



Massachusetts Bays

NATIONAL ESTUARY PARTNERSHIP

EPA Program Evaluation Site Visit

June 14, 2023

Joint Management Committee- Science & Technical Advisory Subcommittee meeting
UMass Boston, 100 Morrissey Boulevard, Campus Center Ballroom 3550C

9:30am Coffee & muffins

10am Welcome to UMass Boston

– *Bob Chen, UMass Boston School for the Environment*

10:05 Welcome, Introductions

– *Julie Simpson, Management Committee Chair*

10:20 Program Evaluation Site Visit: Purpose and Goals

– *Nancy Laurson, EPA Headquarters*

– *Regina Lyons, EPA Region 1*

10:40 2023-2024 Work Plans – request for endorsements from the Committee

– *Pam DiBona, MassBays Director*

Bipartisan Infrastructure Law

(in the context of a long-term BIL spending plan submitted to EPA June 1, attached)

Clean Water Act, Section 320

(incorporating RSP and Urban Waters workplans)

11am Break

11:15 Highlights from the Regional Coordinators (5 to 7 minutes each plus Q&A)

– *Sara Grady, South Shore (North and South Rivers Watershed Association)*

– *Jo Ann Muramoto, Cape Cod (Association to Preserve Cape Cod)*

– *Diana Chin, Metro Boston (Northeastern U. Marine Science Center)*

– *Barbara Warren, Lower N. Shore (Salem Sound Coastwatch)*

– *Hanna Mogensen, Upper N. Shore (Merrimack Valley Planning Commission)*

12:10 MassBays data management tools – and new website!

– *Pam DiBona*

12:15 Lunch, posters, tools, and website exploration

1:15 Science and Technical Advisory Subcommittee's (STAC's) Big Plans

– *Dan Codiga, Chair (Running Tide)*

1:20 From way back when to the future: how we set habitat targets for the Bays

– *Prassede Vella, MassBays Senior Scientist*

1:40 Eelgrass mapping and restoration initiatives

– *Jill Carr, MassBays Coastal Data Scientist*

2pm Adjourn



MassBays Vision

We envision a network of healthy and resilient estuaries, sustainable ecosystems that support the life and communities dependent upon them.

MassBays Mission

To empower 50 coastal communities to protect, restore, and enhance their coastal habitats. To fulfill this mission, MassBays engages local, state, and federal entities to advance the use of scientific information and provide technical support for decision making.

Future Management Committee Meetings, 2023

Online: September 20, December 20

Meetings begin at 9:30, with social time starting at 9am.

Meetings will adjourn by 12:30pm

Long-Term Plan for Bipartisan Infrastructure Law Expenditures

Final Submission June 1, 2023

Background

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law (P.L. 117-58), also known as the “Infrastructure Investment and Jobs Act of 2021” (IIJA) or “BIL.” BIL provides \$132 million in funding for the 28 National Estuary Programs (NEPs) for fiscal years 2022 through 2026. This funding will be evenly distributed to the NEPs, annually providing each with approximately \$900,000 in BIL funds.

Under Guidance published by EPA in July 2023, NEPs are directed to “develop a long-term plan that describes the key activities [they] will pursue with BIL funds through all years of BIL funding (FY 2022 – FY 2026),” to be submitted by June 1, 2023. As noted in the Guidance, MassBays’ BIL long-term plan includes less detail than our annual workplans, and we may submit amendments, modifications, and/or revisions to this long-term plan along with our annual BIL workplans.

