Coastal and Marine Spatial Planning

Jena Carter, West Coast Marine Director
October 2011

What is CMSP?

Northern right whale v. Maritime commerce
national policy – cmsp timeline

state level planning

- Oregon
- Washington
- New Jersey
- Maryland
- Connecticut/New York
- Florida
- Rhode Island

unanswered questions

- How and when will the West Coast Regional Planning Body organize?
- What are the key objectives of planning?
- How much does a CMSP process cost? Who will pay?
- How will the different state and federal planning efforts align?

data & decision support tools
Oregon’s Territorial Sea Plan and Marine Spatial Planning

Paul Klarin
Department of Land Conservation and Development
October 2011

Oregon’s Territorial Sea (3nm) ~ 1,258 Square Miles

Oregon TSP Amendment Process
How we got here:
Governor’s Executive Order - March 2008
Oregon FERC MOU - March 2008
TSP Part 5 Adopted - November 2009*
President’s Executive Order – June 2009
Oregon BOEMRE Task Force – March 2011
* Phase 1 of the TSP amendment process

Oregon’s ocean planning framework:
Statewide Planning Goal 19, Ocean Resources
(mandates protection of important marine habitat and fisheries)
Oregon Ocean Resources Management Act (ORS 196.405)
(creates state-ocean governance structure)
Oregon Territorial Sea Plan (TSP)
(contains specific policies for state ocean management)
State Agency Authorities and Programs
Ocean Policy Advisory Council (OPAC)

Statewide Goal 19 Ocean Resources
PROTECT:
■ Renewable Marine Resources – i.e. Living Marine Organisms;
■ Biological Diversity & Functional Integrity of Marine Ecosystems;
■ Important Marine Habitat;
■ Areas Important to Fisheries – commercial and recreational;

Phase 2. Spatial Mapping Process
Data Collection and Tool Development Status
- Commercial and recreational fisheries data collected through local advisory committees for areas important to fisheries (Winter 2011)
- Ecological data: Oregon Dept Fish and Wildlife and The Nature Conservancy (Summer 2011)
- Seafloor bathymetric and image data (Summer 2011)
- Recreational ocean use: on-line surveys (Fall 2010)
- Other spatial data on human uses, managed resources, physical conditions, and shoreland facilities (Fall 2010)
- Oregon MarineMap (January 2011)
Oregon TSP Partnership
- State Agencies: DLCD/ODFW/DSL/OPRD
- Federal agencies: FERC, BOEM, NOAA, NMFS
- OCZMA: local governments, ports and special districts
- Community Advisory Committees (Renewable Energy) POORT, SOORC, FINE, FACT, NSAT, FDOORC
- OWET
- OPAC \ STAC
- Ecotrust
- Surfrider Foundation
- Conservation Community (TNC, OSCC, Our Ocean)

Marine Ecosystem

Fisheries

Other Marine Users

Overview: Geospatial Analysis to derive Areas Protected by Goal 19
MarineMap


Acknowledgements: Oregon Dept. of Fish and Wildlife, Oregon Dept. of Land Conservation and Development, Ecotrust, Oregon Wave Energy Trust
Bull Kelp (polygons)

Goal 19 Selected Cells

Fishing Value Maps - Garibaldi

Formula for Success

Political & Policy Framework is in place:
- 25 years of state ocean planning:
  - Statutory direction & expectations
  - Ocean management policies (in state CZMP)
  - Tested process (agencies, stakeholders)
  - Literacy/expectations among the public

Technical Framework is in place:
- State agency science/technical capacity
- Academic research capacity at OSU/UO, etc
- Technical expertise from NGO, university partners
- IT capacity within state CZM program

Partnerships, leveraging, and trust

Benefits of Marine Spatial Planning

For industry and stakeholders:
- Increases certainty for investments
- Reduces costs in time and effort at project scale
- Strengthens industry – industry ties

For government:
- Promotes better decisions
- Streamlines, clarifies decision process
- Reduces the Oops! Factor

For public:
- Provides transparency
- Preserves wide range of public values
Conclusion:

**Oregon’s TSP Process**
- Takes time
- Takes effort
- Takes funding

**But:**
- It beats the alternatives (e.g. settlement agreements, lawsuits and appeals), and it's a cost-effective means of doing business because it
- Improves certainty for private and public investments;
- Reduces (but does not eliminate) political blowback.
Ocean Renewable Energy and Decision Making
Paul Manson, Hatfield School of Government

Basics of Ocean Renewable Energy
Hydrokinetic Devices (Wave/Tidal)
Wind Devices (Near-shore & Off-shore)

Wave Devices
- Attenuator
- Point Absorbers
- Pressure Differential
- Surge Devices

Questions: Will they work? What will the impacts be?
- Ecological
- Economic
- Social

Key Findings
- Focus on ecosystem services based analysis
- Target specific data needs
- Improve use of existing knowledge
- Increase focus on refining and developing decision support tools

http://www.whitehouse.gov/administration/eop/ostp/pcast/docsreports
The Problem:

“Despite the abundance of data that come from existing monitoring programs, decision makers at every level lack sufficient information—that is, the results of analysis and interpretation of data.” (emphasis added)

- President’s Council of Advisors on Science and Technology. Sustaining Environmental Capital: Protecting Society and the Economy” July 2011

Types of Tools

- Participatory GIS (MarineMap)
- Optimization Tools (Marxan)
- Deterministic Models (OWET CEAT)
- Bayesian Decision Support (BOEMRE BASS)

Planning Efforts

- Massachusetts Ocean Plan
- California Marine Life Protection Act
- Oregon Territorial Sea Plan

Participatory and Optimization

- User driven by values and concerns
- Science via expert inputs and reference maps
- Example: Oregon TSP Process

Decision Support Tools

Manage Data, Values, and Relationships

- Raw Data
- Data Library
- Decision Engine
- User Interface

Cumulative Effects Analysis Tool

- OWET Funded Study
- International Inputs
- Effort to Support NEPA/ESA Reviews
Scenario Analysis

- Functions
- Attributes

Analytical framework structure

- Baseline
- Development elements
- Input maps
- Interaction matrices
- Core modeling process
- Output maps

Concept Models

Some Challenges

- Data Gaps
- Uncertainty
- Black-Box Perception
Bayesian Analysis

- Probability Driven
  - Conditional probabilities to capture complex uncertainty
- Partners
  - Oregon State University
  - Robust Decisions
  - The Nature Conservancy

- Multiple Models and Inputs
- Various Reviewers
- Allows for Non-Existent Data

Conditional Probability Tables
- Engine for decisions
- Creates probabilities
- Allows for analysis of value of information

Final Thoughts
- Decision Support is just that: **Support**
- Need to **capture multiple understandings** of the natural and social environment
- Need to share with terrestrial experience
Contact

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