Memorandum: Analysis of Water Resource Development Act

New York City's Department of Design and Construction

Town+Gown: NYC Water In and Water Out Innovative Water Research Working Group

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To: Town+Gown:NYC Water In and Water Out Innovative Water Research Working Group

From: Ilya Van Nieuwenhuyse, Brooklyn Law School, Class of 2027

Re: Analysis of Water Resource Development Act

I. Introduction

The Water Resources Development Act (WRDA) represents Congress's primary legislative vehicle for directing federal water resources policy in the United States. Federal involvement in large-scale water infrastructure projects is carried out primarily through the U.S. Army Corps of Engineers (Corps) and their Civil Works Program. WRDA grew out of earlier bifurcated federal water resources statutes, most notably the Rivers and Harbors Acts (RHA) and the Flood Control Act (FCA). While earlier statutory laws established federal jurisdiction over navigable waters and flood control infrastructure, the WRDA consolidated and expanded these authorities into a single legislative framework.

As a result, WRDA established a recurring statutory mechanism through which Congress authorizes Corps studies and projects which directly affect and relate to water resource development. This mean that WRDA authorizations only establishes a legal authority and does not provide funding. WRDA establishes a federal–state partnership model in which Corps water resources projects can proceed only with a non-federal sponsor that shares costs, and assumes long-term operation and maintenance obligations.

Under WRDA Congress began to expand Corps authority beyond mere navigation and flood control to include coastal storm risk management and ecosystem restoration through

nature-based and multi-benefit infrastructure projects. Nevertheless, WRDA does not displace other federal or local environmental laws, but instead institutionalizes compliance, because WRDA projects function as platforms for interagency alignment rather than exemptions from environmental review. This further reinforces WRDA's role as a planning statute that integrates, rather than bypasses, environmental governance.

In New York, following Superstorm Sandy, federal, state, and local agencies shifted away from isolated projects, toward regional coastal planning. This ultimately resulted in the creation of the New York–New Jersey Harbor & Tributaries Focus Area Feasibility Study (HATS). HATS functions as a WRDA-authorized regional planning and feasibility framework, which serves as the primary gateway for coastal resilience projects in the metropolitan area. The Jamaica Bay project emerged from this framework as a project-level application of WRDA policy that illustrates how regional planning under HATS translates into an integrated coastal storm risk management initiative. Moreover, Jamaica Bay reflects modern WRDA priorities which combine structural flood protection with nature-based features, demonstrating WRDA's evolution from its navigation-focused origins into a multi-benefit coastal resilience framework.

II. Analysis

A. Legislative History and Purpose

Historically, federal involvement in large scale infrastructure projects on interstate waters began under the Rivers and Harbors Acts (RHA) and the Flood Control Act. These early efforts authorized funding for navigation improvements, and delegated implementation to the Corps As the American environmental movement gained significant momentum, it began to spur bipartisan support for more environmentally focused legislation. From 1970 to 1986, no major water resources authorization bill passed, largely because of disputes over environmental compliance

and funding fairness. Congress sought to consolidate authorizations under a single framework that could address navigation projects and flood control.

Following this heighted environmental scrutiny, various Corps projects, such as the Cross-Florida Barge Canal, were highly criticized as environmentally destructive and economically unjustified.[1] Moreover, landmark statutes, such as the Clean Water Act (CWA), required the Corps to consider ecological and water quality impacts alongside traditional engineering objectives. However, as Congress expanded Corps authority, federal water policy became fragmented across a variety of different project specific statutes. Congress recognized the need for a more cohesive federal framework to authorize and fund Corps projects. This ultimately led to the Water Resource Development Act (WRDA) of 1986, which consolidated project approvals under one statute and introduced specific guidelines for cost-sharing with local sponsors.

The WRDA functions to establish a recurring legislative mechanism for Congress to authorize water resources projects that are to be carried out by the Corps, including, but not limited to, navigation improvements, flood risk management, storm damage reduction, ecosystem restoration and water supply. The Act's overarching purpose is to ensure that federal investments in water infrastructure advance public interest in navigation, flood control and environmental protection through a transparent authorization process. WRDA grants the legal authority for the Corps to perform specific studies and projects but does not provide any funding to carry them out. Funding of WRDA-authorized studies and projects is provided separately through the annual Energy and Water Development appropriations process and, at times, through

[1] Richard Nixon, Statement About Halting Construction of the Cross Florida Barge Canal, 7 Pub. Papers 38 (Jan. 19, 1971).

supplemental appropriations. [2] WRDA statutes are the primary congressional mechanism for authorizing and modifying projects for the Civil Works Program.[3] The Corps' Civil Works Program encompasses all federal water resource projects, including flood control, navigation, ecosystem restoration, shoreline protection and related infrastructure.

