



TOWN OF  
*Kiawah Island*

**Mayor**

John D. Labriola

**Council Members**

Maryanne Connelly  
John Moffitt  
Scott M. Parker, MD  
F. Daniel Prickett

**Town Administrator**

Stephanie Monroe Tillerson

**ENVIRONMENTAL COMMITTEE MEETING**

Virtual Meeting via Zoom

January 13, 2021; 2:00 PM

**AGENDA**

- I. **Call to Order:**
- II. **Approval of Minutes:**
  - A. Minutes of the November 10, 2020 Environmental Committee Meeting
- III. **New Business**
  - A. None
- IV. **Old Business**
  - A. Kiawah Landscaping Workgroup (Grow Native)
  - B. Shorebird Stewardship Program
  - C. Flood Mitigation and Sea Level Rise
  - D. Grow Native/Parkway Landscaping
  - E. Rodenticides/Wildlife
  - F. Deer Management
  - G. Kiawah Conservancy Projects
- V. **New Business**
  - A. Discussion of Clemson Department of Pesticide Regulation Task Force Findings
- VI. **Reports:**
  - A. Town of Kiawah Island
  - B. Kiawah Island Community Association Land & Lakes Management
  - C. Kiawah Island Golf Resort
  - D. Kiawah Island Architectural Review Board
  - E. Kiawah Conservancy
  - F. Turtle Patrol
- VII. **Citizen Comments:**
- VIII. **Chairman's Comments:**
- IX. **Committee Member Comments:**
- X. **Adjournment:**

# ENVIRONMENTAL COMMITTEE MEETING

Virtual Meeting via Zoom  
November 10, 2020; 2:00 PM

## Minutes

### I. Call to Order: *Mr. Jordan called the meeting to order at 2:00 pm.*

**PRESENT:** Jim Jordan, Chairman  
Jim Chitwood  
John Leffler  
Lynne Sager  
Jane Ellis  
Pam Wilson  
Scott Nelson  
David Pumphrey  
Jack Kotz  
**KINHC:** Lee Bundrick  
**KICA:** Matt Hill  
**ARB:** Sara Senst  
**KIGR:** Liz King  
**ABSENT:** Jim Sullivan  
Doug Walter  
**TOKI:** Aaron Given

### II. Approval of Minutes:

#### A. Minutes of the September 8, 2020 Environmental Committee Meeting

*Mr. Chitwood made a motion to approve the minutes of the September 8, 2020 Environmental Committee meeting. The motion was seconded by Ms. Sager and was unanimously approved.*

### III. Old Business

#### A. Kiawah Landscaping Workgroup (Grow Native)

No report.

#### B. Shorebird Stewardship Program

No report.

#### C. Flood Mitigation and Sea Level Rise

Mr. Chitwood reported that work on the Adaptive Management Plan (AMP) report was coming along nicely. The final report is expected to be ready for submittal to the Town and the Kiawah Island Community Association (KICA) sometime after Thanksgiving. He indicated that some of the conclusions that will appear in the report include are;

- There is a high level of concern and interest within the Kiawah community about the impacts of sea-level rise, climate change, and flooding on the island
- The amount of time annually on Kiawah with the number of years of property ownership is a factor in the level of concern. Many comments were noted about a holistic package that brought people to Kiawah.
- Tolerance for personal inconvenience is greater than for safety disruptions
- Unacceptable situations on Kiawah were determined not just by the severity and duration of an event but how often it occurs
- Environmentally positive practices were very supported and encouraged as well as monitoring of the environment

- All island entities need to work together along with surrounding communities.

Mr. Chitwood also reviewed the key recommendations:

- To accept and refine the thresholds conditions defined
- Committee to develop a fully functional adaptive management process
- Proceed with things needed to establish an adaptive management process
- Continue to collect information to improve understanding of the environment o include supporting research programs
- Monitor and annually report the results to KICA (Kiawah Island Community Association), the Town, and the community at large

Mr. Pumphrey added that the survey included four questions that dealt with environmental issues; the beaches and dunes, marsh, maritime forest, and habitat. He noted the overall response was a very high level of concern, reinforcing Mr. Chitwood's comments that concerns are not just about flooding inconveniences but that the environmental qualities of Kiawah are preserved.

Mr. Kotz commented on the process, which included two different focus groups of thirty people out of which the resident survey was built. The survey received over 1500 responses from the community, out of which many of the conclusions were attained.

