

## **ABSTRACT**

Title of Thesis: UNDERSTANDING MANAGED RETREAT  
THROUGH A MULTI-STAKEHOLDER  
LENS: A CASE STUDY ON THE LOWER  
EASTERN SHORE OF MARYLAND

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Due to concerns about increasing sea levels and climate displacement, there has been a growing interest in the adaptation option of managed retreat. In managed retreat, shorelines move inland acting as a natural buffer to coastal climate impacts, while coastal communities move to higher ground through voluntary home buyouts. Managed retreat is also highly controversial, as it is poorly understood and presents significant challenges to equity. In order to address these issues, this thesis research provides a multi-stakeholder analysis on the Lower Eastern Shore of Maryland focused on understandings and trust in managed retreat processes. Key findings from this research are that communities, government and non-governmental organizations have different understandings of managed retreat, that retreat discussions need to occur at official levels now, that equity must be a central component of planning, that trust is necessary for successful retreat and that any future retreat must emphasize community agency and collaboration.

UNDERSTANDING MANAGED RETREAT THROUGH A MULTI-  
STAKEHOLDER LENS: A CASE STUDY ON THE LOWER EASTERN SHORE OF  
MARYLAND

by

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## **Preface**

Climate change and related environmental impacts threaten socio-ecological systems around the world, and responses like managed retreat are one of many being explored for adapting to this growing issue. In presenting this research, I hope to help bridge gaps in understanding around this fairly new, important and controversial process. In other places beginning to think about managed retreat as an adaptation option, I hope that documenting multi-stakeholder understandings of managed retreat and trust on the Lower Eastern Shore can be a useful resource for understanding the many dimensions of this process in their own home. I also hope that the identification of trust and collaborative processes as promising pathways can contribute to more effective and equitable approaches to managed retreat on the Lower Eastern Shore of Maryland, and in rural coastal areas globally that may be considering this process. Most importantly, a growing body of research that centers the knowledge and experiences of those most impacted by climate impacts in order to shape climate change responses provides hope for more intentional, collaborative and equitable future approaches to difficult issues like managed retreat.

## Acknowledgements

I would like to express my profound appreciation for my advisor, Dr. Michael Paolisso. Thank you for your guidance and support, for many laughs and for believing in my “chispa”, especially when I did not. You have taught me the value of human-environmental research and have also regularly reminded me that life is about so much more than just the work you do. I hope that I can follow in your footsteps, Island Mike.

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To Jen Shaffer, my undergraduate professor and advisor. It was in my first class with you that I learned about climate displacement and the value and need for anthropology in the world of climate adaptation. Thank you for many years of mentorship and friendship, your dedication and work has been a great inspiration.

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# Table of Contents

<b>ABSTRACT</b>	<b>ii</b>
<b>Preface</b>	<b>iii</b>
<b>Acknowledgements</b>	<b>iv</b>
<b>Table of Contents</b>	<b>1</b>
<b>Chapter 1: Introduction</b>	<b>6</b>
<b>Chapter 2: Coastal Climate Change, Adapting Through Retreat and the Lower Eastern Shore of Maryland</b>	<b>7</b>
2.1. Maryland & Rural Coastal Vulnerability	11
2.2. Adaptation Options: Accommodate, Protect, Retreat	11
2.3. Managed Retreat and Equity Concerns	14
2.4. Understandings and Multi-Stakeholder Research	16
2.5. Trust and Managed Retreat	<b>18</b>
<b>Chapter 3: Methods</b>	<b>18</b>
3.1. Conceptual Approach: Socio-Ecological Systems	19
3.2. Methodological Approach: Qualitative Methods	20
3.3. Site Selection & Study Population	21
3.4. Data Collection	24
3.5. Analysis	<b>27</b>
<b>Chapter 4: <i>Understandings</i> of Managed Retreat on the Lower Eastern Shore</b>	<b>27</b>
4.1. Community Residents	27
4.1.1. A Forced Process with an Outside Agenda	29
4.1.2. We Know Our Environmental Risks, This Is Our Choice	30
4.1.3. Other Adaptation Options First, Retreat is a Last Resort	31
4.2. Government	31
4.2.1. Managing Coastal Hazards using Existing Frameworks	32
4.2.2. Supporting Community Decisions	33
4.2.3. A Taboo Topic	34
4.2.4. Managing the Inevitable	36
4.3. Non-Governmental Organizations	36
4.3.1. Nature-Based Solutions	37
4.3.2. Retreat is Nothing New	38
4.3.3. Lack of Consensus	42
4.3.4. Retreat is Inevitable, Managed Retreat is Better	44
4.4. Summary Table: Understandings of Managed Retreat	<b>46</b>
<b>Chapter 5: <i>Challenges</i> for Managed Retreat on the Lower Eastern Shore</b>	<b>46</b>
5.1 Community Residents	46
5.1.1. Gaining Community Support	48
5.1.3. Loss of Community Structure and Identity	49
5.2. Government	49
5.2.1. Incompatibility with Managed Retreat	51
5.2.2. No Real Conversations	53
5.2.3. Incompatible Capacities and Frameworks	

5.3. Non-Governmental Organizations	55
5.3.1 Distrust of Government	55
5.3.2. Managed Retreat Terminology	58
5.4. Summary Table: Challenges for Managed Retreat	60
<b>Chapter 6: <i>Opportunities</i> for Managed Retreat on the Lower Eastern Shore</b>	<b>62</b>
6.1. Community Residents	62
6.1.1. Forced Retreat	62
6.1.2. Collaborative Planning and Community Agency	63
6.1.3. Building Trust and Relationships	65
6.2. Government	67
6.2.1. Catalyst or Threshold Events	67
6.2.2. Repurposing Existing Funding & Partnerships	68
6.2.3. Building Better Rapport with Communities	69
6.3. Non-Governmental Organizations	71
6.3.1. Non-Governmental Organizations Initiating Discussions	72
6.3.2. Establishing Mechanisms for Managed Retreat Actions	74
6.3.3. A Major Reframing	76
Summary Table: Opportunities for Managed Retreat	77
<b>Chapter 7: <i>Trust</i></b>	<b>79</b>
7.1. Community Residents	79
7.1.1. Trust	79
7.1.2. Distrust	80
7.2. Government	82
7.2.1. Trust	82
7.2.2. Distrust	83
7.3. Non-Governmental Organizations	85
7.3.1. Trust	85
7.3.2. Distrust	88
Summary Table: Trust on the Lower Eastern Shore	88
<b>Chapter 8: <i>Moving Forward</i></b>	<b>90</b>
8.1. Summary of Results	91
8.1.1. Understandings	91
8.1.2. Challenges	92
8.1.3. Opportunities	93
8.1.4. Trust	93
8.2. Discussion	95
8.2.1. People Understand Managed Retreat Differently	95
8.2.2. We Should Not Wait to Have Conversations	97
8.2.3. We Need to Address Inequity in Managed Retreat Planning	99
8.2.4. The Role of Trust in Managed Retreat	100
8.2.5. Better Retreat: Intentional, Equitable and Collaborative	102
8.3. Model for Future Managed Retreat	105
8.4. Conclusion	106
<b>Appendix 1.</b>	<b>107</b>
Recruitment Email	107

<b>Appendix 2.</b>	<b>108</b>
Interview Consent Form	108
<b>Appendix 3.</b>	<b>111</b>
Interview Instrument	111
<b>References</b>	<b>112</b>



## Chapter 1: Introduction

Relocation is a form of adaptation for vulnerable coastal and low-lying communities who face the serious possibility of displacement from their homes due to climate change impacts, such as changes in precipitation, extreme weather events and a rise in global sea level (Hamilton et al., 2016; Marino, 2015; Adams & Adger, 2013). Due to concerns about increasing sea levels and displacement from coastal homes, there has been a growing global interest in coordinated relocation inland, usually referred to as “managed retreat” in which the shoreline is allowed to move inland and individuals and communities who inhabit this coastal area move to higher land (Kulp & Strauss, 2019; Siders, Hino & Mach, 2019; Hino, Field & Mach, 2017; Neal, Bush & Pilkey, 2005). The goal of this adaptation strategy is to allow natural structures to lessen the impacts of climate change in coastal areas, while accommodating the populations that live in these areas through voluntary home buyouts. Managed retreat is also a highly controversial climate adaptation response; it is poorly understood and has presented significant challenges to equity in its documented applications (Siders, 2018; Mach et al., 2019).

Despite these issues, managed retreat is growing as an option for coastal climate change adaptation in places where holding off the sea through hazard management strategies is too cost-prohibitive or will no longer protect coastal inhabitants in places where displacement will likely be inevitable. Rural coastal communities around the world may have to disproportionately consider managed retreat as an option given their high social and physical vulnerability to rapidly changing coastal landscapes and because of their rich natural infrastructure that adaptation practitioners see as especially valuable for building coastal resilience. Additionally, as managed retreat is defined now, many rural coastal voices will not be heard, making this a socially inequitable and potentially exclusionary process. As climate change continues to impact coastal areas around the world, and the need to adapt becomes more urgent, it is important that a more grounded approach to managed retreat be explored to address issues of equity in climate adaptation.

Research around the topic of managed retreat has mainly focused on how it can be used as a hazard mitigation response to coastal flooding and Sea Level Rise (SLR), on trying to operationalize it in the context of governance and on its logistical and equity challenges (Hino, Field & Mach, 2017; Alexander, Anthony & Thomas, 2012; Siders 2018). Two areas that have

received less attention in the managed retreat research space are how different coastal stakeholders understand managed retreat and what the role of trust could be in a managed retreat process. These areas are important to study as managed retreat will be a complex multi-stakeholder process influenced by a variety of different coastal stakeholders and trust has the potential to drive more successful approaches to retreat.

This thesis research addresses gaps in the managed literature by using a coastal multi-stakeholder case-study on the Lower Eastern Shore of Maryland to explore *understandings* of managed retreat, potential *challenges* and *opportunities* and what the role of *trust* may be for managed retreat going forward. The research questions driving this work are:

- 1. How is managed retreat understood depending on coastal stakeholder group association?**
- 2. How might trust play a role or impact managed retreat processes?**

Understandings is a broad term for how individuals cognize specific topics or phenomena using their systems of knowledge. This can include individuals' values, perceptions and beliefs (Shi et al., 2016). For managed retreat, studying understandings allows for more comprehensive assessments of how different stakeholders conceptualize their environment and environmental change, which informs how they may perceive and respond to risks associated with their environment (Arbuckle, Morton & Hobbs, 2015; Leiserowitz, 2005). Trust is thought to be a powerful tool in multi-stakeholder environmental issues for addressing issues that may arise between stakeholder groups due to power differentials and differences in understandings (Stern & Coleman, 2015). This is because trust between stakeholder enables the creation of spaces where compliance, cooperation and collaboration can be established (Gray, Showm & Jordan, 2012; Davenport et al., 2007). Trust is of importance for studying complex socio-environment issues that involve a variety of stakeholders with different understandings, such as managed retreat, because it can both challenge and facilitate effective planning and implementation processes (Leahy & Anderson, 2008) In the case of potentially inequitable processes like managed retreat, trust also allows for the inclusion of typically excluded and marginalized voices in planning and decision-making spaces.

In this thesis, managed retreat is studied as a potential response to address SLR in physically and socially vulnerable rural coastal areas on the Lower Eastern Shore of Maryland. The Lower Eastern Shore of Maryland was selected for this research because the state of

Maryland is very vulnerable to rising waters due to the dual impacts of land subsidence and climate-change induced SLR (Boesch et al., 2018). Maryland has over 7,000 miles of coastline and upwards of four million coastal inhabitants (Maryland DNR, 2013); of those, rural coastal residents on the Lower Eastern Shore are amongst the most physically and socially vulnerable (Van Dolah, Miller Hesed, Paolisso, 2020; Miller Hesed & Ostergren, 2017; Bhattachan et al., 2017). Physical vulnerability in this case refers to exposure and risks to coastal hazards such as flooding and inundation, while social vulnerability includes the existing social inequities and issues of an area that could be exacerbated by physical vulnerabilities. In order to contextually explore managed retreat and trust in this area, an ethnographic approach was employed. The goal of this approach is to capture the understandings and perspectives of people within a specific place in order to situate these topics on the Lower Eastern Shore.

Within this ethnographic approach, the qualitative method of semi-structured interviews was utilized to collect information on understandings of managed retreat and trust from 23 individuals, sampled from a wide range of community residents, government agencies and non-governmental organizations (NGOs) on the Lower Eastern Shore. The first part of interviews focused on understanding managed retreat by thinking about what it would look like on the Lower Eastern Shore, as well as what challenges and opportunities may exist for it. The second part of interviews focused on understanding contextual trust on the Lower Eastern Shore and what this means for managed retreat processes of the future. Qualitative data analysis was conducted on the semi-structured interview data by using a system of codes, sub-codes and thematic analysis. In order to share findings from this research, this thesis is organized as follows:

Chapter 2 presents important background information collected during a review of relevant literature that was used to guide this research. This chapter includes an overview of climate impacts including SLR, rural coastal vulnerability on the Lower Eastern Shore, coastal adaptation options, managed retreat, understandings and trust in the context of natural resource management.

Chapter 3 presents a walk-through of the ethnographic and qualitative methods used to study managed retreat and trust in the context of the socio-ecological system of the Lower Eastern Shore of Maryland. This chapter includes a rationale for the conceptual and methodological approaches used in this research, followed by a description of the study site,

criteria for the study population, and an elaboration on the data collection methods and analysis process.

Chapter 4 presents the results from a multi-stakeholder ethnographic look at “Understandings of Managed Retreat” which includes how community residents, government and non-governmental interviewees define managed retreat, what they see as driving the process, and how supportive they are of managed retreat as an adaptation option. An analysis of understandings across these stakeholder groups indicates where there are similarities or divergences in understanding managed retreat, which can potentially highlight future challenges or opportunities for this process. A summary table at the end of this chapter summarizes the key findings from understandings.

Chapter 5 presents the results from a multi-stakeholder look at “Challenges and Concerns” to a managed retreat process on the Lower Eastern Shore. Thematic analyses reveal both general definitions and frameworks of challenges for managed retreat and specific challenges of concern by each stakeholder group. A summary table at the end of this chapter summarizes the key findings from challenges.

Chapter 6 presents the results from a multi-stakeholder look at “Opportunities and Benefits” to a managed retreat process on the Lower Eastern Shore. In this opportunities chapter, thematic analyses reveals both general definitions and frameworks for pathways in a managed retreat process as well as how stakeholders identify as specific and actionable opportunities for this process on the Lower Eastern Shore. A summary table at the end of this chapter summarizes the key data findings.

Chapter 7 presents the results from a multi-stakeholder look at “Trust” on the Lower Eastern Shore, which includes how stakeholders define trust and distrust, which people and groups they trust and distrust, and how to potentially build trust in these areas. Chapter 7 is a discussion of the key findings, with a focus on how the results of this research may contribute to future managed retreat discussions.

Chapter 8 provides a final discussion and concluding thoughts on this thesis research. This includes a brief summary of the rationale for the study, a summary of the findings from the Understandings, Challenges, Opportunities and Trust chapters, followed by a discussion of key takeaway points for future managed retreat work. This chapter identifies necessary considerations and recommended steps for facilitating managed retreat discussions, should they

be pursued on the Lower Eastern Shore. A conceptual diagram at the end of this chapter outlines potential guidelines for using this research to inform more effective and equitable retreat approaches in the future, that may also be applied to other coastal areas. Finally, the appendices at the end of the thesis include materials used during the data collection and analysis process.

## **Chapter 2: Coastal Climate Change, Adapting Through Retreat and the Lower Eastern Shore of Maryland**

Global climate change, driven primarily by a post-industrial increase in heat-trapping greenhouse gas emissions (GHGs), poses significant threats to socio-ecological systems (SES) around the world (IPCC, 2014; USGCRP, 2017). Physical threats of climate change include increased atmospheric and oceanic temperatures, changes in timing and severity of precipitation events, increased extreme weather events and an overall rise in global sea level (IPCC, 2014; USGCRP, 2017). Although each SES will experience these climatic changes differently due to the unique social, political, economic and environmental factors, all will feel pressure from these changes. Specifically, an overall rise in global sea level is one pressure from climate change that is predicted to have a wide range of long-term social and environmental implications.

Sea level rise (SLR) is defined as the global increase of sea level in relation to land masses. SLR is one of the most socially disruptive and transformative consequences of climate change (Hauer, Evans & Mishra, 2016; IPCC, 2014). Increase in sea level is driven by two central processes. The first is that water expands in volume as it gets warmer, a process referred to as thermal expansion; the second is that large bodies of ice in the form of glaciers and icesheets are lost in the process of melting (IPCC, 2014). Both of these processes occur as a result of increased atmospheric and oceanic temperatures, which is important to note because even if immediate compliance with global GHG reduction policy agreements are achieved, the residence time of GHGs, defined as the time that GHGs spend in the atmosphere, “lock us in” to certain levels of warming and, with it, a certain amount of increased sea levels (IPCC, 2014; Strauss, Kulp & Levermann, 2015).

Within the twentieth century, global mean sea level rose between 11-16 cm, and is predicted to increase by 0.3-2 meters within this century (IPCC, 2014; Dangendorf et al., 2017; Kulp & Strauss, 2019; Hauer, Evans & Mishra, 2016). The higher end of SLR estimates is associated with the collapse of polar ice sheets (DeConto & Pollard, 2016). As global climate change continues, these processes reinforce one another, and impact the land and people located near sea level, especially low-lying islands, and riverine and coastal communities (Bhattachan et al., 2017; Siders, 2018).

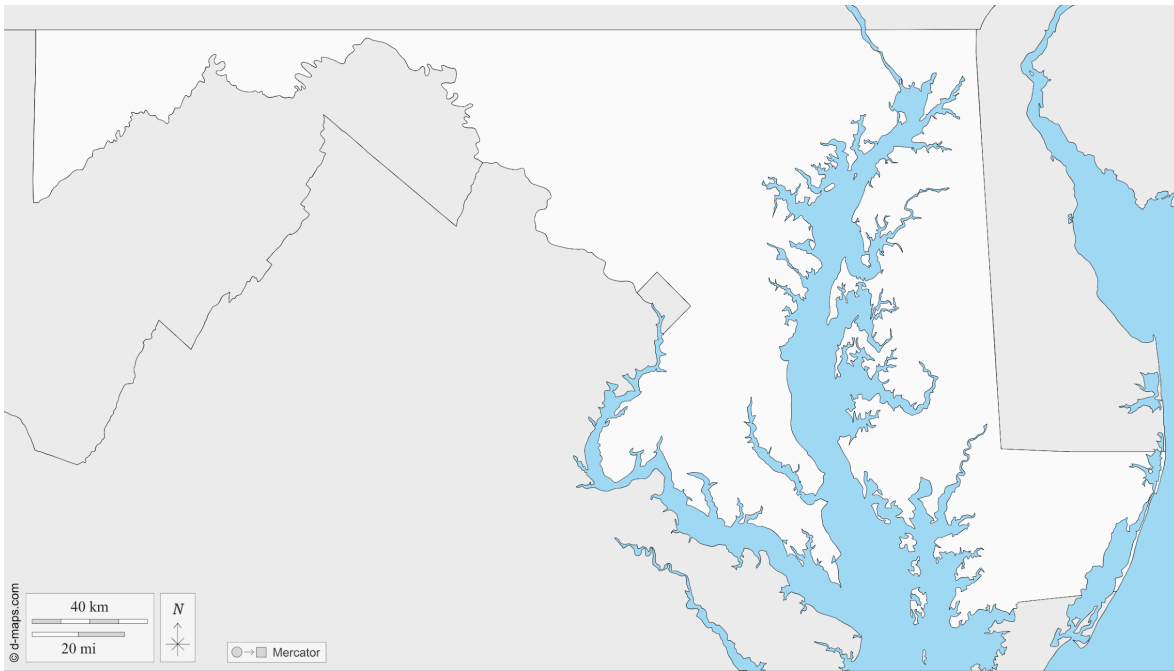
Low lying-islands, riverine and coastal regions are considered physically vulnerable to SLR as a result of their proximity to oceans, elevation of land and ratio of coastline to physically inhabitable area (Siders, 2018; Dannenberg et al., 2019). Recent models utilizing SLR and population growth data estimate that in the continental United States, anywhere between 4.2-13.1 million individuals living in coastal and low-lying areas are at risk of inundation due to SLR, with the east coast accounting for more than 70% of at-risk population (Hauer, Evans & Mishra, 2016). Furthermore, rural coastal areas, which make up a large portion of global coastal regions, tend to be home to marginalized and underserved communities who will be disproportionately impacted SLR (Martinich et al., 2013; Bhattachan et al., 2018; Siders, 2018). These communities have not only physical vulnerabilities to climate change issues but immense social vulnerabilities such as remoteness and less dedicated public resources, which will hinder their ability to successfully adapting to climate change. In the Atlantic coastal regions of the United States, approximately 200,000 socially vulnerable individuals currently reside in areas of high SLR risk (Martinich et al., 2013; Bhattachan et al., 2018). Climate change impacts such as SLR will likely exacerbate the social inequities that make rural communities vulnerable to begin with and perpetuate issues of environmental injustice.

Issues faced by coastal areas at high SLR risk include coastal erosion, saltwater intrusion, increased nuisance and extreme flooding events, and inundation of land, all worsened in instances of severe storms and extreme high tides that are also related to changes in climate (Dannenberg et al., 2019; IPCC, 2014). In coastal and low-lying regions, these threats may eventually make homes uninhabitable, leading to involuntary displacement from coastal areas and migration of both individuals and communities in response to climate change (Marino, 2018a; Strauss, Kulp & Levermann, 2015; Hamilton et al., 2016). Both planned and unplanned relocation from coastal areas due to SLR is very likely to occur even with aggressive GHG reductions, and to a greater extreme in scenarios of lesser GHG emission abatement (Hamilton et al., 2016; Strauss, Kulp & Levermann, 2015).

## **2.1. Maryland & Rural Coastal Vulnerability**

Maryland has 7,719 miles of tidal shoreline, much of which is located on the Eastern Shore, as shown in Map 1. Because of the topography of the state, much of this shoreline include low-lying urban and rural lands which makes it especially physically vulnerable to climate

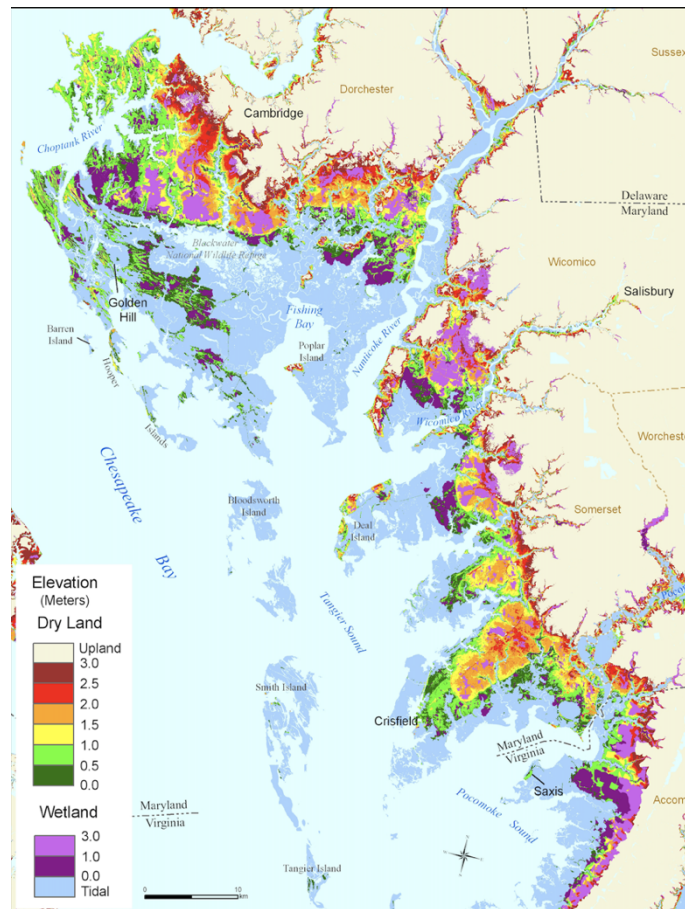
change issues due to a history of land subsidence as well as climate-driven increases in SLR (Maryland DNR, 2013; Boesch et al., 2013; Boesch et al., 2018). Sea level rise predictions for Maryland range between 40-130 centimeters or 1.3-4.3 feet by the year 2100. In higher emissions scenarios this rise could exceed almost 160 centimeters or 5.2 feet (Boesch et al., 2018). Some physical impacts of SLR are already apparent in coastal and low-lying areas of Maryland such as the Lower Eastern Shore, and take the shape of shoreline erosion, deterioration of tidal wetlands and saline contamination (Boesch et al., 2018).



**Map 1:** Map from open-access map site d-maps.com shows the state of Maryland in white, light blue shows water surrounding the state and gray shows surrounding states. The mainstem and tributaries of the Chesapeake Bay run down the middle of the state creating thousands of miles of shoreline; on the right of the state is the Atlantic Ocean (d-maps.com, N.D.).

Map 2 below, from a 2008 EPA study by Titus and Wang, shows an elevation map of some rural coastal areas of Maryland which indicates that this area is especially vulnerable to the physical impacts of SLR and related environmental pressures. Rural coastal communities along the Lower Eastern Shore of the Chesapeake Bay in Maryland face the additional issue of climate change exacerbating social vulnerabilities. Social vulnerabilities can be defined as the social characteristics and histories that contribute to making one individual or group more susceptible and less able to adapt to external pressures than others (Cutter et al., 2009; Lynn, MacKendrick & Donoghue, 2011).





