

Advisory Committee #3 Meeting Minutes

May, 19 2022, Town of Nags Head Board Room and Zoom

Committee Member Attendees: Mike Kelly, John Mebane, Ralph Buxton, Diane Wehner, Molly Harrison, Aaron McCall, Reide Corbett, Lora Eddy, Ann Daisy, Robert Netsch, Louisa Farr, Bob Sanders, Cola Vaughn, Mike O'Steen, Randy Blanton

Other attendees: Mariana Portner, Tom Haddon

Town Staff: Kate Jones, Andy Garman

Biohabitats: Justin Park (in-person), Jessica Norris (zoom)

Moffat Nichol: Dawn York and Jeff Sheldon (zoom)

Kate Jones welcomed everyone and began with introductions. The public survey #1 results were presented to the group. There were 67 participants in the public survey. The purpose of the survey was to gauge the public's knowledge of the town's estuarine shoreline, what uses are important, and threats they perceive, and potential solutions that exist. Overall, most of the feedback provided support for the protection of private property and public infrastructure, with an eye on enhancing recreational access to the sound where possible. Viewsheds, water quality and natural vegetation was also mentioned as important aspects of the estuarine shoreline. Most of the respondents supported further research into softening existing bulkheads, reducing the abrupt "barrier" between land and water. See Appendix for public survey #1 results.

Justin Park began a presentation about existing and proposed typologies. He described "typologies" as segments of the shorelines that share characteristics and those can be placed in their own "buckets". Each segment has a synthesized list of parameters. Threats and Opportunities were introduced and examples of each presented: sea level rise and erosion and both short term and long term threats, while the migration of sand from Jockey's Ridge into the sound and moving south could be an opportunity for sediment accumulation in specific areas.

Precedent and guidelines for determining the existing typology parameters were discussed. Information from VA Institute of Marine Science, as well as the Stevens Institute of Technology were filtered and incorporated into Nags Head Estuarine Shoreline Living Shoreline Design Guidelines, as well as those that inform existing typologies (see page 6-7). A series of slides followed explaining the existing conditions typologies such as low marsh zone width, back slope, wind waves, distance to infrastructure, SLR and marsh migration.

- Question (Ralph) was asked about recreating a slope for marsh establishment in front of a bulkheads and is this possible. Justin answered that there are limitations that exist with respect to adding material in front of bulkheads. This is open water and public domain, when it is filled in, the property owner would be gaining land. This scenario would require a major CAMA permit.
- Question (Tom) But beach nourishment is allowed on the oceanfront so why can't nourishment occur on the soundside? Property lines extend all the way to the open water on the sound, there is public domain on the ocean front above the high water line.

Existing conditions typologies Tiers were introduced. Tier 1, 2, 3, 4. (Page 15)

Grouping of typologies were identified: sheltered solid bulkheads, sheltered riprap, sheltered vegetated low banks, sheltered scrub-shrub wetlands, exposed solid bulkhead structures, exposed rip rap, exposed solid bulkhead structures with low marsh zone.

- Question (Kate) was GIS used for this analysis? Yes, but was limited by data. So, these typologies were formed by a more qualitative process, using GIS to support.

Exposed failing vegetated banks, exposed brackish water marshes, exposed low bank and beaches.

Anticipated proposed typologies were introduced next. Greening bulkheads, adding breakwaters, adding materials such as logs and tie them down to encourage collection behind it.

- Question (Robert) so fill is not allowed in the sound but structures are? Could pull back the bank to use woody debris. Reef balls can be put out in the water now. Kate mentioned we can discuss all options, but recognize that some options may require substantial permitting. A Major CAMA permit is required for fill at this time. It is not impossible, just expensive and time consuming. Private property issues here.

Resiliency terracing – high and low marsh terraces. Design and anchor woody debris to accrete sediment in certain locations. Can be exposed condition, just orient to capture sand.

- Question (Tom) Is there historical data that shows how these type of breakwaters capture sediment through time? Reide – there is data in North Carolina, mainly in the Southern part of the state, that focuses on marsh sill performance. Reide will share these papers. (see links at the end of this page) Getting towards longer term data at the CSI site. Aaron – Bell Island Pier as an example. Used Class C ? B? riprap and marle near failing bulkhead. He sourced the rock from New Bern, NC. Marsh has developed afterwards.

Site selection – Justin introduced the site selection rationale. Then introduced the potential sites. The red ticks represent historical erosion and the blue sites represent accretion. The yellow sites are town owned and either have access or could have access. Kate directed people to look at the site selection rationale and identify any gaps that exist. If so, what are these Gaps?

- Cola – public viewing and accessibility should be important to a project. Public benefit and education. Lots of exposure.
- Aaron – projects that span multiple types of shoreline types. People could relate to the projects directly.
- Ralph – try novel things. Try different things. This is an opportunity to develop new solutions.

Kate and Justin mentioned that the example typologies shown are not the end result. Some of these are not from here, and represent different areas.

- Ralph wants to know if we are thinking about fill.

Jessica mentioned that a major CAMA permit is achievable and exists. It is not impossible. Kate mentioned we need to define the permitting requirements. Justin mentioned in certain situations fill is not necessary depends on the conditions and the site.

Tom mentioned it would be helpful to know what types of management strategies require what type of permitting. All agreed it would be helpful to have this information.

How long is the CAMA major valid? 5 years. Engineering surveys can be expensive.

- Ann – has the town prioritized public infrastructure? Kate answered yes, there are sites the town has chosen to protect roads for emergency access and these are represented along on the map.

Andy mentioned Pond Island as another area that would be a potential project. Ownership can be a challenge to implement projects. The comment was made that why would a homeowner object to a shoreline project? Moor Shore – one of the neighbors did not want to participate.

- Ralph – CAMA fill concerns to be addressed? How do we propose this? Justin answered that we will have to recognize CAMA limitations. If there is not a need for a Major CAMA, then don't trigger one. Kate- could we think about a project in phases? Right now we can do XYZ, and let's get the materials together to prepare for phase II which would require engagement of regulatory personnel.
- Andy – We could get on the CRC agenda and present the outcomes of this project.
- Mariana – it would be nice to engage the state and broaden their scope and alternatives.
- Tom – all work has to be done on the shoreline? No, you can go a certain distance out from the shoreline with a sill or breakwater. Justin – breakwaters are a viable alternative. Moor shore did not work very well.

Kate reiterated the site selection rationale the committee wanted to add. It was confirmed by the committee that they want to add, variety of shoreline types that would apply to various people, innovation, and publicly accessible/ visible. Also the town should consider infrastructure.

- Mariana – what additional studies will occur between now and August? Justin – when we know the concept sites, the wind waves study will occur at these sites. Engineering report is available to review.

Next steps – Kate explained the next steps as development of the shoreline typologies, refining the site selection process, choosing the 10 project areas, then choosing the 3 project sites. All of this will be brought back to the committee for review.

- Molly – how will we know what shoreline action to choose at a site? Jessica – we will select the site first, collect additional data, then come up with a concept design. Sites are selected by the criteria. Then we work through what a potential solution will be.