and Bridge Construction in a Tidal Creek System Adjacent to the Folly River, SC" (4/1/12 – 3/30/17) R. Van Dolah, D. Sanger (PIs) (subcontract to CofC). SC Department of Transportation, Total DNR funding is \$280,617 (\$227,977 remains at DNR).

Submitted: "Fishery-Independent Monitoring of Juvenile Nursery Habitat for Key Recreational Fishery Species" (7/1/12 – 6/30/13) R. Van Dolah (PI) Dingell-Johnson Sport Fish Restoration. Total DNR funding \$99,991

Submitted: "Expanding Living Shorelines within the ACE Basin NERR to Protect Habitat and to Reduce Climate Change Vulnerability through the Application of Collaborative Science-Based Habitat Restoration" (9/1/2012 – 8/31/2012). NOAA-NERRS Science Collaborative Program, Co-PIs: J. Leffler, P. Kingsley-Smith, B. Keppler, A. Segars, N. Hadley, M. Hodges. \$585,622

Submitted: State Wildlife Grant, "Enhancing oyster reef habitat around private docks using abandoned crab traps." Continuation of FY2011 & FY2012 project- Request for FY2013 amounts to \$37,420 to the SCDNR. PIs: Kingsley-Smith, Denson & Stone.

Submitted: Pre-proposal to State Wildlife Grant entitled, Re-establishing a Striped Bass Population in the Charleston Harbor System, Denson, Brenkert and Darden. \$43,680

Submitted: Pre-proposal to State Wildlife Grant entitled, Investigation of American Eel Population Declines in SC Due to Parasitic Infections, Arnott, De Buron and Roumillat. \$47,612

Submitted: Pre-proposal to State Wildlife Grant entitled Validation of trammel netting as a means for computing and monitoring population trends for diamondback terrapins (*Malaclemys terrapin*) in the Charleston Harbor complex, Arendt, Levesque, Shwenter, Owens. \$52,508

Submitted: The Shellfish Research Section component of the Dingle-Johnson funding request for Marine Finfish Habitat Management was submitted (\$69,510 to SCDNR). If funded, this will compliment the SRFAC request to facilitate continued helicopter-based assessments of the distribution and condition of oyster reefs in State Shellfish Grounds contributed significantly to the overall harvesting pressure.

Submitted: Dingle-Johnson proposal submitted to U.S. Fish and Wildlife Service entitled: Aquaculture, stock enhancement and genetic evaluation of spotted seatrout in South Carolina. Denson, Brenkert and Darden. \$120,128.

Submitted: Responses to reviewer comments for the "Development of population genetic tools for blue crab management" (4/1/2012 – 10/1/2012). T. Darden, SC Sea Grant Program Development, \$9,152.

Submitted: A memorandum of Understanding is being developed between SCDNR and NIST so that they may transfer \$220,000 to the DNR to assist in development of a metabolomics tool using NMR technology to identify nutrient deficiencies in aquaculture feeds. Leffler and Denson.

### **Publications**

Accepted: Cushman, Tarpey, Post, Ware and Darden . Genetic Characterization of American Shad in the Edisto River, South Carolina and Initial Evaluation of an Experimental Stocking Program. Transactions of the American Fisheries Society.

Accepted: Ray, A.J., G. Seaborn, L. Vinatea, C.L. Browdy, and J.W. Leffler. 2012. Effects of biofloc reduction on microbial dynamics in minimal-exchange, superintensive shrimp (*Litopenaeus vannamei*) culture systems. *Journal of the World Aquaculture Society*. In Press.

Accepted: S. M. Pate and W. E. McFee (2012). Prey Species of Bottlenose Dolphins (*Tursiops truncatus*) from South Carolina Waters., *Southeastern Naturalist* Volume 11(1):1-22.

Submitted: Arendt MD, Boynton J, Schwenter JA, Byrd JI, Segars AL, Whitaker JD, Parker L, Owens DW, Blanvillain G, Quattro JM, and Roberts MA. Spatial clustering of loggerhead sea turtles (*Caretta caretta*) captured by trawling in coastal waters of the Northwest (NW) Atlantic Ocean, and implications for management surveys; *Endangered Species Research*

Submitted: Sanger DM, Smith EM, Voulgaris G, Koepfler ET, Libes SM, Riekerk GHM, Bergquist DC, Greenfield DI, Wren PA, McCoy CA, Viso RF, Peterson RN, Whitaker JD Constrained enrichment contributes to hypoxia formation in Long Bay, South Carolina (USA), an open water urbanized coastline. Accepted by *Marine Ecology Progress Series* DOI 10.3354/meps09796.

Submitted: Blair A, D Sanger, D White, AF Holland, L Vandiver, C Bowker, S White. Submitted. Quantifying and Simulating Stormwater Runoff in Watersheds, Submitted to *Hydrological Processes*

Submitted: Blair A, S Lovelace, D Sanger, AF Holland, L Vandiver, S White. Submitted. Exploring Impacts of Development and Climate Change on Stormwater Runoff, Submitted to *Hydrological Processes*.

### **Presentations & Outreach**

Summer REU Students: Training and orientation with the population genetics lab summer REU (CofC program), Stephen Hesterberg, are underway.

Van Dolah, B., G. Riekerk, D. Chestnut. South Carolina's Approach for Utilizing and Enhancing the National Coastal Assessment Sampling Design; Eight National Water Quality Conference, Portland, Oregon, May 2012

ACE Basin staff assisted with an educational program on plant succession at Middleburg Plantation for elementary school students.

Peter Kingsley-Smith "Aquatic nuisance species in the southeastern U.S.," South Carolina Aquarium, May 9<sup>th</sup> 2012.

Peter Kingsley-Smith "Oyster reef ecology, restoration and habitat enhancement in South Carolina". College of Charleston Maymester Conservation Biology class, May 18<sup>th</sup> 2012. Students were also given a tour of the Marine Resources Research Institute by Benjamin Stone that included an overview of shellfish-related projects.

### **Progress Report and Activities:**

#### **Coastal Finfish**

Carrie Hendrix and Gregg Davis resigned this month, both to pursue a career in nursing. Carrie worked for eight years with SCDNR/MRD with the MARMAP, the Adult Red Drum, and the SEAMAP Coastal Survey programs. Gregg worked with the MARMAP program for three years. The experience and energy they brought to the section and MRD will be missed.

MARMAP Leg 4 a and b were completed in May. Over 2,350 black sea bass, 18 red snapper and various other species were captured in chevron traps during 6 days at sea. Leg 5 (May 14-24) of the reef fish survey was cancelled due to mechanical issues (replacement of the generator on the R/V Palmetto) and weather (TS Alberto). MARMAP has started taking video's inside chevron traps during deployment. The goal is to provide estimates of trap saturation, fish behavior inside and around the trap, etc. The preliminary results are very promising. Our main CTD keeps acting up and we may have to send it back to SeaBird for repairs. Fortunately our back-up CTD is

working well. We are on schedule to provide data to the assessment team for vermilion snapper for the SEDAR update. Data submission for the red porgy update is running slightly behind schedule as a result of delays in reading otoliths for age determination. The first two R/V Savannah Reef Fish monitoring legs were successfully completed in May with the assistance of several MARMAP staff.

The juvenile gag sampling season is wrapping up and catches to date have been: N. Carolina: 68, Charleston, SC: 10, Georgetown, SC: 0, Beaufort, SC: 1 and Georgia: 2. Sampling will continue until mid June.

SEAMAP The spring cruise was successfully completed on May 11, with a single day delay due to weather.

The SEAMAP-SA Oracle database went "on-line" for the Data Management Working group. The contract with the Oracle database programmer was extended through the end of May to complete the transition and web interface.

Meetings Marcel Reichert attended the SEDAR 28 Assessment Workshop (SA and GOM cobia and Spanish mackerel) May 7-11. In spite of the efforts of the assessment teams, no base run was accomplished for any of the 4 stocks. This was mostly due to the late availability of the data and Data Workshop reports. The Review Workshop, scheduled for August, was postponed to October 29 - November 2 in Atlanta, GA.

Joey Ballenger attended an ASMFC menhaden stock assessment workshop in Raleigh, NC on May 15. A base run was developed and the assessment team is currently working on sensitivity runs, uncertainty estimates and projections. As a follow up to this workshop, Joey once again participated in an ASMFC menhaden stock assessment webinar held on May 29. This follow up webinar was to discuss results of initial sensitivity runs, with a final webinar scheduled for June 7.

Joey also attended a SAFMC expert workshop on reducing the by-catch mortality for speckled hind and Warsaw grouper. A workshop report has been prepared and submitted to the SAFMC detailing the discussions of this workshop.

Marcel Reichert, Joey Ballenger and Dave Wyanski attended the SEDAR Steering committee meeting via webinar. Some minor changes were made to the schedule. Gray triggerfish and blueline tilefish benchmark and snowy grouper, gag and red grouper standard assessments are scheduled for 2013. In addition, a red snapper data evaluation and black sea bass projections are scheduled to be presented to the SSC in 2013. Schedules for 2014 and beyond will be discussed in future SEDAR Steering Committee meetings. However, currently a red snapper, scamp, and white grunt benchmark, and black sea bass update are scheduled for 2014.

### **Environmental Research**

Hilton Head/Bay Point Borrow area Quarterly sediment sampling was conducted. Staff completed two days of diving on the equipment deployed in Pt. Royal to maintain the equipment. The frames and attached equipment appear to be holding up in both areas. Staff are planning for the retrieval during the week of June 11.

Hilton Head/Piping plover habitat monitoring All benthic community and sediment characteristic samples are processed. Database is being finalized. A meeting with the contractor analyzing the data is scheduled for June 12<sup>th</sup>.

### **SERTC**

The Sargassum poster has been printed and delivered. The last progress was submitted for inclusion in the SEAMAP old grant progress. The scope of work and budget for FY12-13 was submitted. SERTC is evaluating the potential of developing a gut content identification guide similar to one available for the NEAMAP. The website is being updated. Specify 6.0 is being modified by developer to facilitate the entry of fin clip samples. Staff are working with a teacher at the SC Governors Academy to develop a lesson plan for the Beachcomber Guide.

### **SCECAP**

The summer sampling schedule for SCECAP has been finalized. The SCECAP 2009-2010 report is being prepared with the initial development of summary tables. The FY12-13 work plan and budget have been submitted.

Folly River bridge monitoring The grant was awarded. The final set of sediment samples were collected in the upper ends of the first order creeks. Elijah Ferguson, MIMES intern, and staff have sorted approximately 60% of the seine samples and identified approximately 45% of the organisms. Elijah has received training on relational databases and will be entering the data into a modified version of the Tidal Creek Database housed at HML.

OHH and Swash Project Three water quality and bacterial sampling events occurred: a wet and dry in Dogwood Swash and a wet in Withers Swash. A researcher meeting was held on May 31<sup>st</sup> to discuss the first year

of sampling results. A research and intended user workshop is planned for June 27th to discuss the first year of data and identify year 2 sampling sites. Budgets for these projects have been requested from Sea Grant.

### **Misc**

A MIMES student, Elijah Ferguson, will work with us this summer. In particular he will be helping with the Folly River Bridge efforts. Discussions are underway for developing a baseline sampling project for Noisette Creek to understand the change in salinity related to coastal development. A sample design for a collaborative project with USC-B, Beaufort County, and Bluffton has been designed to understand the change in salinity related to coastal development..

### **Algal Ecology**

Routine Monitoring and Fish Kill Responses (private contract & Center for Disease Control, CDC, project) We began our 2012 2x/month monitoring of detention ponds at Kiawah and will continue with this schedule until October. No fish kills or blooms were reported during the month of May. However, substantial numbers of the ichthyotoxic raphidophyte *Fibrocapsa japonica* were noted in several locations during the beginning of the month, but not toward the end. No other HAB-related health or environmental events were noted.

Assessing Phytoplankton Responses to Nutrient Levels in SC Estuaries (EPA project) – Staff are working through the spring field experiments and deployments of our nutrient addition bioassays to assess biological responses to various nitrogen and phosphorus conditions in four distinct SC coastal systems. Dr. Greenfield and staff submitted our semi-annual report to the EPA. Findings of note included (1) there does appear to be system-specific differences in terms of overall water quality and nutrient levels that likely influence biological responses, though this work is still ongoing, (2) our total nitrogen analyses are aligned with those of DHEC's results for the same sample thus ensuring our QA/QC, and (3) as expected, systems differ in their water quality and responses over an annual cycle.

Adpating the Sandwich Hybridization Assay for Red Drum (Sea Grant) – Monthly sampling for red drum eggs (to provide a baseline prior to the summer peak spawning season) continues. Samples have been shipped to USC for capture probe development (estimated 2-3 months). The student involved with this project passed her oral exam.

MERHAB: Comparative analyses of sandwich hybridization assay and quantitative PCR for identifying and quantifying harmful algal bloom species – We completed all experiments examining the molecular quantification of the ichthyotoxic raphidophyte *Heterosigma akashiwo* using sandwich hybridization (rRNA-targeted DNA probes). We also received word from NOAA that due to severe cuts in the federal budget all HAB grants with >1 year remaining are getting significant (nearly half) cuts. This news will have substantial negative ramifications on funding, staff support, and overall group activities.

Cyanobacteria population genomics (USC Investigator Award) – Staff have finalized samples for the 454-pyrosequencing of the *mcyD* gene, a key operon in the production of the potentially lethal hepatotoxin microcystin, from the Kiawah August/September 2011 cyanobacteria bloom.

### **Estuarine Finfish Research**

Striped Bass: Staff are continuing to genotype historic genetic samples for a temporal comparison across South Carolina with preliminary analyses complete; genotyping of striped bass samples from Lakes Murray, Marion and Moultrie are ongoing. Analyses on the 'escapee' potential of Roanoke strains from Lake Norman (NC-stocked) are continuing. Analyses for the FWF Annual Report are ongoing.

Approximately 240 1 year old striped bass were tagged and released in the Wando River at Paradise Landing on June 5th. These fish are genetically unique from the phase II stripers released in the fall and should provide movement and habitat information.

Approximately 70 2 year old striped bass were tagged and released in the Ashley River on June 6th. These tagged fish will provide information on movement, habitat, and angler participation in the Ashley.

The final striped bass pond at WMC was harvested on May 24th. A total of 70,951 fingerlings were harvested. Approximately 19,300 were brought into the hatchery to be weaned and grown to phase II while the remainder were transported to MRRRI and put on the tank pad due to a trailer malfunction. On May 31st, nearly 35,000 fingerlings from the tank pad were transported to Lake Murray and released.

The total number of striped bass fingerlings produced from 500,000 fry stocked in ponds at WMC this spring was 273,833 with a mean size of 34.6 mm TL. Survival in the ponds was 54.8%.

**Genetic Influences of Overfishing:** For the red snapper project, genotyping based on DNA from otoliths of fish sampled during 1977-1978 sample genotyping is nearly complete, genotyping of 2012 collected MARMAP samples is ongoing. Staff are completing the data analyses of the 1983-1984 data to compare with previous data from 1999-2000 and 2007-2009.

**Spotted Sea Trout:** On May 25th, approximately 140,000 spotted seatrout larvae were stocked in a single pond at WMC. On June 4th, seatrout broodstock in NWL 6 were weighed and measured. Four females were injected with spawning hormones; however no spawns were produced by June 6th. On June 6th, approximately 418,000 spotted seatrout eggs were collected from NWL 2. Larvae will be stocked in ponds at WMC by June 8th.

**Weakfish Genetic Identification:** Staff are continuing to process historic samples to verify identifications and application of the identification key to those samples is ongoing. Staff are completing the processing of fish samples collected this spring and will be meeting with SEAMAP staff shortly to compare the genetic results with morphological characteristics of the sampled fish to hopefully clarify field identification of hybrid individuals.

**Trammel and Electrofishing Surveys:** All 9 trammel strata and all 6 electrofishing strata were completed for May (this included our two quarterly Port Royal trammel strata). June strata completed so far include Charleston Harbor, ACE Basin and Ashley River (trammel) and Cooper River (electrofishing).

**COASTSPAN survey (shark gillnet):** Eight days of sampling were successfully completed in May, with two days lost due to tropical storm weather. Sampling was also performed in Port Royal as part of collaborative project collecting blacknose shark samples.

**Fishing Tournament:** Six staff members attended the Lady Anglers' Tournament and obtained biological data and samples from 25 spotted seatrout, 20 southern flounder, 16 sheepshead, 5 red drum and 2 bluefish.

**Red drum egg project:** Three plankton tows were performed in Charleston Harbor as part of our continuing effort to obtain out-of-season versus in-season samples for comparative purposes. The next trip is scheduled for June 14.

**Diamond back terrapins:** Hannah Day (CofC Masters student) began PIT tagging terrapins with the cooperation of Inshore Fisheries. Hannah will be focusing on the Charleston Harbor population. She is tagging turtles captured incidentally in the trammel net survey.

**America eels:** America eels juvenile stages (elvers) were collected from Bonneau (originally captured in the St. Stevens fish ladder). They are being screened for the presence of invasive swim bladder parasites with the cooperation of Dr. Isaure de Buron (CofC).

## **Genetics**

**Toxin Mixtures:** Most of the effort the reporting period was focused on spawning fish as part of the recently awarded Sea Grant project on striped bass and a study of toxin mixtures with Peter Moeller (NOAA) and Matt Bertin (MUSC).

The effort in toxin mixtures is an effort to solve a long-standing problem in toxicology and other exposure studies, which are limited to one or a few compounds and have difficulty identifying interactions among compounds. Our approach allows multiple compounds and multiple levels of each compound to be assayed with a very small number of samples (ca <100) and produces highly reliable results.

**Striped Bass spawning:** The striped bass spawning effort on domesticated fish was very successful with a wide range of fertilities from 0%-91%, which were ideal for the project objectives. Spawning of wild Roanoke fish was also considered successful with fertilities ranging from 0%-27%, which is typical of fertilities in wild stocks based upon historical data.

## **Shellfish Research**

**SC Sea Grant Consortium Triploid Oyster Project:** Meat weight analyses from final sampling events continue. A brief summary of scientific "Impacts/Accomplishments" was submitted to the Sea Grant Consortium at the request of Rick Devoe. An article on this project was also submitted to the East Coast Shellfish Growers Association newsletter.

**Saltwater Recreational Fisheries Advisory Council / Dingle-Johnson Act funding for oyster reef assessments:** Helicopter flights were completed from May 2<sup>nd</sup> – May 4<sup>th</sup>. Parts of Kiawah 194W were re-flown applying more up-to-date protocols. Portions of the Charleston Harbor, Ashley, Cooper and Wando Rivers were also flown. The remaining flight hours for the current fiscal year were used to fly some remaining areas in the Wando River on May 31<sup>st</sup> that had not previously been completed. Work continues on the updates to the oyster GIS data layer within the Folly East State Shellfish Ground (S206E). Kristin Schulte has also been processing some boundary changes to the shellfish permit GIS layer.

Southeast Aquatic Resources Partnership (NOAA): Oyster density and size data were collected for the Charleston Harbor reefs on May 1<sup>st</sup>, Dawhoo River reefs on May 2<sup>nd</sup>, Stono River reefs on May 3<sup>rd</sup>, and the Ashley River sites on May 8<sup>th</sup>-10th. A crab trap reef site in the Ashley River near Brittlebank Park was successfully sampled by kayak, collecting photographs to determine percent cover by live oysters. Image analysis from previous sampling events continues. Shellfish Research Section staff provided technical guidance to Jaclyn Daly (Fisheries Biologist, NOAA-NMFS, Charleston, SC) and Rusty Swafford (NOAA Habitat Conservation Office, Galveston, TX) regarding the use of crab traps as reef substrate. Texas has a 2-week closure to its crab season during which very large numbers of traps are removed from the environment representing a viable source of substrate for reef habitat building.

State Wildlife Grant (crab-trap oyster reefs project): SCDNR law enforcement donated a total of 17 crab traps removed from South Carolina waters to be repurposed for the construction of oyster reefs. Fifty more traps have been coated in concrete in preparation for new reefs to be constructed this spring. An additional 23 cement coated crab traps were added to the demonstration reefs at Bears Bluff, Hutchinson Cut (ACE Basin) and Fort Johnson with the help of volunteers including the College of Charleston's Conservation Biology Maymester class. A further 15 abandoned crab traps were donated to the Shellfish Research Section by USFWS staff and 50 crab traps were donated by a commercial crabber for the construction of additional reefs.

Collaborations with The Nature Conservancy: The Nature Conservancy is proposing to create a GIS-based mapping tool to highlight general areas suitable for oyster reef restoration and is looking for a location in the state to begin the project. Site locations and a list of data collected from all pertinent Shell Research Section / Office of Fisheries Management Shellfish Management Section projects from 1999- present were compiled and sent to The Nature Conservancy to assist them with site selection. Oyster density and size data, sediment samples, Spartina density, shoreline elevation, and shoreline change data were collected from the Jeremy Island and Skrine Creek oyster castle sites near McClellanville.

Gulf and South Atlantic Regional Panel on Invasive Species: A tiger shrimp was reported from the Edisto area on June 5<sup>th</sup> 2012 and this specimen has been delivered to staff within the Shellfish Research Section for processing prior to the delivery of genetic samples to colleagues at the USGS. Elsewhere in the region (Florida), there have been reports of this species earlier and at smaller sizes than in recent years, which may be related to the milder winter temperatures and greater overwintering survival.

Miscellaneous: Shakayla Simmons, Academic Magnet High School, is conducting her senior research thesis project within the Shellfish Research Section this summer, focusing on oyster recruitment to the 2011 oyster castles that form part of the collaborative project with The Nature Conservancy.

### **Sustainable Mariculture/Crustacean Monitoring**

ACE Basin Systemwide Monitoring Program (SWMP): A draft of an internal Standard Operating Procedures manual is complete and is currently being reviewed by staff. Compiling and graphing nutrient and weather data in preparation for the upcoming 5-year synthesis report. An ACE Basin NERR biologist is helping develop ground-truthing guidelines for the NERRS GIS procedural manual.

ACE Basin Sentinel Sites project: Located tidal benchmarks needed for horizontal and vertical measurement of the Reserve's water quality datalogger and the sediment erosion table station. The South Carolina Geodetic Survey will assist us. This will permit direct correlation of water level data and sediment readings, respectively, to mean sea level. Installed porewater wells and vegetation monitoring transects at Edisto Island Beach State Park site. Measuring depth to the water table, pH, salinity, and ORP (oxidation-reduction potential) of the groundwater will help us understand vegetation responses associated with environmental changes. A baseline land cover/land use map of the sentinel site has been prepared and the map will be ground-truthed this summer.

Crustacean Monitoring: Initial creek samples collected near average numbers of brown shrimp in a wide range of sizes, typical for this time of year. Recent rainfall should enhance growth for both juvenile brown and white shrimp. Trawl sampling around Charleston Harbor collected above average numbers of brown shrimp, with size somewhat above average. Crab pot sampling near Fort Johnson collected good numbers of mature female blue crab.

Horseshoe Crabs: Horseshoe crab work up continues at local biomedical facility, with an earlier end date for bleeding anticipated. Tag return data for SC Sea Grant study is being collected by the facility, and the draft report for an economic impact study of the fishery is being reviewed.

