

Coastal Hazards Strategy

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas :

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|--|---|
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Cumulative and Secondary Impacts |
| <input type="checkbox"/> Energy & Government Facility Siting | <input checked="" type="checkbox"/> Wetlands |
| <input checked="" type="checkbox"/> Coastal Hazards | <input type="checkbox"/> Marine Debris |
| <input type="checkbox"/> Ocean/Great Lakes Resources | <input type="checkbox"/> Public Access |
| <input type="checkbox"/> Special Area Management Planning | |

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes :

- A change to coastal zone boundaries;
- New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- New or revised local coastal programs and implementing ordinances;
- New or revised coastal land acquisition, management, and restoration programs;
- New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal: Develop state and local plans to enhance coastal resiliency for Virginia's natural and built environments in the face of the anticipated impacts of climate change. Provide data and decision support tools to promote more informed decisions and better coordination at all levels of government and among all stakeholders.

C. Strategy Description: The Virginia CZM Program has directed previous initiatives, with both Section 309 and 306 funds, to improve shoreline management and build community resilience. This strategy, based on priorities identified through the coastal hazards assessment and significant stakeholder feedback, will build on those initiatives and expand the capacity of state and local partners to develop plans to improve resiliency. The strategy will focus on actions to improve management of natural and nature-based shoreline resources, and to build community resiliency. Shoreline resources will be better managed by 1) accelerating development of site-specific shoreline management

recommendations and corresponding local comprehensive plan elements, 2) promoting the use of living shorelines, and 3) developing a state atlas and corresponding policy to build resiliency. Community resiliency will be enhanced by 1) providing more accurate vulnerability assessments for adoption of local hazard mitigation plans, 2) promoting local adoption of the National Flood Insurance Program's Community Rating System, and 3) helping localities develop comprehensive plan elements to address climate change issues.

III. Needs and Gaps Addressed

1) Management of Natural and Nature-based Shoreline Resources.

As a result of sea level rise, subsidence, and shoreline erosion control practices, Virginia has lost and is continuing to lose tidal wetlands and other shoreline features that are critical for natural resilience. A study conducted by the Virginia Institute of Marine Science (VIMS) on the York River showed a net loss of almost nine percent (1,794 acres) of its tidal marshes in slightly more than thirty years. Almost thirty percent of fringe marshes in the study area, which have high habitat, water quality protection, and natural buffer values, were lost during this timeframe. These narrow bands of wetlands along the shoreline are especially vulnerable because of the combination of sea level rise and structurally hardened shorelines that block their upland migration.

Two previous Section 309 Strategies (2006-2010 and 2011-2015) resulted in a number of initiatives to improve shoreline management and promote the use of living shorelines, which can often provide opportunities for upland migration of wetlands as well as create new fringe wetlands and help offset wetlands loss due to sea level rise. Key new enforceable policies during this timeframe included expanded protection for beaches and dunes, and legislation clarifying that living shorelines are the Commonwealth's preferred shoreline management technique. This legislation also required all coastal localities to adopt comprehensive plan amendments based on shoreline management guidance provided by VIMS. Local comprehensive coastal resource management portals (CCRMPs), developed by VIMS to help meet this requirement, provide gateways to local shoreline data, maps displaying management recommendations, and decision support tools.

In order to complete a local portal, VIMS must complete local shoreline and tidal marsh inventories. Data from these reports are used to run a model that determines the most appropriate shoreline management technique for each reach of shoreline. As of 2015 VIMS has completed 18 CCRMPs and has 4 more in progress. However, 6 shoreline inventories and 24 tidal marsh inventories remain to be completed or updated. Without additional resources, VIMS estimates it will take 10 years to complete the portals, including site-specific management recommendations, for all localities. Accelerating development of these portals and corresponding local comprehensive plan elements has been identified as a priority need by Virginia stakeholders.

Stakeholder feedback also indicated that there is a critical need for other actions that Virginia should undertake to support new living shoreline policies. These include training for contractors and local wetland board members and staff, property-owner education, incentive programs, and strengthening of existing shoreline management guidance. Virginia has also received an FY 2015 Project of Special Merit entitled “Implementing sustainable shoreline management in Virginia: assessing the need for an enforceable policy” that is likely to include recommendations for strengthening current regulations and guidance and creating the need for more policy development.

