

ENVIRONMENTAL COMMITTEE MEETING

Virtual Meeting via Zoom

May 12, 2021; 2:00 PM

AGENDA

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

Present: Jim Jordan, Chairman
Jim Chitwood
Lynn Sager
Jane Ellis
David Pumphrey
Pam Wilson
KINHC: Lee Bundrick
KICA: Lucas Hernandez
KICA: Matt Hill
ARB: Sara Senst
KIGR: Liz King
TOKI: Aaron Given

Absent: Jim Sullivan
Scott Nelson
John Leffler
Jack Kotz

Also Attending: Dr. Scott Parker, *Council Liaison*

II. **Approval of Minutes:**

A. Minutes of the March 10th, 2021 Environmental Committee Meeting

Mr. Pumphrey made a motion to approve the minutes of the March 10th, 2021 Environmental Committee meeting. The motion was seconded by Mr. Chitwood and was unanimously approved.

III. **Old Business**

A. Kiawah Landscaping Workgroup (Grow Native)

No Update

B. Shorebird Stewardship Program

Program Underway

C. Flood Mitigation and Sea Level Rise

Adaptive Management Plan Update – Mr. Hernandez stated that he had completed the draft of the presentation for Town Council and the KICA (Kiawah Island Community Association) Board. The presentation incorporates the information from the interviews used to establish thresholds, indicators, triggers, and a high-level monitoring program. The draft has been sent out to Mr. Jordan and others for review, and after feedback/comments are received, the final draft will be completed.

Mr. Hernandez responded to Dr. Parker's question on his presentation date by stating the anticipated presentation to the KICA Board is in June or July, with the presentation to Town Council pending.

D. Grow Native/Parkway Landscaping

- ⚡ The Parkway Landscaping Project is completed with all plants and mulch installed and the irrigation system working properly.
- ⚡ Sod repair between the roundabout and the Resort sign will be taking place this week.
- ⚡ Guard rail painting 90% complete

E. Rodenticides/Wildlife

- ⚡ Tested 15 additional animals since the last meeting
 - Eight raccoons – 6/8 showed exposure (75%)
 - Seven opossums – 6/7 showed exposure (86%)
- ⚡ SCDNR sampling – Did not occur
- ⚡ Clemson Research Project – Funding of \$500,000 has been secured for at least a minimum proposal with work continuing to secure the additional funding for the complete project. A graduate student has been selected. Work on the four-year study is scheduled to begin this month, wrapping up in Augusta of 2025.

F. Deer Management

No Update

G. Kiawah Conservancy Projects

Groundwater Project –Previously installed 21 wells on the island in the first phase of the project. Monitoring equipment was installed in the wells to begin a long-term effort to monitor changes to the depth and salinity of groundwater on Kiawah. The second phase of the project focused on better understanding contributions to salinity, the relationship between groundwater and pond levels, and the continuation of previous monitoring efforts. Three additional wells were installed to monitor the levels of freshwater wetlands and ponds. Surveying equipment will be used to provide accurate data on the relationship between pond levels and groundwater table depth. There are efforts currently being undertaken to create seasonal groundwater maps from the data collected. Nitrate, Chloride, and pH were collected from various wells on the island to conduct analyses. Preliminary data were shown at the meeting, with one well showing heightened salinity levels because of its proximity to tidal salt marsh.

Marsh Vulnerability Project – The first phase of the project focused on capturing historical conditions within the marsh by mapping vegetated shoreline changes over a period of over 40 years (1977-2019). These were illustrated by maps produced by the College of Charleston showing accretion and erosion within the marsh. Technical analysis of marsh shoreline changes will be conducted by a graduate student, Kaylee Smith, using the Digital Shoreline Analysis System (DSAS) developed by USGS. The current phase of the project focused on capturing current conditions with the marsh. Mapping products have been produced to show wave action from vessel traffic, marsh bank conditions (e.g., bank width, escarpment, slope), and land cover. These were collected based on recommendations from the SC Department of Natural Resources for siting living shorelines to restore/fortify marsh habitat. An additional mapping product was produced to capture the unvegetated-vegetated ratio (UVVR) of marsh habitat, which USGS developed as an indicator for marsh vulnerability.

IV. **New Business**

A. Discussion of Funding for FY 21-22 Environmental Projects

Mr. Jordan stated the Conservancy had submitted four project proposals totaling \$65,000.00 for funding in the Town's FY 2021-2022 budget. The Conservancy line-item has a total funding amount of \$50,000.00. The members will need to identify which area of research or study the Committee is most interested in to help the Conservancy develop a final proposal to submit for Town Council formal approval.