EPA’s Guidance states that “[t]he certainty of BIL funding for 5 years allows NEPs to develop a plan that organizes and communicates each program’s long-term expectations for using BIL funds... As ‘no-year’ funds, NEPs have the opportunity to leverage BIL funds to undertake initiatives that have long lead times or require multiple years of support, such as long-term environmental management projects or organizational capacity-building.” MassBays intends to take full advantage of this opportunity, especially as we begin a new chapter as a Center in the School for the Environment at UMass Boston. This new setting means that we will be well-positioned to meet EPA’s goals for NEP projects funded through BIL as described below:

- ***EPA Goal: Accelerate and more extensively implement CCMPs.*** MassBays’ recently finalized CCMP describes a 10-year plan developed with an assumption that only \$320 monies would be available for its implementation. With the addition of BIL funds we will be able to support more implementation efforts (in addition to planning), provide more granular and extensive State of the Bays reporting, and increase support for our Regional Service Providers (RSPs) as they facilitate and guide local action.
- ***EPA Goal: Ensure that benefits reach disadvantaged¹ communities.*** MassBays has already incorporated goals for benefits to underserved and overburdened communities in our CCMP; the appropriation under BIL and the Justice40 guidance are extremely useful to MassBays as we strive to meet those goals. Our Equity Plan is provided under separate cover; it includes review criteria for projects and subawards that use BIL funds, and lists tools that we will develop to facilitate community engagement in local and state decision making. MassBays anticipates making significant contributions to the nationwide NEP Justice40 target.

¹ Funding Guidance note: Executive Order 14008 uses the phrase “disadvantaged communities,” and this term has been used in existing Federal and state programs to prioritize funding for environmental justice. Some community members and advocates prefer alternative terminology, and specifically the use of “overburdened and underserved communities.” Until subsequent guidance can address the question of the most appropriate terminology, this memorandum relies on the language used in Executive Order 14008.

- ***EPA Goal: Build the adaptive capacity of ecosystems and communities.*** Like all of the NEPs, MassBays has long been engaged in efforts to address climate change impacts in our study area, in collaboration with federal, state, and local partners. The infusion of BIL funds will open additional opportunities for us to:
 - Leverage new investments in green infrastructure and LID across the more than 50 communities encompassed by MassBays.
 - Dive deeper into protection and restoration of key habitats that increase resiliency and carbon sequestration to advance climate change adaptation, hazard mitigation, and resilience. Where possible, these efforts will deliver climate emissions mitigation co-benefits.
 - Alongside state and local partners, engage and educate the public and private sectors on climate-related vulnerabilities and solutions.
 - Bolster our technical and financial assistance to accelerate responses to climate change, especially with vulnerability assessment and planning; water resource management that incorporates new precipitation, storm, and temperature conditions; and funding for climate-related research, including those that measure, monitor, and increase carbon sequestration.
- ***EPA Goal: Leverage additional resources.*** Between 2016 and 2021, MassBays leveraged an average of \$16 for every \$1 of \$320 funds. In our first six months as a Center in the School for the Environment, MassBays has been invited to submit full proposals for two infrastructure-related projects totaling more than \$500,000 and signed contracts for nearly \$250,000 in state funding. We have also teamed up with the U.S. Army Corps of Engineers' (USACE's) in-lieu fee program administrator to fund planning and advance restoration projects to them as they become ready for implementation. In the coming months we will update our Finance Plan to reflect new opportunities to secure private funding, new partnerships, and to leverage other agencies' planned infrastructure and Justice40 investments. Finally, all of the Region 1 NEPs, including MassBays, are well-positioned for partnerships with other federally funded programs to maximize our impact via the Northeast Regional Ocean Council.

Expected Outcomes

MassBays' Management Committee (MC) discussed application of BIL funding over the course of two MC meetings. The MC agreed that the following considerations come into play with regard to scoping our BIL-funded work:

- MassBays' strengths are in informing management of coastal habitats and convening stakeholders and decisionmakers.
- Municipalities are overwhelmed with existing grant opportunities.
- Regional approaches are needed to inform town-by-town planning and funding initiatives led by the Commonwealth.
- Justice40 and BABA requirements must be addressed.

In addition, the MC referred to MassBays' CCMP, which:

- Identifies embayment-scale approaches to assessments and solutions.
- Incorporates measurable outcomes.
- Acknowledges complementary efforts.
- Responds to climate change, and its realized and predicted impacts.
- Recognizes environmental justice as an underlying requirement for meaningful improvements in the Bays.
- Seeks to increase MassBays' effectiveness through strategic communication and financial sustainability.
- Builds broad capacity for collection of quality-assured data from across the study area.