B. Adoption of WRDA in 1986

Prior to 1986, Congress authorized water infrastructure projects piecemeal through an ad hoc and project specific process which led to fragmentation and delays. WRDA of 1986 was the first major omnibus projects authorization bill which authorized over 370 projects for study or construction.[4] Beyond authorization, Congress established a cost-sharing program and Harbor Maintenance Trust Fund (HMTF) to realign financial responsibility between federal and non-federal partners to develop a consistent, user-funded federal framework for financing the nation's commercial harbors and navigation channels.[5] Moreover, WRDA of 1986 introduced a series of environmental provisions which incorporated mitigation and enhancement into Corps projects to improve the environment, affirming that environmental considerations were intrinsic to water resources planning.

i. *Cost Sharing*

At the time WRDA was enacted, there was bipartisan consensus that local stakeholders ought to bear more of the financial and management burdens of waterway projects. Pursuant to WRDA § 101(a)(1), the Corps may not commence any non-navigation water resources projects

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[2] U.S. ARMY CORPS OF ENG'RS, *Water Resources Development Act (WRDA) 2024*, https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/wrda_2024/
[3] Nicole T. Carter & Anna E. Normand, *Process for U.S. Army Corps of Engineers Projects*, CONG. RESEARCH SERV. Report R47946 (Mar. 7, 2024), https://www.congress.gov/crs-product/R47946
[4] Pub. L. No. 99-662, 100 Stat. 4082, was signed into law on Nov. 17, 1986, by President Ronald Reagan
[5] U.S. ARMY CORPS OF ENG'RS, *Historical Vignette 103 – Water Resources Development Act of 1986* (WRDA-86) (Nov. 2006), https://www.usace.army.mil/About/History/Historical-Vignettes/Civil-Engineering/103-WRDA-86/

unless a non-federal sponsor enters into a written cost-sharing agreement first.[6] For such projects, the federal government commits to pay 65% of construction costs, with the non-federal sponsor responsible for the remaining 35%. Non-federal sponsors are also responsible for all operation, maintenance, repair, replacement and rehabilitation after construction is completed. For non-navigation feasibility studies, the non-federal sponsor is required to cover 50% of the costs associated with conducting a feasibility study for a water resource project.[7]

Pursuant of WRDA § 101(4), the federal government covers 100% of construction costs for navigation projects in channels less than twenty feet deep.[8] For channels between 25 and 45 feet deep, the non-federal sponsors are required to pay 25% of the construction costs, whereas for depths greater than 45 feet, the nonfederal sponsor is responsible for 50% of the construction In such instances, the federal government commits to cover 100% of the operation and maintenance costs, except for deep draft portions greater than 45 feet. In accordance with WRDA § 105(a)(1), any study designed for purposes of navigation improvements is exempt from the federal cost sharing requirement.[9]

ii. *Habor Maintenance Trust Fund (HMTF)*

Title XIV established the HMTF to provide a dedicated, fee-based funding source for the construction, operation and maintenance of commercial navigation channels, harbors, and ports.[10] The fund was intended to streamline appropriations and ensure that port users, rather than general taxpayers, were responsible for the cost of maintaining navigation infrastructure.

[6] Codified at 33 U.S.C. § 2211 et seq.
[7] Codified at 33 U.S.C. § 2215 et seq.
[8] Codified at 33 U.S.C. § 2211a (4)
[9] Codified at 33 U.S.C. § 2215(b)
[10] Codified at 26 U.S.C § 4461

The HMTF is funded by a Harbor Maintenance Tax, which is 0.125% tax based on the assessed value of commercial cargo loaded or unloaded at U.S. ports.[11]

iii. *Environmental Provisions*

WRDA § 1135 gave the Corps the authority to modify its existing projects to improve the environment. In most cases, the Corps must show that the operation or construction of the existing project has degraded the quality of the environment.[12] With each project, the federal cost is limited to $10.0 million and requires cost sharing from an authorized non-federal sponsor. A non-federal sponsor must be a local public agency or a qualified nonprofit environmental organization. The sponsor must also agree and be able to provide, at no cost, all land, easements, rights-of-way, access routes and relocation of utilities necessary for project construction and for subsequent operation and maintenance.

