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TESTIMONY OF
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OFFICE OF WATER
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COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE
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1. Introduction

Good afternoon Madam Chairwoman and members of the Subcommittee, I am Craig Hooks, Director of the Office of Wetlands, Oceans, and Watersheds in the Office of Water at the United States Environmental Protection Agency (EPA). Thank you for the opportunity to discuss EPA's National Estuary Program (NEP), one of the federal government's flagship ecosystem protection and restoration programs.

In today's testimony, I will describe some of the achievements of the National Estuary Program, the main reasons for these successes, and some of the most serious challenges to the health and productivity of our nation's estuaries, such as habitat loss, hypoxia and climate change.

We've long known that estuaries are among the most ecologically valuable and productive habitats on earth, creating more organic matter each year than comparably-sized areas of forest, grassland, or agricultural land. The productivity and variety of estuarine habitats, which include shallow open waters, mangrove forests, rocky shores, and oyster reefs, foster a wonderful abundance and diversity of wildlife like shore birds, fish, crabs and lobsters, marine mammals, shellfish, and sea birds. Estuaries function as the feeding, spawning, and nursery grounds for many marine and terrestrial finfish,

shellfish, birds, and plants, supporting unique communities of plants and animals that are specially adapted for life at the margin of the sea.

A recently-issued report, *The Economic and Market Value of Coasts and Estuaries: What's at Stake?*¹, shows that coasts and estuary regions support a disproportionately large share of the nation's economic output and population. For example, estuary regions, which make up only 13 percent of the land area of the continental U.S., have 43 percent of the U.S. population and 40 percent of U.S. employment, and produce 49 percent of the nation's output. In addition, an economic profile of each NEP study area, prepared by EPA's National Center for Environmental Economics, found that all NEP study areas encompass coastal areas supporting over \$4 trillion in economic activity and 39 million jobs.²

The National Estuary Program is a key component of EPA's watershed approach to environmental protection. The NEP is also an important partner with other EPA and Federal, State and local programs in restoring, improving and protecting wetlands in the U.S.

II. Overview of the National Estuary Program

The National Estuary Program was established by section 320 of the Clean Water Act Amendments of 1987, with a mission to protect and restore nationally-significant estuaries. This mission includes protecting and restoring water quality and habitat; native shellfish, fish, and wildlife populations; and waters and living resources that support human uses.

¹ 2008 *The Economic and Market Value of Coasts and Estuaries: What's at Stake?* (ed. by Linwood H. Pendleton). Arlington, VA: Restore America's Estuaries.

² 2003, Jared Creason, Jamal Kadri, Gregg Serenbetz, Travis Warziniack, "Economic Profiles for EPA's National Estuary Program" U.S. EPA, National Center for Environmental Economics.

The NEP currently includes 28 programs, located along the Atlantic, Gulf of Mexico, and Pacific coasts. NEP study areas cover 43 percent of the coastal and estuarine drainage areas of the continental U.S. They range from very large, such as the 23,000 square miles of the Albemarle-Pamlico NEP study area, to fairly small, for example the 90 square mile study area of the San Juan NEP. NEP estuaries include a variety of ecosystems, from shallow embayments, like Buzzards Bay in Massachusetts, to the deep coastal waters of Puget Sound. They are urban and densely populated, like the San Francisco Estuary watershed, and they are rural watersheds with small populations, like Oregon's Tillamook Estuary. Despite the uniqueness of their places, the NEPs have many things in common, and owe much of their success to four principles:

- a focus on the watershed or ecosystem,
- collaborative problem-solving,
- integration of good science with sound decision making, and
- public participation.

EPA supports these 28 programs by providing guidance, technical and financial assistance, and periodic program evaluations. In addition to the 28 existing NEPs, 38 other sites have been formally nominated or have expressed interest in becoming an NEP.

III. Achievements

Habitat Protection and Restoration

One of the priority problems common to all 28 NEP watersheds is habitat loss and degradation. Every NEP management plan includes numerous actions intended to protect and restore habitat acres and quality. NEP habitat protection and restoration efforts

include, for example, open space acquisition, conservation easements, and habitat creation or restoration.

Since 2000, the NEPs and their partners have protected and restored over 1.1 million acres of habitat. For example, development throughout the Coastal Bend area near Corpus Christi, Texas, has resulted in the loss, degradation, and fragmentation of crucial habitat and a decline in the abundance and diversity of living resources. The Coastal Bend Bays and Estuaries Program (CBBEP) helps ensure that these crucial habitats will remain intact by promoting land acquisition in the Delta. CBBEP first implemented this habitat acquisition initiative in 2002, and to date has acquired approximately 5,400 acres. CBBEP continues negotiations with landowners, and is nearing completion of preliminary activities needed to negotiate for the acquisition of another 5,100 Delta acres.

