SCIENCE ADVISORY COUNCIL: WORK GROUP FINDINGS, PART 5

May 21, 2026

OAC AND SAC MEMBERSHIP

Ocean Science Advisory Council

Academic Institutions

Kevin Stokesbury	UMass Dartmouth, SMAST*
John Duff	UMass Boston, School for the Environment*
Kristin Uiterwyk	UMass Boston, Urban Harbors Institute

Private, Nonprofit Organizations

Jon Grabowski	MA Fishermen's Partnership*
Priscilla Brooks	Conservation Law Foundation
Jessica Redfern	New England Aquarium

Government Agencies

Mark Rousseau	MA DMF*
Todd Callaghan	MA CZM
Laura Brothers	USGS

*organizations named in statute

Ocean Advisory Commission

Legislators

Sen. Julian Cyr
Sen. Dylan Fernandes
Sen. Bruce Tarr
Rep. Patrick Kearney
Rep. Joan Meschino
Rep. Ken Sweezey

Agency Representatives

Alison Brizius	CZM Director
Dan McKiernan	DMF Director
Tay Evans	MassDEP Commissioner's designee

Stakeholder Representatives

Representative of a commercial fishing organization:

Beth Casoni	MA Lobstermen's Association

Representative of an environmental organization:

Chris McGuire	The Nature Conservancy

Expert in the development of offshore renewable energy:

Liz Marsjanik	Vineyard Offshore

Representatives of six coastal Regional Planning Agencies:

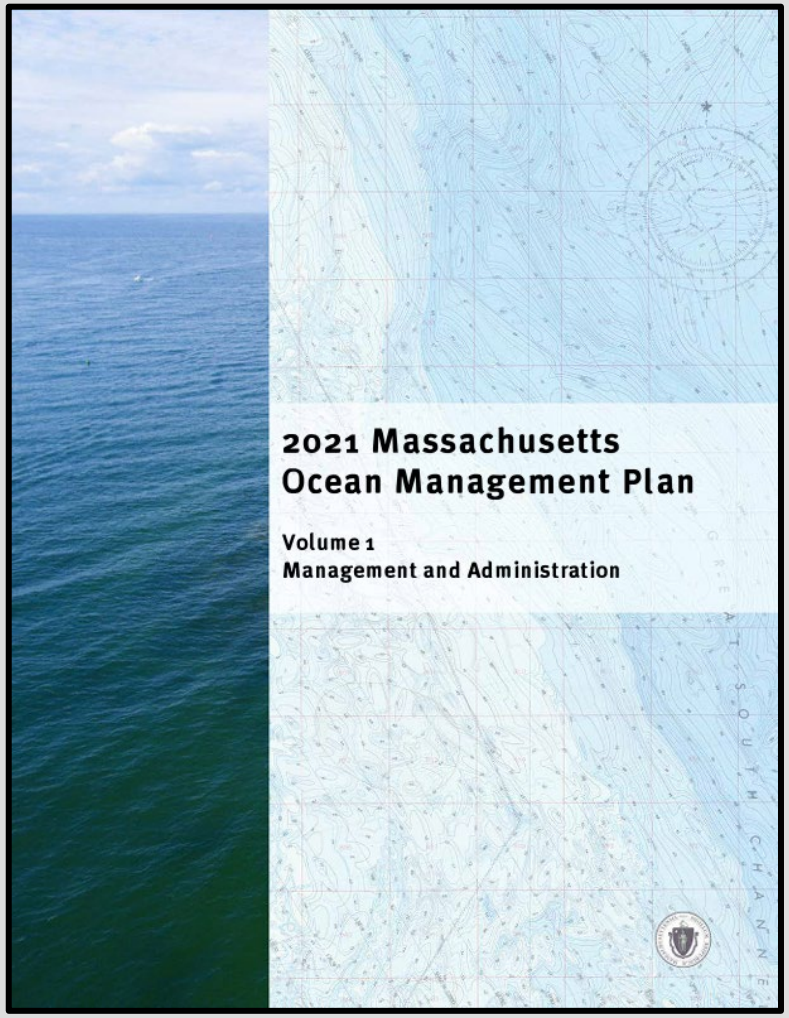
Heather McElroy	CCC*
Daniel Doyle	MVC*
Jeffrey Carlson	NP&EDC*
Jerrard Whitten	MVPC*
Dominick Pangallo	MAPC*
Janice Robbins	SRPEDD*

AGENDA / OVERVIEW

- Background on the Ocean Management Plan
- Fisheries topic: Aquaculture
- Sediment & Geology topics

THE OCEAN MANAGEMENT PLAN

- Plan is reviewed at least once every 5 years
  - Published: 2009, 2015, 2021
- The Plan framework:
  - **Special, Sensitive, or Unique** resources (habitats)
  - **Water Dependent Uses** (e.g., traffic, fishing)
  - **Siting and performance standards** for projects (cables, pipelines, renewable energy, sand mining, others)
- State approvals must be consistent with Plan
  - Determined through MEPA



MASSACHUSETTS OCEAN PLAN JURISDICTION

Ocean Planning Area:

- Defined in Oceans Act of 2008
- 0.3 nautical mile from shore to state/federal boundary
- Does not include harbors, rivers, inlets

Ocean Plan Applicability:

- Project size/impact threshold: MEPA EIR triggers Ocean Plan standards
- Fisheries management is explicitly reserved for DMF