C. WRDA of 1990

The adoption of WRDA in 1990 marked a turning point in federal law by formally incorporating environmental protection and restoration into the Corps' core mission.[13] With WRDA § 306, Congress designated environmental protection and restoration as a primary mission of the Corps.[14] This expanded the Corps' ability to authorize projects specifically for the protection, restoration, and enhancement of environmental quality, not just navigation or flood control. It also enabled the Corps to engage in joint environmental protection and redevelopment

[11] John Frittelli, *Harbor Maintenance Finance and Funding*, CONG. RESEARCH SERV. Report R43222 (Sept. 12, 2013), *see* https://purl.fdlp.gov/GPO/gpo121906
[12] U.S. ARMY CORPS OF ENG'RS, *Section 1135 – Project Modifications for Improvements to the Environment*, https://www.sas.usace.army.mil/Missions/CAP/Section-1135-Project-Modifications-for-Improvements-to-the-Environment
[13] Pub. L. No. 101-640, 104 Stat. 4604 was signed into law on November 28, 1990 by President George H. W. Bush.
[14] Codified at 33 U.S.C. § 2316

projects with local government agencies.[15] WRDA § 306 also established, as part of the Corps' water resources development program a goal "no overall net loss" of wetlands within the Civil Works program.[16] WRDA § 316 expanded the role of the HMTF for operation and maintenance of deep-draft navigation channels.[17] This allows for up to 100 percent of "eligible operations and maintenance costs" for navigation and harbor projects to be reimbursed from the HMTF.[18]

D. WRDA of 1992

With the adoption of WRDA in 1992, Congress expanded the Corps' authority to promote the beneficial use of dredged material and support environmental infrastructure projects in partnership with non-federal sponsors.[19] Prior to the enactment of WRDA 1992, dredged material from projects were generally viewed as waste and disposed of offshore or in landfills as the Corps lacked the authority to reuse the material for environmental purposes. [20] The ecological cost of disposal forced Congress to establish a mechanism for "beneficial use" of dredged material. WRDA § 204 authorized the Corps to reuse sediment from federally recognized navigation dredging projects to build shoreline buffers and reduce flood risks.[21]

WRDA § 219 further expanded the Corps' ability to assist nonfederal interests in carrying out water-related environmental infrastructure and resource protection and development projects. The nonfederal sponsor is responsible for 25% of total design costs or total project costs, but will

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[15] U.S. ENVTL. PROT. AGENCY & U.S. ARMY CORPS OF ENG'RS, Identifying, Planning, and Financing Beneficial Use Projects Using Dredged Material: Beneficial Use Planning Manual, EPA 842-B-07-001 (Oct. 2007), https://www.epa.gov/sites/default/files/2015-08/documents/identifying_planning_and_financing_beneficial_use_projects.pdf
[16] Codified at 33 U.S.C. § 2317
[17] Codified at 33 U.S.C. § 2236
[18] https://www.publications.usace.army.mil/Portals/76/EC%2011-2-228_expires%202025%2003%2031.pdf
[19] Pub. L. No. 102-580, 106 Stat. 4797 was signed into law on October 31, 1992 by President George H. W. Bush
[20] https://planning.erdc.dren.mil/toolbox/library/PL/WRDA1992-Section204.pdf
[21] Codified at 33 U.S.C. § 2326

receive credit for the value of all lands, easements, rights-of-way, relocations, and disposal areas (LERRDs).[22]

E. WRDA of 1996

Building on the success of WRDA of 1992, WRDA of 1996 was primarily concerned with expanding established environmental authorities.[23] WRDA of 1996 amended § 312 to expressly allow for sediment remediation to be undertaken at environmental restoration and water quality improvement projects.[24] As a result, the beneficial use of dredged material authority was not just about removal, but also remediation. WRDA § 207 authorized the Corps to select disposal methods which were not the lowest-cost option if the additional cost is reasonable compared to the anticipated environmental benefits.[25] Moreover, to further strengthen the program, Congress made this authority indefinite and increased the annual funding authorization to $30 million.

