



Engaging Eastern Shore Communities in Protection of the Salt Marshes of Blackwater National Wildlife Refuge

Interviews with stakeholders from academic, non-profit,
business and faith groups conducted for Pickering Creek
Audubon Center



June 2015

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This report was funded through a grant from the Town Creek Foundation of Easton, Maryland to Audubon for the support of Pickering Creek Audubon Center's salt marsh community engagement project, "Salt Marsh Stories."

Photo of Blackwater National Wildlife Refuge courtesy of K. Akerlof

Executive Summary

Pickering Creek Audubon Center maintains a long history of providing successful environmental education programming on Maryland's Eastern Shore. The goal of the "Salt Marsh Stories" program is to build on that foundational expertise, expanding to new adult audiences in Talbot and Dorchester counties with content that serves to not only inform participants about the ecological role of the salt marshes, but spur heightened community discourse and advocacy on behalf of their preservation. In Spring 2015, George Mason University's Center for Climate Change Communication conducted a set of stakeholder interviews with individuals representing four areas of interest for the program: business and faith communities, higher education, and regional Audubon chapters. The findings and recommendations from the study are detailed below.

Characterization of the social and ecological communities

- Water was frequently identified by respondents as the most characteristic aspects of nature in these communities, as well as marsh, trees and open fields. People also pointed out that these natural aspects had changed over time.
- Respondents pointed to tensions in the communities, and on the Eastern Shore generally, that further complicated these changes in the relationship between communities and natural resources: tensions between generations; between farmers and watermen; between environmental groups and industry, especially poultry; between new residents and longtime inhabitants; and between racial groups.

Pickering Creek Audubon Center's role in the community

- Pickering Creek is supported by the stakeholders interviewed for this study in exploring a broader role in the local community, but there is also recognition of complex nature of the challenge. Possible barriers included: the reluctance of local policymakers to address the issues; the possibility for community resistance to changes in land use brought upon by the migration of the saltmarshes; and Audubon's framing of the issue as one of climate change and habitat conservation versus community resilience and adaptation.

Opportunities for community engagement—and challenges

- Other organizations have already explored models for conducting wetlands adaptation within communities that could be instructive in preserving Blackwater's salt marshes: a community of adaptation practice; and conversations with Smith and Deal island residents.
- Cited challenges in community engagement included the wide politicization of environmental issues and the scale of the problem which renders any one individual's actions seemingly insignificant.

Communication and attitudes about the salt marshes, sea-level rise and climate change

- Respondents said they believed that effects of changes on the water—flooding and sea-level rise—were more likely to be discussed than climate change or the marshes.
- Wetlands still have a public relations problem noted interviewees—as “mucky, mosquito-infected” areas.

Recommendations

- Develop a multi-year communication plan that details the role that Pickering Creek chooses to take in the community and its implementation—whether it is to continue largely providing environmental education, or whether it is to present information to inform local decision-making about policies.
- Consider the full array of possibly influential audiences in local communities, especially civic leaders, and what contributions they might make to the wider discourse.
- Evaluate whether there are differences in the needs and perspectives of the new target audiences to the salt marshes, and how those might be addressed in recruitment, presentation content, and experiential events.

Background

For the last four years, Pickering Creek Audubon Center has partnered with Audubon Maryland-DC, Blackwater National Wildlife Refuge, and The Conservation Fund to conduct community outreach and education in conjunction with their research and implementation of adaptation strategies for salt marsh ecosystems in combatting the effects of sea-level rise. Pickering Creek has a long successful history of providing environmental education programming, especially for elementary school students. “Salt Marsh Stories” seeks to build on that expertise, expanding to new adult audiences in Talbot and Dorchester counties with content that serves to not only inform participants about the ecological role of the salt marshes, but spur heightened community discourse and advocacy on behalf of their preservation. The culmination of these activities will be a salt marsh forum in Dorchester County in 2016 that engages civic leaders from all walks of life, including the business community and faith organizations.

Blackwater National Wildlife Refuge and Dorchester County

Dorchester County sits along 1,500 scenic miles of Chesapeake Bay shoreline bounded by the Choptank River to the north and the Nanticoke River to the south. Wetlands riddle the interior, comprising nearly half of the county and including the salt marshes of Blackwater National Wildlife Refuge.¹ The tidal marshes within this region are some of the most extensive in the United States and represent critical wildlife habitat, particularly for birds. In the past century, thousands of acres of marsh have converted to open water due to destruction from invasive species and relative sea-level rise.