With these parameters in mind, expected outcomes of BIL investments include:

1. High-impact projects implemented across the Bays, aligned with MassBays' CCMP, the Justice40 Initiative, and Build America Buy America Act (BABA) goals. For example,
 - a. Green infrastructure for stormwater management
 - b. Restored salt marshes and other coastal habitats.
 - c. Elimination of tidal restrictions and other impediments to better management of sea-level rise.
2. Effective and efficient spending that complements and augments infrastructure investments by partners. For example,
 - a. Close collaboration with Massachusetts state agencies to apply MassBays' BIL funds in ways that advance existing and planned projects.
 - b. Joint programs and projects with Gulf of Maine/Northeast regional NEPs, Coastal Programs, Sea Grants, and NERRs that take advantage of each group's expertise and capacity.
3. Early successes that demonstrate the utility and value of providing BIL funding to the NEPs in order to meet the Administration's goals. For example,
 - a. Ribbon cutting in 2023 with testimonials from municipal officials.
 - b. Additional leveraged resources – in-kind and cash investments – documented for activities in Years 1 and 2.
4. A platform for longer-term actions to be sustained beyond initial BIL funding. For example,
 - a. Watershed plans developed to prioritize future BIL and other investments.
 - b. New capacity among partners (especially community-based organizations) with regard to project design and budgeting, grant writing, and interactions with decision makers.
 - c. An *ad hoc* Finance Subcommittee to provide advice to MassBays' Director and MC with regard to opportunities to leverage new funding, especially from private sources.

Equity Plan

MassBays' Equity Plan is provided under separate cover.

Program capacity-building

Already, with FFY22 and FFY23 BIL funding, MassBays has been able to increase capacity, by converting our Senior Scientist to full time and the Coastal Data Scientist to a benefitted employee, and increasing the funding awarded to each of our Regional Coordinators (embedded within local partnering organizations). We will also consider the following to build long-term capacity for the program:

Increasing communications capacity

Our FFY23 S.320 workplan includes \$18,972 to fund Association to Preserve Cape Cod's communications staff time to assist MassBays. That will support website maintenance, production of quarterly e-newsletters, and launch of social media accounts. We also have access to UMB's media and outreach team for assistance with more significant undertakings, e.g., press events. Other outreach needs remain, however. As part of our CCMP MassBays will be reviewing and updating our strategic communications plan (dated 2018), and we anticipate that document will call for additional investment. For example, additional staff or contracted partners could produce a MassBays Annual Report, generate program-specific content for the website, and generally raise the profile of MassBays in the region. All these efforts will amplify MassBays' ability to build relationships with coastal communities, especially disadvantaged communities, and to share tools and expertise that will enable these communities to grow their own capacity.

Establishing a MassBays Fellowship program

With BIL funding, we have an opportunity to increase diversity, demonstrate equity, and foster inclusiveness in our field. MassBays' Director has been engaged in thinking about DEI for many years, and has participated in professional development and engaged in discussions around its implementation in the context of scientific work. Establishment of a two-year Fellowship will allow recent graduates to

engage in our work, gaining both field/technical and career-oriented training. We will focus intently on integrating Fellows not only into MassBays' work, but will connect them with potential mentors and cohorts across New England and beyond through our own existing networks. UMass Boston's University Advancement Office has offered to assist in securing funds to supplement and perhaps continue the program beyond the BIL funding timeline. (They recently announced a \$5M gift from a UMB alumnus to establish a new Center on campus(!))

Bolstering State of the Bays reporting

With three Bays and 66 sub-embayments, barrier beaches, and rocky intertidal watersheds, MassBays has always faced a significant challenge in documenting the State of the Bays. With BIL funds we will be able to fill in some of the most significant data gaps with regular monitoring in some portions of our study area. Our Science and Technical Advisory Subcommittee (STAC) has scoped out a Bays-wide monitoring program with the assistance of our Regional Coordinators and Senior Scientist (see specifics below).

