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Hampton Roads Residents' Preferences for Dune and Beach Management

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Hampton Roads Residents' Preferences for Dune and Beach Management

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Abstract

The management of dunes and beaches in Hampton Roads is critical to the region's tourism industry and to provide protection from storms and flooding. During the summer of 2017, we surveyed over 675 residents of Hampton Roads to gauge their preferences for the management of dunes and beaches. An overwhelming majority felt that all taxpayers should have a say in maintenance practices along with government regulations to assist with the protection of beaches and dunes. Residents leaned towards localized input from citizens as preferred methods of management and understood the importance their tax dollars play in funding those methods. While residents supported the maintenance of dunes and beaches, there is a split on the appropriate methods to be used. In addition, the majority of participants were supportive of new taxes to fund beach protection.

Background

- Soft defenses versus hard defenses
 - Soft: sand nourishment – flexible, naturally reversible, easily modified
 - Hard: levees, seawalls, etc. – more costly and permanent
- Purpose of dunes and beaches
 - Protection from storms that cause flooding and storm surge
 - Wide beaches and natural dune systems act as an effective buffer
 - Wide beaches add more functionality
 - Wide beaches and natural dune systems reduce erosion
- Artificial sand nourishment
 - Traditional beach and dune nourishment – 1970s, lasts 2-5 years
 - Shoreface nourishment – 1990s, lasts 2-5 years
 - Concentrated mega-nourishment – 2011, lasts 10-20 years
- Natural dunes are more effective than artificial dunes
 - Provide greater protection from flooding
 - Dune width is more important than dune height
- Importance of public perception and policy
 - Salience enhances the impact of public opinion
 - Public support enhances policy adoption and legitimacy



Methods

Survey Design

- Survey was developed spring of 2017
- Instrument was modeled after survey completed in coastal communities in New Jersey that were impacted by Hurricane Sandy
- There were 21 questions, all closed ended
- A pilot survey was tested by students and faculty and refined as needed

Data Collection

- Collected in the summer of 2017 by email solicitation, flyers, and in-person at various community locations (restaurants, rec centers, beaches)
- Emails were sent to: civic leagues, environmental groups, foundations, commissions, and museums
- In-person surveys conducted at Buckroe Beach, Sandbridge Beach, Oceanview Beach, and downtown Norfolk
- Total response n=690