The county faces economic challenges as well as threats to its natural ecosystems. The primary industries in the county are manufacturing, services, tourism, and agriculture/aquaculture.² As of 2013, more than 700 businesses called Dorchester home, but only 16 of them with 100 workers or more.³ At just over \$46,000, median household incomes for the county are less than two-thirds of that of the state as a whole.⁴ The county has one of the highest unemployment rates in Maryland (8.5%), comparable to the City of Baltimore (8.7%)³; less than 20% of residents have a bachelor’s degree; and 16.5% live under the poverty level.⁴ By way of comparison, Talbot County, while just north of Dorchester County, has median incomes that are more than a third higher, and unemployment rates that are 2.9 percentage points lower.

Established in the 1600s, Dorchester and Talbot Counties were one of the earliest settled areas by colonists in Maryland. They maintain rich histories, famously chronicled in James

¹ Lerner, J.A., Curson, D.R., Whitbeck, M. and Meyers, E.J. 2013. *Blackwater 2100: A strategy for salt marsh persistence in an era of climate change*. The Conservation Fund (Arlington, VA) and Audubon MD-DC (Baltimore, MD).

² Maryland Dept. of Business and Economic Development. ND. *Brief economic facts: Dorchester County, Maryland*. Available at <http://business.maryland.gov/Documents/ResearchDocument/DorchesterBef.pdf>

³ Maryland Dept. of Business and Economic Development. 2015. *Maryland Data Explorer*. Available at <http://business.maryland.gov/about/rankings-and-statistics/data-explorer>

⁴ U.S. Census Bureau. 2015, Apr. 22. *QuickFacts, Dorchester County, Maryland*. Available at <http://quickfacts.census.gov/qfd/states/24/24019.html>

Michener’s novel “Chesapeake.” These histories include pivotal figures and events in U.S. anti-slavery and Civil Rights movements, including as the birthplace of Harriet Tubman, site of the Underground Railroad, and Civil Rights demonstrations in the 1960s. About a third of residents in Dorchester are from communities of color, one of the highest rates along the Eastern Shore, on par with Wicomico County (33%) and somewhat lower than Somerset (48%).⁵

Public opinion on sea-level rise and climate change in the Eastern Shore

Roughly a third of Marylanders in the counties along the Eastern Shore—from Kent to Wicomico and Worcester—say that they are very or extremely sure climate change is happening (32%), a similar percentage are very or extremely sure sea-level rise is happening along Maryland’s coastlines (37%).⁶ Eastern Shore residents are less certain that climate change is happening than the rest of the state (45% very/extremely sure), but they are more certain that sea-level rise is happening than other Marylanders (18% very/extremely sure).

Outreach program

Pickering Creek Audubon Center’s Salt Marsh Stories program consists of three components: 1) an educational presentation delivered to audiences at their location; 2) tours of the national wildlife refuge to learn about its importance as part of the Atlantic Flyway for critical bird habitat; and 3) restoration of salt marsh by volunteer replanting of grass plugs in areas that have experienced ecological deterioration. Organizations may choose to participate in one or more of the activities. The excursions to Blackwater National Wildlife Refuge often bring together groups of different ages and interests, such as Audubon chapter members and undergraduate students from local universities.

Research role

George Mason University’s Center for Climate Change Communication was asked to assist in supporting and assessing Pickering Creek’s efforts in 2014-2015 with audience research. The study includes a set of stakeholder interviews captured in this report, a baseline survey, and follow-up surveys with participants of the Blackwater excursion. The stakeholder interviews presented in this report represent four audiences of interest: business and faith communities, higher education, and regional Audubon chapters.

Interviews

The objective of the interviews is to further program development of Salt Marsh Stories by providing information about the environmental perceptions, mental models, interests, and

⁵Maryland State Data Center. 2011. Census: Census 2010 Redistricting (Public Law 94-171) Data. Minority population share for Maryland’s jurisdictions, 2010. Available at <http://planning.maryland.gov/msdc/census/cen2010/PL94-171/map/MinShare10.pdf>

⁶Akerlof, K., Maibach, E. W., & Boules, C. 2014. *Public perceptions of climate change: A Maryland statewide survey, fall 2014*. Fairfax, VA: Center for Climate Change Communication, George Mason University.; Akerlof, K., & Maibach, E. W. 2014. *Adapting to climate change & sea level rise: A Maryland statewide survey, fall 2014*. Fairfax, VA: Center for Climate Change Communication, George Mason University. Available at climatemaryland.org.

social networks of individuals representative of the four focal audiences. Pickering Creek has substantial connections with institutions of higher education that deliver environmental science curricula and the network of regional Audubon chapters. These audiences are the traditional audiences for Pickering Creek's Salt Marsh Stories programs. In 2015, Pickering Creek also increased outreach to the business and faith communities of Talbot and Dorchester counties.