Beyond expanding the Corps' contaminated-sediment authorities, WRDA of 1992 also broadened the federal government's environmental mission by creating § 206, which incorporated an aquatic ecosystem authority under the Continuing Authorities Program (CAP).[26] WRDA § 206 authorized the Corps, through the secretary of the Army, to plan, design and construct small scale projects that restore degraded aquatic habitats. CAP is a long-standing Corps program that delegated authority to plan and build small projects, without the need for additional project specific congressional authorization. Any CAP restoration project must be in

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[22] U.S. ARMY CORPS OF ENG'RS, *Environmental Infrastructure Assistance: Section 219* (Sept. 5, 2025), https://www.mvp.usace.army.mil/Home/Projects/Article/3891587/environmental-infrastructure-assistance-section-219

[23] Pub. L. No. 104-303, 110 Stat. 3658 signed into law by President Bill Clinton on October 12, 1996

[24] Codified at 33 U.S.C. § 2326(e)

[25] Codified at 33 U.S.C. § 2326a

[26] Codified at 33 U.S.C. § 2330

the public interest and produce improvements to environmental quality.[27] Under the program, projects include a feasibility phase and an implementation phase. Under the program, non-federal sponsors must provide lands, easements, rights-of-way, and assume operation and maintenance responsibilities. Non-federal sponsors are also responsible for 35% of the cost for project implementation.[28]

F. WRDA of 2007

Between 2000 and 2007, Congress did not pass any water resource authorization bills due to a gridlock over earmarks and concerns of budget discipline. Earmarks are understood as project specific authorizations petitioned for by individual members of Congress for their specific districts that circumvent the merit-based or competitive funds allocation process.[29] After nearly a decade without any major amendments, Congress was forced to enact WRDA of 2007 in direct response to the engineering failures exposed by Hurricane Katrina.[30] Hurricane Katrina struck eastern Louisiana, Mississippi, and western Alabama, killing hundreds of local residents, displacing hundreds of thousands more, and causing an estimated $200 billion in economic damage.[31] Lawmakers needed to address both the immediate failures in New Orleans, and long-term vulnerabilities of coastal cities in general.[32]

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[27] U.S. ARMY CORPS OF ENG'RS, *Continuing Authorities Program*, https://www.nae.usace.army.mil/Missions/Public-Services/Continuing-Authorities-Program
[28] U.S. ARMY CORPS OF ENG'RS, *Section 206 – Aquatic Ecosystem Restoration*, https://www.sas.usace.army.mil/Missions/CAP/Section-206-Aquatic-Ecosystem-Restoration
[29] Richard M. Jones, *Bush Administration Draws a Firm Line on FY 2007 Earmarks*, (Feb. 27, 2007), https://www.aip.org/fyi/2007/bush-administration-draws-firm-line-fy-2007-earmarks
[30] Pub. L. No. 110-114, 121 Stat. 1041 was signed into law by President George. W Bush on November, 8 2007
[31] NATIONAL RESEARCH COUNCIL, D*rawing Louisiana's New Map: Addressing Land Loss in Coastal Louisiana* (2006), https://www.nap.edu/read/11476/chapter/1
[32] CONG. RESEARCH SERV., *Flood Risk Management and Levees: A Federal Primer*, CRS Report RL33129 (June 20, 2008), https://usace-cwbi-prod-il2-nld2-docs.s3-us-gov-west-1.amazonaws.com/a1fec041-0c74-441a-b4b0-56700f01debc/2008_CRS_FRM%20and%20Levees.pdf

Once the bill finally passed, President George W. Bush returned WRDA 2007 to Congress, citing a lack of fiscal discipline and priorities. The central issue was the level of authorizations as the Congressional Budget Office estimated the 15-year impact of WRDA 2007 at $23 billion. The Administration supported limiting authorizations to projects in the Corps' primary mission areas of navigation, flood control, storm damage reduction, and ecosystem restoration, which illustrates an economic and environmental justification for federal participation.[33]