#### **D. Grow Native/Parkway Landscaping**

Mr. Jordan reported that the Parkway landscaping is underway with the contractor doing some initial cleanup and pruning of view windows and overgrown vegetation. With the cleanup completion, mapping of the irrigation will be done, followed by demoing sod and tilling areas. He indicated the work would be done in phases that will start at Freshfields, working toward the Main Gate. The first planting will be the palm trees and other plants along the curve between Mingo Point and Little Rabbit, then shifting back to the Freshfields area with a goal to have planting completed by mid-December.

#### **E. Rodenticides/Wildlife**

Mr. Jordan gave an update on the Bobcat Guardian program by stating twenty-nine out of seventy-five pest control companies had signed up. The recent sign-ups were a direct result of the communications sent out by the Conservancy, along with a guardian web page set up listing the companies that have and have not pledged.

Mr. Jordan outlined the steps the DPR (Department of Pesticide Regulation) laid out to continue to monitor the use of SGAs (Second Generation Rodenticides) on the island and the impacts on the environment. He noted that the results of both were promised to be delivered to the Town by the end of October and have not.

1. DPR indicated that they would visit and inspect all seventy-four pest control companies that work on Kiawah to ask about past and current SGA use. DPR instead produced an anonymous online survey in which the companies were asked to participate in.
2. DPR promised a research study to determine if there are fewer SGA's in the environment now than there were before the voluntary programs were put in place. The study put in place consisted of DNR (Department of Natural Resources) sending four biologists to Kiawah for four days. The biologists set 100 traps for three nights with a goal to trap 60 to 100 animals, focusing on rodents, to test for a baseline on how prevalent SGA's were in the animals. The trapping resulted in the capture of 10 total animals that will be sent for necropsy and anticoagulant testing.
  - a. Four raccoons
  - b. Two opossums
  - c. Three grey squirrels
  - d. One roof rat

Mr. Jordan stated that since the concerns began over the use of SGA's, he, Mr. Given, and Mr. Hill have been picking up sick or dead animals. The Town has tested a total of 14 animals; five bobcats, seven raccoons, one opossum, and one screech owl (first bird tested), and 13 have been exposed to at least one SGA reinforcing the prevalence of anticoagulants in the environment despite the voluntary efforts.

Members engaged in an in-depth discussion of Ms. Ellis' question on the Town's next steps. Items discussed included the status on efforts in the creation of a rodenticide subcommittee, the option of creating a direct communication strategy with pest control companies, regimes, and rental companies, and with DPR not granting the temporary prohibition, the Town's position that additional data is required from DPR on the research and study before making an official decision on re-requesting the ban or a legislative effort to address the problem.

#### **F. Deer Management**

Mr. Jordan stated the fall deer survey was completed in October, resulting in 123 deer per square mile, which is the highest density on record for Kiawah, causing an increase in the number of vehicle/deer collisions. He indicated that the next surveys would be in January and, once completed, will give a formal estimate for 2020.

He stated that the deer harvest is still planned for this winter with a goal of culling approximately 100 deer. Members discussed the harvesting project and adjustments that will have to be made to achieve an ideal population of 60 to 70 deer per square mile.

Mr. Kotz asked about alligator surveys. Mr. Jordan stated that alligator surveys are done every year. The population numbers are relatively close to what they have been historically and fairly stable due to alligators regulating their own numbers to the amount of food and habitat available in the environment.

#### **G. Kiawah Conservancy Projects**

Mr. Bundrick gave an update on the current projects. In October, the information was pulled from the data loggers, put into a database, and groundwater table levels analyzed on the groundwater project. The information was shared with KICA, the Town, and DNR. Data on sea level trends obtained from the Kiawah River tidal gauge and information from the weather station was used to correlate that rainfall and tidal levels influence groundwater table and salinity levels. Shared information will allow for the development of an approach to management issues in the future. On the marsh project, progress has been made to visualize where accretion and erosion of marshlands are happening. The maps being created will make it easier to interpret and use for management purposes.

Mr. Bundrick reviewed the proposal for phase two of the marsh vulnerability study submitted to the Town. He explained the College of Charleston's selection to help with a vulnerability analysis for the South Carolina coastline and the selection of Kiawah as the specific pilot site. He indicated that the project would be added to the marsh vulnerability study funding proposal submitted in December.

Mr. Bundrick also noted that with the federal grant funds received from the National Fish and Wildlife Foundation, work would begin by reaching out to stakeholders in the community to review a project overview of some nature-based solutions.

