

Results

from the Eastern Shore

Coastal Flooding

Workshop:

Historic and Future Sea Levels

on June 13, 2012

A Virginia Sea Grant Project

Project partners:

Accomack-Northampton Planning District
Commission

Report prepared by:

UVa Institute for Environmental Negotiation

www.virginia.edu/ien/sealevelrise

Table of Contents

I. Sponsors and Acknowledgements.....	3
II. Executive Summary	4
III. Planning the Workshop.....	7
IV. Results from the Workshop	8
Local Experiences and Observations.....	8
Awareness of Causes, Consequences, and Solutions.....	8
Knowledge of Rising Sea Levels on the Eastern Shore.....	10
Planning for Sea Level Rise.....	12
• Education and Outreach	
• Restoration and Protection of Natural Systems	
• Shoreline Management	
• Groundwater Management	
• Local Adaptation Planning	
V. Next Steps for the Eastern Shore.....	14
VI. Appendices.....	15
Appendix A: Workshop Agenda.....	15
Appendix B: First Poll: Experiences.....	16
Appendix C: Second Poll: Planning for the Eastern Shore.....	19
Appendix D: Third Poll: Workshop Results.....	22
Appendix E: List of Climate Adaptation Working Group Members...23	

I. Sponsors and Acknowledgements

Sponsors

This event would not have been possible without the generous donations of our sponsors. A grant from the Virginia Sea Grant enabled the University of Virginia to initiate the Focus Group work with our project partners. Thank you to our sponsors:

- Virginia Sea Grant
- Accomack-Northampton Planning District Commission
- Anheuser Busch Coastal Research Center
- Eastern Shore Community College Workforce Development Services
- The Nature Conservancy
- U.Va. Club of the Eastern Shore
- U.Va. Teaching Resource Center and U.Va. Parent Club
- Virginia Coastal Zone Management Program
- Wetlands Watch

Acknowledgements

We are deeply grateful to our partners for their continuing commitment of time, energy, and thought in designing and implementing this project.

- Curtis Smith, Director of Planning, Accomack Northampton Planning District Commission
- Skip Stiles, Executive Director, Wetlands Watch
- Climate Adaptation Working Group (see Appendix E for a complete listing)

We would also like to recognize the following staff at the U.Va. Institute for Environmental Negotiation who contributed to this project.

- Tanya Denckla Cobb, Associate Director
- Nicholas Dumais, Graduate Associate
- Pete Guzman, Graduate Associate
- Dylan Hoos, Undergraduate Associate
- Melissa Keywood, Graduate Associate and Project Manager
- Charlie Kline, Graduate Associate
- Abbey Bucher Ness, Graduate Associate
- Richard Passarelli, Graduate Associate
- Liz Russell, Graduate Associate
- Ran Zheng, Graduate Associate

*Report Prepared by Dylan Hoos and Melissa Keywood
Edited by Tanya Denckla Cobb
Reviewed by Curtis Smith
September 2012*

II. Executive Summary

Background

Project partners applied for a Virginia Sea Grant following last year's project: Planning for Virginia's Coastal Resilience. The result of that project was a series of events entitled "Sea Level Rise in Hampton Roads: Virginia Beach Listening Sessions," which were hosted in four locations in Virginia Beach to foster a community discussion on the effects of sea level rise on property values, wildlife habitat, erosion, and other concerns.

Building on this work, leaders in other coastal Virginia localities, including the Accomack-Northampton Planning District Commission and the members of the Eastern Shore of Virginia Climate Adaptation Working Group, saw the value of educating their communities about the causes and effects of sea level rise, listening to citizen concerns, as well as the strategies which can address those concerns.

Goals

Our goal was to create awareness about the causes of sea level rise, the effects of sea level rise, and various options for dealing with the potential hazards. This workshop was a learning experience for both the presenters and the audience. We sought to both educate the public and gain insight from participants who are experiencing, first hand, the effects of coastal flooding and trending sea levels. To do this, we surveyed and polled participants about their level of awareness and opinions on planning and mitigation strategies. In moving forward we will strive to use the input of the participants to educate more residents by spreading awareness and influencing policy and decision makers on the Eastern Shore.

Who Attended

There was a total attendance of at more than 200 individuals. There were 114 people actively responding to the poll questions, with another 70 people filling out a paper poll; the remainder of non-participating individuals may have been state agency and non-profit representatives. These individuals had a personal interest in the topics, as we learned that 70% own or reside on shoreline property and most have observed changes in local habitats.