**Map 2:** Map from the 2008 EPA Report “Maps of Lands Close to Sea Level along the Mid-Atlantic Coast” shows vulnerability of Lower Eastern Shore of Maryland to SLR. Light blue, purple and greens indicate the lowest lying land from tidal wetlands to 1 meter above sea level; common throughout the counties selected for the contextual managed retreat and trust study (Titus & Wang, 2008).

Social vulnerabilities are especially important to discuss in the context of climate change impacts such as SLR because these physical events of flooding or inundation can oftentimes magnify existing patterns of inequity through (1) uneven distribution of environmental risks and (2) of available resources to adapt to these risks (Adger & Kelly, 1999; Lynn, MacKendrick & Donoghue, 2011). While exposure to risks, or physical vulnerability, may be similar for many groups in a coastal area, it is those with the highest social vulnerability, and in turn the least social capacities to adapt, that will face the worst consequences of these impacts. In this way, social vulnerability is also a strong indicator of issues of inequity. Rural communities around the world typically have high social vulnerability to SLR due to their remoteness, their distance from decision-making government agencies and because of their overall lower socio-economic status (Bhattachan et al., 2018). For the Lower Eastern Shore, an area with a deep history known for its low-lying land and rural character, the following social vulnerabilities have been identified.

Rural areas of the Lower Eastern Shore tend to have small and dispersed populations, sometimes in unincorporated areas with limited access to economic, social and political resources (Hesed & Paolisso, 2015; Van Dolah, Hesed & Paolisso, 2020). With increasing exposure to physical impacts such as coastal flooding, limited access to resources make it significantly more difficult for these rural communities to continuously adapt to issues of rising water.

A history of disempowerment, or the process of systematically marginalizing groups based on social characteristics such as race or ethnicity, has also greatly contributed to the high social vulnerability of this area. For example, many African American communities on the Lower Eastern Shore are descendants of freed slaves who were historically relegated to flood-prone land, which has resulted in a region that could be characterized as residentially segregated (Paolisso et al., 2012). Studies conducted on the local vulnerability of these areas indicate that resources and government support after environmental hazard events are typically related to the demographic makeup of these residentially segregated areas (Hesed & Paolisso, 2015). These groups, like many other rural populations of the Lower Eastern Shore, have also had to historically base their livelihood on the natural resources available to them, being near the water (Van Dolah, Hesed & Paolisso, 2020). Their proximity to water and dependence on local resources for livelihood in a coastal area increasingly threatened by climate change make them especially socially vulnerable to SLR.

The aging demographic of the Lower Eastern Shore is also an important component of this area's social vulnerability. As government resources and information for accessing these resources are increasingly shared through online platforms, and as government processes are oftentimes difficult to navigate or time-intensive to engage in, aging populations may face further barriers to accessing adaptation resources that could reduce their social vulnerability (Hesed & Paolisso, 2015). Additionally, inadequate education and employment opportunities which have led to the dispersal of younger populations from these areas contributes to the high social vulnerability of the Lower Eastern Shore (Van Dolah, Hesed & Paolisso, 2020). While there are likely many more community-specific factors that contribute to social vulnerability, these are listed as the most common throughout the literature for this region.

Compounded physical and social vulnerabilities can result in limited means to successfully adapt to climate change. With consideration of the highly vulnerable socio-

ecological landscape of the Lower Eastern Shore, a need for climate change adaptation strategies has become clear, but which adaptation plan will be most appropriate and how its success will be measured has yet to be determined.

## **2.2. Adaptation Options: Accommodate, Protect, Retreat**

The well-known adaptation responses to climate change which exist in coastal adaptation theory are based on the three principles of accommodating, protecting and retreating (Gibbs 2016). Accommodating and protecting principles are based on the idea of staying in place. The first response is to armor shores with protective structures such as seawalls, dikes, revetments and bulkheads. This response protects land uses, but tightens the space for existing wetlands and beaches, making it a shorter-term solution (Nuckols et al., 2010; Rulleau & Rey-Valette 2017). The second response is to elevate existing structures such as coastal residences and public infrastructure. This response protects both land uses and natural features but can be very costly and can result in issues of inequity due to a higher cost of implementation and a prioritization of urbanized areas with higher property values (Nuckols et al., 2010; Bhattacan et al., 2018).

The third response is a form of migration in which humans retreat inland, which can be done on an individual level as well as on a larger collective level. This permanent solution to the issue of sea-level rise in coastal areas reduces long term risks to climate change, but has many social implications as far as inequity, private property rights and loss of culturally significant land (Nuckols et al., 2010; IPCC, 2014; Rulleau & Rey-Valette, 2017). Analyses of social vulnerability and SLR impacts suggest that adaptation responses like armoring shores and elevating existing structures will be more feasible for areas of high SLR risk but low social vulnerability, whereas areas with high SLR risk and high social vulnerability will have less ability to respond in these ways that would allow them to stay in place (Martinich et al., 2013). Within this thesis, the third option of retreat is examined, focusing specifically on managed retreat as a potential response to address SLR in physically and socially vulnerable rural coastal areas on the Lower Eastern Shore.

## **2.3. Managed Retreat and Equity Concerns**

Managed retreat is a climate change adaptation option to physically relocate coastal communities and infrastructure to higher ground (Siders, 2018; Neal, Bush & Pilkey, 2005). This

option may be considered in areas with current risks to SLR as well as in areas which are predicted to most likely be inundated in the future (Seebauer & Winkler, 2020). In some cases, this option is a preventive mechanism to avoid circumstances where individuals have to live with hazardous environmental conditions, while in other cases it is a threshold response for coastal residents who are no longer able to safely and productively inhabit a coastal area. The goal of this adaptation response is to minimize long-term financial costs for coastal land managers and residents from recurring environmental hazards, while preserving important natural and human features of an area (Neal, Bush & Pilkey, 2005; Hino, Field & Mach, 2017).

By allowing wetland and sea migration inland, managed retreat is considered a “nature-based solution”. Nature-based solutions emphasize an ecosystem's natural function in order to increase human, ecosystem, and infrastructure resilience to environmental issues such as climate change (Kabisch et al., 2016). In an ideal scenario, this option benefits natural habitats because marshes are allowed to advance inland, buffering the impacts of hazards through naturally occurring processes; whereas individuals and communities benefit from being safely relocated to locations that preserve important social and environmental features of the places in which they previously lived. Although managed retreat can be an effective way of managing coastal hazard exposure in places where responses of armoring or elevating do not address the full extent of the issues, this process is actually a very controversial method for adapting to climate change.

In order to understand why managed retreat is so controversial, is it important to understand how it will likely occur in coastal areas in the United States. While there are many policy tools that may be considered to aid in the managed retreat of people away from vulnerable coastlines, the primary policy tool used in the United States to move individuals away from hazards is voluntary buyouts (Marino, 2018a; Siders, 2019; Elliott, Brown & Loughran, 2020). In this process, a state or municipal government will offer to purchase a property that is physically vulnerable to natural hazards such as nuisance or extreme flooding, so that coastal residents are able to voluntarily relocate to higher and less vulnerable land (Binder & Greer, 2016; Mach et al., 2019). Individuals are able to decide whether or not to accept the offer presented to them by the municipal or state government. Buyouts are commonly implemented as state administered plans which use funds from a single or combination of federal agencies. These may include the Federal Emergency Management Agency, the Department of Housing and Urban Development, and the CDBG-Disaster Recovery (Siders, 2019). Buyouts can be lengthy

in time, lasting anywhere between 18 months to several years, and homeowners may be offered either “pre” or “post” disaster fair market value on their homes. This means that the amount offered for the home may be much lower than original purchase price in cases where the overall value of a property has been lowered due to disasters or continued flooding (Moore & Weber 2019; Siders, 2019).

Additionally, those who are wealthiest, and therefore the least socially vulnerable, tend to have the most access to larger payouts from these programs because of their market value process (Marino, 2018a). This favoring of higher payouts in wealthier areas creates a type of adaptation privilege that marginalized groups do not have access to, such as those who live in affordable housing (Marino, 2018a; Elliott, Brown & Loughran, 2020). In the case of managed retreat, adaptation privilege looks like preferable opportunities and resources made available to people who are less socially vulnerable to climate change, leaving those who are more socially vulnerable with less agency to make decisions that favor them in the longer-term.

Although these programs are intended to reduce exposure to hazards for coastal residents, buyouts are also linked to a number of social equity challenges (Marino, 2018b; Siders, 2019; Supekar, 2020). Included in this section are some of the most common equity challenges that are tied to voluntary buyouts identified throughout the adaptation literature, which highlights the complex relationship between social equity and managed retreat that exists within government buyout programs. For example, funds for relocation through buyouts are typically limited and the process itself is very cost-intensive, which means that government entities who administer buyout programs utilize cost-benefit analyses to evaluate the most cost-effective areas for these programs, such as low-density, lower-value rural or urban affordable housing (Siders, 2019). This creates a concern for equity as many historically marginalized communities have been intentionally situated and kept in lower-value, flood-prone or disaster-prone lands through the legacy of enslavement and racism in the United States, which shaped the historic practices of redlining that still influence housing practices today (Rothstein, 2017; Siders, 2019; Elliott, Brown & Loughran, 2020).

Another prominent challenge to equity through buyouts is that if offered a federally funded buyout, homeowners usually have to decide between accepting the buyout or bringing their homes up to code in compliance with management regulations for that specific floodplain (Siders, 2019). Bringing a home up to code by elevating or armoring a property, for example,

creates an unjust situation where only wealthier individuals can afford to pursue the option of adapting in place. Additionally, since buyouts require that the acquired property not be developed in the future, the county in which these are located potentially loses a portion of their tax base (Van Dolah et al., 2020). This is especially disconcerting in rural areas that have smaller populations and already limited public resources, where buyouts will most likely exacerbate existing social issues through additional financial constraints (Marino, 2018a). Buyout programs can also further create challenges to equity as they typically occur through individual property acquisition, rather than community level acquisitions. This is problematic because it can result in the loss of community structures and identity, in turn reducing many coastal communities' overall ability to adapt in areas where people rely on the larger community to support one another and to share resources (Marino, 2018a; Supekar, 2019). Although it is unclear if voluntary buyout programs intentionally or unintentionally target marginalized communities, it is a concerning reality that must be considered for any future managed retreat discussions or plans.

#### **2.4. Understandings and Multi-Stakeholder Research**

Previous research around the topic of managed retreat has mainly focused on how it can be used to mitigate impacts from coastal hazards, on trying to operationalize it in the context of policy and governance spaces, and on logistical challenges and of concerns with equity within retreat processes (Hino, Field & Mach, 2017; Alexander, Anthony & Thomas, 2012; Siders, 2019). One of the rationales for the research presented in this thesis is the lack of studies on multi-stakeholder understandings on the topic of managed retreat, despite it being a multi-stakeholder process where a variety of groups will bring their understandings, priorities, concerns and histories with them to planning and decision-making tables.

Multi-stakeholder studies frame a particular issue by looking at a subset of relevant groups, focusing on including more than just those who hold governmental or leadership positions (Keskitalo, 2004). These studies often occur in natural resource management when researchers want to learn more about poorly understood or controversial topics such as climate change with an emphasis on understanding why stakeholder groups hold such different views on them. A need for documenting and analyzing different understandings is essential for multi-stakeholder approaches.

*Understandings* is the term used in this research that refers to how individuals cognize specific environmental topics or phenomena using their systems of knowledge (Shi et al., 2016). Environmental knowledge can be shaped by a combination of individual's values, perceptions, experiences and beliefs (Paolisso, 2002). Central to studies on environmental understandings, is the idea that knowledge can be produced in a variety of ways which includes experiential, local, scientific or a combination of these (Phillipson et al., 2012). In dealing with complex environmental topics where there is collaboration between a variety of stakeholders, there is likely a wide range of understandings of the issue based on differences in environmental knowledge across stakeholder groups. For managed retreat, studying understandings allows for a more comprehensive picture of how different coastal stakeholders conceptualize their coastal environment and how it changes, which informs how they may perceive and be willing to respond to risks associated with coastal environments, such as SLR (Arbuckle, Morton & Hobbs, 2015; Leiserowitz, 2005).

For a topic like managed retreat, it is especially likely that concerns and priorities will differ across different coastal stakeholder groups, which may lead to differing expectations and opposition or pushback from those who do not feel that their concerns or priorities are being heard. A better understanding of where rural coastal stakeholders diverge in their understandings is important for future managed retreat where specific topics of difference can be given more weight in discussions or planning processes. This type of research approach not only reveals where stakeholders may disagree on a particular topic but can also show where there is overlap in their understandings, priorities and concerns. A better understanding of these stakeholder overlaps has the potential to create common ground between a variety of stakeholders and can lead to better discussion and potential collaboration across groups on managed retreat in the future.

Additionally, this type of research has the potential to democratize sometimes exclusionary academic and political spaces, thereby creating opportunities for community residents to share their thoughts on topics in ways that may inform social or policy change. Documenting multi-stakeholder understandings for managed retreat on the Lower Eastern Shore has the potential to inform how to approach and manage this process in a more effective and equitable way (Paolisso, 2002).

## 2.5. Trust and Managed Retreat

For natural resource management and climate adaptation planning, the topics of trust and engagement have emerged as key concepts that both challenge and facilitate effective planning and implementation processes (Leahy & Anderson, 2008; Gray, Shwom & Jordan, 2012; Smith et al., 2012). *Trust*, a concept developed in the behavioral and social sciences, has been adapted and increasingly used in environmental and natural resource management contexts. In these contexts, trust is suggested to be a powerful tool to meet management goals and to address issues of distrust that arise from power differentials between stakeholder groups (Stern & Coleman, 2015). This is because trust between stakeholder groups reduces conflict and disorder, allowing for a space where compliance, cooperation and collaboration within management activities can be established (Davenport et al., 2007; Gray, Shwom & Jordan, 2012). For this reason, when complex and highly contested climate adaptation responses such as managed retreat are proposed, defining and understanding the factors that underpin trust in a specific area should be the first step in developing effective planning and implementation processes.

The degree or level to which individuals and groups trust institutional actors such as natural resource managers can be based on a variety of factors including shared values, trust in federal government, familiarity and frequency of interactions with natural resource managers, scale and proximity of a project, history between stakeholder groups, social trust or the general ability to trust others and perceived efficacy of implementing parties (Leahy & Anderson, 2008; Smith et al., 2012; Gray, Shwom & Jordan, 2012). Furthermore, in the context of natural resource management, trust has been operationalized in many different ways and can take many different forms, each with different underlying factors (Stern & Coleman, 2015). In managed retreat, different stakeholders will have varying degrees of trust of one another, and definitions of trust will vary. A place-based or context specific understanding of trust is needed in any area studied where natural resource management efforts are occurring.

In some cases, increased trust among stakeholder groups is associated with an increased willingness to collaborate and engage on environmental topics ranging from watershed and water resource management, agricultural climate adaptation and fisheries management (Leahy & Anderson, 2008; Arbuckle, Morton & Hobbs, 2015; Gray, Shwom & Jordan, 2012; Hamm et al., 2016). This positive relationship can be explained by reciprocal trust which ensures discussion



and collaboration is mutually beneficial for both parties. For management and planning, this means less expenditures, litigation and stalled planning efforts in the areas in which they are working (Davenport et al. 2007; Smith et al., 2012). For communities, this means that their voices, concerns and priorities are being acknowledged and integrated into the planning process.

In other cases, increased trust in institutional actors has been shown to decrease willingness to collaborate and engage on topics. In these situations, there is so much trust in the managers and planners that individuals do not feel their engagement on the topic is necessary (Smith et al., 2012). Although this seems to be the less common relationship between trust and engagement, it highlights the complexity of trust for an individual socio-ecological system. It also indicates a need to study trust contextually in this area with regard to the topic of managed retreat. The success of any potential managed retreat process on the Lower Eastern Shore will most likely be influenced by the levels of trust between implementers, recipient coastal communities, and other impacted or involved groups. Multi-stakeholder and place-specific understandings of trust, like those explored in this study, allow for the identification of sources of trust, distrust and trust-building pathways.

While understandings, challenges and opportunities can help us better comprehend the multiple dimensions of managed retreat in a rural coastal area, an exploration of trust and its relation to managed retreat may help us build better understandings and address challenges, and leverage opportunities to effectively manage retreat in the future.

## **Chapter 3: Methods**

### **3.1. Conceptual Approach: Socio-Ecological Systems**

To answer the research questions of what multi-stakeholder managed retreat may look like and what the role of trust may be on the Lower Eastern Shore, it is important to understand the specific sociopolitical context in which the planning and implementation process occurs. In order to do this, the conceptual approach of socio-ecological systems (SES) is employed in order to integrate understandings of humans who are situated in a particular ecological system with an emphasis on how trust is defined by social and political actors in climate change adaptation planning (Adger, 2010; Bhattachan et al., 2018; Cote & Nightingale, 2012).

A SES approach is a conceptual systems framework that links humans and their environment, and views humans as components of ecological systems, and vice versa (Folke, 2006; Ostrom, 2009). This framework is based on the concept that social systems and ecological systems are components or subsystems of a larger complex system, and that social and environmental processes influence one another through linkages between resources, resource users, public infrastructure and providers of public infrastructure (Anderies, Janssen & Ostrom, 2004; Ostrom, 2009; Collins et al., 2011). These influencing processes can include but are not limited to cultural, political, ecological, and biophysical processes, which can all serve as drivers of change within a given system (Ostrom, 2009).

In the case of managed retreat, a SES approach examines the human components of the system, including coastal residents, community groups, government and NGO representatives to determine how they influence and are influenced by ecological and environmental components of a system. Disturbances such as climate change and SLR can impact various parts of the larger system, which means that climate change adaptation plans such as managed retreat need to consider both the human and environmental responses of the system. A SES approach reorients the traditional ecological or social system frameworks to examine human values, beliefs and experiences of environmental change in understanding what processes like managed retreat will mean for the Lower Eastern Shore of Maryland.

It is important to note that while a SES framework may successfully integrate the larger dimensions of humans and the environment, it does not always consider the role of politics or power dynamics as drivers of change within human-environmental systems, nor does it necessarily account for inequality or cultural context of a specific area (Bhattachan et al., 2018; Cote and Nightingale, 2012). Changes in climate apply pressure onto SES, and distribution of risks are uneven in that typically marginalized and disenfranchised people and communities around the world will receive the first and worst of climate impacts (Bhattachan et al., 2018; IPCC, 2014; Siders, 2018; Thomas et al., 2019). Unequal access and distribution of resources for adaptation as well as increased likelihood of exposure to environmental hazards from climate change will likely exacerbate patterns of inequality based on social differences including but not limited to race, socio-economic class, age, ethnicity and gender (Thomas & Twyman, 2005; Thomas et al., 2018; Martinich et al., 2013; Siders, 2019). Because of this critique of the SES conceptual framework, there is an intentional focus on equity in relation to managed retreat processes throughout this research, with purposeful sampling of individuals with different levels of political power within the rural coastal SES of the Lower Eastern Shore.

### **3.2. Methodological Approach: Qualitative Methods**

This research utilized broadly ethnographic, or place-specific qualitative methods to study the complex topics of managed retreat and trust on the Lower Eastern Shore. Ethnographic qualitative methods may range from textual analysis of letters and narratives to field research notes covering research lasting from days to years. In this research, online field work was conducted remotely due to the ongoing COVID-19 pandemic. The goal of qualitative methods is for the researcher to use data collection strategies such as participant observation or interviews to break open a phenomenon from the bottom-up and to explore, document and describe all that exists within it in a specific social or cultural setting (Mayan, 2016).

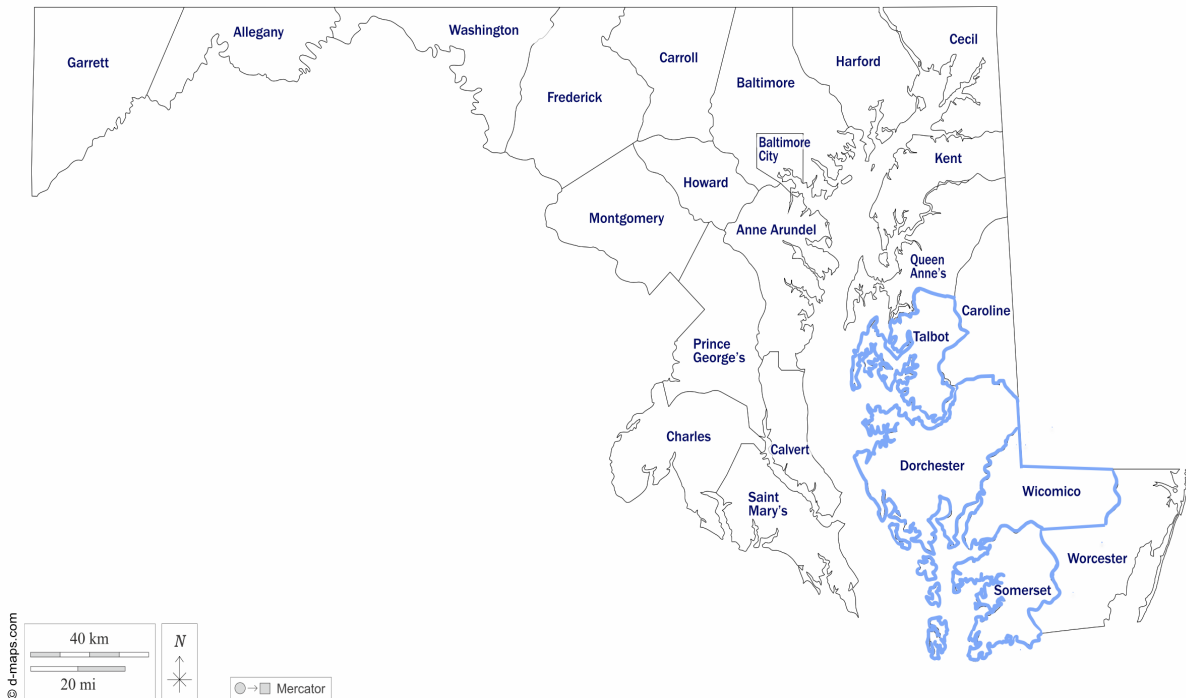
In contrast to the experimental nature of quantitative research, qualitative research often utilizes case studies or studies a topic in a specific social or cultural setting. Focusing on a specific place, phenomena may be explored in a more natural human environment as opposed to a controlled experiment or laboratory setting. Since qualitative research is also more exploratory, formal hypothesis testing is often not undertaken. The main goal of research using qualitative methods is not to test whether assumptions about a specific issue or phenomenon are correct, but

rather to use data collection tools such as participant observation, focus groups, community-mapping and interviews to document and explore phenomena with as much complexity as possible (Mayan, 2016). In the case of managed retreat, this leads to emphasizing and focusing on a wide range of understandings, challenges, opportunities and trust. It is also common in qualitative methods to purposefully sample groups that relate to an issue or to a place that is studied (Bernard, 2017). For managed retreat, this means it is important to purposefully sample all the groups that may be involved in a managed retreat process on the Lower Eastern Shore in order to best capture relevant data related to this particular issue in this particular place.

For poorly understood and controversial topics like managed retreat, a deeper understanding necessitates a place-based qualitative research methodology to better understand the contextual factors that constrain or enable climate change adaptation for the Lower Eastern Shore. Qualitative methods are valuable and necessary because they take an inductive approach where the result is a better understanding of complex SES where people experiencing phenomena or issues are centered throughout the research.

### **3.3. Site Selection & Study Population**

**Study Site Selection:** The Lower Eastern Shore of Maryland was selected as the site for this research as it is highly vulnerable to a variety of environmental pressures, especially of the combined pressures of SLR and land subsidence. While the state of Maryland as a whole is susceptible to these issues, the Lower Eastern Shore consists of lower lying land and rural coastal populations who will most likely be the first candidates for a managed retreat process in the state. Map 3, below, shows the selected counties for this study: Talbot, Dorchester, Wicomico and Somerset counties. Worcester, which is typically categorized as being part of the Lower Eastern Shore, is excluded in this study due to two key differences. Unlike the four counties that have been included, all which border the Chesapeake Bay, Worcester borders the Atlantic coast, and therefore faces different environmental pressures. It also has one of the largest tourist hubs in Maryland, Ocean City, which gives Worcester a more urban landscape and potentially stronger economic incentives to use public resources to stay in place. While this county still faces significant environmental pressures and challenges to adapting, this particular study focuses on the more rural Chesapeake Bay facing counties of the Lower Eastern Shore.



**Map 3:** County map from open-access map site d-maps.com shows the counties within the state of Maryland. The light blue outline shows the selected counties for this study on the Lower Eastern Shore which includes Talbot County as the most Northern county, followed by Dorchester, Wicomico and Somerset counties. (d-maps.com, N.D.).

**Study Population Criteria:** The study population consisted of a variety of Lower Eastern Shore stakeholders who would likely be involved in a managed retreat process in order to give a more comprehensive understanding of these topics within this study area. Stakeholder groups included community residents, county, state and federal government, local and national non-profits, researchers, university-affiliated groups and groups that work in the climate adaptation domain. These potential stakeholder groups were identified prior to interviews based on a review of stakeholder engagement and participation in the managed retreat literature. They were also identified in interviews through participants with knowledge of this area and of governance processes of the area. Only individuals over the age of 18 were contacted and interviewed.

