

Adaptive Management Plan Phase I: Threshold Identification Final Report

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AMP Taskforce

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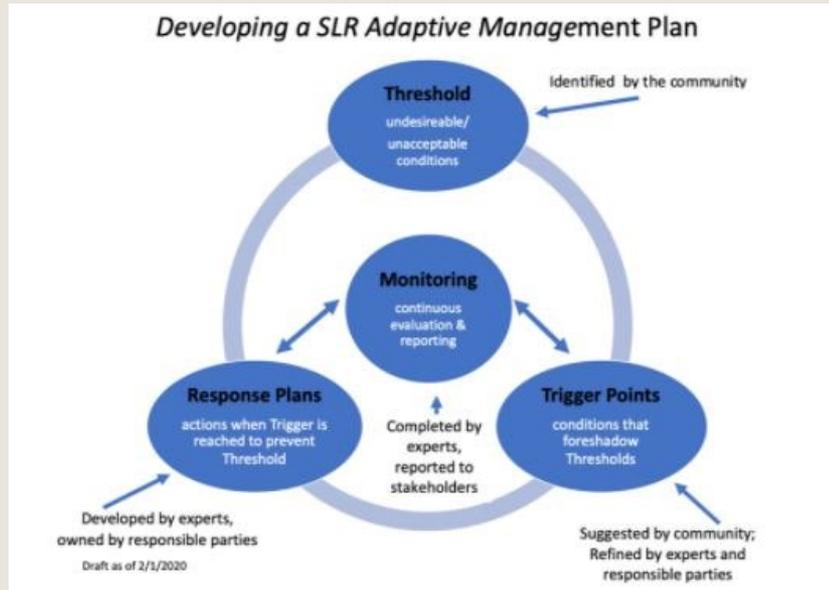
Key Takeaways

- 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 Town and KICA should develop a fully functioning **Adaptive Management Plan** and ensure that this plan is institutionalized on behalf of the Kiawah community

Adaptive Management Plan Task Force

- Established in July 2020 by the Kiawah Island Community Association, with the support of the Town of Kiawah
- Next step based on recommendations of the 2018 Sea Level Rise Report by the Town Environmental subcommittee
- Primary Goal: to initiate the development of an **Adaptive Management Plan** to assist Kiawah in addressing the impacts of sea level rise, climate change and flooding on the island

Components of an Adaptive Management Plan



- Threshold – the time at which the quality of life, economic viability, infrastructure, or aspirations of Kiawah are negatively impacted by an undesirable or unacceptable condition
- Trigger Point – the time at which a condition is reached that forewarns of an impending Threshold and causes decisions to be made in response
- Monitoring Program – institutionalized actions that measure and track parameters to indicate when a Trigger Point is reached; review and adjust as necessary
- Response Plan - the pre-planned action to be taken when a Trigger Point is reached in order to prevent a Threshold from being reached

Objectives of Phase I- Threshold Identification

- Solicit community views on quality of life values that will form the basis for an *Adaptive Management Plan for Kiawah*
- Assess the point at which the quality of life, economic viability, infrastructure, or aspirations of Kiawah are negatively impacted by an undesirable or unacceptable condition (develop thresholds)
- Educate the community about the impact of sea level rise and flooding on Kiawah Island

Phase I- Community Engagement

- Virtual Focus Groups to develop threshold areas
- Community survey to assess level of concern in quality of life areas
- Interviews and surveys with key stakeholders to identify key concerns
- Provide background information to support community education to participants

