Place Matters: Why CMSP Makes Sense in Coral Reef Ecosystems (+ Science Needs)

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Our Crowded Waters


Outer Continental Shelf Lands
Ocean and Coastal Mapping
Clean Water Act
National Historic
(NHPA)
Hydrographic Ser
Impro
National Marine
Sanctuaries Act (NMSA)
Coast & Geodetic
Survey Act of
1947
Fleet (RRF)
E.O.
Protection and Restoration
Submerged
Lands Act
Clean Air
Act (CAA)
E.O. 13158 – Marine Protected Areas (MPAs)
Coastal Barrier Resources Act
Wetlands
Natural
Act (NG
Coastal Zone
Management Act
(CZMA)
Waterways
Safety Act
National Invasive Species Act
Fishery Conservation Zones
National Environmental Policy
Act (NEPA)
Marine Plastic Pollution Research and
Control Act (MPPRCA)
Federal Power Act (FPA)
National Weather Service (NWS) Organic Act
Marine Mammal
Protection Act (MMPA)
(CRCA)
Marine
Security Act
Ocean Thermal Energy
Conversion Act (OTECA)
Federal Ocean Acidification
Research, and
Sanctuaries Act
Integrated Coastal and Ocean Observing System Act
Magnuson Act of 1950
Reef Ecosystem Reserve

Creating a National Ocean Policy

- National Ocean Policy
- National Ocean Council
- 9 National Priority Objectives
- Framework for Coastal and Marine Spatial Planning (CMSP)

Defining CMSP

What

- A comprehensive, adaptive, integrated, ecosystem-based, and transparent planning process, based on sound science, for analyzing current and anticipated uses of ocean, coastal, and Great Lakes areas.

How

- CMSP identifies areas most suitable for various types or classes of activities in order to reduce conflicts among uses, reduce environmental impacts, facilitate compatible uses, and preserve critical ecosystem services to meet economic, environmental, security, and social objectives.

Why

- In practical terms, CMSP provides a public policy process for society to better determine how the ocean, coasts, and Great Lakes are sustainably used and protected - now and for future generations.

A NOAA Vision for CMSP

Phase 1:

Setting the Regional Stage

CMSP begins locally by forming a Regional Planning Body (RPB) comprising ocean management agencies and tribes from coastal communities. The RPB then works with stakeholders to: (i) design the planning process; (ii) identify regional objectives and targets for CMSP; and, (iii) assess current capacities to conduct comprehensive regional planning.

Phase 2:

Assessing Regional Conditions

Next, the RPB compiles information on the region's marine ecosystems, including their: (i) structure, functioning, condition, cumulative impacts and services; (ii) current and emerging human uses; and, (iii) projected effects from climate change. The resulting data and maps are made available to any interested party through regional data portals linked to the National Information Management System (NIMS).

A NOAA Vision for CMSP, contd.

Phase 3: Matching Ocean Uses to Suitable Areas

The RPB then uses the scientific assessments and decision support tools to visualize and understand the implications of alternative choices for future ocean uses across the planning area. Guided by its regional objectives, the resulting regional CMS plan identifies and maps specific ocean areas most suitable to support different types of human uses while sustaining valued ecosystem functions and services.

Phase 4: Sustaining Long-Term Ocean Uses

The regional CMS plan then guides the future actions of participating ocean management agencies using their existing, independent legal authorities, mandates and programs to achieve the region's comprehensive objectives. Regional CMS plans will be evaluated periodically and adjusted to adapt to changing conditions, opportunities or needs.

Key Elements of CMSP

- Balance Ocean Health and Community Prosperity
- Fair and Open Process for All Stakeholders
- Make Decisions Based on the Best Available Science
- Respect the Unique Character of Each U.S. Region

Why Plan for Ocean Uses in Coral Reefs?

Why CMSP? Place Matters

Reef habitats are often patchy and not spatially homogeneous.

Their ability to sustain new uses may vary greatly over short distances.

Why CMSP? Tipping Points

Many coral reefs are stressed to the limit by bleaching, disease, water quality, etc.

Impacts of new uses may overwhelm resistance and tip the ecological balance.

Why CMSP? Vulnerable Habitats

Habitat forming organisms (e.g. corals, sponges) are highly vulnerable to physical damage.

Inappropriate human uses can destroy critical coral reef habitat.

Why CMSP? Forever Lost

Some structural damages to reefs are effectively permanent on human time scales.

