

State of Massachusetts

Program Names: Massachusetts Ocean Program

Program Entity: MA Dept Energy and Environmental Affairs

Program History: Authority and Date(s) Created:

1. [Ocean Sanctuaries Act](#)

1978: Five Ocean Sanctuaries were created by law (302 CMR 5.00) to “protect the ocean sanctuaries from any exploitation, development or activity that would seriously alter or otherwise endanger their ecology or appearance.” Sanctuaries are Cape Cod, Cape Cod Bay, Cape and Islands, North Shore, and South Essex Ocean Sanctuary. Activities prohibited include: (a) building structures on the seabed; (b) constructing or operating off-shore or floating electric generating stations; (c) removal of minerals, such as sand or gravel, and drilling for oil or gas; (d) dumping or discharge of commercial or industrial wastes; (e) commercial advertising by any means, including, but not limited to, structures, vessels or boats; (f) incineration of solid waste material or refuse on or in any vessel or boat of any size.

The 2008 Oceans Act amends the Ocean Sanctuaries Act to allow renewable energy in ocean sanctuaries if such a project is of "appropriate scale" and consistent with the Ocean Plan. The Massachusetts [Office of Coastal Zone Management](#) (CZM) administers the Ocean Sanctuaries Program.

2. [Massachusetts Ocean Management Task Force](#)

2003: The 23-member Massachusetts Ocean Management Task Force was appointed by Governor Mitt Romney in June 2003 and charged with investigating ocean use trends and existing governance mechanisms; drafting recommendations for administrative, regulatory, and statutory changes; and developing ocean management principles to address oncoming ocean management challenges. In March 2004 the Task Force released the [Waves of Change](#) report, which includes 16 recommendations for proactively managing ocean resources, and the accompanying *Massachusetts Ocean Management Task Force [Technical Report](#)*. These documents, while not self-implemented, set the stage for action in 2008.

3. [Massachusetts Ocean Act](#)

2008: The [Oceans Act of 2008](#) builds on the 2004 recommendations of the Ocean Task Force. It requires the Secretary of Energy and Environmental Affairs to develop a comprehensive ocean management plan, following a scientific and stakeholder process. The [Massachusetts Ocean Plan](#) was [released](#) January 4, 2010. The “Oceans Act” requires a balancing among uses –including offshore renewable energy development, fishing, maritime shipping, recreation, conservation and others, through consideration of stakeholder needs and scientific principles. The plan is intended to overcome historical piecemeal management of ocean resources through a comprehensive ocean management plan,

Funding Source(s)/Level:

1. **Massachusetts Ocean Act**

No new state funds were provided for the Ocean Plan process. Federal Coastal Zone Management funds to the Massachusetts Coastal Management Program were programmed to support staffing to implement the Ocean Act and develop the [Massachusetts Ocean Plan](#). Existing state funds were redirected by the Division of Marine Fisheries (data mining/analysis, report writing, policy development) and the Division of Fish and Wildlife (ditto), and the Department of Environmental Protection (regulatory/policy support).

The Oceans Act (Sec. 20) requires the Secretary of Energy and Environment to impose an “ocean development mitigation fee” on all permits or licenses (except recreational fishing licenses) to support a fund that will be allocated to address impacts associated with particular projects and to fund other ocean planning/resource projects. The amount of mitigation funds to be required and any allocation requirements will be determined by the EEA Secretary, in consultation with resource agencies. The so-called mitigation “trust fund” currently contains approximately \$1 million from a recent pipeline project; no allocation decision has yet been made. The trust fund will enable funding of some priority items in the science framework.

2. [Massachusetts Ocean Partnership](#)

The Massachusetts Ocean Partnership is a 501(c)(3) foundation created to provide a collaborative forum for stakeholder and public agency interaction to support to the ocean planning process. The Gordon and Betty Moore Foundation (www.moore.org) provided \$8 million to the Partnership to fund development of the Massachusetts Ocean Plan. The University of MA Boston/McCormack Graduate School of Policy Studies (UMB/MGS) serves as MOP’s fiscal sponsor to administer the grant award. Of the \$8 million used to develop the plan, approximately \$2 million remains to be used to address the science priorities identified in [Vol. 2, Science Framework](#), to address such issues as habitat characterization, cumulative impacts, etc., under the 5-year science plan.

Key Program Elements:

1. [Massachusetts Coastal Zone Management Program](#)

The MA Coastal Program is housed within the Department of [Energy and Environmental Affairs](#) (EEA), which has the responsibility for developing and implementing the Massachusetts Ocean Plan.