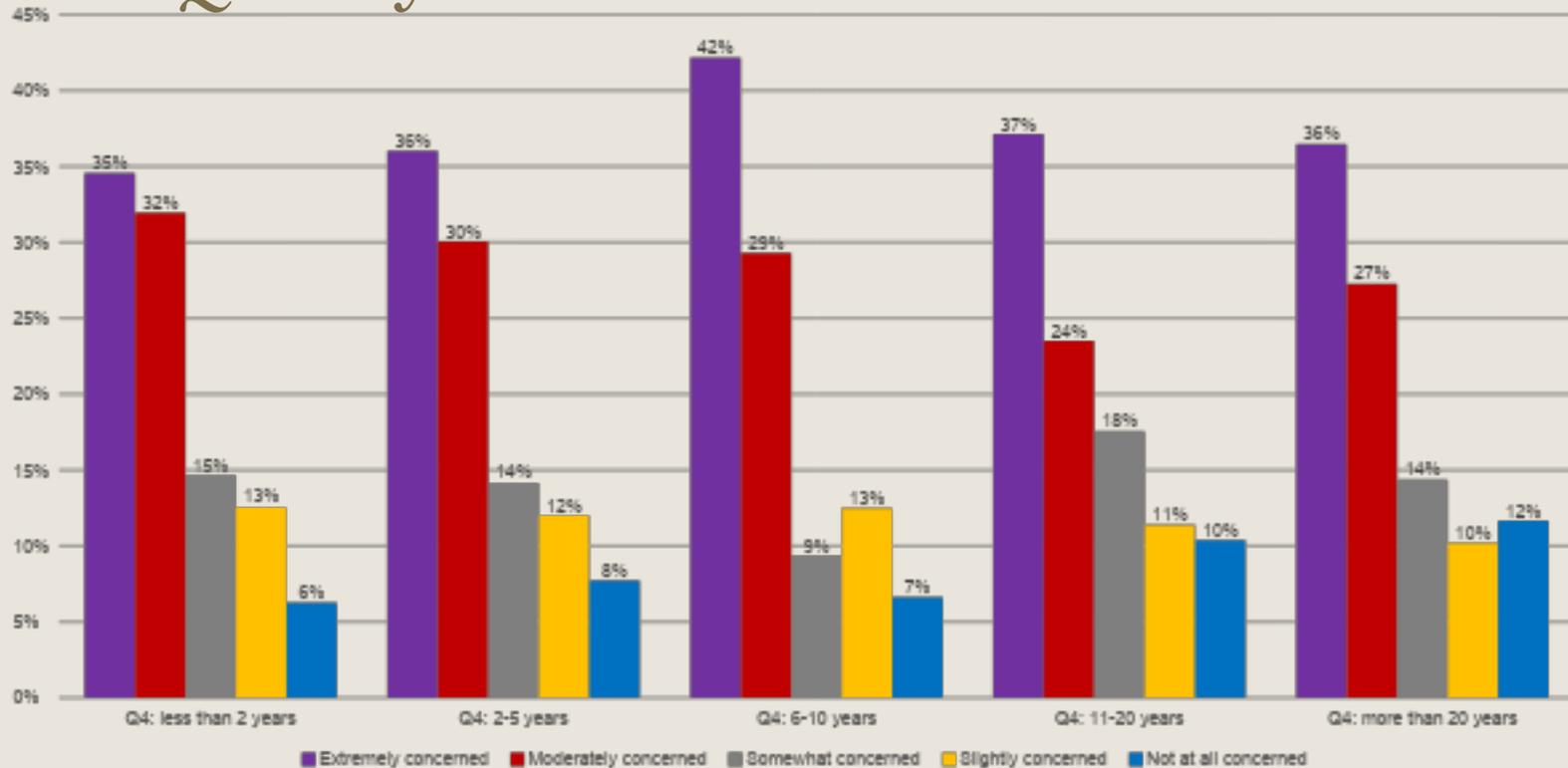
Community Survey Results

- There were a total of 1,564 responses to the community survey
- These reflected a broad range of location, property type, time spent on island and residency status of property owners, suggesting a valid representation of the Kiawah community
- Key finding- Significant concern about the overall risk to quality of life on Kiawah from sea level rise, climate change and flooding