Investing in a research vessel

UMass Boston is a waterfront campus with docking facilities, offering us the option of investing, along with the School for the Environment, in a boat outfitted for field research. We have begun conversations with the Interim Dean about how such a joint purchase could be managed, including guaranteed minimum number of days' access to the platform for MassBays field projects, based on our contributions to its purchase.

Increasing local capacity

MassBays cannot carry out its own work without local, state, and regional partners. We been investing over the past several years in capacity-building for these partners, especially NGOs that carry out the monitoring we rely upon for State of the Bays reporting. In reality then, investment in our partners results in greater capacity for MassBays. BIL funding directed to this effort will allow us to provide technical support, and development of models and tools to meet common needs. For example:

- **Healthy Estuaries Grant Program** projects funded under the category of local support.
- **Technical support** via Communities of Practice convened by Central Staff, and one-on-one assistance.
- **Uncovering and helping to address local needs.** MassBays will survey Municipal Vulnerability Preparedness plans developed with local input for submission to state agencies, as well as state-level plans for projects that align with the CCMP and local priorities. We will also convene and consult with EJ groups to identify concerns and needs that align with the CCMP, for example responding to harmful algal blooms, access to coastal areas, and input to project planning.

Planned projects

MassBays' BIL spending will meet EPA's goals with infrastructure-related projects that also reflect MassBays' CCMP, both described above. These projects are described briefly below, with timeline in terms of BIL funding years, partners (&&), and potential and existing additional funding sources (\$\$).

Improving Coastal Habitats

Projects in this category respond to the considerable impacts of climate change, both existing and predicted, and habitat losses already documented in our study area. Common components of these projects include maintaining biodiversity and habitat connectivity, and direct alignment with our CCMP habitat targets.

- **Eelgrass**
 - *Restoration via seeding* (FFY22-FFY27) will be launched (&&) in partnership with NEPs, National Estuarine Research Reserves, Sea Grants, and National Park Service sites located in the Northeast, EPA Regions 1 and 2, Massachusetts Division of Marine Fisheries (DMF). (\$\$) We have applied for two years' funding from WHOI Sea Grant to support this work, and will

also submit joint proposals with partners to larger foundations, e.g., Pew, Moore, and National Fish & Wildlife Foundation.

- *Mapping and condition assessments* (FFY22-FFY27) in partnership with DMF and Massachusetts Department of Environmental Protection (DEP), will document progress toward our eelgrass habitat goals. **(\$\$)** We have received supplemental funding from DEP to assist them with mapping which will likely be renewed in future years.
- ***Saltmarsh***
 - *Tide gate remediation* (FFY23-FFY26) has been a priority for MassBays and **(&&)** NOAA's Restoration Center since our joint project with CZM funded by NOAA in 2018. **(\$\$)** We have applied to Restore America's Estuaries (RAE) for NEP Coastal Watershed Grant monies to update the inventory, prioritize those that are most impacting salt marshes for repair or removal, and work with regulatory agencies to update operations & maintenance guidance and scope permit components for work on tide gates. We anticipate that in-lieu-fee funds will be applied to make on-the-ground improvements in those structures, in addition to seed funds from BIL. If successful in securing RAE funds, we will invest our own BIL funding to hire a consultant who can carry out municipal engagement efforts.
 - *Mapping and condition assessments* (FFY23-FFY27) will be focused on areas where tide gate remediation has been taken up, **(&&)** in partnership with DEP, CZM, EPA Region 1, and NOAA. **(\$\$)** Funding for this aspect is folded into the 3-year proposal to RAE.
- ***Diadromous fish runs***
 - *Barrier removal on Herring Brook, Bourne* (FFY23-FFY26) is a site-specific project proposed **(&&)** in partnership with the Herring Pond Wampanoag tribe, the Buzzards Bay Coalition (BBC), Massachusetts Division of Ecological Restoration (DER), and DMF. **(\$\$)** We have applied for funding through NFWF's America the Beautiful Challenge for this project, which will address barriers to herring migration alongside historical tribal trails and burial grounds. If this proposal is accepted, MassBays will apply BIL funds to carry out project management.
- ***Beaches***
 - *Improving beach management for increased habitat ecosystem services* (FFY24-FFY26) is a long-standing topic of interest for MassBays; we have engaged graduate students from University of Maryland and UMass Boston to carry out the first steps (documenting status of beach management in our study area and proposing updates to beach management guidance). **(&&)** In partnership with Mass Audubon, the Trustees, CZM, DCR, and the Department of Public Health, and with BIL funding we hope to bring on a two-year, paid MassBays Fellow to bring this information to beach managers, and generate case studies demonstrating that habitat protection and recreational uses are not mutually exclusive. **(\$\$)** UMass Boston's University Advancement team is investigating the potential for private-donor contributions toward the Fellowship.
- ***Benthic communities***
 - *Benthic community assessments* (FFY25-FFY27) will provide the basis for new habitat targets to be developed using the Biological Condition Gradient (BCG) approach. MassBays is early in the planning stages for this initiative, but **(&&)** partners will likely include DEP, DMF, NOAA, and EPA Region 1. In the meantime, we have been providing input to and **(\$\$)** received funding to manage both the National Coastal Condition Assessment (NCCA) for Massachusetts, as well as the Massachusetts Coastal Condition Assessment (MCCA), both of which include benthic community assessments.
- ***Stormwater management***
 - *Green infrastructure installations* (FFY22-FFY27) result in water quality that supports habitat health. They are also a significant component of our Justice40 programming, improving local