Findings

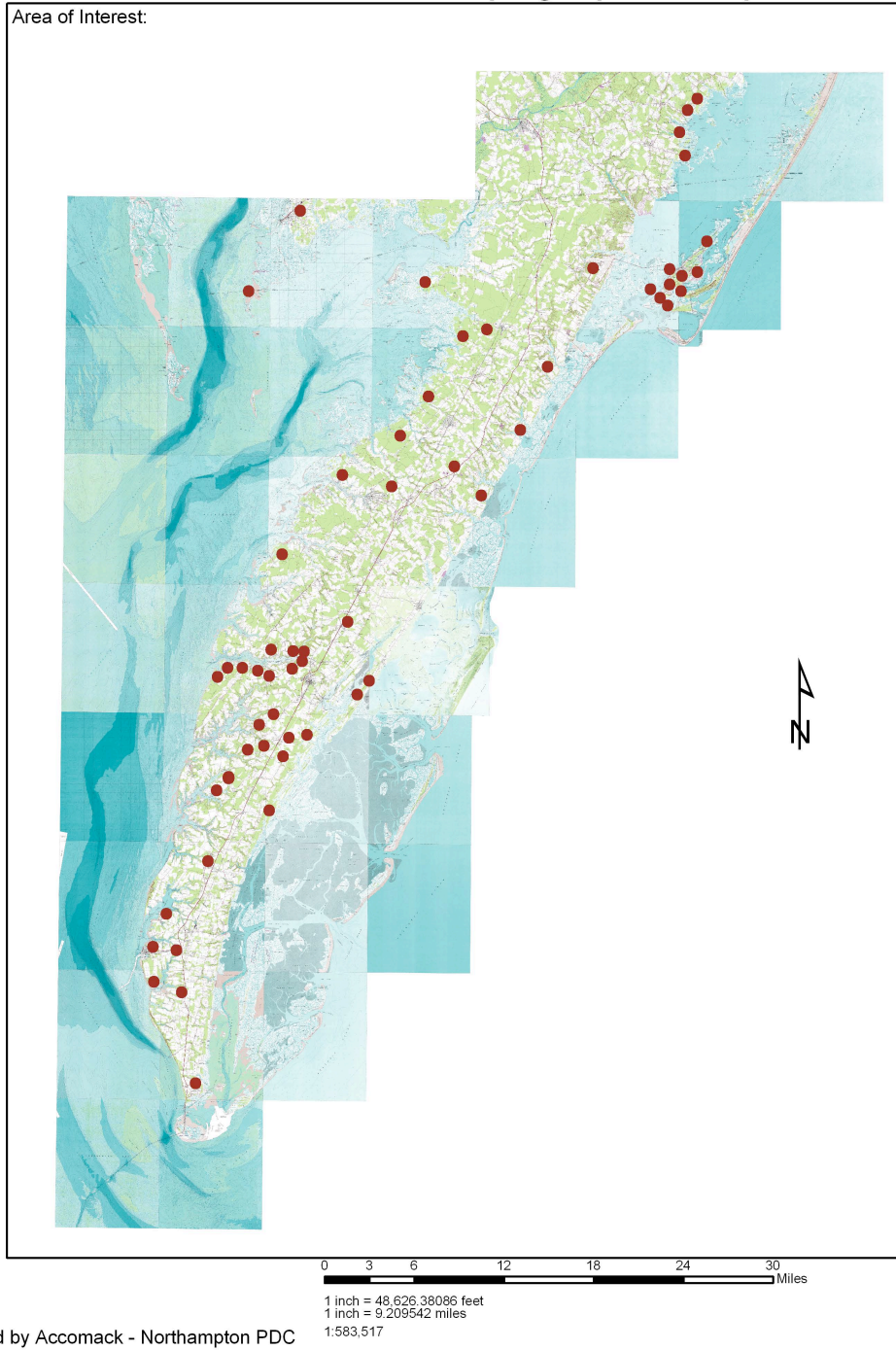
We gained very helpful feedback from the 114 attendees who participated in five real-time polls. We foremost learned that there is an overall concern about sea level rise on the Eastern Shore, considering nearly 60% have already noticed changes in wildlife migration and 60% also believe sea level rise is already affecting them. There is an overarching concern about the threats associated with sea level rise, with almost 70% of people stating that they were at least somewhat concerned. However, the polls indicated a deficit in education on ways to mitigate sea level rise, with only 10% of participants feeling very well informed about the matter.

Overall, people were extremely well aware of the existence of sea level rise, fairly aware of the causes and consequences, but poorly informed about the ways to address it.

Following the experiences and knowledge polls, participants responded to a series of questions about various planning strategies to address sea level rise. Participants supported the following as important priority strategies to consider.

- Education and Outreach is seen as a high priority, and the **most powerful tool to affect change and address sea level rise** on the Eastern Shore.
- Restoration and Protection of Natural Systems ranked highly as both an **effective planning method** and a set of policies that should be a **high priority** for the Eastern Shore.
- Shoreline Management and Groundwater Management were viewed as a **high priority** for the Eastern Shore.
- Finally, **nearly 90% of participants agreed that that local adaptation planning should be a high priority for the Eastern Shore.**

Eastern Shore of Virginia USGS 1:24,000 Topographic Maps



Prepared by Accomack - Northampton PDC

Figure 1. Participant map indicating where people traveled from to attend the Coastal Flooding Workshop.

III. Planning the Workshop

The project partners originally planned an approach that would involve key stakeholders in a meaningful dialogue around shoreline protection policies through a Focus Group. However, a change in attitudes was noted among Virginia's coastal residents during the time between the grant application in early 2011 and the event planning stages in the following year. Vocal groups of citizens throughout Virginia had expressed distrust in long-term local planning efforts, specifically citing lack of engagement with communities.

Although Eastern Shore residents are witnessing the effects of storm surges more acutely than the general population, and, arguably, are in great need to plan for trending sea levels, the partners agreed that more engagement was needed before discussing specific shoreline protection policies for the Eastern Shore. Furthermore, the partners were concerned that not enough had been done to educate citizens on the issue of coastal flooding.

In early 2012, the partners began to reach out to other organizations to help plan for the Coastal Flooding Workshop, an event which was designed to both educate citizens and poll them on their experiences and opinions. Leading up to the event, Curtis Smith and Skip Stiles were interviewed by a local newspaper, which helped significantly in advertising the event.

