MassBays CCMP Strategies: Actions-Activities-Measures-Outputs

**Strategy 1.1: Make new data available, especially to address specific gaps in knowledge (Survey: Priority 2)**
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
1.1.a Identify gaps in data sets.	Compile data needs for measuring progress toward targets & State of the Bays reporting Generate a master list of data gaps, beginning with those highlighted by stakeholders in 2015 & 2018	ongoing	STAC,/MC, LGCs (id data gaps)	MassBays provides evidence that data needs drive funding decisions for mini-grants awarded, actions included in annual workplans, and prioritizations for SoTB documentation By 2019, post a master list of data gaps, to be updated annually on the MassBays website By 2020, establish a means for soliciting data needs from partners and community members
1.1.b. Prioritize addressing gaps per need, completeness and reliability of new and existing data, relevance to underserved/underrepresented communities, application to State of the Bays reporting, and potential policy applications	Reference 314 CMR 4 (Mass water quality standards) in prioritization Determine minimum dataset (number of years, sites, etc.) required to address need	ongoing	STAC, others (prioritize data gaps)	Annual STAC meeting dedicated to prioritization of data needs. List of priority data gaps included in each SotB, EDA update Priorities of diverse stakeholders are documented, assessed by the Management Committee, and explicitly incorporated into MassBays' actions to address data gaps.
1.1.c Maintain Estuarine Delineation and Assessment as a record of current data availability	Inventory near-shore and estuarine data sets available for the Bays Publish online ARCGIS Storymap	2019, 2022, 2026	Consultant (data compilation, update and analysis); Monitoring and research community (audience)	Produce EDA 2.1 by 2019, EDA 3.0 by 2022, and EDA 4.0 by 2026 Online ARCGIS Storymap providing georeferenced, interactive access to EDA data by assessment unit (2019) By 2022, MassBays documents that researchers and others utilize the EDA storymap as a launching-off place for their work in the Bays
1.1.d Provide input re: data needs to entities for funding and conducting monitoring and restoration	Disseminate list of data gaps to researchers and monitoring groups Prompt and maintain focus on management outcomes of data analysis and research Identify funders, undertake education to promote investments in baseline data sets Support graduate and undergraduate student research and monitoring programs Support new studies or monitoring efforts to address gaps	ongoing	NERACOOS, EPA, DEP, MET, others (funding); Citizen Monitoring Coordinators' Network, graduate and undergraduate universities and colleges, watershed associations, RPAs, MACC, MOTN, PIE LTER, NERACOOS	DEP-funded 2020-2023 probabilistic coastal monitoring program (EPA CWA S.106 grant) completed by MassBays Each year, address at least one data gap per year via research, management, or monitoring through the Healthy Estuaries Grant Program (or other) All MassBays-funded grants document their project's connection to policy and/or resource management

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Strategy 1.2 Support valid (QA/QC) data collection and application (Survey: Priority 3)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures**/outputs
1.2.a Implement a MassBays-wide monitoring framework that incorporates long-term monitoring program data and makes data and findings available to the public	Apply monitoring framework for data set evaluation Access/download data for analysis and other uses	ongoing	DEP, EPA, academia, ngo monitoring groups (data generation); northeast ocean data portal, CUAHSI, EPA, DEP, NERACOOS (data sharing & access)	Maintain updated inventory of monitoring programs in the Bays relevant for conditions and trends analysis. By 2021, document baseline conditions for future comparisons MassBays' ecoreport card (2021, Action 1.3.c) incorporates data sets that meet criteria set out by the Monitoring Framework
1.2.b Convene and partner with citizen monitoring coordinators, researchers, QA/QC agency staff, others to support and improve monitoring outputs	Develop online sampling & analysis plan generator (AquaQAPP) Provide one-on-one assistance for statistical analysis, volunteer training, etc. for locally based efforts Support Citizen Monitoring Coordinators' Network Engage with national and international networks on data quality issues	ongoing	DEP, EPA (funding); RCs, circuit rider (tech support) ANEP, Citizen Science Association (external connections), River Herring Network, CitMon Coordinators' Network, Mass Rivers Alliance (convening partners)	By 2021, successfully complete 2018 Exchange Network Grant deliverables: AquaQAPP, circuit rider hire, training, and deployment Regular CitMon Network meetings Regular participation in national citsci data quality evaluation networks A robust CitMon Network provides quality data to MassBays and others MassBays presents at regional and national conferences regarding our efforts to increase utilization of citizen science outputs