THE OCEAN MANAGEMENT PLAN SITING STANDARDS

Green / SSUs: Presumptive Exclusion

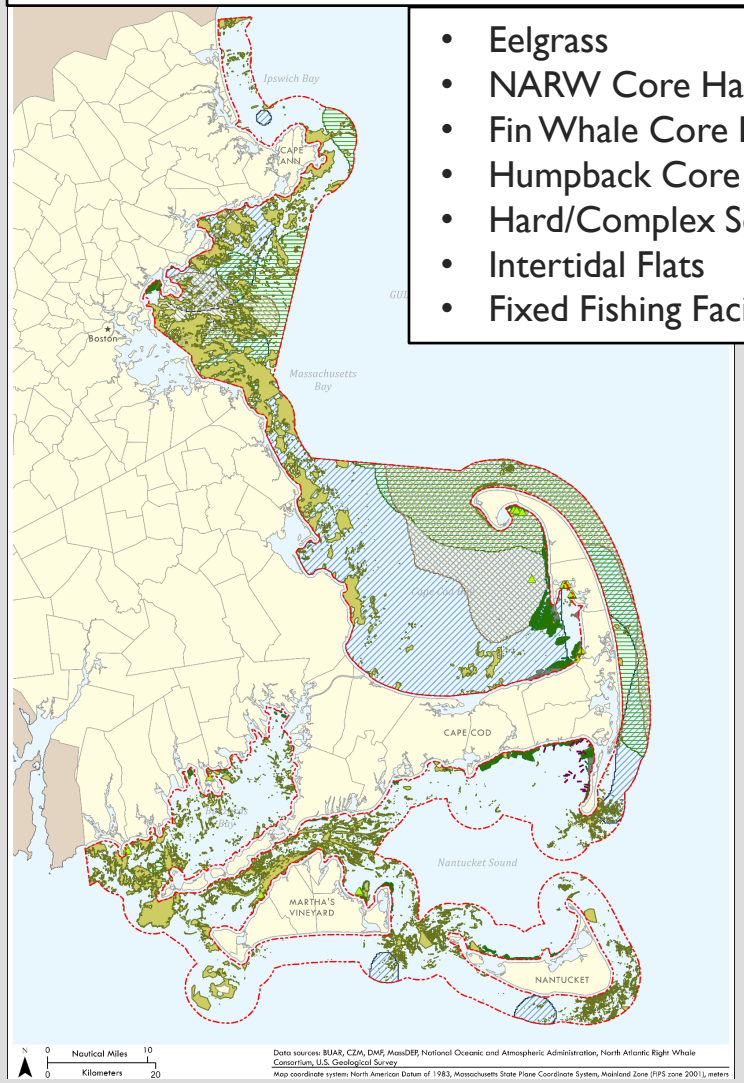
Blue / WDUs: Avoid, minimize, mitigate

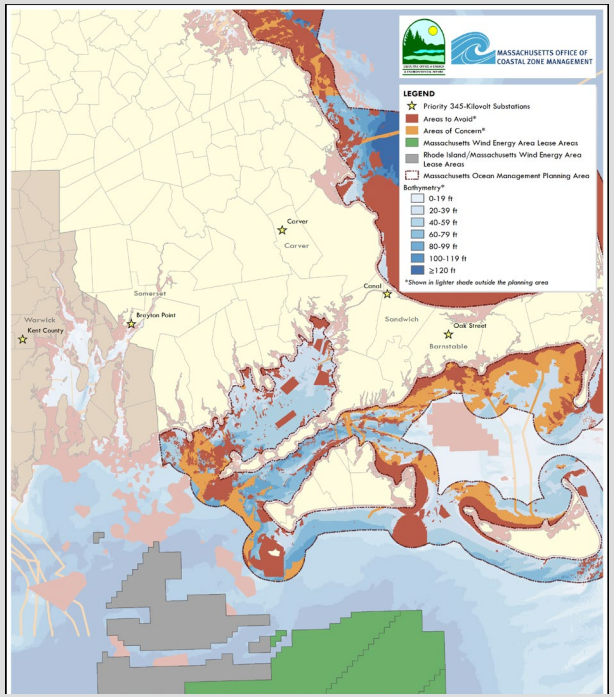
Protected Area	Community Scale Wind	Commercial Tidal Energy	Sand & gravel mining	Cables	Pipelines
North Atlantic Right Whale	X	X	X	X	X
Humpback Whale	X		X	X	X
Fin Whale	X		X	X	X
Roseate Terns	X		X		
Special Concern Terns	X				
Sea Ducks	X				
Leach's Storm Petrel	X				
Colonial Waterbirds	X				
Hard/Complex Seafloor			X	X	X
Eelgrass	X	X	X	X	X
Intertidal Flats	X	X	X	X	X
Important Fish Resource Areas		X	X		X
High Comm. Fishing Effort & Value	X	X	X		X
Recreational Fishing	X	X	X		X
Traffic	X	X			
Fishing Traffic	X	X			
Recreational Boating	X	X			
Fixed Fishing Facilities	X	X	X	X	X

OCEAN PLAN: IMPLEMENTATION

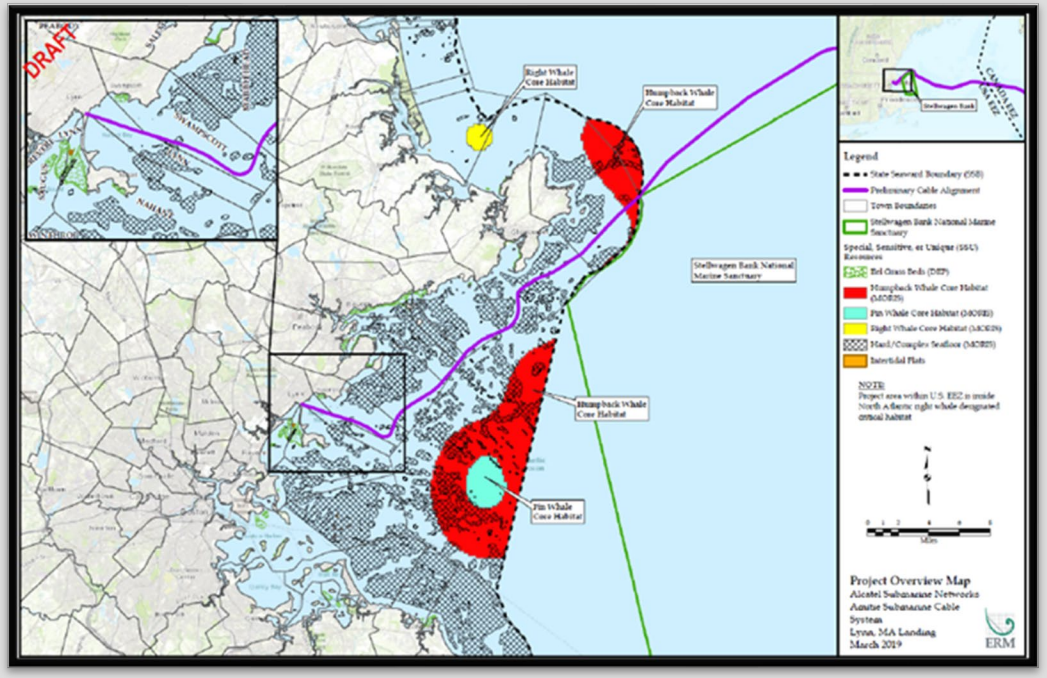
SSUs/WDUs addressed for cable projects (2021 plan):

- Eelgrass
- NARW Core Habitat
- Fin Whale Core Habitat
- Humpback Core Habitat
- Hard/Complex Seafloor
- Intertidal Flats
- Fixed Fishing Facilities





- Ocean Plan contains spatial info at planning scale
  - Cuts across broad range of uses and resources
  - Most important / vulnerable uses and resources highlighted as SSUs and WDUs
  - Not intended to be an exhaustive list
- Examples of Ocean Plan in action:
  - Marine Spatial Planning: identify potential OSW cable corridors with least conflicts
  - Individual project: identify best route for Amitie telecom cable