The workshop was held on June 13, 2012 in Melfa at the Eastern Shore Community College; at least 190 Accomack and Northampton County residents and 10 people from elsewhere in Virginia and Maryland were in attendance.

IV. Results from the Workshop

The format of this workshop combined expert presentations and audience participation to create an informative session, which produced helpful feedback for use in future local planning decisions regarding sea level rise and coastal flooding. The audience was made up of 95% Accomack County and Northampton County residents, and the majority rent or own shoreline property. A quick introduction was followed by an initial poll to analyze what Eastern Shore occupants are experiencing. Complete results for the first poll can be found in Appendix B. The presentations were followed by a survey on policies to plan for sea level rise.

Local Experiences and Observations

We began by polling the audience by using a real-time polling program, which allowed the group to gain awareness of their peers' experiences and opinions in regards to sea level rise on Virginia's Eastern Shore. This particular audience proved to be almost completely local, and also to have a significant percentage of shoreline residents.

- **95% live in Accomack or Northampton County.**
- **70% rent or own shoreline property.**

Awareness of Causes, Consequences, and Solutions

The participants expressed significant concern about sea level rise, with 69% either somewhat or very worried about sea level rise. Some participants noted in their hand-written survey that there is a need for more readily available information on the topic. Overall, the audience was fairly well informed about the causes and consequences and least informed about the ways to address sea level rise:

- **45% feel fairly well informed about the causes and consequences.**
- **24% feel very well informed about the causes and consequences.**

An overwhelming majority of the audience is concerned about sea level rise affecting the Eastern Shore in the long run. The majority of the participants also feel that the effects of sea level rise are already quite apparent. The participants' opinions on the consequences of sea level rise are fairly unified in the following respects:

- **91% think that sea level rise will affect people living on the coast within the next 25 years.**
- **69% are at least somewhat worried about sea level rise affecting the Eastern Shore.**
- **60% think that sea level rise has already started to affect people living on the coast.**
- **37% are very worried about sea level rise affecting the Eastern Shore.**

The participants were less certain about the ways to address sea level rise, yet 34% felt that it should be a high priority for the government and 40% think that it should be a very high priority.

- **63% feel either not very well or not at all informed about the ways to address sea level rise.**
- **Only 10% feel very well informed about the ways to address sea level rise.**

Sharing Knowledge of Rising Sea Levels on the Eastern Shore

Sea Level Rise: Origins of the Eastern Shore

*Presentation by Curtis Smith, Director of Planning,
Accomack-Northampton Planning District Commission*

Curtis Smith described the geologic evolution of the Delmarva Peninsula and the Chesapeake Bay and presented data of sea level trends interpreted from the geologic record and recorded in historic data. The presentation highlighted the close evolutionary relationship between the peninsula and historic sea level fluctuations. The specific amount of sea level rise over time was both informational and astonishing to some participants.

“Info about the extent of [sea level] rise in past years was much greater than I had thought/known.”

“Something needs to be done to bring this info to people...”

“I didn't realize how soon my home (and its insurance) would be seriously impacted. It is disappointing that government has done so little so far.”

Historic, Current and Future Sea Level Changes & Potential Impacts on the Eastern Shore

*Presentation by Skip Stiles, Executive Director,
Wetlands Watch*

Skip Stiles spoke about the history of sea level change on Virginia's coast contrasted to other localities in the coastal United States. He discussed the level of risk for coastal Virginia, leading many participants to express concerns. For example, graphics illustrated past impacts from storm surges as well as future projections. The effects that these environmental changes have on the price of insurance were a major economic factor discussed. Many members of the audience were vocal in their opinion that this knowledge should be more readily available for residents.

“Did not realize Hampton Roads is almost as much at risk as New Orleans.”

“Did not know sinking land was part of the problem.”

“I'm more concerned than I was...”

“Surprised to learn that NASA is conducting an analysis of the effect of sea level rise on its facilities. Concerned that this could lead to a closure or downsizing of Wallops Island with huge local economic impacts.”

How Are Other Coastal Communities Addressing Sea Level Rise?

Presentation by Melissa Keywood, Graduate Associate, UVa Institute for Environmental Negotiation

Melissa Keywood spoke about how other coastal communities are mitigating the effects of sea level rise and coastal flooding. She emphasized the need to get the support of local decision makers, which is vital in the process to adopt short- and long-term adaptation or mitigation plans. There was a conversation local efforts dealing with the changing environment.

“This is all very frightening but life goes on and we can all work together to make it better.”

“Idea of setbacks based on elevation, not distance to water, is a great idea.”

“Surprised by the disconnect between information and local efforts -- the need for more science and responsive actions.”

“Realized that pressure on local decision makers is essential.”

Overview of Sea Level Rise Planning Efforts on the Eastern Shore

Presentation by Curtis Smith, Director of Planning, Accomack-Northampton Planning District Commission

Curtis Smith ended the series of presentations by discussing the sea level rise effort as a whole. He discussed what has been and is being done to address the issue on the Eastern Shore and presented desired actions for the future including the need to educate others. As the Shore establishes plans for the future he expressed the need for citizens to be more educated in order to catalyze those long-term policy changes.

“Need a wide-reaching educational plan to let residents know more about these matters.”

“County government needs to start thinking about sea level rise - putting in long plans.”