Methodology

In Spring 2015, the author interviewed eight individuals recruited from a list of 15 presented as current, or potential, stakeholders by Pickering Creek Audubon Center. The distribution of the interviewees across the four audiences of interest, and Blackwater National Wildlife Refuge, is as follows:

- 1-business community
- 1-faith community
- 2-higher education
- 3-regional Audubon chapters
- 1-Blackwater National Wildlife Refuge

Half of the interviewees were female; one was from a community of color. The distribution of interview subjects is heavily weighted toward Pickering Creek Audubon Center's traditional audiences for their environmental education programs; this is a limitation of this study. However, it was deemed more effective for Pickering Creek to conduct further outreach with these audiences as a component of their heightened recruitment campaign with these groups instead of widening the study.

The interviews were conducted both by telephone and in-person at convenient sites for the respondents. All interviews were audio recorded and transcribed. The interviews ranged from 34 to 60 minutes, averaging 51 minutes; they were semi-structured, based on a script, but varied depending on the areas of expertise of the respondents (see instrument in appendix). The interviews covered five primary topics and 14 subtopics (Table 1). The text was excerpted by the 14 subtopics and then evaluated for themes and relevant information. Due to the small sample size, extrapolation beyond these interviewees' statements to wider audiences is not advised. However, the perspectives of these individuals are of significance, even if they are not broadly representative, because of these stakeholders' relationships with Pickering Creek and thus importance to the Salt Marsh Stories program.

Table 1—Interview topics and coding of subtopics within transcript excerpts

Topic	Subtopics
Description of community and natural resources	<ul style="list-style-type: none"> • Community description • Respondent information • Salient nature
Pickering Creek Audubon Center’s community role	<ul style="list-style-type: none"> • Characterization of Pickering Creek • Relationship with Pickering Creek • Blackwater trip experiences
Barriers and opportunities for community engagement	<ul style="list-style-type: none"> • Respondent community involvement • Funding and politics • Models for community engagement
Influential people and organizations	<ul style="list-style-type: none"> • Connected community members • Community leaders
Communication and attitudes about salt marshes, sea-level rise, and climate change	<ul style="list-style-type: none"> • Salt marshes • Sea-level rise • Climate change

The study was determined to be exempt by the Institutional Review Board for George Mason University (Protocol # 707694-1). The interviewees were assured that their comments would remain anonymous. For that reason, no identifying information is provided.

Findings

Notable themes and respondent statements from across each of the primary topic areas are detailed in the five subsections below. These are followed by a set of communication recommendations based on the study findings.

Description of “community” and natural resource interests

Participants in the Salt Marsh Stories program are from geographically disparate areas—they live in areas reaching from the northern suburbs of Baltimore to Salisbury in the southern reaches of Maryland’s Eastern Shore. Half of the interviewees referred to Talbot and Dorchester counties as their communities of reference; half identified with either larger communities (the Eastern Shore) or non-geographic communities of shared interest (Audubon). Respondents associated with Audubon chapters said that they did not know the local communities around Blackwater National Wildlife Refuge well, and believed that improving connections with local residents and civic leaders should be a priority for Pickering Creek.

Those who reported knowing the communities of Dorchester and Talbot described them as rural with an emphasis on their heritage of farming and fishing, but with sizeable differences in their residents and economics:

Both communities are great small towns. They're both rural. They're both very oriented on the water and have very much an agricultural watermen way of life. Talbot County is gaining a very large percentage of retirees that are educated who are coming out here to their second homes that they had before—now they're retiring here. Dorchester County has some of that but not predominantly. Dorchester County is much lower economically. It has a lot more unemployment, a lot more Section 8 housing.

Water was frequently identified by respondents as the most characteristic aspects of nature in these communities, as well as marsh, trees and open fields. People also pointed out that these natural aspects had changed over time. As one respondent said of Blackwater National Wildlife Refuge, “When I was growing up ... there wasn’t a Black Water Lake, it was all marsh.” Another respondent discussed the ways in which the movement of the marsh and waters increasingly threatened their community. Declines in water quality were also mentioned by interviewees (“with each new housing development, I see our water quality go down”). Moreover, respondents discussed changes in the relationship between communities and natural resources brought upon by environmental changes, economic forces, and cultural shifts.

- Decreased public access to waterfront was brought up by two respondents; one who said that she had fond memories of swimming in the Bay, but that **the shoreline access point was now on private land.**
- *[Our children, the offspring] they know now they can't get by just being a waterman. They can't get by with just farming, they have to have another income source or back up if they want to have a productive life and have, you know, the things they want in their family.*
- *Right now, at least in the eastern area, I see a lot of places, they're cutting down their trees because they can get \$8,000 and they're told it'll come back. I wasn't seeing that when I first came. I think times are harder. People are looking to be more creative with ways to gain income.*
- *I think nationally there has been a decline in hunting registrations. In a community like Talbot and Dorchester County that decline has probably been less, but I wouldn't be surprised if the trend is also present.*
- *When I was growing up, there were a lot of people in my high school and college who, you know, backpacked a lot, bicycled toured a lot. But now, it's like, I don't know any kid who bicycle tours. ... it's just not much a part of the culture. I blame computers.*

A number of respondents pointed to tensions in the communities, and on the Eastern Shore generally, that further complicated these changes in the relationship between communities and natural resources: tensions between generations; between farmers and watermen; between environmental groups and industry, especially poultry; between new residents and longtime inhabitants; and between racial groups.