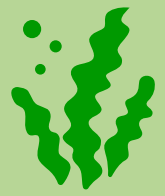


REVIEW PROCESS: TECHNICAL WORK GROUPS

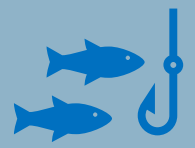
Transportation & Navigation

Culture & Recreation

Ocean Tech & Innovation



Habitat



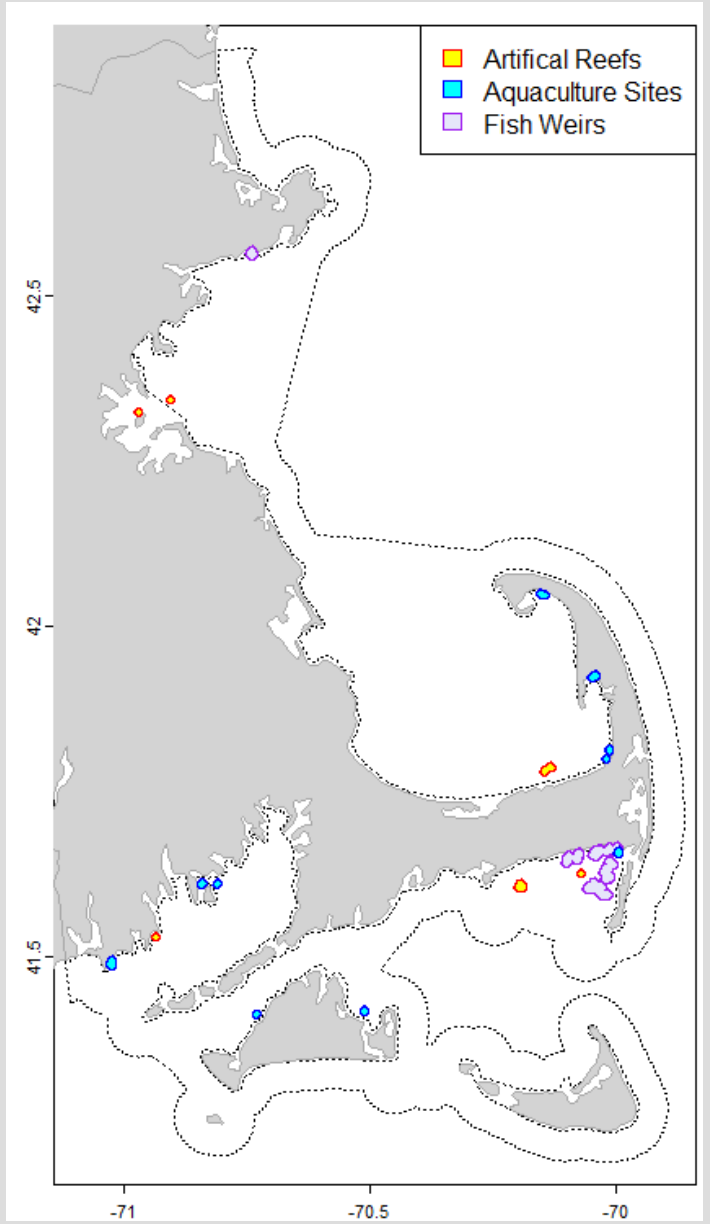
Fisheries

Energy & Infrastructure

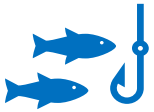
Sediment & Geology

AQUACULTURE

- Currently **protected** via Fixed Fishing Facilities WDU
- Also a candidate for being a "managed use" with **siting standards**
  - Allowed use in M.G.L. ch. 132A §15-16
- Ocean Plan siting standards would:
  - **Only apply** to projects that a) are in the ocean planning area and b) are already required to prepare an EIR for MEPA
  - **Not increase or decrease state authority or local authority** over permitting aquaculture
  - Provide DMF and other reviewing agencies with a **siting guidelines** to point to in MEPA or other project reviews



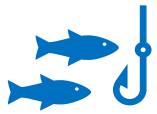
DRAFT FOR DISCUSSION:



POTENTIAL SITING STANDARDS FOR OPEN-WATER AQUACULTURE

Potential standards to consider for aquaculture in the ocean planning area:

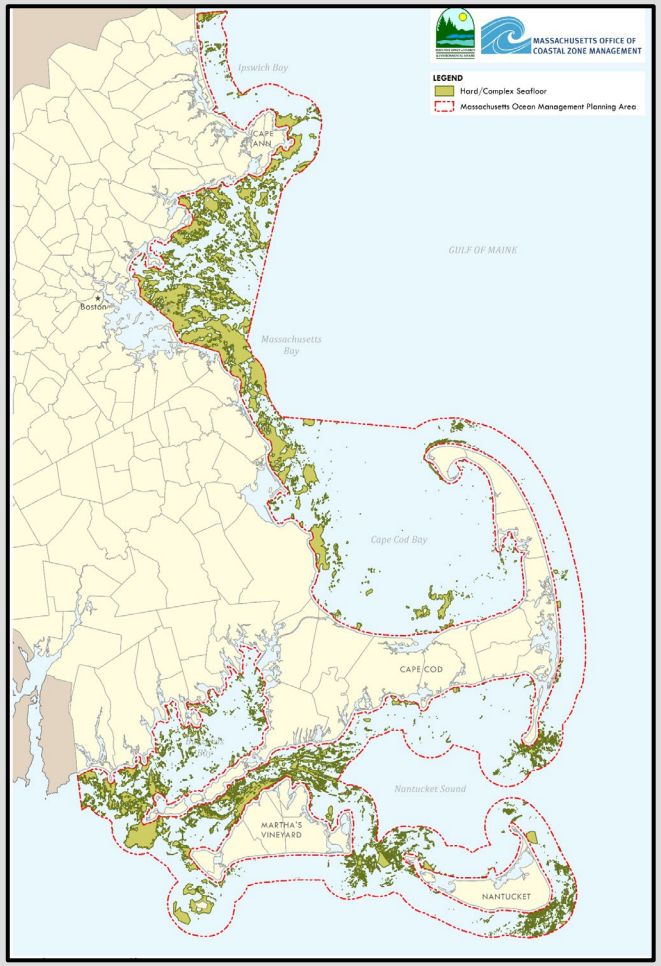
- Projects presumptively excluded from whale SSUs
- Projects presumptively excluded from Eelgrass and Hard/Complex Seafloor SSUs
- Projects required to avoid/minimize/mitigate impacts to certain human uses: sand resource areas, critical trawl survey areas, fishing areas



QUESTIONS?

SEDIMENT & GEOLOGY: SCOPE

Work Group members	Affiliation
Todd Callaghan, group lead	CZM
Dan Sampson, GIS lead	CZM
Sean Duffey	CZM
Rebecca Haney	CZM
Julia Knisel	CZM
Margot Mansfield	CZM/EEA
Deanna Moran	CZM
Laura Brothers	USGS
Lealdon Langley	MassDEP (retired)



Work Group's Scope:

1. Evaluate Hard/Complex Seafloor SSU
2. Review and consider revisions to the existing offshore sand siting and performance standards
3. Update the Baseline Assessment "Seabed Features" section
4. Evaluate progress on Science Priorities:

