

TOWN OF KIAWAH ISLAND

Comprehensive Marsh Management Plan





Project Manager
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Conservation Biologist



Technical Lead
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Principal
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Landscape Architect

KIAWAH MARSH MANAGEMENT PLAN

Kick-off Site Visit Team



Town of Kiawah Island Comprehensive Plan + Amendments
2018 Flood Mitigation and Sea Level Rise Adaptation Report
Land Use Planning and Zoning Ordinance
Development Agreements
Town of Kiawah Island Beach Management Plan
Marsh Vulnerability Study
Kiawah Ground Water Study
Local Comprehensive Beach Management Plan
Additional Research & Reports

KIAWAH MARSH MANAGEMENT PLAN

Planning Context

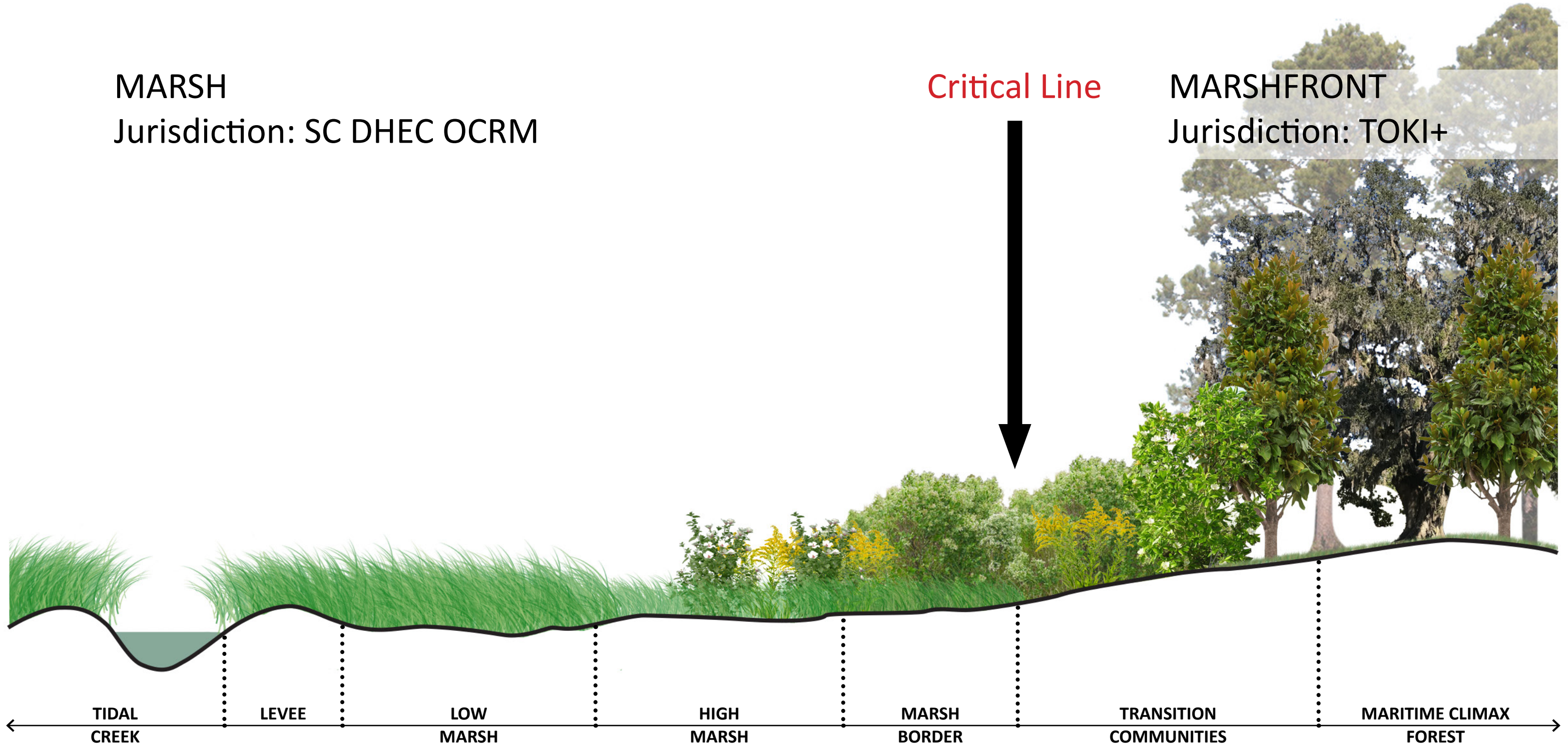
MARSH

Jurisdiction: SC DHEC OCRM

Critical Line

MARSHFRONT

Jurisdiction: TOKI+



KIAWAH MARSH MANAGEMENT PLAN

Jurisdiction



Task 1: Project Management

Task 2: Inventory, Analysis, & Synthesis

Task 3: Plan Charrette & Workshop

Task 4: Comprehensive Marsh Management Plan

KIAWAH MARSH MANAGEMENT PLAN

Approach

TASKS	Weeks	MAR	APR	MAY	JUN	JUL	AUG	SEP
Task 1 - Project Management								
1.1 & 2 Kickoff Meeting & Marsh Tour	1		April 6th					
1.3 Sharepoint Site	ongoing							
1.4 Kiawah Marsh Story Map			Development		Maintenance			
Task 2 - Inventory, Analysis & Synthesis								
2.1 Collect and Review previous work	4							
2.2 Survey	2							
2.3 Analysis & Synthesis	6							
Task 3 - Planning Charrette & Workshop								
3.1 Planning Charrette	1				June 13-14th			
3.2 Education Strategies Workshop	1							
3.3 Public Presentation	1							
3.4 Summary Document	1							
Task 4- Comprehensive Marsh Management Plan								
4.1 Draft CMMP	8							
4.2 Review Draft CMMP	1							
4.3 Town Council Presentation	1							
4.4 Final CMMP	4							