USMSFP General Activities: The summer interns have arrived: 1) Player Aston from Clemson, 2) Stacey Moller from Texas A&M, 3) Rebecca Swearingen from Depauw, and 4) A. J. Brannan from Jacksonville State. They are assisting with ongoing projects, and beginning work on their independent projects.

USMSFP Commercial Raceway: The shrimp nursery raceway has been stocked with postlarvae. These shrimp will be used: 1) in the polyculture study, 2) for summer intern projects, and 3) to stock the commercial scale raceway for a moderate density summer trial. Results from the Population Demographics study are being incorporated into the sampling strategy during the course of the growout trial to improve management of the system.

USMSFP Population Demographics study: This study to assess population size in biofloc-based shrimp culture raceways using different sampling techniques concluded. Preliminary analyses suggest that in-situ monitoring cages are the most accurate of the techniques evaluated.

USMSFP Nitrate study: Building upon experiments conducted the previous two summers, a system of 18 aquaria is being built to assess the stress induced on shrimp by rising levels of nitrate that accumulates during grow-out in closed production systems. Working in collaboration with a University of South Carolina at Beaufort (USCB)'s Public Health faculty member, we will investigate a possible correlation between rising nitrate levels and Vibrio infections.

Blue Crab Mariculture project: Sponge crabs were obtained from the Crustacean Monitoring program and from traps in the Colleton River at the Waddell Center. Work to enumerate the number of offspring produced per crab and then to raise those offspring is ongoing. Cultures of several algal species and rotifer cultures must be optimized to provide consistent, sufficient food for the larval crabs.

SCSGC Polyculture project: Construction for the shrimp-red drum-oyster polyculture systems is continuing. Preliminary work has begun to develop a method for optimizing solids management. Two systems currently contain shrimp, and postlarvae for the other two systems are growing in the nursery raceway. Modeling of the nitrogen mass balance within the system and developing the methodologies to measure the model's parameters are underway.

### **Waddell Mariculture Center**

The center received \$2300 in donations this month. The Historic Bluffton Arts and Seafood Festival made a \$2000 donation.

DNR SCORE biologists and 22 volunteers spend almost half of a day installing oyster bags in front of the center's bluff to help deter erosion of the 19 ft bluff. A second day is scheduled to complete the work.

Volunteers from the Hilton Head Island Builder's Association have spent several days replacing siding on the Turnure House (dormitory). Dave Harter of Glidden Paints has already begun caulking and painting the exterior of the building.

The center's abandoned Annex building, that served the center for many years, has been demolished. Beaufort County paid to have tests performed to see if the building contained any contaminants such as asbestos. They also submitted and paid for the DHEC demolition permit. Beaufort County removed all structures above ground, hauled in top soil, and graded the site. This work was performed at no cost to the DNR.

### **In Water Sea Turtle Project**

Solinst CTD data loggers were tested and calibrated, and deployment technique in the trawl net (~2 m upstream of the elephant ear) was finalized. Accurate data appear to be recorded both during bottom trawling (2.8 kts) and while towed at the surface (8 kts) in between trawling events. First cruise of the season on the Lady Lisa will begin on May 21. Twenty-seven trawling events were completed which yielded four loggerheads and one Kemp's Ridley turtle. The second cruise of the season on the Lady Lisa began on 30 May; the cruise was delayed by a day due to TS Beryl and nearly abbreviated by a day due to a stingray wound injury that required transport of injured personnel (J. Alderson) to shore. Sixteen trawling events were completed and resulted in the capture of four loggerheads and one Kemp's Ridley.

### **Minorities in Marine and Environmental Sciences (MIMES) Program:**

The five students in the 2012 MIMES Program are from the University of Maine, the University of North Carolina – Wilmington, New Mexico State University, and Savannah State University (2). Students arrived in Charleston on May 13<sup>th</sup> and have now completed their first four weeks in the Program. Students completed SCDNR driver safety and laboratory classes, library orientation, classes in project planning, forming hypotheses, the scientific method, effective and professional communication in research, ethics, and introductory classes in statistics. Students also participated in team-building exercises at the James Island County Park. Finally, a MIMES Program Facebook was created in an effort to reconnect with past students and remain in contact with current students. This is a strategy strongly endorsed by the National Science Foundation that should be viewed favorably in future proposal submissions to continue this program.

## **Office of Fisheries Management (OFM):**

### **Shellfish Management:**

#### **Commercial Management**

7 permit holders requested verification for legally required shellfish culture permit plantings for 10 permits during May. Through calendar year 2012, permit holders have requested planting verification on 31 different permits with 25 completing planting quotas for 2012. A total of 31,803.8 U.S. bushels of shellfish seed, green oyster shell, clam cover or approved cultch, cultivation, or equivalent has been planted. The assessed planting quota for the state's 122 culture permits is 119,042.9 U.S. bushels after taking into consideration permit cancellations, acreage reductions or increases, boundary modifications and approved variances. Shellfish seed may be planted throughout the calendar year, however by S.C. law (§ 50-5-940), cultch must be placed between 01 May and 31 August for credit. Two variance requests for alternative cultch materials were approved in May.

Seven of 53 required Mariculture Operations and Activities Reports were received and approved as of May 30 (reports were due June 1). Notices will be sent to those whose reports are not received by June 8.

Lee Taylor continued annual State Shellfish Ground (SSG) assessments, completing 4 grounds this month. Although there are a total of 77 SSGs annual assessments are generally limited to 20-25 of the more heavily used/productive grounds. Less productive grounds are assessed on a rotating basis, with a total of ~30 grounds assessed each year.

The Shellfish Permit Committee met to consideration disposition of culture permits voided due to non-payment. The Shellfish Permit Committee reallocated some of the acreage, resulting in 2 new SSGs, 1 expanded SSG, and 3 culture permits. The Culture Permits will be advertised as available as soon as maps are finalized.

#### **Shell recycling and planting; recreational management**

Ben Dyar and Frank Bell met with Jessie Kanozak from the newly initiated Martha's Vineyard Shell Recovery Program and gave her a tour of DNR's oyster shell recycling program. Miss Kanozak was seeking ideas to aid the growth of the Martha's Vineyard program and ways to make it more efficient.

Ben Dyar along with Scott Whittaker from the CCA met with Boeing officials to discuss a possible grant from Boeing to aid the oyster shell recycling and planting program.

Maintenance and repair of the DNR barge The Indigo Princess was completed. The barge will be moved to Bulls Bay the first of June for planting shell in Charleston County. 10,000 bushels of shell were moved to Chechessee River Landing in Beaufort County for planting. Planting will be contracted out to Bluffton Oyster Co. and the shell will be placed within the public shellfish ground on Chechessee Creek.

685 bushels of shell were recycled this month. The Mt. Pleasant bin was cleaned out this month.

#### **Grant activities**

#### **NOAA-SARP and Atlantic Coast Fish Habitat Partnership (3 grants)**

Staff selected 2 new large-scale planting sites totaling 0.29 acres on St. Pierre Creek for planting during phase one of this project. A total of 0.45 acres (6,520 bushels) will be planted at 4 sites this summer. Staff worked with contractors to plant 3,630 bushels of shell at 1 site on the South Edisto River and 2 sites on St. Pierre Creek. We were hoping to plant more shells, but due to issues with the trucking company not making deliveries on time, we were unable to plant full barge loads (1,150 bushels) on the first three days of planting.

38 students from the 8<sup>th</sup> grade at Colleton Middle School volunteered 228 hours to deploy 760 SCORE bags at the Fenwick Cut reef site in the ACE Basin. An additional 53 students from the 7<sup>th</sup> grade at Colleton middle volunteered 318 hours to plant *S. alterniflora* behind the new reef at Fenwick Cut. All volunteers were transported to the site by SCDNR's E/V Discovery.

Eighty-two people volunteered about 513 hours to deploy 1430 SCORE bags on the Ashepoo-Coosaw Cut in the ACE Basin and transplant 150 *S. alterniflora* seedlings behind the new reef. Volunteer groups included students from Ashley Hall and Porter Gaud, volunteers from the Gullah/Geechee Sea Island Coalition, Lowcountry Master Naturalists and members of the general public.

#### **State Wildlife Grant and SCORE:**

Nine volunteers from the town of Mt. Pleasant and Academic Magnet High School deployed 200 bags at a SCORE site adjacent to the new dock at Shem Creek Park. Twenty-four volunteers from the Murrell's Inlet Rotary Club and the Murrell's Inlet Chapter of the Coastal Conservation Association deployed 375 bags at a SCORE site in Allston Creek in Murrell's Inlet. The volunteer groups made 175 bags for the build earlier in the day at the recycled shell pile in Hobcaw Barony. Twenty-nine volunteers from East Cooper Montessori School deployed 175 SCORE

bags at the reef on Daniel Island. A proposal was submitted for the next round of State Wildlife Grants to continue our SCORE work.

#### National Fish and Wildlife Foundation

This grant closed this month. Volunteer hours were tabulated so that final accounting could be submitted. We are completing our final report for this grant.

#### Seeds to Shorelines

One hundred and fifty students from William Reeve's Elementary School planted about 300 *S. alterniflora* plants at a site in Palmetto Islands County Park. Fifty-four volunteers from Sullivan's Island Elementary School planted about 100 *S. alterniflora* plants at a site on Sullivan's Island. Eleven students from Archibald Rutledge Academy planted about 50 *S. alterniflora* plants at a site next to the McClellanville public boat landing. – Forty volunteers from Ashley Hall School planted about 100 *S. alterniflora* plants at a site adjacent to the Charleston City Marina. Volunteers also planted seedlings behind reefs in Fenwick Cut and Ashepoo/Coosaw Cut in the ACE basin.

Twelve teachers were accepted for the summer teacher's workshop at Bennett's Point. Staff worked with Elizabeth Vernon Bell and Kim Counts to develop workshop materials and finalize the workshop agenda.

#### **Meetings and Collaborations**

Michael Hodges spoke to the Murrells Inlet Rotary Club about the SCORE Program. Murrells Inlet Rotary Club assisted the Coastal Conservation Association with bagging shells at Hobcaw Barony and constructing an oyster reef on Allston Creek in Murrells Inlet. Coverage of the event was provided by the Coastal Observer newspaper.

Nancy Hadley attended the Gulf and South Atlantic Shellfish Conference in Savannah. A presentation on SC's ¼ m digital aerial survey was well received. A follow-up meeting with DHEC and FDA was held to discuss how some of the new FDA regulations will be handled in South Carolina. We also began planning for the 2013 meeting which will be held in SC, probably in Charleston.

Nancy Hadley met with Tony Wartko, Sea Pines Plantation, to discuss oyster education/outreach possibilities for their fishing pier and nature guides.

Nancy Hadley and Susan Davis met with representatives from SCE&G and their contractors to discuss plans to install backup electrical service to Isle of Palms by installing buried cables across Hamlin Creek and adjacent areas. The contractors have taken great trouble to avoid impacting oyster reefs and damage should be minimal.

Nancy Hadley met with Tracy Sanders from the Army Corps of Engineers to discuss development of a general permit for SCDNR oyster restoration work. A new PCN was submitted for additional restoration sites added to this year's agenda.

#### **Finfish Management:**

##### **I. SECTION ACTIVITIES**

Press Release/Media Contacts - SC Sportsman Magazine and Talk Magazine, a local Greenville publication, both covered an Artificial Reef Program presentation given in Greenville to the Greenville Saltwater Sportfishing Club.

Talks - Bob Martore gave a presentation on the artificial reef program to the Greenville Saltwater Sportfishing Club.

##### **II. PROGRAM STATUS REPORTS**

###### **Artificial Reef Management and Development**

Four missing reef buoys were replaced this month in the southern region of the state; the Fripp Island Reef, Hunting Island Reef, General Gordon Reef and Eagle's Nest Reef.

Additional concrete reef units were placed on the General Gordon Reef.

#### **Statistics:**

##### **General Activities**

- Delinquent letters for late submission of April mandatory logbooks were mailed on May 15th (222 letters) to license holders for April reports not yet received by the May 10th deadline. The affidavit list which includes delinquent offenders for April and prior months was generated on May 30th, 2012 (62 offenders) and was turned over to the Law Enforcement Division.
- Several data requests were completed this month including Shrimp, Snapper/Grouper species, tuna, and shad catch/effort and landings data.

### **Commercial Trip Interview Program**

- There was extensive *sampling effort in May as the spawning closure for Snapper Grouper fisheries was lifted on May 1<sup>st</sup>. May sampling efforts provided 18 commercial trips being sampled, with 373 length frequencies with 344 associated age structures being obtained. Port agents were active this month with data entry for ACCSP and TIP trips and QA/QC practices. In addition, the juvenile gag sampling continued this month in Winyah Bay/North Inlet. The traps will be sampled every Monday – Wednesday – Friday through mid June.*

### **Recreational Statistics Section Summary**

- Creel Clerks intercepted 154 fishing parties with a total of 327 anglers interviewed during the month of April 2012. Fish measured included: 8 cobia, 2 black drum, 64 red drum, 28 spotted seatrout, 58 southern flounder, 33 southern kingfish, 6 Atlantic Croaker, 9 silver perch, 1 black sea bass, 3 Atlantic sharpnose shark, 1 blacktip shark and 12 sheepshead. Four sets of otoliths were collected from Atlantic Croaker for the inshore fisheries section of MRRI.
- Field work continues for the Horry County Pier Survey with Coastal Carolina University (CCU). CCU students conducted 591 angler interviews in March and April. 375 fish were harvested by interviewed anglers (large majority were kingfish and bluefish), and 164 harvested fish were measured. Two CCU students left the project (due to graduation and other summer commitments) and two new students were hired on for the summer.
- OFM personnel continued weekly visits to Charles River Endosafe's facilities in Charleston, SC to collect weight and width measurements of horseshoe crabs (HSC) for 2012 ASMFC HSC compliance report.
- Recreational Fisheries Staff received grant funding through ASMFC to complete work on the 2013 Marine Recreational Information Program (MRIP) Access Point Angler Intercept Survey (APAIS) South Carolina site register. Staff developed an inventory list of recreational fishing access points with associated fishing pressures in coastal SC; are holding regional workshops with field staff, biologists, and law enforcement personnel to review the site list and fishing pressures; are conducting site visits to collect site descriptive information and information to assist with assigning fishing pressures; and are working with Responsive Management to conduct a phone survey of charter vessel owners and operators to collect information on access points and trip duration to supplement charter vessel logbook data.
- Staff submitted a grant to ASMFC for National Saltwater Angler Registry (NSAR) funding. The grant proposal seeks to improve SCDNR licensing data so that SC anglers can remain exempt from the NSAR.
- Staff continue to work on the saltwater section of the FY2013 Rules and Regulations publication and have completed edits on the commercial saltwater fishery licensing handouts.
- Staff continue to work with licensing staff and SCI personnel on the commercial and recreational saltwater components of the new Oracle based licensing system.
- OFM personnel continued shrimp composition sampling at docks/seafood houses along the coast.

Additional activities during the month of May included: working closely with commercial seafood dealers to ensure compliance with reporting, assisting DNR's oyster shell recycling program and freezer program, distributing rules & regulations books and fish rulers to coastal businesses as requested, and participated in in-water sea turtle cruises

## WILDLIFE AND FRESHWATER FISHERIES

### DEPUTY DIRECTOR'S OFFICE

Key meetings included a deputy directors' retreat and DWMA, Styx expansion planning, conversations with HR and staff to discuss staff salary adjustments, a DNR Board meeting, Clemson Youth Learning Institute to discuss potential land trade, and numerous Legislative committee meetings. Time was also devoted to dealing with issues of timber harvest at Wee Tee WMA, trout issues on the Lower Saluda River, and fox pen issues.

### **Assistant Deputy Director**

Reviewed documentation regarding proposed mitigation bank in Horry County. Investigated easement request on DNR land in Marion County. Worked with DMV regarding new sea turtle license plate. Prepared position description for State Wildlife Plan Coordinator. Investigated dam collapse on former DNR property. Assisted with evaluation of uniform items for division. Investigated fox pen issue in Georgetown County. Contracted for environmental assessment of one proposed property donation in Lexington County and another in Georgetown County. Examined property for sale in Pickens County. Obtained appraisal on potential property purchase in Aiken County. Contacted surveyor regarding encroachment at DNR fish hatchery in Lancaster County. Meetings and events attended: DNR Board meeting; monthly staff meeting; meeting with USDA; meeting with Human Resources on career path; SC Conservation Voters reception; and annual in-service training at Criminal Justice Academy.

### **Office of Environmental Programs**

#### **Permitting and Review**

Staff coordinated 53 DNR reviews (5 COE, 20 DHEC, 23 State Clearinghouse, 5 Misc.) of environmental permits and authorizations for the 38 inland counties. Staff participated in DLEO Inservice Training, attended the Administrative Law Court hearing for Savannah Harbor Expansion Project and attended a workshop on dam removal sponsored by American Rivers.

#### **FERC Projects**

Columbia Hydroelectric Project (FERC Project No. 1895). Staff participated in field survey and monitoring of Rocky Shoals Spider Lily on May 14-16. Staff continued consultation with City of Columbia regarding proposed tree-removal plans for the canal embankment; and staff provided related information in response to a FOIA request. Staff provided comments to Lockhart (project operator) to address proposed changes to an Operational Compliance Monitoring Plan.

Coneross Hydroelectric Project (FERC Project No. 6731) and Pelzer Hydroelectric Projects (FERC Project Nos. 10253 and 10254). DNR staff provided consultation with the operator of these three projects, ENEL Green Power, regarding the scheduling of reservoir drawdown and release of sediments for maintenance at these projects.

Keowee-Toxaway (KT) Hydroelectric Project (FERC Project No. 2503). Relicensing process continues and DNR staff participated in several meetings to address lake-level performance measures for Operational Scenarios in water quantity models of the KT Project. Related KT meetings on modeling and Water Supply studies occurred May 23 and 30, respectively.

Lockhart Hydroelectric Project (FERC Project No. 2620). Staff provided consultation to Lockhart regarding trash-rack bar-spacing changes at the forebay of a new minimum-flow turbine.

Neal Shoals Hydroelectric Project (FERC Project No. 2315). SCE&G is implementing fish and macroinvertebrate monitoring studies and continuing to monitor sediment profiles in the Broad River channel in response to the Oct-Dec 2011 sediment release from Neal Shoals Dam.

Riverdale Hydroelectric Project (FERC Project No. 13590). Relicensing process continues. FERC issued public notice of acceptance of the license application on May 7. FERC is currently evaluating information to prepare a draft Environmental Assessment of the Riverdale project.

Saluda Hydro Project (FERC Project No. 516). Relicensing process continues in delay awaiting decisions related to the endangered species, shortnose sturgeon. On May 1, DNR staff requested SCE&G to provide a specific flow below the dam to support aquatic resources of the Saluda River pending the issuance a new license; and SCE&G responded favorably reporting they would provide requested flows.

#### **Special Projects**

Haile Gold Mine. Staff submitted comments to the Charleston District Army Corps of Engineers May 25, 2012 on the Comprehensive Baseline Wildlife and Aquatics report prepared by the Applicant's agent, ARCADIS, in support of the draft Environmental Impact Statement.

## **FRESHWATER FISHERIES:**

### **Freshwater Fisheries Coordination and Administration (Chief's Office)**

Staff attended the Region 4 Federal Aid Coordination meeting.

Staff attended the Santee Cooper Stakeholder meeting.

Staff attend each Law Enforcement Division inservice training to brief class on upcoming freshwater fishing law changes.

Staff met with Pickens County Council members to discuss the Twelvemile Creek restoration project.

Staff participated in the meetings of the Rules and Regulations Book Revision Committee.

Staff participated in a PAG conference call to discuss the upcoming federal data management system for federal aid programs.

Staff participated as a peer coach in the National Conservation Leadership Institute graduation event in Arizona.

Staff meet with Marine Division staff to discuss management and compliance issues associated with the recent listing of Atlantic Sturgeon.

Staff attended the Steering Committee meeting for the Southeast Aquatic Resource Partnership.

Staff met with Marlboro County Council members to discuss Lake Wallace management issues.

Staff attended the ground breaking for the Greenpond Fishing Event Center in Anderson County.

### **Region 1**

Conducted interviews for Biologist III position in Region 1. The position has since been reposted to a Bio II.

Fisheries staff spent two days making repairs to the Clemson office metal roof by pushing up panels and batons that had slid down exposing roof felt. The panels were secured with a single neoprene washer screw at the top of each panel along the line of the ridge cap to keep the panels from sliding down again.

DNR staff attended three Trout-in-the-Classroom releases.

Conducted maintenance on Region 1 boats

Met with Duke Energy to discuss the annual Bad Creek Fisheries MOU.

Attended a Fisheries Coordinator conference call.

Attended the Region 1 Hub meeting at the Clemson Office.

Attended a Richard B. Russell quarterly meeting with USACE and GADNR

Attended a GADNR public meeting on border water fishing regulations in Augusta, GA

Conducted fingerling stocking of trout in upstate put-grow trout streams to increase fishing opportunities

Coordinated with fisheries staff at the Dennis Center to stock striped bass and hybrids in Lakes Hartwell, Thurmond and Greenwood

Conducted standardized gill netting on Lake Jocassee

Read otoliths for age determination.

Opened state lake – Star Fort Pond for fishing, and attended a safety meeting and coordinated maintenance activities with the NPS. Also scheduled a meeting with NPS to discuss renewal of the fishing lease.

Conducted maintenance at the Calhoun Falls bank fishing area in preparation for the fishing rodeo

Researched equipment and locations for future Schlumberger habitat enhancement work on Lake Hartwell.

Downloaded temp loggers in Region 1 reference streams

Sent blood samples for ploidy testing of Jocassee trout to the USFWS' Warm Springs Fish Lab.

Continued ongoing creel surveys on Lakes Jocassee and Greenwood

Continued conducting stream habitat surveys on Jocassee Gorges streams in conjunction with the SARP/EBTJV Grant and the USFS Challenge Cost-Share agreement

Continued trout stocking in mountain streams on schedule

Answered numerous questions about the upcoming changes to Chapter 13 regulations

Assisted a number of pond owners with technical advice

Assisted the SCPRT with weed identification and treatment needs at Oconee State Park.

Continued tracking striped bass on Lake Thurmond.

Participated in two conference calls with DNR OEP and hydrology staff to discuss water quantity issues associated with the Keowee-Toxaway FERC relicensing process.

Accepted resignation and conducted exit interview with a temporary grant technician.

Met with other DNR staff and Clemson University staff to discuss sampling protocol for the Jocassee Gorges brook trout project.

## **Region II**

Region 2 personnel initiated sampling for flathead catfish and bowfin on the Little Pee Dee River. Sampling techniques used included boat electrofishing, bush hook sets and gill net sets. Five-hundred-seventeen minutes (8.6 hours) of boat electrofishing time was expended during the month. A total of 36 flatheads and 19 bowfin were captured during the month by boat electrofishing. Bush hooks set for two nights at 25 hooks per night resulted in zero targeted species being captured. Three gill nets set overnight for two nights resulted in zero targeted species being captured.

Region 2 Technician Jason Marsik assisted with a fishing rodeo for Melissa Marsik's Reel Kids Club at Dewey L. Carter Elementary School in Florence. Forty-five students participated in the Rodeo.

Biologist Stroud participated in a required Coordinator's conference call during the month.