   #2: Further characterize offshore sand resources

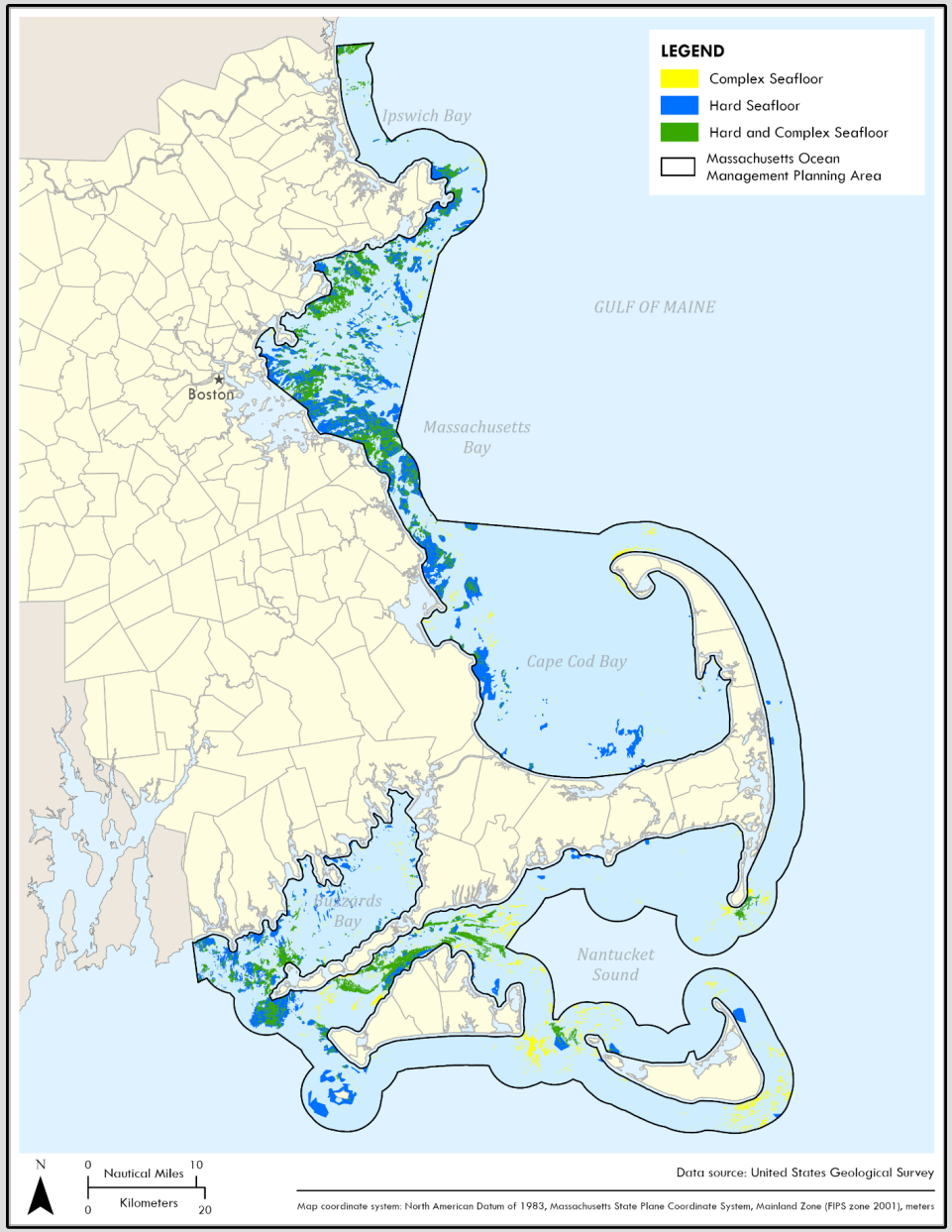
   #4: Continue seafloor and habitat mapping

Other Experts Consulted	Affiliation
Patrick Bryce	APTIM (contract)
Max Cantrell	Offshore Construction Assoc.
Mark Reid	Great Lakes Dredge & Dock
Beau Suthard	APTIM (contract)

SEDIMENT & GEOLOGY: RECOMMENDATIONS

Recommendations:

- Update the Hard/Complex Seafloor SSU with new data
- Update the Potential Offshore Sand Resource areas and propose them as a WDU
- Continue to characterize the existing 5 Potential Offshore Sand Resource areas (grain size, thickness, surficial habitat)
- Adapt the performance standards as necessary to address policy interests
- Create a centralized database of nourishment needs, permitted projects, and projects that have been completed
- Update the Baseline Assessment "Seabed Features" section