### 3.4. Data Collection

The following methods described for this study were approved by the University of Maryland’s Institutional Review Board (IRB Project 1612393-1, “Understanding Managed Retreat through a Multi-Stakeholder Lens: A Case Study on the Eastern Shore of Maryland”). The Institutional Review Board is a research ethics committee for any research conducted with human

participants. They conduct an independent review of proposed research with the ultimate goal of protecting human research participants (Grady, 2015). In accordance with Institutional Review Board guidelines, all study participants were provided a consent form prior to interviews that described the study's purpose, procedures, minimal risks, benefits, confidentiality measures as well as their rights as participants to withdraw from the study at any time (See Appendix 2.).

**Participant Recruitment:** Initial stakeholders were identified through a preliminary search on publicly available contact information for individuals who fit the study population criteria on the Lower Eastern Shore. Following this initial contact identification, the method of snowball sampling or utilizing existing networks of initial contact was used to identify other relevant study participants (Noy, 2008). Individuals were only contacted if their contact information was publicly available or if they gave an initial contact permission to make an email or phone introduction. Participants were contacted by email with a standard recruitment email that explained the purpose of the project and why they were being contacted to participate (See Appendix 1.).

From August 2020 to January 2021, a total of 37 individuals were contacted through initial and snowball sampling periods. Out of those 37, 23 agreed to participate and were scheduled for an interview. Within the 14 individuals contacted who did not agree to an interview, ten did not respond to an initial or follow-up email and the other four declined. Of the 14 who did not participate, four were community residents, three worked for county government, four worked for state government, and three fell into the NGO group with roles of researchers and environmental nonprofit work. Those who declined provided reasons such as being too busy in their work or personal schedules. One county government contact who had recently been hired declined because they felt it would not be appropriate to discuss the topic of managed retreat.

It is important to note that because this field work was conducted fully online (through email, phone and zoom platforms) participant recruitment of community residents was difficult and resulted in low recruitment numbers of this particular group. This topic is a contentious and sensitive topic for many in this area, and there were limitations to the social network that was able to be accessed in the initial and snowball sampling periods as a result. For similar research in the future, it is recommended that in-person recruitments and interviews be conducted to increase community resident sample size.

**Semi-Structured Interviews:** Due to COVID-19 limitations on in-person research, interviews were conducted either on the video-conferencing software Zoom or through phone calls. An electronic copy of the consent form (See Appendix 2.) was provided to all study participants by email no less than one week in advance of the interview. Interviews began only after verbal consent was obtained and recorded. Interviews were recorded using both an audio-recording device and the automatic transcription service Otter.ai.

Interviews followed a semi-structured interview format. This common qualitative approach uses a standard set of open-ended questions which allow for interviewees to discuss a variety of points within a topic area (Mayan, 2016; Louise, Barriball & While, 1994). The advantage of this approach is that interviewees can engage in a wide range of discussions on a specific topic, with clarifying probes from the interviewer, which allows for a deeper understanding of the topic. The same questions are asked to all participants, but language can be adapted to each interviewee. The more interactive discussion format of a semi-structured interview assists in the establishment of rapport between interviewer and interviewee increasing the reliability and validity of data collected as well as allowing for a wider range of topics discussed as opposed to a survey or a more structured interview approach (Louise, Barriball & While, 1994).

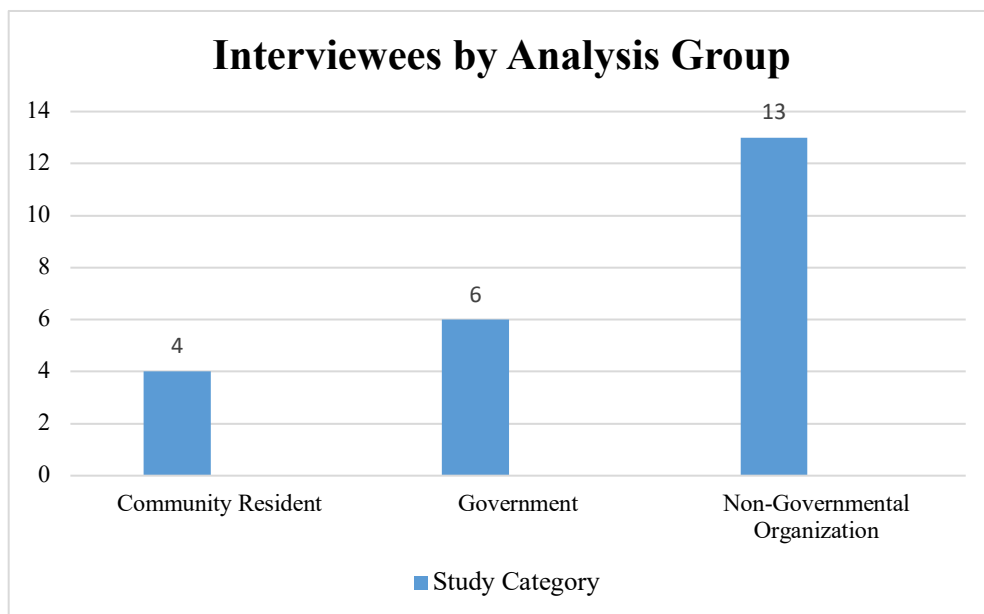
The semi-structured interview tool used for this study consisted of 15 open-ended questions on managed retreat and trust. The questions focused on defining managed retreat, thinking about what it might look like on the Lower Eastern Shore, challenges and concerns, potential benefits or opportunities, defining trust, identifying trusted and distrusted people and qualities as well as thinking about connections between trust and managed retreat (See Appendix 3.). From the recorded interviews (N=23), over 26 hours of audio data were collected. The automatic transcripts generated from the audio recordings by the software Otter.ai were then verified for accuracy by listening to audio recordings and correcting any mistakes found in the original transcription.

**Data Management:** All interview information collected throughout this study was made anonymous to those not listed as principal investigators on this project. In all spreadsheets and notes produced by this study, participant's names were replaced with a code designated (e.g.

ABC1) through an identification key to ensure this confidentiality. No identifying information is included in the writing of this thesis or for any other future or external use of project data. Project data including interview notes, audio recordings, and transcripts were stored in a password protected computer. As a backup, project data was also stored on a password protected shared drive available only to the principal investigator and the direct research advisors.

### 3.5. Analysis

**Analysis Groups:** The 23 interviewees were categorized into one of three stakeholder groups: community residents, government officials, or NGOs for the purposes of analysis. Although this categorization of participants was used throughout the study, it is important to note that many interviewees naturally fall into more than a single category (e.g. a person interviewed from the perspective of a local non-profit or government agency who is also a community resident). In the analysis, four interviewees were categorized as community residents; however, there were additional interviewees who worked in governmental or NGO roles who also identified as community residents. The four additional community residents that were put into the government and NGO groups for the purposes of analysis were categorized in this way because their responses during interviews reflected their thoughts from the perspective of their agency or organization.



**Figure 1.** The bar graph above displays the analysis categories that study participants fell within. Due to a need to compare and analyze data across groups, interviewees were categorized into a single grouping for the primary



perspective they shared throughout the interview. Interviewees were grouped into the following categories: Community Residents (N=4), Government (N=6) and Non-Governmental Organizations (N=13).

**Coding & MAXQDA:** Coding is the process of using a system of labels to overlay an organizational grid over qualitative data. This allows the researcher to look at segments of data systematically to answer specific research questions (Rädiker & Kuckartz, 2020). Codes, or labels, are usually keywords or short key-phrases that are used to answer a particular research question. Definitions and criteria are created to determine what is allowed to be coded by each code label. This step assures consistency in coding data throughout the analysis process. Coding is typically done through qualitative data analysis software where transcripts from interviews are analyzed by assigning codes to segments of qualitative text which can vary in length. In this research, MAXQDA was used, which allowed for coding, analysis and visuals to be developed all within the software. To create a code system for this study, the research questions and interview instrument were reviewed, a total of four codes were developed (See Table 1.).

Code	Definition & Criteria	# of Coded Segments
<b>1. Understandings of Managed Retreat</b>	How people define, explain, feel and think about managed retreat. This code explores how people are conceptualizing this process in general and on the Lower Eastern Shore.	254
<b>2. Challenges &amp; Concerns</b>	What people see as the main challenges, concerns or potential negative impacts from a managed retreat process on the Lower Eastern Shore. Impacts may include social, natural, physical, economic, health, etc. This can be for themselves, their stakeholder group, the environment or otherwise relevant impacts.	232
<b>3. Opportunities &amp; Benefits</b>	What people see as the main opportunities, benefits or positive impacts of a managed retreat process on the Lower Eastern Shore. Impacts may include social, natural, physical, economic, health, etc. This can be for themselves, their stakeholder group, the environment or otherwise relevant impacts.	141
<b>4. Contextual Trust</b>	How people define trust and distrust on the Lower Eastern Shore. This can include factors that contribute to trust or distrust, who are trusted and distrusted individuals or groups, and how can trust be built or lost for stakeholders on the Lower Eastern Shore.	143

**Table 1.** This table displays the four codes developed to explore managed retreat and trust contextually on the Lower Eastern Shore; these include Understandings of managed retreat, Challenges & Concerns,

Opportunities & Benefits and Contextual trust. Next to each code are the definitions and criteria that were used to determine which segments to code as well as the number of times each code was used.

**Thematic Analysis:** After the coding process of organizing and categorizing the qualitative data, summary and thematic analysis were conducted. Using the analysis tools on MAXQDA, each code was analyzed by reviewing and synthesizing its coded segments on an individual level by interviewee, which resulted in 23 individual summaries per code. These code summaries by interviewee allowed for more concise group level summaries to be created, using the analysis stakeholder groups: community residents, government and NGOs. As both individual and group code summaries were reviewed, themes, or underlying ideas that were common throughout a group were organized into the following chapters as summaries of the research results.

Throughout these chapters, themes are presented with qualitative descriptors. This means that because the questions in interviews were open-ended, the results sections are less focused on frequency of coded segments or relative importance of specific segments and more about presenting the range of views and underlying themes that emerged throughout interviews.

## **Chapter 4: *Understandings of Managed Retreat on the Lower Eastern Shore***

This chapter presents the key findings from the understandings section of this study for the three stakeholder groups: community residents, government, and NGOs. A comparative look at understandings, a broad term used to describe individual's knowledge, perceptions, and values around a particular topic, is essential as managed retreat will be a process planned and implemented by a variety of stakeholder groups, who will each likely have their own understandings and expectations of the process. A comparative look at understandings between the three stakeholder groups also reveals how stakeholders overlap and diverge in their understandings on managed retreat, potentially identifying future challenges or opportunities for this process.

### **4.1. Community Residents**

Although community residents sampled from the Lower Eastern Shore had different thoughts, perspectives and opinions about the specifics of managed retreat, the following themes that frame managed retreat as an unnecessary outside process were common throughout all interviews.

#### 4.1.1. A Forced Process with an Outside Agenda

Community residents viewed managed retreat as being an idea or plan to move people out of their homes that is proposed and sometimes forced onto coastal communities by parties outside of the community itself, usually by some form of government entity. This perception of managed retreat as a process brought into a community by outsiders emphasized enforcement and regulation as significant components of the process. This group of interviewees also mentioned that this outside process was likely based on the motives or agendas of these outside parties. One Somerset community resident provides their definition for managed retreat: "I would explain it as forced retreat." Another Talbot community resident shares a similar sentiment:

"By saying, managed, it smacks authority, and being told what to do. By using the word retreat, it means defeat. So, we'll leave it at that."

During interviews, some residents brought up personal experiences in which access to past planning information had not been shared with their community despite having a direct impact on them, suggesting that a managed retreat process initiated by outsiders may happen in a similar way. Although personal experiences with flooding or environmental changes such as erosion and nuisance tides were discussed, most community residents did not see managed retreat as driven by hazard mitigation. Instead, they saw outside motives or agendas driving this process, which were not completely clear to them or at least not actively being shared with residents. One Somerset community resident questioned the agendas of those managing retreat, which they felt was being pursued far too early:

“And you know, from a government standpoint if something came and wiped the place out and they wanted to buy people out, how long would it take the government to come up with a couple million dollars and divide it up? You know, I could pull that off if you gave me the money to do it in like a month. So, I don't know why it is, you know?”

Interviewees suspected motives for retreat might include forcing residents away to allow for profitable development of the land that would be left behind, that government or other outside entities want to protect or create habitat for birds or other species, and even as a means to validate beliefs held by climate scientists with respect to SLR projections for the Chesapeake Bay. One Dorchester interviewee discussed reservations about managed retreat due to this lack of transparency in communication and motives:

“So, it just seems odd that people are making plans there but at the same time telling people to leave. So, you know, I just perceive that there are plans and it doesn't include the people... And that, you know, there are alternatives and hidden agendas. It doesn't make people feel comfortable, you know?”

In discussing unknown motivations, community residents also questioned why their particular communities would be targeted by these outside parties driving retreat. Some believed they would likely be targets because their communities may not have the means to adapt in place, making them the default for these types of plans. One Talbot community resident questions why this may be, “I think, who benefits? Who loses? Who pays? And why?”. Community residents from historically African American communities along the shorelines of

Dorchester County had similar concerns about their communities as potential targets for outside agendas under the guise of managed retreat. One interviewee from this county discussed what they saw as generally occurring in nearby communities:

“And then actually in some places, there have been African American communities that were told, you know, this place is just basically going down, and fast. And so, land is dirt cheap, and then twenty to thirty years later, there's you know, five thousand square foot mansions were built on that same property.”

#### 4.1.2. We Know Our Environmental Risks, This Is Our Choice

This view of managed retreat as an outside process is further explained when interviewees discussed how the desire or need for managed retreat was not coming from within the community. Risk management is a decision they believe belongs to them and to their communities, not to outside entities. They also explained that the small risks they deal with currently do not outweigh the value they see in living in these places, especially for those whose livelihood or history is closely tied to being near the water. One Dorchester resident talked about people in their community who know the risks of living by the water and voluntarily accept that risk:

“Many of them in the area, maybe don't have a real long history there but they're there because they want to be there. And they purchased their property understanding what the necessary risks are and potential that might be before them. But still they purchased, still they built, still they did what they felt they wanted to do and understanding well what was before them and you know, I mean why would anyone want to force them to change when they already knew, and they're happy with it, they're okay with it. So, I'm not finding very many people who feel an unsafe thing.”

Community residents who saw this process as driven by hidden outside agendas that dismissed communities' risk management choices, also explained that these processes would likely not consider or include local voices or knowledge about the environment. Many interviewees talked about what they refer to as a common experience for residents on the Lower Eastern Shore, when researchers or other outsiders have come into their communities and dismissed local knowledge about the environment. They drew similarities between this type of dismissal and current dismissal of local knowledge regarding environmental risk and change by

researchers whose science predicts that SLR and managed retreat are inevitable. Although community residents discussed issues of increased flooding and erosion of shoreline, many did not feel that their current living situation was so unsafe that they would need to leave anytime soon. They explained that their experience of living in these places near the water has taught them that assuming some risk is just part of living on the Lower Eastern Shore, and that this risk could be managed in other ways.

#### 4.1.3. Other Adaptation Options First, Retreat is a Last Resort

When sharing their thoughts about managed retreat, community residents also frequently discussed alternatives to managed retreat in the form of other coastal adaptation approaches, such as armoring the shoreline or raising coastal homes. For residents, managed retreat was seen as the very last resort to the environmental issues they are experiencing, and many felt that alternatives to enable them to adapt in place should be explored, especially in areas where they felt these options had not been explored enough. For community interviewees retreat was seen as equivalent to having given up or to losing, as opposed to it being a form of adaptation. One Dorchester community resident explained their hesitation in even discussing retreat:

“Honestly though, at this point, how do you promote or... push ideas of retreating without exploring various opportunities? Simply because you're looking at other areas, especially other parts of the country or the world where people have been able to live close to the water successfully and there's still people who just, you know, it's home. And if there's a way we can coexist, then I would certainly promote that. I would promote that in every way.”

Additionally, many did not see managed retreat as separate from adaptation mechanisms that accommodate and protect people on the Lower Eastern Shore. They explained that if retreat were to happen, other forms of adaptation should in fact be part of the approach in order to allow coastal residents to stay in place for as long as possible before the actual physical retreat must occur. One resident discussed how conversations about retreat needed to happen in this larger context of long-term adaptation:

“And I still have to say that around the world and other places in the world, they're dealing with these things in innovative ways. And just because we don't have the money right now is no reason why we shouldn't be talking about it, at least exploring it,

discovering it to find out what does managed retreat mean? Can it include adaptation? Can it include other things as possible means of, you know, being able to make the informed decision. But let's look at what all the options are out there, you know.”

## **4.2. Government**

Government interviewees sampled from various county, state and federal government groups also had varied thoughts, perspectives, and opinions about the specifics of managed retreat, but the following themes of managing inevitable coastal hazards and community choices emerged as common throughout their interviews.

### 4.2.1. Managing Coastal Hazards using Existing Frameworks

Individuals who hold a variety of government positions primarily saw managed retreat as an organized coastal hazard response to resettle people and infrastructure away from vulnerable coastal areas in order to reduce vulnerability to coastal hazards, particularly to flooding and SLR. Government employees framed managed retreat as a way to protect people, infrastructure, and natural spaces. Common ways government interviewees referred to this process included vulnerability reduction, risk reduction, protection of people and infrastructure, and coastal hazard protection -- all terms centered around protecting and reducing risk to increased coastal hazards. Government interviewees also acknowledged that this process could be viewed both as a more proactive mitigation response to coastal hazards, as well as a more reactive adaptation response for coastal residents in these areas. One state emergency management interviewee explained:

“So, in one sense I feel like we are reactive because we're waiting. Because we say, these areas have been flooding for so long or whatever case may be, so it's reactive in that sense. But it's proactive in the sense [that] people do acknowledge that the environment around us is changing, climate change is happening. So, I think it's proactive in that sense to say that, instead of us continuously just sitting here and watching this get worse, that we're going to be proactive and do something about that.”

For these interviewees, managed retreat naturally falls within the suite of adaptation responses that includes accommodating and protecting, as opposed to being outside of the portfolio of coastal adaptation options. Many made sure to convey that although retreat is viewed as more permanent and extreme than these other two options, it is important that we understand

that it is actually a form of adapting to change and that it should not be explained as an alternative to adaptation. “It is a necessary piece of adaptation, unique to coastal areas.” says one federal government interviewee.

#### 4.2.2. Supporting Community Decisions

For government interviewees, managed retreat was also framed as a community-driven and people-centric process that could only happen if a community, who was interested in retreat and supported by government, organized and initiated the process. They also explained that if a community decided to initiate managed retreat, then it could be coordinated and facilitated through a variety of governmental bodies and NGOs. Interviewees emphasized that it was not their role as representatives of government agencies or departments to make the actual decision to retreat, but rather to provide resources and support if communities decided that this was something they were interested in pursuing. One state environmental agency interviewee explained how managed retreat could occur as a community process:

“So, I would say managed retreat is a community decision that can be facilitated by support -- whether it is from emotional support, like through churches, financial support through government assistance and loans -- to move to a safer place to reduce your vulnerability to coastal hazards.”

Most agreed that their agencies or departments would be supportive of this coastal hazard mitigation strategy if a community was interested in pursuing this option. But they also stressed that this support was contingent on interest, support, and leadership from community members, as they wanted to avoid being associated with ideas of pushing or forcibly removing people from their homes. Although they saw retreat as a practical way to avoid coastal hazards in the future, they did not believe it was their role to tell coastal residents if they should move or when or how they should move from their coastal homes. One state energy planner described their position in this process, “I think the challenge becomes, Maryland is very Home-Rule, and we don't want to ever give off the perception that we're coming in and forcing people out.”

According to government interviewees, centering communities as drivers of this process makes it so that complex factors like livelihood, history, and heritage do not get neglected in the planning process itself. Many gave examples of government assisting retreat in response to natural hazards using buyouts, and how in these cases, typical cost-benefit evaluations did not



account for these more complex factors that may be necessary for successful and equitable retreat. Government interviewees continued to emphasize managed retreat as a community process throughout our conversations, contrasting the process with standard buyouts. One state agency interviewee explained how they saw managed retreat as different from typical buyouts:

“It can't just be like we're going to write you a check. I just, I don't feel like that's the right thing to do. If we're going to have these serious conversations and try to entice people to avoid living in areas of risk, I think we need to sweeten the pot. It needs to be more holistic than just, ‘here we're just going to buy your property out.’ So, it needs to be financial support, emotional support, but also, you know, relocation support and helping people get established in new places.”

#### 4.2.3. A Taboo Topic

Another part of this understanding of managed retreat as a community process is that communities have not really brought this discussion to the government, which has made interviewees feel as though managed retreat conversations and planning processes are just not happening at the moment. As a result of this, agencies and departments felt that they were in a tricky position where they could not start conversations with community members in order to avoid the perception of pushing this process onto residents, while also being concerned that if communities waited too long to initiate discussions that managed retreat may no longer be an option. One state agency employee discussed the governmental position that many agencies currently take when talking about managed retreat:

“It's an adaptation that we know is on the table. But we're looking for the locals to kind of give direction on whether they're amenable to that, whereas our leadership isn't looking to facilitate those conversations.”

Another interviewee from the federal government talked about these discussions around the Mid-Atlantic:

“And, I mean, people are at the point of the conversation, where they're really intrigued by the concept, they want to know more, they are trying to carve out room for it in their plans. Every state in the Mid-Atlantic right now has done or is in the midst of a big resilience plan, and so they're trying to figure out how with[in] the bigger state framework they can carve out a piece. But they're not at the point where they know that

they've got to go down that road. They're not at the point where any of their towns are really retreating.”

In this sense, government interviewees explained that managed retreat was discussed less officially within their respective agencies or departments, or at least not in a way that was shared with the public and is not something anyone is actively planning or implementing on the Lower Eastern Shore. Many government interviewees felt concerned, overwhelmed and underprepared when discussing this process and explained that they cannot do much about this except to be ready for communities if they decide they way to retreat. One state environmental agency interviewee explained her concerns with feeling unprepared for this process in the future:

“And I don't ever think it's going to be to the point where the government is going to force people's hands. I would just feel more comfortable if we had, like, a plan in place to do managed retreat if someone wants to do it, if a community wants to do it.”

#### 4.2.4. Managing the Inevitable

Finally, when talking about managed retreat, government interviewees saw that movement away from the shorelines of the Lower Eastern Shore would be inevitable based on projections of SLR and flooding in the future. With the perspective of inevitable retreat, government interviewees often talked about managed retreat by comparing it to unmanaged retreat, which they see going on currently in this area. One state coastal resource planner said, “I think that at the staff level, we know in certain areas that it [retreat] is probably inevitable. Now, whether the government will play a role in inevitability, I mean, people are gonna move, right?”

This group defined unmanaged retreat on the Lower Eastern Shore as the process in which people are retreating away from coastal areas inland, upland, or to other states altogether without any formalized or organized process due to a variety of reasons. Government interviewees believe unmanaged retreat was ongoing on the Lower Eastern Shore due to a combination of drivers, including younger populations seeking to pursue career opportunities not available in the places they live, individuals reaching personal thresholds for accommodating flooding and related environmental issues, decreased property value due to increasing environmental issues, and a desire to minimize financial losses.

Because government interviewees were well aware of the unmanaged retreat happening throughout this area and of the unlikelihood of communities initiating this process anytime soon,

they explained how they often wondered whether or not they would play an active role in the process of retreat, or if retreat would more likely occur through some unmanaged process. One state natural resource agency interviewee discussed this uncertainty of whether retreat would be managed or unmanaged:

“And I think it'll be interesting to see, using Deal Island as an example, you know, the average age is a little bit older. We might never have to do a managed retreat. You know, I think it was a community member who told me a while ago, and it took us many years to get to this point cause he's like, ‘I'm not going anywhere, this is where I'm going to die. I don't think my family is going to take over my house.’ So, I think in a case like that, you know, it may happen through attrition.”

Some interviewees debated whether managed retreat would ever be possible on the Lower Eastern Shore, explaining that it was more likely for unmanaged retreat to happen naturally for this area. As one state natural resources agency interviewee explained:

“I guess the managed part of it implies that there is someone who's directing or leading these efforts. But I guess in my world I don't know if that's really feasible or possible. I think individuals are going to do what they need to do in order to protect themselves and their families and, you know, do the best that they can for themselves individually. So, I don't know, in this current day and age if a community piece of it is really possible.”

Other government interviewees also discussed how unmanaged retreat was part of Maryland's history and how this was the more likely scenario between managed and unmanaged retreat. One state resource planner brought up an example of historic retreat around the Chesapeake Bay:

“You know, we've been immigrating for years, for decades, for centuries. You know, it's just part of our culture and what we do. So, moving from one location to the other, with the example of Holland's Island down the Lower Shore just near Crisfield, where they've actually physically moved home to Crisfield. So, there's examples in Crisfield where Holland Island houses have been disassembled and assembled in Crisfield. So, it's not anything unusual. It's just, you know, a lot of us have a strong sense of wanting to be near the water.”

Government interviewees also discussed whether stopping government services in highly vulnerable areas would be part of unmanaged or managed retreat, which could likely start to happen in areas where flooding becomes too extreme or constant. One state resources planner says, “And, honestly, there's going to be a point for some communities where it's not going to make sense for the local or state government to continue to invest in roads and maintenance and bridges, to serve a small population.”

