

# Center for Coastal Resources Management 2007 Strategic Plan

## **Mission**

The Center for Coastal Resources Management exists to support informed management of coastal resources in Virginia.

## **Structure**

To accomplish its mission the Center is organized into three programs with broadly integrated activities.

- **Wetlands Advisory Program** provides scientific and technical advice on management of tidal and nontidal wetland resources, tidal shorelines, and subaqueous lands.
- **Comprehensive Coastal Inventory Program** collects data, conducts inventories, and develops analytical tools in support of coastal resource management.
- **Coastal Watersheds Program** conducts basic and applied research on the ecological services provided by coastal resources.

## **Funding**

The Center operates with a varying mix of funding sources to support its advisory, educational, and research activities. State funding provides support for advisory services and outreach education provided to local and state agencies. State funding also supports some of the inventory and applied research activities that provide information and tools to resource managers in the Commonwealth. Grant and contract funding supplements state funding enabling the Center to sustain a productive research program and supporting involvement in coastal management issues in Mid-Atlantic region and elsewhere.

## **Resources**

The Center operates from a collection of buildings clustered on the Institute campus at Gloucester Point. The facilities include a small research lab, a GIS lab, several small conference rooms, some storage sheds, and two-dozen offices. The Center maintains a small fleet of vehicles for advisory and research travel, and a significant array of computer hardware for management of a large and growing set of databases.

## **Current Activities**

### Tidal wetlands management support

- maintain a database of all permit applications and permitted activities impacting intertidal and subtidal resources in Virginia
- provide impact assessments and mitigation recommendations on over 1000 permit applications each year
- provide 2 annual workshops for local wetlands board members and other interested parties
- produce and disseminate 4 newsletters each year focused on tidal wetland management issues
- develop a regional multi-level condition assessment protocol for tidal wetlands in the Mid-Atlantic
- develop updated guidance for tidal shoreline management

### Nontidal wetlands management support

- develop and implement a wetlands assessment protocol for nontidal wetlands throughout Virginia
- provide technical advice and training to DEQ staff as requested
- develop a regional multi-level condition assessment for nontidal wetlands in the Mid-Atlantic

### Shoreline Inventory

- conduct and publish comprehensive surveys of shoreline uses and features for Virginia localities
- develop resource management tools and training for local government and state agency staffs
- develop a shoreline inventory for the state of Maryland
- develop tidal shoreline management tools for Maryland
- support development of shoreline inventory for Delaware

### Research

- design and undertake studies of shallow water and shoreline systems to elucidate factors affecting ecosystem services
- develop and apply survey protocols for marine debris, and study potential impacts on fishery resources

## **2006 Performance Assessment**

It is the collective opinion of the Center staff that we have achieved and sustained a significant level of impact on management of coastal resources in Virginia over the past decade. We believe that we are about as effective as current resources and operational procedures will allow. Over the past several years we have successfully revised permit review and shoreline inventory protocols to be as efficient as possible while enhancing both content and accuracy of the final products. We have refocused and redesigned our outreach activities to retain the greatest impact while responding to declining resources. This has resulted in addition of an annual workshop, elimination of specialized wetland training classes, redesign of the newsletters, and elimination of the technical report series. We have also significantly expanded the research program to include basic and applied studies of shallow water habitats, and a focus on assessment of ecosystem services.

This suite of activities undertaken by the Center staff represents the most comprehensive and coordinated group of efforts in our history. We have succeeded in defining our mission clearly, and we have focused our cumulative activities so that they are integrated, efficient, and highly productive. We have also committed to documenting our efforts and monitoring our performance with the intent of conscientiously assessing fulfillment of our mission.

It is the consensus of the Center staff that despite our efforts there continue to be a multitude of actions affecting coastal resources in Virginia that do not reflect informed decision-making. This is true in the distressingly variable performance of local wetlands boards, the equally inconsistent local implementation of the Chesapeake Bay Preservation Act, the irresolute management of emerging use conflicts in tidal waters, and the erosion of concern for the public trust in policy development. It is clear to us that we must find ways to be much more effective than we currently are at informing managers, developers, and users of coastal resources.