Region 2 staff provided maintenance of equipment and grounds at the Rock Hill Workstation as necessary during the month.

Region 2 staff deployed 4 fish attractor marker buoys on Lake Wateree.

Region 2 personnel provided in-house water quality tests for 4 pond owners at the Florence office and weed identification for 6 pond owners. Biologist Stroud provided management recommendations to these pond owners as required.

Biologist Stroud responded to pond management inquiries from 12 private pond owners via telephone, email, mail, &/or fax response.

### **Contact with NGOs:**

One contact was made with Hanson Aggregate of Bennettsville regarding pond reclamation

## **Region III**

### **Reservoir Management**

Annual striped bass stocking was conducted at the Lake Murray.

Crappie otoliths from the gill net sample were examined for age determination and data analysis was completed.

Repairs to various structures at Lake Brown were done

### **Stream Management**

Data analysis for three years of the Broad River survey was completed.

Data from the 2011 stream surveys was entered into the DNR stream data base

Work continued on developing a draft study proposal the Lower Saluda River.

Electrofishing was conducted in Savannah River above Lock and Dam to assess the presence of American shad and flathead catfish

The first marked redbreast from the Edisto study were collected and confirmed.

### **Environmental**

Staff attended a Dam Removal Workshop presented by American Rivers.

### **Other**

Work on the federal aid report and the annual progress report was completed.

Routine repairs and parts fabrication was conducted on project equipment.

A presentation of the draft study plan was given to Trout Unlimited at a monthly meeting.

Fisheries outreach materials were presented to students and teachers at Heathwood School.

Staff assisted with capturing and transporting redbreast sunfish brood stock that will be used to provide fingerlings to the Edisto River.

Staff attended a meeting with the City of Columbia to discuss a proposed fishing tournament to be sponsored by the City

Staff attended a striped bass stakeholder meeting to present preliminary study results of the Santee Comprehensive Study Group

Staff met with members of TU to discuss trout management in the lower Saluda River

## **Region IV**

Project personnel helped conduct the May 7 Santee Cooper Study Group Presentation that brought outside individuals and entities into a discussion of research findings gathered over the last 4 years.

Quarterman's Pond on Bonneau Ferry was sampled for a SC DHEC mercury study focused on small South Carolina impoundments. Largemouth bass and Bream were collected for testing.

Project personnel performed striped bass electrofishing sampling of the freshwater section of the Ashley River in coordination with the MRD Mariculture section.

Kate Sheehan, a Clemson Doctoral Candidate, was assisted with equipping nesting cormorants with radio transmitters and with placing stationary receivers around the system to track their movements on the Santee Cooper Lake System.

Project personnel assisted with the harvest and distribution of the Santee-Cooper striped bass fingerlings with a stocking barge.

Blue catfish otoliths, from the 2011-12 winter sample season, were mounted, cut, and read for and analysis of age and growth. Second mounts were prepared for imperfect first round preparations.

Documentation of the expansion of the Banded Killifish (*Fundulus diaphanous*) in Santee-Cooper was continued. Personnel met with a long time fishing guide turned bait catcher who encountered one for the first time.

The section education coordinator was assisted with a 'how to' video focused on fishing for bream.

Input was provided to an inter-agency partnering meeting conducted by the DNR, Santee Cooper, and the Army Corps.

Project personnel provide assistance with a Wildlife Festival conducted by the Cross Chapter of Wildlife Action. A hands on aquatic ecology display was set-up and manned during the 4 hour event.

Potential water quality issue on the Santee River was investigated at the request of Robert Lambert. Good oxygen levels (>80% saturation) were measured at the Sand Hole and Bluff landings in Georgetown County.

12 pond owners were assisted with pond management questions and issues.

### **Hatchery Coordination**

In May, Hatchery staff certified 3,052 grass carp as triploid and issued 10 permits for those fish to be grown or sold in state.

In May the Hatchery system completed the springtime production and stocking of striped bass and hybrid striped bass statewide. A total of 3,216,753 striped bass and 685,352 hybrid striped bass were stocked statewide as fingerlings. Stocking locations included the Catawba River, Lake Greenwood, Lake Hartwell, Lake Marion, Lake Moultrie, Lake Murray, Lake Thurmond, and Lake Wateree.

Routine springtime hatchery production continued at the State hatcheries including harvesting and moving smallmouth bass, stocking brood, harvesting fry and distributing various sunfish to hatchery grow-out ponds and continued production of trout.

Hatchery staff attended the Freshwater Fisheries Coordinators Meeting via conference call.

Hatchery staff met with representatives from the Lancaster Conservation Districts to discuss cost sharing a repair project at the Spring Stevens State Fish Hatchery.

The pond renovation project at the Cohen Campbell State Fish Hatchery was advertised in SCBO this month.

### **Outreach**

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

Cohen Campbell Hatchery, Dennis Wildlife Center, Cheraw Hatchery, Walhalla State Fish Hatchery, and Spring Stephens Hatchery all reported normal visitation for this time of year. Visitation typically increases as weather warms and children are out of school for the summertime.

### **State Lakes**

Fertilized lakes: Sunrise, Oliphant, Mtn. Lakes I and II, Johnson, Jonesville, Cherokee, Long and Starfort.

Sprayed rip-rap, shorelines, parking areas and picnic sites at Lakes: Long, Mtn. Lakes I and II, Wallace, Ashwood, Brown, Draper WMA, Starfort, Johnson, Cherokee and Jonesville.

Sprayed Aquatic weeds at Lakes Johnson, Lancaster Res. and canal at Barnwell Fish Hatchery.

Stocked Channel Catfish in 3 ponds at Draper WMA totaling 550 fish. Installed one fish feeder on each lake.

Assisted in the harvest of Striped Bass at Springs Stevens Hatchery.

Maintained 8 fish feeders at Lake Johnson. Also, took down dead trees and installed new picnic tables.

Made repairs to fishing pier at Lake Warren.

Installed cable barriers at Lake Johnson and Lake Long.

Installed new boating regulation signs at Lake Wallace.

Meet with engineering section at Lake Johnson to discuss installing a new fishing pier.

Attended safety training class at Starfort with the National Park Service.

Attended meeting with Marlboro County Council about issues at Lake Wallace.

Performed mowing at Dargan's Pond, Draper WMA, and Lake Brown.

### **Diadromous Fishes**

#### **Activities**

Efforts this month included: Weekly downloading of acoustic receivers to track sturgeon movements on the Santee, Waccamaw, Pee Dee, Edisto, Combahee, and Savannah Rivers, gillnetting for shortnose sturgeon in Lake Marion and the Pee Dee River, coordinating with Bears Bluff National Fish Hatchery (BBNFH) concerning continuing Edisto River shad stock enhancement work, monitoring elver ingress at St. Stephen Dam, injecting eels with elastomer tags to assess migration routes, continuing coordination with contractors responsible for construction of an eel ladder for Goose Creek Reservoir, and conducting creel surveys for the recreational shad fishery for the Savannah River at Augusta, GA. Routine maintenance was also performed on vehicles and boats.

#### **Multi-State Sturgeon Research**

Coordination between cooperating states (NC & GA) continue. Field efforts continue weekly.

#### **Santee Accord Sturgeon Lake Study**

Field sampling and receiver downloads continue. A total of 30 shortnose sturgeon have been captured and transmitted. Gill netting and trawling for young of the year sturgeon will continue year round to assess recruitment and the status of the lake population. Telemetry data analysis has begun.

#### **Meetings and Outreach**

Personnel participated in numerous conference calls and meetings concerning ASMFC shad and river herring, NMFS protected resources, and the Santee Accord. Staff attended and presented project data as part of the Santee Cooper Comprehensive Working group meetings with public stakeholders at Santee State Park in Santee, SC. Personnel presented project data at the quarterly partnering meeting with ACOE and Santee Cooper. Staff presented project data, provided a tour, and took part in a detailed inspection of the St. Stephen fish lift. Personnel also met with the USFWS, SCE&G, Normendau Associates, Kleinschmidt, and Duke Energy regularly.

#### **Research**

A public outreach meeting on the Santee-Cooper system was organized, moderated, and held at Santee State Park. Presentations on the growth, condition and diet of young-of-the-year fishes, nutrients and plankton and benthos production, and hydroacoustic assessment was prepared and delivered to meeting attendees.

Three days of work were conducted on the Saluda River filming an instructional striped bass fishing video.

A presentation on pond life and fishes, and an electrofishing demonstration, was prepared and delivered to first graders at Heathwood Hall Episcopal School.

A master naturalist class was taught to about 20 students in Richland County; aquatic critters were the topic of discussion.

We completed aging of 340 redbreast sunfish for a stocking assessment in the Edisto River. Otoliths of fish from the 2010 year class are being processed for oxytetracycline marks to differentiate between wild and stocked redbreast sunfish.

A staff member met with Tanya Darden at Hollings Marine Lab to work out an analysis protocol for over 10 years of genetic data from largemouth bass ponds across the state.

We continued to assess our position on the stocking of hybrid state bass in North Carolina waters, such as Lake Norman, within the Santee River watershed.

During May American eel surveys were conducted 11 times at Wateree and Columbia dams. Three eels were captured in ramps at Wateree Dam and no eels were collected at Columbia Dam. High water due to heavy rains resulted in the loss of three of our four eel traps at Columbia Dam. Two of the traps were subsequently replaced.

A conference call was held with the Southeastern Aquatic Regional Partnership, U.S. Fish and Wildlife service, re: the possibility of additional funding for current conservation efforts with redeye bass in SC.

Work continued on the Thurmond Reservoir striped bass telemetry project

A report defining the amount of striped bass habitat in Lake Greenwood and the relation of habitat to incoming nutrients was worked on.

Staff is nearing completion of stream temperature logger retrieval from remaining deployments, and is well along in compiling and organizing the hourly temperature data.

We attended a workshop on geospatial modeling of biological responses to landscape and watershed influences on river and stream ecosystems.

A SWG proposal "Decision Support Tools for Stream Conservation" was submitted.

Staff continued analyzing stream fish metrics in relation to channel geomorphology, water quality, watershed condition, and spatial factors using the SC Stream Assessment database.

We began collaboration with Dr. Kupfer and his M.S. student in the Dept. of Geography at USC to write a manuscript to be submitted for publication in the Transactions of the American Fisheries Society. It will focus on Broad River Basin fish communities, comparing spatial and environmental influences on assemblage structure.

Staff continued work on the revision of the Freshwater Fish section of the Wildlife Action Plan.

Archived crayfish collections were moved to a central location.

### **Aquatic Education**

#### **Family Fishing Clinics**

Began receiving registrants for the upcoming clinics, entering their data for instructors.

Prepared Teacher's Kits for the May 5th FFC at Camp Kinard, the May 12th FFC at Lexington Wildlife Club and the May 19th FFC at Oconee State Park. Arranged pickup and drop off dates and locations to get the kits to the instructors.

#### **Fishing Tackle Loaner Program**

Prepped new fishing tackle loaner equipment for Horry County Parks & Rec.

#### **Trout in the Classroom**

Prepped aerators and mailed or dropped them off for TIC Stockings for Slater Marietta Elementary, Walhalla Middle, and Christ Church Episcopal School with assistance from Region 1 Fisheries Staff. I picked up trout from Summit Middle Parkway, Blue Ridge Middle, and Catawba Trail Elementary for stockings.

Prepped and sent out the end of the year Trout in the Classroom Teacher Survey via Survey Monkey.

#### **Youth Bass Fishing Clubs**

Attended the TBF of SC Junior Championship Bass Fishing Tournament on Lake Murray. Filmed and photographed some of the tournament with the assistance of OSS's Glenn Gardner and LE's Ken Cope. The tournament increased its participants from 38 kids last year to 98! Sixteen school affiliated clubs competed.

Sent out invitations to all who have expressed interest in middle and high school bass fishing to attend a meeting to discuss the program's future on June 20th. In attendance to the meeting will be a representative from the SC High School League, The Bass Federation's Youth Director and the founder of Rugby of South Carolina.

#### **Other**

May 2nd discussed Aquatic Education Programming on the Clemson Your Day call-in radio show with retired Communications Director, Mike Willis.

Filmed two more Thinking Outside the Tackle Box Video

Met with Don Winslow's intern Josh Addy and set him up with a project to research other game and fish agency websites for career recruitment information.

Interview with Greenville TV Station about SCDNR Aquatic Education programming. The segment will be 8-10 minutes long and air on WMYA MY 40 and WLOS TV 13 in the Greenville and Myrtle Beach areas.

#### **Chapter 13 Outreach & Education**

Emailed the press release and weblink about the new freshwater fishing laws to weekly and daily newspapers, radio stations, and TV stations around the state as well as a couple of the hunting & fishing magazines.

### **WILDLIFE SECTION**

#### **Regional Operations**

##### **WMA Hunt Management Summary**

Turkey harvest data and supplies were collected from Turkey Check Stations statewide. Work continued on the Rules & Regulation Brochure edits and WMA map changes.

Hog hunts were held on Webb, Palachucola and Hamilton Ridge WMAs with 96 hunters harvesting 13 hogs during the 3 days of hunts.

##### **Regional Operations Activity Summary**

Management recommendations were provided to 7 landowners with 2 site visits for technical assistance conducted. Other agencies were assisted on 42 occasions requiring 14 man-days. Two environmental reviews were conducted. 617 nuisance wildlife investigations were conducted including 200 nuisance alligators and 30 site visits. Slide presentations were given to 21 groups totaling 674 people. One workshop was given with 20 attendees. 42 woodduck boxes were checked and 1 new box installed. 203 bluebird boxes were checked. Two news releases were submitted. Waterlevel management required 73 man/days. Surveys included 19 dove call counts, RCW cavity surveys involving 34 clusters and 14 RCW nest checks were conducted. 37 neo-tropical bird counts were conducted. One Painted Bunting was banded. Field studies required 2 man-days and data

analysis required 9 man-days.

#### **Heritage Preserve Habitat Management Summary**

Heritage Preserve activities included 173 site visits by staff. Four field trips were conducted. Exotic vegetation control on 2 acres required 19 hours on 4 HPs. Agricultural activities included 4.5 acres mowed, 30 acres prescribe burned, 1.3 acre treated with herbicide and 18 miles of trails mowed.

#### **Wildlife Management Area Habitat Management Summary**

Field agricultural activities on WMAs included 265 acres annuals planted, 303 acres mowed, 879 acres disced, 1640 acres burned, 477 acres fertilized, 15 acres limed and 744 acres treated with herbicide. 1.5 miles of firelanes were disced, 206,360 linear feet of dike mowed, 5,780 feet of dike re-topped, 4 miles of roads mowed, 33 miles of roads scraped and 5.5 miles of roads graveled. 6 WMA signs were erected. Other signs included 2 safety zone signs and 6 misc. signs posted. Three new gates were installed and 21 gates refurbished.

#### **Wildlife Region 1**

Numerous nuisance animal complaints were handled (239). Capture drug inventory was completed for the Clemson Office and submitted to DHEC. Turkey tags were picked up from sites. Agricultural work was continued on dove fields and waterfowl areas in the Region.

A minimum of 36 bear complaints were handled in Region 1 (Anderson – 2, Greenville – 17, Oconee – 5, Pickens – 12). Traps were set at 8 sites with 4 bears were captured with 1 relocated and 3 euthanized. 21 site visits were made. Continued work on the Keowee-Toxaway FERC relicensing project. Habitat protection projects were continued in Oconee and Pickens Counties. Responded to a report of an injured fisherman on ECHP. Subject died and Pickens Rescue Squad retrieved the body. Assisted LE with a rescue of hikers stranded in Jocassee Gorges. Assisted LE with a manhunt at Saluda Lake.

Technical assistance on T&E and nongame species was provided to Clemson University (bird nesting structures), SCPRT (bat boxes), a coastal naturalist (bat detection) and SC USGS Coop Unit (mammals).

The dam, spillway and rare plants at AHP were inspected by staff.

Hog trapping was continued at BHP and CRHP (92 hours). 14 hogs were caught and euthanized at BHP.

Rare plants (thousand-leaf groundsel) were checked at GMHP and the access road was patched. A census of Smooth Coneflower plants was conducted at BzRHP. Exotic plant control was done at AHP (honeysuckle) and BHP (privet). WNS was tracked nationally. Six staffers completed rabies pre-exposure vaccination series. These were funded on WNS funds for staff that may pick up sick bats. Pre-baiting was begun for dove trapping on several sites.

Three sets of deer antlers were scored in Unit A. Hog trapping was conducted on Fant's Grove WMA with 9 hogs caught and euthanized. Finished Experimental Dove Call Counts in Edgefield County.

A contractor continued work on the parking area and road construction at Reedy River Tract. Two acres were cleared by staff with a bulldozer for the dove field at the Reedy River Tract.

Updated GIS files on Jocassee. Continued revision of Jocassee management plan. Removed downed trees from roads on Jocassee. Continued road maintenance and improvements on Jocassee. Monitored peregrine falcon nesting on Jocassee. Monitored timber operations on Jocassee. Prepared site and erected rock for memorial plaque for Lt. Franklin Gravely on Jocassee. Coordinated stream restoration repairs on Laurel Fork Creek on Jocassee.

Picked up dead Bald Eagle from Lake Jocassee.

Meetings Attended: Pickens County Outreach Meeting in Easley (1 staff member). SCDNR Jocassee Gorges Working Group meeting in Clemson (3). SCDNR Region 1 Hub meeting in Clemson (1). Met twice with Clemson University Professor Harding and partners on Sassafras Tower Project (2). Harry Hampton Banquet in Spartanburg (1). Met with Pickens County Emergency Manager and Pickens Rescue Squad in Pickens (1).

Attended Wildfire After Action Review of Musterground Fire with SCFC and Oconee County Strike Team at Piedmont Forestry Center (1). Pickens County Outreach's Landowner Supper at TRSP (1). Met with staff to inspect road work at Reedy River Tract (4). Upstate NHRFD planning meeting in Pendleton (1). Partnership for the Blue Ridge meeting in Greenville (1). Met with Asst. Coop Leader McFadden in Clemson on possible cooperative research (3). Met with Architect Gil Stewart in Pickens on the Jocassee Work Center design (1).

Met with DD Cope and Chief Ivey in Columbia on personnel issues (1). Met with Clemson Geology class to access a remote site on Jocassee (1). Led a Foothills Trail Conference member to the Sassafras Bat Tower site. One bat was using the structure (1). Helped with TNC hike on Nine Times Preserve (1).

Participated in a WNS conference call (1). An educational program was given to a homeowners group in Greenville (1). Met with USFS at Andrew Pickens RS on cooperative projects (2). Met with contractors to secure bids for hydroseeding at Reedy River Tract (1). Met with contractors to spread lime at dove fields in Cherokee, Spartanburg and Union Counties (1). Inspected several possible dove field sites in Spartanburg County (1). Attended USFS Bird ID workshop in Oconee County (4). Attended Lakelands Branch QDMA meeting in McCormick (1). TNC Fire Management Conference in Asheville, NC (1). Clemson University's Wildlife Habitat Management Workshop in Clemson (2). Met with USACOE and contractors on Laurel Fork Creek restoration project on-site (1).

### **Wildlife Region 2**

Significant time was spent picking up turkey tags from area businesses. Tags were tallied for each distribution site and the information submitted to Charles Ruth. Sherrill, Stowe and Bridgman attended bird ID workshop with Dr. Fred Alsop.

Conducted annual inventory. Staff assisted the NWTF with a youth fishing rodeo in York County. One USFWS dove call survey was completed and results mailed. Considerable time was spent on facilities maintenance and equipment repairs. Stowe represented SCDNR on South Carolina Partners for the Restoration of Native Plant Communities committee, and gave presentation on American chaffseed restoration. Stowe participated in American chaffseed field trip at Francis Marion National Forest and other sites with US Forest Service staff, SC Native Plant Society Meetings.

Stokes met with a contractor representing Hanson Aggregates to look at a mine reclamation project. Two York County HS groups were given a tour, and management program of Draper WMA.

*McBee WMA* - Applied herbicide to tree-of-heaven on 1.5 acres at McBee.

*Lake Wallace PDF* - Worked on existing fences at Lake Wallace public dove field to exclude white-tailed deer.

*Pee Dee Station Site* - Erected new sign at Pee Dee Station and removed old sign.

*Great Pee Dee HP/WMA* - Removed downed trees in road at Great Pee Dee HP. Investigated a reported bear sighting near Darlington. Tracks were confirmed. Additional reports were received.

*Broad River Waterfowl Mgt Area* - Four beavers were trapped during the month.

*Forty Acre Rock HP/WMA* - worked on timber harvest planning with SCFC, attended Lilly Fest with Katawba Valley Land Trust, updated GIS map;

*Longleaf Pine HP/WMA* - searched for American chaffseed with Jean Everett and Jeff Glitzenstein (2 days), confirmed ID of newly found purple pitcher plants; continued RCW monitoring

*Lynchburg Savanna HP/WMA* - burned E side – approximately 30 acres; searched for new American chaffseed populations with Jean Everett; surveyed and GPS'd American chaffseed with Jeff Glitzenstein; created Lynchburg Savanna American chaffseed GIS map, including data from Everett's 2009 survey conducted RCW monitoring on active, recently added nest cavity inserts on N boundary line; applied herbicide (hack-and-squirt) to sweetgum (spot treat 10 acres)

*Rock Hill Blackjacks HP/WMA* - walked bushlogged/burned areas to assess vegetation

*Woodbury HP/WMA* - surveyed remaining work to be done removing wilding loblolly pines from planted longleaf pine fields; surveyed additional units to be burned

*Woods Bay HP/WMA* - updated Woods Bay timber harvest map

### **Wildlife Region 3**

15 alligator permits were issued to private landowners. 3 bear calls were received from Richland/Lexington Counties. Staff attended the Criminal Justice Academy for recertification. Turkey tags were collected and tabulated. Signs were ordered for the heritage preserves and WMAs. Region 3 work plans and budget requests were submitted. Staff began pre-baiting for doves. Regional Coordinator Moule participated with the SC-Exotic Pest Plant Council board meeting and assisted with the development of the agenda for an upcoming workshop. New SC-Exotic Pest Plant Council displays were created including quick response codes (a.k.a. Qr-codes).

*Unit 3A* - Staff met with regional coordinator to discuss current projects and visited new unnamed WMA in Newberry County.

*Unit 3B* - Four general public days were conducted at Crackerneck WMA with the area providing 73 man/days of recreation. Fallen timber was removed from the road system prior to open dates. 20 acres of mid-understory mastication occurred at Crackerneck. The USDOE was provided with Crackerneck Harvest & Utilization reports for Spring Turkey Season, the May Non-consumptive Use period as well as a year-end summary. As a member of the Set-aside Task group, comments were provided on a SREL research proposal.

Comments were provided to the USDOE on a site use request by the US Army for use of SRS lands. Technician Chapman completed Consolidated Annual Training (CAT) to retain his SRS badge. Technicians Chapman and Martin attended a 3-day training session at Clemson on "Wildlife Habitat in Managed Forests". Caudell and Chapman assisted the LE Division on one occasion with a trespassing/night hunting/transport of live hogs case.

*Unit 3C* - 4 feral hogs were trapped at Santee Dam WMA. Technician Davis attended a 3-day training session at Clemson on "Wildlife Habitat in Managed Forests". Technician Davis attended statewide bird identification workshop. Technician Laney had contact with Robert Abernathy (NWTF) to coordinate seed acquisition.