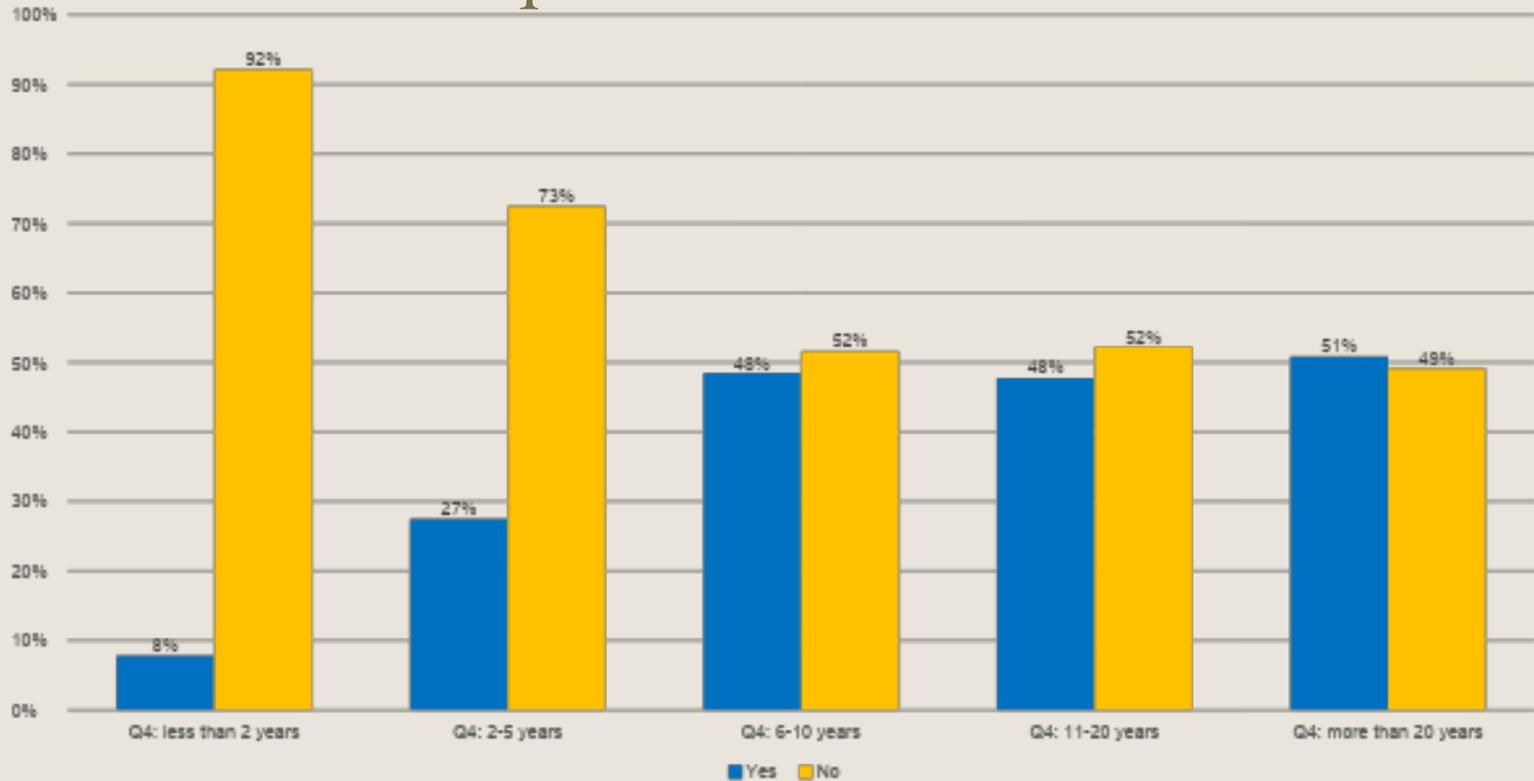
Community Survey Results (continued)

- High level of concern about the impact of:
 - sea level rise, climate change and flooding on Kiawah's natural environment – beaches and dunes, salt marsh, maritime forest and vegetation
 - flooding on Kiawah infrastructure – utilities, access to roads and amenities
 - flooding on personal property --houses, landscaping, property -- and costs
- The minimal differentiation between the concern/quality of life items is not statistically significant and therefore should not be considered a ranking of priorities