### **4.3. Non-Governmental Organizations**

Non-Governmental interviewees sampled from a variety of local non-profits, national nonprofits, collaborative social networks, university-adjacent groups and researchers also had a variety of thoughts, perspectives and opinions about the specifics of managed retreat. While variation was especially dependent on the focus of their work, i.e. more community based or more nature based, the following themes of increasing coastal resilience and inevitable retreat emerged as common throughout their interviews.

#### 4.3.1. Nature-Based Solutions

Non-governmental interviewees generally talked about managed retreat as a plan for both humans and the natural environment to adapt to climate change in which people and infrastructure are moved inland while marshes take their place. They emphasized the role of marshes migrating inland for building the coastal resilience of our shorelines while also providing a strong buffer for humans living inland against the incoming impacts of climate change. This view of using nature to increase coastal resilience was especially common for interviewees who were in local or regional environmental nonprofits. One local environmental non-profit interviewee explained the importance of marshes in managed retreat as nature-based solutions to climate change on the coasts:

“The more that we can protect properties and have a barrier of nature between where we know the coastal hazards are, and where we know that people live... think about it as like a green barrier between the blue hazards and the gray of the communities. The broader that barrier of green, the less likely it is that the coastal hazards impact communities.”

The idea communicated by most non-governmental interviewees though, is that the more marsh there is in a coastal area, the more protection for these areas and their communities in the

long-term. Since processes like managed retreat help to facilitate marsh migration, many of these interviewees were generally supportive of managed retreat as a coastal climate adaptation option. One marsh researcher described their view on managed retreat and its role in marsh migration:

“You know, like in a very detached way, like I would love if all of this would become marsh, regardless of what that land is being used for now. So, in that sense, with that marsh slant, we think managed retreat makes a lot of sense because we see sea level rise happening.”

While this group of interviewees discussed managed retreat as a way to build resilience on the coasts, generally a positive process that they supported, they also understood that this process of building resilience would result in issues of inequity and the displacement for rural coastal communities. Many NGO interviewees highlighted the need for this process to be more thoughtful and intentional in regard to preserving social networks and structures so that displacement could be less painful for communities, and so that community elements could be truly preserved in this relocation process. One local nonprofit interviewee explained why managed retreat needed to include community for the success of these types of nature-based solutions:

“Managed retreat is the thoughtful and intentional relocation of a community or part of a community. And in order to have long term viability and success, I think that it's important that the very first thing that that planning process accounts for is that sense of community and that sense of heritage.”

#### 4.3.2. Retreat is Nothing New

Many of these interviewees did not see retreat as new on the Lower Eastern Shore, citing examples of environmental changes driving movement out of this area throughout history. Discussions with interviewees on historic examples of retreat highlighted how retreat done by community groups, as opposed to outside entities, had higher potential to preserve the cultural and social aspects of the areas which have been retreated from. One environmental non-profit interviewee discussed many historical examples of this around the Bay:

“Historically on the shore, communities have already exercised managed retreat for the last few 100-200 years, on the Shore. As our communities started to slide into the Bay or washed away on one of the barrier islands here in Virginia, you know, they literally packed up their houses and moved them to the mainland. And this was all done with no federal help, no state help, no local help. People just assumed responsibility, and they committed to moving themselves and their families away from these places that were becoming untenable. And you could look at Poplar Island on the Bayside, you can look at Barren Island, on the Bayside, you can look at Hog Island on the seaside. Like, these were communities that were generations old. They saw the water coming, they tried to slow it down, but ultimately they took it upon themselves to move.”

Another local non-profit interviewee discussed historic retreat from nearby Assateague Island in Chincoteague Bay:

“You know, managed retreat has happened before, that's the thing. So, communities on Assateague Island in the Chincoteague Bay, there used to be a lot of houses, and there were several villages on Assateague Island that aren't there anymore. Because they put the houses on barges and floated them to the mainland, because it just wasn't tenable to live on these places. So, there is a historic precedent for it.”

Although this interviewee group recognized that managed retreat may cause the displacement of communities, they also pointed out that what is really driving displacement is climate change and the environmental pressures that it brings to the shoreline and how this has happened before. They explained that managed retreat was just the mechanism by which we could respond to inevitable displacement. They saw managed retreat as a form of protection for people and the environment that has worked before.

#### 4.3.3. Lack of Consensus

There was less consensus within this group on who would actually drive or initiate the process of managed retreat on the Lower Eastern Shore. NGO interviewees who worked on more local scales or closer with community residents pointed out that while community residents should be central to planning and implementation processes, they would likely not be the ones to initiate this process and that the responsibility falls on government to begin these discussions. Those who were further removed from communities and worked at more regional or national

scales saw that community members had to start discussions and that government just needed to support the process.

**Community Initiated:** One view held by some non-governmental interviewees was that this should be a community planned process facilitated by government resources, emphasizing how this approach gives the most agency to communities to shape their own future. While these non-governmental interviewees saw the roles of government and themselves as providing organizational structures, information, and funding sources for this process, they explained that a retreat process initiated outside of the community would neglect the intangible aspects of community life that should be considered and built into retreat processes. This includes important components of community identity, heritage, history, livelihood and culture that they saw as a necessary part of retreat, and that they stressed may be overlooked without community initiation or planning. One researcher who has previously engaged in work on the Lower Eastern Shore explains, “I think that managed retreat is the best solution for dealing with loss of community and identity, if you can get the community to participate in it. And if you have enough support to help them participate.” Another environmental nonprofit interviewee echoed a similar sentiment, that community-initiated processes were the best way to preserve community identity in the case of retreat:

“I think ideally, managed retreat is working with communities to figure out a vision that works for them, because they do have their own kind of identity. And if everyone moves to wherever they're going, that identity is lost. And when you talk to these people, that's the thing that is really important to them is like, this is their location. This is who we are as a group here. And so, I think that that will be really challenging to do. But that's ideally how it happens.”

Sense of place and identity tied to the water on the Lower Eastern Shore came up in many of the managed retreat conversations with non-governmental interviewees, especially in relation to managed retreat as a community initiated and driven process. Interviewees expressed that a sense of place was one of the most important things that must be protected in a community managed retreat process, which could only be achieved if a community decided when and how they would like to manage their retreat. One environmental non-profit interviewee who grew up on the Shore commented about their experience with sense of place, and its importance in a managed retreat process:

“Having grown up on the Lower Shore, I have such a deep respect for place. You know? Like, that's always going to be my place. And I think so many of these little communities that I work with, these people also have that sense of place. It sounds simple to say that, but you know, it's something that this society as a whole in this country seems to be losing, is that sense of place. And I feel it and I know, these folks in some of these outlying communities that are going to feel the brunt of climate impacts and sea level rise in the future, they really, they have a profound sense of place also. And to protect that, is going to be really important. Because that's who we are on the Lower Shore.”

Some interviewees also brought up the unique identity tied to place that communities of color have on the Lower Eastern Shore when discussing historical examples of groups who were intentionally situated in flood-prone areas of the Bay. One university-adjacent interviewee explained why it is important that this specific sense of place be intentionally accounted for in managed retreat planning by making this a community-initiated process:

“I would say with respect to the communities of color and the underserved communities here, that's the land that they were pushed to, that's the land they were allowed to live on. And so, to me there's a rightful sense of connection to that land I certainly don't have, not having ancestors occupying the same space for generations.”

**Individually Initiated:** Variations of managed retreat as a people-driven process also exist throughout NGO interviews, for example one researcher interviewee referred back to the work done by environmental anthropologist Elizabeth Marino in Shishmaref, Alaska where retreat of an entire community facing climate change impacts has been a very difficult and lengthy process, in part because not all community members are homogenous in their views about retreat or how it should be carried out. The result has been a delayed process that has highlighted the need to potentially make managed retreat a process available at the individual or household level as opposed to on the community level. While this interviewee did see government support being important, they saw that the people-centric part of the process should be available at the household level. This interviewee explains:

“And then communities aren't like monolithic in their views either, you're gonna have some people that are like, I'm never moving I'm staying here till I die, and you're gonna have other people that are like nope, can I please, actually I'm ready to go I'm sick of this.



And so, from that perspective, doing like a household by household gives people more, I guess, independence or freedom to pick what works best for them.”

**Government Initiated:** The final distinct view held by non-governmental interviewees that managed retreat is a process that should be planned by the government with eventual buy-in and input from the community. While the community still plays a critical role in their view of retreat, these interviewees suggested that without plans in place ahead of time, retreat may not be possible at all. They pointed out that lack of planning before a community is interested in a process like retreat ultimately does a disservice to those residents who may eventually need to leave due to continued environmental pressures. One environmental non-profit interviewee shared their concerns about delayed conversations and planning:

“Because my fear is that we will get to the day where we start to see accelerated sea level rise. And we don't have these plans or mechanisms in place, it's going to be too much. We as a society, we're behind definitely. We should have started these conversations 10 years ago, in my opinion.”

These non-governmental interviewees did not see the role of government as pushing this process onto residents, but rather saw a need for having a plan developed in the background so that if communities were interested in this process, they could explain what the necessary steps and who the involved stakeholders would be. They stressed that this planning would not only benefit the communities who would have to move but the local governments who would likely be involved in coordinating efforts and for receiving communities who should be prepared for influxes of people. One faith-based organization interviewee argued for why government should be the ones initiating managed retreat processes:

“I don't think people are going to move until they really fully grasp and recognize the threat. Which we all know is coming, or those of us that believe science know this, it's coming. So, I think it's sort of up to us to have that plan ready for when community residents finally come to their senses that we can put into action.”

These interviewees further explained that the point at which most residents would want to retreat will be too late for any thoughtful retreat to be done. Issues from messy logistics to perpetuating issues of social equity could then be the result. Many also explained that doing it in

this way helps to avoid the exacerbation of existing issues throughout the retreat process. The idea conveyed by many of these interviewees was that retreat will be complex enough in and of itself, and that not having a plan in place is problematic and even negligent. One local environmental nonprofit interviewee summed up why they thought a government-initiated retreat would be the best way to approach this process:

“And it is in the best interest of the communities in general, it's in the best interest of local government leaders to have a plan in place, so that there's organization, so that there's a plan to receive these people on the other end of it.”

#### 4.3.4. Retreat is Inevitable, Managed Retreat is Better

Finally, most non-governmental interviewees discussed how retreat, either managed or unmanaged, would be an inevitable part of the future of the Lower Eastern Shore due to expected climate change impacts and an ongoing outmigration of younger generations from these areas. “I think that retreat in some ways is inevitable, just because of how things are going.” said a researcher that works in the area. Another nongovernmental organization interviewee shared similar thoughts about inevitability of retreat:

“And I hate the inevitable one, but we've seen people retreating from islands and coasts in the area for a long time. And it's just one of those things, that is, it's at the rate that...is likely going to happen.”

Because of this inevitability, interviewees often compared expected outcomes of each type of retreat and made the important distinction that managed retreat would be better for this area than unmanaged retreat. Ways in which retreat would be better according to interviewees included being better for issues of equity and social justice, being better for ecological systems, and being better from preserving the sense of place and identity of the Lower Eastern Shore.

Although interviewees acknowledged the many concerns with equity in a managed retreat process, they also saw that the alternative was inevitable retreat without any form of assistance or guidance. Interviewees discussed existing challenges to social equity on the Lower Eastern Shore, and how they fear that an inevitable unmanaged retreat is likely to exacerbate or magnify these issues. They explained that this was especially the case for communities on the

Lower Eastern Shore who have lived there for many generations and whose livelihood depends on living near the water. One researcher who works in the area explained why they saw managed retreat as more equitable:

“So, yeah, I mean, I think that what we're looking at is an unmanaged retreat. Right? That's, that's the alternative. And, to me, unmanaged retreat is going to exacerbate inequality. Because, you know, people lose the land that they've had for generations or lose the house that they grew up in and have had for generations, with no alternatives. I mean these houses start losing value, they become value-less. And because of the policies of banks and whatnot, they become unsellable. So, people then have to leave their livelihood or their job, and the place that they have roots to, and to move to somewhere new, where they have to start from scratch. And so that's, that can be very damaging.”

There are also significant concerns with unmanaged retreat as it relates to the halting of government services, something that many interviewees believed could happen in future on the Lower Eastern Shore. They explained that state and county governments will inevitably begin to shut off or slow government funded services as access to these areas becomes more difficult due to increased issues of flooding. One environmental non-profit interviewee discussed current issues of access to county buildings due to flooding:

“So, the example I like to think of is Crisfield, their fire station gets flooded at least once a month, something like that. Which is not sustainable and it's problematic when there is an emergency, and you need to get those vehicles out in places where they can actually provide help. Similarly, the school there floods regularly so students can't get to school.”

Another way in which interviewees saw managed retreat as more equitable than unmanaged retreat was in discussing previous buyout efforts that targeted vulnerable areas along the Lower Eastern Shore. They pointed out that it is not usually those who need the buyouts the most, but those who are most affluent that are taking advantage of the current system of individual buyouts. Managed retreat in this example was explained as more equitable because without intentional planning those who are most vulnerable, both physically and socially, would most likely have to retreat without any resources. One marsh researcher discussed their concerns with equity in unmanaged retreat:

“I guess I think without a plan, some of the more affluent people are in a position to take greater advantage of some of the current things in place. And I think without a plan, it would be slower and not as effective for people who really need help in various forms to leave.”

Managed retreat was also seen as better for the ecological health of the Lower Eastern Shore. One scientific non-profit interviewee discussed how removal of infrastructure may aid in restoring environmental health to the area: “Because to leave from a managed retreat is not just to leave, and to leave everything there. In many places, I think it's important to remove structures, to remove things that were there that were damaging the environment.”

Finally, non-governmental interviewees saw managed retreat as better than unmanaged retreat in its ability to maintain and protect a community's identity through a process of relocation. Whereas in an unmanaged retreat process, individuals are likely to disperse without a set location to move to, managed retreat has the potential to plan for entire community movement and preservation of important community structures such as churches and cemeteries. One local environmental nonprofit explains this view:

“When you have people doing it [retreat], by their own accord, you lose that sense of community, you lose that sense of interpersonal connectedness, you lose that sense of support. And I think that successful managed retreat is thoughtful enough and proactive enough to provide a sort of a pipeline or a system for people to move within. So that all of that is not lost.”

#### **4.4. Summary Table: Understandings of Managed Retreat**

The summary table below (Table 2.) summarizes the findings from the understandings section of this research to better comprehend managed retreat on the Lower Eastern Shore. In the thematic analyses of understandings for each stakeholder groups, three main categories of understandings surfaced. These included definitions, or how groups defined managed retreat; drivers, or who each stakeholder group perceived as initiating this process; and support, or whether groups felt generally open to this process on the Lower Eastern Shore. A theme of equity, both in equity impacts and capacities to support equity in managed retreat were common throughout all conversations.

Understandings of Managed Retreat	Community Residents	Government	Non-Governmental Organizations
<b>Definition</b>	Managed Retreat is a <u>forced and unnecessary</u> process to make people leave their homes.	Managed retreat as <u>a coastal hazard adaptation</u> , specifically to reduce exposure and impacts of coastal climate impacts.	Managed retreat as a climate adaptation option for coastal residents, with an emphasis on the importance of marshes migrating inland for building <u>coastal resilience</u> for the region.
<b>Drivers</b>	Managed retreat is an <u>outside process</u> brought into the community through enforcement and regulation. It is driven by unknown and potentially problematic motives and without consideration of community wants or knowledge.	Managed retreat is <u>community-driven</u> and facilitated by multi-agency government and partnership support, but lack of community interest makes government interviewees concerned and feeling unprepared for the future.	<u>Lack of consensus</u> for who drives the process of retreat; some think it is community driven and supported by the government, others see it being government planned with eventual buy-in from the community. Some even see this as an individual process.
<b>Support</b>	Residents are generally <u>unsupportive</u> of managed retreat. In interviews, they often brought up alternative adaptation options, stating that managed retreat should really only be a last resort after all other options have been exhausted.	Government interviewees are <u>generally supportive</u> of managed retreat, although they are not sure it will occur. They see retreat as a whole being inevitable, but debate about whether it will be managed or unmanaged through government support.	Non-governmental organizations are <u>supportive</u> of managed retreat. They see retreat as inevitable, but make an important distinction that managed retreat is more socially equitable, ecologically sustainable, and culturally sensitive than unmanaged retreat.

**Table 2.** Summary Table for findings from Multi-stakeholder Understandings of Managed Retreat on the Lower Eastern Shore. Each of the three stakeholder groups which include community residents, government and non-governmental organizations have understandings displayed in the three categories of understandings. Categories of understandings for managed retreat include definitions, drivers and support.

## **Chapter 5: *Challenges* for Managed Retreat on the Lower Eastern Shore**

Another focus of this project was the potential challenges or concerns that community residents, government and NGOs associated with a managed retreat process on the Lower Eastern Shore. An exploration of potential barriers or negative outcomes from this process, especially from community resident groups who have had limited input in defining challenges to managed retreat previously, can help inform future managed retreat processes by anticipating and addressing issues before they occur. Additionally, a comparative analysis at how each stakeholder group defines challenges can help us better understand how different groups will be impacted by a managed retreat process in this area.

### **5.1 Community Residents**

In discussions of managed retreat, not all community residents entirely opposed considering this option at some point in the future, but all did acknowledge that to get to that point, significant efforts would have to be undertaken in order to address what they saw as the biggest challenges to an organized retreat process on the Shore.

#### **5.1.1. Gaining Community Support**

The first of these challenges is getting local support for the process. Since community residents saw this process being driven from the outside, they perceived that their role would be one where they either provide support or opposition to a plan brought to them. Throughout interviews, community residents discussed how a process that is planned and led by outside groups such as the state and federal government, who they see as having failed them in the past, creates weariness and cautiousness when it comes to support for managed retreat. One Dorchester resident explained, “I think maybe some locals and maybe officials might be intimidated by, you know, an outsider coming in to tell them that they know the right thing to do. So, I could see some opposition from that.”

Other community interviewees expressed that a lack of support for retreat also comes from this not being the first time that the state or other outsiders decide what is best for the community without asking them first. One Dorchester interviewee brought up an instance where a government agency came in and made a decision about an invasive plant species in a marsh

bordering their community, which has had negative impacts that they still have to live with today: “This is a managed legislature, and managed government and managed agencies who made decisions without people and then now we're dealing with decisions that they made.”

Another Somerset resident discussed opposition to managed retreat due to uncertainties with the climate science that underlies government-led retreat efforts, “They keep saying they just don't understand how they can make us see it [SLR]. Well, you can't make us see something that's not happening.” They discussed how there has been a common theme of outsiders coming into places on the Lower Eastern Shore, trying to force what they see as correct information onto communities, without asking residents what they think or what they see as the drivers of environmental change. As this interviewee explained, when you live and work on the water you are observing and noticing patterns, but outsiders never really take it seriously.

One point that was frequently made by community resident interviewees is that their support for a managed retreat process will be contingent on other adaptation options being exhausted first before retreat is even proposed. They explained that a retreat process framed as anything other than a last resort indicates that maybe it's not actually necessary, and that maybe it's actually being driven by something else that they do not have information on. One interviewee stated, “I can't say that I would support a managed retreat issue, because obviously, everything's not being shared or everything's not aboveboard.” In the case of a government-promoted managed retreat, community residents point out that their difficult histories with agencies will present a significant challenge for gaining local support.

#### 5.1.2. Equity for Community Residents

Another serious concern that community residents had with retreat was in regard to how equitable it would be, especially for their communities who they see being primary targets of this process. One Dorchester resident posed the question: “I mean if it is a retreat for some and not all, I have to ask why. You know? Again, just very important information to me right now as I am also a community leader in an African American community.” Many of the community interviewees explained that historic processes of retreat, on a more individual buyout level, have disproportionately targeted those in rural areas who potentially have fewer resources with which to adapt and whose land is the most affordable for the agencies who fund buyouts. Their main equity concern with a managed retreat process was that it will not impact all people on the Lower

Eastern Shore equally, and that in the end some communities will have to move away while others will get to stay.

Some community residents also expressed the equity concern that managed retreat process will likely magnify a unique form of climate gentrification currently happening on the Lower Eastern Shore. This type of gentrification is one where those who cannot afford to adapt in place have to leave, creating opportunities for wealthier people with access to resources and connections to move in and reshape the demographics of the area. Interviewees recalled examples in which historically Black communities on the Lower Eastern Shore, who were historically situated on flood prone land, had to move after continued flooding pressures after which point developers built mansions in their place. One Dorchester interviewee explained potential demographic impacts of managed retreat:

“I guess it would probably change the demographics as well. So, I mean, there's some areas that we've had problems with like erosion and flooding, where those that have means came in into those areas and built it up and put in levees and dikes and those kinds of things. And then, you know, [they] inhabit property that the local person, they could not have stayed there, because they couldn't afford to do that... if that makes sense? And that's what we see a lot of gentrification in a different sense. It's kind of different.”

While residents of the Lower Eastern Shore are unsure of how challenges of equity should be addressed, they do believe that it will be part of a managed retreat process and expressed a concern that this challenge will go unaddressed.

### 5.1.3. Loss of Community Structure and Identity

A final managed retreat concern that most residents discussed was how managed retreat might impact their community structure and identity. Even if this process could move entire communities together, interviewees explained that a larger part of their community identity is tied to the land they are on and to physical structures that have historical and cultural significance for their community. Community residents explained that there is no such thing as a managed retreat process that can truly capture and preserve all the things that make a community unique, and that inevitable loss of community identity will have immense individual and community-wide ramifications. One Somerset interviewee talked about their experience with a previous government-proposed retreat effort after a major hurricane event where individuals



were offered home-buyouts, saying, “It would destroy the community. You know, it almost did happen... I can't tell you how close we were.” This interviewee explained how even if a few residents from their area would have accepted government buyouts and retreated in response to this hurricane, the community would have had significant issues recovering.

The main concern expressed throughout these conversations was that those who will lead managed retreat will not be able to understand or much less translate the experience and connection that communities have with each other in that particular place to somewhere else, and that it is not a priority for them as they are planning these processes. One Dorchester interviewee articulated just one of the many complex relationships between place and community identity:

“I do know that looking at my own personal community, while people do leave the community physically, with the situation with our church [and then the same is true in other communities in that area] where there's graveyards and there's still a connection to the community. People go back for reunions and all kinds of things. Because they're still...while there are not physical people living there, there's still community life there. It's almost like we could have a family reunion anywhere else in the world, but it would never feel like having one right there. It's just something about that... I just, I don't know, it floods the memories of the folk who grew up there, and the life there.”

Because community interviewees saw their identity directly tied to living by and with the water, when talking about challenges to managed retreat one Somerset resident even joked “Where are you gonna move us to? The Appalachian Mountains?” For this individual, and for many others, the idea of their community living anywhere but next to water is unimaginable.

## **5.2. Government**

For government interviewees challenges to managed retreat were discussed in the context of their capacity to lead planning and implementation processes, with an emphasis on the difficulties of trying to manage a retreat process on the Lower Eastern Shore while in a sometimes-rigid government role.

### 5.2.1. Incompatibility with Managed Retreat

One identified challenge often discussed by government interviewees is that the Lower Eastern Shore’s unique character, made up by its low-lying landscape, agricultural sector and older demographics, is naturally incompatible with a process like managed retreat. They believed

these characteristics would challenge managed retreat from its land requirements to its timeline. Managed retreat requires the relocation of individuals living in unsafe or vulnerable areas to higher ground inland, government interviewees explained that this would not be possible on the Lower Eastern Shore as much of the surrounding land inwards is fairly low-lying. One county government planner described this issue:

“So, if someone leaves from an area that's supposed to be inundated in the next 25 years or so, they may be moving to an area that's going to be inundated in 50 to 75 years. And if they're really thinking forward, they may just say hey, I don't want to live in the floodplain anymore, I'm going to go somewhere else.”

A federal interviewee who works on the Delaware-Maryland-Virginia (Delmarva) Peninsula talked about how this is also the case for this larger region of the Mid-Atlantic, “And, there's the question about, where are those people going to go? You know, it's not like there is a lot of elevation in Delmarva.” Concerns from all government interviewees about managed retreat and how it fits into a place on the Lower Eastern Shore were based on the high probability that those who live in this region will have to seek somewhere entirely new to go, unlike in other areas where landward movement in the same region is possible.

Government interviewees discussed that the only real exception to this constraint on the Shore is the less low-lying land used for a variety of agricultural practices on the Lower Eastern Shore. In these discussions, interviewees went back and forth on whether it would be possible to balance two of the biggest parts of the Lower Eastern Shore's character, its coastal identity and one of its most productive economic sectors. One state emergency management agency interviewee debated:

“And then just thinking about the actual physical landscape of the Eastern Shore as well, the Eastern Shore has the benefit that there is land there where we can relocate people to, but agriculture and farming is a very big part of the culture on the Eastern shore. So do we just, you know, toss that to the side and relocate people to all the open cornfields and stuff that we have there? There are these societal and like cultural cons to it.”

They explained that it will be a tough choice if managed retreat is ever pursued on the Lower Eastern Shore, “I mean the whole Eastern Shore is why we live well. Because, you know, the broiler and the chicken production and it's a huge breadbasket for the markets.” There are

worries for both losing people to other states and losing a big part of what economically sustains this region.

The Lower Eastern Shore's demographics also make this area a less than ideal candidate for retreat, many rural areas along the Shore have aging populations who are likely multi-generational and plan on living the rest of their lives out on the Shore. A number of interviewees described the current out-migration of younger populations, which leaves this older demographic as the targets of potential managed retreat processes. These interviewees explained that even if community residents did choose to pursue this option, a managed retreat process would likely take more time than would make sense for these populations to even consider. A retreat managed by the government is viewed in this case as improbable. What is more likely in their perspective, is a process where land is slowly abandoned as these populations live out their lives on the Shore. One state agency interviewee who works closely with community residents in Somerset County discussed this:

“Because the average age is a little bit older, we might never have a managed retreat. You know, a local told me a while ago... he's like, ‘I'm not going anywhere, this is where I'm going to die. But my family, I don't think my family is going to take over my house.’ So, I think in a case like that, you know, it may happen through attrition.”