Unplanned uses can have irreversible consequences.

Why CMSP? Ties That Bind

Coral reef habitats are often ecologically connected.

Localized decisions on ocean uses can have far wider ecosystem impacts.

Why CMSP? People

Coastal communities rely on healthy reef ecosystems.

Unsustainable uses may have unintended social, cultural and economic impacts.

So …

If there were ever an ecosystem where it makes sense to match uses to appropriate areas, it is a coral reef.

What do we need to know about the system and its uses?

When Does Science Come Into Play?

Regional Assessments

- of ecosystem functions, uses and services

Regional Objectives

- identifying and setting societal goals for specific areas

Tradeoffs Among Competing Uses

- evaluating implications of alternate ocean use scenarios

Projecting Future Conditions

- factoring in the effects of environmental change

Adaptive Management

- monitoring and evaluating effectiveness of CMS plans

CMSP Relies on Spatially Explicit Data on:

- Ecosystems
- Ocean Uses
- Tradeoffs
- Governance

Multipurpose Marine Cadastre (MMC)

CMSP Science and Process Challenges on Coral Reefs

- Choosing flexible, practical and meaningful planning scales
- Meaningfully engaging all stakeholders
- Embracing traditional ecological knowledge to fill key data gaps
- Anticipating future uses
- Accounting for climate change
- Providing user-friendly decision support tools

For More Information

www.whitehouse.gov/oceans

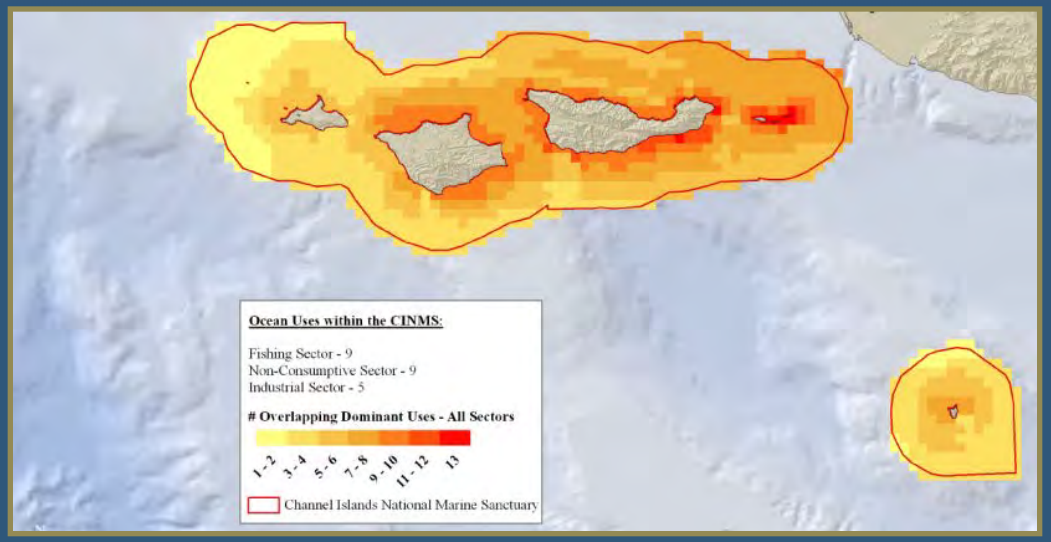
www.cmsp.noaa.gov

Q+A Slides

Ecosystem Science

- Important habitats, assemblages and populations
- Key oceanographic and ecological processes
- Linkages and connectivity among areas
- Provision of ecosystem services
- Cumulative impacts
- Vulnerability and thresholds

