Draft Revised Estuarine Habitat Restoration Strategy

Introduction

The Estuary Restoration Act (title I of Pub. L. 106–457) (Act) was created in 2000 to establish a collaborative process among federal agencies for addressing the pressures facing our Nation's estuaries. In 2007, the Act was amended by Section 5017 of the Water Resources Development Act (Public Law 110-114). As part of the Act, an inter-agency Estuary Habitat Restoration Council (Council) was established to encourage the restoration of estuary habitat through more efficient project financing and enhanced coordination of federal and non-federal restoration programs, and for other purposes. The Council is also responsible for developing and revising from time-to-time an Estuary Habitat Restoration Strategy (Strategy) in accordance with Section 106 of the Act. This Strategy revises and supersedes the Final Estuary Habitat Restoration Strategy originally published in 2002 (67 FR 71942). The Council consists of representatives from the Department of the Army -U.S. Army Corps of Engineers (USACE), Department of Commerce - National Oceanic and Atmospheric Administration (NOAA), the Environmental Protection Agency, the Department of the Interior - United States Fish and Wildlife Service (USFWS), and the Department of Agriculture - Natural Resources Conservation Service (NRCS).

Consistent with 2002 Strategy, much of the Council's work has involved soliciting and funding on-the-ground habitat restoration projects. The Council has also been actively engaged in developing mechanisms that track estuary habitat restoration activities throughout the country and improve monitoring and research capabilities to ensure that estuary habitat restoration efforts are based on sound scientific understanding and innovative technologies.

This revised Strategy enhances the Council's role in estuary habitat restoration, and establishes a focus that will maximize benefits to our Nation's estuaries. Based upon stakeholder feedback, and in alignment with the Administration's National Ocean Policy, the Council will direct resources toward restoration projects (and their monitoring) that will be able to adapt to the stressors associated with climate change. The Council will use climate adaptation as a priority-setting tool, while still addressing the other objectives and principles of the Strategy and Act.

Vision Statement

The primary objectives of this strategy are to: 1) restore estuarine habitats in a manner that allows for adaptation to stressors associated with climate change, 2) build conservation partnerships, 3) provide incentives to partners to develop innovative restoration technology and 4) enhance monitoring capabilities.

Overarching Principles of the Estuary Restoration Act Strategy

The Council recognizes three overarching principles to efficiently implement the Act and to contribute to estuary habitat restoration efforts on a national scale. These principles include: supporting existing federal programs and fostering partnerships between federal and non-federal partners; working at an ecosystem level; and working within existing regional governance structures and voluntary conservation frameworks actively engaged in estuary habitat restoration issues and supporting the Administration's National Ocean Policy.

To support this Strategy's identified focus these three principles will be viewed through the lens of climate change adaptation.

PUBLIC/PRIVATE PARTNERSHIPS

To efficiently restore and preserve our Nation's estuarine habitat it is essential to enhance partnerships among government agencies, non-governmental entities, and private individuals. Integrating with public-private partnerships is a central theme of the Act and a critical part of this Strategy. Currently, hundreds of existing public/private partnerships direct significant portions of their resources to the restoration of estuarine habitat throughout the United States. In addition, many of these ecosystem level partnerships currently incorporate climate change adaptation components into their own ongoing activities. Although too numerous to list, a few examples include the National Fish Habitat Action Plan, National Waterfowl Management Plan Joint Ventures, the National Estuary Program, the National Estuarine Research Reserve System, and Fish and Wildlife Service Landscape Conservation Cooperatives, as well as many projects implemented by both the NRCS and USACE and their partners.

To maximize public-private partnerships, the Council will prioritize funding to projects that collaborate among public agencies and private organizations during the implementation of estuary restoration projects.

ECOSYSTEM LEVEL APPROACH

This Strategy recognizes that successful estuary restoration projects with multiple goals will improve ecosystem function. In its review of project proposals, the Council will support projects developed in an ecosystem context with multiple benefits and those that utilize natural processes to restore and maintain estuary habitat. Restoration projects should be designed using an ecosystem or watershed approach to establish a self-sustaining area that provides the structure and function necessary to support the many interrelated physical, biological, and chemical components of healthy estuarine habitats.