*Heritage Preserves* - Refurbished one kiosk and erected the foundation for a replacement kiosk at Aiken Gopher Tortoise Heritage Preserve. A new Clemson Beaver Leveler was installed at Henderson Heritage Preserve. Davis trees removed 4 trees from roadside at Henderson Heritage Preserve. Coordination occurred with SCDOT to install an additional directional sign for Congaree Bluffs Heritage Preserve at the intersection of Hwy. 419 and Hwy 601. One sign was ordered for the education center at Congaree Bluffs Heritage Preserve.

Approximately, 100 nondesirable species were hack-n-squirt at Janet Harrison High Pond. Potential boundary of new acquisition adjacent to Aiken Gopher Tortoise Heritage Preserve was flagged. 3 miles of Heritage Preserve property boundary lines cleared of trash. DNR staff made final recommendations and comments to FL Fish and Wildlife Conservation Commissions MOU to translocate gopher tortoise out of FL to Aiken Gopher Tortoise Heritage Preserve.

#### **Wildlife Region 4**

##### **Wildlife Regional Coordinator**

A significant amount of time was expended in May answering calls (over 500 nuisance, alligator and general calls).

Administrative duties include: proofed Rules and Regulations brochure accuracy, submitted County Game & Fish requests, Federal Aid report, and budget requests, picked up turkey tags, mailed nuisance/rehabilitation letters and web site cards to 27 government entities in tri-county area, inspected bear pens and submitted paperwork, provided technical assistance to two landowners, conducted dove survey route, conducted four nuisance alligator site visits, and issued 22 nuisance alligator tags (340 issued to date).

Meetings attended include: Horry/Georgetown Tech Wildlife Advisory Board meeting, the Law Enforcement Advisory Board meeting and provided a tour of Botany Bay Plantation to the Advisory Board, Region 4 Law Enforcement monthly meeting (discussed bear protocol, alligator issues, nuisance issues), DNR Board meeting at Santee Coastal Reserve, met with Centex, COE, and Forestry Commission on construction of Telephone Road extension on Lewis Ocean Bay, met on site with Biologist Deanna Ruth, DNR Officer Williams, and landowner concerning bears in a fox pen, met with Deputy Director Cope on various issues and met with Phil Maier on various issues.

Inspected and met with staff on Sandy Beach Waterfowl Area, Canal WMA, Lewis Ocean Bay HP, Bonneau Ferry WMA (marked timber for 3 days), Botany Bay Plantation WMA, and Santee Coastal Reserve.

DLEO assistance (12 hour shift) was provided to DNR Law Enforcement and Representative Kevin Ryan on the Cooper River during the holiday weekend.

##### **ACE Basin Project/Bear Island/Donnelley/Botany Bay Plantation WMA's**

*Donnelley WMA* - Considerable time was spent finalizing the marking of the thinning of 691 acres of pine forest on Donnelley WMA for the potential re-introduction of RCW's on Donnelley in conjunction with other sites in the ACE. 4,000 linear feet of dike was refurbished by removing woody vegetation from the berm and repairing the lip of the dike.

*Bear Island WMA - Impoundments:* Hauled 35 cubic yards of rip rap to erosion areas on Mosquito Dike/Edisto River. Repaired water control structure damaged by fishermen with the long reach excavator. The site visit for contractors bidding on the NAWCA enhancement project was conducted.

*Botany Bay Plantation WMA* - Wood duck boxes and blue bird boxes have been checked on a weekly basis. 5 Horseback riding parties had 10 riders. Visitors: 5,106 Volunteer Hours: 934.

##### **GIS/GPS (Lisa Walters)**

Donnelley WMA Burn Grid map generated. FMNF Bird Count stop locations mapped. Assisted with timber survey for upcoming sale at Bonneau Ferry WMA. Generated location maps for Bonneau Ferry timber sale. Sandy Beach water pump installation location mapped. Delivered chufa to Botany Bay Pltn. & Donnelley WMA's. Picked up turkey tags.

##### **Waterfowl Program Activities**

Routine duties and correspondence concerning the Atlantic Flyway Council Technical Section and the Atlantic Coast Joint Venture were handled. Preliminary harvest rates for resident wood ducks and mottled ducks were estimated. The estimated harvest rate for the 2011-2012 season on resident wood ducks is 9% and on mottled ducks is 8%. Final figures for the 2012 wood duck box project were tabulated: 211 applicants received 943 boxes. Two complaints concerning nuisance mute swans were handled. One interview was given to an outdoor writer about the upcoming 2012 duck season. The narrative for the 2013 Duck Stamp Budget staff recommendation was developed and sent to Administration.

#### **Yawkey Center**

Staff assisted the DNR Sea Turtle Project and volunteers to erect an electrified sea turtle hatchery on North Island and dug out the hatchery after it was covered by windblown sand from Tropical Storm Beryl. Removed 3 feral hogs from North Island nesting beaches. Completed the annual spring shorebird counts within the managed wetlands in cooperation with the Cape Romain Bird Observatory. The highest single count was 29,000 individual birds. Conducted 6 educational field trips for the public (82 people).

Conducted a field trip for the Environmental Ecology class from Warren Wilson University. Hosted 12 students and 4 faculty from Coastal Carolina University for a two week archaeology field school. Toured cultural sites on Yawkey Center with DNR Archaeologist Sean Taylor. Look at potential sites for research on marsh wrens and rice rats with graduate students from Coastal Carolina University and the University of Maryland-Eastern Shore.

Continued coordinating a research project on the nesting ecology of Wilson's plovers on South and Sand Islands with graduate student Liz Zinser from Clemson University. Began the annual sea turtle nest monitoring project on South and Sand Islands with Clemson University graduate students Caity Brig and Brett Quattlebaum, and intern Sheridan Boyles from Warren Wilson University.

Began hosting 2 summer interns from the Wildlife Management Program at Horry-Georgetown Technical College. Attended a joint Wildlife and Forestry Advisory Board meeting at Horry-Georgetown Technical College. Staff monitored 13 red-cockaded woodpecker clusters for nesting activity. Installed 3 rice trunks and re-topped 250 feet of dike as part of the on-going NAWCA coastal wetlands restoration grant. Submitted a request for and received a \$9,500.00 grant from the US Fish and Wildlife Service's Coastal Programs for feral hog control on the sea turtle nesting beaches of North Island.

Continued work on the proposed floating bridge project permit applications and Environmental Assessments. Permits have been issued by the US Army Corps of Engineers and applications are being reviewed by the US Coast Guard and SC DHEC. Provided comments to the DNR Environmental Section on a proposed floating shipping terminal in Winyah Bay.

Obtained three estimates to repair the mechanic shop destroyed by fire and submitted to the SC Insurance Reserve Fund to complete the claim process. Prepared and submitted a 5 year annual work plan and annual budget request to the Yawkey Foundation for approval at their May meeting. Mowed 15 miles of dikes. Side-cut 4 miles of dikes, Graded 10 miles of roads.

#### **Upper Coastal Waterfowl Santee Delta/Santee Coastal Reserve/Samworth**

Staff barged newly serviced truck to Murphy Island for management activities. ADA compliance work including reworking the railing, installing a stop rail and installing a Handicap Parking sign was conducted on the dock at SCR. Preparations for the DNR Board meeting were conducted and included: spreading 225 bales of pine straw around Blake house, cleaning the grounds, and organizing the infrastructure inside the Blake house. A new informational kiosk was installed at the head of the avenue.

Volunteer George Rock checked and monitored 194 bluebird boxes. General equipment maintenance was conducted on two vehicles, GPS unit, disk, mower, and the maintenance shop was cleaned and organized. Staff made a trip to Styx to dispose of old equipment and pick up a new boat motor.

Dike maintenance included hauling 43 loads of dirt to fill in holes on Vaughn Stand dike. Work conducted on the Samworth dove field included: spraying glyphosate on corn, planting sunflowers, applying nitrogen to corn and maintaining electric fences.

2 days were spent checking 17 RCW clusters @ SCR with Paige Koon. J. Lee spent one day attending a shorebird workshop @ Harbor Island. J. Lee spent one day participating on HGTC Wildlife Advisory Board.

2 man days were spent assisting with HGTC Outdoor Rec. class @ SCR. J Lee participated on the Georgetown County Clemson Extension Service Advisory Board. 2 dove call counts were completed in Williamsburg and Horry Counties. One day was spent with SC Wildlife Magazine staff touring Samworth WMA for upcoming articles. Staff spent 6 days assisting personnel from SREL, USFWS, and the University of Florida

in trapping and attaching satellite transmitters to 9 Wood Storks.

The Blake House dorm rooms were occupied for 25 days during the month of May. (NAWCA Contractors & Wood Stork research personnel. New office furniture was delivered and installed in Blake House. Staff attended Blake House punch list meeting. Staff assisted USACOE with annual Cape and Murphy inspection.

#### **Unit 4A- (Horry & Georgetown)**

Conducted dove call count. Site visit to Yauhannah Fox Pen with law enforcement to speak about black bears. Re-established black bear hair snares at Lewis Ocean Bay HP to continue monitoring efforts. Responded to 11 bear calls and conducted 3 site visits. Completed inventory sheets. Wrote press release for web-based bear sighting form. Received grant funding for GPS collars for monitoring black bear movements. Submitted budget requests to regional coordinator.

*Dungannon Plantation HP* – Presentation to the Charleston Greenbelt board and finance committee for acquisition of the Clark Tract. Continued to work on USFWS National Coastal Wetlands Grant for the Clark Tract.

*Lewis Ocean Bay HP* – Performed plant ID workshop for the US Army Corps of Engineers. Monitored red-cockaded woodpecker nests. Color banded RCW fledglings. Submitted final draft of Lewis Ocean Bay Heritage Preserve Management Plan. Conducted tour for the Pee Dee Land Trust of the preserve. Met with SCFC, USACOE, and Centex representatives on extension of Telephone Road work. Graded 18 miles of roads on the preserve.

*Waccamaw River HP* – Plowed 32 acres of fields at Schultz tract. Continued work on USFWS National Coastal Wetlands Grant for possible acquisition on adjacent 350 acres. Began work on WRHP management plan.

*Little Pee River HP & Cartwheel Bay HP* – Cleared storm debris from roads.

*Victoria Bluff HP* – Submitted grant for fuel mitigation using SC Forestry Commission “FireWise” program. Awarded \$5,000 grant to conduct midstory removal. Began drafting timber management plan and harvest schedule.

*Tillman Sandridge HP* – Prescribed burning on 400 acres.

#### **Unit 4B- (Berkeley & Charleston) Bonneau Ferry, Canal, Francis Marion, Sandy Beach, Santee Cooper Properties**

*Bonneau Ferry* - one presentation was given by manager Tom Harkins to 60 participants interested in the area’s cultural resources. Fifteen miles of roads were sprayed. Several thousand feet of chemical deer fencing were installed, repaired, and maintained, including retreatment every few days. Scarecrows and scare cannons were installed and moved regularly to deter deer from planted areas. In preparation for replacing a water control structure, water levels were dropped on the reservoir side of the Quarterman impoundment structure and fill dirt was delivered to the site. Slag was delivered and spread on two miles of roads. The cabin and barn were cleaned. A meeting was held with Richard Harriett (Unit 4C hourly) to discuss his assisting with repairs to a water control structure.

*Sandy Beach* - electricity and lights were installed at the shed. Staff spent three days managing the area’s water control structures.

*Canal WMA* - intensive depredation control measures included the repeated and continual use of poconite, hot sauce, chemical fences, electric fences, and scare cannons. Fence lines and undergrowth around shade trees were sprayed.

*Francis Marion National Forest* - Mike Vaughn assisted Billy Dukes with two experimental dove call counts and conducted one standard route. Mike devoted substantial time and energy to wild hog control. He spent nearly two weeks scouting, baiting, and setting up traps, then ran traps for ten days. He managed to dispatch 25 hogs on the Waterhorn and Northampton Units of the Francis Marion.

Other Unit activities included the collection of turkey tag books from distribution sites, picking up materials from Styx in Columbia, and familiarizing new staff with areas of responsibility.

#### **Unit 4D-(Hampton, Beaufort, Jasper) Webb, Palachucola, Hamilton Ridge**

Routine administrative and management duties were conducted for the month. Visits were made to all WMAs to assess habitat conditions and evaluate management activities. Supplies and materials were procured in order to carry out the goals of the project. A budget request for FY13 was prepared. Numerous phone calls and emails were answered from the public requesting information. Significant staff time was spent on maintenance and upkeep of equipment, vehicles, facilities and grounds.

Turkey Tags were picked up from distribution locations and info was summarized, SoLo Focus Area task force meeting was attended, Mourning Dove Call Count Survey was conducted in Hampton/Jasper County, 4 Webb Staff assisted Clemson Extension with a Forest Management Workshop/Field Day in Bamberg County (approximately 75 participants), Tech III Atkinson conducted Wildlife Education Programming at Wild and Well Day at Lake Warren State Park (approx. 150 participants), Tech III Atkinson attended the Bird ID Workshop, Biologist responded to an Alligator in a yard complaint in Hampton County, 2 DLEOs provided assistance to LE Division during Memorial Day weekend.

*Webb* - 4 acres of pre-commercial thinning was done in dense longleaf regeneration areas and 20 acres of understory restoration was conducted using a Brown Tree Cutter, 40 man-hours were spent marking timber for an upcoming timber sale, staff assisted with M.A.P.S. Station bird banding, staff monitored 13 RCW Clusters for breeding activity, Webb Center hosted USDA Wildlife Services State Meeting- May 14-18, 2012 (23 participants)

*Hamilton Ridge WMA* - 2 miles of road was graded, gravel was hauled & spread on approx. 2 miles of road by a contractor, approx. 100 acres was burned by SCFC, staff eliminated 3 feral hogs.

*Palachucola WMA* - Monitored logging operations and met with loggers & foresters associated with two ongoing timber sale harvests, 10 acres was disked in preparation for summer planting, maintained and monitored usage at Palachucola shooting range.

## **WILDLIFE SECTION STATEWIDE PROGRAMS**

### **Coordination and Administration**

Coordinated and participated in the annual Section bird identification workshop. Attended the Federal Aid Coordinators Meeting in Pensacola Beach, FL. Travelled to Greenville to complete negotiation for a location of the 2013 SE Deer Study Meeting to be hosted by SCDNR. Secured approval of a non-refundable participation fee for Section draw hunts. Necessary modifications of applications and instructions have begun.

### **Deer and Turkey Program**

#### **General Activities**

Responded to 116 phone calls and 183 e-mails from the public related to nuisance animals, new or proposed hunting regulations, buck limits, antlerless deer tags, urban deer, pet deer, and other general deer and turkey related topics. LE related activities involved answering questions concerning legal issues related to deer/turkey, weapons, and hunting (24 calls and 35 e-mails approximately 4.9 hours). Collaborated with LE related to pick-up fawns, deer depredation, importation of wildlife, etc. Attended annual LE in-service training (8 hours). Ordered tags for the Deer Depredation Program and distributed to LE. Met with USDA-WS as part of their 10-year review on program activities and accomplishments in SC. Continued work on the 2012-2013 Rules and Regulations brochure. Participated in 5 interviews with the media. Completed 2 surveys from other agencies/constituent groups. Ordered bear tags for the 2012 season and coordinated with Licensing related to distribution to Regional offices and issuance to hunters. Annual inventory for capture and immobilization drugs was completed.

#### **Deer Research and Management Project**

Activities in the Antlerless Deer Quota Program (ADQP) included purchasing, preparing, and mailing annual renewal packages to approximately 1,600 program cooperators. This immediately led to daily receipt of completed applications (192) which required data entry, update, and deposit of fees. ADQP tags for the 2012 season were ordered.

The annual Deer Harvest Report was completed and posted on the agency website. During the 2011 season, approximately 226,458 deer (120,407 bucks and 106,051 does) were harvested representing a 1.2 % increase over 2010. Approximately 140,152 hunters expended approximately 2,233,405 man/days of effort harvesting these deer.

The final report related to chronic wasting disease surveillance in SC was received from the Southeast Cooperative Wildlife Disease Study indicating that there was no disease detected in the 455 deer tested in 2011.

The 2012 cycle of the SC Antler Records Program was completed with Section staff measuring a total of 601 sets of antlers of which 257 new records were recorded. Certificates were generated and mailed to all successful participants. Work began on updating the records book.

Activities on the ongoing SRS coyote/deer fawn study included 31 does captured and outfitted with radio-transmitters and VIT's and 168 coyotes trapped/killed for the 2012 cycle. Doe capture and coyote control has ended for the cycle. Fawn capture to date this spring stands at 29 with eight does yet to fawn. Eight of the

29 fawns have suffered mortality (5 coyote, 2 bobcat, 1 natural).

Work continued on hosting the 36<sup>th</sup> Meeting of the Southeast Deer Study Group. This included ongoing contact with Florida (the previous host) and contacts/meetings with 3 prospective meeting facilities in SC.

Measured four sets of antlers by appointment in the office.

#### **Wild Turkey Research, Management, and Restoration Project**

The annual Turkey Hunter Survey was executed following the close of the season. The survey was sent to 25,000 turkey tag recipients. Completed forms are being received/sorted on a daily basis.

Attended quarterly meeting of NWTF SC State Chapter Board of Directors and provided updates on various deer and wild turkey issues.

Collaborated with NWTF on the SE turkey decline research project that is being funded jointly by the SE states and headquartered at the Univ. of Georgia.

Reviewed and approved one NWTF Superfund request.

#### **Furbearer and Alligator Program**

##### **Furbearer Project**

A total of 49 depredation permits and nine field trial permits were issued during the month.

Twenty-one Predator Management Permits were issued during the month (84 to date).

Responded to 45 nuisance wildlife complaints. One site visit was made to remove an injured black vulture from a person's home in Columbia.

All commercial fur harvest reports and fox and coyote enclosure data have been entered to date.

Attended the Southeast Fur Resources Meeting in Virginia to discuss regional furbearer issues and continue work on updating the Fox Running Pen Guidelines originally published in 1990. Fox running enclosures are becoming an issue for the Humane Society of the US (HSUS) and the group is currently targeting Virginia (see: [http://www.humanesociety.org/issues/fox\\_penning/](http://www.humanesociety.org/issues/fox_penning/)). Also at the meeting updates on the AFWA Trapping BMPs and this year's national trap testing research projects were presented.

Attended the USDA Wildlife Services program review.

A wildlife biology career program was given at Ballentine Elementary School to 25 students.

Discussed permitting issues pertaining to fox and coyote enclosures and predator management permits with the WFF Staff and Region 4 LE.

##### **Alligator Project**

The signup period for this year's alligator hunt was delayed until May 18<sup>th</sup> at the request of the IT staff. Considerable time was spent trying to troubleshoot the new alligator registration program before and during rollout of the new program. Over 2,600 people have applied for the alligator hunt to date.

Staff (P. Castine & J. Shealy) have spent a considerable amount of time assisting constituents with applying for and troubleshooting applications for the alligator hunts. Some programmatic issues remain, but the sheer volume of calls for assistance has decreased. Staff continues to work with IT to perfect the application program.

Information on the Alligator portion of the DNR web site was updated to reflect the changes in the alligator hunt application process and the addition of making available a second alligator tag to participants in the WMA Alligator Hunt. This second tag costs an additional \$75, and is only valid for the site and week chosen and only for an alligator from 4-7 feet in total length. Anyone in the hunt party may utilize the tag as long as the original permit holder is present.

A news release was prepared for this year's alligator hunting season and stating the application period has been extended for two weeks and will close on June 30<sup>th</sup>.

Discussed alligator management options and procedures with John Bowers, Assistant Chief of Game Management with GA DNR. Of primary interest is how GA DNR sets season tag quotas and how wildlife management areas are treated in regards to public access. A copy of Georgia's Alligator Management Plan was received for our information.

Began compiling all historical alligator records and data pertaining to alligator research for submission to the USGS Co-op Unit at Clemson.

Received a report of an alligator attack at Egret Pointe condominiums at Shipyard Plantation on Hilton Head Island.

### **Herpetology Conservation Program**

#### **General Activities**

Met with FWS and USFS personnel to discuss development of a CCA for the gopher frog and other longleaf pine related amphibians and reptiles which are species in need of conservation.

Analyzing call data on river frogs, collected last year. This species is common but has been difficult to detect using call surveys and my data suggests this is due to the timing, very late, of their calling activity.

Responded to over 40 calls from the public, or media, concerning snakes, turtles etc.

#### **Pine Barrens Treefrog Project**

Conducted surveys for pine barrens treefrogs at the Sandhills NWR and vicinity of Cheraw Fish hatchery.

Placed 13 automated recorders at sites in this region and began the process of downloading and analyzing data from these recorders.

#### **Santee NWR Project**

Conducted surveys for amphibians and reptiles at site, including placement of automated recorders, aquatic trapping, dip-netting, checking coverboards, field surveys, and nighttime road cruising.

#### **Gopher Tortoise Project**

Coordinated the planning of upcoming meeting of Gopher Tortoise Candidate Conservation Agreement participants.

Gave a presentation on the past years activities under this CCA at SERPAS meeting.

Worked with Brett Moule to develop an MOU with the Florida Wildlife Commission to facilitate receipt of tortoises for the Aiken Gopher Tortoise HP project.

#### **Isolated Wetlands and Gopher Frog Project**

Spent three days conducting site visits to isolated ponds at Webb Wildlife Center and Francis Marion NF to check status of ponds.

Spent four days processing frog call data from automated recorders placed at known or potential gopher frog ponds during the months of March and April.

### **Nongame Bird Conservation Program**

#### **General Activities**

Assisted Jason Davis, Wildlife Tech, with point counts in the Sumter National Forest in northern Oconee County. Seventeen 10-minute point counts were conducted during two mornings.

Twelve phone calls were received and responded to, for wildlife assistance.

#### **Painted Bunting Observer Team Project**

During the first banding session, 57 buntings were trapped; 37 were banded and 30 were recaptured, from 10 inland sites in Calhoun, Dorchester, Charleston & Colleton Counties.

#### **MAPS (Monitoring Avian Production and Survivorship) Project**

Both sites, Army National Guard's McCrady Training Center and the Webb Wildlife Center were prep and nets erected for the season.

The McCrady Training Center had two banding dates this month. 39 birds were netted; 18 were banded, 15 were recaptured and 6 were unbanded/escapees.

The Webb Wildlife Center had one banding day this month. 53 birds were netted; 37 were banded, 14 were recaptured and 2 were unbanded/escapees.

#### **Breeding Bird Survey Project**

Four of the six routes run by this staff annually were done this month.

A breeding bird survey route, fashioned after the national program, was run at the Army National Guard's McCrady Training Center at Fort Jackson.

#### **Bald Eagle Activity**

Charlotte Hope responded to five (5) bald eagle calls.

#### **Red-Cockaded Woodpecker Project**

Assisted staff at Bonneau Ferry WMA, Webb WMA, Santee Coastal WMA, Longleaf Pine HP, and Yawkey WMA with RCW breeding season monitoring. At least 40 clusters checked.

Reimbursed \$11,200.00 through the Landowner Incentive Program to private landowners for management activities benefiting the endangered Red-cockaded Woodpecker and other longleaf pine-associated

species.