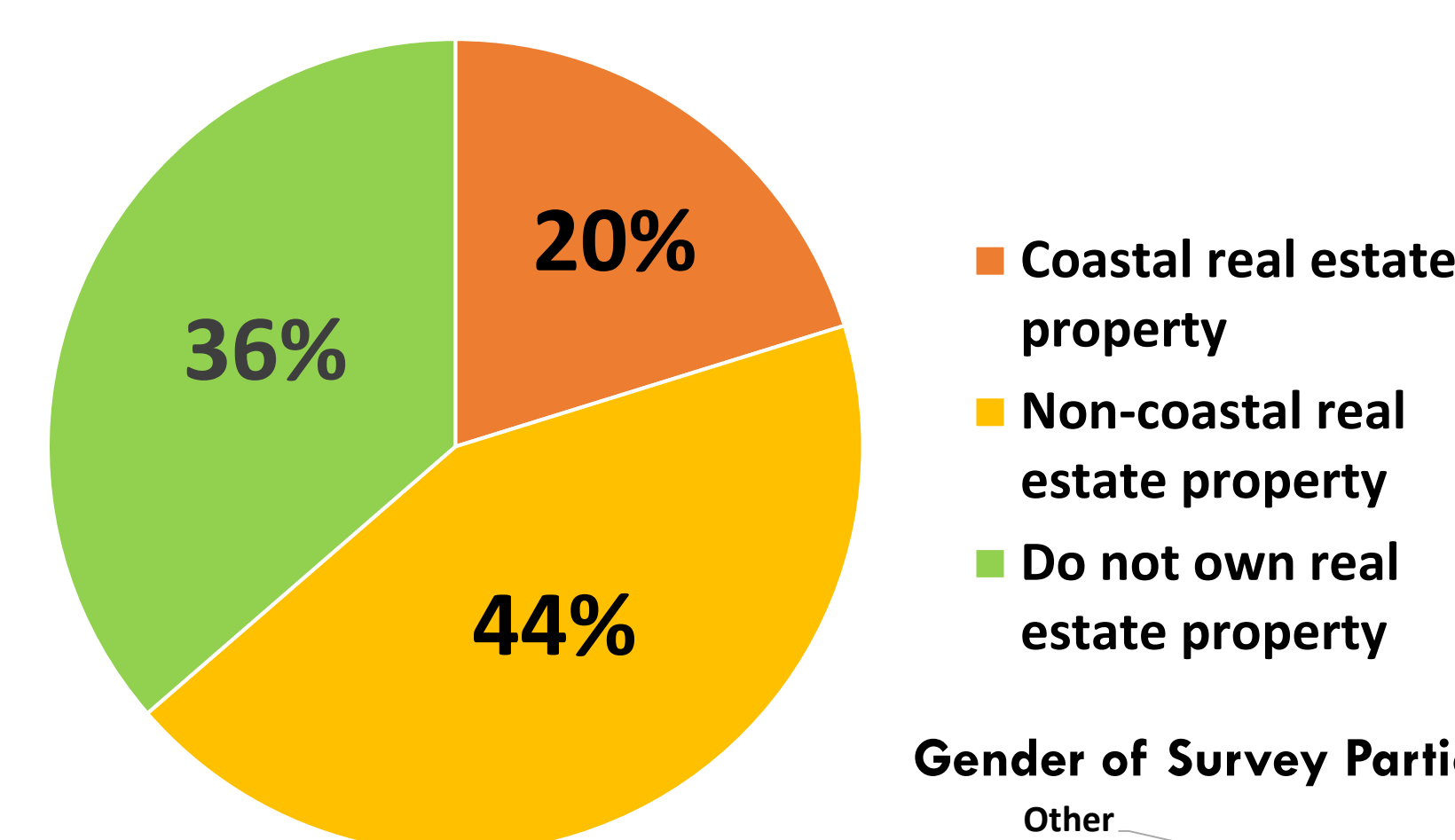
Conclusions

- ❖ More research needs to be conducted to further define specific practices and management of dunes and beaches that residents prefer
- ❖ Increased education of citizens to provide more knowledge and a better understanding of the effects of certain practices and decisions