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Strategy 1.3 Analyze and present existing data in multiple formats to document baselines and trends (Survey: Priority 1)				
Action	**Activities**	**year(s)**	**partners, roles**	**measures/outputs**
1.3.a Analyze connections among datasets and trends to inform reporting, actions, and policies	Analyze existing datasets to identify trends Standardize metadata across regions to support Bays-wide roll-up for State of the Bays in 2020, 2025 Disseminate findings to local, state, and federal agencies with direct reference to policy implications	ongoing	UMCES/IAN, MIT Sea Grant (data management and interpretation)	Standard metadata for assessing data from multiple sources By 2020, specific parameters are identified for cross-comparisons and reporting via SotB, and revisited as additional data sets become available
1.3.b Provide State of the Bays reporting at multiple scales	Establish a recurring reporting cycle for each MassBays region Host/participate in forums, conferences, and meetings to share results Provide Bays-wide analysis and interpretation to identify common issues	ongoing	RSPs (regional analysis & outreach) Resource managers, regulatory agencies (target audiences)	Slide decks, posters, and other presentation materials regarding status and trends Bays-wide SotB Symposia or publications (2020, 2025) include both cross-region and region-specific information and needs By 2025, SotB reporting incorporates data relevant to underserved communities as requested by those communities through the Regional Service Providers (see Actions 1.1.a and 2.3.b). By 2023, MassBays is providing data analysis and reporting not available elsewhere
1.3.c Provide online access to State of the Bays reporting	Establish ecoreport card for the Bays that ultimately reports on conditions in individual assessment areas Announce availability and disseminate findings broadly Engage local decisionmakers according to a strategic communications plan	2021 and ongoing	UMCES/IAN (report card development and hosting)	By 2021, launch online ecoreport card available via a link from massbays.org By 2021, Trends data for core water quality parameters are incorporated into online ecoreport card, and easily accessed by stakeholders and decision makers

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Strategy 2.1 Support, conduct, and disseminate research regarding ecosystem functions to inform state policy and local action (Survey: Priority 2)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
2.1.a Identify, evaluate, and support research regarding effectiveness of conservation & restoration activities	Fund, and disseminate findings of, Healthy Estuaries Grant Program Maintain practical, applied-research orientation of grant awards	2019, 2021, 2023, 2025, 2027	resource managers, researchers, STAC (prioritization), LGCs, MC (id needs)	Each year, allocate at least 5% of MassBays annual budget to small-grant program, distributed on an 18- to 24-month schedule All funded projects document policy/resource management outcomes Each funding cycle, there is an increase in the number of high-quality and relevant Letters of Interest.
2.1.b Test and implement innovative monitoring (including rapid field assessments) and restoration approaches	Provide opportunities for partnerships on program pilots and demonstrations Support research and development of monitoring methods for emergent contaminants Evaluate suitability of approaches used elsewhere for MassBays planning areas Participate in and host blitzes, data challenges	ongoing	state & federal agency scientists, academic & research institutions, citizen scientists, ngos, marine tech business and consultants (collaborators)	Quarterly reports from RSPs on activities under this Action An Annual Report including highlights describing work under this Action In both 2023 and 2028, MassBays' PE documents evidence for an "exceeds" ranking on this action.
2.1.c Support cross-sector information sharing	Disseminate and promote successes, share challenges, promote transferability	ongoing; 2020, 2022, 2025, 2027	Healthy Estuaries grantees, STAC, RARGOM, MOTN, NERACOOS, GOMC (audience-participants)	Meetings of researchers working in MassBays (e.g., Healthy Estuaries recipients) in 2020, 2022, 2025, 2027 MassBays' sponsorship and/or engagement is consistently acknowledged by partners in online and printed reports and other materials