Solicited cost-share applications from Safe Harbor-enrolled landowners. Ranked applications and selected awardees.

Met twice with a private landowner and USFWS to consult about timber harvest and RCWs.

Completed Breeding Bird Survey route in Hemingway.

Checked 75 Red-cockaded Woodpecker (RCW) clusters on Sand Hills State Forest for breeding activity. Found 3 new RCW trees in 3 different clusters. All were marked with a GPS and flagged for painting and tagging after the breeding season is over.

An RCW death, which occurred despite taking proper precautions while peeping a nest tree, was reported to the US Fish and Wildlife Service Ecological Services Office in Charleston as well as to the head of the Red-Cockaded Woodpecker Project in South Carolina and to the Chief of State-wide Projects.

Assisted Fort Jackson Environmental and Natural Resources division with their Monitoring Avian Productivity and Survival (MAPS) station.

Conducted 1 Nightjar Survey Route.

### **Water Bird Project**

Project personnel and two volunteers conducted aerial surveys of wading bird colonies in index plots to determine which colonies are active this year and which colonies should be visited on the ground.

Landowner and contact information associated with priority colonies for 2012 ground count surveys was collected and added to the database. Landowners were contacted and permission to survey on their land was obtained. Following the flights that were used to locate colonies, nests were counted from the ground or from aerial photographs.

Data from the 2012 wading bird surveys was provided to the Fripp Island Audubon Club for use in their proposal to designate the Beaufort Barrier Islands as an international Important Bird Area.

Annual ground counts of wood stork nests to quantify the number of wood storks nesting in South Carolina were completed.

Nesting wood storks at the Donnelley Wildlife Management Area, Dungannon Plantation Heritage Preserve, and at three colonies on private land were monitored. Project staff also coordinated nest monitoring by volunteers at two additional colonies.

Worked with property owners at two of the largest stork colonies to apply for funding to control aquatic vegetation in the colonies.

Responded to call about wading birds nesting on James Island in a site where development is planned.

Planned and assisted with aerial survey of pelican colony on Deveaux Bank.

Assisted researchers from the University of Florida and the Savannah River Ecology Lab to capture 9 adult wood storks at the Santee Coastal Reserve and to deploy satellite transmitters on the storks.

Maintained closure signs for the boardwalk at Dungannon Plantation Heritage Preserve and answered questions about the closure.

Hosted Deborah Cramer, a famous environmental author, who is including in her latest book on Red Knots, the importance of SC to migratory shorebirds.

Hosted US Shorebird coordinator for a week and organized shorebird workshop at Harbor Island. Workshop educated 50 professionals and volunteers who work in habitats that have shorebirds.

Assisted with an educational workshop, offered by Al Segars, on horseshoe crabs in ACE Basin.

Attended a Daufuskie Island Conservancy meeting and spoke on shorebird conservation.

Conducted Seabird (Brown Pelican, Royal Tern, and Sandwich Tern) counts at Deveaux Bank, Crab Bank, Tomkins Island and Marsh Island.

Organized SC portion of Atlantic coast-wide Red Knot survey. Surveyed 6 sites for Red Knots.

Assisted Clemson University Wilson's Plover project at Yawkey Center in field and with study design.

Posted and maintained signs on private and public seabird nesting sites.

Flew southern coast to determine if Red Knots can be surveyed from air.

Sieved and sorted Red Knot forage samples at MRD labs as part of collaborative project to determine prey items of knots while they are in SC.

Surveyed for and recorded banded Red Knots at Harbor Island, Kiawah, and Deveaux Bank. This project is part of regional monitoring to determine stopover length, population size and survival of Red Knots.

Assisted with SCDNR bird identification workshop portion that was at Harbor Island.

### **Sea Turtle Program**

### **Program Administration**

Staff spent a significant amount of time providing support to the public, especially the sea turtle program volunteers.

### **Nest Surveys and Management**

Staff surveyed the Cape Romain Refuge nesting beaches (15 person days).

Staff surveyed Pine, Otter, Bay Point, St. Phillips, Murphy and Cedar Islands once a week for a total of 49 person days.

Staff conducted three (3) site visits as requested by project beaches (Edisto Beach State Park, North Myrtle Beach and North Island).

### **Volunteer Effort Documentation**

Over 1,100 individuals volunteer for the SCDNR nest protection or stranding response efforts. Documentation of volunteer time and mileage is on a voluntary basis and not required. In May, 157 volunteers entered their time in hours and mileage driven. There were 2,279 hours and 12,414 miles reported for the month of May. This documentation is used for in-kind grant match.

### **Yawkey Wildlife Center Sea Turtle Project**

There were 80 nests laid on Yawkey Wildlife Center beaches (30 South, 14 Sand, and 36 North). An egg shell was collected from each nest for the DNA study with the University of Georgia. A yolk was collected from a sample of nests for the stable isotope study with the University of Florida. Nests were located, screened and relocated as necessary. SCDNR Yawkey and sea turtle program staff constructed a hatchery on North Island to protect a sample of nests from feral hogs. ATVs and supplies were transported to these beaches.

### **Botany Bay Complex Sea Turtle Project**

There were 94 nests laid on Botany Bay beaches (61 Botany Bay Plantation WMA, 32 Botany Bay Island, and 1 Interlude). An egg shell was collected from each beach for the DNA study with the University of Georgia. Nests were located, screened and relocated as necessary. ATVs and supplies were transported to these beaches. Kelly Sloan has conducted one site visit to this project.

### **Technical Reviews and Consultation**

Provided a letter to the Kiawah Island Ocean Course regarding the 2012 PGA tournament during the first two weeks in August.

Worked with the USFWS (via two conference calls) to develop a proposal for the designation of critical habitat for the Northwest Atlantic Distinct Population Segment.

Worked with Wally Jenkins and Bill Post to draft the 2012 ESA Section 6 Cooperative Agreement annual renewal letter and amend the existing agreement to update the listing status of the loggerhead sea turtle and Atlantic sturgeon.

Provided written comments on the proposed loading facility in Winyah Bay, Georgetown County.

Requested the assistance of SCDNR LE to address vandalism of predator removal traps.

Requested the assistance of SCDHEC OCRM to address the clean-up response of the Folly Beach County Park on the west end of Folly Beach, and to address the destruction of the dune vegetation on Daufuskie Island.

### **Statewide Sea Turtle Salvage and Stranding Network**

Staff were available (on call) during the week, weekend and on holidays to respond to strandings, as needed. There was 25 sea turtle strandings (16 loggerheads, 6 Kemp's ridleys, 2 green turtles, and 1 leatherback). Two of these stranded alive (2 loggerheads). These turtles were picked up by SCDNR staff and transported to the South Carolina Aquarium for rehabilitation.

There were three necropsies conducted in the HML necropsy lab.

There are four sea turtles undergoing rehabilitation at this time.

Two sea turtles were released by the South Carolina Aquarium. Monel and PIT tags were applied by SCDNR staff before release.

The probable cause of death for strandings in May are as follows: Boat collision injuries (prop wounds/blunt trauma): 4; Disease (debilitated/emaciated): 5; Entanglement in passive gear (recreational gear): 2; No apparent injuries (commercial fishing activity/shrimping): 12; Shark: 1; Unable to assess: 1.

Staff spent a significant amount of time responding to calls from the public regarding strandings and providing support (including database instruction) for the volunteer-supported South Carolina Sea Turtle Stranding and Salvage network. Approximately 80 volunteers respond to strandings from Little River to Savannah River.

The May monthly aerial survey to document strandings was flown by on May 17. There were no sea turtle or marine mammal strandings observed. There were 58 commercial shrimp trawlers observed.

Spent significant amount of time as the final quality control of the stranding data data and submits it to NMFS. She also finalizes the necropsy data and manages all samples taken during the necropsy by shipping them to the proper research institution.

Amy Gutierrez is editing and improving the legacy aerial survey database (1980 – 2011).

### **Research**

DNA Research: There were 962 egg shells collected from each nest in May for the DNA study with the University of Georgia. SCDNR staff have picked up these samples from all projects (35 projects), and checked in and matched each sample to the online database for quality control.

Genetic samples were collected for each loggerhead stranding that was 80 cm curved carapace length or greater to quantify adult loggerhead mortality.

To date, 4,000 individual adult female loggerheads have been identified from 12,000 samples.

Stable Isotope Research: There were 124 egg yolks (59 Hilton Head, 43 Kiawah, 22 South) collected from a sample of nests for the stable isotope study with the University of Florida.

### **Reports**

The six month grant progress report for “Cooperative multi-state management of the Northern Recovery Unit of the loggerhead (*Caretta caretta*) sea turtle: implementation of high priority recovery actions” was submitted to NMFS.

The monthly HML Necropsy lab report was submitted to Coley Battey.

### **Grant Proposals**

Received word from Jeff Brown (NMFS) that Year 1 of 5 of the sea turtle stranding and salvage network was funded at \$45,000. Application package was prepared and submitted by Eileen Heyward.

Received word from Lisa Manning (NMFS) that Year 3 of 3 of the “Cooperative multi-state management of the Northern Recovery Unit of the loggerhead (*Caretta caretta*) sea turtle: implementation of high priority recovery actions” was funded at \$231,149. Application package was prepared and submitted by Eileen Heyward. DuBose and Eileen worked with the Georgia Department of Natural Resources, the North Carolina Wildlife and Resources Commission and Seaturtle.org to renew their subrecipient agreements for Year 3.

### **Publications**

Griffin DB, Broderick AC, Coker JW, Coyne MS, Dodd MG, Frick MG, Godfrey MH, Godley BJ, Hawkes LA, Murphy TM, Williams KL, Witt MJ, Murphy SR (in prep) Migratory bottlenecks and adult foraging areas used by multiple post-nesting loggerhead turtles from the Northern Recovery Unit, USA. This manuscript will be submitted to Marine Ecology Progress series in June.

### **Presentations, Education, Training and Outreach**

Staff attended the SCDNR and USFWS sponsored shorebird workshop.

Lisa Scarano and Justin Jay set up a booth at the South Carolina Aquarium sponsored Sea Turtle World Day public event.

Lisa Scarano, Justin Jay and Amy Gutierrez completed their HML orientation and safety training required for admittance to the HML.

Staff attended the Sea Turtle Celebration at the South Carolina Aquarium to promote the SCDNR sea turtle program and the new sea turtle license plate.

DuBose Griffin attended the Mary Alice Monroe book signing event in Georgetown County to promote the SCDNR sea turtle program and new sea turtle license plate.

Jennifer Cormany attended the USFWS ATV training workshop.

Staff responded to daily requests for educational materials on sea turtles by providing educational materials through email, our web site or the mail.

The SCDNR sea turtle program web site is updated weekly with current information.

One news release was submitted to the SCDNR news desk.

### **Small Game Program**

#### **General Small Game Program Activities and Accomplishments**

Project Supervisor completed 4-hour driving training course as required.

Issued 1 field trial permit and 4 shooting preserve licenses during the month.

Granted two print media interviews on dove field preparation and prevalence of ticks.

Responded to a minimum of 16 nuisance wildlife calls and 26 miscellaneous technical guidance calls during the month (total 42 calls).

#### **Small Game Project**

Project staff compiled and entered data from the annual Rabbit Hunter Survey and the biennial Fox Squirrel Sighting Survey in preparation for data analysis and report completion.

#### **Migratory Game Bird Project**

Prepared data sheets and band allocations for 2012 mourning dove banding operations.

Submitted request for Scientific Collection Permit for 2012 mourning dove banding operations.

Assisted USFWS with statewide coordination of Mourning Dove Call Count Survey (CCS) through notification of cooperators, compilation of data at the statewide level, and data entry through the USFWS CCS data entry portal. To date, 8 of 20 statewide CCS routes have been completed.

Completed one mourning dove call count survey route in Richland and Kershaw counties.

Assisted USFWS with an ongoing project to improve the methodology of the mourning dove call count survey by completing 2 replicates of an experimental dove call count route in Charleston County with Region 4 Wildlife Technician Mike Vaughn.

Continued work on a comprehensive and up-to-date band inventory for DNR banding permit. This included conducting an inventory of several hundred bands returned from the field.

Updated mourning dove band recovery information from bi-weekly reports.

Requested encounter data from Bird Banding Lab (BBL) to assist Waterfowl Program Supervisor Harrigal with calculation of wood duck harvest rates.

#### **Bobwhite Quail Project**

Completed a survey of related to bobwhite quail monitoring techniques in preparation for a workshop in Kentucky.

Attended a workshop on establishment of focal areas and standardized monitoring techniques for bobwhite quail, hosted by the Kentucky Department of Fish and Wildlife and sponsored by the National Bobwhite Technical Committee .

Reviewed and edited one article on the current status of bobwhite quail restoration efforts for *South Carolina Wildlife* magazine.

Entered data from annual Quail Hunter Survey in preparation for analysis.

#### **Waterfowl Program**

##### **General Activities and Accomplishments**

Routine duties and correspondence concerning the Atlantic Flyway Council Technical Section and the Atlantic Coast Joint Venture were handled.

Preliminary harvest rates for resident wood ducks and mottled ducks were estimated. The estimated harvest rate for the 2011-2012 season on resident wood ducks is 9% and on mottled ducks is 8%.

Final figures for the 2012 wood duck box project were tabulated: 211 applicants received 943 boxes.

Two complaints concerning nuisance mute swans were handled.

One interview was given to an outdoor writer about the upcoming 2012 duck season.

The narrative for the 2013 Duck Stamp Budget staff recommendation was developed and submitted.

# Law Enforcement

## DIVISION SUMMARY – COL CHISOLM FRAMPTON

Officers issued 1,195 summons and 4,607 warnings with 1,011 cases clearing court with fines totaling \$136,971.50 being assessed. A total of 7,839.5 hours were spent on boating patrols resulting in 18,343 boats being checked. Officers spent 796 hours on Homeland Security, 854 hours on litter patrols and a total of 259 hours were spent patrolling Heritage Trust Preserve properties. Officers also spent 1,977 hours on night patrols. A total of 765 JEA hours were worked.

## REGIONS 1 - 4 – MAJ WILLIAM POOLE

### **Region 1 – CPT Jamie Landrum**

Officers issued 376 summons and 1,343 warnings with 393 cases clearing court with fines totaling \$58,680.50 being assessed. Officers checked 3,832 fishermen, 24 hunters checked and a total of 1,470 hours were spent on boating patrols resulting in 4,391 boaters checked. Officers gave a total of 62 public presentations. Officers spent 434 hours on Homeland Security, 377 hours on litter patrols. A total of 37 hours were spent patrolling Heritage Trust Preserve properties. A total of 54 hours were spent patrolling Jocassee Gorges resulting in 8 summonses and 44 warnings being issued. Officers also spent 549 hours on night patrols. During the month there were 5 boating accidents and 1 drowning.

### **Captain's Spotlight**

- SGT Cartee and PFC Holliday apprehended a subject for over the limit game fish on Lake Blalock. The subject had 48 crappie in his possession.
- Units 1C and 1F each had a Fishing Rodeo this month; Union County had 474 kids at "The Jakes Event" and Edgefield County had approximately 400 kids participated at "Lick Fork Lake".

### **Unit 1A (Oconee / Pickens) 1<sup>st</sup> SGT D.J. Riley**

Officers issued 84 summons and 455 warnings with 31 cases cleared court with fines totaling \$5,375.00 being assessed.

- Unit officers have been very busy with area lakes this month. SGT Busha made 3 BUI's and SGT Winegard and LCPL Martin each made 1.
- PFC Barnett obtained a federal warrant on a subject that was charged earlier with stealing gates on WMA and uncased gun. The warrants are for possession of illegal firearm (7 ¼ "rifle barrel).

### **Unit 1 B (Greenville / Spartanburg) 1<sup>st</sup> SGT Amy Staton**

Officers issued 74 summons and 198 warnings with 57 cases cleared court with fines totaling \$9,691.50 being assessed.

- SGT League investigated a gutted jet ski at a rental house. After getting in touch with the last registered owner, the jet ski had been reported stolen through Greenville County Sheriff's Office. SGT League and GCSO apprehended the subject living in the house. GCSO arrested him for possession of stolen goods.

### **Unit 1C (Cherokee / Union) 1<sup>st</sup> SGT John McCraw**

Officers issued 51 summons and 86 warnings with 53 cases cleared court with fines totaling \$7,572.00 being assessed.

- Officer Miller issued 7 summonses for littering in Union County.

### **Unit 1D (Greenwood / Laurens) 1<sup>st</sup> SGT Kristie Lumley**

Officers issued 104 summons and 397 warnings with 184 cases cleared court with fines totaling \$2,6042.00 being assessed.

- 1<sup>st</sup> SGT Lumley and SGT Vaughn each made a BUI on Lake Greenwood.
- SGT Dudley caught a subject cleaning a deer in his garage that he just shot. One case was made for hunting deer out of season.
- SGT Vaughn made a case where a subject was using rainbow trout as bait on a non-game device. PFC Welch made 2 cases for unmarked set hooks, 1 case using a cast net to catch game fish, and 1 case for illegal bait on non-game devices.

### **Unit 1E (Abbeville / Anderson) 1<sup>st</sup> SGT Rhett Barwick**

Officers issued 24 summons and 107 warnings with 21 cases cleared court with fines totaling \$2,665 being assessed.

- SGT Owens worked a drowning on Lake Hartwell where a Hispanic male subject was swimming from land and did not resurface. Subject recovered by Anderson County Sheriff's Department Dive Team.
- SGT Monts charged a suspect with catching game fish with a cast net.

### **Unit 1F (Edgefield / McCormick) 1<sup>st</sup> SGT Ron Talbert**

Officers issued 39 summons and 100 warnings with 47 cases cleared court with fines totaling \$7,335.00 being assessed.

- PFC Cutter made a BUI case during the memorial weekend.

## **Region 2 – CPT Sandy Young**

Officers issued 228 summons and 777 warnings with 182 cases clearing court with fines of \$20,327.00 being assessed. Officers checked 15 hunters and 3,228 fishermen, and a total of 1,381 hours were spent on boating patrols resulting in 3,586 boats inspected. Officers spent 92 hours on Homeland Security and 191 hours on litter patrols, and a total of 93 hours were spent patrolling Heritage Trust Preserve properties. Officers gave a total of 76 public presentations. Officers also spent 411 hours on night patrols. There were 3 boating accidents and 1 drowning.

### **Captain's Spotlight**

- Officer Plemmons made 4 cases on 5 subjects for hunting waterfowl out of season this month.
- Unit D had a Fishing Rodeo in Darlington County with 169 kids present.

### **Unit 2A (Chester, Lancaster, York) 1<sup>st</sup> SGT Todd Campbell**

Officers issued 90 summons and 226 warnings with 68 cases clearing court with fines totaling \$9,050.00 being assessed.

- Officer Dwayne Rogers made 1 case for illegally obtaining a hunting license.

### **Unit 2B (Fairfield, Kershaw, Lee) 1<sup>st</sup> SGT Joey Cobb**

Officers issued 76 summons and 228 warnings with 40 cases clearing court with fines totaling \$3,400.00 being assessed.

- CPL Branham and Officer Woodlief wrote 2 BUI's on Lake Wateree.
- SGT McCaskill wrote 2 subjects on Wateree River for snagging within one thousand feet of Dam.

### **Unit 2C (Chesterfield, Dillon, Marlboro) 1<sup>st</sup> SGT John Hillian**

Officers issued 12 summons and 62 warnings with 9 cases clearing court with fines totaling \$645.00 being assessed.

- CPL Walters made 1 BUI case after subject was stopped for a wake zone violation.
- Officers assisted Chesterfield and Lancaster County Sheriff's Dept. with a drowning on the Lynches River.

### **Unit 2D (Darlington, Florence) 1<sup>st</sup> SGT Benji Byers**

Officers issued 24 summons and 95 warnings with 34 cases clearing court with fines totaling \$3,122.00 being assessed.

- Officers in Unit D worked Rivers and Lakes over the Memorial Day weekend.

### **Unit 2E (Marion, Williamsburg) 1<sup>st</sup> SGT Bill Huggins**

Officers issued 26 summons and 166 warnings with 31 cases clearing court with fines totaling \$4,110.00 being assessed.

- SGT Ferrallis McKnight assisted the Investigations Unit with numerous Titling violations.

## **Region 3 - CPT Harvin Brock**

Officers issued 269 summons and 950 warnings with 171 cases clearing court with fines of \$21,727.50 being assessed. A total of 2,124 hours were spent on boating patrols resulting in 5,207 boaters checked. Officers spent 185 hours on Homeland Security 174 hours on litter patrols and a total of 20 hours were spent patrolling Heritage Trust Preserve properties. Officers gave a total of 75 public presentations. Officers also spent 778 hours on night patrols. During the month there were 3 hours spent on hunting accidents and 13 hours spent investigating boat accident.

### **Captain's Spotlight**

- While investigating a possible boating accident late at night, SGT Derrick found numerous striper's floating in the vicinity of a bow fishing boat. After inspecting the dead fish and finding arrow slits in the fish, the subjects admitted to shooting the bass and were charged accordingly.
- SGT Roosen made a BUI on Lake Murray but the subject refused to blow. He did however incriminate himself when he asked Roosen, who was in uniform, and was transporting him handcuffed to jail in a marked vehicle "What kind of work do you do?"

### **Unit 3A (Lexington/Saluda) 1<sup>st</sup> SGT Ken Simmons**

Officers issued 121 summons and 257 warnings with 70 cases clearing court with fines totaling \$9,322.50 being assessed.

- Officers made 9 BUI's in the month of May. Five of those were made over the Memorial Day Weekend. LCPL Johnson wrote 1, SGT Robinson wrote 2 and SGT DeRienzo and PFC Parrish each made 3 BUI's.
- PFC Parrish made a BUI case on a subject for BUI 2<sup>nd</sup> offence and Boating Under Suspension. He was previously caught two years ago on the same date during Memorial Day Weekend.

### **Unit 3B (Newberry/Richland) 1<sup>st</sup> SGT Dudley Britt**

Officers issued 68 summons and 324 warnings with 33 cases clearing court with fines totaling \$3,605.00 being assessed.

- SGT's Bannister and Bickley made a BUI arrest on Congaree River near Columbia as part of an effort to curtail reckless behavior.
- SGT Cope and PFC Bowers made an arrest for BUI on Lake Murray during Memorial weekend patrols.

### **Unit 3C (Aiken/Allendale/Barnwell) 1<sup>st</sup> SGT John Bedingfield**

Officers issued 44 summons and 136 warnings with 25 cases clearing court with fines totaling \$3,450.00 being assessed.

- SGT Davis and PFC Bowers received a call about trespassing in Aiken County which resulted in 8 arrest warrants for transporting live hogs, skinning, trespassing to hunt and destruction of a cultivated field.

- All Officers worked the “Day in the Country” Music Festival on the Savannah River. PFC Bowers and SGT Davis made 2 BUI’s during the event.

**Unit 3D (Bamberg/ Calhoun/ Orangeburg) 1<sup>st</sup> SGT Farrell Pulaski**

Officers issued 22 summons and 144 warnings with 20 cases clearing court with fines totaling \$3,210.00 being assessed.