### 5.2.2. No Real Conversations

Another challenge for managed retreat discussed by government interviewees is that there seems to be no real conversations going on about managed retreat. This group said they did not see any communities bringing this topic up to governments nor did they see these conversations happening internally at an official level. This group expressed worries that by the time that communities would be willing to consider or initiate discussions of retreat, it may be too late. Since individuals in government roles defined managed retreat as a process that must be initiated and supported by communities, they did not think it was their role to bring this topic up to communities first nor did they believe it would be well-received if they did attempt to do this. This was especially true as they discussed existing tension between communities and government agencies related to regulations and telling individuals where they could live. Due to these historical tensions, the government wants to be careful in the case of managed retreat to

avoid the perception of forcing residents out. One state environmental agency interviewee explained why they have not attempted to initiate these conversations:

“It's too painful of a discussion. I think it's a political nightmare. You know, we [the State] can't tell people to move. So, I think for it to actually occur, it needs to be from the community level up. There needs to be voices that say, we need help, you need to help us.”

Government interviewees acknowledged that they are in a state of limbo in which they are waiting for communities to start conversations while being fully aware that communities will likely only have these conversations when a threshold event such as a hurricane occurs. One State natural resource agency interviewee who lives on the Lower Eastern Shore gave their unique perspective on when residents will likely be open to retreat discussions:

“[As a resident of the Lower Eastern Shore] I have to feel unsafe. I think that would be the thing. Right now, I'm like, I don't like having wet feet. And I think, you know, I live down on the southern part of an island and there's one road in one road out. And if there was ever a major disaster, whether it was like a hurricane or, you know, something that I felt like I was no longer safe- that would be what it was, for me to move.”

While they understand that this point may be too late to properly plan a retreat process, they do not want to create tension between themselves and residents who do not see a need for these conversations as of yet, because tension will ultimately make any future retreat process that much more difficult. In the meantime, no plans have been developed in case they are needed in the future. One state emergency management agency interview explains:

“I sit in meetings with other state agencies, and we have hour long discussions about well what else can we use besides managed retreat? Do we say relocation? Do we say migration? So, it's kind of like we are devoting so much time and attention to just how to make sure we step off on the right foot, before we jump into the conversation that we haven't even really been able to think of a strategy for it yet.”

There also seems to be no official conversations happening between the stakeholders who would potentially coordinate this process. One environmental state agency interviewee stated, “I don't feel like people at my level [in the government] are prepared for these discussions either.

Which makes me nervous that we're not ready for this.” Lack of discussion all-around created additional concerns for interviewees who saw insufficient conversations potentially contributing to a hasty, unorganized, and inequitable retreat process.

### 5.2.3. Incompatible Capacities and Frameworks

One final challenge to managed retreat on the Lower Eastern Shore that government interviewees discussed was that working within the constraints of a governmental role leaves them feeling poorly equipped to handle this process. In particular, they emphasized a sense of feeling unprepared for coordinating an equitable managed retreat.

Government interviewees explained that the dedicated funds they receive to manage coastal areas come from the State or from the federal government and that they are typically limited. Following standard government practices, these funds most often prioritize actions such as building up coastal areas through seawalls or home-elevations, or even rebuilding after large storm events. One state interviewee discussed their frustration with limited funds for retreat type work within their governmental role:

“And a big piece of the puzzle is that honestly there's not a lot of money to do like mitigation type work. So even with this brand-new grant program that FEMA's rolling out, there's \$500 million available nationwide. And granted, that is the largest sum of money that has ever been dedicated since the inception of the programs 30 years ago. But I tell people, Ellicott City's flood mitigation plan also has a price tag of \$160 million. And when you start thinking about that, like, yes, its infrastructure projects, but it's also like one community. Right? And so, \$500 million is not a lot of money.”

In the case of emergency events like hurricanes on the Lower Eastern Shore, emergency funds may become available and allocated, but again these are typically for the purposes of rebuilding or fortifying coastal areas. One federal interviewee brought up concerns about the governmental practice of prioritizing rebuilding versus retreating:

“And then after the disaster, you have to deal with it, but there's a countervailing pressure here, which is the first motivation and response is to get everything back to normal. And so, we waive all requirements, we throw out all the planning, we just say put it all back, and they're huge dollars to support it. Sixteen billion dollars came out after Sandy, federal appropriations. Sixty billion. Unbelievable right?”

Although interviewees believed that it is up to communities to decide when to leave an area, they did see that the government's typical way of operating ultimately creates a problematic cycle of keeping people in unsafe places longer than necessary without creating many pathways for communities to explore retreat. One federal agency interviewee explains their frustration with this practice: “So, in some places, it didn't make sense to rebuild, but there were other places where it’s just crazy what they did. It’s just crazy. The disaster will prompt you and give you resources, but it doesn't really solve the problem.” Government interviewees main concern was that there are no existing mechanisms or guidelines that they could follow if they were interested in re-focusing funds and efforts to community retreat type projects.

Some interviewees explained that the most experience they have had with retreat type work has been in the form of individual home buyouts and that even those have been few. One state planner described the way that their agency has previously engaged with individual retreat work, “And right now, it seems like we do a lot of piecemeal type stuff.” If communities did express an interest in managed retreat, interviewees explained that they would not really know how to go about that because the system that they operate within does not favor retreat at the scale of an entire community. One interviewee characterized the system they work in as not ready for managing any form of community-wide retreat:

“We always joke about the word managed because the system we have in place is not managed, we don't have any way to effectively manage it. And so, instead what we end up with is a community disaster and individual decisions about who leaves. And the result is really devastating for communities.”

Government interviewees also did not view the system in which they worked as well-equipped to address challenges of inequity that may be inherent to a managed retreat process. Interviewees discussed how government programs and adaptation funds often favor wealthier more affluent communities and that buyout programs that work through a cost-benefit analysis tend to target more affordable housing, as these areas maximize the amount of property able to be protected. Buyouts done by governments are lengthy processes, even on the individual level, which also creates equity issues for people in these areas. One state emergency management interviewee explained how the typical timeline of government buyouts programs may exacerbate issues of inequity on the Lower Eastern Shore:

“So, I would say it's a mix but a lot of times the people who don't have that amount of income [necessary for adapting before a disaster], they are doing it subsequent to like a widespread disaster, so, it's a reactive situation. Whereas more affluent individuals are being proactive, because they have the luxury of time.”

They also worry that the government's role will inevitably be to shut down public services to vulnerable areas, and that a similar cost-benefit analysis will unintentionally target marginalized groups living in lower-valued properties. One interviewee summarized the concerns of many government interviewees about trying to work equity into governmental programs, “I don't know how to do it equitably. And I don't think it's being done now. I think people that are getting the resources are the people who are speaking the loudest that sometimes it's not the groups that need it most.”

### **5.3. Non-Governmental Organizations**

NGO interviewees identified many challenges and concerns with a potential managed retreat process. The ways in which they framed challenges were often related to the type of work they do and how involved they are with community residents on the Lower Eastern Shore. While some saw the central challenge as a need to reframe the terminology of retreat, others bring up concerns ranging from preserving identity of the Lower Eastern Shore to privatization of public land. The concerns and challenges posed by this group acknowledge the perspectives of both the resident and government but tended to be less about personal impacts of retreat or capacity to coordinate retreat and more about engaging communities on the Lower Eastern Shore in a managed retreat process.

#### **5.3.1 Distrust of Government**

One central challenge that NGO interviewees kept coming back to throughout our discussions was that there is a very apparent distrust of government by community residents on the Lower Eastern Shore. Drivers of distrust as the disconnect between communities and government as well as historic government actions that have negatively impacted residents, although reasons for the distrust are likely more complex than just these. NGO interviewees suggested that a managed retreat process that requires collaboration between various stakeholders will be extremely challenging if the underlying relationships of stakeholders are

riddled with distrust. For this group, this challenge of low trust among stakeholders impacting collaboration was especially important as they saw themselves as potential facilitators within a managed retreat process on the Lower Eastern Shore.

There are both physical disconnects between communities and government as well as cultural and ideological disconnects which contribute to issues of distrust on the Lower Eastern Shore. Physical disconnects refer to people who are in positions of power not actually being near communities or having accessible offices for those on the Lower Eastern Shore to feel connected to, while simultaneously making rules and regulations for these areas. One researcher who works in Somerset County explained how physical proximity impacts trust:

“What is the most challenging about managed retreat is the disconnect between local people, and anybody from the outside. Whether it's a government agency, a private agency, a political force. I think the biggest obstacle to me, is distrust and the gap between people who live in the coastal areas that are affected and outsiders, institutional outsiders.”

Cultural disconnects that contribute to issues of trust come more from residents feeling that their elected officials and government representatives do not live similarly to them nor could they understand what is best for them when they are not living the issues that they experience. A researcher who works closely with Dorchester communities explained:

“In these rural areas, [locals] they've been there for generations. And so, I think there's a cultural disconnect between people who are in positions of power, who are making decisions and tend to be well educated and more cosmopolitan, maybe grew up in one place and moved to another, who aren't rooted in the way that these communities are.”

Political beliefs about the role of government also influences distrust on the Lower Eastern Shore. Many NGO interviewees described the political slant of this area as more conservative with beliefs that the role of government should be small. Distrust is especially apparent when communities perceive that governments are overstepping their boundaries in their governmental role. One environmental nonprofit interviewee stated, “It's going to be contentious because people, many people especially on the Eastern Shore, they're conservative, they don't trust the government.”



Previous negative interactions with government were the most discussed contributor to distrust on the Lower Eastern Shore. Interviewees explained that the main negative interactions they saw driving distrust included government disregarding local knowledge about environmental change, regulations that impacted livelihood of communities and a history of government telling people where to live. When discussing previous negative interactions, many interviewees brought up the recent proposed buyouts on Smith Island in Somerset County after a destructive Hurricane. In this example, community members felt that the government was trying to make them leave when they did not see a need for it, and interactions since that point have been filled with tension.

For others on the Lower Eastern Shore, the term managed retreat might bring back not-too-distant-memories of the government telling people where they should live. Historically influenced distrust may especially be the case for Black communities on the Lower Eastern Shore who were often situated in marginal, flood-prone land following emancipation. One environmental nonprofit interviewee spoke about this specific source for distrust of government:

“I think the community on the Eastern Shore specifically, there's that lingering history of the state having come in in the past and actively demanding that people move from where they're living. And there's still that memory of the government trying to rip us away from our homes. So, I think that that is going to be a really big hurdle to get over. That history of trauma of the government trying to come in and take people away from what they know.”

This association of government and being told where to live for some communities will immediately prompt distrust and opposition and conversations will likely be over before they ever have a chance to begin. One climate adaptation practitioner wondered if there could ever be conversations about managed retreat with government that did not flood back these memories:

“And so how do you even [just from a naming standpoint], overcome that and also change people's minds that this isn't like those forced settlements in the past? That this is going to be led by you, that we're going to do what you're asking us to do, and not what you're not asking us to do. That kind of thing.”

This interviewee explained that finding ways to bridge that distrust was one of the biggest challenges for managed retreat discussions:

“I think, from the government that even if they're trying to do things right now, like provide resources to communities and have discussions and not make decisions top down, there's still all of that history that they have to overcome...And so that's a significant hurdle that has to be addressed and it's going to vary place by place, depending on what is the source of that mistrust.”

### 5.3.2. Managed Retreat Terminology

Many NGO interviewees bought up that engaging communities with the terminology of managed retreat, and other associated terms, was one of the biggest challenges to this process on the Lower Eastern Shore. They identified that some contentious terms include managed retreat itself as well as climate change and SLR which imply a need for retreat. Interviewees explained that managed retreat discussions were not occurring in part because these terms directly conflict with the histories, beliefs, and values of communities on the Shore. For example, interviewees who have worked closely with community members discussed how for residents the word managed implies an outsider, like a state agency, coming in and telling people what to do and how to do without much explanation, typically motivated by a hidden agenda. One researcher who works with communities of the Lower Eastern Shore provided their perspective on this:

“So, for them, anybody who is from the outside can be suspicious of being linked to the government and could potentially represent this danger of taking away their freedom, taking away their livelihood, taking away their way of life, and their sense of self.”

Community residents who have had negative experiences with outsiders like researchers or the government, may justifiably extend that negative association onto a “managed” retreat. One university-adjacent interviewee gave an example of tension resulting from management from the outside that disregarded the impacts to residents in a marsh restoration project, “Another tension is preservation of marshes, dealing with marsh migration prioritizing marshes over people.” A different researcher discussed similar historical issues that have resulted in resistance to any managed processes:

“In the area around Smith Island, there are many places that have actually been evacuated, or eventually people moved out. And some of these places have been made into bird sanctuaries. And Smith Islanders have this sense that for government and

outsiders, these bird sanctuaries are more important than they are. Because there is that idea to get them out, to move out of there, to make it like a bird retreat.”

Many other examples discussed throughout these conversations illustrate why the idea of a “managed” process is a significant challenge on the Lower Eastern Shore. The word retreat can also prompt opposition in these areas because part of the identity that many Lower Eastern Shore residents have is this component of not just living by water or with water, but living with all the challenges of water. One non-profit interviewee talked about what the word retreat may imply for people on the Shore, “I don't really use managed retreat. I tend to use the word relocation, because it sounds a little easier. Retreat...the connotation is you've given up, right?”

NGO interviewees explained that what they have learned from their experiences with Lower Eastern Shore communities is that residents don't retreat from issues of water, they figure out how to deal with them. Although the term retreat may seem straightforward and trivial for many people, in the case of the Lower Eastern Shore it could almost unintentionally be a way of asking residents to give up this part of their identity. One researcher articulated this point, “There's this self-identity as the icon of the Chesapeake Bay, that is a hard-working individual who is constantly facing catastrophe...and it breeds that kind of independence.” Many interviewees pointed out that this identity of independent people who live with challenges of water actively contradicts the idea of a retreat which is managed by the government.

Climate change centric language, such as anthropogenic climate change and SLR, which serve as the foundation for managed retreat plans can be additional impediments to having these conversations on the Shore. One researcher described their experience using these terms with community residents:

“And there's no sea level rise, sometimes they'll bring up [land] subsidence because I don't know somehow that feels more real to people around here. But not sea level rise and not climate change. They are very ineffective strategies for communication here.”

This climate centric language is a challenge due to the fact that many Lower Eastern Shore communities have their own conceptualizations of what environmental changes are actually occurring based on their knowledge of the environment, which in many cases has been developed multi-generationally. One interviewee stated, “I think that there's resistance from a lot of residents that have lived there for, you know, generations sometimes, that have seen

environmental changes and don't think that this is any different.” Another science nonprofit interviewee explained that climate change discussions between community members are a source of internal conflict to which managed retreat topics may apply additional pressure:

“A lot of people don't want to be the ones that disagree with their peers and the peer base [about climate change]. It may be political, it may be religious, it may be just social. That's a big part of the conversation about climate change, and as a consequence about managed retreat.”

Another environmental nonprofit interviewee explained that using climate centric language amplifies other complex issues experienced by residents:

“I know a lot of local residents, longtime, lifetime, many generations here on the Shore, both on the Bay side and the seaside of the Peninsula. They see it happening, but they don't want to call it out by name...I mean, it's almost becoming a daily nuisance, is what I would call it. But they don't want to give it a name. Because as one of the couples told me that, you know, once she calls it out for what it is, she's admitting defeat. And so that I've heard that, in so many words from a lot of people.”

Although interviewees brought up examples throughout the United States (e.g. Louisiana and Alaska) where the terminology did not seem to be such a point of contention, those who work in this area in an NGO capacity believed that continuing to use “managed retreat” and associated terms will likely stop conversations on the Lower Eastern before they ever begin. Interviewees expressed concerns that lack of conversation due to contentious terminology will lead to poor planning, confusion about the roles of different stakeholder groups and inevitable inequity in either a managed or unmanaged retreat process.

#### **5.4. Summary Table: Challenges for Managed Retreat**

The summary table below (Table 3.) summarizes the findings from the challenges section of this research to better comprehend managed retreat on the Lower Eastern Shore. In the thematic analyses of challenges for each stakeholder groups, two main categories for understanding managed retreat challenges were identified. These categories include frameworks for challenges, which refers to the perspective that stakeholder groups used to frame challenges for managed retreat, as well as identified challenges which were specific challenges each group saw for

managed retreat. Concerns for equity in a managed retreat process was common throughout all interviews.

	<b>Framework for Challenges</b>	<b>Identified Challenges</b>
<b>Community Residents</b>	<u>Personal lens</u> for framing for challenges, focusing on how managed retreat would impact them.	<ul style="list-style-type: none"> <li>• Local support for a retreat managed by the government.</li> <li>• Equity in a managed retreat for community residents.</li> <li>• Loss of community structure and identity tied to place.</li> </ul>
<b>Government</b>	<u>Institutional capacity and logistical framing</u> for challenges, focusing on how limitations of their agencies and of the system they worked within would present challenges for retreat.	<ul style="list-style-type: none"> <li>• Lower Eastern Shore’s topography and demographics as incompatible with managed retreat.</li> <li>• Lack of discussion within agencies and with community residents.</li> <li>• Government funding and practices and incompatible with organizing large-scale retreat that is equitable.</li> </ul>
<b>Non-Governmental Organizations</b>	<u>Facilitation and coordination</u> framing for challenges, focusing on challenges for facilitating managed retreat conversations and planning processes across multiple stakeholders with different priorities and concerns.	<ul style="list-style-type: none"> <li>• Distrust of government by community residents as a challenge for facilitating a multi-stakeholder retreat process.</li> <li>• Terminology of managed retreat and associated terms as major communication challenges for facilitating managed retreat discussions.</li> </ul>

**Table 3.** Summary table for findings from multi-stakeholder challenges for managed retreat on the Lower Eastern Shore. Each of the three stakeholder groups which include community residents, government and non-governmental organizations have challenges displayed in the way that they frame challenges as well as in specific identified challenges.

## **Chapter 6: *Opportunities* for Managed Retreat on the Lower Eastern Shore**

Opportunities or pathways to a managed retreat process were another focus of this research, with an emphasis on understanding how community residents, government and NGO interviewees envisioned a potential managed retreat processes occurring in the future. An exploration of opportunities is important, specifically opportunities identified by community residents for establishing more equitable pathways for managed retreat conversations and planning for the future. Additionally, these opportunities may shed light on how to approach the many challenges discussed in the previous chapter.

### **6.1. Community Residents**

When community resident interviewees discussed opportunities around the topic of managed retreat, they framed it in both the way they could see it forcibly happening onto them as well as in the way they wished it would happen if they did see a need for it.

#### **6.1.1. Forced Retreat**

During conversations about retreat, many residents who saw this as an outside and forced process, discussed two pathways for involuntary retreat. The first is that of a big storm event or disaster prompting movement that would be necessary but not desired by residents, the second is that governments would likely stop providing services for their areas or start to move services inland to force the movement of people along with them. These situations were seen less as “opportunities” and more as “likely possibilities” for how retreat could occur. They are included in this section to show that there are both potentially forced and unforced pathways to retreat according to community residents.

Most resident interviewees expressed that part of life on the Lower Eastern Shore is dealing with the challenges of coastal living, and that disasters were at times part of this. One Dorchester resident shared their story about Hurricane Isabel on the Lower Eastern Shore:

“I think most people are there because that's where they want to be. Clearly in my lifetime Isabel was the most challenging but it didn't pose a really big challenge for me personally and my property or my family's property there, because the water came into our yard, but it didn't enter the house or anything like that. Other people who did

experience water in their house or through their house, they decided that they were going to stay. They decided that, you know, this is home and I've already invested in this, and I choose to continue to invest in this.”

Even though most residents had similar stories of living through large storms and flooding events, many acknowledged that over time it was getting worse and that they could see how a disaster could prompt some movement, or at least discussions for movement in the future. One Somerset resident discussed the many hurricanes their community had faced throughout its history and stated, “I don't know of anybody over there trembling over SLR or even Hurricanes, but a major one could change all of that.”

Another way this group saw forced retreat occurring was through government decisions to stop services for specific coastal areas or for moving them inland, with the intent of people following. When residents discussed their fear of managed retreat as a process that would be involuntarily pushed onto them by the actions or inactions of government, they saw government services as a primary mechanism by which this could occur. When asked ways in which they could see retreat occurring on the Lower Eastern Shore, one Somerset resident explained that it was not too difficult to imagine, “Well, you know, local government would not support the infrastructure anymore. I mean it's easy to see what would happen.”

Although many conversations revolved around these topics of government forcing retreat onto communities, there were also discussions about how retreat could occur in a way that residents would support if they ever saw it being necessary for themselves and their community.

#### 6.1.2. Collaborative Planning and Community Agency

One opportunity for non-forced retreat discussed by community interviewees was collaborative planning, which refers to the idea that retreat would be a process shaped and led by communities with the help of government. One Dorchester resident described their experience not being included in these processes historically and how this could point towards a potential opportunity, “There is that sense of discrimination and that sense that rules and regulations and things are being created around you and your environment and you're not even there, you're not given that opportunity.” Residents explained that being given a seat at the table was one of the first steps to a managed retreat process they would be willing to have conversations about.

Some residents also felt that historically their knowledge about the environment, which in many cases had been developed over multiple generations, had not been part of planning or decision-making processes. One Dorchester resident discussed the knowledge that is often left out of decision-making processes on the Lower Eastern Shore that should be key to any managed retreat process:

“And in some regards, it seems like maybe some [people] are maybe learned, or they've been focused in on a particular issue, maybe they're even more up to date on what the latest and the greatest issues are surrounding a particular issue. Whereas a rural person is more interested in knowing whatever task is before them and being able to accomplish that with the best of resources. And learning how to even utilize those resources in ways that make sense to them, as well as support them in their life. And [they] don't really figure into other things because those things aren't even going to concern them at some point. But they come up with a certain kind of wisdom that sometimes people who are managing programs, outside of their environment, they don't see.”

Local and experiential knowledge not being valued in the same way as scientific knowledge is a topic many community residents saw as a pathway for doing managed retreat. Early valuation and inclusion of local knowledge in a collaborative managed retreat process was identified a step in the right direction for these discussions. Another step for collaborative planning is actual information sharing during managed retreat processes. Many community residents felt that there were existing plans and that they were outside of the loop, which has made them hesitant to engage in discussions. Sharing of information, between both groups, is an integral part of making managed retreat more collaborative.

Community residents also stressed that because of these complicated histories with government and outsiders, and because they are ultimately the ones who have to live with the outcomes of this decision, they should be able to make decisions in the same way that government groups and other stakeholders can. One Dorchester resident discussed their experience with not having any agency in previous natural resource management efforts, and why acknowledging these historical missteps and learning from them are important opportunities for future retreat processes:

“I feel my community has been affected by the wildlife refuge that has been surrounding us for years. And there was knowledge of information, there were choices that they made,



particularly around Phragmites that affected the community there, where they brought in these non-native grasses and even nonnative animals for the refuge. And it turns out later that these things were detrimental to our community.”

Community agency throughout this collaborative process is therefore a key pathway for any managed retreat discussion or planning process. One resident expressed the importance of feeling agency throughout a collaborative process, “You know I believe that you should give people information, but you leave them the right to make the decision. Not to set regulations that say that if you don't do XYZ, then you won't get this, or you won't get that.”

Some in this group even discussed what their potential roles would be in a collaborative managed retreat process, indicating an interest in leaders within communities to steer conversations about retreat and any processes that lead to decisions for those communities. Another Dorchester resident envisioned their potential role in a collaborative managed retreat process, “So I would consider continuing that role of first of all, looking at the science and understanding all of it and trying to make sure that the community understands it, and doing what is necessary to best manage it.”

### 6.1.3. Building Trust and Relationships

One last opportunity for managed retreat brought up by residents had less to do with managed retreat itself and more to do with building trust and relationships with communities through investments. Throughout conversations, community interviewees kept coming back to issues of trust with outside parties and concerns about these individuals forcing a retreat process onto them. They discussed a need for exploring opportunities outside of retreat such as building seawalls or elevating vulnerable homes. They also discussed a larger need for investments to be made into their communities to help address strengthen their communities and address other issues they are facing.

With resident interviewees there was an awareness that more often than not the money brought into their communities is for the protection marshes or other natural resources, which likely amplifies issues of distrust in these areas. One community resident discussed the importance of making investments into the community, outside of a retreat process, in order to build better relationships with outside organizations for the future of these discussions:

“I think the idea is that there are some options that seem viable. And in the past, it's just been rhetoric. Just meeting after meeting, discussion after discussion, but now they are starting to see you there is some funding available. And they put their money where their mouth is.”

In a variety of different ways, residents pointed out that one step towards managed retreat discussions would be for governments and other outside groups to make investments into the actual communities themselves, who are often not consulted in decision making process. They explained that investments of both time and of resources showed communities that they were valued by groups trying to engage them. Some residents bring up examples of outside groups working with communities to identify and invest in important issues for the community, which helped establish more trusting and comfortable relationships between outsiders and communities in the past. Similar investments of time and money could also help build trust better relationships and pathways for managed retreat conversations. One Dorchester resident gave an example of this happening before:

“I mean whether it's a brick and mortar or an office, actually hiring people, bringing expertise, resources, as far as not only the technology. For example, in our area, we have University of Maryland facilities here with the oysters and crabs and all that kind of stuff. Just their presence and the impact that they've made in the life of the bay has been tremendous and I can see the management in that area made an impact, and I can see this [managed retreat] going in a similar way.”