Ocean Uses



Channel Islands National Marine Sanctuary

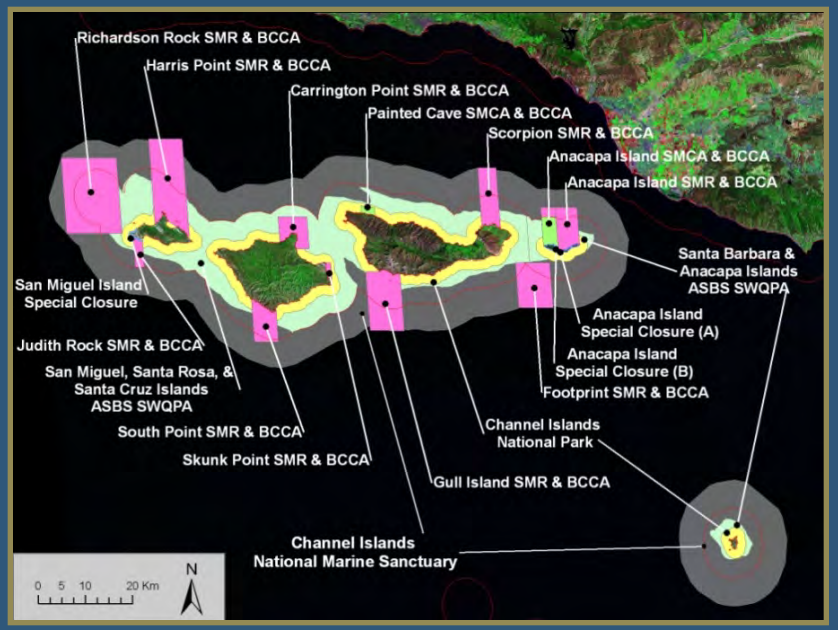
- Patterns of current uses of the ocean and coasts
- Projections of future uses
- Conflicts & compatibilities among co-occurring uses
- Socioeconomic drivers & benefits of uses

Tradeoff Analysis Tools

- Among competing uses
- Among desired ecosystem services
- Between current and future generations

Governance & Place-Based Management

- Place-based management measures
- Security/safety zones
- Leases and corridors
- Vessel traffic controls
- Jurisdictional overlap



Channel Islands National Marine Sanctuary

Informing Regional CMS Planning:
The National Information Management System

NOC agencies are working together to develop:

- National data portal for key federal data sets
- Regional portals with state, local and non-governmental data at scales relevant for regional planning
- Communities of practice
- Criteria and priorities for initial CMSP data sets
- Shared oversight and management

National Ocean Council

NATIONAL OCEAN COUNCIL
Principals / Deputies
Co-Chairs: CEQ/OSTP

Governance Coordinating Committee
State/Tribal/Local

Ocean Research and Resources Advisory Panel

Steering Committee
(CEQ, OSTP, Director, and Chairs of IPCs)

Office of Energy and Climate Change

National Economic Council

National Security Council

Ocean Research Management Interagency Policy Committee
Chair/Co-Chairs

Ocean Science and Technology Interagency Policy Committee
Chair/Co-Chairs

Working groups could be retained or established as standing or ad hoc Sub-Interagency Policy Committees (IPCs): e.g., Coastal and Marine Spatial Planning, Ocean Acidification, Ocean Observations, Mapping, Ocean Education, Climate Resiliency and Adaptation, Regional Ecosystem Protection and Restoration, Water Quality and Sustainable Practices on Land, and Arctic.

The Extended Continental Shelf Task Force and other designated interagency committees, as appropriate, would report to the Steering Committee and coordinate with the two IPCs.

Reporting
Coordination
Communication

NOAA Science Contributions

NOAA's broad ocean stewardship mandates provide unique data, products and tools, including:

- Ecosystem structure, functions and services
- Fisheries status and trends
- Protected species populations and threats
- Ocean use patterns and consequences
- Place based governance
- Tides and currents
- Navigation routes and hazards
- Cultural resources and areas
- Weather and climate projections