Supporting Clean Water Act Core Programs

Program evaluations of the NEPs conducted by EPA during 2004-2006 demonstrated the NEPs' substantial role in supporting NPDES/stormwater permitting, Total Maximum Daily Loads (TMDLs), section 319 nonpoint source control grants, water quality monitoring, and water quality standards. For example, the Long Island Sound NEP developed numeric water quality models to support a nitrogen TMDL and assessment of management alternatives. That program also promoted effluent trading and development of bubble permits that provide dischargers with flexibility to identify the most cost-effective actions for achieving nitrogen reduction requirements.

The NEPs are also important platforms for low-impact development projects. In 2007, the Tampa Bay Estuary Program and the Urban Land Institute-Tampa Bay

coordinated a meeting of over 300 leaders from the seven-county region to increase awareness of relationships among regional land use, transportation systems, and natural resources. Following this kick-off event, more than 15 community workshops were held, involving an additional 650 interested individuals and organization representatives. The value of the One Bay process will be enhanced by a concurrent study being led by EPA's Office of Research and Development Gulf Breeze Laboratory that will evaluate, through models and other tools, how the ecosystem services provided by the estuary would change under different development scenarios, such as dense, mixed-use development with low-impact development techniques versus greater sprawl and more impervious surfaces.

Successful Leveraging—An NEP Hallmark

The NEP programs are partnerships with a broad diversity of stakeholders who all have interests in protecting and restoring nationally significant estuaries. Therefore, the costs of implementing the NEP management plans should be and are shared among the members of each individual program partnership. A major challenge that came to light through our evaluation cycles was the NEPs' uncertainty about their partners' ability to provide long-term funding for management plan implementation. In response to that challenge, EPA sponsored a series of NEP finance workshops to build NEPs' capacity to develop sustainable financing strategies and partnerships.

EPA promoted "leveraging" as the most appropriate long-term financing mechanism for assisting NEPs. In this context, "leveraging" means creating collaborative relationships or formal agreements among interested stakeholders, enabling the partnership to achieve goals that would otherwise be beyond its reach. Through

leveraging, the 28 NEPs reap the benefits of a wide range of partners' experiences, resources, and energy, using them to manage such priority problems as polluted run off, aquatic invasive species, and sea level rise. During the years 2003-2007, the 28 NEPs received a total of \$85.3 million in CWA section 320 appropriations. During those same years, the NEPs used these federal dollars to leverage \$1.32 billion, or approximately \$15.50 for every \$1 in CWA section 320 funds, received. Over 95% of these leveraged resources were invested in on-the-ground activities like habitat restoration and storm water management; hence, less than 5% funded NEP overhead or operations.

The NEP Coastal Condition Report

The NEP Coastal Condition Report (CCR) is an EPA report assessing four key indicators of estuarine health: water quality, sediment quality, benthic community condition, and fish tissue contaminants. The estuarine monitoring data used in the NEP CCR were collected as part of EPA's National Coastal Assessment. Individual NEPs also collect other monitoring data over a longer time period and at more sampling stations to further enhance their understanding of conditions in their estuaries.

Using these four key indicators, EPA assigned a rating of "good", "fair", or "poor" to each NEP. These ratings were then averaged to create regional and national NEP results. The overall national condition of the NEPs was rated as "fair."

IV. Key Challenges Facing NEPs

Key challenges facing the NEPs include habitat loss and degradation leading to decline of fish and wildlife populations, toxic chemical pollution, invasive species, alteration of natural flow regimes, nutrient overloading leading to hypoxia and

eutrophication, pathogen contamination, freshwater inflow, climate change and sea-level rise, and emerging contaminants such as pharmaceuticals, and personal care products. Some of these are unique to our estuaries; others are challenges facing our water program overall.

V. Related EPA Programs

Large Aquatic Ecosystems

In 2007, the National Academy of Public Administration published a report recommending "making large scale ecosystem restoration a national priority." EPA's Strategic Plan: 2006 – 2011, provides for a significantly expanded effort to protect large aquatic ecosystems as a complement to the implementation of core, national water quality programs. These large ecosystem programs are addressing some of the Nation's most complex water resource management challenges, such as nutrient overloading.

EPA's current set of large aquatic ecosystem (LAE) programs includes the Chesapeake Bay Program Office, Great Lakes Program Office, Gulf of Mexico Program Office, Long Island Sound Program Office, South Florida Program Office, Lake Champlain program, Puget Sound program, Columbia River program, San Francisco Bay program, and the Pacific Islands program. While EPA is the federal lead in the LAEs, other federal and non-federal partners collaborate with LAE program management and staff to develop long-term plans and implement near-term activities based on those plans.

The EPA Office of Water recently established a national Council of Large Aquatic Ecosystems to support and promote efforts to protect these large aquatic ecosystems. The Council includes the managers of the large aquatic ecosystems as well as national program managers, and representatives of the EPA Office of Research and

Development and EPA Regional offices. Key goals of the Council are to encourage the exchange of “best practices,” improve coordination among large aquatic ecosystem program and core national water programs, strengthen links between ecosystem programs and the EPA Strategic Plan and budget, and focus EPA research on the top priority needs of the ecosystem programs.

