

Old Dominion University

ODU Digital Commons

Presentations, Lectures, Posters, Reports

Institute for Coastal Adaptation and Resilience
(ICAR)

8-1-2022

Perspectives on Living Shorelines: Marine Contractors and Agents in Southeast Virginia

Michelle Covi

Juita-Elena (Wie) Yusuf

Follow this and additional works at: <https://digitalcommons.odu.edu/odurc-presentations>



Part of the [Climate Commons](#), [Environmental Policy Commons](#), [Natural Resources Management and Policy Commons](#), [Public Policy Commons](#), and the [Sustainability Commons](#)



Perspectives on Living Shorelines: Marine Contractors and Agents in Southeast Virginia

Michelle Covi
Public Service Associate
Marine Extension and Georgia Sea Grant,
University of Georgia
mcovi@uga.edu

Juita-Elena (Wie) Yusuf
Professor, School of Public Service
Assistant Director for Education, Institute for Coastal Adaptation and Resilience
Old Dominion University
jyusuf@odu.edu

August 1, 2022

Acknowledgements

This work was supported by the National Science Foundation under Grant number 1600062. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.

Introduction

With the U.S. population along the coast increasing and sea levels rising, tidal wetlands are under intense pressure for development and use, especially as desirable waterfront property. In Virginia, development in the tidal wetlands is managed by federal, state, and local governments through a permitting process that is locally managed and coordinated through the state marine resources agency (the Virginia Marine Resource Commission, VMRC) and with the federal regulator (the U.S. Army Corps of Engineers). When property owners want to stabilize or otherwise develop the shoreline, permit applications are required to be submitted to the regulatory bodies for them to review and grant (or deny).

Marine contractors and agents are a critical part of the shoreline management decision process, including in project development and permitting. This white paper summarizes results of interviews conducted with marine contractors and agents working in coastal Virginia. The interviews were intended to develop understanding of the shoreline management business sector and businesses' interactions with key players in shoreline management decision making.

Tidal wetlands guidance are developed by the VMRC to aid local wetlands boards in their consideration of permits that allow activity that might impact tidal wetlands. As of 2019, when these interviews were conducted, VMRC guidance had established living shorelines as the preferred alternative for shoreline erosion management (following legislation passed in 2011). Despite the preference, living shorelines were still the least commonly permitted shoreline treatment, with rip rap revetments and bulkheads were far more popular.

Shoreline property owners are ultimately the decision-makers when choosing shoreline treatments, but they are likely to be influenced by neighbors, family, peers, community organizations, and professionals such as marine contractors and agents. Marine contractors and agents, who usually complete the tidal wetlands permit applications, may have a strong influence because of their experience in the field and because they will be working directly for the property owner. They have a vested interest in the success of the project. This white paper examines the perceptions and attitudes of a cross-section of business marine contractors and agents serving southeastern coastal Virginia in order to better understand how they influence decisions by property owners regarding shoreline treatment.

Methods

In-depth interviews were conducted in the spring of 2019 to better obtain the perception and understanding of the shoreline management business sector, particularly small business marine contractors and agents. The required Institutional Review Board approvals were obtained prior to interviews. Face-to-face interviews were conducted in the participant's workplace or at an agreed-upon public meeting place, such as a coffee shop. In all, nine interviews were conducted lasting 30 to 90 minutes. Interview participants were solicited from lists of businesses obtaining shoreline permits or through internet searches. The interviewees' businesses were located in and did business in all Hampton Roads localities and many of the Middle Peninsula and Northern Neck localities in Virginia.

Participants were asked about their business history and practices, personal experience and training, the projects that they permit or construct, and their perspectives on best practices for shoreline management, the permitting process, and environmental change. The interviews were digitally recorded, and notes were transcribed. Among the themes that emerged were the decision factors used when recommending different shoreline management techniques, the personal experiences and beliefs that framed decisions, and business practices used when interacting with property owners.