### **IV. New Business**

**A. None**

### **V. Reports:**

**A. Town of Kiawah Island**

Mr. Jordan reviewed his report:

✚ Alligator Research

- Collaborative research project with Clemson/Nemours has been completed
- October: Final behavior surveys and end of fieldwork
- Graduate student to finish analyzing data and produce write up

✚ Bobcat GPS Study

- Three out of the five bobcats collared in 2020 have died
  - Bobcat 550 – Collared on February 16<sup>th</sup> - Adult Male, Parkside, 17lbs 10oz.  
✓ Anticoagulant poisoning 5/19/20
  - Bobcat 600 – Collared on February 17<sup>th</sup> – Adult Female, Preserve, 17lbs 6oz.  
✓ Anticoagulant poisoning 6/10/20
  - Bobcat 500 – Collared on March 10<sup>th</sup> – Adult Female, Willet Island, 13lbs 0oz.  
✓ New cat.
  - Bobcat 250- Collared on March 10<sup>th</sup> – Adult Female, Preserve, 15lbs 10z.  
✓ Hit by car 8/11/20. Sent to the lab.
  - Bobcat 450 – Collared on October 18<sup>th</sup> – Adult Female, Captain Sams, 13lbs 3 oz.  
✓ Originally captured in April 2008. Estimated to be 13 plus years old.  
✓ Blood sample negative for anticoagulants
- Will have five collars to deploy in 2021
  - Will take blood samples again to test for anticoagulants

✚ Painted Buntings

- 34 nanotags placed on birds
- New tower at The Timbers
- Geolocator work complete for the year

✚ Marsh Sparrow Banding

- Starting December /January and will run through April

✚ Christmas Bird Count

- Scheduled to begin Monday, January 4<sup>th</sup>
- Working on guidelines/protocols due to COVID
- Smaller groups that are more spread out

✚ Fall Migration Banding

- Began August 15<sup>th</sup>
- Six banding assistants employed
- Will continue daily weather-permitting through November 30<sup>th</sup>.

2020 Fall Cumulative Banding Stats	Captain Sam's	Little Bear	TOTAL
# Birds Banded	4123	2555	6678
# of Recaptures	930	469	1399
# of Species	77	71	89
Effort (net-hours)	10505.48	7063.27	17568.75
Capture Rate (birds/100 net-hours)	48.1	42.8	45.5
# of Days	85	72	-

Member discussed if there any notable specific changes in the bird species or population.

## B. Kiawah Island Community Association Land & Lakes Management

Mr. Hill reported on the recent spraying of invasive tallow trees and phragmites located in wetlands. He reported that land and lakes management was transitioning to the annual pruning season and gave an update on the new water control structure constructed on the Parkway and the upcoming re-vegetation effort that will be taking place to fill in the big gap that was created for the work. The planting plan was noted to include a huge variety of native species.

**C. Kiawah Island Golf Resort**

No report.

**D. Kiawah Island Architectural Review Board**

No report.

**E. Kiawah Conservancy**

Mr. Bundrick reported on the Conservancy's Conservation Matters event presented on Thursday at 3:00 pm with Dr. McElroy examining his vegetative and invertebrate survey of the dunes.

**F. Turtle Patrol**

Ms. Sager reported the previously reported total of 342 nests was incorrect. One of the nest entries was duplicated, so there was only 341. The last inventory was October 18<sup>th</sup> in zone 8, which produced the turtle light in pigment featured in the paper. It is not known if there were others in the nest.

Ms. Sager reported that a false crawl was matched to a nest using the date, GPS, and mile markers. She also presented the temporary signs that were made up to be put up on May 1<sup>st</sup> and removed on October 31<sup>st</sup> in the highly populated rental areas of zones of 6, 7, and 8 along with zone 5, which includes all the beach in front of the Sanctuary and Turtle Golf Course.

Ms. Sager stated that the end of the year meeting with DNR would be taking via zoom and that preparations were being made for the upcoming year.

**VI. Chairman's Comments:**

None

**VII. Committee Member Comments:**

None

**VIII. Adjournment:**

*Ms. Sager motioned to adjourn the meeting at 3:27 pm. The motion was seconded by Mr. Nelson and carried unanimously.*

Submitted by,

\_\_\_\_\_  
Petra S. Reynolds, Town Clerk

Approved by,

\_\_\_\_\_  
Jim Jordan, Chairman

\_\_\_\_\_  
Date



**UNIVERSITY OF GEORGIA**  
DEPARTMENT OF POPULATION HEALTH  
College of Veterinary Medicine  
*Southeastern Cooperative Wildlife Disease Study*

DATE: November 25, 2020

TO: Charles Ruth and Jay Butfiloski  
South Carolina Department of Natural Resources  
P.O. Box 167  
Columbia, SC 29202

FROM: Caitlin Burrell and Mark Ruder  
Southeastern Cooperative Wildlife Disease Study

Dear Charles and Jay,

Enclosed are results from an anticoagulant rodenticide (AR) survey of small and medium-sized mammals collected on Kiawah Island, South Carolina November 3-6, 2020. The goal of the survey was to detect AR exposure in both target and non-target species.