water quality, reduce flooding, and increase urban green space. (&&) Local partners already engaged with communities identified through our Equity Plan and/or the Urban Waters Program (e.g., Mystic River Watershed Association, Merrimack River Watershed Council, and others to be determined) will leverage our BIL investments into (\$\$) state grants and municipal spending.

Addressing Data & Research Gaps

All programs under this heading will be carried out under EPA-approved Quality Assurance Project Plans, and monitoring data will be uploaded to the Water Quality Portal.

- ***Continuous monitoring buoys*** (FFY23-FFY27) will allow MassBays to provide more comprehensive State of the Bays reporting, as well as context for intermittent and geographically restricted monitoring programs. (&&) We have enlisted our Science and Technical Advisory Subcommittee to assist with monitoring design; members include representatives from the Massachusetts Water Resources Authority (MWRA), DEP, DMF, the Center for Coastal Studies (CCS), Salem State University (SSU) and Northeastern University (NU), MIT Sea Grant, and our Regional Coordinators. We are exploring the potential for (\$\$) supplemental funding from the Northeast Regional Association for Coastal and Ocean Observing Systems (NERACOOS) and discharge permittees.
- ***Embayment-specific monitoring and assessments*** (FFY25-FFY27) will be carried out as needs are identified. MassBays' 2019-2020 Salem Sound water quality monitoring program, undertaken with EPA Region 1, SSU, and Salem Sound Coastwatch, can serve as a model for other locales. (&&) Partners already working in those locations will be engaged, and (\$\$) supplemental funding will also be solicited according to site-specific opportunities, for example from the state or municipal entities.
- ***Applied research to inform coastal resource management*** (FFY23-FFY27) will be carried out through our Healthy Estuaries Grants Program, and in-house initiatives. Both are aligned with our CCMP, however the grant program (&&) invites others to carry out their own research. For example, MassBays funded a project proposed by DMF to examine the impact of and determine the least-impactful dimensions of private docks and piers. The results have been used in subsequent agency permitting decisions. With FFY23 BIL funds, MassBays will initiate a project examining the feasibility of a seeding-based eelgrass restoration program. Additional research needs are listed in our CCMP and accompany the Healthy Estuaries Grant RFP. We will also solicit needs and ideas for new research from local, state, and regional partners and residents via an online Idea Portal, modeled on a tool under development by the South Atlantic Fishery Management Council. We will seek (\$\$) additional funding to address these research priorities in partnership (e.g., a 2023 proposal with DMF to WHOI Sea Grant for the eelgrass seeding study), direct funding to partners (including connecting partners to other funding opportunities), and by bringing research needs to other entities in a position to take action (e.g., the Trustees, as a member of their Coast Advisory Committee).