- *And farmers and watermen, I look at them all as farmers, but **farmers and watermen have historically not [gotten] along that great.** And this nutrient management of the Chesapeake Bay Watershed ... there was a lot of pushback. It's your fault that our Chesapeake Bay is half dead. No, it's your fault. No, you're taking too much food out of the water. No, you're having too much runoff on your farmland.*
- *I think that, you know, it's still very much seen as **environmental versus agriculture and industry.** And to me, that seems so archaic, you know, that idea. I feel in a lot of ways, the Eastern Shore, it's about 10 or 20 years behind the times in terms of cultural perceptions*
- *We're having a major influence, influx of humans, that are living here in the Delmarva Peninsula and working in DC, Baltimore, and sometimes farther away than that. So, **we're seeing an influx of human population.** Let me tell you, the people from here do not like it.*
- *The African American guys that I got to know, **they would all talk about how overtly and sort of not so subtly racist it still was ...***

The comments of interviewees portray communities, especially that of Dorchester County, that are struggling to overcome enormous changes in their culture, economy, and relationship with their natural resources. One interviewee said that she believed that Dorchester County was on an economic upswing, yet high levels of unemployment and poverty in the areas closest to Blackwater National Wildlife Refuge will likely limit the adaptive capacity of its residents and their ability to marshal resources and political will for protection of their communities and the salt marshes from the effects of sea-level rise and climate change. Pre-existing community tensions may further complicate these processes.

Pickering Creek Audubon Center's community role

Interviewees were asked about the role of Pickering Creek Audubon Center in the community: what their relationship was with Pickering Creek; what they thought that the nature center did particularly well in the community; and what it could contribute beyond its current outreach and education programs. While all interviewees appreciated the programs that Pickering Creek provides, they and their affiliated organizations each perceived them through slightly different lenses based on the needs of their affiliated organization. For example, representatives of environmental science and studies programs

in higher education institutions said that they valued the field trips as experiential learning opportunities that augment their undergraduate curricula.

Pickering Creek has given me a platform to expound upon with learning, especially environmental science learning. You can teach it in a classroom or in a lab inside a building till the cows come home but if you don't take interest and you don't get them out in the ecology of nature, they're not going to make this connection.

Respondents noted that Pickering Creek's strengths were in environmental education, particularly with students at local schools, but that its focus in recent years had been expanding to include a broader role in the community in addressing climate change and habitat conservation.

- *I do know as far as their offerings that they have a ton of school groups coming through. They have incredible physical set up, you know. And what they're doing with what they have: creating marshlands and having current retired professors doing research there and having kids attached to that. **I think just trying to educate everybody, the whole public not just public schools, about environmental issues and the value of natural systems ...** And my sense is they're doing a great job with it.*
- *And I think that the role of Pickering Creek is still in many ways based in education but it is education that brings an understanding of the issues affecting birds and leads to action on part of the participants. It leads them to take action, whether that is participating in a habitat restoration effort in Blackwater, or building a backyard school habitat, or planting native plants in their own backyard. So, **I think its role is bringing the community up to speed on the issues that are facing us and are facing birds.***

Interests in education about Blackwater National Wildlife Refuge and its endemic and migratory bird species extended to adult audiences beyond the Eastern Shore. Indeed, a chapter member noted that some of the strongest interest in these programs comes from people on the western shore of the Bay; a few noted that they enjoyed the multigenerational aspects of the grass plantings alongside undergraduate students and representatives of U.S. Fish & Wildlife Service and Pickering Creek.