On November 10, 2020, SCWDS received 10 frozen carcasses (4 raccoon, 3 gray squirrel, 2 opossum, 1 Norway rat) and frozen liver (1 raccoon), collected on Kiawah Island. Complete necropsy examinations were performed and samples collected for AR testing at the California Animal Health and Food Safety Laboratory (University of California – Davis). Included is an Excel spreadsheet that contains all data. The spreadsheet contains two sheets, one with collection information and toxicologic data, and another with necropsy findings.

Overall, AR exposure was confirmed in 45% (5/11) of animals tested. Brodifacoum, a second-generation AR, was detected in four of 11 animals - opossum (2/3), raccoon (1/5), and rat (1/1). In all cases, the liver brodifacoum residues could not be quantified and were reported as trace. Additionally, the liver of one raccoon had a trace level of diphacinone, a first-generation AR. Based on postmortem findings, these AR detections were determined to be exposure rather than toxicosis. Detection of a “trace” amount indicates the compound was present but at a concentration below the quantifiable reporting limit. This is a common finding with second-generation ARs because their long half-life allows residues to persist in tissues for long periods. This enables bioaccumulation of second-generation ARs in predators and scavengers, which increases risk of toxicosis upon repeated small exposures. However, the level of AR required for clinical effect (e.g., bleeding tendencies) among diverse wildlife species is not known, nor are the potential sub-lethal effects of AR exposure. The detection of brodifacoum in the single rat submitted is of interest and testing additional rats would be useful. As one of the target species of rodent control programs on Kiawah Island and a readily available prey item for numerous predator species, a better understanding of brodifacoum exposure prevalence in this population may help understand risk to predator populations.

Please don't hesitate to contact us with questions or concerns regarding the information or future directions.

# **Rodenticide Task Force Summary**

## **Introduction and Overview**

The South Carolina Department of Pesticide Regulation (DPR) has received reports of non-target wildlife on Kiawah Island being impacted by the application of second-generation anticoagulant (SGAs) rodenticides. The Department of Pesticide Regulation (DPR) assembled a rodenticide task force to assess and monitor the legal uses of SGAs by Pest Management Professionals (PMPs) on Kiawah Island.

Rodenticides are a class of pesticides utilized in the pest control industry to control rodents. Second-generation anticoagulants are a rodenticide group that includes the active ingredients brodifacoum, bromadiolone, difenacoum, and difethialone. This rodenticide group was developed in the 1970's to control rodents that developed resistance to first-generation anticoagulants. Products containing these ingredients must be sold in containers holding at least 16 pounds of bait (rodenticide) when they are labeled for use by pest management professionals. Additionally, pest management professionals are required to use tamper-resistant bait stations when applying these products to indoor or outdoor locations to which children under six years-of-age, pets, or nontarget wildlife have access. All outdoor, above ground applications require the use of tamper-resistant bait stations as well.

Pest management professionals (PMPs) are applicators certified by the Department of Pesticide Regulation to perform structural pest control activities. These activities include the application of pesticides in, on, under, or immediately adjacent to any structure with the intent to prevent, destroy, repel or otherwise mitigate any pest. Any person performing structural pest control activities in South Carolina must be licensed in Category 7A or work under the direct supervision of one so licensed.

