

# FINAL REPORT: SEASIDE SAMP PROJECT TEAM ADMINISTRATION AND HABITAT DISTRIBUTION AND SUITABILITY ANALYSIS

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### **Executive Summary:**

FY09 Task 96.01 was a continuation of coastal marine spatial planning efforts started in 2009 and led by the Virginia Coastal Zone Management Program (VA-CZM) on the seaside of Virginia's Eastern Shore. Recognizing the unique health and value of the coastal bays on the seaside, the purpose of the project is to create a consensus building process will result in recommendations for regulatory and other guidelines to: 1) increase the economic productivity; 2) enhance the health of the overall ecosystem; 3) anticipate and resolve existing and future conflicts between uses and user groups. The first step was to assemble a group of informed and committed stakeholders from academia (the Virginia Institute of Marine Science-VIMS), resource management (VA-CZM; the Virginia Marine Resources Commission-VMRC; and The Nature Conservancy-TNC) and the clam aquaculture industry (HM Terry Company and JC Walker Brothers). Subsequent steps included evaluation of habitat distributions and spatial use allocations as GIS overlays and suitability analysis of Baylor Grounds. The initial effort in 2009 was a general overview, based primarily on existing data for both natural resource distribution and current clam aquaculture activities in Hog Island Bay. This process indicated additional evaluation in 2010-11 of productive habitats in the north and south portions of the seaside coastal lagoon system would be worthwhile, resulting in this FY09 SAMP project. The results of the mapping, when overlaid, showed over 40% of state Baylor Grounds to be unsuitable for shellfish culture. It also indicated that there was currently little actual conflict between natural resources, particularly nesting and foraging water birds, eelgrass and oyster restoration efforts, recreational fishing, wild harvest of shellfish and clam aquaculture. However, discussions amongst the Project Team and with other stakeholders and users revealed strong *perceptions* of possible conflicts between eelgrass restoration and clam aquaculture, oyster restoration and commercial shellfish businesses, and residential landowners and aquaculture. The Project Team concluded that the dynamic nature of the seaside barrier island system causes major, frequent and rapid changes in the suitability and distribution of specific habitats for both commercial and ecosystem based purposes. While the current system of spatial allocation administered by VMRC is efficient and effective, utilizing the substantially outmoded hundred year old Baylor Survey results in less than optimum efficiency of spatial allocations and economic output, as well as undervaluing the overall natural productivity of a healthy ecological system. The Project Team has made some draft preliminary recommendations for regulatory and policy changes. The Project Team also determined to prepare a public outreach program to present this information in the Fall of 2011 to various stakeholders and officials. Finally, the Team was requested by a state Study Panel established by the legislature to review resource management on the seaside to provide recommendations and guidelines for change and the input obtained from the public outreach SAMP FY10.

### **Report on FY09 Task 96.01**

Seaside SAMP FY09 goals were to (1) to map, analyze, and interpret the current status and trends in the uses, economic values, and beneficial ecosystem functions associated with state-owned and other habitats in the seaside bays of Virginia's Eastern Shore, (2) to re-evaluate these uses in light of current and projected conditions, (3) to recommend guidelines for the allocation of resources in a manner that optimizes the environmental and socio-economic benefits derived and (4) to assist, as appropriate, VIMS and VMRC in the Joint Study requested by VA Senate Joint Resolution NO. 330. The grant was accomplished by a Project Team led by VA-CZM and including staff from the Virginia Marine Resources

Commission (VMRC), the Virginia Institute of Marine Science, The Nature Conservancy, and private sector seafood and aquaculture representatives from Virginia's Eastern Shore. The Project Team accomplished Goal 1 by supplying maps of wild oyster distributions, clam aquaculture, Baylor Grounds, eelgrass and oyster restoration sites, bird nesting and foraging sites. Goal 2 consisted of analyzing GIS overlays of actual clam, oyster, eelgrass and other resource distributions and comparing them with current Baylor Grounds and state-owned commercially leased grounds. Suitability analysis showed significant areas currently allocated for Baylor and commercially leased grounds to be inappropriate for the culture of shellfish and unsuitable for the purposes originally intended by existing spatial allocations. Goal 3 includes suggested draft preliminary guidelines and recommendations that are listed below. To accomplish Goal 4, the Project Team provided information regarding its work to the Joint Study Panel established by SJR NO. 330 at a meeting conducted by the Panel in June 2011. It is also working on new Seaside SAMP FY10 project, which consists of a public outreach effort presenting the results of Goals 1 and 2 to a wider audience of stakeholders, public officials and the general public. The purpose is to gain further input on seaside spatial allocations at the request of the Joint Study Panel established by SJR NO. 330 to help inform their deliberations.. The SAMP was also successful in creating preliminary discussions between research, regulatory, commercial, recreational and conservation interests regarding the need for more science-based, flexible, and efficient eco-system based management approaches to spatial allocations on the seaside that will accommodate the accelerating changes to the system caused climate change, particularly sea level rise.

