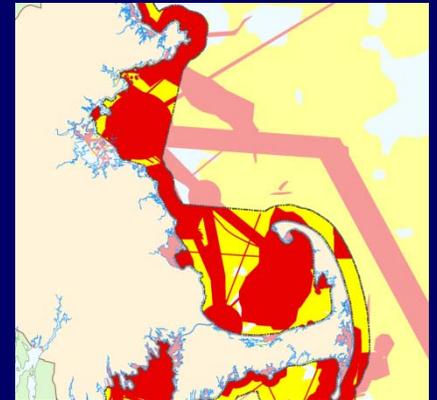
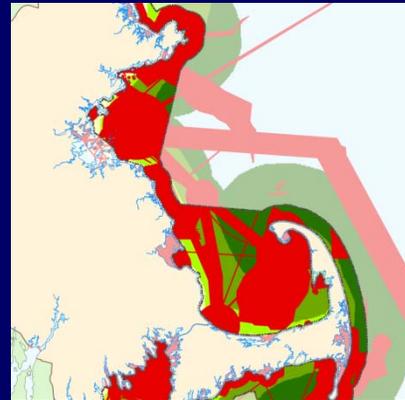
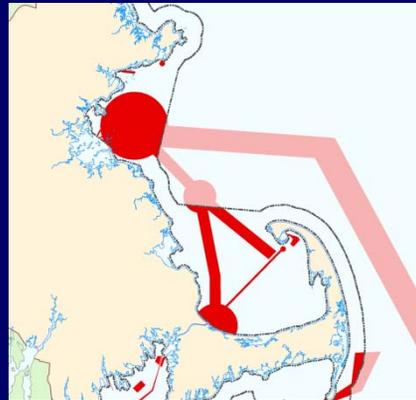


Massachusetts Ocean Management Plan

Jack Wiggin

Urban Harbors Institute
University of Massachusetts Boston



Marine Fisheries Advisory Committee

Silver Spring, MD

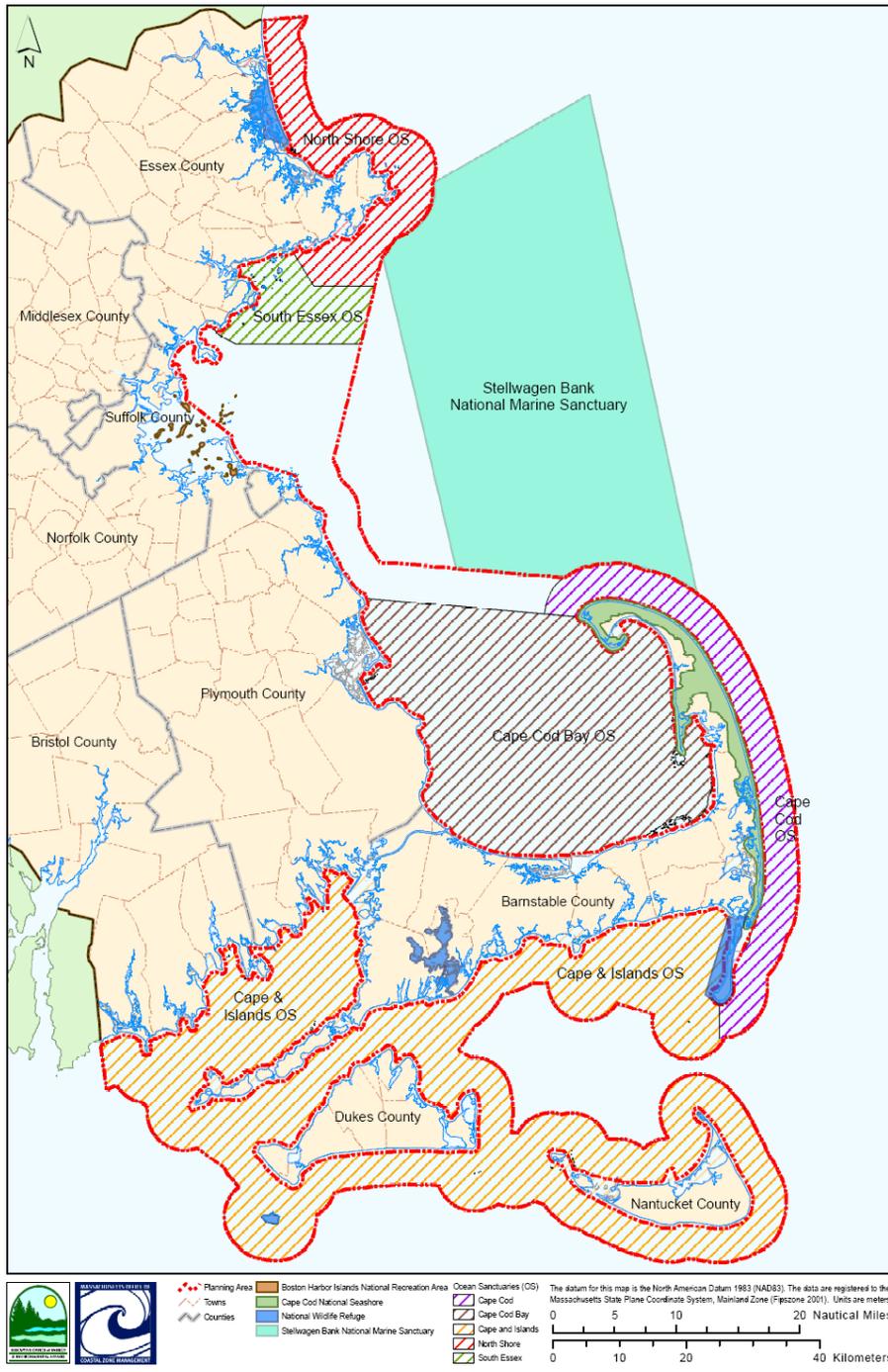
November 11, 2009

The Massachusetts Ocean Act , Ch. 114 of the Acts of 2008

- Mandates adoption of an integrated ocean management plan for Massachusetts' state waters
- Requires all state approvals to be consistent with the Plan
- Plan must contain **goals, siting priorities, and standards** for uses allowed under the (MA) Ocean Sanctuaries Act (M.G.L. c. 132A, §§ 13 through 16 and 18)
 - Renewable energy facilities
 - Pipelines
 - Cables
 - Sand extraction for beach nourishment
- Plan must identify and protect **special, sensitive or unique** estuarine and marine life and habitats
- Commercial fishing regulation remains under jurisdiction of state Division of Marine Fisheries (or federal plans)
- To be implemented through existing regulations