## **Task Force Activity**

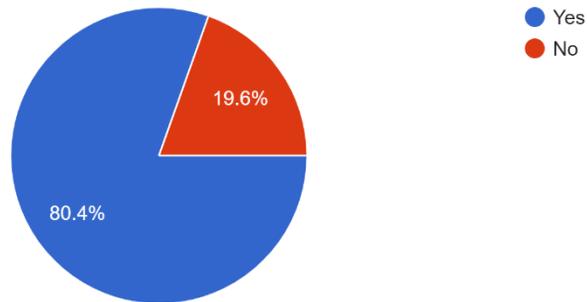
The task force members included three (3) DPR Field Investigators and was chaired by the Department's Assistant Director. The task force was assigned a list of companies that had received a business license by the Town of Kiawah within the last two years. The initial list assigned by Kiawah included seventy-nine (79) companies. These companies were cross referenced with the Department of Pesticide Regulation's database to identify companies certified to apply pesticides. Fifty-three (53) of the (79) companies are certified as commercial applicators in South Carolina. These fifty-three (53) companies were identified as task force targets. The remaining twenty-six (26) companies were categorized as non-targets. Forty-six (46) of the fifty-three (53) task force targets were licensed in South Carolina to apply rodenticides in, on, and around structures. The task force's goal was to assess rodent control activities performed by the targets. This assessment was and is being conducted with a two (2) phase approach.

## Phase 1

The first step was to perform a mandatory examination of the target's pest control activities on Kiawah Island and furnish each target with a voluntary survey. This step was completed on 30 October 2020. Examinations provided DPR insight into each company's rodenticide use, integrated pest management practices, and feedback from the pest management industry. The survey offered each target a confidential path to answer several questions regarding their rodent control activities on Kiawah. Each target was randomly assigned a validation code to certify that each response was generated by a target.

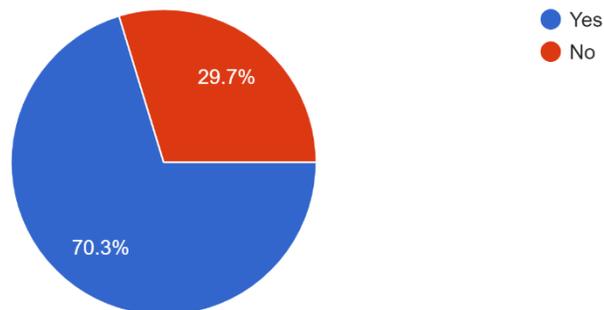
### Forty-six (46) of the fifty-three (53) targets completed the survey

Do you perform pest control activities on Kiawah Island?  
46 responses



### Twenty-six (26) of the respondents perform rodent control activities on Kiawah

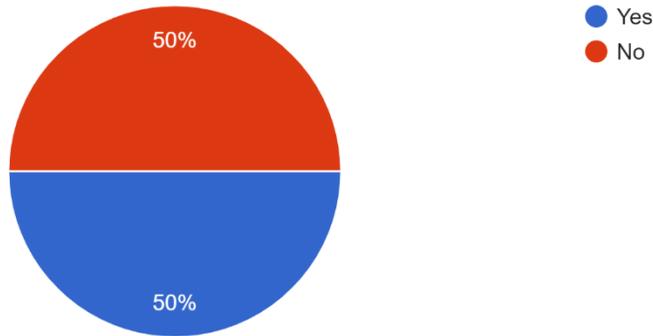
Do you perform rodent control work on Kiawah Island?  
37 responses



Half of the targets acknowledged application of SGAs on Kiawah within the last year

Has your company used SGA rodenticide baits containing brodifacoum, bromadiolone, difenacoum, or difethialone on Kiawah Island over the last calendar year?

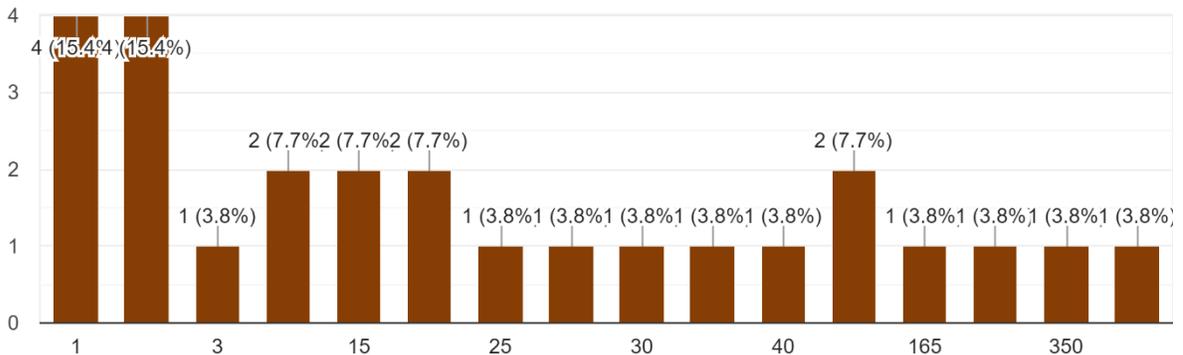
26 responses



The respondents accounted for approximately 1,552 rodent control accounts. The graph below illustrates responses from PMPs ranging from 1 account up to 360 accounts. Rodent control is an add-on service with most accounts that is performed by a customer’s request to eliminate or control a rodent population.