When asked about opportunities for retreat, one Talbot community resident explained how investments outside of just funding relocation need to be made for communities on the Lower Eastern Shore to even start talking to outside groups for a managed retreat process. They explained a managed retreat process has to provide local benefits “in employment, in gaining new skills, in attracting populations, you know, of the working generations.” Opportunities for retreat are not just finding funds for relocation but for making sure that overall community wellbeing is increased now and in the future.

Investments in communities, especially outside of retreat, are discussed in the context of addressing existing issues of distrust that have come from a historical sense of not being prioritized by the government or by people from outside of the community. For moving managed

retreat discussions forward, community residents think that it's important that government and NGOs “put their money where their mouth is”.

## **6.2. Government**

In discussions with county, state and federal interviewees, opportunities for managed retreat were often framed in how this process could occur within existing government structures. Although government interviewees saw that one of the biggest challenges to managed retreat was doing it through their more rigid structures, they also identified that there were creative ways to use the system in which they operate to carry out a managed retreat process.

### 6.2.1. Catalyst or Threshold Events

Government interviewees, especially those at the state and federal level, did not think that approaching the community with this topic would be an effective way to start conversation; but they did acknowledge that one opportunity in which it would be appropriate for them to do this would be if there were a catalyst event such as a hurricane or large storm. One natural resource agency interviewee discussed how they could see this being a possibility on the Lower Eastern Shore:

“Well, if you had a very strong hurricane hit the area, say much stronger than Sandy, that caused a lot of structures and low-lying areas to be damaged then I'm sure there would be a lot of discussion about whether it would make sense to build back in those areas, or something like that.”

Interviewees explained that discussing managed retreat without a prompting event would be seen as an unnecessary push from governments to move, but that in the right disaster context when people are faced with some of the more difficult realities of living near the water, managed retreat could at least be introduced as a potential option for communities to consider. One federal government interviewee discussed their lessons learned after Hurricane Sandy and starting managed retreat conversations in other Mid-Atlantic states, “And so there are lessons in the region about retreat because [Hurricane} Sandy forced it right, it didn't force the conversations about managed retreat, but they provided opportunities in a few places them to happen.”

Government interviewees explained that while disaster may open up the opportunity for managed retreat discussions, it is also especially important that discussions are not just about

acknowledging that people will eventually have to leave. One county government interviewee reflected on their experiences engaging communities on similar topics and explained how these conversations should happen:

“They don't really want to hear about climate change. They acknowledge that things are changing, they acknowledge that erosion is happening. And maybe they might admit that land is subsiding... And we can still make our points and be successful in what we're trying to do if we just try to find that common ground.”

Another point made by government interviewees about conversations in a disaster context is that disasters may actually promote conversations which could address additional issues currently faced by government agencies. For example, some government interviewees pointed out that disaster and managed retreat discussions provide an opportunity to start important discussions about breaking the cycle rebuilding in unsafe places. One state agency posed:

“You know, right now our mantra is, rebuild it, get back to where you were, bigger, stronger. And so, I think we also kind of need to change that mantra, like okay, bigger, stronger, but it doesn't have to be right back in that same area. [It] can be bigger, stronger, you know, five miles up the road, right?”

### 6.2.2. Repurposing Existing Funding & Partnerships

Another opportunity identified by government interviewees is that they need to pivot the use of their existing government funding and partnerships. Instead of finding entirely new sources of funds to be dedicated at the federal or state level, which they recognize is a large hurdle in and of itself, they discuss how using already established streams of funds and partnerships could be a bridge to logistically approaching managed retreat.

While many conversations with these interviewees revolved around frustrations with lack of dedicated government funds or barriers to finding funds for these processes, they also saw how their knowledge about the systems of funding they rely on could be used creatively to finance a managed retreat process. Interviewees highlighted how partnering with other government agencies and pooling funds is a common pathway for government projects to move forward and how this could be one way to do retreat. One state agency interviewee walked through how this might be done:

“We have a lot of different partners, and each manage different grants. So, the Department of Natural Resources has a variety of grant programs for resiliency and green infrastructure. And MEMA coordinates the FEMA grants. So, they're dependent on FEMA funding, they don't receive funding of their own. And our department until recently, we didn't get any funding but now we have a little bit. And I think it's a larger conversation that probably needs to happen, during the state legislative process when bills are created to kind of make a long-term commitment to this concept and to funding these things.”

Government interviewees also discussed how government projects are often done in partnership with NGOs and how utilizing these relationships could be a significant opportunity for financing a managed retreat process. This is usually done because NGO partners have some interest, stake, or goal that can be accomplished alongside a government project and they are able to dedicate additional time and resources to that project. These types of partnerships help support projects that might otherwise not be pursued due to limited resources of funding or personnel. One natural resources interviewee explained the typical structure of these partnerships and how they could be leveraged in a managed retreat situation on the Lower Eastern Shore:

“And I was just having a conversation with one of my colleagues at The Nature Conservancy, who is trying to understand potential resilience crediting. And, you know, could there be money to be made in protecting landscapes. If that's the case, then that adds an even greater financial incentive for people to potentially move. I mean, you could stack money, you could actually get money from FEMA, to buy out your property to avoid coastal hazards. And if your property has a high ability to convert back to marsh systems, you could maybe even get a greater incentive payment. Because there would be like a resiliency credit or carbon credit on top of that.”

### 6.2.3. Building Better Rapport with Communities

When discussing opportunities for managed retreat, government interviewees spoke about a need to use existing government resources (in the forms of programs, money, people and time) to better understand and support communities outside of a managed retreat context. In doing this, they believed that issues of distrust or unwillingness to engage with the government could at least in part be addressed which could then provide opportunities for conversations and planning for managed retreat. They also explained that using resources to support communities

outside of the process of retreat has the potential to address some of the anticipated equity issues of managed retreat.

Government programs that currently exist to help mitigate and adapt to climate change impacts can also sometimes perpetuate inequality, explained some interviewees. And while it is important to potentially restructure these programs so that they do not do this in the long-term, many government interviewees saw that it is in their power to administer these programs in ways that consider and promote equity. One state emergency agency interviewee explained how using existing frameworks to be intentional about equity can extend into managed retreat processes:

“So, there's a lot of equity issues. And for me it's been really important that even though I can't change these policies overnight, because they are federal policies and they're not going to change overnight, being realistic. But what we can change is how we administer the program. Consciously looking at opportunities to build in equity into the actual administration of the program. So, I'm not saying we have it figured out. I'm not saying we're leaps and bounds ahead of the curve. I'm just saying that for right now you have to look at the things you do have the power to try and change quickly and that's what we're doing.”

Interviewees also pointed out that an opportunity for working equity into existing programs is in asking residents how the programs have served them and where they could improve. This process of asking communities to use their voices to inform program updates could also build trust between communities and government if residents feel that their input is actually being used to amend programs that do not serve them. Additionally, this process of community input into government programs could establish a better collaborative framework moving forward for how community residents can be part of government program development, which will likely be necessary in future managed retreat. One state natural resource agency interviewee explained:

“We shouldn't be developing policies or developing programs in a bubble, we need to be listening to the people that might choose to take advantage of this, to make sure that this support that we put in place is actually going to be helpful.”

Some government interviewees explained that using their dedicated adaptation or mitigation resources to help fund adaptation in place now could actually also be a managed

retreat opportunity for the future. Buying the community time before they perceive that the government is trying to make them leave, gives the government and community residents an opportunity to work together and build trust responding to less immediate issues posed by climate change. It also eases communities into the idea that these responses can only buy so much time for their vulnerable land and that eventually movement may have to be an option.

“Well, if we're putting in some nature-based infrastructure there, we can say to people this will buy you 10 years' worth of time...Now, whether they act before the 10 years is up or not is a different question, right? But, if we sell some of these solutions as not *the* solution, but it's kind of a temporary solution and here's the amount of time we bought you. You know?”

Government interviewees also discussed the importance of using government funds not just to try and manage a retreat process but by better understanding the community. One state government interviewee explained how understanding the community is not always easy for state employees who are far removed from the local level, stating “I think state employees need sensitivity training, you need to put yourself in other people's shoes.” Another federal government interviewee saw a similar need for investing resources in training so that their approaches to the community were more sensitive and thoughtful in managed retreat processes:

“We had some funding that we were going to use for racial equity training, because...I mean that's part of it is that there's some real racial disparities on the Eastern Shore, and it's making it hard to work with communities. And feeling like that was a really critical piece of trying to tackle that equation.”

### **6.3. Non-Governmental Organizations**

Throughout discussions about managed retreat on the Lower Eastern Shore, NGO interviewees named a wide range of opportunities for this process to happen. The underlying theme of most identified opportunities was that they came from a place outside of government structures or of the standard systems associated with retreat. Throughout their various organizations, most of these interviewees saw that their role was in facilitating and assisting retreat. Not as recipients or leaders of these processes, but as strong support systems who have more flexibility in their work to facilitate managed retreat discussions and planning processes.

### 6.3.1. Non-Governmental Organizations Initiating Discussions

NGO interviewees discussed how they are well-positioned to initiate managed retreat discussions, bridging the communication gap they see between communities and government. Many interviewees within this group often discussed the challenges of government groups starting managed retreat conversations, acknowledging that for residents these conversation attempts from government will feel like threat to leave their homes. One interviewee explained, “You know, the idea of the government coming in and saying alright we're forcing you to move out of your house and relocate someplace else, that's going to go over like a fart in church.” The sentiment conveyed by this joke is one that many other NGO interviewees reiterated, that a disruptive and life-changing process like managed retreat would not be received well from any outside group, but especially from a government group.

And although many NGOs may still be perceived as outsiders who could present threats to communities, they did not believe that they represented the same level of threat to communities that the government does. They explained this was because they do not have these longer histories with communities, nor do they necessarily possess the same amount of power to impact residents. Additionally, many smaller NGOs, like local nonprofits or extension agents work as in-between groups for communities and government groups and include community support in their organization missions or goals. They expressed that because of their continued efforts to engage with communities, they may have more rapport and ability to initiate these difficult discussions. Whether they initiate conversations by bringing scientific information to communities or asking what solutions they would like to explore, they saw themselves as more natural facilitators in a managed retreat process. They also pointed to their previous experiences with similar processes, referencing community conversations and workshops built around collaborative learning and conversation. One interviewee that has been engaged through a collaborative multi-stakeholder network on Deal Island Peninsula explained why their work has prepared them well for initiating these conversations:

“I think especially on the Eastern Shore, there's a caution around government officials. And I think it's places like the Deal Island Peninsula where there's the Deal Island Peninsula Partnership that already exists, and there's trust that's already been built there. I think it's those types of places where having conversations about managed retreat seems the most feasible.”



Interviewees explained that although they do typically have missions or goals as an organization, they can be more flexible in their ability to meet these goals as opposed to governments that have to go through more structured or rigid processes. One university adjacent interviewee explains why they saw their organization as the best pathway into managed retreat conversations:

“Because we are not limited by us, and we're not part of any agency. And sometimes we have a better opportunity to work in communities because we're not there promoting one thing or another, we're there to make sure everybody on all sides is using science and having their voices heard.”

Although they did see themselves as well-positioned to initiate these conversations, it is important to note that NGO interviewees did not believe that community members would bring up this topic, but rather that they would be able to bring up the topic to community members with less perception of forcing this process. One NGO interviewee who has worked closely with communities on the Lower Eastern Shore explained:

“I think we might need to kind of make some of those opportunities happen. I mean, I don't think a group of residents is going to get together and be like, so we've been talking amongst ourselves and we've decided that we're interested in maybe learning more about how to relocate to another place.”

Additionally, they saw that their role may be to bring residents and government to the discussion table and have them understand one another. Many interviewees in this group pointed out that there is apparent disconnect between these two groups, especially when it comes to the topic of managed retreat. They pointed out that the government may just be waiting for people to come to them to ask them for help and that people will likely not do this unless it is completely necessary. These interviewees proposed that initial managed retreat discussions should be facilitated conversations between these two groups that are not on the same page. One researcher who has worked with communities on the Lower Eastern Shore discussed their previous experience working through similar community-resident government disconnects:

“But if you can, if you can build some trust and understanding and start to empathize with both the situation that these rural communities are in but also for the rural communities to understand the situations that the counties are in. Where you know they want to be proactively planning, but the whole counties flooding all at once and they're running around trying to mop up messes, and they're cash strapped and they're understaffed.”

### 6.3.2. Establishing Mechanisms for Managed Retreat Actions

Another opportunity into managed retreat identified by NGOs is in establishing mechanisms through which managed retreat actions can occur. Many of these interviewees discussed that a central challenge to retreat is that there are no mechanisms through which managed retreat could occur, and they worry that the slow nature of government and that issues of distrust may slow the development of actionable pathways to this process. In expressing this concern many of these interviewees also brought up ways they could work from their NGO role, outside of the government system, to help establish mechanisms in the meantime.

Environmental nonprofit interviewees suggested one mechanism where they could help is in purchasing upland areas, which they would hold until communities decided they would like to retreat, at which point land could be exchanged in some form of a leaseback or lease trading system. They explained that they would be able to do this because protection of natural land and important species is an essential part of their organization's goals, and so they are able to use their organizational funds to establish this direct pathway for retreat and future conservation areas. One environmental nonprofit interviewee who is part of an organization that has been having these conversations more often, gave an example of what this may look like:

“I'll use [our organization] as an example, working with landowners in areas in the upland to purchase property now. And it doesn't have to be ecologically significant property, in fact, it probably shouldn't be. To purchase property now, to ensure that these communities can have a place to move to *as* a community, if that's what they choose. And as that transition happens, there would have to be a mechanism put into place, that it can be a land swap, so to speak. So, if you own 10 acres, you're eligible for 10 acres in an upland situation. And then your 10 acres that you own, that's going to revert to marsh and is donated to a conservation organization or government entity or restoration to allow that area to transition into marsh.”

Another environmental nonprofit interviewee saw that establishing mechanisms for retreat could also mean investing in infrastructure in and upland so that not only land was reserved but that necessary services may be readily available in a managed retreat process. One interviewee discussed conversations related to establishing mechanisms for retreat that their organization has been having as of more recently:

“We had considered applying for funds to build resilient energy infrastructure in an area that was kind of removed from the coastline as an area that could then be developed, and be a sort of receiving area, and really trying to guide retreat in that way.”

NGO interviewees also mentioned that another important mechanism to establish for managed retreat is the partnerships and networks they expect to be engaging in this type of work. While managed retreat will necessitate organization and support from many groups, these interviewees stressed that the networks must be well-established before a need for retreat. This preventative network development hopefully ensures access to all at the planning tables, instead of just those whose jobs are directly related to responding to situations that may prompt retreat. One local nonprofit interviewee explained what this might look like:

“Definitely creating public private partnerships, to work with community leaders and organizations that have established relationships in those communities. So that way, you know who to bring in and you can bring in as many stakeholders as possible, who are going to be affected.”

One final mechanism that NGO interviewees recognized was important to establish is one that would help protect and preserve the intangibles of local and community life. From history to material culture, these interviewees discussed that it is important that through their networks they find experts on historical preservation and heritage and that these experts work closely with the community in a managed process. One NGO interviewee discussed the need to establish this mechanism to preserve intangibles:

“I think that there are a lot of other things that are part of heritage, that are part of tradition, cultural tradition, historical tradition, that can be still preserved, and that can be sort of archived. And so, I think the key would be to not make that a death archive, but a

life archive. You know? And so, I think that where I see opportunity would be in anthropologists who have experience in heritage, more like reinventing heritage.”

### 6.3.3. A Major Reframing

In order to have discussions about managed retreat on the LES in the future, interviewees argued that the process needs to undergo a major reframing. From the language of retreat itself, to discussing it in the larger suite of adaptation options and even in highlighting contextual benefits to the community.

Many NGO interviewees thought that this term would be especially challenging on the Lower Eastern Shore and proposed that one opportunity for starting discussions would be to change the term itself. Although this may seem like a relatively insignificant task, interviewees explained that the meaning that this term carries with it is one that will be hard to get past in these areas. While there was no official consensus amongst this group on what the new term should be, many suggested terms with more positive connotation that indicate that this is not a process of giving up or running away but rather of resilience and perseverance. Amongst the terms proposed by some of these interviewees are: “beating the seas”, “expanding in the land” and “managed adaptation”.

Outside of the language challenge to retreat, a reframing also means reframing the way that it may be discussed with communities. NGO interviewees worried that this option may be poorly received in part because it is not seen as an adaptation to environmental change. One adaptation professional explained how this could be addressed, “You don't take away from the complexity or controversy around it but to some extent it can be neutralized, if we say: let's look at protection, accommodation and retreat versus isolating retreat as something else.” Retreat also needs to be reframed as a part of Lower Eastern Shore history. One local nonprofit interviewee discussed the importance of this being explained as an adaptation option that we've seen on the shore before:

“I don't think you can overstate the importance of history down here on the Eastern Shore. To give examples of Holland Island and how people moved off of that island and Assateague Island. It's not a new thing, right? Like, we've met this challenge before, this is how we've done it, and these communities have moved. So, it's our turn, right? And I think that normalizes it in a way that will really help people wrap their heads around.”

Interviewees also discussed that reframing retreat would require scientists and other outside groups to be willing to meet residents somewhere in the middle when it comes to discussions about climate change and SLR. More often than not they explained, people get caught up in the causal mechanisms of flooding instead of talking about solutions to flooding, all the while the issues are getting worse, and discussions are not happening. One researcher who has done work on the Lower Eastern Shore with communities explained their experiences working around these topics:

“We talked about flooding and erosion. And people can see that they can't get to their homes and people can see that the shorelines are disappearing. I've been working on this topic for a couple of years and pretty quickly transitioned away from let me convince you that the science I am telling you is real to we can both see there's a problem and what should we do about it? We can disagree on what's causing it. But either way, your land is flooding. ”

Finally, reframing retreat means talking about its benefits for the community and making sure those benefits actually matter to the residents being engaged. Collaborating with communities to figure out what they value about the places they live and the people they live by is an important part of this reframing. One local nonprofit interviewee explained that to reframe managed retreat it is important to “take your climate adaptation and disaster preparedness elevator speech and filter it through the lens of a small business or farming or waterman's culture, to make it as locally appropriate and locally incentivizing as possible, I think is really important.” If a community cares about its churches but outsiders are discussing the benefits of managed retreat for marshes, little progress will be made in that conversation.

### **Summary Table: Opportunities for Managed Retreat**

The summary table below (Table 4.) summarizes the findings from the opportunities section of this research to better comprehend managed retreat on the Lower Eastern Shore. In the thematic analyses of opportunities for each stakeholder groups, two main categories for were identified. These categories include frameworks for opportunities, which refers to the perspective that stakeholder groups used to explain pathways for managed retreat, as well as identified opportunities which were specific pathways each group saw for future managed retreat. All groups discussed equity and inclusion as important for more effective managed retreat pathways.

	<b>Framework for Opportunities</b>	<b>Identified Opportunities</b>
<b>Community Residents</b>	Opportunities for managed retreat are seen as both potentially forced and unforced, with an emphasis on <u>community empowerment</u> in unforced managed retreat.	<ul style="list-style-type: none"> <li>• Forced retreat through catalyst or threshold events such as hurricanes or governments stopping services to their areas.</li> <li>• Unforced retreat through collaborative planning where communities have agency and power to make decisions for their community in a managed retreat process.</li> <li>• Government and non-governmental outside groups making continued investments of time and money outside of relocation related investments.</li> </ul>
<b>Government</b>	Opportunities for future managed retreat on the Lower Eastern Shore are framed as <u>creatively</u> working within their more rigid government systems.	<ul style="list-style-type: none"> <li>• Using catalyst or threshold events to initiate necessary managed retreat discussions.</li> <li>• Repurposing existing government funding and partnerships to create mechanisms for retreat to occur through.</li> <li>• Building trust and relationships with community members who have distrust of government entities.</li> </ul>
<b>Non-Governmental Organizations</b>	Opportunities for managed retreat are framed as <u>utilizing their non-governmental role</u> to facilitate managed retreat and trust-building.	<ul style="list-style-type: none"> <li>• Utilizing their role as more trusted non-governmental groups with some previous relationships with communities to start conversations with residents.</li> <li>• Establishing mechanisms for future retreat such as purchasing uplands and creating multi-stakeholder planning partnerships.</li> <li>• Reframing managed retreat from terminology to benefits to communities.</li> </ul>

**Table 4.** Summary table for findings from multi-stakeholder opportunities for managed retreat on the Lower Eastern Shore. Each of the three stakeholder groups which include community residents, government and non-governmental organizations have opportunities displayed in the way that they frame pathways for managed retreat as well as in specific identified pathways into managed retreat on the Lower Eastern Shore.

## **Chapter 7: *Trust***

Throughout the interviews, underlying issues of distrust and the importance of trust related to managed retreat were surfaced for coastal stakeholders on the Lower Eastern Shore. Trust is of importance in this study as it is identified as both a major barrier and facilitator of natural resource management efforts. For managed retreat, increased trust among the multiple stakeholders who will each have different roles in a potential retreat process could lead to more successful and equitable retreat. A better understanding for how each stakeholder group defines distrust highlights where trust building is needed on the Lower Eastern Shore, while a better understanding of trust allows pathway identification for trust-building between these groups.

### **7.1. Community Residents**

#### 7.1.1. Trust

For community residents definitions of trust were framed through a more personal lens, where trust was defined as a relationship between two people who care about the well-being and interests of one another. Trusted people were viewed as people who were honest and transparent with their words, which are demonstrated through actions that support their words. Interviewees explained that it is not necessary to have the same exact perspective or ideas as someone that is trusted but that you should feel that the person is not being deceptive in their words. One Talbot county resident defined a trusted person as, “I know what's behind it. It's not hiding. It's not lying. It's not deceiving. I may not agree with it. But I can trust that it is what it is.” People who are trusted are therefore people who you believe are telling you the truth and who you can rely on to do what they say they are going to do.

On the Lower Eastern Shore there seemed to be a component of trust being place-based, those who are from this area and have shared lived experiences or similar histories are able to build and maintain trust more easily than those who do not share this. Trust was also defined as something that must be built and maintained over time. Living in the same area, for sometimes multiple generations, makes this more possible. One community resident explained how trust is embedded in place on the Lower Eastern Shore, “I think that predominantly around here, people,

they trust each other. They trust the locals, they trust their family, they trust systems that they are familiar with.”

If there is trust in outsiders, it is typically because they have exhibited trusting characteristics of honesty and action, which have been reinforced over longer periods of time. The more time outsiders have interacted and engaged with community residents in a way that is perceived as honest, reliable and genuinely caring, the more likely they are to be trusted. One Dorchester community resident explained why they place trust in outside researchers, “I mean, I’ve been working with a University of Maryland researcher and his students for years and I trust them, that you know, they have a good heart and that whatever they say, they’re gonna do, they did. So that’s an example.” This being said, even if some outsiders have actively tried to build trust and relationships in this area, the highest level of trust still seemed to exist between community residents.

#### 7.1.2. Distrust

For community residents, distrust was most often explained as a product of there being a disconnect between words and action. This applied to both cases where there was inaction based off of words, as well as in cases where there were actions that ultimately harmed a community. Historical instances of these word-action disconnects usually influenced trust in groups such as government or other outside organizations. One Dorchester resident talked about their experiences of losing trust because of these disconnects:

“And I think that, again historical issues have affected trust, because people have trusted in many regards and only to find that their trust wasn’t well founded, because you know they were adversely affected by a situation that didn’t have their best interest.”

Interviewees brought up that these disconnects are usually driven by outsiders trying to achieve a goal without being transparent or communicative about what that goal is to residents. When disconnects occurred, there were often feelings from residents of being used as a means to an end, which meant that future trust building would be difficult. One community resident explained how distrust could occur when people felt that they are being used, “[Trust is] to feel like whoever that is being invested in you, and it’s just not all about them, and you’re just a byproduct or you’re just a pawn or you’re just...nobody wants to be belittled.”



Some community residents discussed regulations and SLR projections as products of distrusted people in that they were ideas or actions brought from the outside used to govern the lives of people within a community without much benefit to the community. One Somerset community resident explained that their distrust in SLR projections came from not being able to prove them. They explained that people often came into their area with unprovable models while completely disregarding any local knowledge on environmental changes. They also explained how uncertainty and disregard from outsiders were not the qualities of a trusted party. Similarly, regulations were named by a few community residents as a source of distrust because they had historically been implemented at the expense of the well-being of community residents to the benefit a larger agenda, which they were not aware of. A lack of communication on what these agendas were and a disregard for how community defined their own well-being, drove distrust of regulations made by outsiders.

All community resident interviewees named politicians and associated government as people who they have “questionable” or active distrust in. When asked about distrusted individuals or groups, one Somerset interviewee quickly answered, “politicians would probably be at the top of that list.” Politicians, they explained, have the opposite characteristics of people who they trust. Their words and actions do not match, they are usually elected for shorter terms and therefore have less investment in the long-term wellbeing of the community, and they use tactics of deception to reach goals that are not communicated to community residents. Another Dorchester county resident summarized why politicians are so frequently distrusted on the Lower Eastern Shore:

“Well first of all, I don't trust politicians, I guess I've had a lot of experience with that. There were days, where in the city back-office where they would say one thing and then people would probably turn around and they would do something different.”