FIGURE 2-2 JURISDICTIONAL BOUNDARIES

DRAFT



Massachusetts Ocean Management Planning Area and Massachusetts Ocean Sanctuaries

The Massachusetts Ocean Act of 2008

Timeline

May 28, 2008 Oceans Act of 2008 signed into law

June 30, 2009 Draft plan released for public comment

Dec. 31, 2009 Final Ocean Management Plan to be promulgated

To be incorporated into the federally-approved
Massachusetts Coastal Zone Management Program

Roles

Massachusetts Executive Office of Energy and Environmental Affairs

Ocean Advisory Commission

Science Advisory Council

Massachusetts Ocean Partnership

Translating the Oceans Act into an Ocean Plan through spatial data

Oceans Act



Draft Plan

Principles, Goals, Strategies

Integrated Management

Effective Stewardship

Adaptive framework

Compatibility Assessment

Functional incompatibility

Resource impacts

Policy/values of Act

Category	USES/RESOURCES									
	1	2	3	4	5	6	7	8	9	10
1	Red	Black								
2	Red	Black								
3	Red	Black								
4	Red	Black								
5	Red	Black								
6	Red	Black								
7	Red	Black								
8	Red	Black								
9	Red	Black								
10	Red	Black								

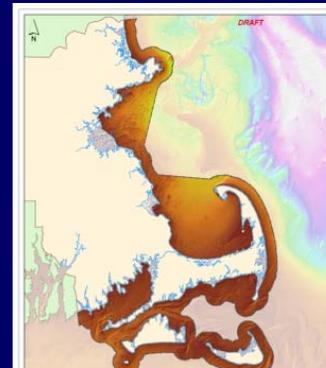
Spatial Data

Siting criteria

Screening criteria

Exclusionary

Constraints



Plan Development

Spatial and management elements

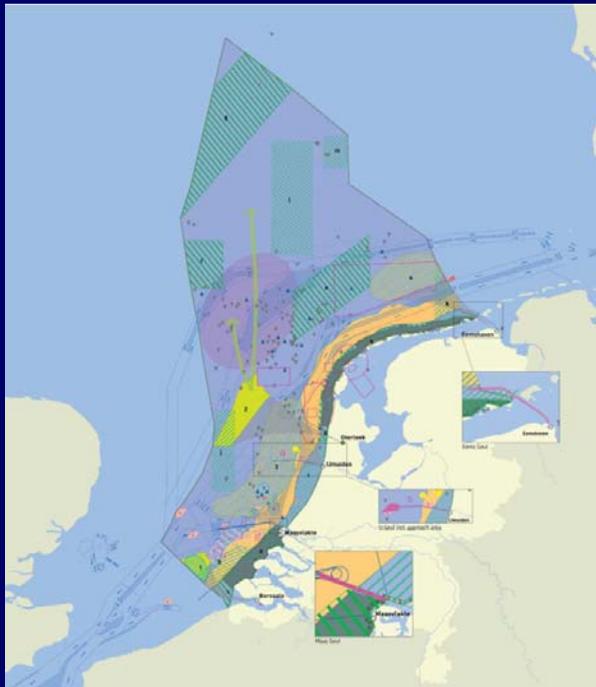
- Areas for development or exclusion
- Siting standards and measures to protect resources and minimize conflicts

Marine Spatial Planning Efforts Around the World

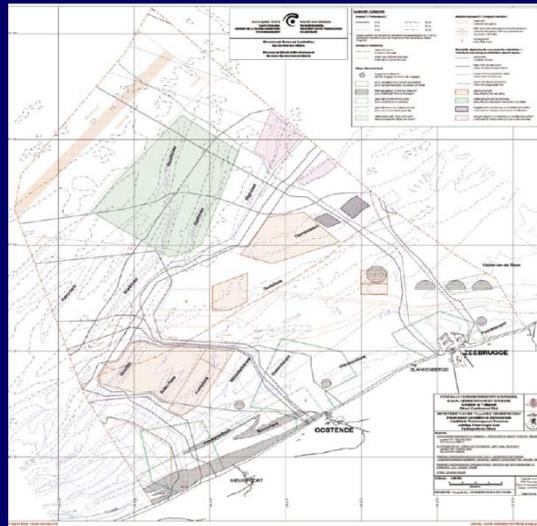
Australia	Great Barrier Reef Original Zoning	1983-1988
	Great Barrier Reef Representative Areas Programme	1998-2005
	Marine Bioregional Plans	2002-ongoing
USA	Florida Keys National Marine Sanctuary	1990-ongoing
	Channel Islands National Marine Sanctuary	1990-ongoing
	California Marine Life Protection Act	1999-ongoing
Neth, Ger, Den	Trilateral Wadden Sea Plan	1993-ongoing
Canada	Large Ocean Management Areas	1998-2007
	Eastern Scotian Shelf Integrated Management Plan, 2006-12	1998-ongoing
China	Territorial Sea Functional Zoning	2002-ongoing
United Kingdom	Marine Bill/Irish Sea Pilot Project	2002-ongoing
Belgium	GAUFRE Project/Master Plan for Belgian Part of the North Sea	2003-2005
The Netherlands	Integrated Management Plan for the North Sea, 2015, and revision	2003-ongoing
Germany	Spatial Plans for the North Sea and Baltic Sea	2004-ongoing
New Zealand	Representative System of Marine Protected Areas	2005-ongoing
Norway	Integrated Management Plans for the Barents, Norwegian & North Seas	2002-ongoing