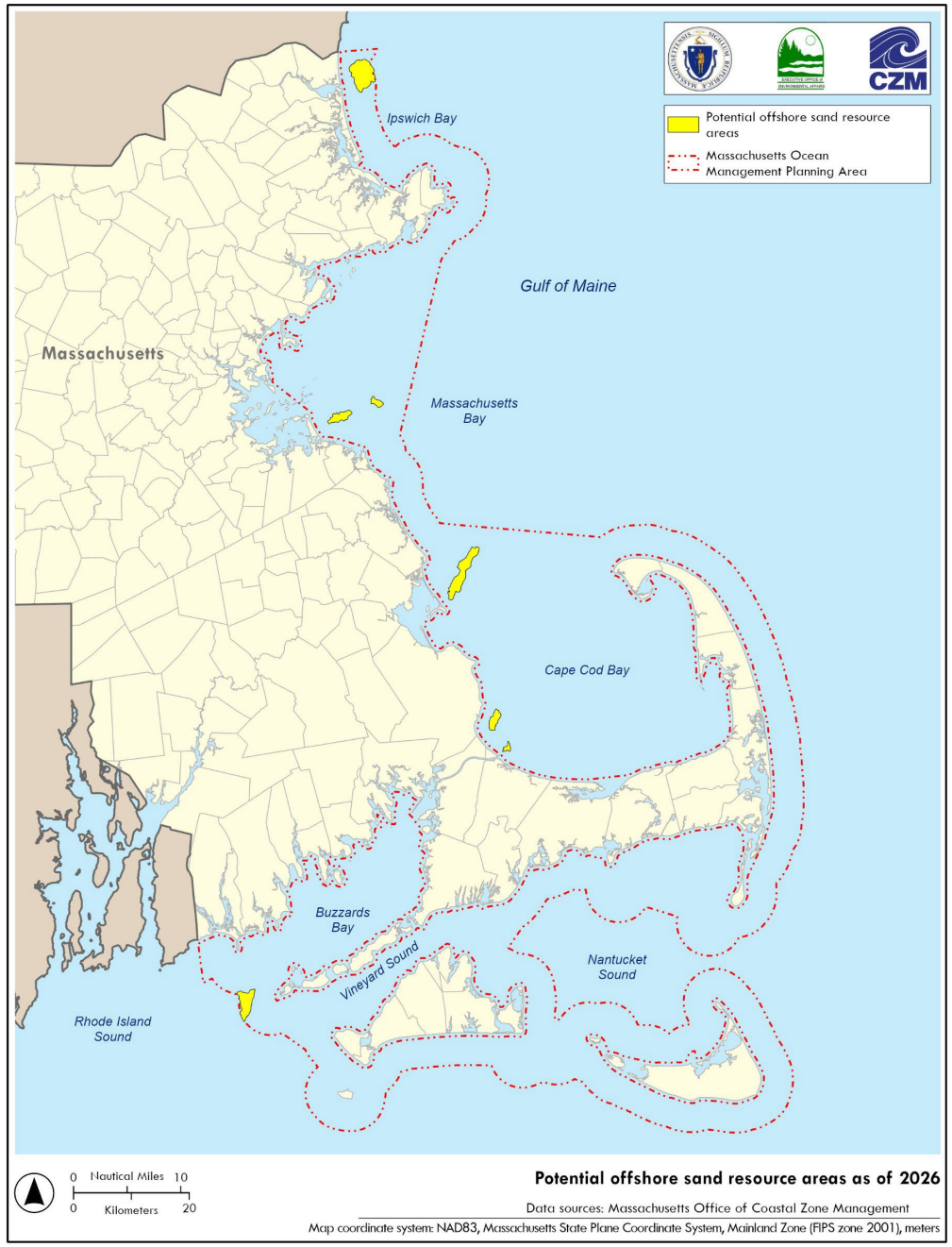


Known Hard and Complex seafloor as of 2021

2021 SCIENCE PRIORITY 2:

FURTHER CHARACTERIZE POTENTIAL OFFSHORE SAND RESOURCES TO BETTER UNDERSTAND THE CAPACITY TO SUPPLY COMPATIBLE SEDIMENT TO BEACHES IN NEED OF NOURISHMENT

- In 2025, a contractor (APTIM) characterized 5 potential offshore sand resource areas with 174 nautical miles of acoustic surveys and 20 vibracores
- CZM continued conversations with BOEM to access data characterizing sediment resources that were studied in 2015



2021 SCIENCE PRIORITY 2:
FURTHER CHARACTERIZE POTENTIAL OFFSHORE SAND RESOURCES

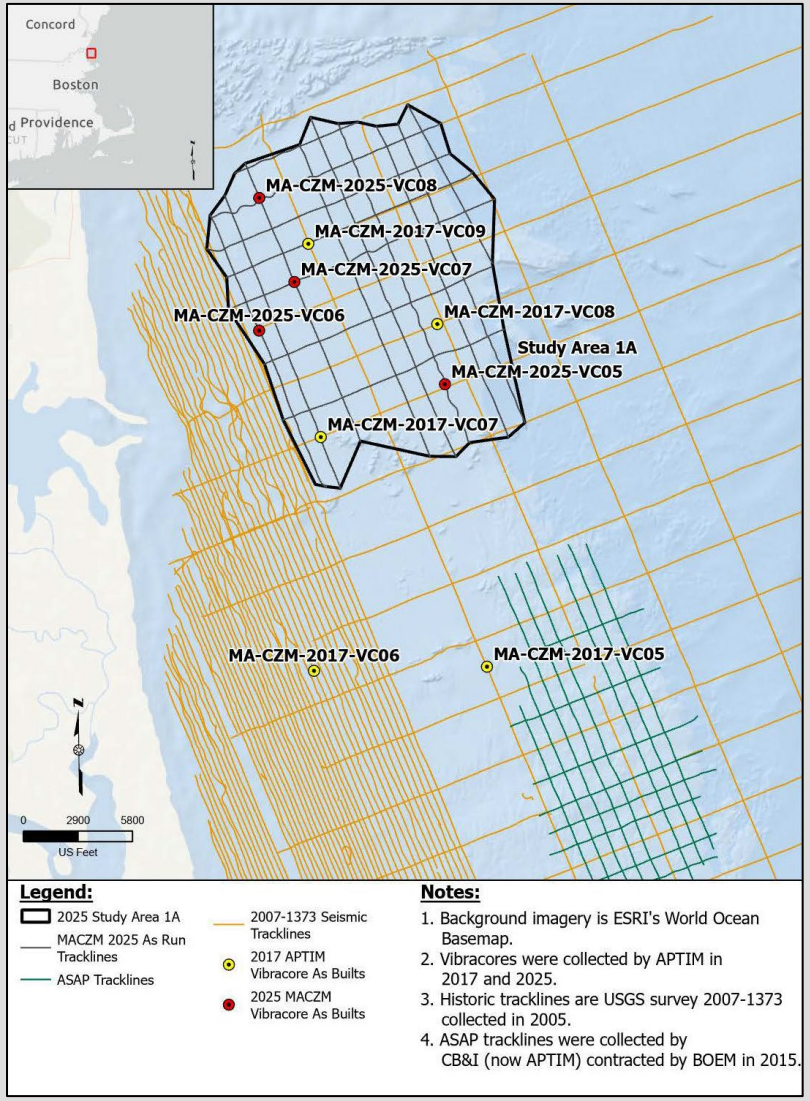
Merrimack Study Area Example

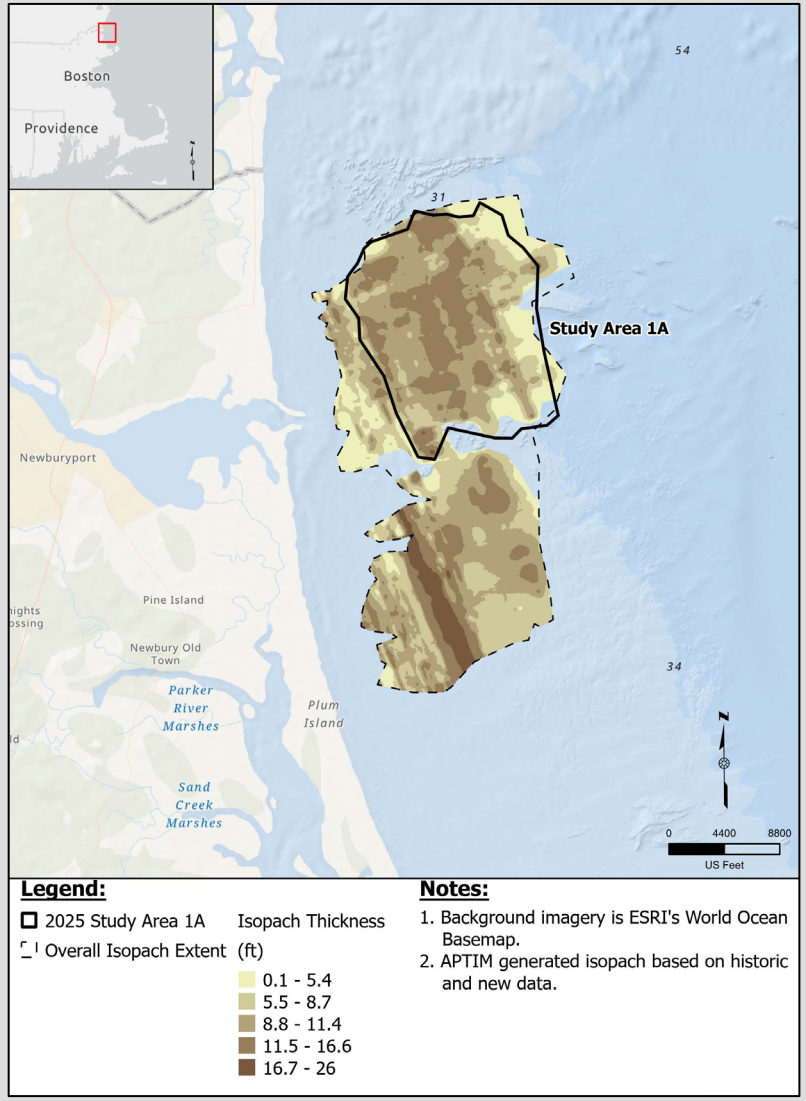
Data collected:

- Geophysical tracklines:
  - Sidescan sonar
  - Seismic sub-bottom profiles
  - Magnetometer (to ID shipwrecks)
- Vibracores

Analysis:

- Estimated depth of sediment/isopach extent
- Additional investigations needed to potentially utilize sand for beach nourishment projects



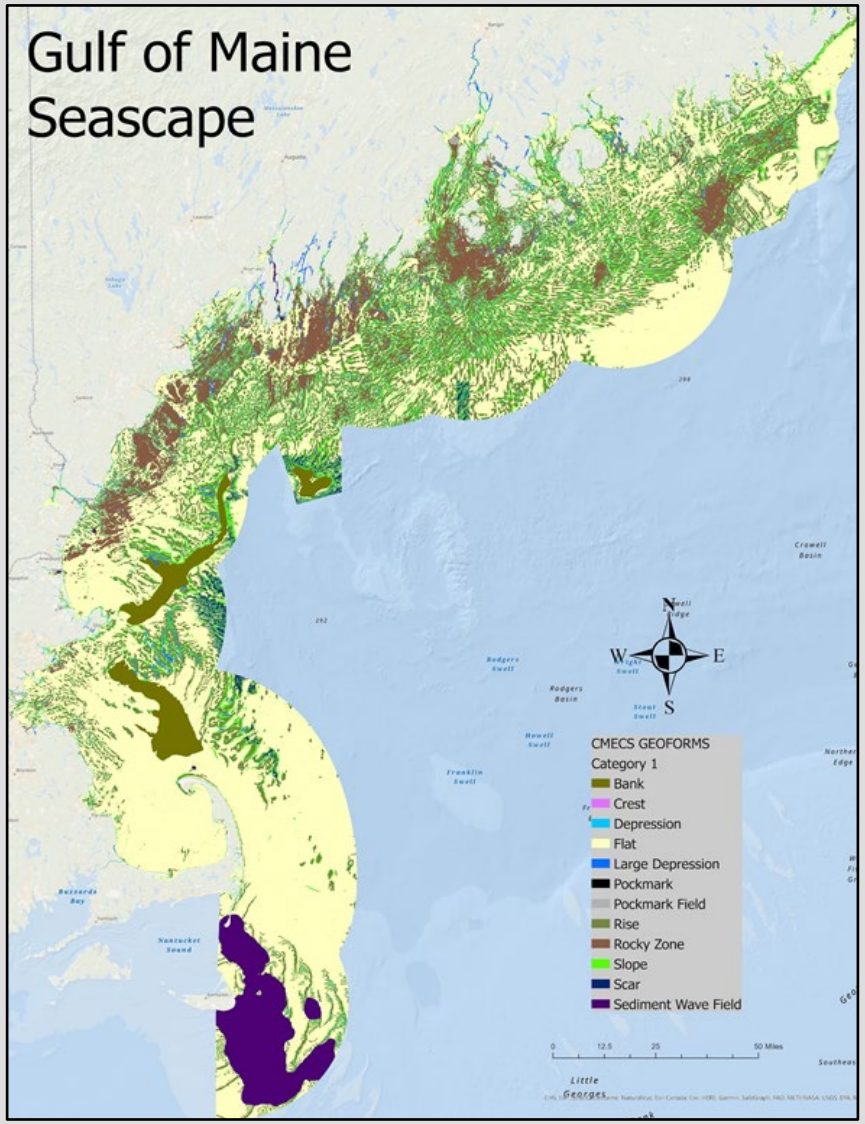


Source: APTIM (2026) *Borrow Site Characterization of Offshore Sand Resources in Selected Study Areas: Final Report of Findings*

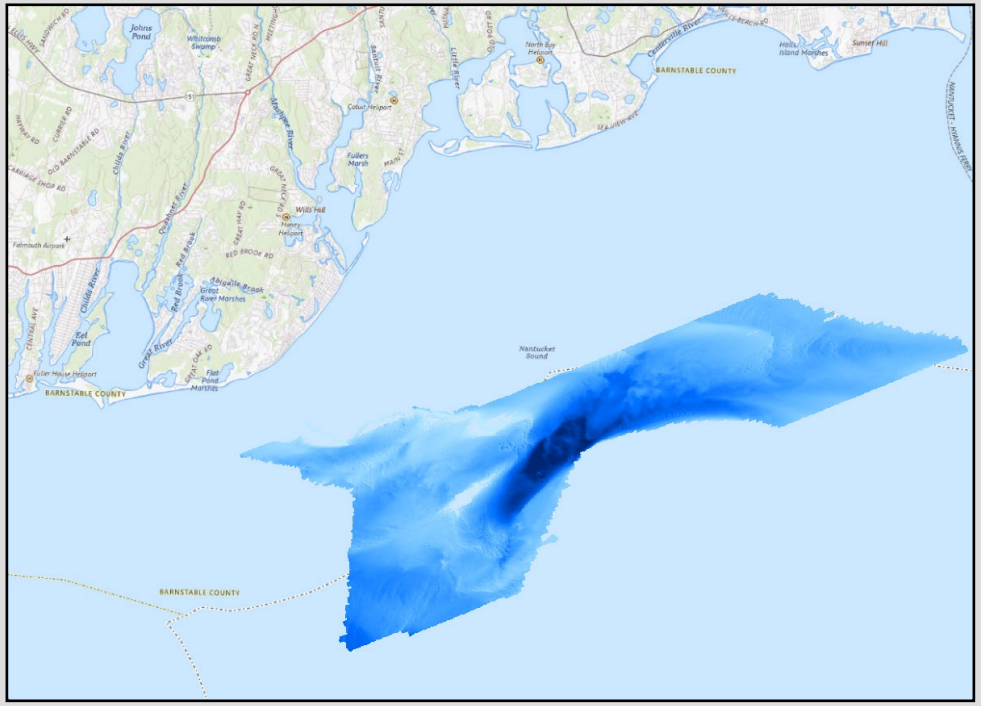
2021 SCIENCE PRIORITY 4:
CONTINUE SEAFLOOR AND HABITAT MAPPING

Specific goals:

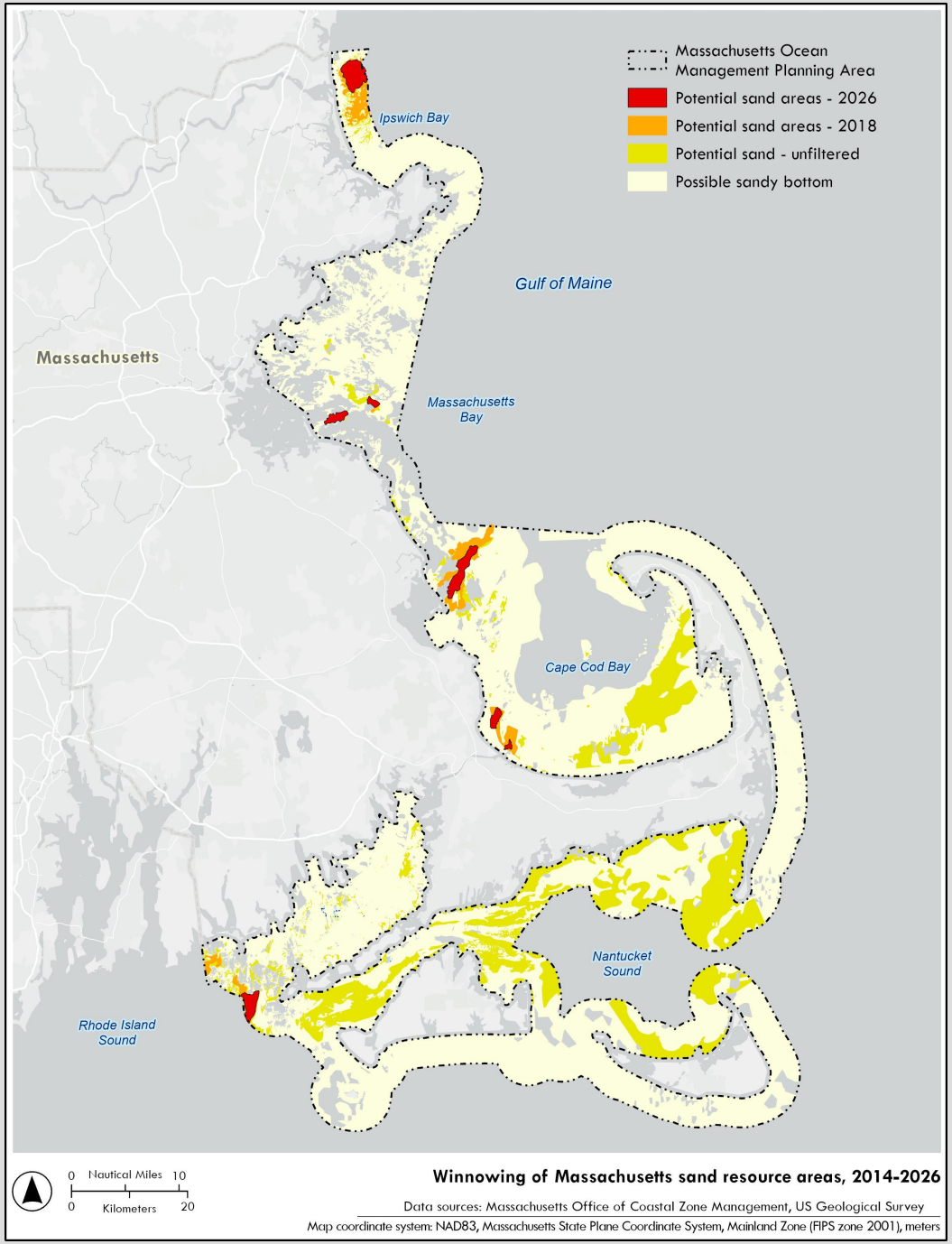
- ✓ Continue to characterize abiotic structure of the seafloor and pelagic waters
- ✓ Ground truth and add data to surficial sediment map



In 2023/24, CZM worked with NROC and mapping partners from Maine on a geoform map (named Seascapes 1) for the Northeast ranging from shore to 24 nautical miles offshore and then on an update (named Seascapes 2) as higher quality bathymetry and new methods became available.



In 2022 CZM engaged in a cooperative partnership with USGS to map 50 km^2 of seafloor in Nantucket Sound off of Barnstable where several cable projects have been proposed.



IDENTIFYING OFFSHORE SAND RESOURCES

Ocean Planning Area = 5554 km^2

Sand/mixed-sand = 4420 km^2 (80%)

Desktop studies w/USGS

Potential sand = 840 km^2 (15%)

Consultations & field work

Deconflicted sand = 110 km^2 (~2%)

Additional field work

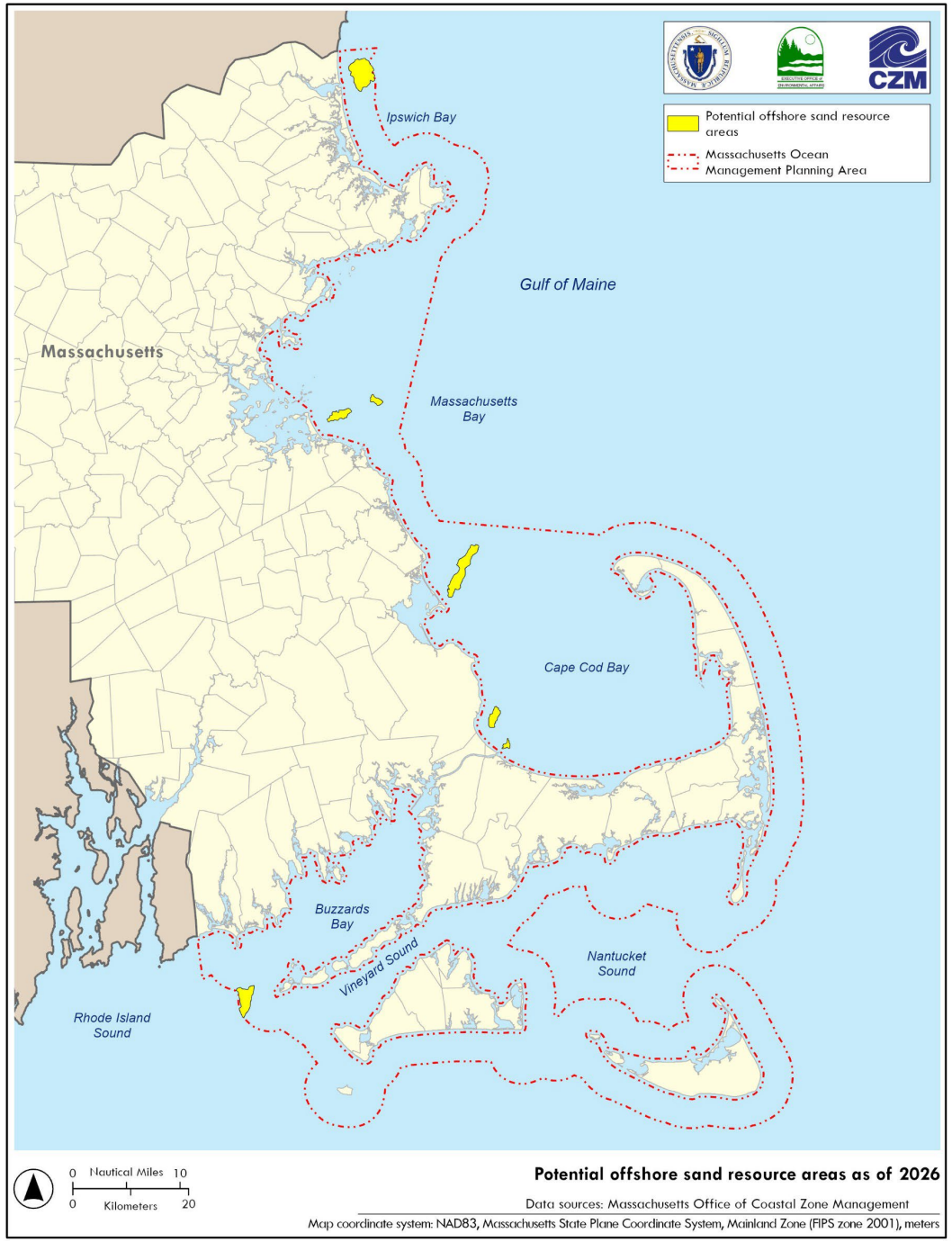
2026 potential sand = 52 km^2 (<1%)