How many rodent control accounts do you currently have on Kiawah Island?

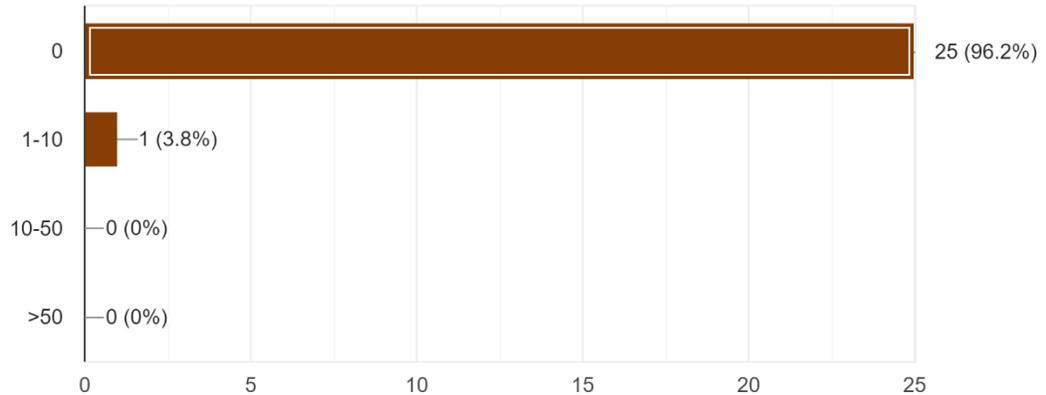
26 responses



The respondents stated that SGAs are currently used on fewer than 10 of the 1,552 rodent control accounts

How many rodent control accounts on Kiawah Island do you currently use SGA rodenticide baits containing brodifacoum, bromadiolone, difenacoum, or difethialone?

26 responses



Comments were captured during the task force’s examination phase with each PMP. Several expressed frustrations with Kiawah property management companies’ unwillingness to buy into integrated pest management practices and instead opting for the cheapest service. Several PMPs voiced concerns over continuing to service any type of pest control account on Kiawah and some already began to discontinue all pest control activities on the island.

**Phase 2**

The task force is evaluating the outcome of Phase 1 to implement permanent compliance assistance measures for PMPs performing rodent control activities statewide. The Department of Pesticide Regulation currently performs a large number of random, routine compliance inspections each year on pest management professionals. Given the number of pest control businesses in South Carolina, a company will typically receive a random inspection within a three (3) year cycle. These inspections are performed to monitor the compliance of each companies’ pest control activities and it is the Department’s goal annually to see an eighty (80) percent compliance rate within this measure. Most recently our compliance inspections showed a compliance rate that was above eighty-seven (87) percent. This is to say that eighty-seven (87) percent of the structures inspected met the minimum standard required. This part of the South Carolina pesticide regulatory program is based on compliance assistance efforts, which is intended to help companies understand how to comply with regulatory requirements. The results of this assistance can be seen in this extraordinary compliance rate (e.g. 87%). The

Department will implement additional assistance measures to each inspection to increase the awareness of rodenticide applications. These measures could include but are not limited to record checks, product label reviews, alternative control measures discussions, resource cognizance, and habitat awareness. Each inspection will be enhanced depending on the companies' rodent control activities.

Additionally, as part of an assistance program the Department, when possible, will reach out to property management companies, contractors, real estate professionals, golf courses, homeowners, etc. with the appropriate message about effective rodent control management. It is important to remember the success of a compliance assistance program is voluntary efforts to do what is required while continuing to be effective.

### **Conclusion**

Phase 1 results of the task force indicate that the legal uses of second-generation anticoagulants appear to have been limited to less than 10 accounts on Kiawah Island since the pest management industry self-imposed a voluntary reduction in early 2020. It is the concern of this task force that illegal uses of SGAs could continue to impact non-target wildlife. Illegal uses of SGAs include the purchase and use of rodenticides from illegal internet sales. This task force will continue to monitor and mitigate any potential for legal uses of second-generation anticoagulants to impact non-target wildlife. Finally, it is the goal of the task force to reduce the use of SGAs on Kiawah Island through voluntary efforts without sacrificing the much expected and necessary control of rodent populations.

Respectfully Submitted

Ryan A. Okey



Assistant Director