Climate Change Strategy and Climate Ready Estuaries

The National Water Program recently published a national *Strategy* outlining actions needed to maintain the effectiveness of clean water and drinking water programs in the context of a changing climate. The public comment period on the draft *Strategy* closed on June 10 and we intend to finalize the *Strategy* this summer.

A key conclusion of the draft *Strategy* is that coastal areas are likely to be at greater risk from the consequences of climate change than are inland areas. Potential climate change impacts such as sea level rise, more intense storms, increasing temperatures, and changes in ocean chemistry may all come together to make adapting to climate change a significant challenge for coastal areas. These potential impacts will be compounded by existing stressors on coastal zones (e.g., land use change and development, population growth), and will require coastal managers to develop adaptation measures that improve ecosystem resilience.

The draft *Strategy* identifies a number of actions related to coastal areas including greater efforts for protection of coral reefs and expanded emergency planning. In addition, to assist the NEPs in building capacity for local leadership and expertise in adapting to the effects of climate change, EPA recently launched the Climate Ready

Estuaries program. This new effort works with the NEPs and other coastal managers to assess climate change vulnerabilities, engage and educate stakeholders, develop and implement adaptation strategies, and share lessons learned with other coastal managers.

This year EPA is providing assistance and technical support to six NEPs for the development of climate change adaptation plans for their coastal areas. The six pilot Climate Ready Estuary programs are the New Hampshire Estuaries Project, the Massachusetts Bays Program, the Partnership for the Delaware Estuary, the Albemarle-Pamlico National Estuary Program, the Charlotte Harbor National Estuary Program, and the San Francisco Estuary Project. EPA is also developing a Climate Ready Estuaries toolkit that will be made available to all coastal managers.

VI. Interagency Collaboration

Ocean Action Plan

Interagency and regional collaborations play an important role in protecting the health of our nation's ocean and coastal waters. In December 2004, the Administration released a comprehensive Ocean Action Plan (OAP) including 88 actions and a set of principles to strengthen and improve U.S. ocean policy. The OAP aligns with a number of EPA priorities, including preventing marine debris, improving water quality monitoring, and supporting state-led regional collaborations for protecting the health of our Nation's ocean and coastal waters.

One of the fundamental principles of the President's Ocean Action Plan is to enhance collaboration and partnership among Federal, State, Tribal, and local governments and the public on restoring and protecting our natural resources. For

example, on March 2, 2007, EPA Administrator Stephen Johnson, Interior Secretary Dirk Kempthorne and Commerce Secretary Carlos Gutierrez expressed support for the goals of the Puget Sound Partnership and committed to help achieve its goals.

Coastal America

The Coastal America Partnership brings together the responsibilities, talents, and resources of 13 federal agencies, state and local governments, and the private sector to protect, preserve, and restore the nation's coastal ecosystems through collaborative action and partnership. EPA plays an integral role in the Partnership's on-the-ground coastal restoration and protection activities, through our collaborations with the Partnership's Coastal Ecosystem Learning Center network and the Corporate Wetlands Restoration Partnership (CWRP). Through the CWRP alone, over 20,000 acres of wetlands and 7,000 stream miles have been protected.

Collaboration between EPA and NOAA on Estuary Protection

EPA and NOAA collaborate on estuary protection under the auspices of the Ocean Action Plan and in many other ways, such as joint work on Gulf Hypoxia, non-point source pollution, low impact development, and EPA's periodic National Coastal Condition reports.

In addition, NOAA and EPA work together at the local level with respect to particular NEPs. For example, the Barnegat Bay NEP and NOAA's Jacques Cousteau National Estuarine Research Reserve effectively collaborated on several Estuary!Live broadcasts that reached over a million international viewers in each of two years. The

broadcasts' goal was to provide students worldwide with access to an estuarine ecosystem and to experts who described and explained components of the ecosystem and responded real-time to questions sent in by students viewing the broadcast.

EPA, NOAA and the Charlotte Harbor National Estuary Program convened a two-day Smart Growth training session in 2007. This Coastal Community Planning and Development Workshop helped the Charlotte Harbor NEP and its partners identify opportunities to conserve and restore high priority natural areas, focus development in areas with existing infrastructure, explore options for transit oriented development, and identify other potential partners for planning, development, and conservation efforts. This workshop is part of a collaborative partnership targeted to coastal watershed managers.

VII. Recommendations

The success of the National Estuary Program rests in part on the collaborative nature of the program and its emphasis on the watershed approach to protect and restore coastal and estuarine resources. To enhance the program further and share the lessons learned these past 20 years, I would offer that the NEPs should partner with, and provide assistance to, adjacent non-NEP coastal watersheds; e.g., they could establish regional compacts promoting information exchange and tech transfer.

VIII. Conclusion

In conclusion, the NEPs are a critical part of EPA's Clean Water Act strategy. They are effective, efficient, and collaborative. And they have demonstrated the value of partnering to achieve environmental results.