- While patrolling near Cannon Bridge SGT. Brown came upon subjects in possession of a boat reported stolen out of Clarendon County the previous day. With the help of Orangeburg County Sheriff’s office the subjects were charged.
- SGT Yongue and CPL Collins gave a presentation to the Albermarle Corp. in Orangeburg. Approximately 300 attendees were present. SGT. Yongue also gave a Boating safety presentation to the Lexington Middle School.

**Unit 3E (Clarendon/Sumter) 1<sup>st</sup> SGT Gene Morris**

Officers issued 14 summons and 88 warnings with 23 cases clearing court with fines totaling \$2,140.00 being assessed.

- The month of May Officers spent many hours on water patrol and made nine related boating cases and three fishing related cases along with one B.U.I and one minor in consumption case.
- Unit Officers worked a search and rescue one was in Sparkleberry swamp two lost hog hunters. They were located and were ok other than lots of mosquito bites.
- A second Search & Rescue was on Lake Marion out from the dam. Subjects were located and hospitalized for hypothermia and a protein loss in the muscle from being in the water for 12 hours. Their boat had capsized due to rough water at 2:00 pm on May 26, 2012 and they were located after 2:00 am on May 27, 2012. These subjects were not reported missing until after dark on the 26<sup>th</sup>.

**Region 4 – CPT Gentry Thames**

Officers issued 287 summons and 1,404 warnings with 256 cases clearing court with fines of \$35,346.50 being assessed. Officers checked 5,326 fishermen with a total of 2,527 hours being spent on boating patrols resulting in 4,857 boaters checked. Officers spent 85 hours on Homeland Security and 112 hours on litter patrols. A total of 109 hours were spent patrolling Heritage Trust Preserve properties. A total of 509 hours were spent on night patrols. Officers gave a total of 85 public presentations. Officers also spent 765 hours on JEA patrols. During the month there were 78 boating accident investigation hours conducted.

**Captain’s Spotlight**

- SGT Prosser, LCPL Floyd, PFC Pardue and 1<sup>st</sup> SGT Ard assisted with an overturned vessel in the Atlantic Ocean. The vessel was struck by a wave from the side and all 5 occupants were thrown into the water when the boat overturned. All occupants are doing well and the SCDNR officers got the overturned vessel to land and on the trailer safely.
- SGT Monnet and CPL McClellan caught a North Carolina shrimp trawler in closed waters, the vessel was charted by plotter and paper chart. The vessel was boarded and returned to McClellanville where 1<sup>st</sup> SGT MacBride supervised the offload of almost \$3,000.00 of shrimp. The captain was charged and posted bond on the spot of \$5,000.00, the catch was sold to a South Carolina wholesaler, and the check was made to SCDNR.

**Unit 4A (Horry) 1<sup>st</sup> SGT Joe Ard**

Officers issued 86 summons and 413 warnings with 60 cases clearing court with fines totaling \$8,630.00 being assessed.

- PFC Robinson and DLEO 404 caught 1 subject for BUI over the Memorial Day weekend and another person for Boating Under Suspension.

**Unit 4B (Georgetown) 1<sup>st</sup> SGT Ryan Williams**

Officers issued 48 summons and 245 warnings with 23 cases clearing court with fines totaling \$2,585.00 being assessed.

- SGT Pop and PFC Beacham caught 2 commercial vessels in violation of being over the limit of Snowy Grouper and having 2 undersize Scamp. The subjects attempted to withhold fish that were in violation but SGT Pop saw the fish in the bin before they covered them with other fish.
- LCPL Kaminskis recovered a boat that was stolen from the rice field on the Samworth WMA. The boat was stolen before duck season and recovered on the Waccamaw River.
- LCPL Kaminskis, SGT Pop and 1<sup>st</sup> SGT Williams worked a boating accident on the Black River where a 15’ boat with a 60HP motor hit a log in the river and the motor broke and came inside the boat causing severe lacerations to the operator and the passenger. Speed and alcohol were contributing factors.

**Unit 4C (Charleston North/Berkeley) 1<sup>st</sup> SGT Angus MacBride**

Officers issued 81 summons and 319 warnings with 85 cases clearing court with fines totaling \$11,059.50 being assessed.

**Unit 4D (Charleston South/Dorchester) 1<sup>st</sup> SGT Lee Ellis**

Officers issued 41 summons and 186 warnings with 64 cases clearing court with fines totaling \$9,760.00 being assessed.

- Unit Officers conducted 128 hours of shrimp trawler boarding patrols this month.
- SGT Richardson and PFC Weaver cited subjects for harvesting shellfish in a closed area.

**Unit 4E (Beaufort/Colleton) 1<sup>st</sup> SGT Michael Paul Thomas**

Officers issued 18 summons and 119 warnings with 15 cases clearing with fines totaling \$2,507.00 being assessed.

- SGT Smith caught a subject selling shrimp without the proper licenses. After further investigation the subject revealed that he had been selling shrimp for sometime without the proper permits.
- LCPL Henderson worked 5 different boating accidents this month. Many were commercial vessels who attempted to trawl in high winds and big tides.

**Unit 4F (Hampton/Jasper) 1<sup>st</sup> SGT Michael Paul Thomas**

Officers issued 13 summons and 122 warnings with 9 cases clearing with fines totaling \$805.00 being assessed.

- SGT Priester caught 3 subjects stealing railroad equipment in Fairfax. He held the subjects until Fairfax PD arrived and took them to jail for Larceny charges.
- CPL Pope and PFC Wallace assisted Jasper County Sheriff's Office with a manhunt

**INVESTIGATIONS – COL CHISOLM FRAMPTON**

**Investigations - CPT Gary Sullivan**

Officers issued 10 summons and 64 warnings with 2 cases clearing court with \$220.00 in fines assessed. A total of 302 boats were inspected. A total of 139 boating hours were accrued this month. There were 11 boating incident/accident reports submitted and processed. There were 25 maintenance request received. There were 7 zoning investigation requests received and processed. There were 67 Marine Event Permits processed; 1 dive assignment was completed.

- 1 boat, 2 motors and 1 trailer were recovered valued at \$5,400.00
- Memorial Day Weekend Marked the first weekend of BSAF Patrols for the summer which was conducted in Horry County Waters.

**STAFF OPERATIONS – MAJ MARK CAREY**

**Legislation, Technology, and Grants – CPT Mike Sabaka**

- Attended committee, subcommittee, and conference committee meetings in the general assembly.
- Worked with individual assembly members on specific legislation.
- Attended meetings, and worked on the SCDNR 2012 Rules and Regulations Brochure.
- Worked on specifications and pricing for new 2012 law books.
- Attended development meetings for the conversion of the law enforcement violations system off the mainframe and onto an Oracle computer platform.
- Began discussions with Charleston County on computer consolidation of the upcoming DNR LE dispatch CAD system with the Charleston County Consolidated Dispatch system.
- Attended CAD meeting.
- Made final application to the Interstate Wildlife Violators Compact. South Carolina will officially be a member on July 1, 2012.
- Attended multiple meetings on the Division Hurricane Response Plan.

**Records & Technology – Greg Miley**

- Summons entered – 1,009                      Warnings entered – 2,715
- New Suspensions – 18S                      Suspensions closed – 19
- Current Active Suspensions – 616      Pending Suspensions – 53
- Worked on Oracle / mainframe integration issues related to the issuance of new fish tags.
- Worked on Oracle / mainframe integration issues related to financial balancing of alligator tag sales.

**Homeland Security/EMD/ Communication Center – SSGT Rick Dye**

- Attended State Full Scale Final Planning Conference
- Attended State Emergency Response Team (SERT) Table Top Exercise
- Attended CAD Meeting
- Attended Radiological planning meeting
- Attended Governor's Table Top Exercise
- Met with Senior Staff on hurricane plan and supervisors of the hurricane plan to brief them on their responsibilities.
- Attended Hostile Action Based Nuclear Threat planning meeting
- Met with EMD about EMAC requests
- Total calls for service logged: 1,478
- Litter Buster Total Calls: 323 Top three counties; Charleston (80); Greenville (50); Richland (30)
- Total calls forwarded to officers 1,155: Top three call types: Nuisance Wildlife Cal (214); Injured Animal (134); Alligator Call (106)

**Communications - Vandy Waller**

- Repaired communications equipment as needed. Repaired / reprogrammed 1 wt's, 1 mobile radios, 1 boat radios, 36 base stations, 0 repeaters, 0 phone line tickets to Radio Room, 3 canopy sites. 1 Console problem.

- Replaced the Pee Dee control station at Florence Saturday May 5<sup>th</sup> that failed. Repaired the control station and returned it to Florence on May 24<sup>th</sup>.
- Replaced the Anderson control station at Lt Mountain May 11<sup>th</sup> that failed.
- Replaced Console 2 with some spare used equipment after it failed Saturday May 26<sup>th</sup>.
- Modifying and updating radio programs for some changes for the mandated narrow band compliance by the FCC.
- Traveled to 7 master dispatch sites (Florence, Dennis Center, Santee, Parler, Lt Mountain, Hopkins and Radio Room and calibrated and tuned all the control stations. Then reprogrammed 36 of the control stations getting them ready to switch to narrow band and performed site maintenance as needed for bug and rat control.
- Installed new 48 port router for the microwave/canopy system to replace one causing intermitted problems.
- Used the Auto Tune software to calibrate 3 WT's and 1 boat radio.
- Called out approximately 19 hours after hours during some storms and failures to restore communications as needed.
- Met with the US Dept of Agriculture at the Long Mountain tower site to allow them to inspect our equipment of their property and cut the grass / trim brush.
- Working on a problem for Little Mountain and Santee repeater with digital interference from out of town.
- Working on tower contracts for Aynor, Pee Dee.
- Continuing to reprogram all of the other division's radios with the updates. Approximately 2 were done.
- CM Waller transferred some radios and completed the TID process and delivered old radios for disposal.
- Continued cleaning out storage buildings and getting rid of broken equipment being replaced and transferring to surplus property for disposal. Performed administrative duties for the Communication Center.

#### **Supply & Equipment – SGT George Dukes**

- Continued repairs and updates at Styx warehouse and compound to include: contractor has started roof repairs; and completed repairs of eq. trailer.
- Received and processed several new vehicles and equipment for various divisions to include: 2 trucks -9 1/e Jon boats -1 1/e atv -4 outboard motors
- Continued working with other divisions in an attempt to utilize surplus equipment for vehicle and boating needs, issuing one boat, motor, and trailer.
- Continued working with Surplus Property to dispose of surplus equipment through internet auctions and their on-site auctions.
- Continued issuing components of spring equipment order as they arrived.
- Installed blue light package on Reg.3 1/e boat with Communication Mgr. Waller.
- Fabricated and installed safety harnesses on L/E Jon boats.
- SGT Dukes spent three days in HR and SCEIS training.
- SGT Dukes assisted on L. Murray during Memorial Day weekend.
- Successfully completed Supply Inventory and Audit.

#### **Education – LT Billy Downer**

Officers issued 25 summons and 69 warnings with 7 cases clearing court with \$670.00 in fines assessed. A total of 539 boats were inspected and a total of 198.5 boating hours were accrued this month. A total of 49 presentations were given to the public.

- 523 students were certified in 24 Hunter Education classes; 87 students were certified in Hunter Education Internet classes; 53 CD-ROMs were mailed and a total of 19 students were certified in Hunter Education CD-ROM classes; and 17 workbooks were mailed and a total of 6 students were certified by workbook.
- 270 students were certified in 17 Boater Education classes; 198 students were certified in Boater Education Internet classes; 14 students were certified in Boater Education Video classes.
- There were 1,133 shooters at the Pickens Range and 506 shooters at the Spartanburg Range during the month.

#### **Special Detail/Training – LT Robert McCullough**

- **OGT Activity:** \$1,100.00 payouts / Balance \$24,000.00
- **Property Watch Activity:** 8 signed up for program \$680.00 in sign sales
- **Media/Special Operations:** DNR Honor Guard presented the Colors at the Police Memorial for the fallen Officers 2011. Started the summer 100 deadly days commercials in Partnership with the Highway Patrol, along with press conferences around the state to kick off boating season. Worked weigh in for the SCLEOA bass tournament.
- **Training:** Finished last three days of spring in-service at the CJA, instructors and Officers should be commended for a good job. Completed MRN's for Officer certification.

**Aviation - Pilots Bucky Harris, Owen Barker**

- 14 flights resulting in 60.5 flight hours
- 9.3 Law Enforcement flight hours
- 3.2 Restricted/Law Enforcement
- 9.3 JEA flight hours
- 1.0 SAR flight hours
- 37.7 Biology flight hours

## OUTREACH AND SUPPORT SERVICES

### Education

#### **Jocassee Gorges Education and Recreation**

Conducted routine programs.

#### **Camp Wildwood**

We have 90 first year campers, 20 second year campers, and 18 third year campers. This is the first time in many years we have turned down potential campers.

### **Graphics**

The Graphics section completed forty-one jobs in the month of May.

### **Magazine**

*South Carolina Wildlife* magazine staff completed proofing the layouts for the *2012-2013 Sportsman's Calendar and Almanac* special calendar issue.

### **News Desk**

- Booked the summer BUI/DUI TV campaign for Law Enforcement.
- Joint HP-DNR news conference at Lake Murray Dam.
- 27 news releases
- Media/public inquiries: Facebook: 16; Phone: 17; Email: 7
- Facebook posts: 57
- Twitter posts: 23

### **Technology**

**Data Base Management and Applications Development.** Initiated and completed redesign of the on-line alligator hunt draw registration system. Continue to provide bug fixes and work on the draw lottery program. Continued development of financial interface program between SCI and SCEIS for handling licensing and titling transactions. Continued installation and configuration of Computer-aided Dispatch (CAD) system for Law Enforcement Communications Center that will utilize GIS for incident mapping and dispatch. Continued the development of a multi-state fisheries management database and software for the SEAMAP program. Continued to support the geologic carbon sequestration, hydrologic well and geothermal data management projects. Provided continuing support to South Carolina Interactive, agent POS vendor for the DNR licensing program and the Hunter-Boater Education systems. Continued the design of internal financial records management system to interface with SCEIS including the returned checks, telephone and auxiliary credit card billing systems. Performed weekly maintenance and updates to various database and applications programs using the DNR's development framework protocols.

Continued work with the boat titling program and the SCI, POS vendor, to implement and enhance the ImageNow electronic document management system for document and records management. Completed the design and implementation of a DNR photographic document reference library. The system is being tested by the Graphics Section prior to full deployment. Due to scheduling conflicts, continued the suspension of EDMS project with the Engineering office to integrate facilities management records into the system. Continued document scanning and indexing for managed lands, hydrologic well data, law enforcement case files, violations/summons billing and aviation log applications. Provided records management and permanent archival support to the agency using record export and archive process. Added 43,683 images and 13,784 records to the electronic document repository and transferred 10,261 boating records to archive.

Initiated the development and formatting of GIS layers for use in the LE CAD system including road centerlines, public landmarks, DNR lands, buoys, State parks and other features. Continued project to generate Digital Elevation Models (DEMs) and 2-foot contours from county LiDAR data. Provided routine maintenance for Managed Lands, Reservoir, hydrology/geology wells and WMA data and applications. Continued post processing of LiDAR for six counties (Calhoun, Aiken, Barnwell, Abbeville, Edgefield and McCormick). Completed QA/QC evaluation of LiDAR data for Lexington and Charleston. Provided GIS database and GPS support to the various agency programs.

**Systems and Network Management.** Continued the configuration of the LE CAD and records management system. Installed upgrades to ArcGIS and Adobe Acrobat software.

**GIS Applications and Web Development.** Provided GIS and cartographic support to DNR staff including the generation of 12 maps for the Law Enforcement, Executive Office, Wildlife and Freshwater Fisheries and other programs.

**Engineering**

| <b>Priority</b>                    | <b>County</b> | <b>Project Name</b>                                    |
|------------------------------------|---------------|--|
| <i>1 - Completed Projects</i>      | Charleston    | Santee Coastal Blake House                             |
| <i>2 - Under Contract</i>          | Laurens       | Boyd's Mill Pond Boating Access                        |
|                                    | Marion        | Shotgun Range at Marsh                                 |
|                                    | Richland      | Bates Bridge Landing Ramp Relocation                   |
| <i>3 - Permitting &amp; Design</i> | Aiken         | Riverview Park Transient Courtesy Dock Addition        |
|                                    | Allendale     | Highway 301 Fishing Access                             |
|                                    | Anderson      | Dolly Cooper Park Canoe Access                         |
|                                    | Anderson      | Green Pond Boating Facility                            |
|                                    | Barnwell      | Highway 39 Boat Ramp Repairs                           |
|                                    | Colleton      | National Estuarine Research Reserve Bank Stabilization |
|                                    | Dorchester    | Bacons Bridge Boat Ramp                                |
|                                    | Horry         | Bucksport Ramp Renovation                              |
|                                    | Horry         | Hwy 22 and 17 Boating Facility                         |
|                                    | Horry         | Rosewood (Socastee) Ramp Repair                        |
|                                    | Jasper        | Knowles Island Fishing Pier                            |
|                                    | Kershaw       | Habitat Enhancement                                    |
|                                    | Laurens       | Belfast Restroom Rehabilitation                        |
|                                    | Pickens       | Pickens Range Archery Range & Tower                    |
|                                    | Spartanburg   | James Thomason Range                                   |
|                                    | York          | SC Hwy 211 Boating Access                              |
| <i>4 - Pending Projects</i>        | Anderson      | Piedmont Access  |
|                                    | Beaufort      | Beaufort Waterfront Transient Dock                     |
|                                    | Georgetown    | Rocky Point Landing                                    |
|                                    | Horry         | Savannah Bluff Ramp Repair                             |
|                                    | Jasper        | Tuten Landing Resurfacing                              |
|                                    | Laurens       | Laurens City Park Archery Range                        |
|                                    | Laurens       | Reedy River Carry Down Access                          |
|                                    | Marion        | Hwy 301 Ramp Relocation                                |
|                                    | Marion        | Woodberry Rifle Range                                  |
|                                    | Saluda        | Chapells Boating Access                                |
| <i>5 - New Project Requests</i>    | Beaufort      | Bluffton Boating Courtesy Dock                         |
|                                    | Greenville    | Piedmont Saluda River Access                           |
|                                    | Lee           | Highway 76 @ Lynches River                             |

**Procurement**Purchase Order Transactions

|                         |     | <u>Expenditures</u> |
|-------------------------|-----|---------------------|
| Purchases, Quotes, Bids | 111 | \$ 517,834.43       |
| Blanket Orders          | 0   | \$ 0.00             |
| Exempt                  | 0   | \$ 0.00             |
| Sole Source Procurement | 4   | \$ 26,584.00        |
| Emergency Procurement   | 1   | \$ 2,872.10         |
| Grant Exemptions        | 4   | \$ 28,560.00        |
| Total Purchase Orders   | 120 | \$ 575,850.53       |
| FPRs                    | 84  | \$ 49,939.26        |
| Check Request           | 67  | \$ 735,296.40       |
| Minority Vendors        | 6   | \$ 7,231.72         |
| Procurement Card        | 1   | \$ 377,445.52       |

**Boating/Licensing****Boating Operations May 2012****Basic Business Report**

|  | MTD   | Monthly Revenue | (previous ytd) | YTD          |
|--|-------|-----------------|----------------|--------------|
| Watercraft - New Titles  | 1,630 | \$20,293.50     | \$45,370.00    | \$65,663.50  |
| Outboard Motor - New Titles                                    | 1,036 | \$10,297.84     | \$20,180.00    | \$30,777.84  |
| Watercraft - Transfers   | 2,951 | \$16,968.25     | \$35,046.00    | \$52,014.25  |
| Outboard Motor - Transfers                                     | 2,166 | \$21,660.00     | \$40,640.00    | \$62,300.00  |
| Internet Registration Renewals                                 | 1,300 | \$13,000.00     | \$25,400.00    | \$38,400.00  |
| DNR Office Renewals  | 8,500 | \$85,000.00     | \$54,490.00    | \$139,490.00 |
| Mail Renewals  | 3,670 | \$36,700.00     | \$98,850.00    | \$135,550.00 |
| Law Enforcement Boating Dollars<br>(Drew's Law)                |       | \$244,498.00    | \$516,822.00   | \$761,320.00 |
| Active Watercraft Registrations                                |       |                 |                | 362,066      |
| Inactive Watercraft Registrations ( including dropped records) |       |                 |                | 288,506      |
| Total number of Watercraft                                     |       |                 |                | 365,544      |

**Licensing Operations May 2012**

**Basic Business Report**

|                           | <b>MTD<br/>Quantity</b> | <b>MTD<br/>Revenue</b> | <b>Last Year<br/>MTD<br/>Quantity</b> | <b>Last Year<br/>MTD<br/>Revenue</b> |
|---------------------------|-------------------------|------------------------|---------------------------------------|--------------------------------------|
| Resident Hunting Licenses | 2,906                   | \$ 7,591.50            | 5,393                                 | \$ 17,198.00                         |
| Non-Res. Hunting Licenses | 538                     | \$ 42,673.00           | 876                                   | \$ 80,833.00                         |
| <b>Total</b>              | <b>3,444</b>            | <b>\$ 50,264.50</b>    | <b>6,269</b>                          | <b>\$ 98,031.00</b>                  |
| Resident Fishing Licenses | 31,429                  | \$ 176,608.00          | 39,964                                | \$ 216,338.00                        |
| Non-Res. Fishing Licenses | 15,533                  | \$ 181,496.00          | 16,326                                | \$ 199,236.00                        |
| <b>Total</b>              | <b>49,962</b>           | <b>\$ 358,104.00</b>   | <b>56,290</b>                         | <b>\$ 415,574.00</b>                 |
| Combo. Licenses           | 2,611                   | \$ 98,418.00           | 4,702                                 | \$ 188,497.00                        |
| 3 Yr. Resident Hunt       | 20                      | \$ 534.00              | 108                                   | \$ 3,157.50                          |
| 3 Yr Resident Fishing     | 1,008                   | \$ 27,216.00           | 2,017                                 | \$ 54,459.00                         |
| 3 Yr Non-Res Fishing      | 55                      | \$ 5,610.00            | 130                                   | \$ 13,260.00                         |
| Lifetime Licenses         | 1,146                   | \$ 21,105.00           | 1,163                                 | \$ 17,242.00                         |
| L/T Disability Licenses   | 5                       | \$ -                   | 3                                     | \$ -                                 |
| 3YearDisability           | 355                     | \$ -                   | 408                                   | \$ -                                 |

|                      |       |              |                |
|----------------------|-------|--------------|----------------|
| Turkey Tags          | 1,377 | \$ 0.00      | Opens 03-15-13 |
| Antlerless Deer Tags | 4,377 | \$ 21,885.00 | Opens 08-15-12 |
| Shrimp Baiting       | 272   | \$ 6,800.00  | Opens 09-14-12 |

**License Agents Numbers and Sales (Month To Date)**

| LicenseAgents<br>Quantity | Manual  | Point of<br>Sale | Internet &<br>Call Center | SCDNR<br>Offices | Totals        |
|---------------------------|---------|------------------|---------------------------|------------------|---------------|
|                           | 0       | 512              | 1                         | 4                | 517           |
| Total License             |         | 35,308           | 10,640                    | 8,162            | 54,110        |
| Total Revenue             | \$ 0.00 | \$ 240,505.00    | \$ 150,068.50             | \$ 143,997.00    | \$ 534,570.50 |
| % sales to agent<br>type  | 0.00 %  | 44.99%           | 28.1%                     | 26.9%            |               |