Planning for Sea Level Rise

There were five major planning strategies discussed, which were drawn from a report produced by the Nature Conservancy, *The Eastern Shore of Virginia: Strategies for Adapting to Climate Change*, which was released in June 2011. The report was intended to highlight feasible strategies for localities in the Eastern Shore to draw on when making plans, so the partners wanted to gather feedback on these strategies from citizens, which had not yet been done. These five strategies were presented as ways to deal with the effects of sea level rise. Participants were then asked to rank with polling devices each strategy according to whether they thought it would be effective and whether it should be a priority. Complete results can be found in Appendix C. They are:

- 1. Education and Outreach** strives to promote political will by developing education and outreach programs for the public and helping implement key adaptation strategies. Another intended outcome is to establish an Eastern Shore Climate Adaptation Working Group.
 - **89% agree that this is somewhat or highly likely to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise.**
 - **87% feel this should be high or very high priority for local governments.**
- 2. Restoration and Protection of Natural Systems** is working to enhance climate change adaption by species, habitats and ecological systems. This is done through expansion and reinstatement of protected lands that capture habitat gradients and transition zones from sub-tidal coastal bays to upland forests.
 - **75% polled agree this is somewhat or highly likely to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise.**
 - **89% feel this should be high or very high priority for local governments.**

3. **Shoreline Management** is developing shoreline management plans for all Eastern Shore stream reaches with new statewide statutory requirement, and using education and demonstration to promote new general permit for living shorelines with landowners.
 - **56% of participants think that this strategy is somewhat or highly likely to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise.**
 - **72% think it should be high or very high priority for local governments.**

4. **Groundwater Management** is using climate change, water supply and demand projections as the main consideration in enhancing the groundwater recharge zone along the Eastern Shore's main transportation route, Highway 13.
 - **47% feel this is somewhat or highly likely to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise while 28% are neutral on this strategy.**
 - **75% think this should be high or very high priority for local governments.**

5. **Local Adaptation Planning** is the strategy of incorporating the current and predicted effects of sea level rise into the county's comprehensive plans and hazard mitigation plans.
 - **45% of participants polled feel this is somewhat or highly likely to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise.**
 - **89% think that local adaptation planning should be a high to very high priority for local government.**

Overall, the participants feel most strongly that Education and Outreach is most effective and should be a high priority for local governments. Similarly, a majority of participants see Restoration and Protection of Natural Systems as both effective and an important priority. Participants were less sure about the effectiveness of Shoreline Management, but still feel it should be a priority. Participants were even less sure about the effectiveness of Groundwater Management, but similarly viewed it as a high priority. Lastly, the greatest dichotomy surfaced for Local Adaptation Planning. Participants had

the least certainty of its effectiveness, but also gave it one of the highest priorities. While we cannot explain this dichotomy, it is possible that some strategies are seen as high priorities for their educational and awareness value even if their effectiveness in mitigating hazards is uncertain. If all of these strategies are to become a priority for the Eastern Shore, a concerted policy effort is needed. Education and Outreach, for example, could lead to an increased support for Shoreline and Groundwater Management. All of these strategies are separate, but closely inter-related. It is clear that the vast majority of participants at the workshop see all five strategies as important tools for the Eastern Shore to address coastal flooding and sea level rise.

V. Next Steps for the Eastern Shore of Virginia

The Coastal Flooding Workshop highlighted the need for Eastern Shore of Virginia localities to take action to prepare their communities for the immediate and long-term impacts from sea level rise. Participants found the Workshop to be helpful, as seen in the poll results in Appendix D. The Accomack-Northampton Planning District Commission will make the workshop results available to local governments and planning commissions and made available to for download at www.a-npdc.org.

The Eastern Shore of Virginia Climate Adaptation Working Group will continue to serve as a regional resource to provide educational opportunities, critical information and data, and essential planning tools to local elected officials, planners, and residents. The Climate Adaptation Working Group will use the information attained from the Coastal Flooding Workshop as a guideline for addressing the data and informational needs of Eastern Shore governments and citizens to ensure that the region-at-large is prepared to properly plan for the impacts from sea level rise to the greatest extent possible. To learn more about the Climate Adaptation Working Group, contact the Accomack-Northampton Planning District at 757-787-2936 or visit www.a-npdc.org

UVaClub
of the Eastern Shore



Coastal Flooding Workshop:

Historic and Future Sea Level Trends & Implications for Virginia's Eastern Shore

6:00 P.M. – 8:30 P.M.

Wednesday, June 13, 2012

Great Hall of the Workforce Development Building
Eastern Shore Community College, 29300 Lankford Highway, Melfa

- 5:30** **Registration and light snacks and refreshments**
Refreshments sponsored by the UVA Club of the Eastern Shore
- 6:00** **Welcome and Introduction to the Project**
Tanya Denckla Cobb, Associate Director, UVA Institute for Environmental Negotiation
Audience Participation - Electronic Poll: What are Eastern Shore residents experiencing?
- 6:20** **Sea Level Rise: Origins of the Eastern Shore**
Curtis Smith, Director of Planning, Accomack-Northampton Planning District Commission
Historic, Current and Future Sea Level Changes & Potential Impacts on the Eastern Shore
Skip Stiles, Executive Director, Wetlands Watch
Questions from audience and discussion
- 7:25** **Audience Participation: Written Survey and Break**
- 7:35** **How Are Other Coastal Communities Addressing Sea Level Rise?**
Melissa Keywood, Graduate Associate, UVA Institute for Environmental Negotiation
Overview of Sea Level Rise Planning Efforts on the Eastern Shore
Curtis Smith, Director of Planning, Accomack-Northampton Planning District Commission
Questions from audience and discussion
- 8:05** **Community Feedback and Priorities for Next Steps**
Audience Participation - Final Electronic and Written Surveys
- 8:30** **Adjourn**