REGIONAL OCEAN GOVERNANCE AND NATIONAL OCEAN POLICY

The Act encourages coordination among all levels of government in order to address issues of estuarine habitat loss and degradation. The Council recognizes that there are a variety of regional governance structures whose efforts contribute significantly to estuary restoration, including the Gulf of Mexico Alliance, Northeast Regional Ocean Council, West Coast Governor's Agreement on Ocean Health, Mid-Atlantic Regional Council on the Ocean, and the South Atlantic Alliance. There are many existing federal programs actively involved in the protection, restoration and science of estuaries that work with the regional governance structures. It is the goal of the Council to foster cooperation between government agencies at the federal, state, and local levels, and that project proponents seeking funding from the Act collaborate on the ground with any existing local governance structures. In addition, the Council will reach out to non-ERA federal agencies to encourage collaboration and support of the goals of the Act.

This coordination is in accordance with the Act and complements the Administration's National Ocean Policy, which includes a set of overarching guiding principles for management decisions and actions. The Council recognizes that the principles and objectives of this Strategy will aid the National Ocean Council in implementation of the Policy and Implementation Strategy. In particular, this Strategy supports Priority

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Objective 5: *Resiliency and Adaptation to Climate Change and Ocean Acidification* and Priority Objective 6: *Regional Ecosystem Protection and Restoration.*

Objectives of the Estuary Restoration Act Strategy

The following paragraphs describe the objectives of this Strategy.

RESTORE ESTUARINE HABITATS IN A MANNER THAT ALLOWS FOR ADAPTATION TO STRESSORS ASSOCIATED WITH CLIMATE CHANGE

Coastal and marine habitats are already experiencing effects of climate change and will continue to be among the first and most obvious areas to suffer damage as changes continue to occur. The Council recognizes that by increasing and protecting the amount of available habitat, restoration projects will account for many environmental stressors on estuarine species and increase the habitats' ability to adapt to changing climate conditions. Examples could include projects that increase the amount of available salt marsh habitat to buffer against sea level rise or a fish passage barrier removal project that increases available cool water habitat that will benefit anadromous fish.

BUILD CONSERVATION PARTNERSHIPS

In order to maximize public-private partnerships, the Council encourages collaboration among public agencies, private organizations, companies, and individuals (e.g., private landowners, hunters, birders, and fishermen) in restoration efforts. This connectivity encourages private organizations, companies, landowners and others to bring their resources (financial or inkind) to the table to assist in planning and implementing successful restoration projects.

The Council particularly encourages the use of existing partnerships and planning entities to carry out this Strategy, including the regional ocean governance structures.

SUPPORT INNOVATIVE RESTORATION TECHNOLOGY

The Act provides a financial incentive for the use of innovative technology or approaches by increasing the federal share of the cost for the incremental increase in project cost due to the use of innovative technology. The Council encourages project planners to develop innovative technology as they design restoration projects. Additionally, project planners are encouraged to develop unique and innovative technologies that are designed with climate change adaption in mind. The Council recognizes that there is less risk involved when funding restoration projects that utilize familiar techniques, since there is a higher degree of certainty that the project will result in the desired outcomes. However, the Act emphasizes the need to support projects that utilize innovative technology and, therefore, the Council will prioritize projects that propose untested techniques that appear to be based on scientifically-sound assumptions. The Council will consider technology ''innovative'' if it involves a new process, technique, or material or uses existing processes, techniques, or materials in a new application or habitat type.

ENHANCE MONITORING CAPABILITIES

Monitoring is important for a number of reasons. It allows practitioners to track success and determine which methodologies are successful, which are most cost effective, when adaptive management is required and when more information is required prior to implementing restoration. By closely tracking progress at the project level, restoration practitioners and policy makers can determine whether individual projects contribute to meeting the goals of estuary and regional restoration plans, and tally habitat acreage restored at a national scale.

The Act recognizes the importance of monitoring to the success of any estuarine restoration program. It requires NOAA, in consultation with the Council, to establish monitoring requirements for projects funded under the Act. Those standards may be found at: http://www.era.noaa.gov/information/monitor.html. They are based on NOAA's two-volume *Science-Based Restoration Monitoring of Coastal Habitats*, which provides standard data formats for project monitoring, along with requirements for types of data collected and frequency of monitoring. The first volume (*A Framework for Monitoring Plans Under the Estuaries and Clean Water Act of 2000*) contains a framework for the creation of a monitoring plan. The second volume (*Tools for Monitoring Coastal Habitats*) contains detailed discussions of the habitats and their characteristics, along with a variety of additional information. These documents are available at the URL listed above.

The Council will continue to promote monitoring of estuarine restoration projects with other agencies and when considering funding projects. In addition, the Council will prioritize projects with monitoring plans that measure the effectiveness of the climate change adaptation components of the project design. Project monitoring, however, must be scaled to the project's scope, and level of risk.