CMSP: A Regional Planning Process

Regional Planning Bodies

State, Tribal, and Federal representatives with authorities relevant to CMSP

CMSP Process

CMS Plan

Coordination/Engagement
- Local Authorities
- Indigenous Community Reps

Consultation
- Fishery Management Councils

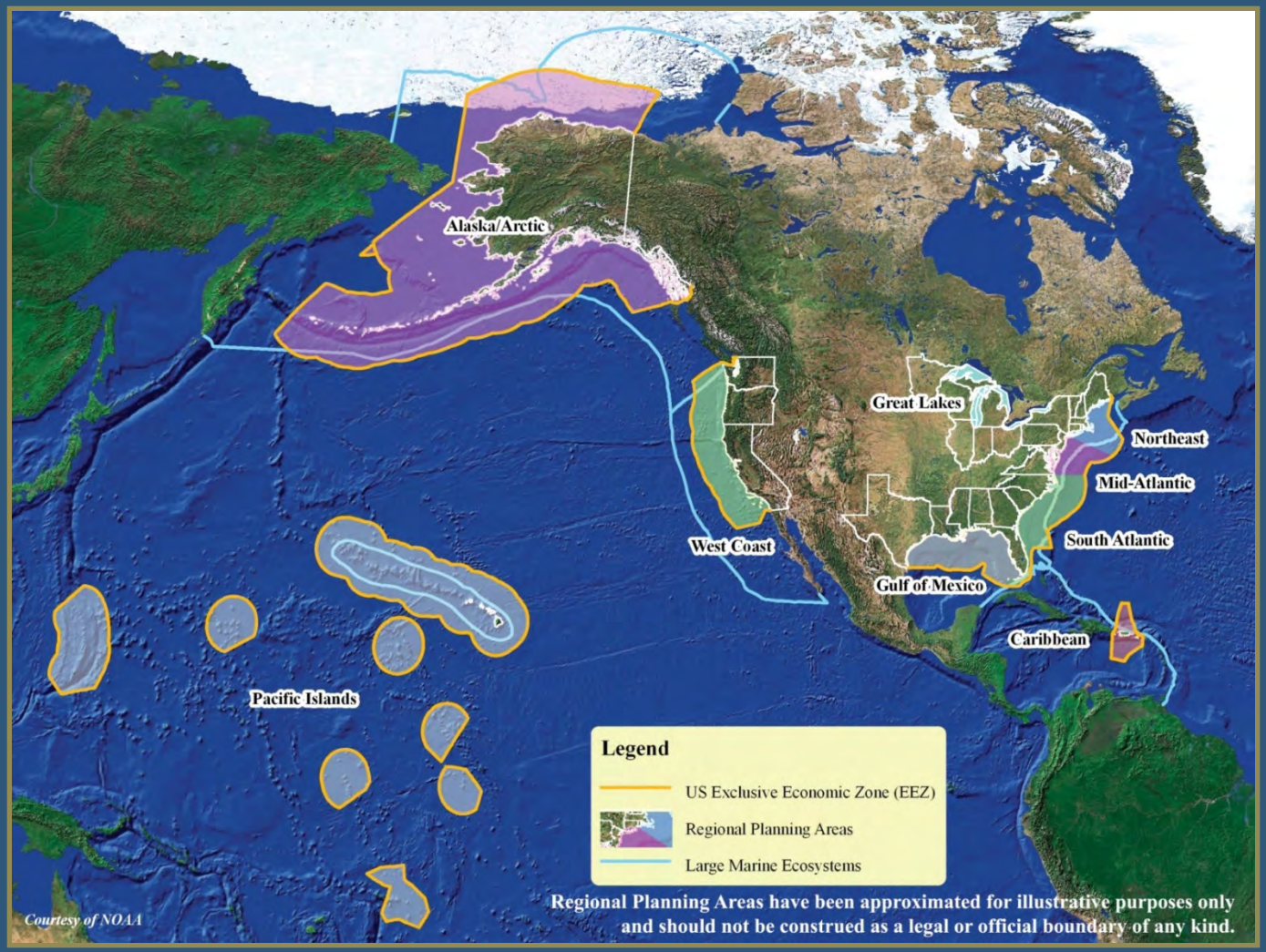
Engagement
- Stakeholders
- Scientists & Technical Experts
- Public

Framework: A Regional Planning Process

CMSP Process → **CMS Plan**

Phase I (1-12mo)	Phase II (9-24mo)	Phase III (18mo-5yrs)
• National CMSP Workshop • Establish RPBs • Regional CMSP Capacity Assessment • Launch Data Portal • Stakeholder/ Scientific/Public Participation Process	• Initial Regional Steps • Building Capacity and Testing CMSP Process • Work Plan Development and Submittal to the NOC • Stakeholder/ Science/Public Engagement	• CMSP Formally Implemented • CMS Plans Drafted • Final CMS Plans Certified by NOC • Stakeholder/ Science/Public Engagement

Regional Focus



Current National Level CMSP Activities

- National Workshop and Simulation Exercise was held June 2011
- Strategic Action Plan Development
- National Information Management System & Prototype Data Portal
- Formation of Regional Planning Bodies (RPBs)
- Regional Ocean Partnership Grants underway

National Workshop: Discussion Topics

- In advancing CMSP, the importance of:
  - science and evidence-based decisions
  - traditional knowledge and experience
- Representing existing local & regional entities
- Designing incentives to spur implementation
- How to strike the right balance between:
  - the need for regional flexibility and
  - the value of national consistency