The Nature
Conservancy

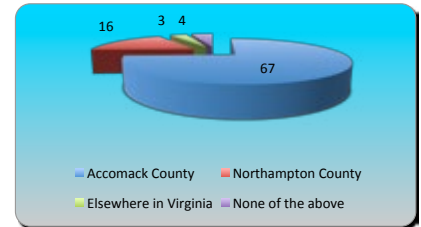


First Poll: Experiences

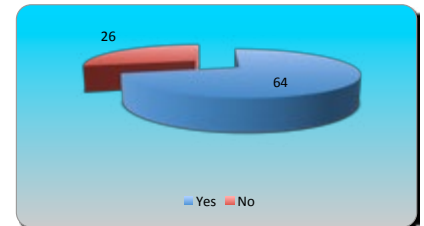
Turning Graphical Results By Question

Session Name: FirstPollResults.tpz
Created: 6/21/12 11:10 AM

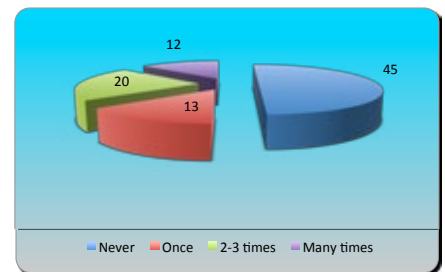
1.) Where do you live?	Responses		Hand-Written	Total	
Accomack County	67	74.44%	12	79	71%
Northampton County	16	17.78%	10	26	23%
Elsewhere in Virginia	3	3.33%	0	3	3%
None of the above	4	4.44%	0	4	4%
Totals	90	100%	22	112	100%



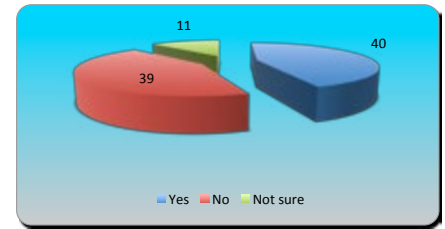
2.) Do you rent or own shoreline property?	Responses		Hand-Written	Total	
Yes	64	71.11%	14	78	70%
No	26	28.89%	7	33	30%
Totals	90	100%	21	111	100%



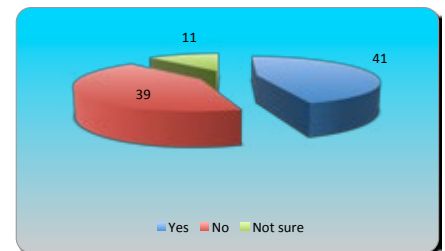
3.) How many times in the past 5 years have you had to change your route to work to avoid flooded roadways?	Responses		Hand-Written	Total	
Never	45	50%	8	53	47%
Once	13	14.44%	3	16	14%
2-3 times	20	22.22%	7	27	24%
Many times	12	13.33%	4	16	14%
Totals	90	100%	22	112	100%



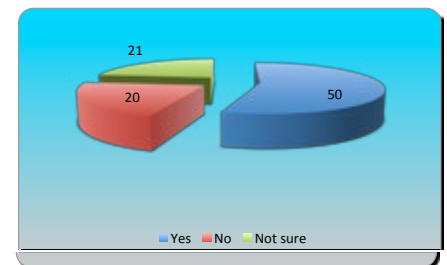
<u>4.) Is your property at risk to flooding?</u>	<u>Responses</u>		<u>Hand-Written</u>	<u>Total</u>	
Yes	40	44.44%	9	49	44%
No	39	43.33%	10	49	44%
Not sure	11	12.22%	3	14	13%
Totals	90	100%	22	112	100%



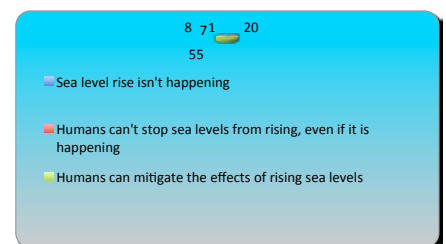
<u>5.) Has your homeowners insurance rate increased?</u>	<u>Responses</u>		<u>Hand-Written</u>	<u>Total</u>	
Yes	41	45.05%	4	45	40%
No	39	42.86%	13	52	46%
Not sure	11	12.09%	5	16	14%
Totals	91	100%	22	113	100%



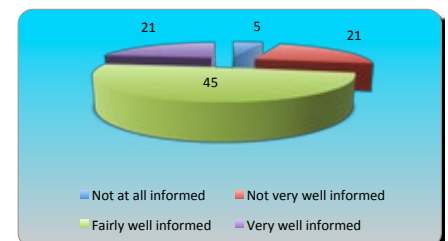
<u>6.) Have you observed changes in habitats or changes in wildlife migration?</u>	<u>Responses</u>		<u>Hand-Written</u>	<u>Total</u>	
Yes	50	54.95%	14	64	57%
No	20	21.98%	7	27	24%
Not sure	21	23.08%	1	22	19%
Totals	91	100%	22	113	100%