Participant Characteristics

Most of the participants were both contractors and agents, two were contractors that had agents as part of their business, and two were agents only. Only one of the participants, an agent, was female. All of the participants had spent their adult life in the area they served, most for their entire life. Interview participants ranged in age from 30 to 66 years. Most of the participants entered their business through a family connection. The two participants in their 30s were sons that had taken over their father's business and one participant brought his adult son to the interview and was training him. Three participants reported having started their business with friends. Educational background varied widely among participants. Five had college degrees including in biology, horticulture, oceanography, civil engineering, and business administration. The remaining four learned on the job, with some having completed vocational certificates.

Business Characteristics

Most of the shoreline management businesses were small businesses with under ten employees, but one business was mid-sized with under 100 employees. Most of the businesses are legacy business (in existence for 20 to 45 years) that survived a local industry contraction eight to ten years ago, as described in a couple of the interviews. Most owners are either older, nearing retirement age, or the next generation, typically sons growing up in the business. Two of the small businesses were agent only, hired by property owners to work on permit applications. The remainder were contractor businesses in which all but one did permit applications within the business. Most businesses felt they had a niche, either geographically and/or in the kinds of services they provided. As such they perceived that they had little competition. However, two of the businesses perceived that unqualified businesses, such as landscape businesses with little shoreline experience, were competing for shoreline projects.

Almost all new shoreline projects are generated by referrals for these businesses, although many had an internet presence (primarily a business website with photographs of projects) that could generate business. Sources of referrals or recommendations include previous clients who have installed shoreline projects or advocacy groups such as those that encourage living shorelines projects. Several business owners felt they had a strong reputation in the community that generated as much business as they could handle. One mentioned referrals generated from involvement in public forums and committee and another mentioned referrals from listings at local government wetlands boards offices.

Project Types and Property Owner Decision Making

The number of projects that each business completed within a year varied widely depending on the type and size of projects. One small business specializing in large living shorelines projects did five projects per year, while larger companies that did mostly revetment projects did up to 40 projects per year. Agents handled 50 to 200 permits per year. For most of the construction businesses, 20 to 30 projects per year was typical and while most had experience with living shoreline or breakwater/sill projects, most projects were for revetments. Two of the construction businesses did bulkheads (mostly repair) as well as revetments.

Most marine contractors base their recommendation of shoreline management technique on the physical conditions of the site and if a structure had been in place previously. Repairs are mostly to bulkheads and seldom is another strategy implemented. The most important considerations for the contractor were slope of the bank, fetch and other conditions determining wave energy, and cost. Bulkheads were recommended for small urban lots or for properties on a canal. When asked whether property owners know what kind of project they want when they contact the business, most interview participants responded that the owners knew what they wanted about half of the time or that it was a mix. The businesses advise the clients by explaining what they think will best manage erosion and the costs. Most felt they gave customers options but that in many situations one method was preferred. Costs were a significant factor in property owners deciding against living shorelines as an option.

While the participants generally agreed about the benefits and drawbacks of the different shoreline management options, some specialized and preferred to work with one approach over another. All participants said that bulkheads were the most expensive option, with the least habitat benefits. It allowed property owners to “keep their yard,” and was aesthetically preferred in many cases. If a bulkhead existed at the site and was tied into that of neighbors, it was very difficult to replace with another option. Rip rap revetments were considered the least expensive option, with some habitat benefits over bulkheads. Revetments were considered a very long term fix that would outlast a bulkhead, but since they require a lot of space to get a correct slope, they were more conducive to large lot sizes, rural areas, and new construction.

All of the participants understood that living shorelines were the best option ecologically and many had worked with property owners that found them aesthetically pleasing. However, they also mentioned several drawbacks. Cost was the most common factor listed as a drawback. Contractors who specialized in living shorelines as a management technique said that long-term maintenance was an issue and that homeowners expect a final result too soon. Site-specific factors also pose challenges in that trees may need to be cut, submerged aquatic vegetation may be impacted, or wave action may limit design choices. Participant perspectives regarding living shorelines were mixed. At one end of the spectrum, an interviewee said that “one storm can wipe them out” and that living shorelines do not work. At the other end of the spectrum, another participant said that there was no downside to living shorelines.

Most contractors make their own recommendation to property owners, rather than recommending that property owners talk with the Virginia Department of Conservation and Recreation's Shoreline Erosion Advisory Service (SEAS) or get other advice. One participant said he had previously referred property owners to SEAS, but now feels he knows enough to educate the property owner himself. Several of the contractors conflated SEAS with VMRC, VIMS advisory services, and local government staff that might provide technical advice, but most contractors associated SEAS with regulation and permitting rather than as a source of objective advice about shoreline management.