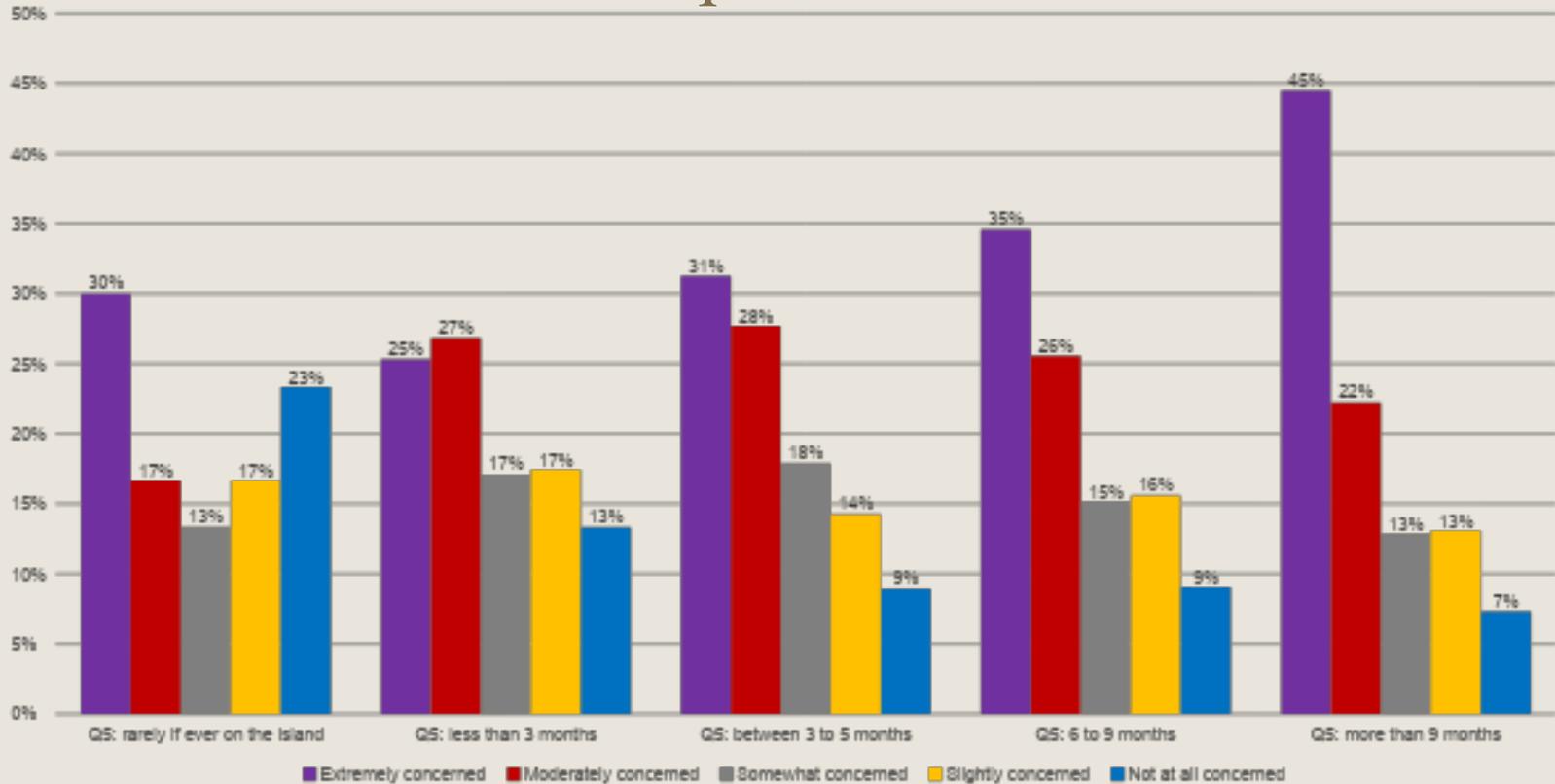
Concern About Long-term Impacts to Quality of Life vs. Years on Kiawah