<u>7.) Which of the following statements comes closest to your view?</u>	<u>Responses</u>		<u>Hand-Written</u>	<u>Total</u>	
Sea level rise isn't happening	1	1.10%	0	1	1%
if it is happening levels	20	21.98%	3	23	20%
unclear how to do so	55	60.44%	18	73	63%
have the necessary tools to do so	7	7.69%	2	9	8%
	8	8.79%	2	10	9%
Totals	91	100%	25	116	100%

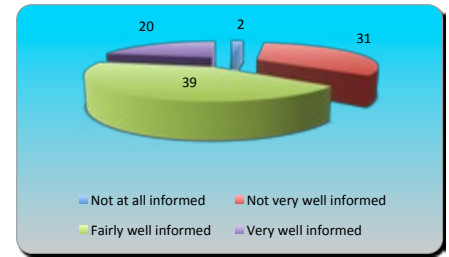


<u>8.) How informed do you feel you are about the causes of sea level rise?</u>	<u>Responses</u>		<u>Hand-Written</u>	<u>Total</u>	
Not at all informed	5	5.43%	1	6	5%
Not very well informed	21	22.83%	5	26	23%
Fairly well informed	45	48.91%	9	54	47%
Very well informed	21	22.83%	7	28	25%
Totals	92	100%	22	114	100%



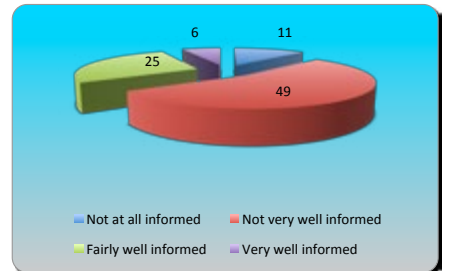
9.) How informed do you feel you are about the consequences of sea level rise?

	Responses		Hand-Written	Total	
Not at all informed	2	2.17%	1	3	3%
Not very well informed	31	33.70%	5	36	32%
Fairly well informed	39	42.39%	10	49	43%
Very well informed	20	21.74%	6	26	23%
Totals	92	100%	22	114	100%



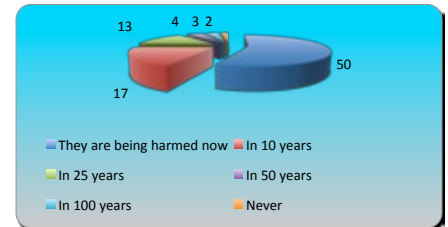
10.) How informed do you feel you are about the ways in which we can address sea level rise?

	Responses		Hand-Written	Total	
Not at all informed	11	12.09%	2	13	12%
Not very well informed	49	53.85%	9	58	51%
Fairly well informed	25	27.47%	6	31	27%
Very well informed	6	6.59%	5	11	10%
Totals	91	100%	22	113	100%



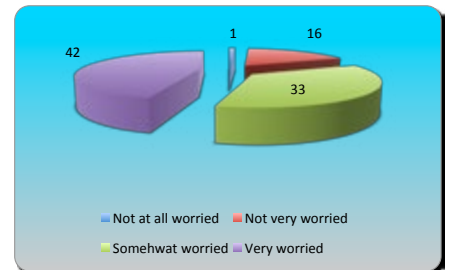
11.) When do you think sea level rise will start to harm people living on the coast?

	Responses		Hand-Written	Total	
They are being harmed now	50	56.18%	17	67	60%
In 10 years	17	19.10%	3	20	18%
In 25 years	13	14.61%	1	14	13%
In 50 years	4	4.49%	1	5	5%
In 100 years	3	3.37%	0	3	3%
Never	2	2.25%	0	2	2%
Totals	89	100%	22	111	100%



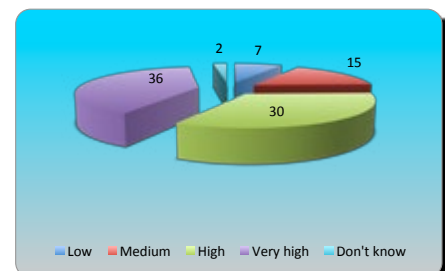
12.) How worried are you about sea level rise affecting the Eastern Shore?

	Responses		Hand-Written	Total	
Not at all worried	1	1.09%	12	13	11%
Not very worried	16	17.39%	7	23	20%
Somewhat worried	33	35.87%	3	36	32%
Very worried	42	45.65%	0	42	37%
Totals	92	100%	22	114	100%



13.) Do you think addressing sea level rise should be a low, medium, high, or very high priority for local governments?

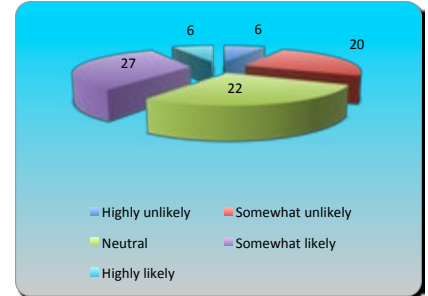
	Responses		Hand-Written	Total	
Low	7	7.78%	1	8	7%
Medium	15	16.67%	4	19	17%
High	30	33.33%	8	38	34%
Very high	36	40%	9	45	40%
Don't know	2	2.22%	0	2	2%
Totals	90	100%	22	112	100%



Second Poll: Planning for the Eastern Shore

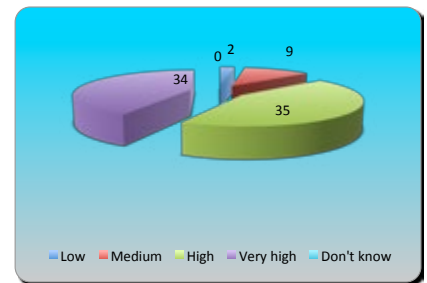
1.) How likely is LOCAL ADAPTATION PLANNING to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise?