Other respondents with connections to habitat conservation efforts at Blackwater National Wildlife Refuge suggested that Pickering Creek needed to push further toward activities that supported public and local governmental engagement on sea-level rise adaptation, but also recognized the difficulties in doing so. These challenges included:

- the reluctance of local policymakers to address the issues;

*Elected officials in places like Dorchester County are really scared of this issue and it's not just for kind of partisan political reasons, but it's because, I think when they sign up to be on the County Council for someone like Dorchester, they're thinking about fire stations and schools ... **They're not thinking about being ground zero for one of the biggest environmental problems of the century.** And when they see that it's like, I mean, I can't blame them, they just put their hands over their eyes and say, I don't think I'm ready for this. ... they've been very reluctant to really embrace it. I think for this reason, of being overwhelmed by the scale of it and not really knowing what to do.*

- the potentially fraught nature of some of these public conversations due to some of the tensions between different groups in the communities;

One respondent commented that while Pickering Creek served as a link to the local community for U.S. Fish & Wildlife Service, they were also **sensitive to the diversity of local audiences and careful not to disrupt those relationships.**

- the possibility for community resistance to changes in land use brought upon by the migration of the saltmarshes;

*... we haven't yet developed the kind of relationship with local people in terms of sea level rise strategy. ... So you know, **for a lot of people it might look like some kind of land grab going on.** And, because these kind of conservation projects go on anyway and it's just a case of trying to kind of redirect them into these areas, it hasn't been a super high priority to inform the public of this particular damage of what we're doing. ... You know, we definitely kind of fear a little bit of a backlash, that without the right kind of priming and education and outreach, reaction could be negative.*

- Audubon's framing of the issue as one of climate change and habitat conservation versus community resilience and adaptation;

*Audubon can't be two-faced. You know, **we can't come in and say yeah, we really care about roads flooding and we are not interested in climate change.***

- the need to recognize when other organizations might serve as more effective messengers.

***It may be that Audubon isn't the right people to be interfacing directly with those communities** And it might be that it's actually a local land trust or you know, some group that's more firmly embedded in the local scene that that promotes the kind of actions that are needed, you know.*

In the last few years, Pickering Creek has begun to transition from providing traditional environmental education programs to exploring a broader role in the local community with audiences that have until now played a limited role in habitat conservation. Pickering Creek is supported by the stakeholders interviewed for this study in doing so, but there is also recognition of complex nature of the challenge. The traditional audiences for the Salt Marsh Stories program—universities and Audubon groups—see clear benefits to their participation, but in many cases have little to no connection with the immediate community around Blackwater National Wildlife Refuge that is now one of the program’s most important target audiences. New program audiences—local business and faith groups—are not well represented in this study, but those individuals who were interviewed demonstrated interest and support for Pickering Creek’s programs, but had less familiarity with them and were less able to draw connections between the program and the organizations with which they were affiliated. One interviewee noted that encouragement of employee volunteerism was limited among Dorchester businesses, and followed the economy.

*We do have a couple of organizations, the larger ones that are good about letting their employees volunteer and trying to get their employees to volunteer. Some of them used to be better. And then **when employees, they had to do some cutbacks, and employees had more things, the employees stopped being quite as involved.***

Opportunities for community engagement—and challenges

Interviewees pointed to a number of prospects for broadening engagement in Dorchester and Talbot communities, and some challenges. Other organizations have already explored models for conducting wetlands adaptation within communities that could be instructive in preserving Blackwater’s salt marshes. Skip Styles’ Wetlands Watch in Virginia has used a community of adaptation practice model to bring groups together and increase their combined effectiveness; U.S. Fish & Wildlife Service has worked with Smith Island to stabilize the shoreline of Martin National Wildlife Refuge; and the Deal Island Marsh & Community Project has been underway since 2013 with leadership from the University of Maryland and the Chesapeake Bay National Estuarine Research Reserve. Generally respondents suggested increasing programs that appeal to, and are easily attended by, adults, such as scheduling more sessions on weekends and in populated areas of the counties. Other suggestions included widening the topics to include a variety of environmental issues, such as renewable energy.

Communication reach was brought up by a few interviewees who suggested using available media with sufficient frequency to increase the awareness of people with Pickering Creek’s programs such as in *The Washington Post*, *The Star Democrat*, and number of monthly publications in addition to the email listservs of partner organizations. If Pickering Creek

hasn't already found a substantial base of volunteers and financial support from among the retiree community in Talbot County, one organizational leader suggested a concerted effort to recruit those individuals due to their time, talent, and resources. While respondents recognized the difficulty in getting people to give their time to civic causes and assume local leadership roles, at least one person said they thought that those who wanted to participate could: "Whether it's because they want to become Commissioner or they want to be more active on the school board or they want to volunteer, I don't know anybody who has not been able to if they've really set themselves to Now, as far as people recognizing that opportunities exist, that might be a difficulty factor."

The other factors mentioned were the wide politicization of environmental issues and the scale of the problem which renders any one individual's actions seemingly insignificant.