Stakeholders also identified the need for a state policy on building coastal resiliency along Virginia’s shoreline and for creating a corresponding coastal resiliency atlas. The atlas would serve as a repository for information on various resiliency-related issues, and could be added to the Virginia CZM Program’s “Coastal GEMS” online mapping and information system. Developing the atlas would provide an opportunity for Virginia CZM partners to share existing data and to identify and prioritize data gaps for use in targeting future projects. While some of these projects could be funded through this 5-year strategy, other priority data sets would be targeted for acquisition through competitive grant opportunities such as Section 309 projects of special merit. Potential data layers for the atlas would include:

- Sites for the beneficial use of dredge spoil material
- Current and potential living shoreline demonstration sites (public property)
- An inventory of living shorelines and created wetlands
- Opportunities for upland migration of wetlands
- Detailed shoreline management recommendations for publicly-owned shorelines

A corresponding state resiliency policy will be developed for adoption by the Virginia Marine Resources Commission, or possibly through an executive order from the Governor. In addition to clarifying state policy and project priorities, this initiative will help coordinate resiliency-building efforts among the various state, federal, local and private organizations.

2) Community Resiliency

Outside of the Section 309 process, the Virginia CZM program has provided Section 306 funds to promote community resiliency in four of the eight coastal planning district commissions. These projects have provided initial spatial and economic analysis of the potential impacts of sea level rise and options for addressing these issues. They served as important starting points for discussion among community leaders and citizens. Stakeholder input for developing the current strategy focused on the need to continue and broaden this discussion, recognizing that in order to build community resiliency all sectors of the community must be involved. Elected officials, local and state staff, business leaders, academia, and individual citizens will all need to make informed, and coordinated, decisions in order to adapt to a changing climate.

The process of developing local plans and ordinances can be an effective means of improving communication and coordination on coastal resiliency issues among all of these stakeholders. As

of July 2015, local hazard mitigation plans are required as a condition for participation in the Federal Emergency Management Agency's National Flood Insurance Program (NFIP). However, undertaking the required vulnerability assessments for these plans is often hampered by the lack of adequate, localized data. Without reliable data, local plans are not as useful for decision making and are less likely to be implemented. Stakeholders identified the need for more accurate vulnerability assessments in local hazard mitigation plans as an important need in Virginia.

Participation in the NFIP's Community Rating System (CRS) also provides an opportunity for localities to receive credit for resiliency initiatives already in place and incentives for additional efforts. Relatively few coastal Virginia localities, however, currently participate in CRS. This is due in part to the resources necessary to enter and maintain a program, and also to some possible misperceptions about the value of the program. Promoting participation in the CRS was also identified as an important need.

Inclusion of local hazard mitigation plans in local comprehensive plans and CRS participation are both encouraged in legislation passed by the 2015 Virginia General Assembly. The legislation (SB 1443) requires the 17 localities of the Hampton Roads Planning District to incorporate strategies to combat sea level rise and recurrent flooding into their next comprehensive plan updates. Although not yet required for other coastal zone localities, considering these issues in plan and ordinance updates were recognized by stakeholders as priority needs.

IV. Benefits to Coastal Management

Benefits of this strategy will be new local plans and state policy to enhance natural and nature-based resiliency features as well as more resilient communities. Localities will be better able to preserve and create the shoreline features that are critical for adapting to climate change. Their comprehensive plans will clearly state policy on shoreline management and contain links to specific recommendations for management of each reach of their shoreline. They will also receive additional support from the state in the form of training, outreach and strengthened guidance on shoreline management. State agencies will also have new policies regarding coastal resiliency and an atlas of current efforts and future options to build resiliency. This will help with efforts to prioritize restoration projects and to improve coordination among partner agencies at all levels of government. The strategy will also improve local coastal hazards planning by helping localities to more effectively analyze and communicate the potential impacts of hazards such as coastal storms and sea level rise. Greater local participation in the NFIP-CRS program will increase community resiliency through a wide range of local initiatives and result in lower flood insurance rates for citizens of the localities.