Charles Ehler and Fannie Douvere

Examples of the process and outputs



NETHERLANDS NORTH SEA



BELGIAN NORTH SEA



GREAT BARRIER REEF

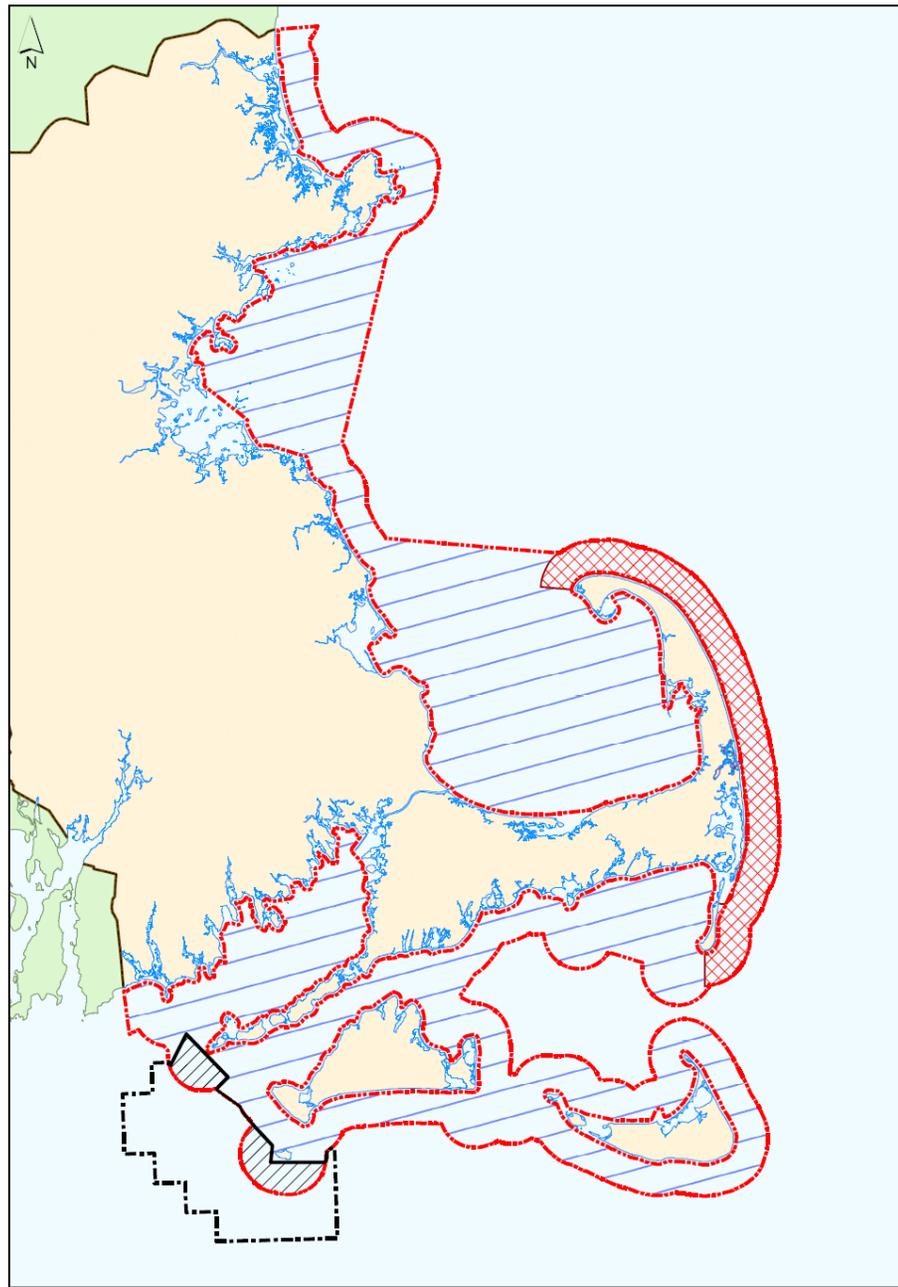
Management Options for Uses

Options:

1. regulate as now, use ocean data for alternatives analysis and performance standards in permit conditions;
2. uses allowed in designated use areas based on ocean data and screening;
- 3.(hybrid) Designate:
 - areas for priority uses (wind energy) with regard to potential significant impacts/incompatibilities;
 - areas where uses are prohibited by the Ocean Sanctuary Act;
 - multiple-use areas where allowed uses managed based on **siting criteria and performance standards** for specific uses and marine resources.

FIGURE 4-1 MANAGEMENT AREAS

DRAFT



Ocean Plan Management Areas

Prohibited 13%

Renewable energy 2%

Multi-use 85%



The datum for this map is the North American Datum 1983 (NAD83). The data are registered to the Massachusetts State Plane Coordinate System, Mainland Zone (Fipzone 2001). Units are meters.