Would be further reduced by 2026 proposed SSU/WDU updates

%s of ocean planning area

REFINED POTENTIAL SAND RESOURCE AREAS AND PROPOSED NEW WDU

- Refined 5 Potential Offshore Sand Resource Areas
- Classify as a WDU to preserve for future potential sand needs for beach nourishment
- *A WDU would not limit nourishment projects to only these areas for source sediments, and approval of a project in these areas would not be guaranteed*



SUPPORT FOR COASTAL RESILIENCE

- **ResilientCoasts Plan (2025):**
  - Development, shoreline armoring, accelerated sea level rise & stronger storms are stressing beach systems
  - Stakeholders identified beach and dune nourishment as one of the key regional issues to address erosion & storm damages & provide community benefits (e.g., recreation & tourism)
  - Long-term cost of nourishment & availability of suitable sediment are challenges for large-scale projects
  - Coastal Resilience Districts on Cape Cod are advancing regional sediment management to improve beach nourishment practices
- **CZM Coastal Resilience Grant Program (since 2014):**
  - 30+ communities have proposed beach & dune nourishment projects of varying scales
  - $15M granted to municipalities & nonprofits for design, permitting & construction
  - 407,000 cy sediment placed over 5 miles of shoreline

ResilientCoasts

SOURCES FOR BEACH NOURISHMENT

1. Upland
   - Example: 407,000 cy placed w/ $20M (state + municipal match) since 2014 via CZM Coastal Resilience Grants

2. Nearshore Beneficial Re-use
   - Example: Barnstable County dredge placed 500,000 cy w/ $6M in last 5 years

3. Offshore Potential
   - State waters
   - Federal waters
   - 7 currently permitted large scale projects would require > 2.5M cy

UPLAND SAND SOURCE ISSUES

- Upland sand is expensive: $45-135/cy vs $28-35/cy beneficial re-use or offshore
- Upland sand requires multiple seasons to nourish beach to design volume
- Time + money = communities can only do small portions of their planned nourishment + limited longevity for smaller amounts
- Air quality and road impacts – recent project required 8,500 truck trips; recent project spent $1.3 million in police details alone, often additional 5-10% of the project cost for road and beach access repairs.

Assessment needed to evaluate relative impacts from mining upland sand & gravel vs offshore sources

OFFSHORE SAND MANAGEMENT STANDARDS

Avoid:

- Whale Core Habitats
- Hard Complex seafloor
- Eelgrass
- Intertidal flats
- Fish habitat
- Commercial and Recreational Fishing areas
- Fixed Fishing
- Existing Infrastructure
- Trawl Survey areas

Current Siting Standards in the Ocean Plan

- Must have a documented critical erosion problem
- Public benefits must outweigh public detriments
- Nourishment will protect public infrastructure, natural resources, and other public interest factors such as increased access and recreation
- Alternative sand resources (beneficial re-use, upland) are not reasonably practicable
- Must have biological and physical monitoring plans of source and nourishment sites

Current Performance Standards in Ocean Plan

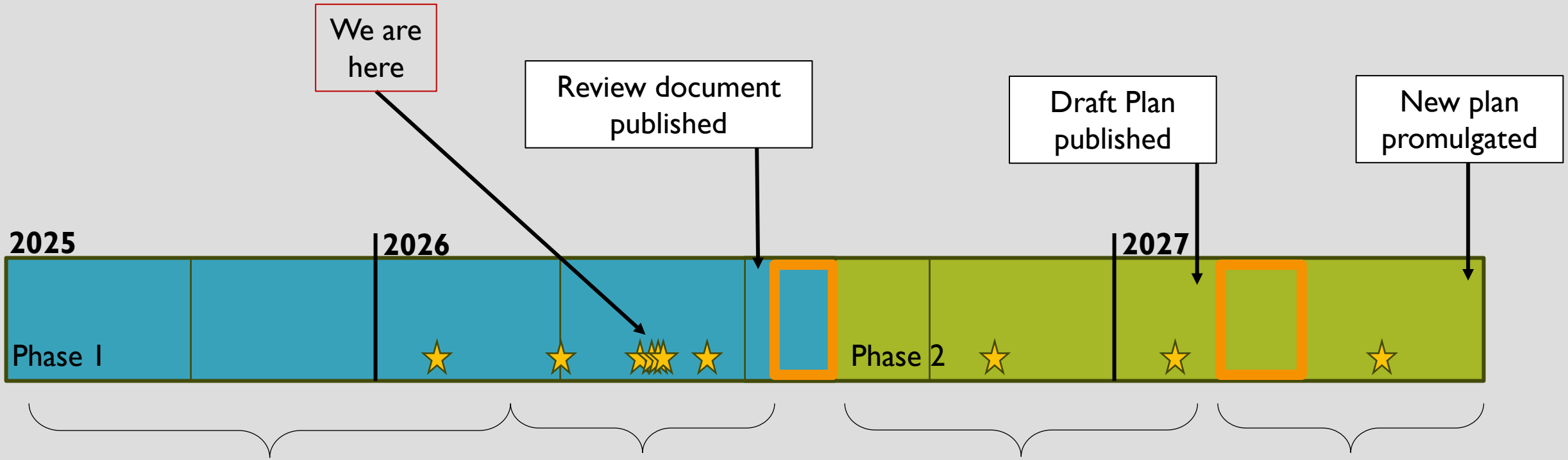
FOR DISCUSSION

- Any questions or concerns?
- Are there any data sets, publications, etc., that we should add?
- Are there any experts or key stakeholder groups to engage?

OCEAN PLAN REVIEW TIMELINE

OAC and SAC meetings

Public Comment Periods



Note: this is a tentative timeline subject to revision

NEXT STEPS

- OAC meeting on management framework and Ocean Plan administration
  - June 16, 1-3 pm
- Review Document
- Amended Ocean Plan

PUBLIC COMMENT

- Please raise your hand to be unmuted
- Limit of 2 minutes per speaker
- Written comments can also be sent to czm@mass.gov