In direct response to the failures of Hurricane Katrina, WRDA of 2007 authorized the Louisiana Coastal Area Ecosystem Restoration Program (LCA).[34] The LCA is the first large scale federal initiative to integrate ecosystem restoration and storm protection.[35] This program serves as the conceptual and legislative precursor to later nature-based framework strategies further developed and expanded upon in later WRDA bills.[36]

Beyond the LCA, WRDA of 2007 officially integrated and codified regional sediment management (RSM) program under the beneficial use of dredged material.[37] This directed the Corps to implement RSM plans that restore and protect coastal ecological systems. The goal of RSM is to retain sediment within natural systems and improve its beneficial use while achieving greater efficiency. WRDA 2007 provided legislative authorization for the Corps to undertake

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[33] Nicole T. Carter et al., *Water Resources Development Act (WRDA) of 2007*: *Corps of Engineers Project Authorization Issues*, CRS Report RL33504 (Nov. 20, 2007), https://www.everycrsreport.com/reports/RL33504.html
[34] Codified at 16 U.S.C. §§ 3951-3956
[35] U.S. ARMY CORPS OF ENG'RS., *Louisiana Coastal Area*, https://www.mvn.usace.army.mil/Missions/Environmental/Louisiana-Coastal-Area
[36] Robert Twilley, *Supporting the Science and Technology of Louisiana's Coastal Master Plan*, LSU College of the Coast & Environment Media Center (Jan. 12, 2022), http://www.lsu.edu/cce/mediacenter/news/2022/01/masterplan.php
[37] U.S. ARMY CORPS OF ENG'RS., *Regional Sediment Management*, https://www.iwr.usace.army.mil/Missions/Coasts/Tales-of-the-Coast/Corps-and-the-Coast/Regional-Sediment-Management

projects that could be implemented using RSM principles. While RSM is a standalone, ongoing program not authorized by a specific section of the Act itself, Congress continues to provide guidance on implementation under the WRDA.[38]

G. WRRDA of 2014

While several WRDA bills were proposed between 2007 and 2014, none passed due to ongoing concerns about earmarks. It only took another hurricane, Hurricane Sandy, to motivate Congress to enact Water Resources Reform and Development Act of 2014.[39] WRRDA of 2014 included "reform" in its name because a primary goal of the legislation was to streamline processes at the Corps. WRRDA of 2014 marked a structural shift in federal water-resources policy by formally integrating natural and nature-based infrastructure into Corps project planning, formalizing ecosystem restoration as a Corps mission alongside navigation and flood control, creating new federal water-infrastructure financing tools and expanding beneficial use of dredged material through a national pilot program.

WRRDA § 7001 established an annual process that requires the Corps to identify projects and modifications to existing projects for congressional authorization.[40] In evaluating projects, the Corps must assess environmental benefits, including those delivered through "natural systems" or "nature-based processes." This provides the Corps with the legal foundation to use natural and nature-based features (NNBFs) as alternatives or compliments to structural flood

[38] Nicole Elko et al., "*Regional Sediment Management" – Historical Implementation of RSM Practices: Coastal Navigation Sediment Placement, Challenges & Lessons Learned* (May 17, 2016), https://rsm.usace.army.mil/techtransfer/FY16/RSM-IPR-May2016/pdfs/07_Historical_RSM_Practicees.pdf
[39] Pub. Law. 114-322 signed into law by President Barack Obama on June 10, 2014
[40] Codified at 33 U.S.C. § 2282d

defense. NNBFs are landscape features that use natural, nature-based systems to reduce coastal storm risk while providing environmental benefits.[41]

WRRDA §1122 strengthened Corps authority under the Beneficial Use of Dredged Material by establishing a pilot program.[42] Under this program, the Corps are required to start ten projects per year which use dredged materials beneficially. [43] Pursuant to this authority, the Crops can use dredged materials for storm damage reduction, public safety, shoreline enhancement and various other civic improvements.

