Committee on Resources

Subcommittee on Fisheries Conservation, Wildlife and Oceans

Statement

TESTIMONY OF
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Good morning, I am William J. Muszynski of the U.S. Environmental Protection Agency (EPA), Region 2. Our Region includes the States of New York and New Jersey, Puerto Rico, and the U.S. Virgin Islands. I am pleased to be here today, and I thank the Committee for the opportunity to discuss EPA's role in the ocean placement of dredged material and its effect on living marine resources.

My testimony today will address EPA actions to implement the Marine Protection, Research, and Sanctuaries Act (MPRSA) as well as to designate and remediate the Historic Area Remediation Site (HARS) in the New York Bight Apex.

First, let me assure you that EPA remains committed to the July 1996 agreement. This agreement has served to strengthen the protection of the New York and New Jersey ocean environment while reducing a longstanding backlog of dredging projects needed to meet the economic and shipping needs of the Port of New York and New Jersey. Consistent with that agreement, the Mud Dump Site was closed, the HARS was designated, alternatives to ocean disposal for non-HARS materials are in place, and the gridlock that was synonymous with dredging has been alleviated.

COASTAL WATERS: VALUE AND CONDITION

We all recognize the importance of this Nation's ocean and coastal waters. These waters provide some of the most diverse and biologically productive habitat in the country and are critical to a wide variety of marine life. Coastal waters provide essential habitat during critical portions of the life cycles of roughly two-thirds of the fish and shellfish caught commercially in U.S. waters.

Coastal waters are also important economically. They support 28.3 million jobs and generate billions of

dollars in goods and services every year. The coastal recreation and tourism industry is the second largest employer in the nation, serving 180 million Americans visiting the coasts every year. The commercial fish and shellfish industry is also very important, contributing $45 billion to the economy every year, while recreational fishing contributes $30 billion to the U.S. economy annually.

Because so many people are drawn to, or depend on, coastal waters, restoring, maintaining and enhancing the health and sustainability of these waters is of great importance. Unfortunately, coastal waters suffer from serious pollution problems. And, these problems are likely to persist because coastal waters are especially vulnerable to degradation as a result of high population density, intense land uses, and rapid population growth.

Recent studies document a wide range of environmental problems in coastal waters including low dissolved oxygen levels, harmful algal blooms, contamination of shellfish, contamination of water and sediment with metals and organic contaminants, and increasing incidence of beach closings. Recent monitoring reports by State agencies under the Clean Water Act (CWA) indicate that, of the almost 30,000 square miles of estuaries assessed, 38% are impaired. The leading causes of these impairments are nutrients, bacteria, toxic pollutants, and oxygen-depleting substances.

EPA REGION 2 COASTAL PROTECTION PROGRAMS

Coastal waters have exceptional environmental and economic value and they face serious pollution problems. It is essential that we have strong and effective programs to restore and protect the quality of the Nation's coastal waters. One such program in which Region 2 is actively participating with our States and Territories is highlighted below.

The National Estuary Program

The National Estuary Program (NEP) was established by Congress in 1987 to address the complex problems associated with estuary management. Estuaries are one of the most productive types of ecosystems, and yet are also among the most stressed. Estuaries often serve as sinks for pollutants originating upstream within the watershed and the airsheds overlying them. In addition, estuaries are directly impacted by human activity -- well over half the people in this country live, work, or play near the coast.

The NEP seeks not only to protect and restore the health of estuaries and their habitat and living resources, but also to support economic activities that take place in, or depend on, healthy estuaries. Under the NEP, EPA provides modest grants to support "management conferences" of interested parties and these groups develop a Comprehensive Conservation and Management Plan (CCMP) for the estuary. Of the 28 estuary projects around the country, six are located at least in part within EPA Region 2: Long Island Sound (NY-CT), Peconic Bays (NY), Barnegat Bay (NJ), Delaware Estuary (NJ-PA-DE), San Juan Bay (PR), and New York-New Jersey Harbor Estuary (NY-NJ).