*I think it's the issue. I think it's the fact that, um, unfortunately, especially climate change, but **environmental issues in general have become politicized**. They kind of went off the tracks decades ago and we never got back to talking about them scientifically. I think that a lot of the environmental problems are so big and diffused that you end up feeling helpless. You can't do anything about it. Like as a teacher, it's always a challenge to find something you can do about global warming, you know.*

A number of collaborations in Maryland and across other states, including some in which Audubon is a partner, are already conducting community outreach to protect marshes from the effects of sea-level rise. Some aspects of these models may be suitable for use by Pickering Creek—such as a community of adaptation practice—while others may offer lessons that are instructive. All successful communication efforts depend on sufficient message reach and frequency. If Pickering Creek has not fully utilized available media and volunteer opportunities in the region, it may behoove it to explore those more thoroughly as the program develops.

Influential people and organizations

During the course of the interviews, a list of 36 individuals and organizations was generated based on respondents' perceptions of those people who were highly connected and/or were in leadership positions that would make them potentially helpful partners in affecting changes in the community on behalf of salt marsh conservation (see Appendix A for the complete list). The list ranges from local government leaders to farmers and faith leaders. When interviewees were asked who would have to be involved to create change, local policymakers, such as the mayor of Cambridge, were often at the top of the list, even if specific names were not always mentioned.

Communication and attitudes about the salt marshes, sea-level rise and climate change

Interviewees perceptions were that climate change denialism is higher in the communities around Blackwater National Wildlife Refuge, and the Eastern Shore generally, but that those residents with connections to the natural resources—people’s whose livelihoods depended on the land and water—were very aware of changes to the salt marshes and sea levels.

*I think most people around here are skeptical. You have those that are sure, those that are, you know, one way or the other. I think people are starting to believe it's probably true. ... **I think people are more apt to believe that sea level rise in this area than climate change.** And that's a big thing. Water quality issues are big, huge conversation here.*

The same interviewee said that the water is a constant community discussion topic, but not the salt marshes. Others alluded to the public relations problem that wetlands—aka swamps—still have with the general public: their perception as “mucky, mosquito-infected” areas. Respondents said they believed that effects of changes on the water—flooding and sea-level rise—were more likely to be discussed than climate change or the marshes.

- ***The water quality, the waters are everyday conversation. The health of the water, the vibrancy of the water, the boats being able to work the water.** But yeah that's an everyday conversation. But not marsh in particular. Marshes come up when we're talking about Blackwater or Pickering Creek but, you know, but marshes are not a part of the everyday conversation.*
- *I think that in those really small communities **it's a pretty big topic of discussion in terms of flooding.** I don't think they talk about climate change. I don't think they even call it sea level rise. I think they call it flooding and ... I think the really notice that with successive storms the flood waters come higher. And that lawns are converting to marsh grasses, even though they still mow them.*
- *They were talking about the erosion and this other old waterman said, yeah, **"It's all because of the sea level rise,** you know, as low as the tides are now, they're higher than they've ever been ... " And these guys are some of the most politically conservative guys around.*

It should be noted that none of the respondents were watermen, or farmers, who are economically tied to the health of the resources; one of the interviewees lived in an area adjacent to the marshes, had experienced the direct effects of their migration, and was involved in community decision-making to address the problems it was causing for their

homes and way of life. Her focus was on her community's protection—what would people need to do to keep the marshes and water at bay? This may suggest future differences between audiences in the framing of salt marsh migration by those with interests in habitat protection and those with interests in community protection from flooding.

Communication about the effects of sea-level rise on salt marshes with the local community is in its early stages, noted a couple respondents, but that the window of opportunity was relatively small and complicated by political polarization over climate change.

*So it seems that in the next 15 years, up until about 2030, we're not going to see any major changes, but people seem to agree that **around the 2040s is when we're going to start to see catastrophic marsh loss.** This is very likely a long linear process where major storms just wipe out increasingly large areas of marsh and adjacent forests. And I think that we're going to see big, big losses by then. I'm sure we'll get some pretty major storms in those first 15 years, and each time we get one of those we'll find people more willing to listen that there's a need to act.*

Furthermore, these respondents voiced concern that local communities, especially individual landowners, would “maladapt” by trying to protect property from rising waters instead of allowing a transition to occur from dry land to wetlands.

*And what are the private owners going to do? Maybe that first thing they going to want to do is to riprap the edges of that property. If they're rich enough, they might try and do this with even a fairly undeveloped property to protect their trees and things like this and that's bad. **That's maladaptation. We don't want them to do that.***

Yet the urge for people to protect their homes and property is a natural one. One of the respondents noted this and cited the example of Smith Island.