2. [Massachusetts Ocean Plan](#)

The [Ocean Plan](#) was released January 4, 2010, by the Governor. The Secretary of Energy and Environmental Affairs (EEA) has the responsibility for implementing the [Ocean Plan](#). The Plan recognizes that the ocean is a public trust resource and that the Commonwealth must effectively manage the protection and use of its waters on behalf of the public for the benefit of current and future generations. The Ocean Plan:

- Sets forth the Commonwealth’s goals, siting priorities and standards to ensure the effective stewardship of ocean waters;
- Identifies and protects critical resources;
- Supports the development of sustainable uses, renewable energy, and necessary infrastructure;
- Establishes measures that minimize conflict between existing uses and new uses; and
- Provides a foundation for ongoing study and evolving management of the ocean environment

With the exception of fisheries management, which is expressly exempt from the jurisdiction of the plan, all approvals by state agencies for ocean activities within the planning area must be consistent with the plan. The Secretary of Energy and Environmental Affairs will amend agency regulations to bring them into conformance with the new siting and performance standards in the plan.

A 17-member [Ocean Advisory Commission](#) advised the Secretary as the staff of the Executive Office of Energy and Environmental Affairs developed the Ocean Plan. Advisory Commission members included state legislators (both House and Senate), state agency representatives, and stakeholders. The Ocean Plan calls for an inter-agency group to serve as the EEA Ocean Team to assist the Secretary in serving his oversight, coordination, and planning authority functions.

A nine-member [Ocean Science Advisory Council](#) provided technical and scientific assistance from nine scientists with expertise in marine sciences and data management.

3. [Massachusetts Ocean Partnership](#)

The Massachusetts Ocean Partnership (MOP) is a broadly representative, independent public-private partnership of [63 members](#) created specifically to advance ecosystem-based integrated multi-use management of the Commonwealth's coastal ocean waters. MOP ultimately aims to promote healthy, resilient ocean ecosystems and thriving, sustainable marine dependent communities, industries and businesses through implementation of the goals and objectives outlined in the [Five Year Strategic Plan](#).

The Massachusetts Ocean Partnership provided funding for the following to support the Ocean Plan:

- [Planning Framework Options for the Massachusetts Ocean Plan](#) - A technical report prepared by the UMass Boston Planning Frameworks Team that describes nine elements essential to the framework for the Massachusetts Ocean Management Plan and its implementation.
- [Stakeholder Participation in Massachusetts Ocean Management Planning: Observations on the Plan Development Stage](#) - A technical report prepared by the Consensus Building Institute that describes the outreach effort to the public and ocean-use stakeholder groups from June 2008 through May 2009.
- [Characterization of Community-Specific Spatial and Socio-Economic Linkages to Massachusetts Waters](#) - A technical report prepared by Industrial Economics, Incorporated and Massachusetts Department of Marine Fisheries that examines the areas of the state's waters that are of particular importance to specific communities.
- [An Integrated Statewide Ocean Data Network](#) - A technical report by Applied Science Associates (ASA) to investigate and prepare recommendations on an ocean data network to facilitate integrated multi-use ocean management in Massachusetts.
- [Developing a Framework for Compensatory Mitigation Associated with Ocean Use Impacts on Commercial Fisheries](#) - A technical report prepared by Industrial Economics, Incorporated that discusses appropriate means of establishing fees for the mitigation of economic impacts on commercial fisheries.
- [Compatibility Determination: Considerations for Siting Coastal and Ocean Uses](#) - A technical report prepared by the UMass Boston Planning Frameworks Team that provides a compatibility determination as a tool for considering the appropriate locations for activities, uses and facilities relative to one another.
- [Science Tools to Implement Ecosystem Based Management in Massachusetts](#) - A technical report prepared by MRAG Americas, Incorporated, Woods Hole Oceanographic Institute, and UMass Boston that provides a framework for implementing Ecosystem Based Management and suggests a range of science information tools and their appropriate application to the decision making process.

4. [Massachusetts Ocean Partnership Science Program](#)

The goal of MOP's Science Program is to develop and improve the natural and social scientific understanding necessary to do effective integrated multi-use ocean management, and advance the integration of that science into management decision-making. The Science Program has five primary objectives:

- Facilitate development of planning framework for integrated multi-use ocean management in Massachusetts;
- Catalyze and coordinate development of scenario analyses, models and other tools to support integrated multi-use ocean management planning and decision-making;
- Improve integration, interoperability and information management of ocean data, research and monitoring;
- Support development of and communication about indicators of the ocean's capacity to provide ecosystem services for non-scientific audiences; and
- Support enhanced coordination among the science, management and policy communities.

Coordination Functions:

The Ocean Plan calls for an inter-agency group, the Ocean Team, to assist the Secretary for Energy and Environmental Affairs in serving his oversight, coordination, and planning authority functions.