Growing public concern for the health of the New York - New Jersey Harbor and Bight ecosystem led EPA to designate the New York - New Jersey Harbor as part of the National Estuary Program in 1988. A multi-year effort to develop and implement a plan to protect, conserve, and restore the estuary, the New York-New Jersey Harbor Estuary Program (HEP) is focusing on issues of: habitat loss and degradation; dredged material management; water quality issues such as toxics, pathogens, and nutrient and organic enrichment; and floatable debris. The HEP pulls together a diversity of interests for participation in the program, including representatives from local, State, and federal environmental agencies, scientists, citizens, business

interests, environmentalists, and others.

A comprehensive conservation and management plan (CCMP) has been developed for the New York - New Jersey Harbor Estuary Program to be an environmental improvement blueprint for the Harbor. The CCMP, which was approved by EPA in 1997, lays out strategies for cooperative efforts to restore habitats, improve water quality, reduce contaminant input, and develop plans for dealing with contaminated sediments.

HISTORY OF THE NEW YORK BIGHT

The New York Bight is the triangular area of ocean located between Montauk Point and Cape May, New Jersey and extending approximately 100 miles offshore from the Sandy Hook - Rockaway transect to the outer limits of the continental shelf. Since the 1800s, the New York Bight Apex and surrounding area has been used for disposal of dredged material and a variety of waste products, including municipal and industrial wastes, construction and demolition debris, and sewage sludge. Dredged material placement in the New York Bight Apex began "officially" in 1888 at a point 2.5 miles south of Coney Island. Due to shoaling off Coney Island, the dredged material placement location was moved in 1900 to a point one-half mile south and eastward of Sandy Hook Lightship. In 1903, the location was moved again, to 1.5 miles east of Scotland Lightship. Dredged material placement continued seaward of this area for the next 70 years.

In 1972, the Marine Protection, Research, and Sanctuaries Act (MPRSA) was enacted to address and control the dumping of materials into ocean waters. Title I of MPRSA authorized EPA and the U.S. Army Corps of Engineers (Corps) to regulate dumping in ocean waters. Since the MPRSA was enacted, and through its subsequent amendments (including the Ocean Dumping Ban Act of 1988, which prohibited ocean dumping of sewage sludge and industrial waste), dumping in the New York Bight has been dramatically reduced. In the New York Bight, this has meant permanent closure of the 12-Mile and 106-Mile sewage sludge sites, the Cellar Dirt Site, the Acid Waste Site, the Deepwater Industrial Waste Site, the Mud Dump Site, and the Woodburning At Sea Site.

IMPLEMENTATION OF THE MARINE PROTECTION, RESEARCH, AND SANCTUARIES ACT

Under the MPRSA, the Corps and EPA are assigned specific responsibilities pertaining to dredged material management in the ocean, including the permitting of projects and the management of sites in an environmentally safe and scientifically sound manner. The MPRSA prohibits the transportation of material from the United States for the purpose of ocean dumping, except as may be authorized by a permit issued under the Act. Under the MPRSA, the Corps is assigned permitting responsibility for dredged material, subject to EPA review and concurrence that the material meets applicable ocean disposal criteria. EPA develops the environmental criteria used in reviewing permit applications. EPA designates sites for ocean disposal for dredged material (and non-dredged material), and the Corps is required to use these sites to the maximum extent feasible.

The MPRSA requires EPA and the Corps to prepare a Site Management and Monitoring Plan (SMMP) for all MPRSA-designated sites. After January 1, 1995, no site is to receive a final designation unless an SMMP has been developed.

On October 1, 1986, the EPA Administrator delegated the authority to designate/de-designate ocean disposal sites for dredged material to the Regional Administrator of the EPA Region in which the site is located.