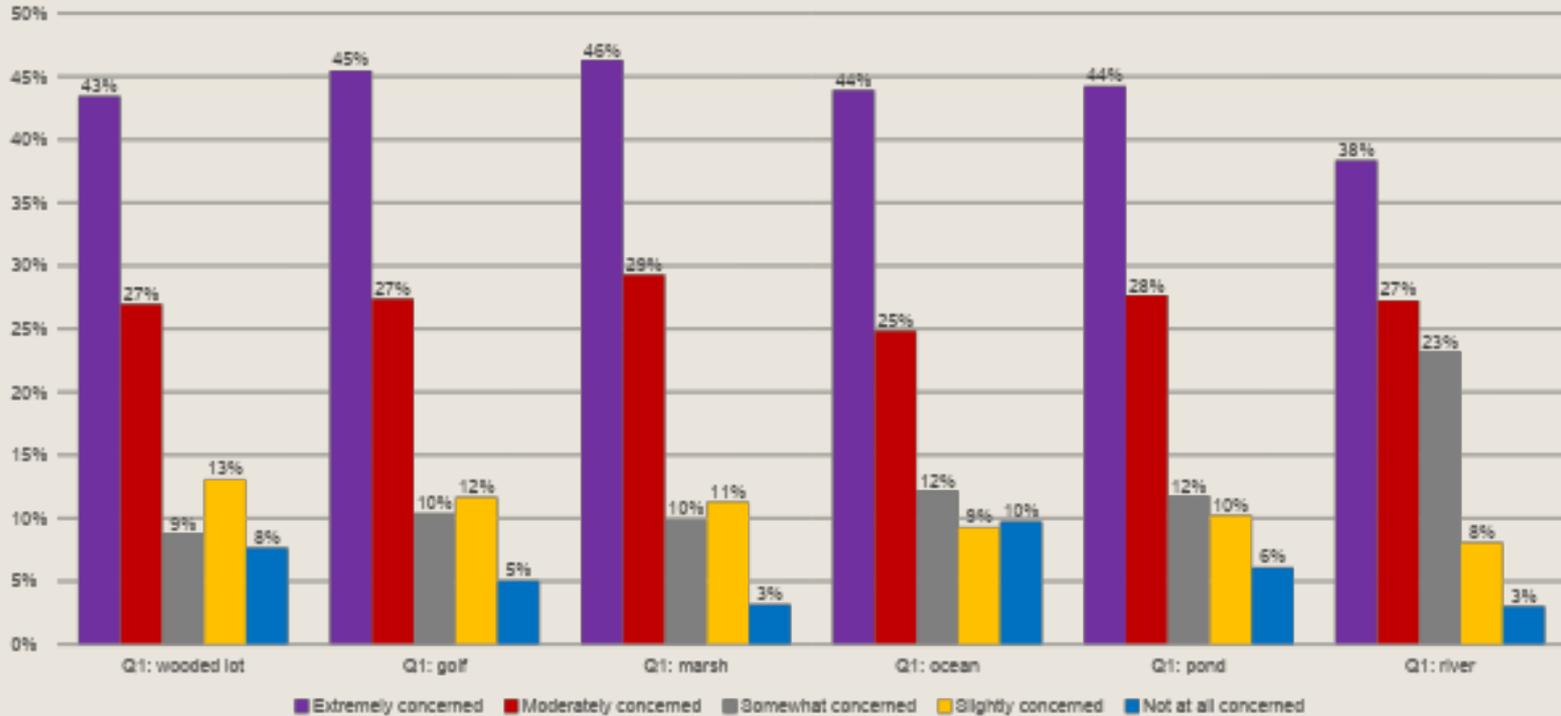
Personally Impacted by Flooding vs. Time Spent on Kiawah



Concern About Damage to Private Property vs. Time Spent on Kiawah



Concern About Beach Erosion vs. Location of Property



Key Threshold Themes

- A holistic "package" brought property owners to Kiawah, and the stress/loss of that "package" at some point could cause them to leave
- Unacceptable situations on Kiawah are determined not just by the severity and duration of an event or situation but also by how often it occurs

Threshold Areas*

Flooding, and
its impact on:

- **Roads**
- **Utilities**
- **Property**
- **Access to amenities**

Sea level rise and climate change and
its impact on the natural environment**:

- **Beach and dunes**
- **Salt marsh**
- **Maritime forest**
- **Vegetation**

*require duration and frequency indicators

**requires more research

Next Steps and Recommendations

- **Develop a fully functioning Adaptive Management Plan and ensure that this plan is institutionalized on behalf of the Kiawah community**
 - This is a joint venture and its success depends on all Kiawah entities working together
- Complete Phase I, defining thresholds, by identifying frequency, duration and other indicators
- Complete Phases II to IV

Next Steps and Recommendations

- Develop and institute a community education program that evolves with new information
- Provide an annual report to the community and stakeholders that shares information on key parameters and actions taken
- Consider an annual survey to accompany the annual report to update property owners' perceptions of sea level rise, climate change and flooding
- Continue to collect information on and improve our understanding of the Kiawah environment

How Phase I information will be used

- Identifying what concerns need more attention
- Communicating areas we already monitor heavily
- Understanding links between measurable parameters and physical conditions (e.g. what factors influence marsh health)
- Prioritizing research/monitoring on under-covered areas
- Developing an **Adaptive Management Plan** with community concerns at its core

Questions?