Mechanisms to Support the Estuary Restoration Act Strategy

SOLICITATION PROCESS

The solicitation for estuarine habitat restoration projects incorporates elements that must be considered as described in Section 104(c) of the Act, where the Council determines which projects to recommend for funding. Other elements within the solicitation include an equitable geographic distribution of projects, a balance of large and small projects, and encouragement of demonstration of innovative technology. The solicitation for estuarine habitat restoration project proposals will describe more specifically the criteria that the Council will use to prioritize climate change adaptation projects, as well as other ranking criteria.

EFFICIENT PROJECT FINANCING AND IMPLEMENTATION

As part of the Estuary Restoration Act, the Council was established to encourage the restoration of estuary habitat through more efficient project financing and implementation. The Council and its partners are developing processes to improve the efficiency at which the projects are implemented.

SCIENCE OF RESTORATION MONITORING

In 2008 NOAA entered into a partnership with the National Estuarine Research Reserve Program to estimate the long-term success of restoration techniques. Grants were awarded to five National Estuarine Research

Reserves (Wells, ME; Narragansett Bay, RI; Chesapeake Bay, VA; North Carolina; South Slough, OR) for this work. Project goals included: establish reference transects for measuring vegetation, groundwater/tidal inundation, soil and pore water properties; monitor reference and restoration sites to determine restoration "success" at individual sites; determine restoration technique effectiveness; and assess best monitoring parameters to determine success. In 2011 a final report will articulate outcomes including reference site data that can be used by other restoration practitioners and an analysis of the success of past salt marsh restoration projects.

SOCIO-ECONOMIC MONITORING

Building on previous socio-economic efforts, NOAA has funded an external panel and three case studies to help determine the value and impact of coastal habitat restoration. These studies will produce the best methods and metrics to use in measuring the economics of restoration. NOAA, on behalf of the ERA, will continue to fund socio-economic monitoring studies to help NOAA, the four other ERA agencies, and our restoration partners consider systematic approaches for the collection of data to measure and monitor the economic outcomes of habitat restoration in the coastal zone.

NATIONAL ESTUARIES RESTORATION INVENTORY

As required by the Act NOAA, in consultation with the Council, developed the National Estuaries Restoration Inventory (NERI) (https://neri.noaa.gov/neri/), which maintains a database of information concerning estuarine habitat restoration projects carried out under the Act, as well as for other projects that meet the minimum monitoring requirements. The inventory contains information on project techniques, project completion, monitoring data, and other relevant information. This database is internet-accessible to allow widespread dissemination and use of restoration project and monitoring data. The goal is to incorporate information on estuarine projects from multiple sources. NOAA will continue to work to incorporate estuarine restoration data from all the agencies represented on the Council, including EPA's National Estuary Program On-line Reporting Tool (NEPORT), the FWS Habitat Information Tracking System (HabITS), and the Corps' Civil Works Aquatic Ecosystem Restoration database.

TRENDS

Understanding trends for estuarine habitat is key to an effective and efficient restoration program. Trends data provide a chronological and geographic picture of change in habitat types, thereby helping managers to recognize ecological stability or stress.

Under the auspices of the Act, two documents that measure estuarine habitat within the U.S. have been finalized in order to address the estimated historic losses, estimated current rate of loss, and extent of the threat of future loss or degradation of each type of estuary habitat. The *Status and Trends of Wetlands in the Coastal Watersheds of the Eastern United States, 1998 to 2004* (http://www.fws.gov/wetlands/_documents/gSandT/NationalReports/StatusTrendsWetlandsCoastalWatershedsEasternUS1998to2004.pdf) was completed in 2008. In this document, NOAA and USFWS analyzed sample plots using digital high-resolution imagery to identify wetlands and land use changes between 1998 and 2004 in

the coastal watersheds of the United States adjacent to the Atlantic Ocean, Gulf of Mexico, and Great Lakes. The *Habitat Change Analysis* (http://www.era.noaa.gov/pdfs/final_habitat_trends_report.pdf) was completed in 2005. This document assesses the overall conditions of historic and recent degradation and loss of estuary-associated ecosystems and focuses on the extent and condition of estuarine and Great Lakes wetlands in the continental United States, using two time frames, 1930-2004 and 1992-2004.

Moving Forward

Working with public/private partners and other interested stakeholders, the Council will review and refine this Strategy over time in an iterative process, as new information becomes available, as implementation of the National Ocean Policy is initiated, and as progress toward meeting the goals of the Act is evaluated. The Council will create an Action Plan that will articulate what it will do to move forward on the principles and objectives identified in this Strategy. The Council looks forward to addressing the challenges facing estuarine habitat restoration and serving as an effective vehicle through which five federal agencies can cooperatively direct their resources.