V. Likelihood of Success

This strategy was developed with significant stakeholder input and builds on past successful strategies and initiatives. There are now several committees and organizations evaluating the

appropriate responses to climate change in Virginia. The priorities of these groups were considered in developing this strategy and a number of stakeholders from those efforts provided input into strategy development. A goal of this Section 309 planning process, as recommended in preliminary comments in Virginia's recent Section 312 Evaluation, has been to identify an appropriate niche for the Virginia CZM Program with regard to climate adaptation. With broad stakeholder input and support, this strategy appears to have addressed that recommendation.

VI. Strategy Work Plan

Strategy Goal: Develop state and local plans to enhance coastal resiliency for Virginia's natural and built environments in the face of the anticipated impacts of climate change.

Total Years: 5

Total Budget: \$825,000

Years: 1-2

Description of activities:

Natural / Nature-based Shoreline Resources - Plan and Policy Development: Coordinate with stakeholders to design a coastal resiliency atlas that identifies shoreline habitat restoration priorities and evaluates potential restoration resources such as beneficial use of dredge spoil, competitive grant opportunities, local mitigation funds, and others. Populate the atlas with existing data and evaluate opportunities to acquire other data prioritized by stakeholders. Draft a state policy supporting the atlas. Begin initial support for data development for CCRMPs. Support training on living shoreline design and shoreline management plans developed during the last strategy.

Local Resiliency Plan Development: Work with a pilot locality or region to integrate planning efforts for hazard plans, local comprehensive plans and the Community Rating System (CRS). Evaluate data needs to improve and implement these plans. Conduct cost benefits analyses of CRS participation and regional CRS coordinator positions.

Major Milestones:

- Initial Coastal Resiliency Atlas and Draft State Policy
- Data for CCRMPS and Local Plan Adoption
- Training on Shoreline Plans and Living Shoreline Design
- Pilot Project integrating local hazards and comprehensive planning
- Improved vulnerability assessment methodology
- Cost-benefit analysis of CRS participation and regional coordinators

Budget: \$ 324,700

Years: 3-5

Description of activities:

Natural / Nature-based Shoreline Resources - Plan and Policy Development: Data layer development for Coastal Resiliency Atlas as prioritized by stakeholders. Potential layers include priorities for dredge spoil deposition, opportunities for living shoreline demonstration sites on

public lands, location of existing living shorelines, and opportunities for upland migration of wetlands. Continued support for data development for CCRMPs and adoption of comprehensive plan shoreline management components.

Local Resiliency Plan Development: Support data development and provide technical assistance for adoption of coastal resiliency components in local comprehensive plans, as well as participation in the CRS Program.

Major Milestone(s):

- Data layers and state policy for Coastal Resiliency Atlas
- Data for CCRMPs and Local Plan Adoption
- Technical assistance for local plan resiliency components
- Data for Improved Vulnerability Assessments

Budget: \$500,300

VII. Fiscal and Technical Needs

A. Fiscal Needs: Both the natural/nature-based shoreline resources and the community resilience components of this strategy will result in identification of additional data needs. Completely addressing these needs is likely beyond the scope of the resources available for the strategy. But documenting the need and refining the objectives of data acquisition projects will help position the Commonwealth to apply for other available resources, such as the Section 309 Projects of Special Merit. Virginia has received a 2015 Project of Special Merit which will analyze the current permitting process for living shorelines. This project will complement and strengthen the strategies included in the 2016–2020 document.

B. Technical Needs: NA

VIII. Projects of Special Merit: This strategy identifies several data gaps that could be addressed through projects of special merit. It is anticipated that Virginia will apply for these competitive funds on a regular basis.

IX. 5- Year Budget Summary for Coastal Hazards Strategy

Strategy Title	FY2016	FY2017	FY2018	FY 2019	FY2020	Total Funding
Shoreline Plan & Policy Development	85,000	77,350	82,350	83,900	83,900	412,500
Community Resiliency Plans	85,000	77,350	82,350	83,900	83,900	412,500
Total Funding	170,000	154,700	164,700	167,800	167,800	825,000