Some community resident interviewees also explained that this has less to do with the political affiliation of the politician and more so to do with the typical behavior of politicians across all parties. Not all politicians are deceptive and manipulative, but previous experiences with politicians who acted in ways that led to distrust meant that community residents were wearier of placing any trust in politicians altogether. Because politicians are usually associated as being the face of government entities, distrust for politicians can often also extend into distrust of

any of the people who work with or under that politician. One Somerset county resident explained:

“I've had some things happen you know, involving a community organization I am part of and with politicians. And I've met both good and bad in that world. And, you know, there's some [politicians] I deal with that will tell me off the record that, hey, you're not going to get this. And I can live with that. And then there's sometimes that it's the total opposite. So, there are good people on both sides, because I've met 'em.”

## **7.2. Government**

### 7.2.1. Trust

For government interviewees, trust was most commonly discussed in the context of working in government which included their experiences working within their own agencies as well as their experiences working through government and non-government partnerships. Trust was defined by this group when as being able to work with people or groups that may have different motives than your own, but who are willing to compromise to work towards a shared goal somewhere in the middle. Trusted people were defined as individuals within these working relationships or partnerships who actively make their motives or agenda clear and known to others. These would be individuals who make the purpose of partnerships feel like accomplishing goals and receiving mutual benefits as opposed to individual or personal benefits. One federal government interviewee discussed partnerships with local level NGOs and the importance of transparency for trust in government settings:

“And they're pretty upfront about what their agenda is, our agenda is to acquire this much land, or our agenda is to do this. They're not playing a political game with me. I mean I know some of them are doing that with each other because they're trying to get resources, I get it, you know that's the way it is. But, if there's a political agenda, just tell me what your agenda is.”

This is not to say that in these trusted partnerships that partners do not have differing motives for engaging with one another, but that despite these different motives, those within the partnership did not feel that the only reason for engagement is moving the other's specific agenda forward. Interviewees explained that trusted people achieve this feeling of working for

mutual benefits through actions that contribute to shared goals, with an emphasis on consistency of actions for maintaining established trust ties. One state emergency agency interviewee explained why they trust specific environmental nonprofit partnerships, “It’s been this thing where, we might not have the exact same priorities but we're figuring out how our priorities align and helping each other that way.”

Balancing interests, benefits and contributions are at the core of these trusted working relationships. Actions or investments in common goals help to develop trust between government interviewees and others. This is because there is a feeling that all groups are investing time and monetary resources, creating more opportunities to build trust in these working relationships. As one federal government interviewee explained, trusted parties are “vested in it one way or another. It's emotional, it's financial...but they've got some interest that motivates them to continue the engagement.” Trusted partners mentioned by these interviewees include NGOs like the Eastern Shore Land Conservancy, The Nature Conservancy, The Maryland Silver Jackets team and the Deal Island Peninsula; all groups who are viewed as more transparent and willing to be flexible through working relationships.

### 7.2.2. Distrust

Throughout interviews, all government interviewees discussed how there is an understood and apparent lack of trust for government, especially by communities. One state natural resource interviewee stated, “I know from a government perspective, we have a lot to work through. People do not trust us generally.” While interviewees acknowledged that this distrust usually spans all levels of government, county government entities who have worked more closely at the local level, saw that they may be more trusted by residents than those who do not have their closer physical proximity or more constant interaction with community residents. They explained that smaller more rural areas who tend to be more physically disconnected from larger state government groups, are easier to build trust with on smaller levels. One county government planner explained how distrust may be seen through different levels of government:

“It's kind of a small county as far as population, we have a lot of dealings and relationships with people. So, I think in those relationships over time you know I think we've been able to build trust with people. I think we're a little bit closer to the people here...But I will say that any type of government, even local government [and I'm

speaking very generally] there's still some distrust of any level of government here in the county.”

Despite more trust sometimes being placed in county government representatives, trust overall in government entities more often than not is lacking, and government interviewees discussed reasons for why they believed this was the case. Some explained how historical government actions that have directly or indirectly harmed communities may explain distrust, such as regulations for private land, “when it pertains to them you know, they feel that they should be able to do whatever they want with their property” explained one county government interviewee. Another explanation for governmental distrust is that there is also a widespread dismissal within government of local knowledge, which could exacerbate existing distrust if community residents feel as they have been both harmed and disregarded by their governments. One state interviewee explains this perspective:

“There's a lot of us versus them kind of mentality out there. And we need to stop that, and just try to do a better job in government. And also people, you know, our average citizens like you and me, we need to recognize that we need to be a part of the solution too.”

Distrust for one government group is also easily transferable to most if not all of government. Interviewees described interactions with community residents where initial meetings had undertones of distrust because those residents had previously had negative experiences with other government groups. One state emergency planner explained how this transfer of governmental distrust typically happened, “So maybe in your community, your streets might not be getting paved on the schedule that they should, then people take that distrust and anger, and they place it on every single person that works for that organization.”

Lastly, all government interviewees described a general “government culture” that at times creates issues of distrust both for community residents as well as for those within government. In this government culture people are not always transparent with their motives or in their decision making to the public but also within their own agencies. Many discussed that even within the same agency it was not uncommon to feel that you were being used to achieve someone else's agenda, without knowing what that agenda was. It was also explained that it is common for people to “go around you” to achieve these agendas. One federal agency described distrust and government culture at a higher level:

“I work in a pretty political world. Welcome to the federal government, particularly right now. And when there are people who have very strong political agendas that are very hard to see. And a lot of times I don't trust them because when I think that we're going to get played for that political end, that I don't like.”

Interviewees at the state level echoed similar experiences with distrust and lack of transparency in government culture. One natural resources state agency interviewee explained, “I have lost trust in some of my colleagues who say one thing, and do the other or, they don't come across as genuine anymore. Behind closed doors, they make different decisions that harm people. So that, to me, is not transparent.” Another state emergency interview shared their concerns in trusting others in their role:

“Working in this arena of being a grant administrator, sometimes it's very hard for me to judge is this person just trying to get money from our program or is what they're proposing an actual benefit to the citizens of Maryland. Because sometimes everything just feels like a sales pitch, and it's sometimes hard to decipher: are you genuine or are you just here to get this money?”

### **7.3. Non-Governmental Organizations**

#### 7.3.1. Trust

For NGO interviewees, trust was framed at both the individual relationship level that community residents discussed as well as at the working relationship level that government interviewees discussed. Trust was defined as being able to feel that the other person in a personal or working relationship respects you or cares about you enough to put in time to work for your best interest or at least communicate when that may not be the case. Additionally, trust was defined as feeling like you can share your thoughts with another person, without the fear of negative repercussions. In this definition, trust is not just a relationship between two individuals or groups but rather the creation of a space in which people with potentially different backgrounds and lived experiences can come together to both listen and discuss, with the hopes of identifying and resolving issues.

Similar to community residents, NGO interviewees often brought up how having shared experiences and values was important for building trust. Instead of the shared lived experience on the Shore that community residents had, NGO interviewees referenced having similar experiences working to protect the environment and similar values around scientific knowledge and the environment. One environmental nonprofit interviewee who works on the Shore explained why similar values help build trust more easily, “And the fact that they clearly really care about the environment and about people, I think that's a great reason to trust someone.” While these shared experiences and values are seen as easier ways to build trust, many interviewees within this group also explained that a willingness to share spaces and thoughts with those different than their own was the most important way to build trust on a topic like managed retreat.

Another point brought up by several NGO interviewees was that trust is somewhat transferable. Similar to government interviewees seeing distrust as easily transferable, this group saw that identifying trusted individuals or groups in a community that had existing relationships with NGOs or government groups could help establish trust with the larger community that they represent. Many explained that while trust is not completely transferable, if one trusted individual “vouches” for an outside group, then communities are usually more willing to consider trusting those outsiders.

“The one thing that I think can accelerate [trust] is when someone you trust says can trust someone else. I have a few colleagues that I work with a lot and we developed a good amount of trust over the last couple years. And so, when thinking about like other partners to work with or whatever, if those people in a way you can vouch for someone else, that I think makes me more willing to build that trust faster with those new people.”

While honest communication was viewed as important for trust by this group, all NGO interviewees believed the most important way that trust could be reaffirmed on the Lower Eastern Shore was through actions and dedicating time. Trusted people not only regularly communicate and follow through on what they say they are going to do, but continuously do so in a way that is predictable. One researcher who works with coastal communities in Somerset County explained why actions are so important for building trust on the Lower Eastern Shore:

“These people are experiential learners, they're not going to trust you because you tell them they should, or because you say something one time. They want to see you doing things, you know, over a period of three years, five years, they watch what you do. And from that, they then decide whether they trust you or not.”

Another university-adjacent interviewee shared a similar view based on their experience working with Lower Eastern Shore communities:

“I think communities, especially when you're working with them, they've had so many people come in with plans, plans, plans, plans, conversations, more plans. And so being able to come in and get something on the ground and show them that you're serious about what you're working on, that's a really big way of building trust. And I think that shows that you're listening, and you want to work with them and help them get the things that they need.”

A number of NGO interviewees brought up that through their experiences working with community residents, they have learned that trust is most easily built in familiar community spaces or in more informal settings. These types of settings address some of the issues that community residents may have coming into a government space by allowing for residents to have stronger feelings of familiarity and agency. This is based on the idea of meeting people where they are in order to better understand their perspectives and experiences. One researcher who works with communities on the Lower Eastern Shore explained:

“This is like something so simple but, in most of our workshops we would have like a break for a meal or like coffee. And informal time for people to just chit chat was huge. Just the, like, ‘Oh, your daughter goes to the same school as my grandson’, you know, it makes such a big difference when you start to see how your lives kind of overlap.”

Another local non-profit interviewee discussed why it is important to identify trusted individuals in a managed retreat process:

“This is terrifying for residents. The thought of losing their entire home, all of the stories, all of the physical things, their sense of place. The thought of just watching it fall in the Chesapeake Bay is terrifying. And you don't want someone telling you ‘Oh, well, we're gonna do this, that and the other’ and not make good on any of his promises. You want somebody who is thoughtful and consistent and well-intended to be managing that process.”

### 7.3.2. Distrust

While NGO interviewees acknowledged the importance of identifying trusted individuals and building trust on the Lower Eastern Shore for the future of managed retreat discussions, they also recognized that there were challenges to addressing existing and growing distrust in this area. Distrust was most commonly discussed by this group as a product of self-interested people or groups who are deceptive about their motives and who do not actually care about shared goals or communities. Many interviewees describe distrusted people as individuals who have motives that are not clear or communicated with all, which make the people they interact with feel as if they are being manipulated. One university-adjacent interview described someone they would typically not trust:

“I find them not trustworthy because they monopolize the dialogue. They do not acknowledge partners, so they take full credit for everything. They have an agenda that they don't always share. So, they're not transparent about their reasons for participating. They are working for themselves first.”

Even though many NGO interviewees work to bridge the distrust between government or politicians and community residents on the Lower Eastern Shore, they explained that they are also sometimes distrusted by communities. These interviewees explained that this distrust was due to work they had done previously that had made communities feel disregarded, for example in the case of prioritizing birds and marshes over people. Others believed that because they had done work with state or federal governments, that distrust for those groups translated over to them. One non-profit interviewee described frustrations with an experience where they worked in a government partnership where sharing plans with residents at an early stage of the project was not allowed, and how this experience contributed to distrust in their own organization:

“There's a tendency of people in communities to kind of lose trust too quickly. When you're making plans, you can't always spill the beans early on...And there're so many examples where people almost willfully convert that into a lack of trust.”

### **Summary Table: Trust on the Lower Eastern Shore**

The summary table below (Table 5) summarizes the findings from the trust section of this research to better the potential role of trust for managed retreat on the Lower Eastern Shore. In the thematic analyses of trust for each stakeholder groups, two main categories trust were



identified. These categories include frameworks for trust, as well as trust definitions which include both trust and distrust definitions. Groups diverged in frameworks but had very similar definitions of trust.

	<b>Trust Framework</b>	<b>Trust Definitions</b>
<b>Community Residents</b>	<u>Personal relationship</u> : trust framed in the context of a personal relationship between two individuals who care about the well-being of one another.	<ul style="list-style-type: none"> <li>• <b>Trust</b>: Trust is a product of shared lived experiences on the Lower Eastern Shore. Important factors for trust include shared values, experiences, transparency, reliability, and words matching actions. Trust, especially of outsiders, must be slowly built and reinforced by time.</li> <li>• <b>Distrust</b>: Distrust comes from dishonest, a lack of transparency in motives and feelings of being used to achieve agendas. Distrusted groups include government and other outside groups who residents have had negative interactions with such as politicians.</li> </ul>
<b>Government</b>	<u>Working relationship</u> : trust framed in the context of working relationships within their own agencies as well as with government and non-government partners.	<ul style="list-style-type: none"> <li>• <b>Trust</b>: Trust is transparency in motives and working towards a common goal with mutual benefits. Important factors for trust include balancing interests, benefits and contributions. Actions are important for building and reinforcing trust.</li> <li>• <b>Distrust</b>: Distrust is feeling used to move someone else's agenda ahead, lack of communication and actions not matching words. Government interviewees acknowledge they are distrusted by residents due to historical factors as well as because of a "government culture" of not being transparent or communicative. Distrust can be easily transferred.</li> </ul>
<b>Non-Governmental Organizations</b>	<u>Personal-working relationship</u> : trust framed in the context of creating spaces between people and groups space where relationships can be built based on active listening and dialogue.	<ul style="list-style-type: none"> <li>• <b>Trust</b>: Trust is when people with different backgrounds and lived experiences are able to work together towards a common goal, with an emphasis on creating a respectful and comfortable space for active listening and dialogue. Trust can be transferable and is most easily built in informal settings that are familiar for the community.</li> <li>• <b>Distrust</b>: Distrust comes from deceit, lack of communication and unreliability. Individuals and groups who are distrusted are self-interested and are dishonest about their motives for engaging. This group also acknowledged that they may be distrusted by residents due to historical actions and associations with the government.</li> </ul>

**Table 5:** Summary table for trust as framed and defined by community residents, government and non-governmental organizations. This table presents trust for each stakeholder group in both the way they framed trust as well as the ways in which they defined trust and distrust.

## Chapter 8: Moving Forward

Climate change and related environmental pressures threaten coastal socio-ecological systems around the world. Adapting to these changes, both naturally and socially, will be key for the resilience of coastal communities on the frontlines of climate change impacts. The coastal climate adaptation portfolio consists of three key responses to these changes that include accommodating, protecting and retreating. While in many places accommodating and protecting will be the preferred method of adaptation due to their ability to keep people in the coastal places that they value and are tied to, in other places retreat caused by encroaching SLR is most likely inevitable. Managed retreat is one proposed mechanism for moving people back from coastlines and is based on the idea of moving vulnerable people and infrastructure out of the way of coastal hazards while marshes and other natural structures take their place and act as barriers to climate impacts. This form of retreat will likely be facilitated by government agencies through federal funds and facilitated or coordinated through a variety of state and county governments, NGOs and community groups and residents.

Managed retreat is also a highly controversial and poorly understood adaptation response to coastal climate change impacts. Concerns related to retreat, identified throughout climate adaptation literature, range from logistics of planning and implementing movement at such a large scale to equity in buyout and relocation processes (Siders, 2019; Marino, 2019; Hino, Field & Mach, 2017; Gibbs, 2016; Alexander, Anthony & Thomas, 2012). While these are well-documented in the managed retreat literature, two areas that have received less attention are those of multi-stakeholder understandings of managed retreat and the role of trust in managed retreat processes. These are essential for more effective and equitable managed retreat approaches in the future as it will likely be coordinated and implemented by a variety of stakeholders, and the degree to which stakeholders trust one another in management processes can greatly influence a project's success (Leahy & Anderson, 2008; Gray, Shwom & Jordan, 2012; Smith et al., 2012).

This thesis research addresses this gap of multi-stakeholder understandings and the role of trust in managed retreat through the use of a broadly ethnographic, or place-based qualitative approach, to better comprehend these topics within the socio-ecological system of the Lower Eastern Shore of Maryland. This area was chosen for its high physical and social vulnerability to

environmental issues such as SLR and coastal erosion. Semi-structured interviews were conducted with 23 coastal stakeholders from the Lower Eastern Shore who ranged from community residents, local, state and government representatives to individuals from NGOs.

A summary of the findings presented in Chapters 4-7, which explore the themes derived from an ethnographic understanding of managed retreat, of its challenges and opportunities and of the role of trust on the Lower Eastern Shore for managed retreat, are included below followed by a discussion of key points from this research. A recommendation diagram and conclusion at the end of this chapter provides initial steps for more effective and equitable retreat based on the findings of this research.

## **8.1. Summary of Results**

### 8.1.1. Understandings

Understandings serves as a broad term that includes an individual's knowledge, perceptions and values around a topic of interest. This was an important concept to explore through a multi-stakeholder lens as managed retreat planning and implementation efforts will be funded through a combination of federal, state and county funds with coordination happening across government, non-government and community groups and residents. While all groups may collaborate in a managed retreat process, not all groups hold the same understanding for managed retreat, which could result in frustrations, conflict and ineffective or inequitable plans for the future.

For community residents, managed retreat was seen as a potentially forced plan to move people out of their homes, likely driven by unknown agendas from government groups or other outsiders. This group saw managed retreat as the ultimate “last resort” to the environmental issues they experience as a result of living by the water, and they see it as a threat to their history and their current existence. In contrast, government groups across federal, state and county levels, saw managed retreat as an adaptation to coastal hazards that had to be driven by community interest. While this group saw retreat overall as inevitable, they questioned the feasibility of a managed retreat process due to a lack of public interest in it. For NGOs, managed retreat was seen as a way to build coastal resilience for people and the natural environment. Unlike the other two groups, there was no consensus on whether this should be a community

driven process or a government driven process, nonetheless they stressed that retreat is inevitable and that the alternative, unmanaged retreat, was the worse option of the two.

### 8.1.2. Challenges

Multi-stakeholder challenges are important to explore because managed retreat challenges have mostly been framed within academic, governmental and non-governmental spaces. In turn, this has left community perspectives on challenges out of the larger framing of issues for managed retreat. Not all groups conceptualize environmental changes, risks or responses in the same way which is especially true when looking at challenges to managed retreat from a multi-stakeholder perspective. How challenges to this process are framed and what specific challenges are identified by each stakeholder group are important to document and compare as this can provide a wider range of issues to anticipate and plan for in a future managed retreat process. Additionally, an overlap in defining and naming challenges can reveal issues that all groups are willing to address in a managed retreat process.

For community residents, challenges to managed retreat were framed in the way they saw it personally impacting them and their larger communities. This stakeholder group identified lack of community support, equity and overall loss of their community structure and identity tied to place as the largest concerns and challenges to managed retreat on the Lower Eastern Shore. For government interviewees, challenges were framed in the context of their institutional capacities to organize and implement a managed retreat process with an emphasis on the specific constraints that are tied to working in more rigid governmental roles. This group identified the Lower Eastern Shore's topography and demographics being incompatible with managed retreat, a lack of discussion within and across stakeholder groups and their own institutional constraints as the central challenges to a managed retreat process on the Lower Eastern Shore. For NGOs, challenges were framed from the perspective of a facilitator or connecting body that did not necessarily receive or organize this process but did see a role in it for themselves. This group saw community resident's distrust of government and other outside organizations as well as communicating with the terminology used around the topic of retreat as the main challenges to managed retreat on the Lower Eastern Shore.

### 8.1.3. Opportunities

Similar to multi-stakeholder challenges, multi-stakeholder opportunities are important to explore for managed retreat because identified opportunities for this process have been mostly developed through policy or academic frameworks. And while many stakeholder groups believe managed retreat should be a community's choice, there has been a lack of focus on what community residents see as feasible and beneficial pathways into a managed retreat process. A multi-stakeholder approach for identifying opportunities, especially those identified by community residents, may reveal more effective and equitable pathways for future retreat conversations and plans.

For community residents, opportunities for managed retreat were framed in both the ways they see it forcibly happening as well as ways they would be open to it happening. Forced pathways include extreme weather events and government shutting down essential services while non-forced pathways include collaborative planning and investments made to strengthen the community overall outside of processes related to retreat. For government interviewees, opportunities for managed retreat were discussed through their institutional capacities framework which included how existing government resources and work could be adjusted to engage in managed retreat processes. For this group, identified opportunities to engage in managed retreat work included some form of catalyst or threshold environmental event, in repurposing existing government funding and partnerships and in building better relationships and rapport with community residents. For nongovernmental organizations, opportunities for managed retreat are framed as occurring outside of government structures, positioning their non-governmental perspective as ideal for engaging in these conversations and processes. The opportunities this group identified included using their non-governmental facilitator role to actually initiate managed retreat discussions with community residents, in establishing mechanisms for managed retreat to occur through in order to address some of the institutional constraints brought up earlier by government interviewees and through the overall reframing of managed retreat.

### 8.1.4. Trust

Trust in the context of managed retreat was important to examine in this study as it both challenges and facilitates effective management efforts that involve a variety of stakeholders. High trust among coastal stakeholders in a managed retreat process could lead to more successful

and equitable retreat or could at least open up discussions about how to make retreat a process that better serves all stakeholders in a coastal area. A multi-stakeholder perspective on trust allows for comparison across groups. Additionally, a better understanding for how each Lower Eastern Shore stakeholder group defines distrust indicates where building trust is needed, whereas a better understanding of trust allows for the identification of future pathways for building trust between these groups.

For community residents, trust was framed through a personal lens, with trust being a relationship between two individuals where honesty and action were essential. For this group, trust also tends to be place-based or based on shared experiences of living on the Lower Eastern Shore. Those who are not community residents can still be trusted, but components of time are needed in addition to honesty and action. Community residents often distrust those who are perceived to have hidden agendas and whose words do not match or directly contradict their actions, with government and politicians mentioned as examples. For government interviewees, trust was framed in the context of working within government spaces, with an emphasis on working relationships within their own agencies as well as in other agencies or outside partnerships. For this group, transparency in agendas and mutual benefits in shared projects were essential for having and maintaining trust. Similar to community residents, government interviewees described distrusted people or groups as those who had hidden agendas and no interest in mutual benefits in working relationships.

This group also recognized that as a government entity, at any level, there is distrust of them that needs to be addressed, especially with a topic like managed retreat. Nongovernmental organizations framed trust as a combination of personal relationships and working relationships, with an emphasis on creating spaces where people may disagree but are also able to listen to each other respectfully. For this group trust, was defined as working with someone who you feel is personally vested in your wellbeing and who is honest about what they receive from the personal-working relationship. This can be demonstrated through action, open communication and respectfulness. This group defined distrust as feeling that the person you are engaging with is self-interested and deceitful about what their motives are for engaging. This group also recognized that for a managed retreat process to be successful, both government and non-governmental groups need to address the distrust that exists between their organizations and community residents due to previous experiences.

## **8.2. Discussion**

### **8.2.1. People Understand Managed Retreat Differently**

This research indicates that there are significant differences in understandings of the drivers and definitions of managed retreat across community residents, government and non-government organizations based on level of interactions with community residents and different knowledge systems used to frame environmental changes.

There are clearly contrasting views across stakeholder groups on who initiates managed retreat on the Lower Eastern Shore. While those who would fund and coordinate this process saw this as community-driven with a need for community to organize and ask for support in engaging in this process, residents who are expected to initiate it saw this as a process that would likely be forced on to them as a result of hidden outside agendas. This deviation between community residents and governments understanding of drivers is likely based on distrust and historical lack of community voices in planning processes. Because communities on the Lower Eastern Shore have established distrust for government and other outside entities, this contributes to their understanding of managed retreat being a forced outside process.

NGOs, who could help facilitate conversations between these two groups, varied in their perspectives on who would or should drive retreat, making it difficult for them to know who to engage on this topic and when to do so. A lack of consensus for non-governmental interviewees is a result of differing level of interaction with community residents. Those who were further removed from community residents had the view that communities should initiate and drive retreat, they believed that communities would pursue this option and engage government given increased exposure to environmental hazards. In contrast, NGO interviewees who had closer connections with community residents believed that this that government should initiate discussions and establish pathways for retreat because they believed that community residents will likely not approach government first on this topic. This group predicted that by the time communities would approach the government to do this, it would most likely lead to a rushed and inequitable processes.

A disconnect in perceived drivers of managed retreat across stakeholder groups presents significant obstacles for meaningful discussion on the topic. If government groups are waiting on residents to approach them, residents are on the defensive because they feel that they will have

little say in whether or not this process will happen to them and facilitating groups are not sure about who they should approach to have these conversations, there will be little productive conversations around this as an adaptation option on the Lower Eastern Shore.

Stakeholders also diverged in their definitions of managed retreat. While community residents saw this as an unnecessary way to force individuals out of their homes despite facing flooding impacts that they felt are manageable, government and NGO interviewees saw this as a coastal hazard management option and a nature-based way to adapt to climate change impacts that were pressing, inevitable and potentially catastrophic. These definitions reveal a gap in coastal stakeholder's risk perception to SLR and related environmental pressures, which is a product of the knowledge that each individual group uses to assess environmental issues and what should be done to address them

Community residents primarily based their perceived risks on experiential and local knowledge about their environment and its changes. Especially for those who are multi-generational and who have lived through extreme weather events on the shore, it is not climate models that drive their understanding of risk but rather a history of adapting to changes living by the water. While many do acknowledge impacts are getting worse, they believe that their environmental risks could be addressed by alternative adaptations like accommodating or protecting, options they feel have not been explored thoroughly enough. Governmental and NGOs tended to base their perceived risks on scientific knowledge in the forms of larger scale climate change or SLR models. For these groups, a need for managed retreat conversations to be happening now is driven by higher perceived risk for these coastal areas based on data that tells them that entire areas of the Lower Eastern Shore are expected to be regularly flooded or even inundated within the century. Government and NGOs also defined retreat as a process that was not new on the Shore and that could likely be done again, this historic framing differs from the historic framing of community residents who explain that living with the challenges of water has been a central piece of this history on the Lower Eastern Shore. This divergence in definition of managed retreat as a forced unnecessary movement versus a necessary coastal hazard response, is a product of different knowledge systems used by each stakeholder group which can be influenced by each stakeholder group's socio-cultural, historic, economic and political realities.