Linkage of Science to Management:

The Ocean Plan includes a [Science Framework](#) to support the concept of adaptive management and guide future scientific research and data acquisition to ensure that the plan can evolve to incorporate new and enhanced information and understanding. The key actions to support the Science Framework are organized by six general themes:

- Ecosystem monitoring, characterization, mapping, and classification
- Human-use characterization and mapping
- Ecosystem models and decision-support tools
- Applied scientific research
- Ecosystem and management performance indicators
- Integrated data management and communication network

Data Collection/Sharing/Infrastructure:

The Massachusetts Coastal Zone Management Program has developed an on-line spatial data and mapping tool called [MORIS](#)—the Massachusetts Ocean Resource Information System that is used to:

- Provide spatial data that are, to the extent possible, accurate, scientifically sound, and credible.
- Provide information to decision makers, planners, and the general public that can be used to strengthen environmental policy and guide management decisions.
- Use a collaborative, interactive process that involves a variety of partners and data sources.
- Ensure that the data are available in an easily accessible and useful manner.

MORIS is currently being updated to provide data/maps associated with final draft of ocean management plan.

Applied Science Associates (ASA) prepared recommendations in a report, [Data Network Design](#), for an ocean data network to facilitate integrated multi-use ocean management. This network is an infrastructure of data, systems, services, and tools that allow a variety of users including the public, coastal managers, and research scientists to access “live” and archived data related to coastal and ocean management. This may include maps, observations, and model data. The report notes that a considerable amount of work has already been completed by state and federal agencies and recommends that MOP should take advantage of existing systems while taking the lead in strategic places to connect the pieces. The report reviewed existing observation systems, regional initiatives, existing infrastructure, data management concepts, and the need to leverage existing efforts, including the existing GIS infrastructure at MassGIS.

Four key concepts for a successful data network design are given:

- Focus on interoperability and use of existing science tools with commercial Web 2.0 concepts;
- Leverage existing global, national, and regional efforts and use the general guidelines provided by the National IOOS DMAC concept of operations
- Provide tools and “glue” to integrate legacy systems as opposed to redesigning components
- Focus on meeting user’s needs

The report discusses challenges to such a network, including those related to technology (“glue”) needed to connect disparate data streams to different user groups, user issues, and the need to define user needs through a series of “use cases” so tools can be applied to the data for decision-making. The report concludes that the ability for the data network to bridge the gap between the science and GIS world with the rapidly evolving Web 2.0 world is key to effectively finding data and accessing data with existing commercial tools, and that this concept can potentially lead to significant breakthroughs.

The MA [Seafloor Mapping Cooperative](#) is a cooperative effort that was initiated in 2003 by the U.S. Geological Survey (USGS) and the Massachusetts Office of Coastal Zone Management (CZM). The National Oceanic and Atmospheric Administration (NOAA-NOS) is also an important partner and contributes hydrographic data that are integrated into the maps. The overall goal of this cooperative is to determine the geologic framework of the seafloor inside the 3-mile limit of State waters, using high-resolution geophysical techniques, sediment sampling, and seafloor photography.

Assessment: Strengths/Weakness

Strength:

- 501(c)(3) status of MOP allowed for flexibility, innovation, and speed in receiving and disbursing funds for projects and programs to support development of the [Ocean Plan](#) and, in the future, ocean management, research, and monitoring..
- The technical and scientific supporting documents for the [Ocean Plan](#) are very robust and provide a strong basis for developing specific programs to link science to management of ocean resources and uses.

Weakness:

- Lack of any state funding in the planning process or science support.
- the MOP identifies areas where wind energy may be suitable but has [not yet](#) done a fine-scale analysis of impacts.

Success/Failure

Success:

- The MA Ocean Plan is a very comprehensive plan prepared with a high level of scientific information and a wide range of stakeholder participation and support. That it has been prepared in approximately two years is very impressive.
- A robust partnership has been created through the MOP with a wide variety of stakeholders and interested parties.
- The technical and scientific support for on-going ocean planning and management is leading edge.

Weakness:

- The Ocean Plan has not yet been field tested.

Applicability to Oregon

The technical and scientific support for the Massachusetts Ocean Plan (i.e. the Scientific Framework and the Data Network Design) is an excellent model that Oregon should consider developing.

The Massachusetts Ocean Partnership, which has developed an extensive network of participating partners, including governmental, non-government, stakeholder, and business organizations, is a model that appears to be successful and for which Oregon has no analog.

Oregon may want to consider an “ocean development mitigation fee” such as required by the MA Ocean Act (Section 20) to support a trust fund for mitigation, research, and monitoring related to ocean uses.

The MORIS (on-line maps and data) is a model Oregon should study as an extension of the Oregon Coastal Atlas website.

Sources: Websites, correspondence with Deerin Babb-Brott, Assistant Secretary for Oceans and Coastal Zone Management, Massachusetts CZM and John Weber, Mass CZM Program.