Town of Kiawah Island Comprehensive Marsh Management Plan

February 2023

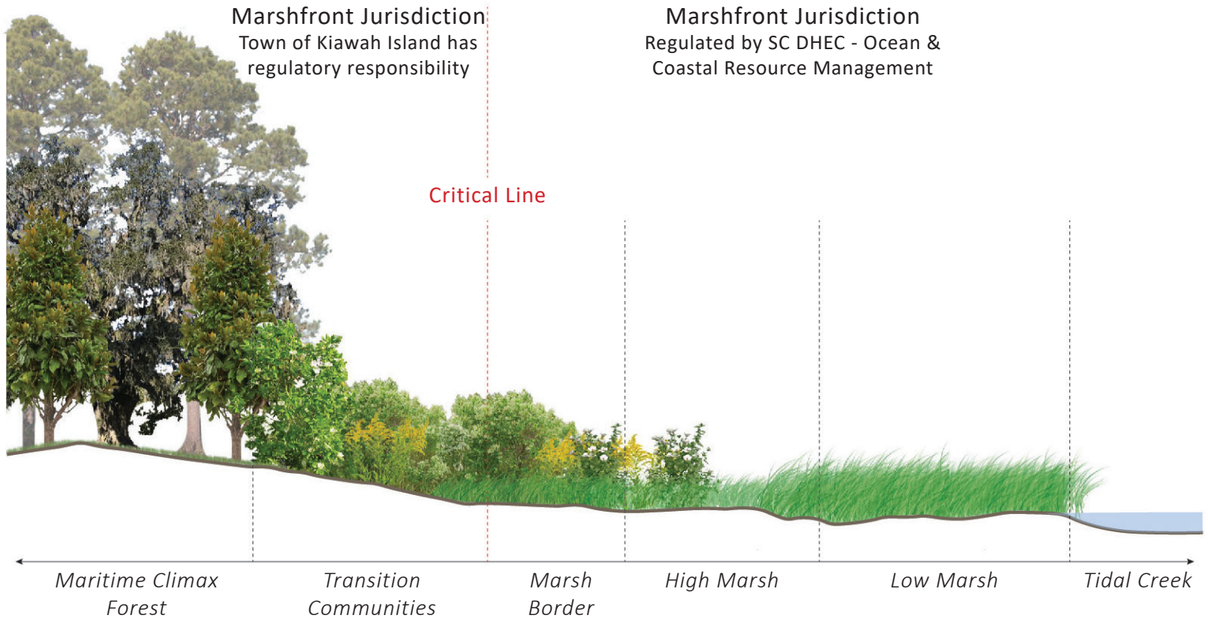
Although the health of salt marsh in Kiawah has been considered in several recent assessment and planning processes, this is the first document to focus solely on the marsh and bring together various tools for its management. The Comprehensive Marsh Management Plan (CMMP) is envisioned to be a living document that should be revisited once every five years to assess the effectiveness of implemented recommendations and adapt as needed for improved management.

This plan focused on two approaches to understanding management concerns and threats to the salt marsh. The first was to seek community input on concerns and locations of management issues. The second way was to synthesize the stressors that undermine ecological function from a data-driven perspective, including analysis from primary literature, previous planning documents, and expert interviews.

TOWN OF
Kiawah Island

A Changing Marsh

If the current salt marsh is unconstrained by development and able to migrate as sea levels rise, marsh plants will move upslope to areas that are currently dry uplands. Tidal marshes are highly dynamic communities that have the capacity to adapt to sea level rise (SLR) by the accretion of sediments through tidal exchange. However, the marshes cannot keep up with the projected acceleration in SLR after 2050. Marsh migration will impact properties adjacent to the marsh, as the Critical Line defining jurisdiction over the marsh is determined by biophysical traits. Kiawah Island residents will need to adapt to a changing marsh, and implement solutions to mitigate this change.



CONCERNS

BANK EROSION

Erosion is a source of concern and expense to homeowners; sea level rise and increased storm events will begin to cause more widespread impacts to property.

HABITAT QUALITY

Marshes are sensitive to water depth changes. There are early signs that marsh vegetation is drowning, converting shoreline marsh systems to mudflats and open water.

SEA LEVEL RISE

Sea Level Rise will increase vulnerability of marsh health while weakening its ability to provide flood and storm surge protection. Bulkheads to prevent erosion can affect adjacent properties.

UNREGULATED PUBLIC ACCESS

Recreational users trample vegetation, resulting in local erosion that can become more severe during storm events.

GOALS

MONITOR

Understand and track status of the marsh's health, extent, and functionality

PROTECT

Establish regulatory frameworks for adopting marsh management actions and solutions to protect Kiawah's marshes

ENGAGE

Educate the public, property owners, and decision-makers about issues and future options.

RESTORE

Restore marsh in vulnerable areas to create more resilient systems and mitigate for future change.

RECOMMENDATIONS

Managing Kiawah's marshes will require an organizational framework for collaboration among entities.

PROTECT

Implement development guidelines for marsh protection. Consolidate Town Code's existing marsh-related elements.

Streamline natural design solutions permitting at local, state, federal levels to maintain balance between development and a healthy marsh.

Incentivize permeable surfaces, formalize storm water Best Management Practices (BMPs) for private properties.

Regulate bulkheads and marsh-front berms upland of critical line.

Standardize and codify the Architectural Review Board's marsh set-back rule and add a buffer requirement. For new development, the marsh setback is recommended to be 30 feet from the property line or the Ocean & Coastal Resource Management's "critical line," using whichever is most restrictive.

Significantly limit impermeable surfaces and incentivize on-site stormwater management, particularly in new developments.

MONITOR

The Kiawah Conservancy Marsh Task Force recommends establishing a baseline dataset and monitoring invertebrate abundance and density, water quality, oyster reef abundance and survival, land cover, and recreational fisheries.

ENGAGE

Develop citizen science program for monitoring marsh conditions.

Hire local organization to undertake a concerted outreach campaign, based on materials from the Conservancy and this CMMP process.

RESTORE

Annually monitor and update funding opportunities for marsh restoration.

Acquire additional parcels of marsh and marshfront property.

Prioritize voluntary, multi-property-scale, comprehensive demonstration/pilot living shoreline project (near-term)

Assess feasibility and conceptual design of a large-scale community-administered marsh restoration project (2-3 years)