0 5 10 20 Nautical Miles

0 10 20 40 Kilometers

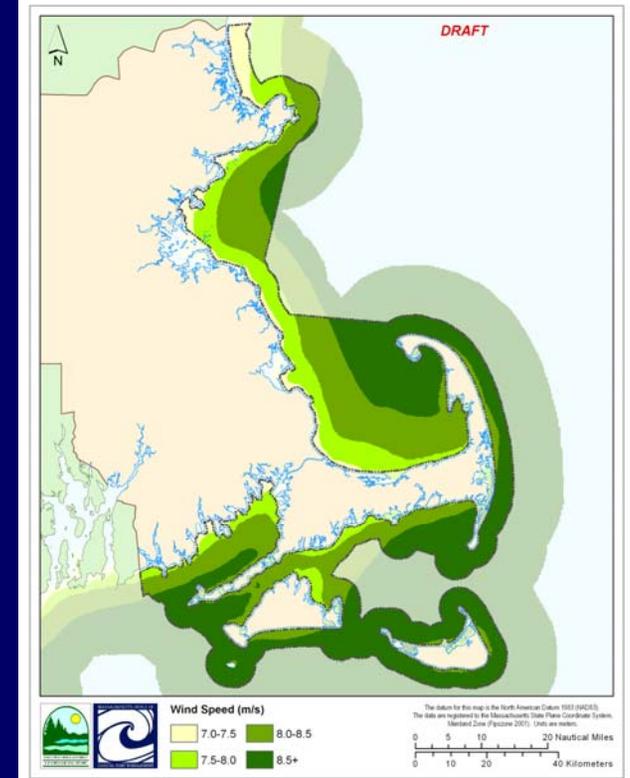
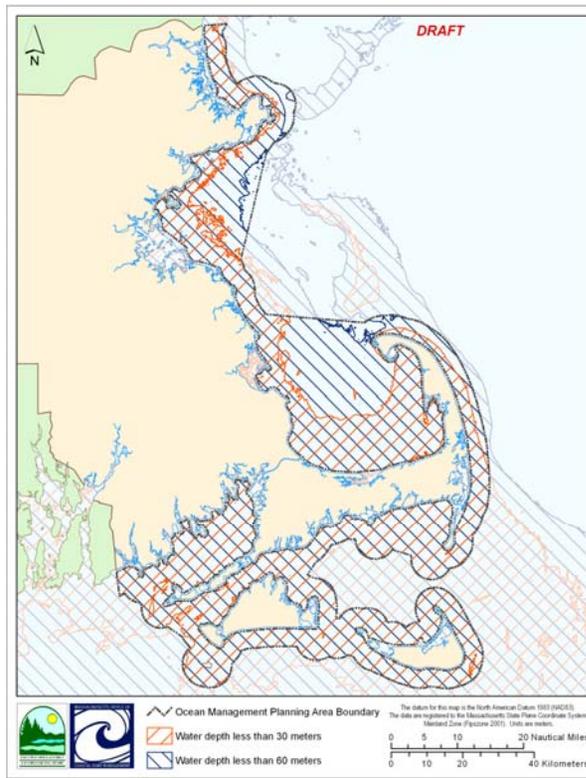
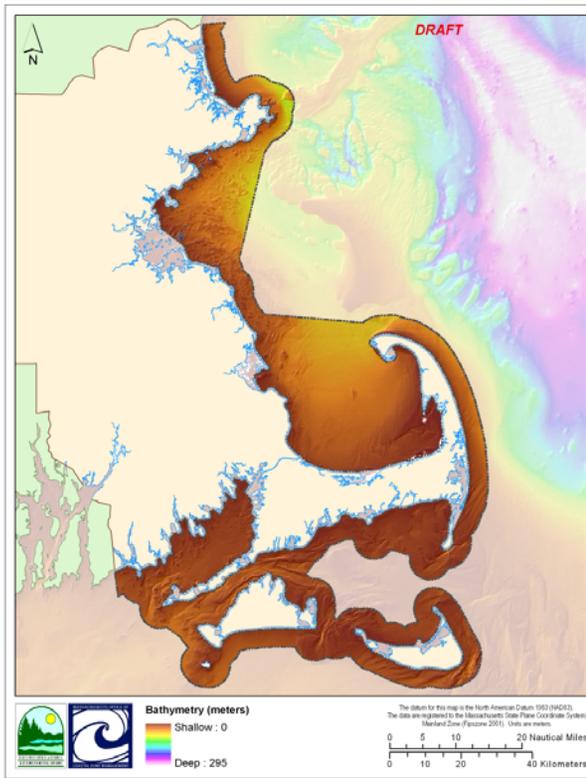
Compatibility Assessment for Determining Renewable Energy Areas:

(1) suitability and (2) absence of conflict with resources and uses

Contextual data
Bathymetry

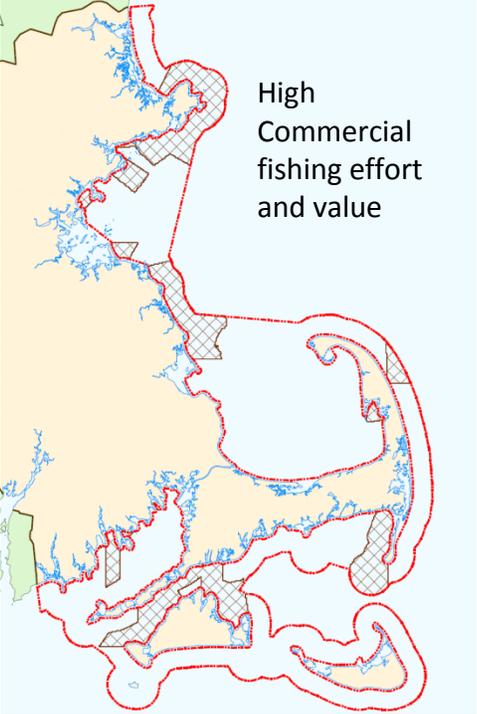
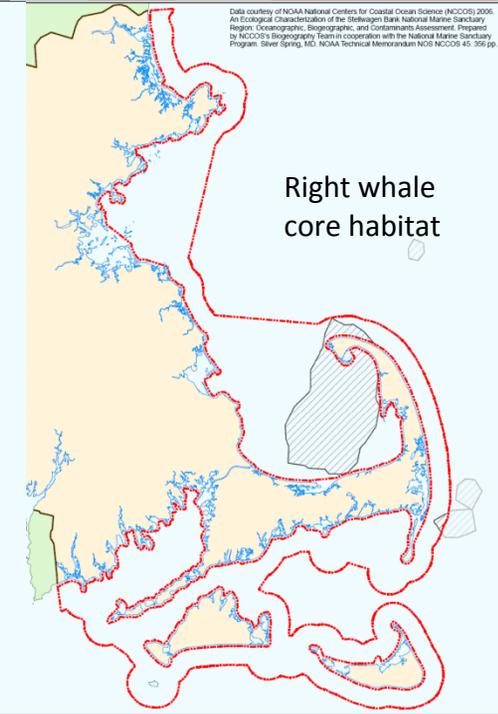
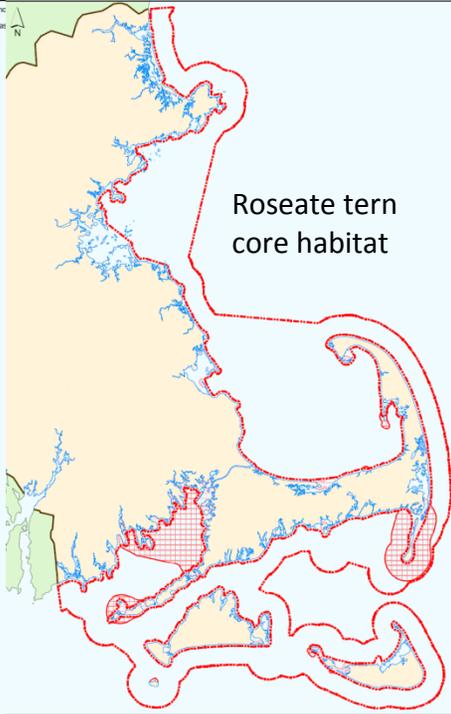
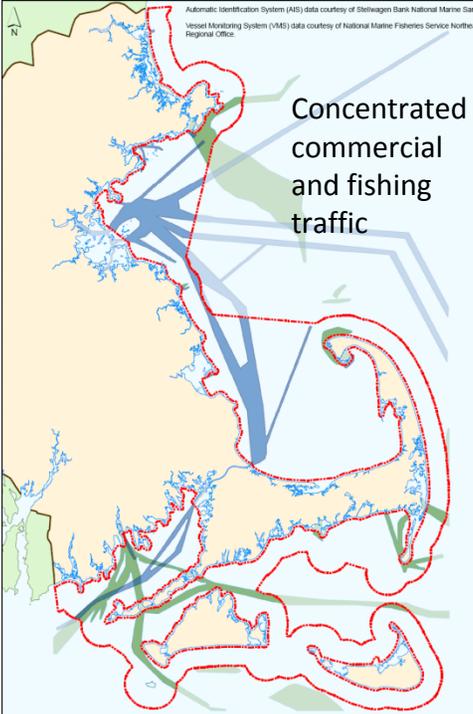
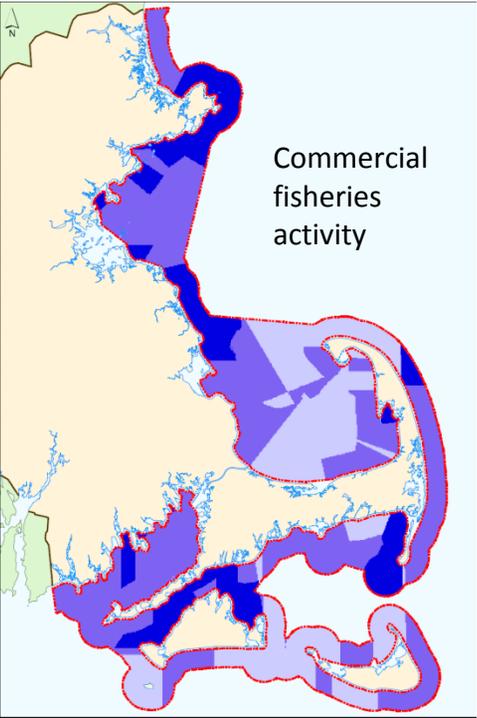
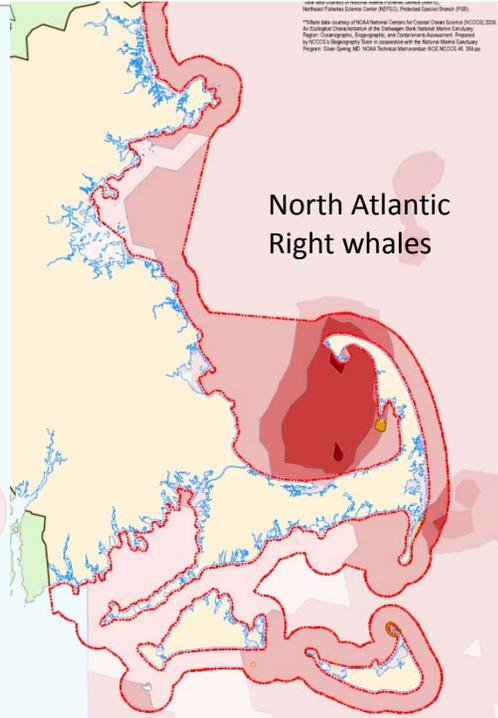
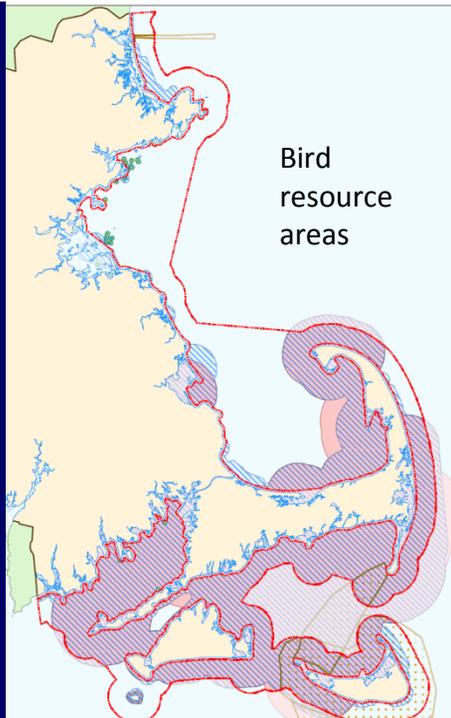
Suitability
Depth