Mr. Bundrick reviewed the proposals:

UNDERSTORY VEGETATION MONITORING (\$10,000)

Objectives:

- ✚ Obtain equipment for monitoring vegetation density, forest structure, and productivity
- ✚ Analyze landscape vegetation density along parkway viewsheds

Funds for this project would be used to procure equipment to begin monitoring of understory vegetation on Kiawah Island. By obtaining these ground-based LiDAR systems, there is enhanced ability to conduct high-resolution analyses on the understory vegetation and marsh edges. Funds would be used to procure mountable LiDAR (e.g., LS CX32 3D surround LiDAR device) and ancillary equipment to begin analyzing vegetation in the maritime forest and along residential corridors on Kiawah Island.

MINK MONITORING (\$15,000)

Objectives:

- ✚ Monitor the movement and distribution of minks around the marshes
- ✚ Monitor population size and reproductive success
- ✚ Determine priority areas within the marsh to inform on management efforts for protecting wildlife populations

This research project would also assist with future planned efforts to research the environmental effects of rodenticides on local wildlife populations. Seeing as how Minks have a similar diet to those of bobcats, they will provide another source for understanding the spread of SGA's on Kiawah.

CLIMATIC MONITORING FOR WATER BUDGETS (\$10,000)

Objectives:

- ✚ Monitor and analyze climate data
- ✚ Create a water budget using climate data
- ✚ Observe seasonal weather patterns
- ✚ Identify management priorities for the conservation of freshwater resources.

With funding from the Town, equipment will be purchased to establish an additional weather station to collect and monitor climatic data. An Onset brand HOBO RX3000 can be outfitted with wind, solar radiation, temperature, and relative humidity measurements to gather information to calculate PET with both the Hamon PET model and the Hargreaves-Saman model. The calculated costs for obtaining this equipment are around \$3,500, not accounting for cellular data and installation costs.

WATER QUALITY MONITORING (\$30,000)

Objectives:

- ✚ Obtain equipment with the capacity to continuously monitor water quality in various aquatic ecosystems on Kiawah Island
- ✚ Identify appropriate, site-specific green-infrastructure practices based on site conditions to bolster resilience
- ✚ Initiate efforts to begin monitoring sediment transport and deposition through in-situ Measurements

The use of Town funds under this proposal item will be used to purchase a multiparameter water quality sonde. The sonde will be similar to the ones used in practice by federal agencies, with a preference towards YSI EXO series multiparameter sondes. Sondes such as these can be easily deployed into any coastal aquatic environment and moved to different locations based on current needs. The purchase of several sondes with similar parameters is recommended so researchers can compare conditions between upstream and downstream areas.

Additional equipment to monitor sedimentation within aquatic environments will also be purchased based on the availability of funds following the purchase of the water quality sonde(s). This includes sampling containers and equipment to gather data on suspended sediments, sediment plates and flat surface traps to be installed in the marsh platform, and various other methods based.

Committee members engaged in an in-depth review and discussion of each proposal questioning Mr. Bundrick and offering their opinions, comments, and additional feedback. After the discussion, members recommended funding the:

1. Water Quality Monitoring (\$30,000)
2. Climatic Monitoring For Water Budgets (\$10,000)
3. Understory Vegetation Monitoring (\$10,000)

Mr. Jordan suggested that one or two projects be selected and develop a detailed plan on the information to be obtained, how it will be collected, and a more detailed budget for each project proposal. He proposed the Water Quality Monitoring as the priority, working the Climatic Monitoring for Water Budgets proposal into that project, followed by the Understory Vegetation Monitoring and the Mink Monitoring. The committee members agreed with Mr. Jordan's suggestions and the timeline for Committee approval and recommendation to Town Council.

Dr. Parker stated that Mayor Labriola asked him to lead an ad hoc workgroup to look at various initiatives to reduce the community's carbon footprint. He indicated that the workgroup would consist of two representatives from the Town, KICA, the Resort, the Club, and the Conservancy and would be charged with developing a template or roadmap with specific timelines to reach particular goals and encourage the use of alternate fuel sources.