	Responses		Hand-Written	Total	
Highly unlikely	6	7.41%	2	8	9%
Somewhat unlikely	20	24.69%	0	20	21%
Neutral	22	27.16%	1	23	24%
Somewhat likely	27	33.33%	9	36	38%
Highly likely	6	7.41%	1	7	7%
Totals	81	100%	13	94	100%



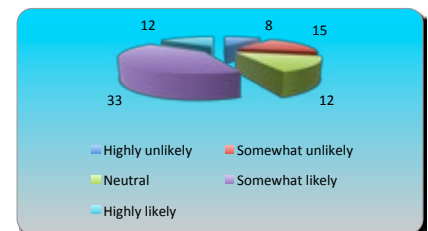
2.) Do you think LOCAL ADAPTATION PLANNING should be a low, medium, high, or very high priority for local governments?

	Responses		Hand-Written	Total	
Low	2	2.50%	0	2	2%
Medium	9	11.25%	0	9	10%
High	35	43.75%	6	41	44%
Very high	34	42.50%	8	42	45%
Don't know	0	0%	0	0	0%
Totals	80	100%	14	94	100%



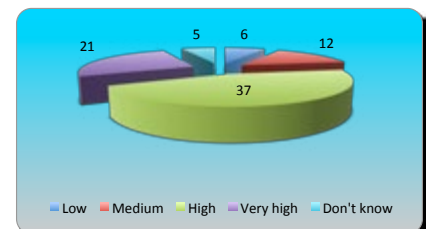
3.) How likely is LIVING SHORELINE CONSTRUCTION to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise?

	Responses		Hand-Written	Total	
Highly unlikely	8	10%	1	9	10%
Somewhat unlikely	15	18.75%	1	16	17%
Neutral	12	15%	3	15	16%
Somewhat likely	33	41.25%	5	38	41%
Highly likely	12	15%	2	14	15%
Totals	80	100%	12	92	100%



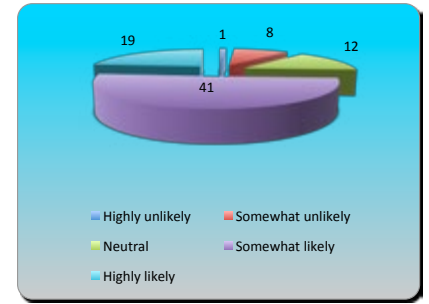
4.) Do you think LIVING SHORELINE CONSTRUCTION should be a low, medium, high, or very high priority for local governments?

	Responses		Hand-Written	Total	
Low	6	7.41%	1	7	8%
Medium	12	14.81%	2	14	15%
High	37	45.68%	5	42	45%
Very high	21	25.93%	4	25	27%
Don't know	5	6.17%	0	5	5%
Totals	81	100%	12	93	100%



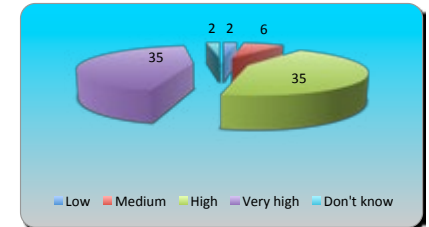
5.) How likely is RESTORATION AND PROTECTION OF NATURAL SYSTEMS to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise?

	Responses		Hand-Written	Total	
Highly unlikely	1	1.23%	2	3	3%
Somewhat unlikely	8	9.88%	1	9	10%
Neutral	12	14.81%	0	12	13%
Somewhat likely	41	50.62%	6	47	51%
Highly likely	19	23.46%	3	22	24%
Totals	81	100%	12	93	100%



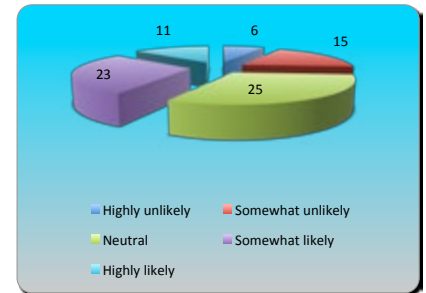
6.) Do you think RESTORATION AND PROTECTION OF NATURAL SYSTEMS should be a low, medium, high, or very high priority for local governments?

	Responses		Hand-Written	Total	
Low	2	2.50%	0	2	2%
Medium	6	7.50%	0	6	7%
High	35	43.75%	7	42	46%
Very high	35	43.75%	5	40	43%
Don't know	2	2.50%	0	2	2%
Totals	80	100%	12	92	100%



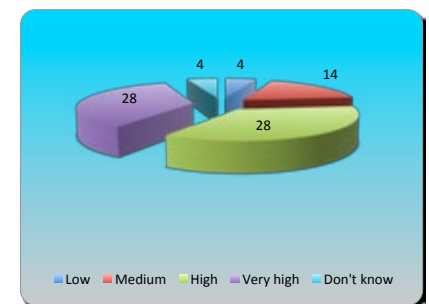
7.) How likely is GROUNDWATER MANAGEMENT to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise?