Suitability
Wind Speed



Renewable Energy Areas

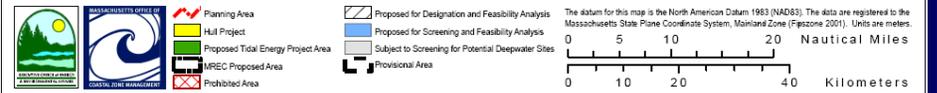
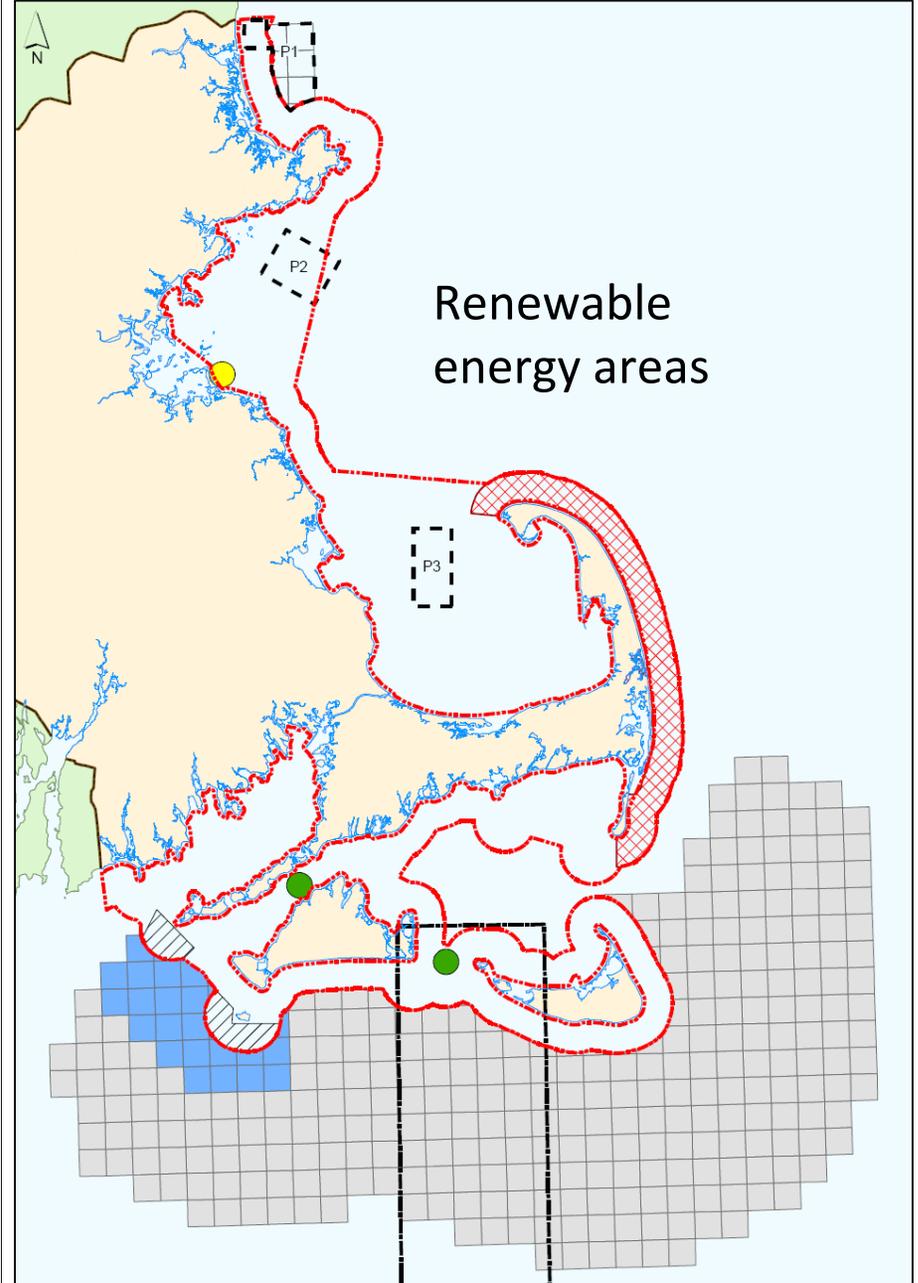
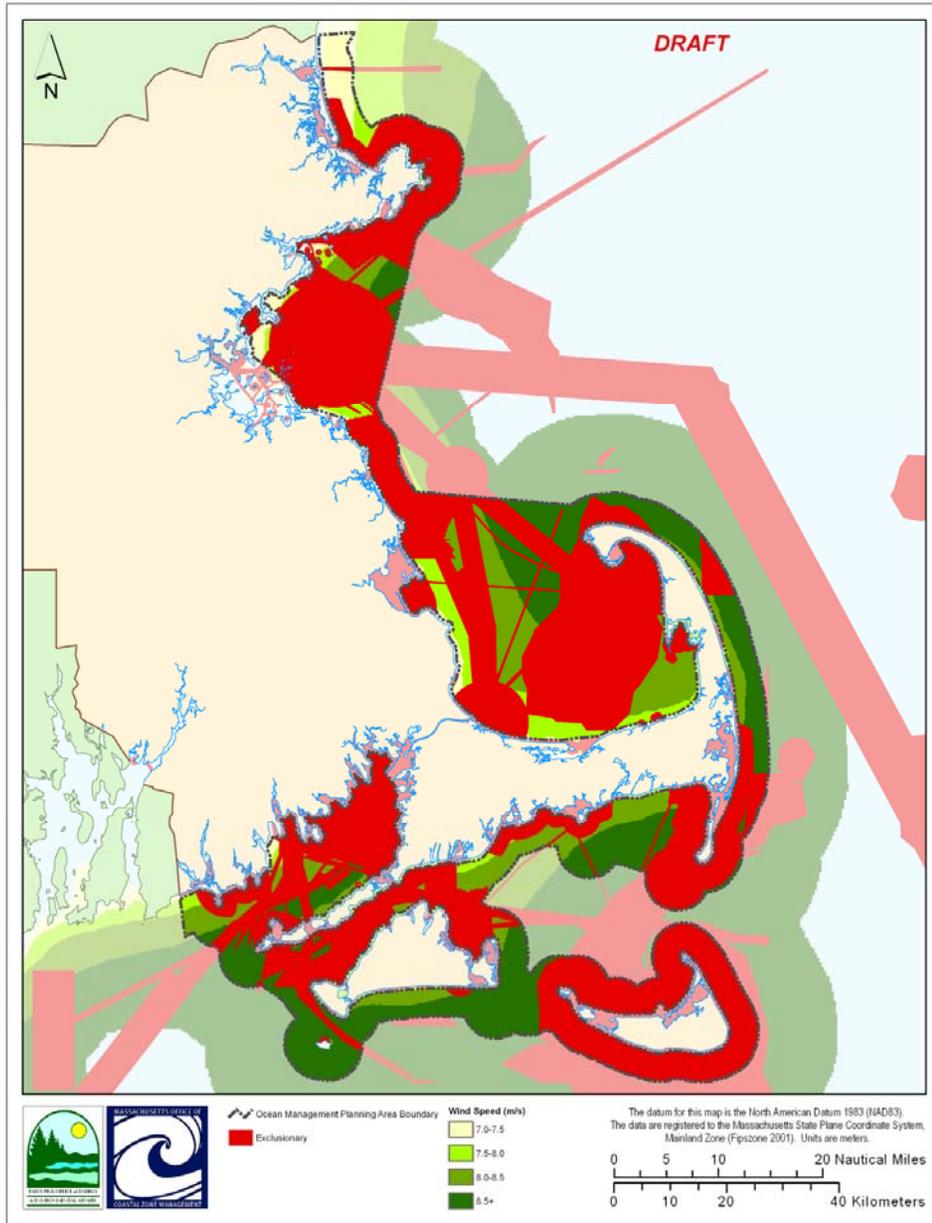
Absence of conflict with resources and uses, *i.e.*, exclusionary factors