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Strategy 2.2 Provide education, training, and technical support; share case studies (successful and not); and support collaboration and cooperation on specific topic (Survey: Priority 1)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
2.2.a Revise and disseminate existing, effective education and outreach materials, and develop new materials and outreach efforts, providing context and integrating multiple sources	Determine audiences for different products Survey municipal needs Compile case studies, challenges, and solutions for use by municipal staff Identify existing and potential networks in each region for reciprocal communications (e.g., sharing announcements and materials) Present findings at conferences, etc. Include materials on website, etc. per communications plan Frame messages with references to benefits -- ecosystem services, etc. Emphasize the connection of habitat to natural/wild places, biodiversity Assist development and dissemination of CZM MyCoast and StormSmart materials	ongoing	municipal staff, residents (audiences); CZM, watershed associations, MEMA, MIT Sea Grant and EPA social scientists (content resources) NEOSEC (E&O)	Each year, at least 30 of the 50 towns in MassBays' planning area are significantly engaged, as grant partners/recipients, e.g., by implementing restoration or retrofitting for stormwater management, or engaging in joint education and outreach efforts. By 2022, increase MassBays' capacity for communications and outreach by 0.5FTE/y By 2028, Update/revise/contextualize and disseminate five education and outreach products to reach target audiences By 2028, establish estuary-focused subgroup within NEOSEC
2.2.b Engage with local decisionmakers and residents for habitat protection and restoration to mitigate impacts of increased freshwater inputs, sea level rise, and storm surges , including promoting nature-based approaches	Convene regional meetings; support regional approaches Assist with grant proposals for local resilience and municipal vulnerability assessments, bringing ecosystem concerns to the table. Identify resources for mitigation, especially where co-benefits are possible Collaborate with and provide technical assistance to neighborhoods, municipal staff, boards, and commissions	ongoing	CZM (science content); TNC, MLTC, TTOR, Mass Audubon (education content & sites); Local ngos (engagement efforts)	Each year, RSPs assist on at least two funding proposals (e.g., Letter of Support, proposal review) Each year, document four cases in which MassBays has influenced local decisionmaking (e.g., serving on an advisory group or other decisionmaking body, submitting comment letters) MassBays RSPs are recognized by municipal staff as important partners in responding to climate change, as evidenced by letters of support for their yearly workplans.
2.2.c Communicate about climate change impacts and vulnerabilities at the local level	Develop and implement communications plan to disseminate information Conduct education re: marsh migration, shoreline change & etc. Highlight "green" activities happening locally	2020 and ongoing	CZM, NEAq, NEOSEC, NPS, TTOR, TNC, MassAudubon (education content and sites)	By 2022, produce communications plan to include climate change outreach aligned with and complementary to other agencies' efforts In each SoTB report (Action 1.3), include case studies By 2022, MassBays' Boston-based outreach efforts are established, including annual, joint outreach efforts with partners (e.g., King Tide, Estuaries Week, City Nature Challenge, etc.).

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Strategy 2.3 Provide access to, and increase influence on decisionmaking by underserved communities (Survey: Priority 3)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
2.3.a Review and adjust Management Committee composition to ensure diverse, representative input to MassBays' planning	Revisit MassBays' Structure and Operating Procedures to assess Management Committee roster Identify gaps in representation Ensure representation of diversity in Subcommittees Add underserved/underrepresented neighborhoods data layer to EDA	2019 - 2021	MC Nominating and Governance Subcommittee, EEA, EPA EJ and Urban Waters offices (advise)	By 2020, Management Committee SOPs reviewed and revised as needed By 2020, Subcommittee membership is diversified with active engagement of new representatives from public health, business, technology, formal and informal education, and other sectors By 2022, incorporate a data layer into EDA 3.0 documenting regional disparities in adverse impacts or benefits.
2.3.b Engage partners who work with underserved communities in MassBays' regions	Evaluate representation of underserved/underrepresented groups on LGCs Ensure that events are accessible to underserved/underrepresented community representatives Offer and support direct access to decisionmakers Facilitate cross-Bays sharing of tools and contacts for engagement	ongoing	EPA EJ & Urban Waters programs, local EJ organizations (evaluation); RPAs, MMA, RSPs (connections to decisionmakers)	Each year, RCs will document measures taken to support diverse community access to meetings, events, and decisionmakers Each year, MassBays attributes action on at least one initiative to requests, or programs identified or selected for action, by underserved communities. Each year, representatives of groups based in underserved communities regularly engage in activities at the regional level. In 2023 and 2028, representatives of underserved/ underrepresented communities will report on MassBays' engagement as part of the EPA Program Evaluation