Finally, Title V of WRRDA 2014, entitled Water Infrastructure Finance and Innovation Act (WIFIA), established a federal credit program to be administered by the EPA to provide low interest loans and loan guarantees for large scale water infrastructure projects.[44] At the time, Congress felt that municipal water systems across the country were faced with aging infrastructure and lacked access to capital at affordable rates. WIFIA was designed to fund projects that are too large for State Revolving Funds, yet too expensive for local budgets. Eligible projects for financing under WIFIA include wastewater and stormwater management systems, water recycling and aquifer recharge projects, and projects to improve resiliency to droughts, floods, or other extreme natural weather events. EPA has interpreted the WIFIA program to permit funding for projects that incorporate green infrastructure approaches.[45] WIFIA

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[41] Nicole T. Carter & Eva Lipiec, Flood Risk Reduction from Natural and Nature-Based Features: ARMY CORPS OF ENGINEERS AUTHORITIES, CONG. RESEARCH SERV. Rep. No. R46328 (Apr. 27, 2020), *see* https://www.congress.gov/crs-product/R46328

[42] Codified at 33 U.S.C § 2326

[43] U.S. Army Corps of Engineers announces receipt of proposals for beneficial use of dredged materials pilot projects, *see* https://www.nwd.usace.army.mil/DesktopModules/ArticleCS/Print.aspx?PortalId=25&ModuleId=4447&Article=1507708

[44] Codified at 33 U.S.C. §§ 3901–3914

[45] U.S. ENVIRONMENTAL PROTECTION AGENCY, *WIFIA Program Handbook* (July 2020), https://19january2021snapshot.epa.gov/sites/static/files/2020-07/documents/program_handbook_fy2020.pdf

also established a Water Infrastructure Public Private Partnership Program (WIPPP) which increased flexibility for non-federal interest by leveraging private sector investments to multiply the effect of federal funding. WIPPP is used to design, construct, finance, operate, or maintain water or wastewater systems, integrating public service objectives with private sector efficiency, capital investment, and risk allocation to deliver projects more rapidly, cost-effectively, and with more advanced technology.[46]

H. Water Infrastructure Improvements for the Nation Act of 2016

Congress enacted the Water Infrastructure Improvements for the Nation Act (WIIN Act) in 2016 as a broad, multi-agency infrastructure bill, which authorized funding for water resources projects across the country.[47] Title I of the WIIN Act was designated as the WRDA of 2016, which contained specific authorities and policy reforms for the Corps.[48]

Building on the immediate success of WIFIA in WRRDA of 2014, Congress primarily used WRDA of 2016 to expand the program to Corps Projects, reflecting a broader push to accelerate federal financing for large scale water infrastructure projects. This allowed WIFIA to cover a greater portion of project costs and extend repayment schedules in order to better align with large scale infrastructure project realities. Pursuant to this authority, WIFIA now provides a federal low interest credit or loan for eligible water infrastructure projects and may be used in conjunction with WRDA authorized CAP projects.

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[46] U.S. CONGRESSIONAL BUDGET OFFICE, *Public-Private Partnerships for Transportation and Water Infrastructure* (Jan. 21, 2020), https://www.cbo.gov/publication/56044
[47] Pub. Law No. 114-322 signed into law by President Barack Obama on December 16, 2016
[48] U.S. ARMY CORPS OF ENG'RS., *Water Resources Development Act of 2016*, https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/wrda2016/

I. WRDA 2022

WRDA of 2022 was enacted as Division H, Title LXXXI of the 2023 National Defense Authorization Act and reauthorized multiple Corps' civil works projects and studies.[49] Congress expanded the Corps' Environmental Infrastructure assistance program to authorize additional projects for stormwater, wastewater and water reuse systems.[50] Beyond this, Congress amended the levee safety program by increasing the federal limit for rehabilitation assistance and requiring improved levee safety planning and inspections.[51]

Building on the broader commitment to resilience and community protection, WRDA 8106 provides a statutory route for local sponsors to secure federal funding for feasibility studies and project implementation.[52] WRDA § 8106 expanded the scope of feasibility studies in two significant ways. First, it broadened coastal storm and inland flood studies to address additional categories of flood risk. This allowed non-federal sponsors to request that Corps' feasibility studies consider additional flood-risk drivers beyond standard mission authorities, such as Flood Risk Management and Coastal Storm Risk Management, which ultimately allows for a more comprehensive assessment of combined risks. Second, it expanded feasibility authority to include measures that reduce water resource impacts resulting from extreme weather events. Furthermore, WRDA § 8106 allows for plans beyond the scope of Corps policy to be pursued as Locally Preferred Plans, with the sponsor assuming any additional costs. This provision enables