EPA Region 2 and the Corps New York District jointly manage the New York/New Jersey Harbor Dredged Material Disposal Program, the Historic Area Remediation Site, and other sites in the New York - New Jersey area.

DREDGED MATERIAL MANAGEMENT IN THE NEW YORK BIGHT APEX

Between 1973 and 1997, ocean disposal of dredged material in the New York Bight Apex had been conducted at the site known as the "Mud Dump Site." The Mud Dump Site was designated as an Interim Ocean Dredged Material Disposal Site in 1973 under the MPRSA. In 1984, the Mud Dump Site was designated as a "final" Ocean Dredged Material Disposal Site under the MPRSA, with a maximum capacity of 100 million cubic yards of dredged material. Specific information concerning disposal volumes prior to 1976 is sparse, but between 1976 and 1983, approximately 47 million cubic yards of dredged material was disposed at the Mud Dump Site. Between 1984 and 1997, approximately 68 million cubic yards of dredged material have been disposed at the Mud Dump Site.

In 1996, in recognition of the difficult and controversial nature of dredged material management issues in the New York/New Jersey Harbor, the significance of the Port of New York/New Jersey, and the importance of protecting the areas coastal resources, the Administration worked cooperatively with Members of Congress and environmental, port, and labor interests to establish a coordinated, comprehensive strategy to protect and improve the environmental and economic health of the New York-New Jersey Harbor area. EPA, the Department of Transportation, the Department of the Army, and other interested partners cooperated in the development of an environmentally and economically sound strategy to address the dredged material management issues confronting the region.

The strategy included closing the former Mud Dump Site, and simultaneously redesignating the site and surrounding areas that had historically been used for disposal of contaminated material as the Historic Area Remediation Site for the purposes of remediation. In addition, the strategy committed to developing dredged material disposal alternatives such as land-based alternatives and sediment decontamination. Implementation of the strategy involves working cooperatively with the States of New York and New Jersey and their Congressional delegations, local communities, environmental groups, port and labor interests, and private industry.

ENVIRONMENTAL IMPACTS

EPA evaluated the extent and location of potential environmental impacts in the vicinity of the former Mud Dump Site and historic dredged material disposal areas. Samples were taken from a study area, encompassing 30 square nautical miles within the New York Bight Apex (Study Area). The results of these evaluations are summarized below.

Sediment Toxicity

The acute toxicity of sediments in the Study Area was evaluated using the same 10-day amphipod (*Ampelisca abdita*) bioassay test used as part of the evaluation of the suitability of sediment for ocean disposal by EPA Region 2 and the Corps New York District (NYD). The data from amphipod bioassays using sediments from the Study Area indicated widespread toxic conditions in sediment from areas around the former Mud Dump Site. If these same surface sediments from the Study Area had been from a proposed Region 2/NYD dredging project site, the sediments would not have been permitted for disposal at the former Mud Dump Site.

Contaminant Bioaccumulation/ Food Chain Transfer

Through ingestion and other routes of exposure, certain chemicals can build up in the tissue of living organisms. As organisms are preyed upon by other organisms higher on the food chain, chemicals in the organisms' tissues may be transferred to the predator. This process can have a negative impact on ecosystem health and human health if contaminants accumulate to harmful levels.

Contaminant bioaccumulation was evaluated by analyzing the tissues of bottom-dwelling worms collected from the Study Area sediments. EPA's evaluation of contaminant bioaccumulation in the Study Area was similar to the national testing manual's (Green Book) Tier IV "steady-state" evaluations. The results showed that there were areas in the vicinity of the Mud Dump Site where these benthic worms were accumulating undesirable levels of contaminants from the sediments.

In 1993, due to public concern over levels of contaminants in fish caught in the vicinity of the Mud Dump Site and the New York Bight Apex in general, EPA Region 2 and the U.S. Army Corps of Engineers (Corps) funded the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) to conduct a New York Bight Apex Recreational Fish Study. The purpose of the study was to measure levels of contaminants in fillets of fish caught in the New York Bight apex. The study was not designed to identify the extent or sources of any contamination found. The data we have reviewed do not indicate any contaminant concentrations in excess of FDA guidelines.