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Strategy 3.1 Establish target (improved) water quality and habitat conditions for each embayment tied to desired uses and ecosystem services (Survey: Priority 3)				
Action	**Activities**	**year(s)**	**partners, roles**	**measures/outputs**
3.1.a Identify indicators and metrics to describe diversity and similarities among embayments, rocky shore, beaches and dunes across MassBays' planning area	Refine the Biological Condition Gradient and Final Ecosystem Goods and Services analyses via EDA updates, and using data from monitoring programs under the framework to inform BCG/FEGS and targets Consider new data sets, emerging issues & contaminants, and social science/economic valuation measures Incorporate climate change metrics and indicators	2020, 2021, 2024, 2027	EPA ORD and OST, Northeastern University, STAC (methodology and guidance) ISMN, RARGOM, NERR, MIT Sea Grant (input to metrics, target-setting)	By end of 2020, produce and disseminate a public document describing process used to categorize embayments In 2021, 2024, and 2027, extract relevant data from EDA to refine targets MassBays' BCG targets continue to be relevant in out-years.
3.1.b Identify target conditions to guide management and restoration decisions	Establish targets for management conditions through a Biological Condition Gradient process: convene expert panel(s), etc. Inventory and assess historical data re: habitat presence/absence and condition Determine measures to monitor progress toward targets	2019 - 2021	STAC, EPA ORD and OST (methodology and guidance) UHI, ISMN, RARGOM, NERR, Sea Grant (input to metrics, target-setting)	By 2019, inventory and extract historical data for incorporation into BCG By 2020, identify target conditions for each embayment type. By 2021, assign target conditions to individual embayments, and incorporate these targets into Bays-wide and regional annual workplans using measures as identified

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Strategy 3.2 Guide local action to expand habitat and improve water quality according to targets (Survey: Priority 1)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
3.2.a Develop and implement action plans according to targets	Evaluate feasibility of actions to meet target conditions, including funding and support from local, state, and federal decisionmakers	ongoing	RSPs, LGCs, MC	Annual Bays-wide workplans identify interim objectives toward implementation of CCMP goals MassBays' annual workplan incorporates priorities of local stakeholders, based on progress toward target conditions
3.2.b Promote activities to improve and protect estuarine values and resources	Evaluate restoration efforts' success Prioritize habitat conservation and restoration projects based on regional needs assessments Encourage and support post-restoration monitoring for at least five years Work with local groups to develop action plans to address adverse environmental impacts of CSOs, stormwater, and other discharges Expand efforts to disseminate findings, share successes and challenges	2020 and ongoing	NOAA, DER, DMF (restoration funding and implementation) municipal officials and staff (priority-setting)	Quarterly reports on activities provided to MC Restoration efforts are based on regional prioritization for action
3.2.c Measure and report on progress toward targets	Implement monitoring framework (see Goal 1 strategies above) Submit NEPORT data to EPA Maintain ecoreport card	2021 and ongoing	DEP, DMF, EPA, MWRA, ngo monitoring groups (data); UMCES/IAN (report card hosting)	Annual regional workplans include targets and reports on progress toward targets, based on local data sets as available Beginning in 2023, biennial updates to ecoreport card document progress toward targets Adaptive management and monitoring is carried out; i.e., MassBays' monitoring framework and RSPs' workplans are informed by biennial assessments.

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Strategy 3.3 Maintain MassBays' National Estuary Program status (Survey: Priority 2)				
Action	**Activities**	**year(s)**	**partners (roles)**	**measures/outputs**
3.3.a Conduct evaluation of organizational and programmatic impact	Develop, implement, and evaluate impact of communications activities based on the Strategic Communications Assessment and Recommendations Suffer EPA performance evaluation	PE 2023, 2028; Comm eval 2025,2029	grantees, RSPs (reporting) Communications Subcommittee (advice)	Each year, document local support of MassBays programming and initiatives from agency, nonprofit, individual, and research community in each region Each year, S.320 funding granted to MassBays should be equal to other NEPs' base funding allocation MassBays receives findings of "Pass" (i.e., highest score) from the PE process MassBays documents impact of communications efforts to target audiences.
Establish and support collaborative efforts in MassBays' regions that increase opportunities to leverage new resources	Create and maintain partner lists Support region-specific partnerships with academic and business/technology communities Coordinate grant proposals and meetings among diverse and nontraditional partners, within and across regions	ongoing	RSPs (convening, reporting)	Between 2019 and 2023, document (and report via NEPORT) 25% increase in average leveraged resources; between 2024 and 2028 document 50% increase in average leveraged resources, compared to 2012-2017 5-year average of $6 leveraged per §320 dollar. Each year, set and meet targets for engagement with the business/technology sector at the regional level Each year, prepare at least one multi-partner proposal for funding from entities other than EPA