*With Smith Island, they were offered a buyout by the federal government a couple of years ago and all this stuff, an people got all bent out of shape. Because they said, “Look the people in Annapolis and DC are the ones who are upset about this climate change stuff.” They said, “We've been flooded for centuries,” and they said, “We can handle it. The storm washes over the island and we fix whatever is ruined and then we're ready for the next storm, whereas with you guys it washes up into your cities and it ruins things and everybody gets bent out of shape.” They just said it was instances of flooding. It wasn't sea level rise. It was kind of a very carefully constructed view of the world, but it kind of makes sense because we're asking them to leave. **We're asking them to leave their hundreds of years of culture.***

Climate change, and even sea-level rise, likely remain difficult topics of conversation in many of the communities around Blackwater National Wildlife Refuge, particularly because

the consequences—whether the environmental changes or the threat of government intervention—appear dire. Climate change and the loss of the salt marshes are said to be uncommon subjects for public discussion, even though interviewees report that local governments and private property owners will have to begin making decisions soon about their responses to these threats. The idea that the salt marshes support a wider ecosystem with economic and cultural value—particularly fish stocks—is one that may be unfamiliar to many in the community.

Conclusion

While admittedly a very small sample, the comments of the two respondents from Pickering Creek’s business and faith community audiences were qualitatively different from the other interviewees in that their focus was not primarily environmental. They discussed the environmental context in relation to issues of importance to the community, as opposed to the community context in relation to habitat protection. This suggests some of the communication challenges for community engagement on this issue may have not been realized to date within the Salt Marsh Stories program. Pickering Creek’s traditional audiences—Audubon chapter members and university students who may live an hour or more away from Blackwater—have less “skin in the game” in regards to the effects of the migration of the salt marshes on the communities surrounding Blackwater than their newer audiences in Talbot and Dorchester counties that are their increasing focus.

Interviewees recognized the importance of developing a communication approach that informs local decision-making, but also possibility for conflict with the local community. There was broad support for Pickering Creek taking an active role in facilitating community conversations with leaders of conservation efforts underway at Blackwater National Wildlife Refuge, but there was a level of uncertainty about the degree to which Pickering Creek would want to enter the political fray, at the cost of alienating some audiences, or be able to serve as a completely neutral party on the subject of (human) community adaptation.

The stakeholders interviewed for this study recognized the enormous value of Pickering Creek’s environmental education programs to the local and extended communities of the Eastern Shore and Audubon. Furthermore, they supported increased adult programming that heightens the awareness of the immediate community of the value of its wealth of natural resources and the changes that they are experiencing. Between environmental education, community facilitation, and policy advocacy, there are a large array of outreach and engagement strategies and options from which Pickering Creek can choose in advancing its goals for wider local engagement and a salt marsh forum. Making those decisions strategically, in recognition of some of the possible challenges mentioned in this report, will likely be important for the success of its efforts.

Recommendations

- Develop a multi-year communication plan that details the role that Pickering Creek chooses to take in the community and its implementation—whether it is to continue largely providing environmental education, or whether it is to present information to inform local decision-making about policies.
- Consider the full array of possibly influential audiences in local communities, especially civic leaders, and what contributions they might make to the wider discourse.
- Evaluate whether there are differences in the needs and perspectives of the new target audiences to the salt marshes, and how those might be addressed in recruitment, presentation content, and experiential events. This study, while very preliminary, would suggest that environmentally-focused approaches on the salt marsh may be less effective than those that lead with a community focus, especially one that recognizes history, relations between social groups, cultural values, and economic conditions.
- The history of African Americans in the region is rich and well-supported by area organizations. Nevertheless, interviewees indicated racial divides remain in the community. Consider partnering with organizations, such as the Harriet Tubman Museum and Educational Center or the Harriet Tubman Organization, that recognize that heritage and its connection with the marshes. Also consider whether the interests of the African American churches within the “faith community audience” have unique interests, social networks, and needs that might require a similarly distinct approach from other faith organizations.

Appendix A

Connected community members; important partner organizations and individuals

- Victoria Stanley Jackson, Mayor, Cambridge
- Wayne Bell, Maryland Ornithological Society
- Rev. Keith Cornish
- Joan Harris Brooks, New Revived United Methodist Church
- Rev. Jerome Tilghman
- NAACP
- Donald Pindr, President, Harriet Tubman Organization
- Kate Patton, Executive Director, Lower Shore Land Trust
- Maryland Dept. of Natural Resources
- U.S. Army Corps of Engineers, Baltimore Office
- Blackwater National Wildlife Refuge, Manager Suzanne Baird, Supervisory Biologist
Matt Whitbeck
- Easton Council President John Ford
- Easton Councilman Pete Leshner
- Talbot County Manager Andy Hollis
- John Valliant, President, Grayce B. Kerr Fund
- Bryan Roche, Bay Country Communications
- Sarah Abel, Eastern Shore Land Conservancy
- Jeff Hubbert, Lane Engineering (former president of Rotary)
- Alan Nelson, retired, formerly with Dorchester Chamber of Commerce
- Jennifer Layton, board member, Dorchester Chamber of Commerce
- John Swain III, 4th generation farmer
- Balvin Brinsfield, farmer north of Vienna
- Timothy Jones, Vice President, Administrative Services, Chesapeake College
- Stuart Bounds, former president, Chesapeake College
- Nanticoke Watershed Alliance
- Assateague Coastal Trust
- Cambridge Downtown Merchants Association
- Nature Conservancy
- Chesapeake Bay Conservancy
- University of Maryland Center for Environmental Sciences, Horne Point
- Greg Farley, Environmental Science, Chesapeake Community College
- Mike Lewis, Chair, Dept. of Environmental Studies, Salisbury University
- Tom Horton, author
- Dave Harp, photographer