### **PRODUCT #1: Spatial Allocation Draft Preliminary Guidelines and Recommendations:**

- The Virginia Marine Resources commission, possibly with the advice of an advisory board, should be granted the authority to reclassify public shellfish grounds (including adding new areas from currently unassigned bottom) and on a case by case basis re-evaluate the appropriate uses of areas currently designated as Baylor grounds
- Look at whether there are any locations that need to be set aside for a long period of time for a particular use and ensure they are protected for that use and their boundaries are clear. Allocate the space to those percentage uses by convening a panel of experts to make the recommendations, a public hearing to gather comments and finally adoption of the plan by VMRC.
- There may be administrative procedures which VMRC can implement which would add flexibility in defining lease boundaries. Very low flexibility in managing a dynamic system;
- Very low funding for science, management and enforcement; dis-incentive to maximize output on leased grounds- leases are too cheap.
- Increase stakeholder awareness regarding importance of preserving natural systems for both economic and conservation purposes.
- Establish process for review of changing conditions and recognize various uses; re-evaluate use suitability, ecological, economic, community needs & goals with new spatial planning tools and equitable, transparent stakeholder allocation approaches. Climate change and sea level rise, in particular, should be a major consideration in any conservation planning initiative.
- Gather information on protecting/enhancing ecological productivity and resiliency of system; establish no/low impact areas to maintain habitats, population diversity and genetic health of system;
- Monitor and adapt needs, uses, policies, regulations frequently (5 yrs?); use transparent, participatory information-based methodology for use/space re-allocation and conflict avoidance.
- Determine from best available data what percentage of the Seaside needs to stay in conservation and/or be restored in order to maintain a healthy system in the face of the other desired uses.

- State should charge annual lease payments sufficient to generate funds for management and enforcement; increase law enforcement staffing at VMRC that is necessary to protect and manage marine resources; develop dedicated funding (user fees, licenses, tourism tax) for state to flexibly research, implement, monitor, regulate and revise management and use allocations.
- Monitor and adapt needs, uses, policies, regulations frequently (5 yrs?); use transparent, participatory information-based methodology for use/space re-allocation and conflict avoidance.

### **PRODUCT #2: Updated Spatial Analysis and Interpretation of Nesting, Foraging and Migratory Waterbird Distributions:**

The Virginia Coastal Zone Management Program's Seaside Special Area Management Plan included a presentation and evaluation of thirteen different data layers representing avian distribution or avian habitat distribution within the seaside barrier island/lagoon system of Virginia's Eastern Shore.

Name of shapefile: 2011\_AMOY\_survey\_results.shp

Type of shapefile: point

The distribution information presented in this report for breeding American Oystercatchers in Virginia represents the results of a 2011 annual survey encompassing the breeding habitat on the state's barrier islands. The distribution information presented here represents pairs or breeding territories documented during the survey, single, unpaired birds or flocks.

### **PRODUCT #3: State Oyster Sanctuary Seaside Mapping and Assessment:**

Throughout its history of creating shell plants for oyster reef habitat restoration, the Virginia Marine Resources Commission (VMRC) has occasionally utilized funds intended for the creation of "no harvest" reefs which are to be managed as oyster sanctuaries. Consulting with VMRC, nine of these no harvest shell plant sites were identified to be surveyed so that the surveys might eventually be presented to the VMRC Board for official sanctuary designation.

Each site was visited between April and June 2011 and surveyed with a Trimble GeoXT hand held GPS. Proposed sanctuary boundary lines were drawn around each shell plant, including both restored and pre-existing reefs while avoiding leased shellfish bottom. Attempts were made to utilize landmarks such as creek mouths and channels as natural boundaries for proposed sanctuary boundaries. Most proposed sanctuaries also include areas of bottom that potentially could be used for future oyster restoration and some also include underwater grasses, *Zostera marina* and *Ruppia maritima*. Within each proposed sanctuary, all restored oyster reefs were mapped along with pre-existing reefs.

Maps of each sanctuary and its oyster reefs have been produced along with ESRI shapefiles all sanctuaries and reefs. More information is available on VA-CZM Coastal Gems website [www.deq.virginia.gov/coastal/coastalgems.html](http://www.deq.virginia.gov/coastal/coastalgems.html). Sites and acreages are in the table below.

	<b>Sanctuary Acres</b>	<b>Reef Acres</b>
Assateague	5	0.6
Bradford Bay	13.5	2.6
Brockenberry Bay	18.2	1
Cockle Creek	8.4	0.4
Fisherman's Island	98.7	1.6
Magothy Bay	74.4	1.3
Outlet Bay	34.5	0.8
Running Channel	180	7.3
Wreck Island	14.7	1.7
<b>Total Acreage</b>	<b>447.4</b>	<b>17.3</b>

#### **PRODUCT #4: Final Report with Recommendations for Phase 3 SAMP FY10:**

The SAMP FY10 project is the third step in evaluating the spatial allocation of resources, uses and stakeholder needs on the seaside and developing guidelines and recommendations regarding the utilization of those resources in an equitable and transparent manner. This information will be provided in the Fall of 2011 to the Study Panel established by SJR NO. 330, which is tasked with make recommendations to the VA legislature in January of 2012. TNC, under the leadership of VA-CZM, will coordinate and provide administrative support for the efforts of A-NPDC, VIMS and the Project Team. Meetings will be scheduled to inform audiences such as the general public, stakeholders/users and decision makers, about the productivity/suitability of Baylor grounds, and the distribution of economically and ecologically important oyster reefs, clam aquaculture sites, avian nesting, foraging and roosting sites, eelgrass meadows and other seaside resources. These meetings will also serve to gain input and feedback from audiences about the importance of various uses and resources on the seaside and hear concerns regarding current and potential spatial allocations.

TNC will work with VA-CZM, the Accomack Northampton Planning District Commission and VIMS to prepare informational items, such as power point and printed materials for presentation during public and stakeholder meetings. They will be reviewed by the Project Team members who will also participate in the meetings. The information gained by the Project Team's work and from these outreach and educational gatherings will be summarized in a report by A-NPDC and used to inform the Study Panel in its work under Senate Joint Resolution NO. 330.