Contaminant Levels in Area Lobsters

NOAA tissue data from lobsters that were harvested in the New York Bight Apex in 1994 revealed that polychlorinated biphenyls (PCBs) and 2,3,7,8-TCDD (dioxin) concentrations in the hepatic tissue ("tomalley") of the lobsters were above U.S. Food and Drug Administration guidelines. Other contaminants were also present in the "tomalley" and other tissues, but the concentrations of these contaminants were within guidelines. It is important to point out that in this study the lobster muscle tissue (meat) did not present health risks from human consumption.

It is also important to note that the lobsters analyzed in the NOAA study were harvested from wild stocks in the Apex, whose populations migrate seasonally through the region, including perhaps the Study Area. Contamination of these animals cannot be definitively linked to specific areas of dredged material disposal, to other past dumping activities, or to other ongoing pollution sources. Nor do the study data indicate that human consumption of lobster muscle tissue (meat) presents health risks. However, the lobster study data do show that contaminants are being accumulated, and that concern about potential human-health risks may be warranted. This contaminant data set complements other evidence of benthic contamination in the Bight Apex region.

MANAGEMENT OF THE HISTORIC AREA REMEDIATION SITE

In May 1997, EPA prepared a Supplemental Environmental Impact Statement (SEIS), updating a 1982 EIS on New York dredged material disposal site designations.

As discussed and documented in the 1997 SEIS, field studies of the New York Bight Apex show undesirable bioaccumulation levels of certain contaminants and undesirable toxicity resulting from exposure to the surface sediments of much of the former Mud Dump Site and nearby sediments. While it is

impossible to quantify how much of the sediment contamination in the New York Bight Apex is the direct result of past dredged material disposal, other ocean dumping activities (e.g., former sewage sludge disposal at the 12-Mile Site), or other sources (e.g., the Hudson River plume or atmospheric deposition), the presence of these degraded sediments in the Apex is cause for concern. Organisms living in or near these degraded surface sediments in nearshore waters may be continually exposed to contaminants until the contaminants are buried by natural sedimentation, or otherwise isolated or removed. Exposed sediments can directly and indirectly impact aquatic organisms. Impacts to terrestrial organisms (including human beings) are also possible if the contaminants move up the food chain.

The presence of acute toxic effects, dioxin bioaccumulation to undesirable levels in worm tissue, as well as dioxin and PCB contamination in the "tomalley" of area lobster stocks, amply supported the termination and de-designation of the Mud Dump Site, and simultaneous redesignation of that site and surrounding degraded areas as the Historic Area Remediation Site. The collective evidence presented cause for concern, and justified the need for remediation and management to reduce impacts to acceptable levels.

EPA prepared proposed and final rules in 1997 which officially terminated the former Mud Dump Site and simultaneously designated the Historic Area Remediation Site. The Historic Area Remediation Site (which includes the 2.2 square nautical mile MDS) is approximately 15.7 square nautical miles in size and includes the following 3 areas:

Priority Remediation Area (PRA): 9.0 square nautical mile area to be remediated with at least one meter of Remediation Material.

Buffer Zone: an approximately 5.7 square nautical mile area (0.27 nautical mile wide band around the PRA) in which no placement of Remediation Material will be allowed, but which may receive Remediation Material that incidentally spreads out of the PRA.

No Discharge Zone: an approximately 1.0 square nautical mile area in which no placement or incidental spread of the Remediation Material is allowed.

The Historic Area Remediation Site designation provides that the site will be managed so as to reduce impacts within the Priority Remediation Area to acceptable levels, in accordance with 40 CFR 228.11(c). Use of the site will be restricted to dredged material suitable for use as the Material for Remediation. This material is selected so as to ensure that it will not cause significant undesirable effects, including through bioaccumulation or unacceptable toxicity in accordance with 40 CFR 227.6.