KIAWAH MARSH MANAGEMENT PLAN

Project Schedule

- Project Management
- Work Efforts
- Public Engagement



UPLAND/MARSHFRONT

Bulkheads
Drainage/Stormwater Runoff
Migration Pathways
Scenic Views/Public Access
Roads

BELOW CRITICAL LINE

Marsh response to SLR
Large-scale marsh restoration
Incentivize Property-scale
 Living Shoreline Projects
Wildlife: Nursery grounds
Bank erosion
Docks (private/commercial)



GOVERNANCE

Town lacks ordinances
Mixed jurisdiction
No map of critical line
Enforcement
Inventory of developable lots

KIAWAH MARSH MANAGEMENT PLAN

Site Understanding



OUTREACH ACTIVITIES

ARC StoryMap

text, maps, & photographs

Five (5) stakeholder meetings

Survey

Synthesis presentation to TOKI Council

June Plan Charrette & Workshop

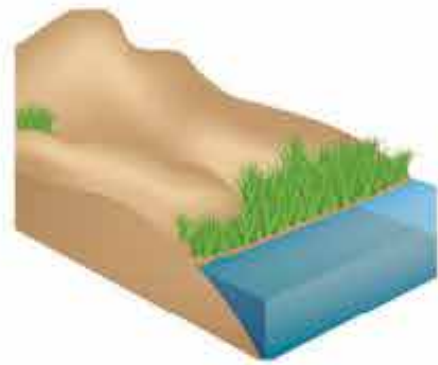
Four (4) Social Media narratives

Final Presentation to TOKI Council

KIAWAH MARSH MANAGEMENT PLAN

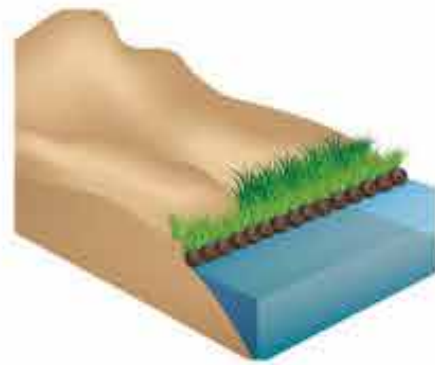
Community Engagement

Living Shorelines



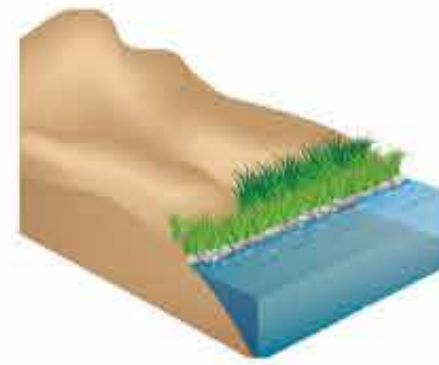
VEGETATION ONLY

Provides a buffer to upland areas and breaks small waves. Suitable for low wave energy environments



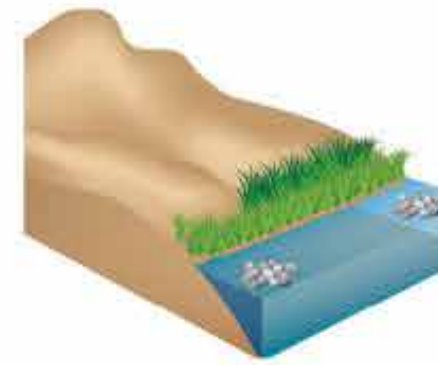
EDGING

Added structure holds the toe of existing or vegetated slope in place. Suitable for most areas except high wave energy environments



SILLS

Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments



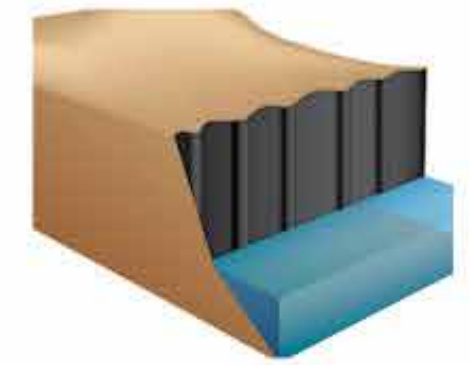
BREAKWATER

Parallel to vegetated shoreline, reduces wave energy, and prevents erosion. Suitable for most areas except high wave energy environments



REVETMENT

Lays over the slope of the shoreline and protects it from erosion and waves. Suitable for sites with existing hardened shoreline structures



BULKHEAD

Vertical wall parallel to the shoreline intended to hold soil in place. Suitable for high energy settings and sites with existing hard shoreline structures

Coastal Structures

Softer Techniques

Harder Techniques

KIAWAH MARSH MANAGEMENT PLAN

Shoreline Stabilization



Bulkheads (Wood, Vinyl, Stone)

- **High replacement/repair costs**
- Wave energy directly impacts the bulkhead face
- Waves bounce off and transport **substrate**
- Erosional energies continue down-shore to **impact unprotected banks**
- **Eliminates coastal wetland** and severely limits habitat value for wildlife communities



Living Shorelines

- **More cost effective** than long-term costs for maintaining bulkheads in low energy environments; **damaged vegetation reestablishes** over time
- Waves travel width of marsh and are absorbed by vegetation
- Potential for sediment accumulation and natural shoreline expansion
- Upland **stormwater filtered** through marsh vegetation
- **Water access and views can be maintained** for homeowner

KIAWAH MARSH MANAGEMENT PLAN

Shoreline Stabilization