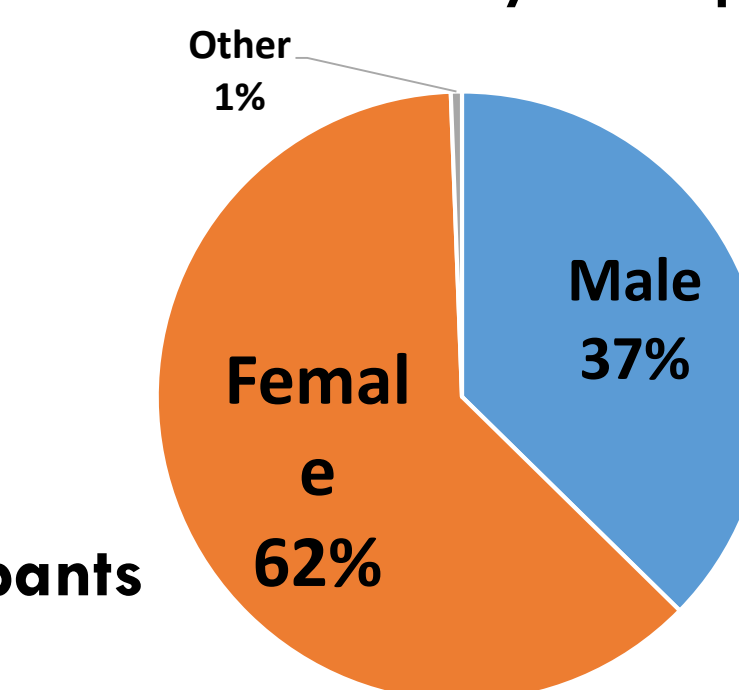


Participant Demographics

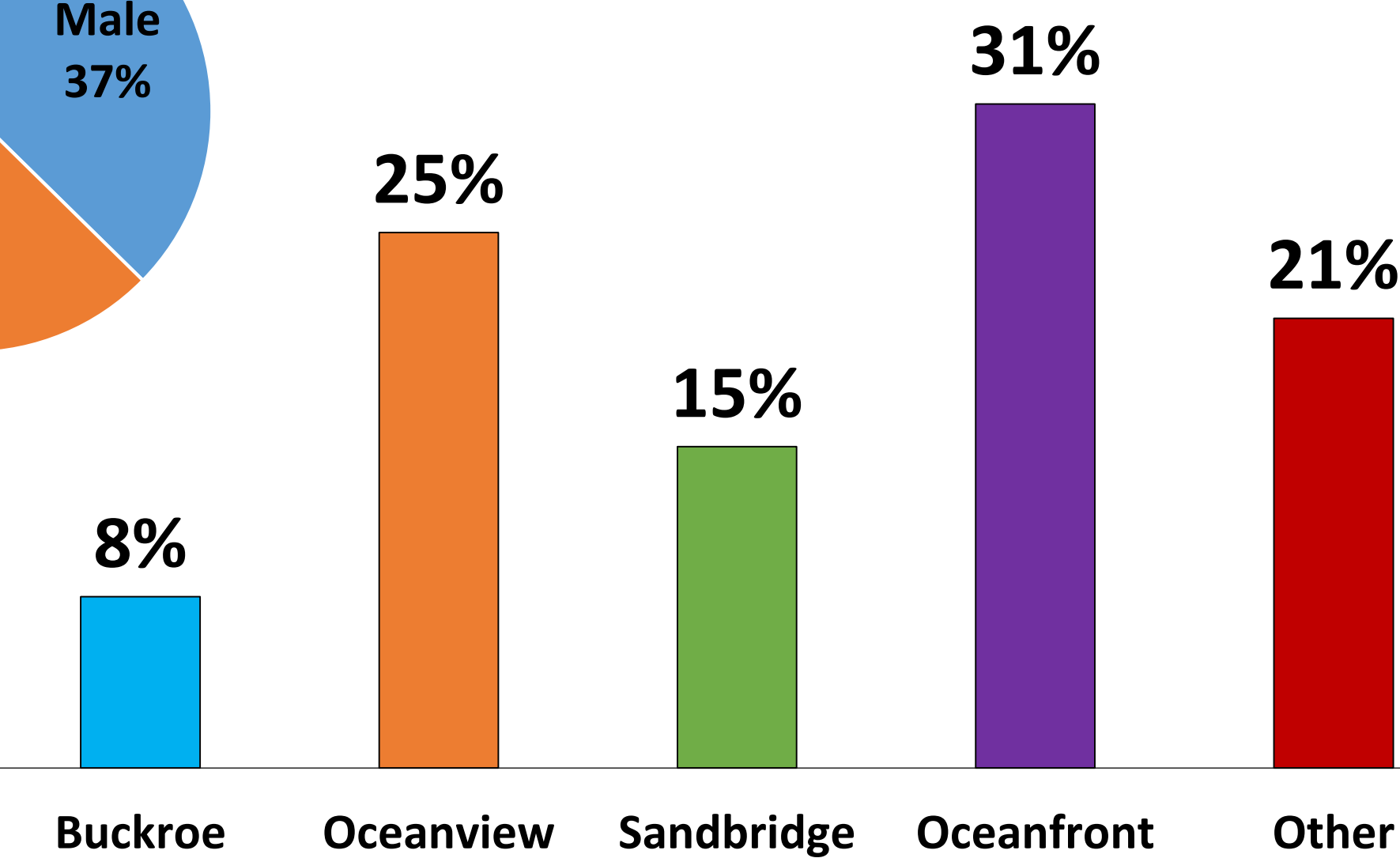
Coastal Real Estate Ownership