As described in the preambles to the proposed and final site designation rules, the Historic Area Remediation Site will be remediated with "uncontaminated dredged material (i.e. dredged material that meets current Category I standards and will not cause significant undesirable effects including through bioaccumulation)". The preambles further note that Remediation Material must meet regulatory requirements and will possess characteristics that demonstrably contribute to the improvement of conditions within the area in which they are to be placed. This is determined by using existing tests for dredged material as specified in the applicable national and regional manuals.

The testing includes assessments of the potential for acute toxicity and for bioaccumulation of contaminants from the dredged material. Material that is toxic to marine organisms or that cause bioaccumulation to unacceptable levels is excluded from use as Remediation Material at the HARS. The evaluation of bioaccumulation considers the potential for trophic transfer of contaminants and identified acceptable levels

for the protection of both ecological and human health.

In fulfillment of a New York - New Jersey Harbor Estuary Program (HEP) Comprehensive Conservation and Management Plan commitment, EPA has initiated a peer review of the dredged material testing evaluation framework utilized to determine suitability of dredged material for use as remediation material at the HARS. As part of this process, EPA coordinated the development of questions for the peer reviewers with the Criteria Work Group of the HEP Dredged Material Management Forum prior to initiating the peer review process. The Criteria Work Group, which is open to the public, is presently made up of federal, state and local agencies, elected officials, the Port Authority of New York and New Jersey, environmental, labor, business and shipping groups and academia.(1) EPA has distributed the comments from the scientific peer reviewers to the Criteria Work Group for their consideration. The EPA review of the HARS testing evaluation framework is expected to be completed this year, and will include public review and comment.

In accordance with the MPRSA, the HARS is being managed according to an approved Site Management and Monitoring Plan (SMMP). The Historic Area Remediation Site SMMP identifies a number of actions, provisions, and practices to manage the operational aspects of dredging, HARS remediation activities, and HARS monitoring tasks. The objectives of the SMMP are as follows:

- Provide for the remediation of required areas within the Historic Area Remediation Site by placing a one-meter cap of the Remediation Material on sediments within the Priority Remediation Area.

- Provide that no significant adverse environmental impacts occur from the placement of the Remediation Material at the Historic Area Remediation Site. The phrase "significant adverse environmental impacts" is inclusive of all significant or potentially substantial negative impacts on resources within the HARS and vicinity.

EPA Region 2 and the Corps New York District jointly implement the Historic Area Remediation Site SMMP. To date, since the designation of the HARS, EPA Region 2 and the Corps New York District have conducted several bathymetry, REMOTS, and sidescan sonar surveys of the HARS. Results indicate that remediation efforts are being conducted in accordance with the objectives of the Historic Area Remediation Site SMMP and the remedial objectives of the HARS designation.

Since the HARS was designated, approximately 4 million cubic yards of sediment has been authorized for disposal from the New York/New Jersey Harbor. About 2 million cubic yards of this total has been, or is scheduled to be, placed at locations other than the HARS. In addition, EPA has advised the USACE that approximately 3.5 million cubic yards of material from 8 of the 14 Kill Van Kull reaches will not be HARS suitable. Non-ocean disposal alternatives that were not available in 1996 when the agreement was reached are now available for dredged material not meeting HARS placement requirements.

DREDGED MATERIAL MANAGEMENT ALTERNATIVES: THE SEDIMENT DECONTAMINATION PROGRAM

EPA Region 2 has made it a priority to help develop environmentally responsible and economically sound dredged material management alternatives for use in the New York-New Jersey area. One potential component for dredged material management in the New York - New Jersey harbor is sediment decontamination. Through the Sediment Decontamination Program authorized by Congress under the Water Resources Development Acts of 1992 and 1996, EPA is working with federal and State partners,

environmental interests, and private industry on a series of progressive steps that will lead to a full-scale demonstration of one or more sediment decontamination technologies with a processing capability of at least 500,000 cubic yards per year.