[49] Pub. L. No. 117-263 was signed into law by President Joe Biden on December 23, 2022, as part of the larger National Defense Authorization Act (NDAA) for Fiscal Year 2023
[50] Codified at 33 U.S.C. § 2283b
[51] Caroline Sevier, *WRDA 2022 Act Revises Levee Safety, Inland Waterway Programs, Civil Eng'g Mag.* (Jan. 5, 2023), https://www.asce.org/publications-and-news/civil-engineering-source/civil-engineering-magazine/article/2023/01/wrda-2022-act-revises-levee-safety-inland-waterway-programs
[52] Codified at 33 U.S.C §§ 3901-3915

sponsors to access federal funding for projects that integrate multi-mission flood risk and storm damage reduction.[53]

III. New York Case Study

A. Role of the States and Local Sponsors Under WRDA

WRDA projects can only proceed with a non-federal sponsor that formally requests to enter into a Project Partnership Agreement with the Corps. The non-federal sponsors are typically states, municipalities or other regional authorities. Non-federal sponsors must share project costs, which is often 35% for construction; 50% for feasibility studies, and a 100% of future operation and maintenance for the site.[54] Contribution by the non-federal sponsor may be cash, or other services like engineering permitting, or land easements.

The non-federal sponsor plays a central role in shaping the scope of the project in light of local objectives by influencing which alternatives are advanced as the Recommended Plan or as Locally Preferred Plans (LPP). Recommended Plans are typically the alternative selected by the Corps as the most efficient and effective solution based on federal criteria. Conversely, an LPP is a plan that is supported by the non-Federal partner and often provides a higher level of protection. [55] The Federal cost of any LPP must not be greater than the share provided by law for elements of the National Economic Development plan (NED).[56] Contributions to NED benefits in coastal areas are primarily seen as reductions in damages to property.[57]

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[54] Cost sharing requirements codified at 33 U.S.C. § 2215
[55] U.S. ARMY CORPS OF ENGINEERS, *WRDA Implementation Guidance Relevant to Planners*
[56] U.S. ARMY CORPS OF ENGINEERS, Engineer Regulation 1105-2-103, *Policy for Conducting Civil Works Planning Studies* (Nov. 7, 2023), https://www.publications.usace.army.mil/Portals/76/ER%201105-2-103_7Nov2023.pdf
[57] U.S. ARMY CORPS OF ENGINEERS, *Coastal Storm Risk Management National Economic Development Manual* (Nov. 2011), https://publibrary.sec.usace.army.mil/resource?title=Coastal%20Storm%Risk%20Management%20National%20Economic%Development%20Manual&documentId=5afbebe5-289f-4fdf-a859-5c730e4867d8

B. Role of New York City in WRDA

In WRDA projects in New York State, the New York State Department of Environmental Conservation (NYSDEC) frequently serves as the formal non-federal sponsor. While NYSDEC's sponsorship role positions the state as the primary decision-maker interfacing with Corps enforcement, local policy requires coordination with NYC agencies whose assets and communities are directly affected. However, following Superstorm Sandy, federal, state and local agencies recognized that coastal risk in the New York metropolitan area could not be addressed through isolated, project-by-project intervention. This understanding ultimately lead to the creation of the New York & New Jersey Harbor & Tributaries Focus Area Feasibility Study (HATS).

HATS is a Corps coastal storm risk management and resilience planning study for the entire Metropolitan Tri-state Area (MTA) coastal system, including Jamaica Bay and other tidal tributaries.[58] While the underlying federal authority for HATS originates under FCA of 1955, Congress expanded the Corps' ability to initiate studies in the wake of Hurricane Sandy. Following the release of the North Atlantic Coast Comprehensive Study, the MTA was identified as one of the highest priority coastal risk zones in the U.S

HATS is led by the Corps and co-sponsored by state and local agencies in New York and New Jersey, and the Port Authority, and encompasses waterways and tributaries across more than 2,150 square miles and 900 miles of shoreline.[59] The program is used to identify measures that reduce future flood risks for coastal storms, and sea-level rise, while enhancing ecosystem

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[58] U.S. ARMY CORPS OF ENGINEERS, *New York-New Jersey Harbor & Tributaries Focus Area Feasibility Study,* https://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-York/New-York-New-Jersey-Harbor-Tributaries-Focus-Area-Feasibility-Study/

[59] U.S. ARMY CORPS OF ENGINEERS, *New York-New Jersey Harbor and Tributaries Focus Area Feasibility Study Presentation* (Jan. 2023), https://www.nan.usace.army.mil/Portals/37/NYNJHAT%20Presentation_Jan2023_for_upload_1.pdf

resilience across the region.[60] HATS functions as the primary federal gateway for major resiliency investments in the MTA, determining which projects are eligible to advance to the design and construction phase pursuant to WRDA authority. Within HATS, individual coastal systems are assessed for exposure to storm surge and sea-level rise, and the potential for integrated flood risk reduction and ecosystem restoration.