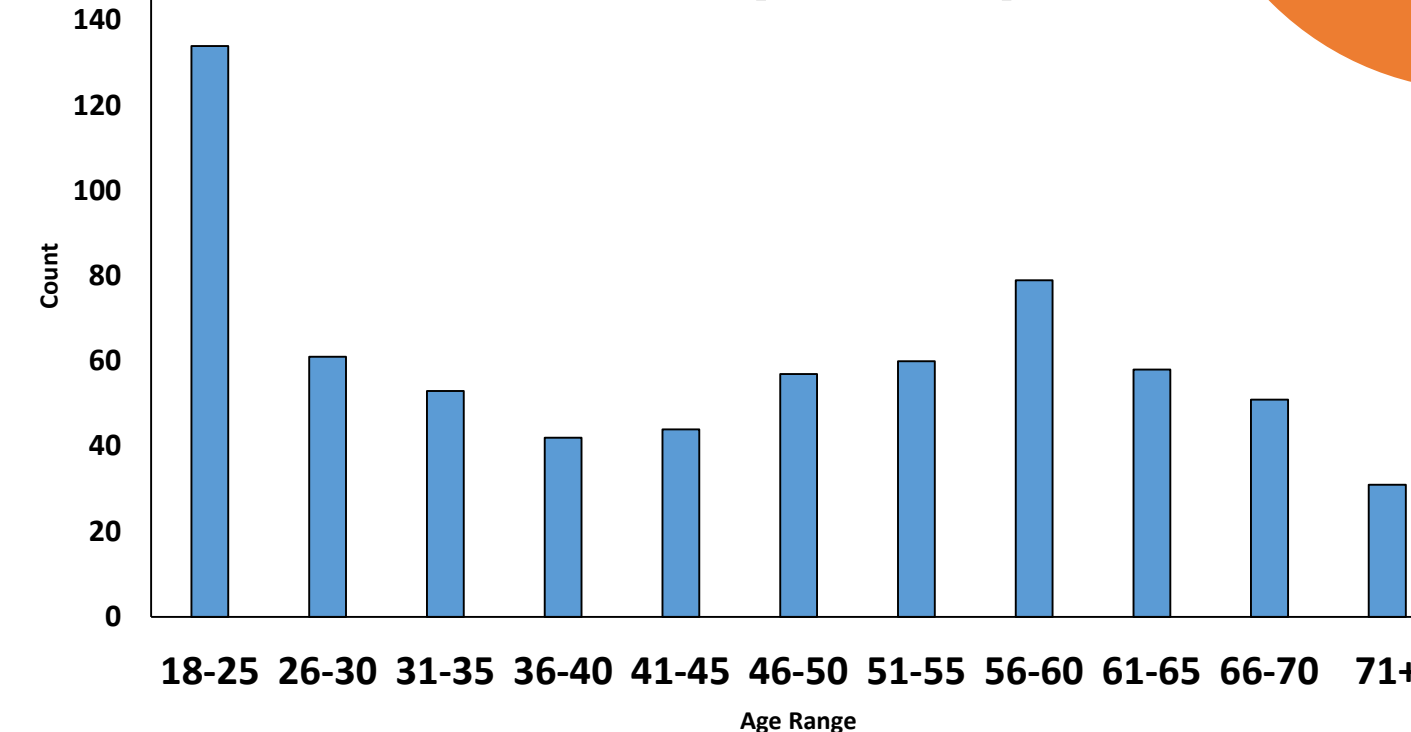
Gender of Survey Participants



Which local beaches do you primarily use for recreation?