This program is following the 'treatment train" approach, which involves dredged material handling, decontamination of a wide variety of contaminants and concentrations found in New York - New Jersey Harbor dredged material, and beneficial reuse. The program views dredged material as a "resource", and works to develop reusable products out of decontaminated dredged material, such as manufactured topsoil, construction grade cement, glass architectural tiles, and light weight aggregate.

The Sediment Decontamination Program is a public/ private partnership, with cost-sharing between the federal government (20%) and the private sector (80%). EPA will have contributed nearly $16.5 million to this project through FY 2000. Treatment processes and beneficial use options supported through the program are making progress, and we expect to select treatments to move towards full-scale implementation in the coming months. The extent to which any of the potential technologies will prove to a be cost-effective alternative to current approaches to handling contaminated sediments is still unclear.

LEGISLATION

A number of bills have recently been introduced concerning the HARS and the criteria for material to be placed there. Some legislation could end the remediation activities at this site.

Since its designation in 1997 and as I have outlined today, EPA determined, after compilation of the results from scientific surveys and studies, that the Mud Dump site and the surrounding areas now known as the HARS need to be remediated. The collective evidence justifies this need for remediation and management to reduce impacts to acceptable levels.

If this site were to be closed immediately to any dredged material, it would place an additional burden on land based alternatives that have been developed for materials that do not meet the HARS criteria. The measures provided for in the July, 1996 agreement and the actions taken by the federal and state governments are reflective of the shared goals of protecting the ocean environment, while ensuring the competitiveness of the Port of New York and New Jersey and the economic health of the region. As also provided for in the letter setting forth the July, 1996 agreement, "The designation of the HARS will assure long term use of category 1 dredged material."

Some legislation addresses the criteria to be used for remediation material. EPA believes that the continuation of the actions provided for in the three party letter, the implementation of the NY/NJ HEP CCMP and the completion of the peer review process with opportunity for public review and comment -- which may lead to refinement of the testing evaluation framework -- is the correct course of action to ensure the continued growth and vitality of the port and the improvement of our marine environment.

The Administration would be opposed to any legislation that would eliminate the use of dredged material as remediation material at the HARS and would return us to the "mud-lock" which existed prior to July 1996.

CONCLUSION

In conclusion, I would like to reiterate that EPA remains committed to the 1996 agreement. Our goals are not only to protect living marine resources, but to improve the environmental conditions of the Historic

Area Remediation Sites as well as the entire New York - New Jersey Harbor area. EPA will continue to work with our federal, state, and local partners, private industry, environmental groups, and other interests to ensure that dredged material in the New York Bight Apex is managed in a cost-effective and environmentally-safe manner, including the identification of alternative dredged material disposal options such s decontamination and reuse. I also look forward to working with you, your constituents, and other interested parties on the peer review process and hope that we can continue to work together cooperatively to ensure the well being of all our natural resources.

Mr. Chairman, this concludes my testimony. Thank you for your attention and the opportunity to be here today. I would be happy to respond to any questions you may have.

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1. Including, but not limited to, EPA, USACE, NMFS, USFWS, U.S. Representative Pallone, NYSDEC, NYSDOS, NYSDOH, NJDEP, NJMR, NYCDEP, NYCEDC, Hudson River Foundation, Clean Ocean Action, American Littoral Society, Environmental Defense Fund, EcoWatch, United Fisherman, Hudson River Fisherman, NJ Sea Grant, Battelle Ocean Sciences, Greater Newark Conservancy, Union Dry Dock, International Longshoremans Association, NY Shipping Association, Stevens Institute, NJIT, Columbia University, Rutgers University, Exxon Biomedical, IT Corporation, and Westinghouse.

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