V. Reports:

A. Town of Kiawah Island

2021 Bobcat GPS Study

1 out of 6 (17%) bobcats have died

- Bobcat 200 – 1/27 – 2-year-old Male, Willet Island, 19lbs 15oz.
- Bobcat 250 – 1/28 – Juvenile Male, Preserve, 16lbs 8oz. New cat.
- Bobcat 767 – 1/28 – Adult Female, Indigo Park, 13lbs 5oz. New cat. **Hit by car 4/4/21 and sent in for testing. No results at this time.**
- Bobcat 300 – 1/29 – Adult Female, Flyway Drive, 13lbs 12oz. New cat.
- Bobcat 450 – 10/18/20 – Adult Female, Captain Sams, 13lbs 3 oz.
- Bobcat 550 – 1/29 – Adult Female, Little Bear Island, 15lbs, 10oz. 2020 recapture.

Two dens found

- Bobcat 550 – 4/12/2021 - Two 8-10 days old male kittens. Den along Ocean Course Drive.
- Bobcat 300 – 5/11/2021 – Three 4-day old kittens (2 males, one female). Den in secondary dunes along Flyway Drive.

Breeding Bird Point Counts

-  Start May 24th. Nine days to complete. 238 points.

✦ Breeding Bird Survey

✦ Early June. One day. 50 points.

B. Kiawah Island Community Association Land & Lakes Management

Mr. Hill gave an update on the previous discussion of the collection of baseline data on alligators. He reported that with the weather warming and an increase in alligator calls, two alligators were caught, one male and one female. The female had not been caught before and was tagged with #26 yellow visual tag and a pit tag to provide the option to scan and identify the alligator if the visual tag is lost. Blue tags are used for males. He also reported on alligator blue #015, which was recaptured for the third time, reviewing the data collected since 2015.

Mr. Hill stated that several areas were sprayed this past fall, targeting highly invasive tallow trees and phragmites. He reported the treatment was very effective, and the areas would continue to be monitored through the growing season.

Mr. Hill reported the planting of several different aquatic native species in ponds deemed suitable to support them. He noted that the plantings would all benefit wildlife by providing seed and/or vegetation to eat. Winter pruning of the pond edges allows for easier maintenance, including wildflowers and spraying to control non-native plants allowing native species to fill in. He also reported the ponds had been stocked with carp and tilapia for nuisance aquatic control.

Mr. Hill stated that mole traps and their use on the island were recently brought to the KICA Board. He asked for the Committee's collective opinion on the proposed use of mole traps and if they should be banned from use on the island. He noted the alternative to control moles would be by chemical means.

Committee members' discussion included that using chemicals was not the desired option, the need to control moles in a residential setting, the reasoning behind the proposed banning of mole traps. Members agreed that if there is a mole issue, traps should be used rather than chemical control.

C. Kiawah Island Golf Resort

Ms. King reported that Dr. Whit Gibbons will be on Kiawah soon. Dr. Gibbons, a herpetologist who worked at UGA and Savannah River Ecology Lab, did the original reptile and amphibian study on Kiawah. He also began a research project on terrapins in the salt marsh on Kiawah in the 1980s, known as the longest continuous terrapin study in the world. In the continuation of his study, a transmitter will be placed on fifteen gravid female terrapins to determine where the population is nesting and what impact sea-level rise may have on the nesting sites.

Ms. King reported that on a recent bird trip, a banded red knot was found on the front beach, and the report showed that it was originally banded in Chile.

D. Kiawah Island Architectural Review Board

No Report

E. Kiawah Conservancy

Mr. Bundrick reported that during the PGA on May 26th, the Conservancy will be having a garden party. He reviewed the speakers that will be conducting a series of talks on the importance of native vegetation on Kiawah and will include a plant sale in the garden.

F. Turtle Patrol

Ms. Sager reported the Turtle Patrol season is underway. The truck started running the beach on May 1st and two nests have been found, the first two days ago and the second today. She noted more of a return to normalcy from DNR this year, allowing the ability to take volunteers and four people in the truck. She also reported approximately 320 people volunteering this year, a number of which had been on the waiting list since before last year.

VI. Citizen Comments:

None

VII. Chairman's Comments:

None

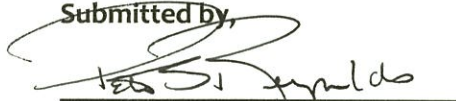
VIII. Committee Member Comments:

None

IX. Adjournment:

Ms. Sager motioned to adjourn the meeting at 3:12 pm. The motion was seconded by Ms. Ellis and carried unanimously.

Submitted by,



Petra S. Reynolds, Town Clerk

Approved by,



Jim Jordan, Chairman

7-19-2021
Date