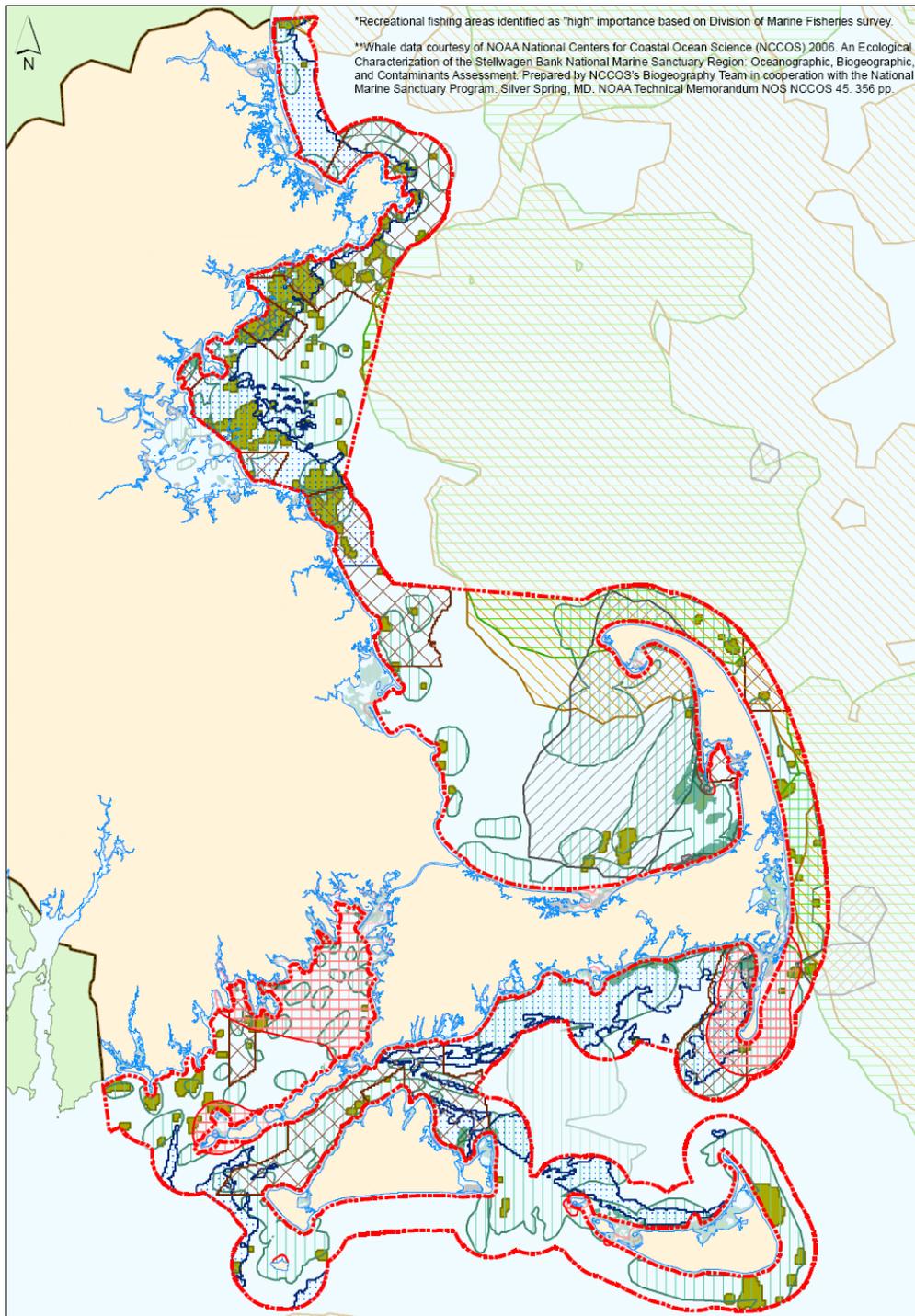


Map data courtesy of NOAA National Centers for Coastal Ocean Science (NCCOS) 2006. An Ecological Characterization of the Stellwagen Bank National Marine Sanctuary. Regional, Oceanographic, Biogeographic, and Contaminant Assessment. Prepared by NCCOS's Biogeography Team in cooperation with the National Marine Sanctuary Program. Silver Spring, MD. NOAA Technical Memorandum NOS NCCOS 45. 356 pp.