## **Strategic Objectives**

### **1. Getting in front of the process**

Objective review of our current activities and their consequences leads us to the conclusion that we are involved in the decision process too close to its conclusion for maximum effect. Our reports on permit impacts, while valued highly by many individuals, influence the scope of a project far more frequently than the type of project. Property owners, agents, and contractors make basic design decisions long before we weigh in with impact assessments and mitigation options. This is generally too late to influence concepts of desirable or appropriate approaches. While we can demonstrate the impact of our advisories in reducing detrimental impacts, we believe it would be even more effective to influence the initial designs of projects.

### **2. Promoting ecosystem based management**

As our understanding of coastal systems continues to evolve, we have come to appreciate the limitations of past approaches to managing impacts. Just as we failed to incorporate climate change impacts in the design of tidal wetlands management programs, failure to integrate other well-intended programs leads to undesirable outcomes as development spreads. The overlapping management programs along tidal shorelines produce not only property owner confusion, but also frequently inappropriate degradation of the environment. While we can do little to ameliorate the bureaucratic conundrums, we can improve decision-making by expanding the scope of the advice we provide. We believe much of the existing problems arise from unwillingness and/or inability of managers to recognize the system-level consequences of individual decisions. We believe provision of guidance and advice that is based on evaluation of the entire system rather than individual components is a critical element in fixing this problem.

### **3. Advancing practical understanding of the system**

We have learned over the past decade or more, the importance of continually improving the basis for management decisions. Static rationales have repeatedly proven to be inappropriate as either the system or the nature of human impacts has evolved. This need is only compounded by recognition that we need to be much more holistic in our thinking about management objectives and consequences. The potential complexity and the gaps in understanding can be overwhelming. Supporting the need for continued decision-making, while efforts progress to reduce uncertainty requires a clear and understandable basis for both advice and investigation. Perhaps even more importantly, it is essential that both activities proceed simultaneously. A well articulated conceptual basis for advice is only sustainable if it is clearly supported by a constant validation effort. We believe that our efforts to advance an ecosystem-based approach to management require that we mount a very visible and productive research program, clearly focused on practical questions with direct impact on current decisions.

## **Fundamental Needs**

- Development and application of system-level technical advice and guidance
- Increased advisory activity and outreach education targeted at the “front end” of the decision process
- Increased resources to support the expanded scope of advisory and outreach activities
- Implementation of a targeted research program supporting management guidance

## **Strategic Actions**

### **Structure**

- The basic structure of the Center will remain unchanged.
- Integration of the programs will be increased with sharing of primary activities
- Field support staff will be expanded, with increased responsibilities

### **Funding**

- Additional state funds will be solicited to fully fund Advisory Program staff and base activities
- Emphasis on acquisition of small, applied research grants to address uncertainties in the management guidance will be increased

### **Resources**

- Physical facilities of the program will remain essentially unchanged
- Computer network resources will have to increase significantly including expansion of on-line storage, enhanced backup capabilities, increased CPUs for spatial analysis, and expanded web server capacity
- Personnel resources will be augmented by addition of 2 individuals (Scientist I) reporting to the Field Research Manager

### **Advisory Activities**

- An ecosystem service framework will be developed as the basis for advice, inventory, and research activities in the Center
  - Conceptual models will be developed for habitat and water quality services along tidal shorelines and in nontidal wetlands
- Existing permit reviews and data bases will be sustained as long as funding is sufficient to support that activity along with the newly expanded advisory and outreach education efforts
- Site impact assessment and data entry responsibilities will be transferred to the Field Research staff as soon as practical
- Production of permit review reports will be automated to the extent possible to reduce the costs in staff time, this will involve codification of the professional judgment used in both impact assessment and project review

**Outreach Activities**

- Outreach education will be redesigned with content and delivery designed for target audiences
  - Initial activities will target local government staff involved in planning and environmental management
  - A modular training program will be developed to facilitate self-paced learning and documentation of progress through the program
- Existing workshops will be retained, but subject matter will be focused on priority target audiences (local government staff initially)
- Existing newsletters will be retained and focused on target audiences
- Annual goals for outreach program delivery will be developed specifying audiences and content
- Other outreach activities will be undertaken as requested, and so as not to interfere with accomplishment of other performance objectives

**Research Activities**

- Research to address significant uncertainties in the conceptual models of ecosystem services will be developed
  - Efforts will include development of literature reviews suitable for dissemination as Center reports
  - Small applied research projects will be designed to be supported by grants and contracts
- Advisory Program scientists will be tasked to conduct the applied research program including proposing, managing, and reporting projects