	Responses		Hand-Written	Total	
Highly unlikely	6	7.50%	2	8	9%
Somewhat unlikely	15	18.75%	0	15	16%
Neutral	25	31.25%	1	26	28%
Somewhat likely	23	28.75%	8	31	34%
Highly likely	11	13.75%	1	12	13%
Totals	80	100%	12	92	100%



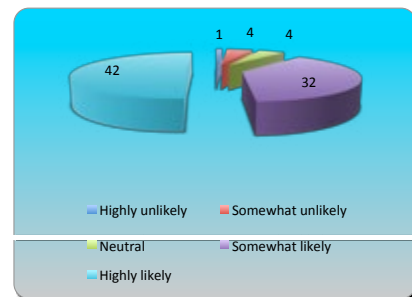
8.) Do you think GROUNDWATER MANAGEMENT should be a low, medium, high, or very high priority for local governments?

	Responses		Hand-Written	Total	
Low	4	5.13%	0	4	4%
Medium	14	17.95%	1	15	17%
High	28	35.90%	7	35	39%
Very high	28	35.90%	4	32	36%
Don't know	4	5.13%	0	4	4%
Totals	78	100%	12	90	100%



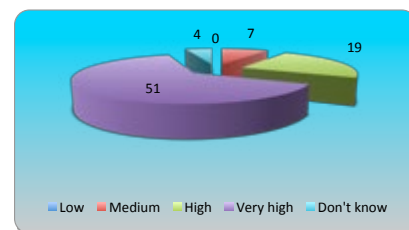
9.) How likely is EDUCATION AND OUTREACH to help the Eastern Shore mitigate the hazards of coastal flooding and sea level rise?

	Responses		Hand-Written	Total	
Highly unlikely	1	1.20%	1	2	2%
Somewhat unlikely	4	4.82%	0	4	4%
Neutral	4	4.82%	1	5	5%
Somewhat likely	32	38.55%	8	40	42%
Highly likely	42	50.60%	3	45	47%
Totals	83	100%	13	96	100%



10.) Do you think EDUCATION AND OUTREACH

	Responses		Hand-Written	Total	
Low	0	0%	1	1	1%
Medium	7	8.64%	1	8	9%
High	19	23.46%	5	24	26%
Very high	51	62.96%	6	57	61%
Don't know	4	4.94%	0	4	4%
Totals	81	100%	13	94	100%

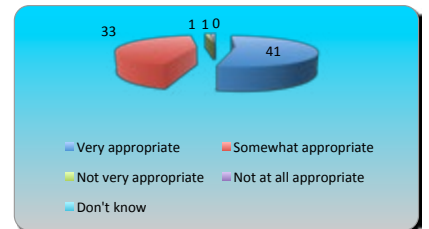


Third Poll: Workshop Results

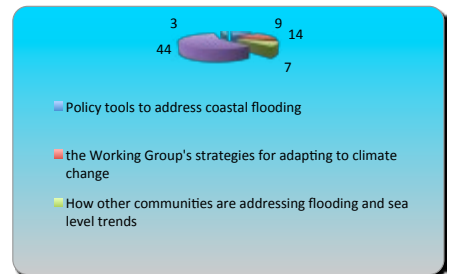
12.) Overall coming to this workshop was...	Responses		Hand-Written	Total	
Very worthwhile	59	77.63%	3	62	78%
Somewhat worthwhile	14	18.42%	0	14	18%
Not very worthwhile	0	0%	0	0	0%
Not at all worthwhile	3	3.95%	0	3	4%
Don't know	0	0%	0	0	0%
Totals	76	100%	3	79	100%



13.) The format of this workshop was...	Responses		Hand-Written	Total	
Very appropriate	41	53.95%	3	44	55%
Somewhat appropriate	33	43.42%	1	34	43%
Not very appropriate	1	1.32%	0	1	1%
Not at all appropriate	1	1.32%	0	1	1%
Don't know	0	0%	0	0	0%
Totals	76	100%	4	80	100%



14.) For the next workshop, the content I'd like to see the most is more information on...	Responses		Hand-Written	Total	
Policy tools to address coastal flooding	9	11.69%	1	10	12%
climate change	14	18.18%	1	15	18%
flooding and sea level trends	7	9.09%	2	9	11%
All of the above	44	57.14%	1	45	55%
None of the above	3	3.90%	0	3	4%
Totals	77	100%	5	82	100%



List of Climate Adaptation Working Group Members

The project team is grateful for the guidance and support from the Climate Adaptation Working Group and its member organizations:

- A-NPDC
- Accomack County
- Northampton County
- Town of Cape Charles
- Town of Chincoteague
- Town of Exmore
- Town of Tangier
- Town of Wachapreague
- ES Soil & Water Conservation District
- VA Department of Emergency Management
- VA Coastal Zone Management Program
- VA Department of Conservation & Recreation
- VA Department of Transportation
- VA Institute of Marine Science
- University of VA Long Term Ecological Research Program
- NASA Wallops Flight Facility
- USDA-Natural Resource Conservation Service
- US Fish & Wildlife Service
- Virginia Eastern Shorekeeper
- The Nature Conservancy
- Citizens for a Better Eastern Shore
- ES Resource Conservation & Development Council
- ES Environmental Education Council
- Virginia's Eastern Shore Land Trust
- Wetlands Watch