- Kerry Samos, education coordinator for Maryland Coastal Bays
- Jim Rapp, manager for the Hazel Outdoor Discovery Center (was on the board of the Assateague Coastal Trust)

Appendix B

Pickering Creek Interviews with Community Members | Interview Script

Introduction: Hi, I'm Karen Akerlof. Thank you for agreeing to this interview. As you know, I work at George Mason University and am assisting Pickering Creek Audubon Center with this research study. I am talking to people in the region, and conducting surveys with local organizations, to better understand the local community and its relationship to the area's natural resources, and to find out how Pickering Creek Audubon Center's work affects this community.

This is information about the study *[show consent form]*. Please take a minute to read it. There is also information on the form about the audio-taping of this interview. If you agree to be audio-taped, please check that box as well. I expect that the interview will take between 45 minutes and an hour. Please note, too, that this interview is confidential. We will not use your name in reporting on this study, though we may identify which sector – faith, higher education, business or Audubon – that you are from.

(Follow up question: Can you tell me more about that?)

Let's get started ...

1. Can you tell me a bit about yourself?
 - a. How long have you lived in this area?
 - b. Where do you work?
2. How would you describe the community of *[community name]*?
 - a. How would you describe the place?
 - b. How would you describe the people?
 - c. If you had to summarize *[community name]* in one sentence, what would be most important for me to know?
3. Sometimes certain people in a community have a lot of connections, and know everyone and everything that is going on. Who in *[community name]* would you say fits that role?
 - a. Where do they work?
 - b. What is their title?
4. If you wanted to get something done in *[community name]*, like win votes to become elected as a local leader, are there certain organizations and people that you would definitely need to have on your side?
 - a. Who are those people?
 - b. Or organizations?
5. How involved are you in the community in terms of your participation with local organizations and government?
 - a. Can you tell me about those activities?
 - b. Do you think you are more civically engaged – or less – than most people in this community?
 - c. What makes it hard to be civically engaged?

- d. Is there anything that could be done to make it easier?
6. What can you tell me about Pickering Creek Audubon Center?
 - a. Have you participated in Center activities?
 - i. If not, why not
 - b. Which activities have you participated in?
 - c. Which activities have been your most favorite? Can you tell me why?
7. What role does Pickering Creek serve in the community?
 - a. What does it do really well?
 - b. Are there other ways that it could contribute to the community that it doesn't currently?
8. What aspects of nature do you notice the most in this region?
 - a. Which – if any – are most meaningful for you?
 - b. In what way are they meaningful to you?
 - c. Would you say that these aspects have stayed the same over time, or changed?
9. What can you tell me about the salt marshes in this region?
 - a. How often have you visited them?
 - b. Can you tell me about your most recent visit?
 - c. How do the salt marshes relate to the people in this area, if at all?
 - d. Do people in *[community name]* ever talk about the salt marshes?
 - i. What do they talk about?
10. Do people in *[community name]* talk about sea-level rise?
 - a. What do you hear people say most frequently?
 - b. Do you agree, or disagree?
 - c. Do people call it sea-level rise? Or do they call it something else?
 - d. Is SLR a relevant issue for *[community name]*?
 - e. If SLR is a relevant issue for *[community name]*, what could people do about it?
 - i. Of those things, which would be most important?
 - ii. What would the community need to do to make that happen?
 - f. Are you currently taking any actions personally because of SLR?
11. Do people in *[community name]* ever talk about climate change?
 - a. What do you hear people say most frequently?
 - b. Do you agree, or disagree?
 - c. Do people call it climate change? Or do they call it something else?
 - d. Is climate change a relevant issue for *[community name]*?
 - e. If climate change is a relevant issue for *[community name]*, what could people do about it?
 - i. Of those things, which would be most important?
 - ii. What would the community need to do to make that happen?
 - f. Are you currently taking any actions personally because of climate change?
12. That was my last question -- thank you for your time today. Do you have any questions for me?

I will be transcribing these interviews *[if consent was provided]* and writing a summary of the findings for Pickering Creek Audubon Center. I am happy to share those findings with you if you are interested. *[Fill in card with contact information if would like a copy of the report.]* Thank you for speaking with me today.