Automatic Identification System (AIS) data courtesy of Stellwagen Bank National Marine Sanctuary. Vessel Monitoring System (VMS) data courtesy of National Marine Fisheries Service Northeast Regional Office.

FIGURE 4-3 RENEWABLE ENERGY AREAS, INCLUDING ADJACENT FEDERAL WATERS





Sand and Gravel

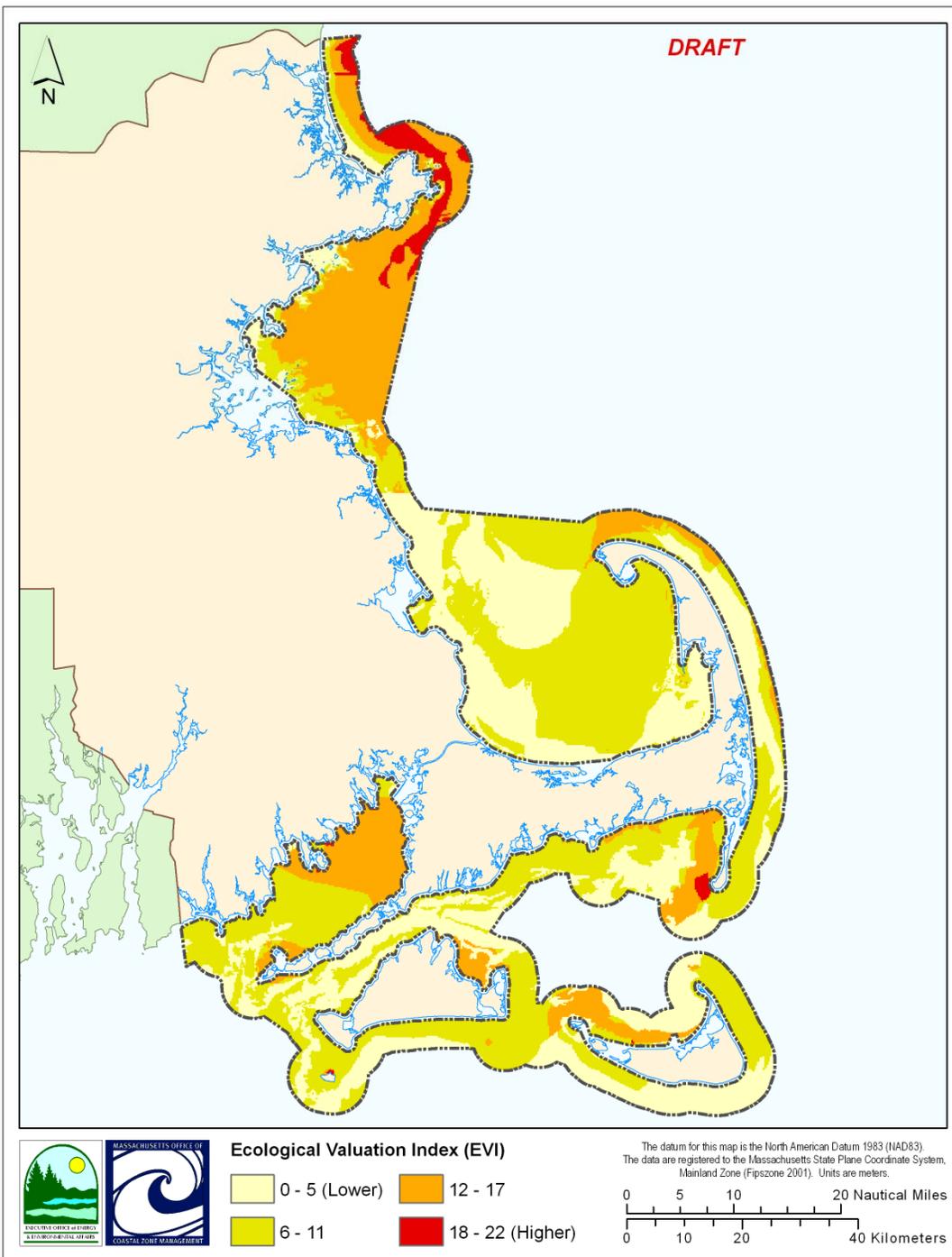
Siting standard: avoid or no less damaging practicable alternative

Performance standard: avoid, minimize, mitigate impacts to maximum extent feasible



Avoid, minimize, and mitigate impacts





**Protect special,
sensitive or unique
(SSUs) marine life and
habitats**

Ecological Valuation Index

Federal Regulatory Coordination

Interagency federal permitting group

Northeast Regional Ocean Council

Key Considerations

- Timeframe
- Data availability, quality, resolution
- Adaptability to evolving knowledge and understanding of the ocean environment

Science Plan will prioritize data needs for Plan 2.0

- Design of the management structure

MSP is only a part of the measures for management

Deerin Babb-Brott, Assistant Secretary for Ocean and Coastal Management
Massachusetts Executive Office of Energy and Environmental Affairs
100 Cambridge Street
Boston, MA 02202
617 626-1200

or

John Weber, Ocean Services Manager
Massachusetts Office of Coastal Zone Management
251 Causeway Street
Boston, MA 02114
617 626-1000

Jack Wiggin
Urban Harbors Institute
University of Massachusetts Boston
100 Morrissey Blvd.
Boston, MA 02125
617 287-5570
jack.wiggin@umb.edu