NEW POS  
AGENTS 0

**Commercial License Operations May 2012  
Basic Business Report**

| License Type                      | Licenses Sold |                 | MTD        | \$ YTD                | \$ YTD Last         |                    |
|-----------------------------------|---------------|-----------------|------------|-----------------------|---------------------|--------------------|
|                                   | MTD           | Sold Last Month |            |                       | Month               | Month              |
| Commercial Saltwater Res          | 1,224         | 1,195           | 29         | \$256,408.00          | \$29,871.25         | \$727.50           |
| Commercial Saltwater Non          | 223           | 176             | 47         | \$152,550.00          | \$52,575.00         | \$14,325.00        |
| <b>Commercial Saltwater Total</b> | <b>1447</b>   | <b>1371</b>     | <b>76</b>  | <b>\$408,958.00</b>   | <b>\$82,446.25</b>  | <b>\$15,052.50</b> |
| Trawl Res                         | 327           | 317             | 10         | \$471,615.00          | \$39,612.50         | \$1,262.50         |
| Trawl Non                         | 171           | 125             | 46         | \$107,385.00          | \$37,275.00         | \$14,025.00        |
| <b>Trawl Total</b>                | <b>498</b>    | <b>442</b>      | <b>56</b>  | <b>\$579,000.00</b>   | <b>\$76,887.50</b>  | <b>\$15,287.50</b> |
| Crabs Res                         | 374           | 368             | 6          | \$202,536.50          | \$22,027.50         | \$147.50           |
| Crabs Non                         | 18            | 18              | 0          | \$41,306.25           | \$6,125.00          | \$0.00             |
| <b>Crabs Total</b>                | <b>392</b>    | <b>386</b>      | <b>6</b>   | <b>\$243,842.75</b>   | <b>\$28,146.25</b>  | <b>\$147.50</b>    |
| Shellfish Res                     | 256           | 256             | 0          | \$19,200.00           | \$19,200.00         | \$0.00             |
| Shellfish Non                     | 1             | 1               | 0          | \$375.00              | \$375.00            | \$0.00             |
| <b>Shellfish Total</b>            | <b>257</b>    | <b>257</b>      | <b>0</b>   | <b>\$19,575.00</b>    | <b>\$19,575.00</b>  | <b>\$0.00</b>      |
| Wholesale Res                     | 283           | 277             | 6          | \$253,255.00          | \$27,690.00         | \$605.00           |
| Wholesale Non                     | 13            | 11              | 2          | \$6,500.00            | \$6,500.00          | \$1,100.00         |
| <b>Wholesale Total</b>            | <b>296</b>    | <b>288</b>      | <b>8</b>   | <b>\$260,255.00</b>   | <b>\$33,190.00</b>  | <b>\$1,705.00</b>  |
| All Commercial Types Res          | 4102          | 4034            | 68         | \$1,436,915.00        | \$165,641.25        | \$2,917.00         |
| All Commercial Types Non          | 502           | 407             | 95         | \$827,316.25          | \$106,343.75        | \$29,357.00        |
| <b>All Commercial Types Total</b> | <b>4604</b>   | <b>4,441</b>    | <b>163</b> | <b>\$2,264,231.25</b> | <b>\$271,985.00</b> | <b>\$32,274.00</b> |
| <b>Totals</b>                     | <b>4604</b>   | <b>4441</b>     | <b>163</b> | <b>\$2,264,231.25</b> | <b>\$271,985.00</b> | <b>\$32,274.00</b> |

**SC DEPARTMENT OF NATURAL RESOURCES  
WATER RECREATIONAL AND GAME & FISH FUNDS  
AVAILABLE CASH AS OF May 31, 2012**

| REG 1 HUB Balances     | WREC                | G&F                 |  | FY12 Lic Rev      | FY12 Fine Rev     |
|------------------------|---------------------|---------------------|--|-------------------|-------------------|
| Abbeville              | 83,049.19           | 24,481.77           |  | 3,800.31          | 951.81            |
| Anderson               | 40,643.43           | 142,431.73          |  | 13,474.54         | 2,957.09          |
| Cherokee               | 193,736.07          | 152,979.42          |  | 9,365.94          | 1,258.89          |
| Edgefield              | 65,573.29           | 35,193.91           |  | 3,115.30          | 2,665.79          |
| Greenville             | 99,554.29           | 101,868.60          |  | 11,429.71         | 3,371.09          |
| Greenwood              | 78,399.79           | 41,151.36           |  | 6,669.74          | 2,195.56          |
| Laurens                | 107,563.58          | 46,629.68           |  | 5,434.91          | 7,118.39          |
| McCormick              | 33,657.19           | 22,640.08           |  | 4,180.65          | 874.72            |
| Oconee                 | 433,697.72          | 317,583.38          |  | 19,378.10         | 1,989.70          |
| Pickens                | 52,765.73           | 82,234.02           |  | 10,883.87         | 2,790.09          |
| Spartanburg            | 53,676.04           | 148,961.50          |  | 13,463.40         | 4,253.17          |
| Union                  | 99,210.15           | 38,340.23           |  | 3,527.42          | 3,508.47          |
| REG 1 Total            | 1,341,526.47        | 1,154,495.68        |  | 104,723.89        | 33,934.77         |
| REG 2 HUB Balances     | WREC                | G&F                 |  | FY12 Lic Rev      | FY12 Fine Rev     |
| Chester                | 162,275.01          | 53,919.79           |  | 3,798.80          | 6,893.40          |
| Chesterfield           | 52,766.41           | 20,162.88           |  | 3,978.26          | 893.99            |
| Darlington             | 198,249.38          | 5,607.73            |  | 3,525.77          | 994.44            |
| Dillon                 | 162,820.11          | 48,829.58           |  | 5,168.63          | 344.56            |
| Fairfield              | 56,737.51           | 142,238.75          |  | 6,871.12          | 5,110.99          |
| Florence               | 412,646.97          | 51,882.31           |  | 4,346.25          | 1,262.78          |
| Kershaw                | 228,485.64          | 71,562.57           |  | 4,871.60          | 1,334.54          |
| Lancaster              | 257,734.45          | 122,209.25          |  | 10,912.71         | 1,957.42          |
| Lee                    | 105,042.78          | 13,788.67           |  | 2,497.24          | 817.49            |
| Marion                 | 118,794.42          | 28,700.57           |  | 2,968.17          | 987.66            |
| Marlboro               | 98,677.87           | 27,867.64           |  | 3,572.61          | 686.76            |
| Williamsburg           | 116,002.98          | 1,645.48            |  | 2,677.70          | 601.20            |
| York                   | 208,253.42          | 24,046.46           |  | 33,032.86         | 2,100.99          |
| REG 2 Total            | 2,178,486.95        | 612,461.68          |  | 88,221.72         | 23,986.22         |
| REG 3 HUB Balances     | WREC                | G&F                 |  | FY12 Lic Rev      | FY12 Fine Rev     |
| Aiken                  | 17,778.84           | 60,166.61           |  | 6,381.37          | 2,522.89          |
| Allendale              | 25,994.00           | 25,181.80           |  | 2,595.42          | 396.38            |
| Bamberg                | 61,366.62           | 17,367.55           |  | 2,513.28          | 306.03            |
| Barnwell               | 87,225.51           | 37,673.11           |  | 2,809.36          | 1,308.78          |
| Calhoun                | 70,291.22           | 38,502.47           |  | 3,129.06          | 2,412.07          |
| Clarendon              | 68,946.62           | 51,079.09           |  | 8,796.07          | 3,394.64          |
| Lexington              | 710,101.31          | 123,198.54          |  | 12,640.01         | 8,433.18          |
| Newberry               | 122,060.07          | 78,785.45           |  | 6,596.11          | 2,730.08          |
| Orangeburg             | 170,586.28          | 110,175.70          |  | 9,146.36          | 2,370.85          |
| Richland               | 328,313.59          | 100,725.58          |  | 12,315.83         | 2,611.96          |
| Saluda                 | 113,121.51          | 56,694.62           |  | 4,248.27          | 2,219.29          |
| Sumter                 | 165,200.14          | 33,093.64           |  | 3,928.41          | 4,927.59          |
| REG 3 Total            | 1,940,985.71        | 732,644.16          |  | 75,099.55         | 33,633.74         |
| REG 4 HUB Balances     | WREC                | G&F                 |  | FY12 Lic Rev      | FY12 Fine Rev     |
| Beaufort               | 27,701.37           | 90,433.84           |  | 4,222.12          | 6,711.83          |
| Berkeley               | 379,064.74          | 164,784.77          |  | 12,670.49         | 5,370.73          |
| Charleston             | 462,184.18          | 79,306.73           |  | 6,962.41          | 13,937.68         |
| Colleton               | 97,101.38           | 58,311.52           |  | 3,502.10          | 4,468.73          |
| Dorchester             | 268,053.53          | 33,649.75           |  | 3,973.73          | 681.93            |
| Georgetown             | 8,451.91            | 72,069.06           |  | 4,629.78          | 15,200.63         |
| Hampton                | 89,635.38           | 58,686.73           |  | 3,149.44          | 1,303.11          |
| Horry                  | 253,036.41          | 77,362.36           |  | 12,343.90         | 8,242.39          |
| Jasper                 | 5,396.95            | 74,062.66           |  | 4,383.45          | 2,776.93          |
| REG 4 Total            | 1,590,625.85        | 708,667.42          |  | 55,837.42         | 58,693.96         |
| <b>AVAILABLE TOTAL</b> | <b>7,051,624.98</b> | <b>3,208,268.94</b> |  | <b>323,882.58</b> | <b>150,248.69</b> |

## LAND, WATER & CONSERVATION

### OFFICE OF DEPUTY DIRECTOR

Ken Rentiers attended the Director's meeting (5/1). Participated in the Greenville County Conservation District annual awards banquet (5/3). Met with Jeff Allen, Director of Clemson's Water Resources group; met with Jim Bottum, Chief Information Officer for Clemson University (5/4). Participated in meeting with Director Taylor and DHEC Director Templeton regarding Water Planning (5/7). Participated in the Savannah River Maritime Commission meeting (5/8). Met with Scott Stephens of Richland County (5/9). Attended briefing on Carbon Sequestration project in Colleton County (5/16). Attended the Deputy Director's meeting at Donnelly WMA (5/21-5/22). SCDNR Board meeting (5/23). Attended the Interstate Council on Water Policy briefing; and participated in Savannah River Basin Advisory Council conference call (5/31).

### HABITAT PROTECTION AND ENVIRONMENTAL CONSERVATION SECTION

#### River Conservation Program Staff

##### **Ashley Scenic River Project:**

Staff participated in an advisory council meeting of May 16 to stormwater management issues, a proposed dock permit and a housing project with potential affects to the river.

##### **Broad Scenic River Project:**

Staff was involved with ongoing DNR staff discussions of potential mitigation sites for the proposed Pond-C development of the Lee Nuclear

##### **Catawba Scenic River Project:**

Staff participated in the annual Lily Festival at Landsford Canal Park on May 20. Staff and the advisory council continue developing and writing the Catawba Scenic River management plan.

##### **COWASEE Basin Task Force:**

Staff gathered and prepared land-ownership maps and data sheets for presentation and discussion at May 30 meeting of task force. Staff wrote an article for Outlook Magazine and will assembled the 2012 newsletter for this project.

##### **Edisto River Basin Project:**

Staff participated in Friends of the Edisto (FRED) booth at Orangeburg Rose Festival on May 5 and the FRED Stewardship Day river cleanup on May 12. Staff participated in a FRED board meeting on May 22 to address several issues of interest: a wastewater management concern in Batesburg-Leesville, redeveloping the FRED website, and a land-conservation interest on the river near Bamberg. FRED submitted a group letter to DHEC requesting to be notified of any actions related to the wastewater concern at Batesburg.

##### **Little Pee Dee Scenic River Project (Dillon):**

Staff provided copies of LPD Scenic River Management Plans to the DNR Florence office, LPD State Park and the Dillon tourism office.

##### **Lower Saluda Scenic River Project:**

Staff continued working with DNR legal staff in preparing an agency response to possible violations of the Scenic River Conservation Easement.

##### **Lynches Scenic River Project:**

Staff assisted DNR videographer in producing educational program to feature Lynches River, Florence County education staff, and Lynches River County Park.

#### **FERC Hydro Projects:**

- Columbia Hydroelectric Project (FERC Project No. 1895). Staff participated in field survey and monitoring of Rocky Shoals Spider Lily on May 14-16. Staff continued consultation with City of Columbia regarding proposed tree-removal plans for the canal embankment; and staff provided related information in response to a FOIA request. Staff provided comments to Lockhart (project operator) to address proposed changes to an Operational Compliance Monitoring Plan.
- Coneross Hydroelectric Project (FERC Project No. 6731) and Pelzer Hydroelectric Projects (FERC Project Nos. 10253 and 10254). DNR staff provided consultation with the operator of these three projects, ENEL Green Power, regarding the scheduling of reservoir drawdown and release of sediments for maintenance at these projects.
- Keowee-Toxaway (KT) Hydroelectric Project (FERC Project No. 2503). Relicensing process continues and DNR staff participated in several meetings to address lake-level performance measures for Operational Scenarios in water quantity models of the KT Project. Related KT meetings on modeling and Water Supply studies occurred May 23 and 30, respectively.
- Lockhart Hydroelectric Project (FERC Project No. 2620). Staff provided consultation to Lockhart regarding trash-rack bar-spacing changes at the forebay of a new minimum-flow turbine.

- Neal Shoals Hydroelectric Project (FERC Project No. 2315). SCE&G is implementing fish and macroinvertebrate monitoring studies and continuing to monitor sediment profiles in the Broad River channel in response to the Oct-Dec 2011 sediment release from Neal Shoals Dam.
- Riverdale Hydroelectric Project (FERC Project No. 13590). Relicensing process continues. FERC issued public notice of acceptance of the license application on May 7. FERC is currently evaluating information to prepare a draft Environmental Assessment of the Riverdale hydro project.
- Saluda Hydro Project (FERC Project No. 516). DNR staff requested SCE&G to provide a specific flow below the dam to support aquatic resources of the Saluda River; and on May 2, SCE&G responded favorably reporting they would provide the desired flows.

#### **Other Rivers-Program Staff Activity:**

- River Management Society -- Staff assisted in closing out the 2012 RMS symposium and participated in RMS Board conference call on May 3.
- State Trails Advisory Committee: Staff continued supporting the Southeast Saltwater Trail initiative. Staff participated in evaluating 42 applications to the SC Trails Grant Program.
- Outreach/education: Staff assisted with Envirothon on Friday May 4. Staff conducting an educational canoe outing in Sparkleberry Swamp on May 12.
- Equipment: Staff conducted repair work on canoes and trailer on May 31 in preparation for summer use at various camps and educational programs concerning rivers and water safety.

#### **Data Management:**

##### **Information and data requests.**

One person was provided access to the protected web. Three requests for verification of known occurrences in the vicinity of project sites were received and answered from:

- Tower Engineering Professionals for a communications tower site in Lexington County
- Dargan, King & Knight, LLC for a marine industrial park in Horry County
- Duncan & Duncan Wetland and Endangered Species Training for a project near Summerville.

Maps of the large parcel ( $\geq 50$  acres) land ownership in the Cowasee Basin were revised at the request of the SC Scenic Rivers Program for use by the Cowasee Basin Focus Area Committee. The three maps contain parcel boundaries for Calhoun, Kershaw, Lexington, and Sumter counties. An Excel spreadsheet was also created with ownership details, also for use by that committee.

A review continues on the element occurrence records for federally listed plants as part of the federal project to survey those species on SCDNR lands. These records will be adjusted so that similar information is located in the same data fields across all the records, which will make them easier to compare. Assistance was provided for several of the agency's March of Dimes fund-raising events.

##### **Heritage Survey:**

Over 60 specimens were processed to include species identification, vouchers listed, and collection numbers assigned for quick reference as collected by the Heritage Preserve Inventory of agency properties.

SC Heritage and USC's South Caroliniana Library and Digital Collections Library have proposed to seek funding for a project to digitize the private journals of Henry William Ravenel and his vascular plant collections held at the A. C. Moore Herbarium. (Ravenel was one of the foremost natural scientists working in South Carolina prior to and after the Civil War.) If funded by the National Endowment for the Humanities, this project will create a web site which will facilitate concurrent searches of journal entries and specimens. As the journal entries often contain more information than the specimen labels, such a tool will augment the value of the specimens significantly. Because Ravenel discovered many plant species apparently now extirpated in SC, it may provide an additional means of relocating 'lost' populations. Staff and SouthEast Regional Network of Expertise and Collections group plan to re-submit a proposal to the Advancing Digitization of Biological Collections-- National Science Foundation to facilitate the digitization of plant specimens at participating regional herbaria and serve these images and data in a regional web portal for the Southeast region.

Agency biologists and US Forest Service land managers, together with plant scientists from the Tall Timbers Research Station and The Citadel, evaluated six known sites for American Chaffseed (*Schwalbea americana*) in Longleaf Pine stands within the Francis Marion National Forest; American Chaffseed is listed for protection under the US Endangered Species Act and is actively managed on agency and federal properties. Like others in the Figwort Family, this plant is parasitic on the roots of nearby flowering plant species. See below a close-up photograph of a sterile rosette of leaves

with a ground cover of Longleaf Pine needles for scale (2-3 mm in width). Discussed were site characteristics, host plant specificity, and problems relating to inbreeding depression, fire suppression, and the loss of open savanna habitat. American Chaffseed is known to occur on the Lynchburg Savanna Heritage Preserve and perhaps other agency properties in the Coastal Plain. In like manner, a known site for Relict Trillium (*Trillium persistens*) was visited in the Chattahoochee National Forest in northeast Georgia along the Tugaloo River near its confluence with Panther Creek and immediately west of the Brasstown Creek Heritage Preserve. To date similar habitat but no plants have been found on the preserve which straddles steep ridges along the eastern shore of the river and then upstream Brasstown Creek draining far western Oconee County.

#### **Aquatic Nuisance Species Program:**

ANS staff met with Wildlife staff for surveys and planning of the upcoming (2012) treatments of Donnelly, Potato Creek, and Sandy Beach WMA's.

Twenty-two acres of water lettuce was treated at Goose Creek Reservoir in Berkeley County and 26 acres of water primrose was treated at Stony Bay on the Sandy Beach WMA in Clarendon County.

Staff surveyed Island Apple Snail infected ponds in Horry County.

Staff met with SCE&G staff to develop a plan for introducing valisneria to Lake Murray in order to enhance native plant populations.

Staff is also currently coordinating with USFWS staff on a grant for control work to be completed on the Savanna National Wildlife Refuge for invasive and problematic species.

Staff worked with the Wading Bird biologist from the WFF division during the preparation of a grant proposal to attend to the invasive plants growing in three prominent wood stork rookeries.

Work on GIS maps has been initiated to repair lost/corrupt maps and data that resulted from staff's computer updates.

A position description for the vacant technician's position was developed and was turned in to Human Resources staff, as was a position reclassification for the program manager.

Examination of winter buds from Vallisneria from the Santee Cooper lakes system was completed in conjunction with Santee Cooper Staff.

#### **Outreach:**

Staff met with officials from the GA Forestry, GA Department of Natural Resources, and the USFWS to review recent Chinese Tallow control efforts on the Savannah National Wildlife Refuge.

Input was provided at the 2012-13 Rules and Regulations Committee meeting.

Staff attended a SC Exotic Pest Plant Council Board meeting.

#### **Training:**

Staff attended an OSHA training course

#### **Other:**

Staff responded to numerous phone calls and emails regarding aquatic weed problems in public waters.

Equipment purchases, boat repairs, and vehicle maintenance were performed.

## **CONSERVATION DISTRICTS**

### **Statewide Projects**

The 2012 SC Envirothon competition was held at the Sandhills REC with teams from around the state competing in this dynamic environmental competition for high school students. Testing in the areas of aquatics, forestry, soils, wildlife, and for 2012, a concentration on Non-Point Source Pollution and Low Impact Development determines the winners. The top team was Spartanburg High's Team A, who will go on to compete in the North American Canon Envirothon to be held in July in Pennsylvania. The Envirothon has been in South Carolina since 1997, providing over \$70,000 in scholarship funds to local high school students. The Envirothon is sponsored by the SC Department of Natural Resources, SC Forestry Commission, USDA-Natural Resources Conservation Service, Central Carolina Technical College, Francis Marion University, Florence County Environmental Discovery Center, USC Upstate, Canon Envirothon, the Clemson Institute, Harry Hampton Fund, the SC Conservation Districts Foundation, the SC Association of Conservation Districts, individual Conservation Districts and private donors.

### **Technical**

Staff attended Forrest Stand Improvement and Organic-Sustainable Agriculture training; provided technical assistance on conservation practices and contracts in **Greenville, Laurens, Union, Orangeburg, Allendale, Horry and Bamberg Districts**. Staff worked on conservation planning using Toolkit and Protracts in **Aiken and Allendale Districts** and worked on status reviews and Gopher Tortoise Initiative in Aiken County. Staff inspected survey lines on Wetland Reserve Program sites in **Richland, Florence, Williamsburg, and Clarendon Districts**.

### **Outreach**

Staff attended district events in **Greenville, Abbeville, McCormick, Richland, Lexington, Orangeburg and Calhoun**.

## Conservation Districts

**Anderson District** staff attended the Pendleton High School Awards Night to present the Don McPhail Scholarship to Weston Link, Photo Contest Award to 1st place winner Brooks Wood, and Conservation Teacher of the Year Award to Blake Berry. The District held two ice cream parties for the Bulletin Board winning classes. Concord Elementary received 1st place for 5K and La France Elementary received 1st place for first grade. The District is currently holding their Spring/Summer Rain Barrel sale online at <http://www.rainbarrelprogram.org/andersonswcd>.

**Barnwell District** Commissioner Sullivan did a presentation on insects for 19 Montessori students at Barnwell Primary School. The students viewed live insects during the program and learned how to catch bugs in nets. District staff met with 4-H Clemson Extension leader to plan another Nature Ranger's camp at Barnwell State Park. Commissioners & staff are working on new litter projects. Commissioner Nettles & Pickering designed a new PowerPoint program titled Litter Busters Wildflower Garden and set up planting wildflowers at two schools during the fall.

**Beaufort District** and NRCS continue to work on reducing manure runoff into the impaired Okatie River through the Okatie Watershed 319 Grant. Education staff presented "ACE Basin Alive" program to about 150 fifth graders with a youth grant through Lowcountry RC & D. "ACE Basin Alive" was developed similarly to a Splash Day with rotating presentations on snakes, alligators, wetlands, estuaries, marine litter, and the Enviroscope and printing DNR's ACE's Activity Books for the students. Education staff also traveled to assist neighboring Hampton District with Wild and Well Day. Staff is also gearing up for World Oceans Day Activities and Progressive Agriculture Safety Day in June.