It is important to note that HATS itself is not construction project, but rather a WRDA-authorized feasibility and planning vehicle for future projects. Inclusion under HATS determines whether a project can receive WRDA authorization, a prerequisite to proceeding to design and construction under Corps authority. As a result, projects do not emerge independently, but rather are formed, screened and recommended through the HATS program.[61] For example, the Jamaica Bay Coastal Storm Risk Management Project provides a concrete example of how WRDA policy objectives and regional planning under HATS translate into a project-level coastal storm risk management.

C. Jamaica Bay Coastal Storm Risk Management Project (Jamaica Bay)

Jamaica Bay is a federally recognized coastal ecosystem suffering from severe wetland loss and historic sea-level rise, resulting in an increased flood and storm surge risk to communities surrounding the New York City area. Corps involvement in Jamaica Bay is grounded in congressional authorization under WRDA and the project functions as a test case for modern WRDA priorities in dense urban coastal systems.[62] The project illustrates how WRDA, building on the Corps' historic jurisdiction over navigable waters established under the RHA,

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[60] U.S. ARMY CORPS OF ENGINEERS, *New York & New Jersey Harbor and Tributaries Focus Area Feasibility Study*, https://www.nan.usace.army.mil/Missions/Civil-Works/Projects-in-New-York/New-York-New-Jersey-Harbor-Tributaries-Focus-Area-Feasibility-Study/

[61] Red Hook WaterStories Team, *US Army Corps HATS flood plan,* 2023, Red Hook WaterStories, https://redhookwaterstories.org/items/show/2005?tour=9&index=6

[62] Authorization and feasibility requirements codified at 33 U.S.C. §§ 2281–2329

now authorizes multi-benefit coastal resilience projects that integrate flood risk reduction and ecosystem restoration without a reliance on a slew of bifurcated federal programs. The Corps serves as the lead federal agency and, while NYSDEC acts as the non-federal sponsor, New York City agencies, including DDC, DEP, and OEM, provide technical support and coordinate federal efforts with city capital and local resilience objectives.[63]

The purpose of the project is to reduce the impact from coastal storms. Jamaica Bay aims to install flood walls and storm water drainage pump stations as storm risk management systems to prevent flooding. However, Jamaica Bay is not a single-purpose flood control project. Rather, it is a multi-component coastal resilience initiative that combines structural and NNBF, which integrates ecosystem restoration with storm risk reduction under WRDA authority. Jamaica Bay is significant insofar as, pursuant to WRRDA of 2014 § 7001, it is one of the first WRDA authorized NYC projects that explicitly integrates NNBF into design plans.

NNBFs, which qualify for authorization and cost sharing, aims to reduce wave energy and storm surge impacts on the bay through a hybrid design which improves sustainability and adaptability over time. The NNBF designs place a stone toe protection and rock sill near the existing shoreline to reduce wave energy and allow tidal marsh to establish between the sill and the berm, a configuration often termed a living shoreline.[64] Stone toe protection and a rock sill are bioengineering techniques that use stone or rock to prevent erosion and stabilize shorelines

[63] Cost-sharing and sponsor obligations codified at 33 U.S.C. § 2215
[64] U.S. ARMY CORPS OF ENGINEERS, *East Rockaway Inlet to Rockaway Inlet and Jamaica Bay Reformulation Study, Integrated Hurricane Sandy General Reevaluation Report and Environmental Impact Statement* (Dec. 2018)

and are often used together in living shoreline projects.[65] This integration reflects congressional intent to align flood protection with ecological resilience, without forcing a zero-sum choice.

[65] MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION & GEOSYNTEC CONSULTANTS, *Stone Toe Protection, Nonpoint Source Pollution Manual* (Dec. 30, 2025)