Permitting

Of the seven contractors interviewed only one did not do permitting within the business. The two agents focused their work on permitting exclusively. Few participants reported having had permits denied. The one example given was a situation that the participant blamed on a stubborn property owner. Most contractors and agents work with VMRC and local wetlands board staff to alter a project that may be problematic so that it will be acceptable to the wetlands board to prevent permits from being denied. VMRC staff was widely praised as helpful and knowledgeable, while local government staff was regarded as good in some localities and poor in other localities. However, participants noted that staff was overloaded. One interviewee felt that education and experience in environmental work should be required for local staff that assists the wetlands board. He described the situation of local staff turnover and lack of knowledge as "frustrating."

Interviewees understood the permitting process, but found it complex, difficult and burdensome. One interviewee said that "every time it is a new process. Why does one square foot require so much? ... regulators are laughing at working people." The Joint Permit Application was praised by three of the interviewees as simplifying the process, but another said that it needs to be easier. The time frame of 3 to 4 months as a minimum for permit processing seemed unreasonable for many of the interviewees and even those participants who felt sufficiently experienced with permitting found the process "frustrating" and indicated that it "can seem silly."

All but one of the interviewees felt that the permitting process is achieving the goals that it was designed for and that the Chesapeake Bay is improving environmentally. Several of the participants pointed out that a weakness in the shoreline management process is a lack of enforcement of permit requirements as well as a lack of inspection of structures. One participant said that "the permitting process does not work because no one cares about the violation. Some never apply for permits and no one catches them." Overall, when asked whether permits balance environmental and societal concerns, the majority of participants responded affirmatively.

Perceptions of Environmental Change

While some of the participants have noticed higher water levels in their area, and most have experienced sea level rise over their lifetimes in the area, they do not associate higher sea

levels with loss of land or marsh habitat. Most believe that storms are responsible for the erosion they are working with property owners to manage.

Some interview participants saw improvements in habitats and water quality in the Chesapeake Bay, although others perceived that marshes, and especially marsh islands, were degrading. Many believe their work improves the quality of properties and the environment. A few of the participants commented that environmental organizations and VIMS tend to focus on losses of wetlands but do not account for wetlands gained through living shorelines and mitigation. One contractor felt that the losses were natural and businesses should get credit in a wetlands bank for living shoreline projects.

Conclusions

Most marine contractor and agent businesses are legacy businesses with significant investment and experience in conventional shoreline management techniques. The contractors and agents interviewed had been trained and understood the benefits of living shorelines to the health of the Chesapeake Bay. All were aware of living shorelines being the preferred option for shoreline management. However, there remained some resistance to living shorelines. All of the contractors and agents were concerned with their business reputation and some were hesitant to install a system such as a living shoreline that had a chance of failure.

While some of the contractors felt their property owner was fully the decision-maker, most heavily influenced the shoreline management decisions made by the property owner. The contractors and agents interviewed in this study took a great deal of pride in their work and felt that they were contributing to a better environment for the property owners and, by stopping erosion, for the environment. While some of these businesspeople were well established and unlikely to change their business habits near retirement, others appreciated the Chesapeake Bay and are invested in the place they have lived for most of their lives. It may be that they will be able to shift into doing more living shoreline work in the future.

Some of the interviewees, especially those representing non-conventional business approaches and the younger generation, expressed interest in trying new techniques and mentioned products that may be more friendly for tidal wetlands. The next 5 to 10 years are likely to see turnover in this industry as older professionals retire or take a less active role and younger professionals engage in the industry. Training programs and perhaps certification or endorsements could be key tools to advance knowledge among younger professionals and business owners interested in pursuing innovative or non-conventional approaches. Experiential trainings and frequent updates are likely to have the most impact, since these professionals rely heavily on experience.

Simplifying the permit process and training, especially on newer techniques, may also encourage more businesses to accept living shorelines as the preferred treatment. Enforcement of permits and inspection of properties by regulators would engender more confidence in the permitting process from the contractors and agents.