Differing knowledge systems, that at times feel at odds with each other, can also create issues for managed retreat discussions and planning. Community residents often feel that their



knowledge of their environment and its changes are is often disregarded or taken less seriously, which is a significant challenge to engaging in managed retreat discussions. Additionally, power differentials between stakeholder groups, which can present themselves in valuation of particular knowledge systems such as scientific knowledge over local knowledge in management decisions, indicate another area that needs increased consideration in future managed retreat approaches. Different understandings of managed retreat, especially of community residents, need more attention in managed retreat processes. Without more emphasis on how different stakeholder groups define managed retreat, it is likely that little progress will be made in managed retreat discussions and in equitable managed retreat planning.

### 8.2.2. We Should Not Wait to Have Conversations

Challenges to managed retreat are significant. This was a topic all interviewees were candid about and quick to discuss. In this study on the Lower Eastern Shore, the manner in which challenges were framed varied considerably among stakeholder groups, from personal impacts to institutional capacities to facilitating the process, each group spoke about challenges from their own perspective on how managed retreat impacts them personally or in their work. Key challenges that emerged in different ways for all groups were those of the ethical implications of not currently engaging in conversations or planning processes managed retreat on the Lower Eastern Shore.

One ethical consideration that is important to highlight in the context of managed retreat is that of waiting for catalyst or threshold events such as hurricanes or extreme flooding to induce managed retreat conversations, planning or other processes. It is important to note that while all stakeholder groups identified threshold events as opportunities for retreat, residents framed this as a way to force the process whereas government and non-governmental groups saw these events as starting points for the discussions that they felt they could not initiate as of yet. Government and NGO interviewees explained that threshold events may be the only thing that allow them to engage in these conversations, with concerns of damaging relationships with community residents or being accused of pushing retreat onto communities. Although these reservations are understandable, this approach to initiating discussions creates an ethical dilemma where community residents, who may be in very vulnerable positions, will have little choice but to engage in a retreat conversation or process. Additionally, many government

interviewees discuss standard practices of rebuilding after large natural disasters even though it may not actually be safe to continue to live there. Waiting for threshold events to initiate managed retreat conversations creates no obvious pathways for communities to engage in discussions around these topics prior to threshold or catalyst events and may lead to residents living in conditions that are increasingly unsafe.

Another ethical consideration is that of framing a managed as unlikely due to an overwhelming aging population on the Shore. Many government and non-government organization interviewees debated whether it would even be necessary to start planning for such a lengthy process when the populations in this area were older and where retreat would probably happen more “naturally” through unmanaged retreat and attrition. Feelings that a managed process would be unlikely were common in these conversations, which led to discussion about whether or not government planning and identification of dedicated resources would be necessary. While unmanaged retreat is occurring on the Lower Eastern Shore, and some community residents are not interested in moving at this time, this does not mean that pathways for pursuing the option of assisted retreat should not at least be developed and made available to community residents by government entities. Feeling that this process will likely never happen on the Shore is a major impediment to setting up actionable and accessible pathways for community residents who may be interested in this process, potentially creating a situation where residents who would like to leave will have to do so without assistance.

A final ethical consideration is that of stopping government services to areas that are facing increased issues of SLR and flooding. While economically and logistically this may make the most sense, stopping services without simultaneously creating accessible pathways and steps for community residents to take if they would like to pursue a managed retreat option may unintentionally force retreat for some. The stopping of government services is not just an issue of local or state government capacities but of potentially displacing individuals without any form of support.

The ethical challenges presented above point to a need for government and non-governmental groups to proactively engage in discussion and planning for retreat with community residents, so that after natural disasters they are not contributing to exacerbating communities social and physical vulnerabilities to climate change. While initiating internal discussions may be difficult and progress may be slow, inaction could result in reactionary plans

to coastal hazards which may reinforce practices of rebuilding in unsafe places and a lack of established pathways for individuals who want to retreat, which in turn may perpetuate issues of inequity for residents who would then have to engage in un-assisted, unmanaged retreat.

### 8.2.3. We Need to Address Inequity in Managed Retreat Planning

While the topic of adaptation is usually associated with increasing resilience and building stronger SES, some adaptation plans have the potential to decrease resilience for some at the expense of others. Managed retreat is one of these adaptations that raises concerns about equity in adaptation. Specifically of adaptation privilege, or the ability to have preferred forms of adaptation due to being less socially marginalized or having more access to resources and time to adapt preferably. While some groups will have the resources to safely stay in place through accommodations and protections, not all groups will have those option. Rural communities and communities color along the Lower Eastern Shore may be especially socially and physically vulnerable to SLR and flooding, and more likely to be targeted for unpreferred methods of adaptation such as managed retreat. This in because these communities have been historically relegated to lower-value flood-prone areas through practices of slavery and redlining while simultaneously facing many current institutional barriers for increasing social resilience (Hesed & Paolisso, 2015; Rothstein, 2017).

In order to better understand issues of equity in managed retreat, it is also important to discuss voluntary home buyouts based on standard cost-benefit analyses. These analyses based primarily on property values and physical vulnerability to environmental pressures perpetuate issues of inequality by targeting lower-income communities situated in typically more flood-prone areas and privileging higher valued areas with larger payouts. The equity issue that is of concern here is that buyout processes offer the highest payouts to those with the highest property values as opposed to those who may need the highest payouts due to increased social and physical vulnerabilities. A more equitable restructuring of the valuation system used to engage in managed retreat work necessitates an incorporation of social vulnerability and of the historical and current issues that have contributed to uneven distribution of vulnerability to these impacts.

While government and NGO interviewees saw managed retreat as more equitable than unmanaged retreat, this does not negate the very serious equity concerns for this process that

must be addressed in any future managed retreat decision or planning processes, in order to avoid further perpetuation of these issues.

#### 8.2.4. The Role of Trust in Managed Retreat

What trust means for different stakeholder groups on the Shore and what that means for managed retreat processes of the future was one of the most important findings of this work. Based on a comparison of trust definitions amongst all stakeholder groups, although the way trust was framed differently by each group, i.e. a work relationship, personal relationship, hybrid work-personal relationship, all three stakeholder groups had very similar components of what they would define as trust.

Similarities in trust definitions include honesty and transparency in motives for engaging with another person, the importance of actions matching words, reliability and a feeling that the other person is engaging with you not just because they are only interested in their own motives, but of some mutual benefit to both parties. Additionally, all groups also explained that although having similar life and work experiences or opinions certainly helped build trust more easily, if a person displayed the characteristics mentioned previously, then being able to work together despite differences was also a product of trust. Similarities in trust components which includes a willingness to work with trusted parties with different perspectives is a positive sign for future trust building across groups in a potential managed retreat process.

Another key finding of the trust portion of this work is that rural coastal communities have significant reservations in trusting government and non-governmental groups who would be coordinating retreat. For community residents, distrust of outsiders has historically stemmed from outsiders hidden agendas and empty promises which have led community members either being disregarded or harmed by outsider actions. Across all three stakeholder groups, interviewees brought up that community residents are especially wary of trusting outside groups when it comes to issues of relocation and being told where to live generally. This is important to highlight as a process like managed retreat, that would require collaboration among a variety of stakeholders who have contentious historical relationships, cannot be achieved without trust being built between stakeholder groups. Therefore, building trust is an important step forward for managed retreat that government and non-governmental groups need to take. For this to be done, government and non-governmental groups need to better understand how communities define

trust and work on building trust in the ways that communities are receptive to communities. This includes being transparent with every step developed for a managed retreat process, meeting in familiar community spaces, listening to and incorporating local knowledge into plans and action, and most importantly in making investments to strengthen the community outside of processes of retreat.

For community residents one especially important component for trust building is the respect and inclusion of local knowledge throughout these processes, this is due to outside groups historically dismissing their knowledge about their environment and its changes in research, planning and decision-making processes. For example, community residents who are living on the Lower Eastern Shore do not feel that retreat is necessary currently or anytime soon, instead they would like to see alternative adaptation options explored in their coastal area. One way of incorporating local knowledge and building trust in this case is in working with community residents and community groups to identify areas of concern and preferred methods of adapting in place for now. An investment being made by outside groups, informed by local knowledge is both a to build trust and potentially build socio-ecological resilience in these areas. An intentional effort to make collaborative spaces where knowledge from all groups is shared, heard and integrated into actions, with emphasis on action as an important component of trust for community residents, is another important step for trust building in a managed retreat process. Additionally, because trust for community residents on the Lower Eastern Shore is oftentimes place-based, directly working with trusted individuals within communities and compensating them for their time as experts in these conversations may also help establish easier pathways for trust building with residents.

Another important trust finding that can contribute to future managed retreat, is that trust for NGOs is based on a willingness to share spaces and thoughts with those different than their own in an effort to find mutual benefits for all involved throughout a process. Because they base their trust on principles of compromise, mutual benefits and understanding one another, these groups have the potential to play an important role in managed retreat in helping bridge the trust gap between government and community residents. While NGOs still need to work on their own issues of being distrusted by community residents, they can serve as a trust facilitator necessary for a managed retreat process.

If managed retreat efforts on the Lower Eastern are to be effective and equitable in the future, it is not the identification of SLR prone areas or the drafting of planning stages that must come, but rather an intentional approach to building trust, rapport and better relationships with residents of rural coastal areas. Community members who have reservations with both the process of managed retreat and to those who may coordinate and implement retreat explained that they can work with individuals they have differences with as long as trust is at the center of those interactions. This means that an increased emphasis on trust in a managed retreat processes has the potential to build better understandings around retreat, help overcome ethical and equity challenges in retreat and facilitate and support identified opportunities.

#### 8.2.5. Better Retreat: Intentional, Equitable and Collaborative

While there are many challenges to a process like managed retreat, there are also many opportunities for doing this process in a more intentional, equitable and collaborative way. Thinking about ways forward for managed retreat, the first step is in starting managed retreat discussions. For starting discussions, is important to think about how managed retreat is framed and who should initiate these discussions. Managed retreat is a topic that will be difficult to discuss no matter who initiates conversations, but there are groups who are more trusted and have less historical issues with community residents who may be better received than any government entity trying to start these same conversations. Identification of trusted individuals and groups are a first step in starting these discussions. These may include community leaders, faith-based organizations or small local non-governmental groups who have established relationships with community members. The use of terminology that all groups can agree with, such as flooding and erosion versus climate change, can help advance these discussions. Centering issues of equity, which are apparent to all groups, in initial managed retreat discussions, is another important step to take for future managed retreat. From cost-benefit analyses, to how information is shared, to making sure who is not at the table, equity needs to be a focus of early managed retreat discussion in order to avoid perpetuation of equity issues for these communities.

Established mechanisms and guidelines for retreat are another important and missing piece to the puzzle when it comes to pathways for retreat. Government and non-governmental groups must start internal conversations to identify initial resources and steps that community

members may use to engage in a managed retreat process, should they be interested in it. This also means that government organizations should start to build out actionable processes and information streams that are easily accessible to communities in order to simplify what would otherwise be a complicated and unfamiliar process. These early internal conversation and identification of managed retreat pathways and resources for community members helps to address ethical concerns of waiting until threshold or catalyst events occur to start these conversations. Instead of waiting for threshold events to be the precursor of managed retreat discussions, these groups should present managed retreat alongside other adaptation options for example in the case of nuisance flooding.

While not all community members may be interested, providing information on what this process would like, who would be involved and how decisions would be made, is an important step for both engaging in better managed retreat discussions as well as an opportunity for community residents who may want to move with assistance to do so. In sharing this information, these groups should emphasize community choice in order to clarify that this is the decision of a community, which may help to bridge some of the managed retreat understandings gaps between communities and government. Though collaborative discussions between residents and outside groups, communities can provide input on how to improve these resources or processes in order to make this an a more culturally relevant, accessible and easily navigable process.

All stakeholder groups also expressed concerns throughout conversations that those who would coordinate a managed retreat will not be able to understand, much less translate, the experience and connection that communities have with place and with each other on the Lower Eastern Shore. Considering this concern and thinking about making managed retreat more a comprehensive process that represents all stakeholder involved, another important step forward is empowering community residents and groups to be leaders within managed retreat conversations once they have been initiated. It should be community residents who use their local and community knowledge to identify what essential steps are for preserving intangible social and cultural components.

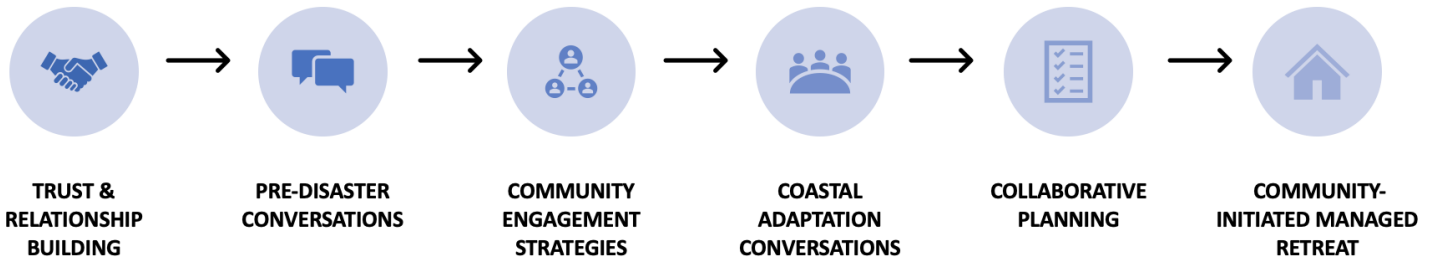
Another important step forward is thinking about how managed retreat fits into long term plans for adapting to climate change and related environmental pressures along the Lower Eastern Shore. While government and non-governmental groups are concerned about







community's receptiveness to managed retreat, community residents explained that retreat could be an option considered at some point in the future, but that it could not be the only option. A pathway for managed retreat on the Lower Eastern Shore, means working with communities to build multi-tiered or phased approaches to adapting. These plans both show communities that non-community residents are willing to listen to local knowledge about environmental change and invest in their priorities, while allowing for more developed managed retreat discussions and planning to happen much earlier.

The most important step forward in effective and equitable retreat is for developing collaborative planning groups made up of a variety of coastal stakeholder including communities in order to create seats at planning and decision-making tables for community residents in managed retreat processes. These collaborative planning groups should be made up of a variety of coastal stakeholders in order for many perspectives to be represented and should meet communities in spaces familiar to them in order to help with issues of power differentials that are sometimes common in multi-stakeholder spaces. There is a need for social scientists and individuals trained in collaborative facilitation to be in these conversation and planning processes as well. With the examples from Shishmaref and Isle de Jean Charles, the idea of managed retreat as a community process is important, but challenges from these case studies show a need for government and non-governmental institutions to actively provide resources and sustained support in order to successfully realize community visions for managed retreat (Marino, 2018b). As government and non-governmental groups help to facilitate these steps and provide resource to do so, trust and collaboration can also help communities feel more empowered. The conceptual diagram below, (Figure 2) based on the discussion point from this section, provides action and policy recommendations for more equitable, collaborative and community-centric managed retreat.



### 8.3. Model for Future Managed Retreat



Phases	Steps
	<ul style="list-style-type: none"> <li>• <b>Identify:</b> trusted residents, community leaders, and organizations.</li> <li>• <b>Create:</b> spaces for trust building across stakeholder groups.</li> <li>• <b>Listen:</b> to local knowledge about the environment and its changes.</li> <li>• <b>Invest:</b> in alternative adaptations and other community priorities, co-developed with residents.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Initiate Internal Conversations:</b> within agencies, across agencies and across stakeholder groups about managed retreat before disasters occur.</li> <li>• <b>Rethink:</b> buyout models for retreat to include measures of social vulnerability.</li> <li>• <b>Identify &amp; Compile Information:</b> on potential funding sources, partners and steps for communities to take if they would like to engage in retreat.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Compensate:</b> trusted individuals such as community leaders to develop plans for initiating retreat discussions, (e.g. monetary compensation).</li> <li>• <b>Reframe:</b> managed retreat. From its contentious terminology to framing it within the larger suite of coastal adaptation options.</li> <li>• <b>Identify:</b> familiar community spaces for events for engaging on these topics.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Community Conversations:</b> dialogue about environmental issues involving a variety of stakeholders, facilitated by trusted individuals in a familiar community space.</li> <li>• <b>Information sharing:</b> about available adaptation options, including managed retreat.</li> <li>• <b>Community Visioning:</b> create a community vision for the future, considering environmental issues and when each adaptation should be used.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Establish:</b> collaborative adaptation planning group for each community that includes residents.</li> <li>• <b>Co-produce:</b> a managed retreat plan for the future.</li> <li>• <b>Utilize:</b> community vision to create community resilience plan, which includes actionable steps community members can take if they want to do managed retreat.</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Retreat:</b> using co-produced plan for managed retreat, supported by a variety of governmental and NGO partners.</li> <li>• <b>Continue:</b> community conversations and investments guided by community priorities.</li> <li>• <b>Adaptive Co-Management:</b> evaluate managed retreat process at every stage from planning, to relocation and re-establishment to make sure plan is meeting community needs. If plan needs to be changed, go back to collaborative planning stage.</li> </ul>

**Figure 2.** Conceptual model for more equitable and collaborative managed retreat. The six phases in the diagram include (1) Trust & relationship building, (2) Pre-disaster conversations, (3) Community engagement strategies, (4) Coastal adaptation conversations (5) Collaborative planning and (6) Community-initiated managed retreat. In the table, steps for each phase are included. These recommendations should be adapted to specific community contexts and serve as just a baseline for engaging in managed retreat work of the future.

## 8.4. Conclusion

Ways forward for better managed retreat that in the steps mentioned above, are all based on centering community residents throughout the process. Policy recommendations based on the findings of this research and on the model presented above include (1) increased investments in multi-tiered adaptation processes, (2) a restructuring of the typical voluntary buyout model that should be informed by measures of social vulnerability and (3) dedicated resources for establishing collaborative adaptation planning groups, especially in rural coastal areas. For better ways forward, managed retreat needs to be situated within a process that empowers community residents and that is intentionally inclusive. It must be collaboratively done in a way that centers agency and empowerment of communities, so that they can lead the decision-making tables that shape their climate adaptation pathways. Historical issues of distrust and disempowerment will be difficult to overcome, especially in a socially disruptive process like managed retreat. These difficulties can start to be addressed by building trusting relationships and truly collaborating, not consulting, with communities at every step of a managed retreat process. From initial conversations to planning movement and relocation sites, communities must feel they are in control of this process and that they can adapt the process as it goes.

Rural coastal communities along the Lower Eastern Shore acknowledge that they are facing worse storms and flooding events; empowering them by emphasizing their agency throughout the process and creating seats at collaborative adaptation planning tables will be necessary for building a more socio-ecologically resilient Lower Eastern Shore.

## Appendix 1.

### *Recruitment Email*

Dear (Participant Name),

My name is Andrea Miralles-Barboza, and I am graduate student working with Dr. Michael Paolisso and Dr. Isabella Alcañiz at the University of Maryland on research to document and explore the topics of (1) managed retreat and (2) trust on the Eastern Shore of Maryland.

The data collected will be used to increase understanding on the climate change adaptation response of managed retreat, and how trust will play a role in managed retreat discussions in the future on the Lower Eastern Shore of Maryland. You may be receiving this email because you are an individual with key knowledge and insights about this coastal area that will help us get a better understanding on these topics, and I would like to request to interview you.

To ensure that the data captures a comprehensive understanding of these topics on the Eastern Shore, I will be interviewing 20-30 individuals in coastal stakeholder groups across four counties (Dorchester, Queen Anne's, Somerset and Talbot) to collect your opinions on managed retreat, trust and engagement. If you agree to participate in an interview, please respond to this email with the dates and times that would work best with your schedule. It will be about an hour, and all information collected will be completely confidential and in accordance with the University of Maryland's Institutional Review Board.

It would be greatly appreciated if you can let me know within the next 3-5 business days whether you are willing to participate, as I am currently scheduling other interviews. If you have any questions or concerns, please don't hesitate to get in touch by email or phone [Phone Number]

Thank you kindly for your consideration!

Regards,

Andrea Miralles-Barboza  
Marine Estuarine Environmental Sciences (MEES) Master's Student  
University of Maryland

## Appendix 2.

### *Interview Consent Form* CONSENT TO PARTICIPATE

<b>Project Title</b>	Understanding Managed Retreat through a Multi-Stakeholder Lens: A Case Study on the Lower Eastern Shore of Maryland
<b>Purpose of the Study</b>	<p>This research is being conducted by Andrea Miralles-Barboza and is supervised by Dr. Michael Paolisso &amp; Dr. Isabella Alcañiz at the University of Maryland, College Park. We are inviting you to participate in this research project because you are an individual within a key stakeholder group on the Eastern Shore of Maryland with knowledge on the climate adaptation response of managed retreat. The purpose of this research project is to document and increase understanding on the range of understandings and views on managed retreat, trust and engagement amongst various stakeholder groups within the Eastern Shore of Maryland. Through semi-structured interviews and questionnaires, data will be collected on how different stakeholder groups view and interact with the topic of managed retreat, and how trust and engagement can play a role in future discussions on the topic of managed retreat.</p>
<b>Procedures</b>	<p>As a participant in this research project, you will be interviewed for about an hour (by phone or Skype) during which you will be asked 10-12 semi-structured questions about how you understand and interact with the topics of managed retreat, trust and engagement. A sample interview question is:</p> <p><i>“In what way would managed retreat impact you and your community?”</i></p> <p>Your insights should be based on your own knowledge and experiences. As an interviewee, we would like to audio record your interview using digital audio recorders. These recordings will be transcribed and analyzed for key themes and information on the topics. Neither your name nor any other identifying information will be associated with the audio recording or transcription. These digital audio recordings will be stored on a password-protected computer. If you prefer to not have your interview audio recorded, please inform the interviewer prior to the interview.</p>

<p><b>Potential Risks and Discomforts</b></p>	<p>There is no known danger or significant risks posed to you in this research. Managed retreat, trust and engagement are topics of general interest and will not cause psychological or economic harm to you.</p>
<p><b>Potential Benefits</b></p>	<p>There are no direct benefits from participating in this research. However, we hope that, in the future, other people might benefit from this study through an improved understanding of managed retreat, and the roles of trust and engagement have in building more equitable approaches to managed retreat in the future.</p>
<p><b>Confidentiality</b></p>	<p>Any potential loss of confidentiality will be minimized by limiting access to collected information to the principal investigators of the project, Andrea Miralles-Barboza, Dr. Michael Paolisso and Dr. Isabella Alcañiz. Your name may be recorded in interviewer notes, but your name will be replaced with a code designated through an identification key. No identifying information will be included in any write up of project findings or any other external use of project data. All collected interview data will be stored in a password protected computer to minimize potential loss of confidentiality.</p> <p>If we write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
<p><b>Right to Withdraw and Questions</b></p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p>Andrea Miralles-Barboza  University of Maryland, College Park  1213 HJ Patterson Hall  College Park, MD 20742  amiralle@umd.edu  [Phone Number]</p>

<p><b>Participant Rights</b></p>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p>University of Maryland College Park  Institutional Review Board Office  1204 Marie Mount Hall  College Park, Maryland, 20742  E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a>  Telephone: 301-405-0678</p> <p>For more information regarding participant rights, please visit:  <a href="https://research.umd.edu/irb-research-participants">https://research.umd.edu/irb-research-participants</a></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>
<p><b>Statement of Consent</b></p>	<p>Your consent indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study.</p> <p>Prior to the interview, the interviewer will request your verbal consent, which will be audio recorded. If you agree to participate, please verbally indicate your consent when prompted.</p>

## Appendix 3.

### *Interview Instrument*

Interviewee:

Organization/Stakeholder Group:

Date:

Interviewer:

1. To start this interview, I'm going to ask you to think about single words that you think of when I say managed retreat, you can take a minute and list off words that come to mind.
2. How would you define managed retreat?
3. In what way would managed retreat impact you and your community or your work/organization?
4. Do you see any benefits to managed retreat for your area or organization, do you think it would be supported?
5. What do you think the challenges to managed retreat are for your area or organization?
6. Do you think there are any opportunities or ways that managed retreat would work for your area or organization?
7. So now we are going to be switching the focus of the questions to talk about trust and engagement. What does trust mean to you?
8. Could you give me an example of groups or people that you really trust?
9. What about the person or group in that example made them trustable?
10. Can you give me an example of groups or people that you distrust?
11. What about the person or group in that example made you distrust them?
12. What does meaningful engagement mean to you?
13. What do you think are the best ways for people to engage your community or your organization on the topic of managed retreat?
14. What type of engagement do you think would help build trust between your group/community in managed retreat discussion or processes?
15. To wrap up, I want to revisit the first thing that we did during this interview. Take a minute and list off words that come to mind when I say managed retreat.

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