**Cherokee District** Coordinator Karen Allen and Commissioner Willie Sarratt presented numerous conservation programs at Blacksburg Primary School. Mrs. Allen helped 8 kindergarten classes build edible landfills and discussed the importance of recycling. The same week Mr. Sarratt spoke to 5 first grade classes about bluebird habitats. He built and donated a bluebird nest box to the school on behalf of the District and purchased a post for mounting at the school. The District also mounted a rain gauge at the school and the second grade classes are participating in the CoCoRaHS network of volunteer weather reporters. Later in the month Mrs. Allen demonstrated the Enviroscope model to 5 second grade classes at the school. The District held the Annual Recognition Picnic at Lake Whelchel; recognizing 23 students for their winning entries in the Essay, Poster and Photography contests. Cherokee District has finished the spring planting at the Magnolia's Therapeutic Garden which is a raised-bed garden project that the district started last year.

**Chester District** Board awarded the \$500 Allen L. Beer Scholarship to Hunter Troy Lalli, a senior at Lewisville High School. Hunter plans to enter Clemson University in the fall as an Environmental Natural Resources Management Major. The 2012 Poster Contest winners were announced, Jacob Seth Jones, an eleventh grade student at Great Falls High School won first prize. The Board met with the Rocky Creek and Tinker's Creek Watershed Directors to make plans to inspect and maintain the watershed dams. Chester County farmers have used the no-till drills to plant seed on nearly 100 acres thus far this spring.

**Colleton District** celebrated Stewardship Week April 29-May 6 with area churches. This year Rev. Gerald Mabry and Fred Tritapoe organized the Ministers Tour with the DNR's Carolina Coastal Discovery Program. Captain Tom Salisbury and SCDNR staff, Jessica and Bri, explained the inherent value of South Carolina's marine ecosystems and resources. The District also promoted the use of Soil & Water Stewardship resource material in our area churches.

**Edgefield District** held a Coloring Contest for area Kindergarten students; each class that participated received a basket with classroom supplies. The Rural Life Photo Contest ended this month and the district awarded 5 different student prizes from grades 6-8.

**Fairfield District** had five winners, grades 8-12, in the Annual Photo Contest. All photos had to pertain to our natural resources. Two graduating seniors were each awarded a \$500 scholarship as they will be studying college courses related to natural resources. One student will be attending Clemson University and the other will attend St. Andrews College. Financial support was given to the Envirothon Program.

**Georgetown District** presented the winners of the Photography and Essay Contests with certificates and checks. Work continues on the EPS Section 319, Water Hyacinth and Beach Vitex grants.

**Greenville District** helped sponsor the Greenville Organic Food Organization's Urban Farm Tour which highlights area urban farms and allows the public to visit the farms to learn more about producing their own food on their own land. One of the Greenville commissioners, David Gible, participated in the tour by offering tours of his urban blueberry farm and gardens. The District also rolled out an initiative with area pet stores to give away "There is No Poop Fairy" buttons and doggie potty bags. The stores agreed to display large poop fairy cut outs and have poop fairy floor clings show the way to where pet waste bags can be purchased. There was also a large advertisement in the Greenville News about the campaign. After Hawaii banned plastic bags, the Fox Carolina news station called the District to get information on plastic bag litter, and JC Ward, Education Program Director, was interviewed for the news segment.

**Hampton District** sponsored the 17<sup>th</sup> Annual Wild & Well Day for 4<sup>th</sup> graders. The day consisted of students rotating around sessions targeting topics highlighting the environment, wellness and encouraging the students to go outdoors and explore their backyards and neighborhoods.

**Lancaster District** employee Amanda Roberts attended the Andrew Jackson FFA Banquet and received an honorary chapter FFA decree. Amanda Roberts, Nancy Fleming and Bet Hunter assisted with the Envirothon competition. The District held its Affiliate Members Recognition and Awards Program and announced the Educator of the Year, Debra

Hickel at Buford Elementary School; Conservation Farmer of the Year, Jack McCauley; Glenn Alexander Memorial Scholarship Recipient, Daniel Stover at Andrew Jackson High and gave State Representative Jimmy Neal an outstanding supporter of conservation award. The District promoted NACD Stewardship Week "Soil to Spoon". The Cane Creek Watershed Board completed repairs on 3 of their watershed dams.

**Lee District** held many activities, including the Kids in Conservation program, the after-school program held at Lee State Natural Area.

**Lexington District** presented a program about soils to 85 students at the Springdale Elementary School. The NACD theme this year is "Soil to Spoon". The Awards Recognition Banquet this year had 148 attend. Students presented over 200 photos for judging this year. First and second place winners received cash awards and those with Honorable Mention received the Birds and Bloom Magazine for a year. The District assisted with the Envirothon. The White Knoll High School team came in fourth in the state. A commissioner represented the District at the County Stormwater Consortium meeting. Representative Mac Toole was guest speaker at the May board meeting. USDA-NRCS made cost-share funds available through the Environmental Quality Incentive Program for 5 animal waste applications. Aquatic weeds and algae have caused many problems in ponds with more than 11 pond owners requesting technical assistance.

**Marion District** held its Annual Essay Competition, with an awards reception. The District distributed 4 rain gauges throughout the county for CoCoRaHS Reporting. The district staff also held the Annual Affiliate Member drive, and distributed the Annual Report.

**McCormick District** held the Cedarhill Field Day at the McCormick Elementary School for 60 fourth grade students and 10 volunteers. The students had stations that gave them the opportunity to learn about the EnviroScape, fire, birds of South Carolina, prey and predators and animal tracks. Each class received an educational Take-Along Guide on trees, leaves and bark for outdoor class activities. The District also completed pipelines, stream crossings, control burns, firebreaks, water bars and wells in conjunction with their NRCS partner.

**Oconee District** awarded 3 scholarships to deserving seniors entering universities in natural resource studies. The seniors were Callie Rohletter from Seneca High School, Jessica Galloway from Walhalla High School, and Katie Brock from West Oak High School. The District also sponsored 2 individuals to attend the Conservation Districts Youth Workshop. Work with the school system continues to grow as we have had close to 200 participants in our awards banquet for our contests. The district sponsored a community fish fry event to help fund the Oak Grove School restoration, a project that will provide meeting space and display areas for 4-H, FFA, and agricultural associations.

**Orangeburg District** staff, Glenda Lewis and Diane Curlee volunteered at the SC Envirothon and the District provided the snacks for the event. Glenda Lewis, District Manager; Diane Curlee, Education Coordinator and Emily Bonilla; Orangeburg County District Conservationist, NRCS manned a **Keep Orangeburg County Beautiful** booth at the 2012 Orangeburg Festival of Roses. In observance of Soil Stewardship Week, the District put a "Soil to Spoon" display in the Orangeburg County Library for the month. The District registered John Cuttino Jr. as their representative to the SC Conservation Districts Youth Workshop. Gabby Greenleaves, our talking tree, aka Diane Curlee visited the day care at St. Andrews United Methodist Church and the second grade at Orangeburg Preparatory School, Lower Campus. The EnviroScape – Nonpoint and Point Source Pollution model was demonstrated at Edisto High School, with the Environmental Science Class and at the Wild and Wet Day held at Lake Warren State Park in Hampton County by Diane Curlee and Earth Team Volunteer, Judy Furtick. A presentation – "Butterflies of Orangeburg County" was presented at the Cordova Senior Citizens Center.

**Pickens District** hosted milkshake parties for this year's "Soil to Spoon" poster winning classes, 4 grades, totaling 97 students. This took place at the schools of the winning classes (Holly Springs Elementary and Central Elementary). The last celebration will be held on June 1<sup>st</sup>, at Lakeview Christian School for 16 students. District employee Cheryl Cassell attended the Envirothon as a Team Leader.

**Richland District** showcased recent projects and recognized Richland County's Conservation Principal of the Year, Conservation Teachers of the Year, and other award recipients at its Earth Day Awards Banquet. Approximately 60 people attended the event. The District mentored and sponsored three teams from Dreher and Keenan High Schools at the SC Envirothon. District staff installed a butterfly garden at Forest Heights Elementary School and contributed materials for a school bulletin board about the project. Through the Conservation Station at Sandhill, the District sponsored conservation education programs for 176 students and 43 adults. Through a partnership project with the University of South Carolina, the District helped plan and conduct a three-day Nature-Based Inquiry workshop for 30 Richland County School District One teachers from 6 elementary schools to develop, enhance, and use outdoor classrooms for inquiry-based science education. The project is funded by a grant from the SC Commission on Higher Education. The District continues to mentor 13 school conservation projects at 8 schools through the Green Steps Schools program. Through the Organic Richland project, District staff met with 2 farmers to discuss conservation assistance available through USDA-NRCS.

**Saluda District** held its annual Awards; and awards were given to area students for the Essay Contest, Photo Contest, Poster Contest, Coloring Contest, M.L. Long Scholarship and Cooperator of the Year. The District staff went to Saluda Primary & Saluda Elementary schools to speak to grades 2-5 for Career Day and they planted over 100 squash plants with the students.

**Williamsburg District** presented the winner of the annual Photography Contest with a check and certificate. Also, the District chose a student to attend the Conservation Districts Youth Workshop. The Annual Report was printed and distributed.

**York District** staff made 10 soils presentations to 7<sup>th</sup> grade classes at York Middle School using watershed model, bringing the total of presentations to school classes this school year to 47, benefiting 3,090 students. Staff also worked with kindergarteners at 2 schools to harvest vegetables from their school gardens and to make and eat a salad of the lettuce, carrots and radishes that they grew. Eighteen teachers from the York County school districts are registered for the conservation district teacher workshop, co-facilitated by the Clover District science department, to be held in July. The district sold 9,150 square feet of filter fabric and rented the no-till drill to one user.

## **EARTH SCIENCE GROUP**

### **Hydrology Section**

**Water Planning:** Joe Gellici and Andy Wachob joined DHEC personnel at a presentation by HydroLogics, Inc. to learn more about their watershed modeling program OASIS and its suitability in both regional water planning and new surface-water permitting program.

**Savannah River Basin:** Section staff completed a review of and submitted comments to the USA Corps of Engineers' Environmental Assessment (EA) report related to its newly revised Drought Contingency Plan. Staff also participated in a conference call with representatives of Georgia EPD, DHEC, and The Nature Conservancy to discuss the new EA and the Corps' Project Management Plan for the next phase of the Comprehensive basinwide study and funding issues related to that work. Staff participated in another conference call related to the ongoing drought in the Savannah basin.

**FERC:** Scott Harder participated in an Operations Scenario Committee meeting to ensure that SCDNR's interests were being considered in the relicensing of Duke Energy's Keowee-Toxaway project. Historic elevations for Lake Jocassee and Lake Keowee were reviewed; and along with other SCDNR personnel, performance measures to be used in evaluating various modeling scenarios were finalized.

**ADR Network:** Ground-water data were downloaded from, manual measurements taken of, and equipment maintenance done on 14 wells in the Low Country (Region 4). Final arrangements were made for drilling the three new observation wells located in Lee State Park near Bishopville (Region 2) and a single, new observation well in Wee Tee State Forest in Williamsburg County (Region 2); all wells should be completed by the end of June. Ground-water level statistics and graphs were completed for 10 wells in the Piedmont.

**Geophysical Logging:** A full suite of geophysical logs was made in a new well at Fort Jackson, Richland County (Region 3).

**Websites and Databases:** 224 new well reports that were received from DHEC were sorted and processed. Section staff continued working to develop a comprehensive Oracle database containing the SCDNR well data.

**Outreach:** Hydrologic information or assistance was provided to 29 customers.

### **Flood Mitigation Program**

**Outreach:** Maria Lamm and Joy Sullivan participated in a conference call with AECOM staff to discuss the Lower Catawba Watershed Discovery process, to gather information, and for duty assignments; as well as in a Regional Study Team conference call to discuss the Discovery meeting process, being presented at the meeting, and how to conduct the meeting. Mrs. Lamm attended a Saluda County Council meeting (Region 3) to discuss potential violations of the use of a BFE where it does not apply; how to identify such violations; and how to handle current permits, new permit requests, and structures that have been closed out using the incorrect BFE. Mrs. Sullivan and Karen Jones continued working with the Town of Bowman (Orangeburg County, Region 3) and the Town of Turbeville (Clarendon County, Region 3) to complete their application process for joining the NFIP; they also provided necessary paperwork for the Town of Gray Court and Town of Cross Hill (Laurens County, Region 1). Mmes. Lamm and Sullivan, along with Andy Brandenburg, attended the National Association of State Floodplain Managers Conference in San Antonio, TX; the conference provided training and information to state and local officials for Floodplain Management, Risk MAP, and Hazard Mitigation Grants. Mr. Brandenburg participated in a conference call with FEMA Region IV and other states in the region to discuss mitigation activities being done in each state and in a conference call with SCEMD to discuss the State Hazard Mitigation plan. Mr. Brandenburg also attended a meeting of the SC Safe Home program, which is in the South Carolina Department of Insurance and provides grants to individual homeowners to make their property more resistant to hurricane and wind damage. Mrs. Sullivan participated in the CTP conference call with AECOM, URS, and FEMA to discuss progress of statewide mapping for the month. Letters of Final Determination (LFD) have been received that indicate that Williamsburg County maps will become effective November 16, 2012. The Lower Catawba Watershed Discovery Meeting was scheduled for June 27; related "Save the Date" emails and data survey requests have been sent out. Ms. Jones also updated the Flood Mitigation website calendar with the meeting information. Mrs. Sullivan is working on setting up a Discovery Meeting for communities affected in the Seneca Watershed. Ms. Jones set up on-line class registration for two training classes (*Dealing with Approximate A Zones*, June 21; and *Understanding No-Impact*

*Certifications*, June 22) being offered by the Flood Mitigation Program; and to date, there are 16 registrations for each class.

**Compliance and Ordinances:** 26 ordinance reviews were completed for communities involved with CAV/CACs (Community Assistance Visit/Contact) and with new maps for Aiken County (Region 3), which becomes effective on June 19, and Laurens County (Region 1), which become effective on August 16. Mrs. Lamm followed up on the Rock Hill CAV from last month for CRS (Community Rating System) compliance. Ms. Jones also made 7, CAC follow-up telephone contacts to communities in an effort to provide direction and assistance in updating their respective Flood Damage Prevention Ordinances. Mrs. Sullivan continued to follow up with FEMA on the Project Charters for communities in Richland County (Region 3) needing FEMA signature.

**Mitigation Activities:** Mr. Brandenburg continued to work with officials of North Myrtle Beach (Horry County, Region 4) and Richland County (Region 3) to discuss recently approved planning grants.

**General:** Mrs. Lamm continued to oversee all Flood Mitigation Program grants. 91 general assistance contacts were made, and 44 updates were made to the FEMA database.

## **South Carolina Geological Survey**

### **Geological Information**

**STATEMAP:** Crew hand augered 12 holes (12.9-foot average) to supplement power augering in the Estill area (Hampton County, Region 4); 9 power-auger holes (47-foot average) also were drilled. Will Doar completed this year's Georgetown-area maps (Region 4) and gave the drafts to DIP for digitization.

**Outsource Mapping:** Reconnaissance was done in northeast Table Rock quadrangle (Greenville County, Region 1) to extend Caesars Head mapping to the west.

**Coastal Work:** In conjunction with OCRM, the coastal zone adjacent to and southwest of Rockville (Charleston County, Region 4) was selected as this year's study area (Rockville, Edisto Island, Adams Run, Wadmalaw Island, and Edisto Beach quadrangles, Region 4). A data inventory is being developed for generating shoreline positions. North Carolina's methodology began to be evaluated, and a modification of that method will be used to digitize shorelines. Materials also were purchased to build 6 additional SET stations along the northeast coast.

**Geothermal:** CO<sub>2</sub>-content model was submitted for Year 1. Year 3 SOW also was submitted for review.

**NPS:** A detailed plan and budget for mapping the Ninety Six Park area is being developed.

**CO<sub>2</sub>:** Drilling began in Colleton County (Region 4). Cretaceous samples were collected and described every 20 feet. The Triassic unconformity was located at 2000 feet, and the sample/description interval was changed to 10 feet. Casing was set at 2650 feet, and hole-diameter was reduced from 13 inches to 8 inches. Water was encountered at 3650 feet, and inflow resulted in water level rising 1300 feet. Analysis of a water sample detected 32,000 mg/L chlorides. The elevated level of chlorides indicates that the water is hypersaline brine. Structural complexity masked the location of a projected diabase sill at 5700 feet. After the projected sill was not encountered with deepening the hole, a sixty foot core, beginning at 6000 feet, was recovered to determine reservoir characteristics. Presently, whole depth is 6200 feet. Described samples have been moved to repository for drying and storage. In other work, core, filing cabinets, and other materials have been moved into parts of the repository renovation. Different cores samples also were re-boxed prior to being moved onto shelves in the new area.

**Broad River Project:** Kerry Castle and Scott Howard met with US Forest Service hydrologist and soil scientist to discuss saprolite mapping issues in Broad River basin. TMDLs in the Broad River basin also were discussed with Amanda Ley, DHEC Broad River Watershed Manager. Ms. Ley provided information on a variety of related environmental water quality issues; Dr. Castle emailed her the BRMTF proposal. Dr. Castle also met with the USGS regarding installation of a "rapid deployment gage" on the Pacolet River, and a Joint Funding Agreement is being prepared. The Joseph Theo sand mine and other Broad River field sites was visited. Project members from Fresh Water Fisheries were shown monitoring sites on Pacolet (Union County) and Thicketty (Cherokee County) Rivers. The Duncan Creek (Newberry County) monitoring site was outfitted with bank pins; suspended sediment and bed-material sampling also was done. Sedimentation tiles subsequently were installed at the site, flow measurements made, and a topographic cross-section done. Similar activities also were done at Pacolet River, Thicketty River, Sandy River, Tyger River, Enoree River, and 2 Broad River monitoring sites. 5 bed load samples have been sieved, and data entry is complete. Work continues on setting up the sediment laboratory. The 3.5 hp Mercury motor overheats and is being repaired again.

**General:** Brenda Hockensmith examined core from the Cretaceous section and Mike Waddell reviewed core from the Triassic section recovered from Berkley 644. Three manufacturers have visited the Broad River office and discussed costs of their drill rigs, tools, and needed training. Mr. Doar also has contacted 4 other companies to inquire about roto-sonic drilling and tools. 1100 topographic quadrangles were obtained from the USGS

### **Digital Products and the Digital Information Program (DIP)**

**STATEMAP:** Steven Workman used an ArcMap tool to extract a 140-foot contour using DEMs to help delineate the Parler Scarp and digitized a new Coastal Plain map with better definition of Cretaceous. Erin Koch is developing the digitized product into 1:500,000-scale map.

**National Park Service:** Matt Henderson continued to collect point data information for the Dyson map product

(Laurens County, Region 1).

**Data Preservation:** Keyonia Gallman scanned and attributed 27 drill-hole logs, report, and site maps from Saluda (Region 1) and Sumter (Region 2) Counties. 1444 drill log records now are QA/QCed and finalized and are with 6419 other records in the Document Management System.

**CO2:** A team meeting discussed continuous water-level data, screen forms, CO2 data, and other data sets that could be incorporated into main database. Corrections and updates to the subsequently data model are being made. A revised, working data model is nearly finished; programming can begin once the data model is done.

**Geothermal:** Digitization and QA/QC were finished on a new aeromagnetic map of South Carolina. Mr. Henderson developed a TIN surface and grid of the newly digitized contour lines; he also produced a basement contour map using well data provided by the Hydrology Section.

**General:** 26 Publications/Posters/Drafts were plotted upon demand for Sales, Outreach, and In-house use. Mrs. Koch developed a web-page for GGMS-5, which includes data download and exploring PDF options. 200 Geology Quad Data and 726 Education Presentations were downloaded in April 2012. Mr. Workman wrote a python script that searches any directory and finds specific information on geologic units and maps.

**Outreach**

**General:** General information was provided to more than 25 customers. A map of drill-hole locations linked to lithologic logs was developed for Thompson Construction (Region 4). A consultant was provided a list of core holes related to top gold mines. Survey staff helped Marc Cribb with different support duties at the Envirothon. Dr. Howard assisted the USDA field trip in Saluda County and discussed soil and geology mapping techniques. Dr. Howard also provided online assistance to a driller in the field (Cherokee County, Region 1) with identification of Inner Piedmont cores. Mr. Doar made a site visit to Williamsburg County to examine a flooding issue and rocks. Other customers were helped in counties in Region 1: Cherokee, Greenwood, Saluda; in Region 2: Kershaw, Fairfield, Chesterfield, Williamsburg; and in Region 4: Georgetown, Hampton. Mr. Workman attended the USGS-AASG Digital Mapping Techniques Workshop in Champaign, IL. Dawn Misura participated in an ESRI on-line seminar "Introduction to ArcGIS Viewer for Silverlight."

**Partnering:**

|                                     |             |                                    |
|-------------------------------------|-------------|------------------------------------|
| Furman University                   | SCEMD       | South Atlantic Alliance – SAA      |
| USGS – Earth Surface Processes Team | SCDHEC-OCRM | University of South Carolina -ESRI |
| AZ Geological Survey                | NPS         |                                    |

**STATE CLIMATE OFFICE**

The SCO answered 49 information requests with 2 invoiced for \$50 and twenty media interviews were provided. The Assistant State Climatologist for Service assisted SCDNR Law Enforcement with 1 accident investigation. He completed special weather summaries for the astronomical high tides of May 7, the Upstate heavy rains of May 8 and May 13, the statewide heavy rains and river flooding of May 14-16, and Tropical Depression Beryl rainfall event, May 29-30. He prepared a climate history for Waccamaw National Wildlife Refuge and assisted The Heritage Trust Program with research of historical Oconee County high elevation rainfall. Ten CoCoRahs volunteer rain gages were distributed courtesy of a grant from the Harry Hampton Foundation. Weekly he prepared a weather summary that is published online and provided to SC USDA –NASS for their Crop Weather Report.

The Severe Weather Liaison issued 10 email WeatherAlerts for strong/severe thunderstorms (5/8, 5/15, 5/16), TS Alberto (5/21), and TS Beryl (5/24, 5/25, 5/26, 5/27, 5/28, 5/29). The WeatherAlert Listserve expanded to 1331 recipients. He provided April temperature and heating degree day data to support an ongoing study by Electric Cooperatives. He provided forecast outlooks for USC Graduation/ Special Events Weather (5/2, 5/4), Offshore weather outlook for beginning of Shrimp Season (5/1, 5/4), Charleston Weather and TS Alberto Outlook for SLED in support of SE Governors meeting (5/20, 5/21), and offshore weather outlooks for Governor’s Cup fishing tournament (5/16, 5/23).

Staff attended the SC Emergency Response Team Tabletop Hurricane Exercise Planning Meeting (5/3).

The State Climatologist participated in the SERCC Technical Advisory Committee conference call (5/2) and the Carolinas RISA Monthly Conference Call (5/4). She participated in the Fairfield County Regional Water Planning Meeting (5/7). She provided a "SC Weather" presentation for Harbison West Elementary School. She gave a presentation on "Understanding South Carolina’s Weather" at the Annual Meeting of the Catawba Wateree Drought Management Group (5/14). She provided a 2012 Hurricane Outlook at the SC Governor’s Tabletop Hurricane Exercise (5/23). She attended the Keowee-Toxaway Hydro Relicensing Water Supply Study Team Meeting (5/30) which included a review of the Interim Low Inflow Protocol for the basin.