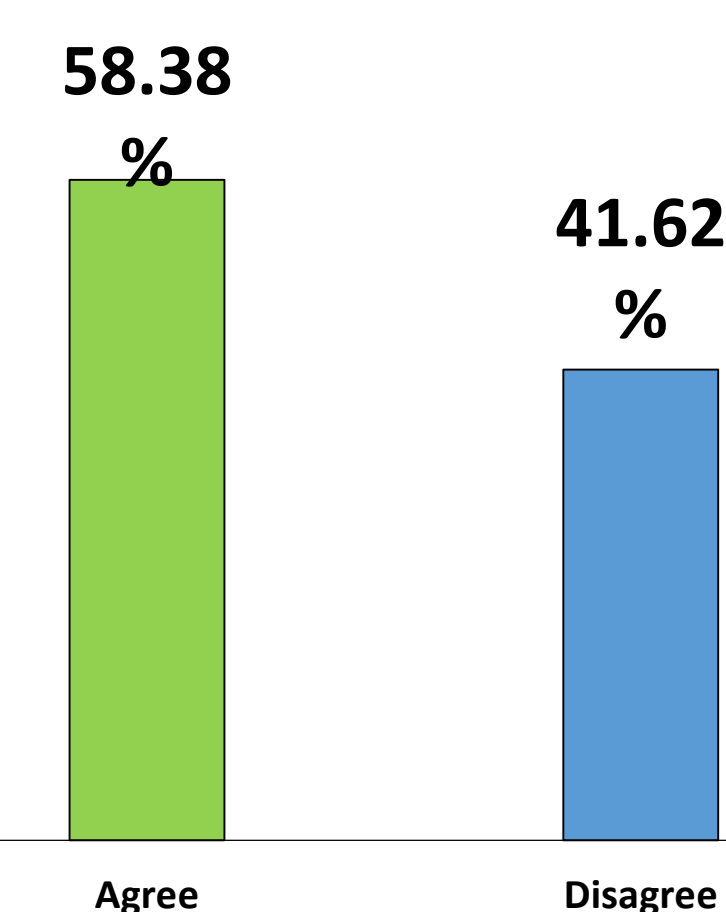


Ages of Survey Participants



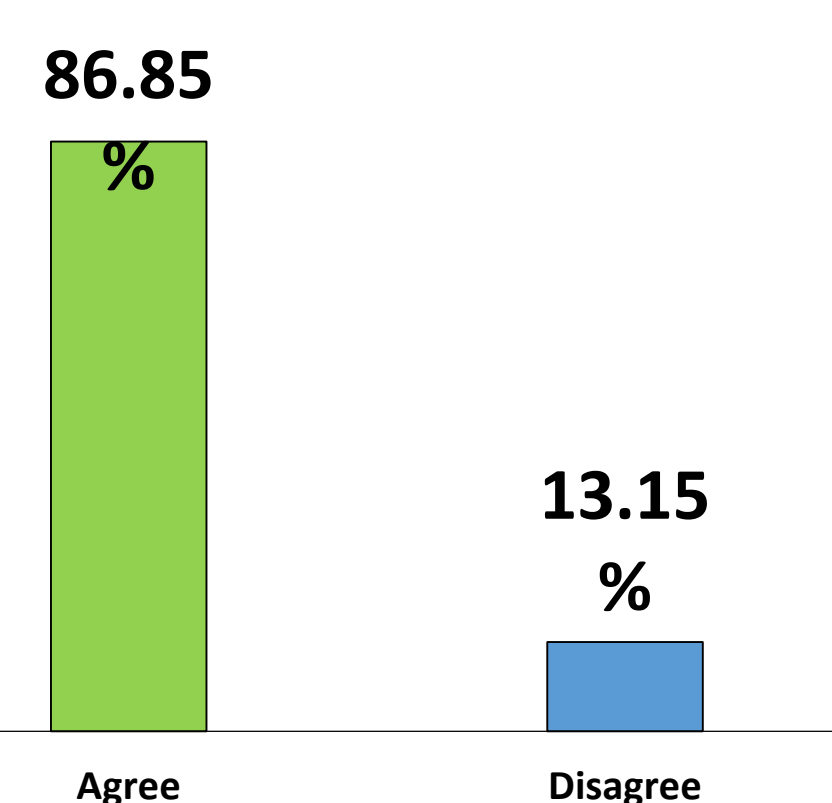
Key Findings

Funding of dune and beach management is important to residents of Hampton Roads.



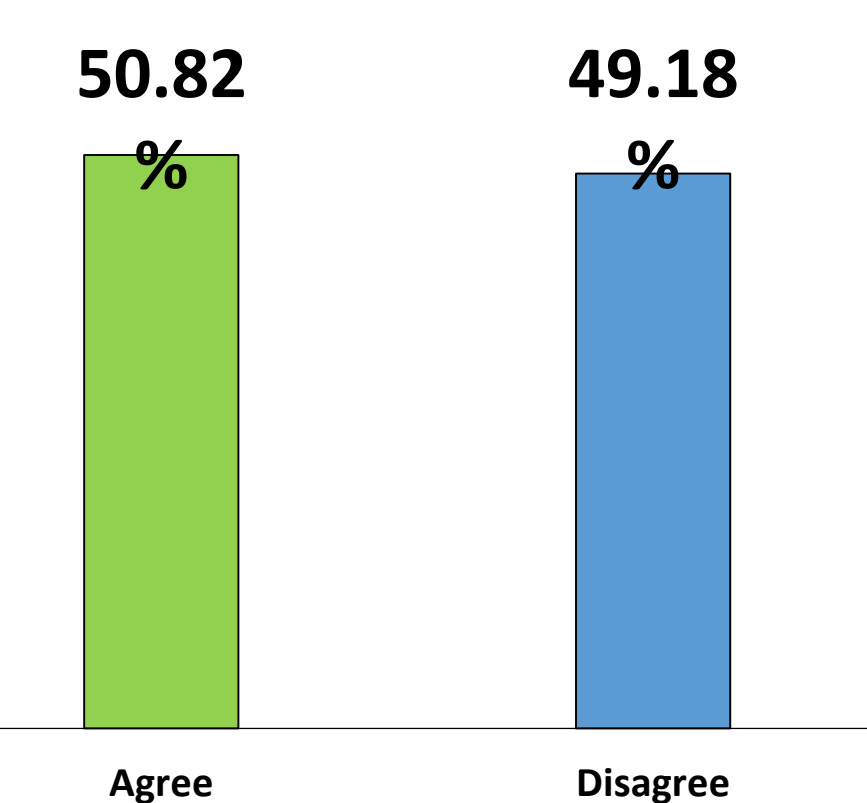
Question: I support new taxes on all residents to fund beach protection.

Government involvement, in the form of regulations for beach protections, is strongly supported by residents of Hampton Roads



Question: Governments should impose regulations for beach protection.

Management of beaches and dunes is needed and necessary, but methods and practices for management are split.



Question: Tax revenues should be spent on the maintenance of dunes rather than on the nourishment and widening of beaches.

Future Research

- ❖ Continued surveying of other coastal communities to compare results
- ❖ Conduct statistical analysis of data to interpret relationships of survey variables

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Scan here to view a video recap of the research or visit this link: <http://bit.ly/dunes1>