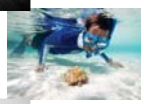
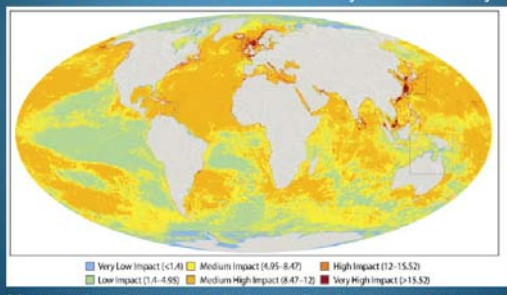




Coastal and Marine Spatial Planning

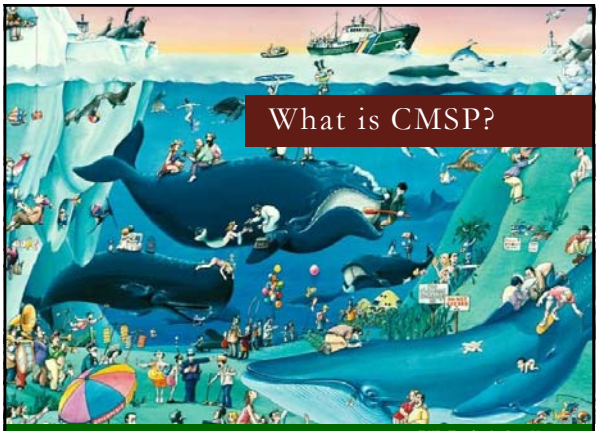
Jena Carter, West Coast Marine Director
October 2011

The Nature Conservancy

No area of the ocean is untouched by human activity

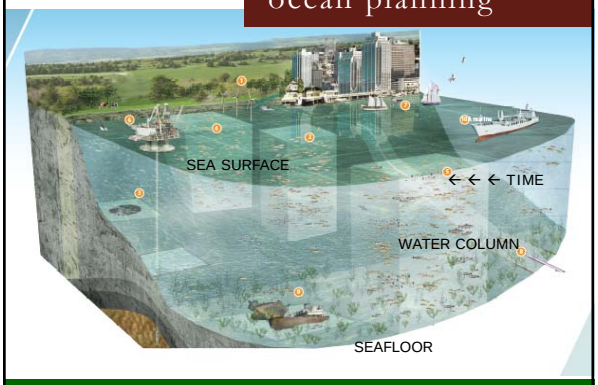


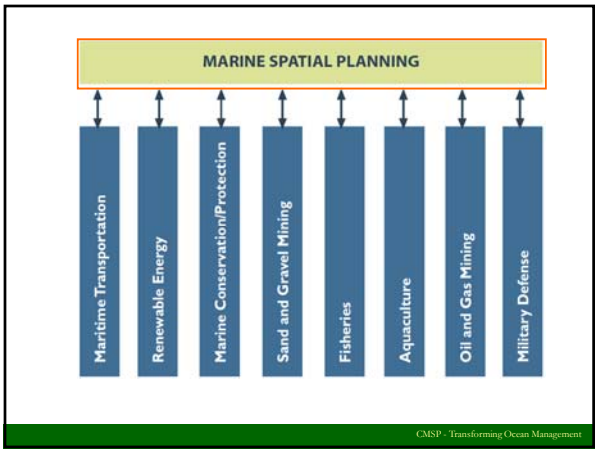
Many marine places are under increasing development pressures....



What is CMSP?

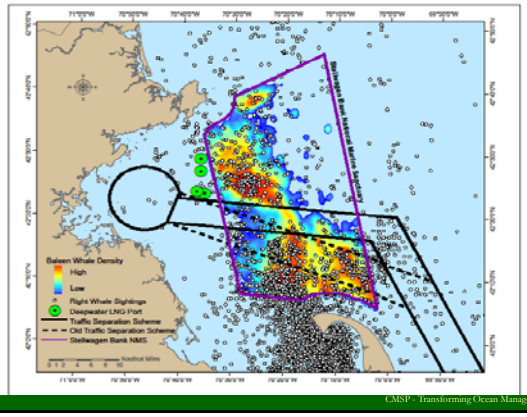
ocean planning





northern right whale v. maritime commerce

Example of the Potential Benefits of CMSP: Stellwagen Bank National Marine Sanctuary



wind v. commerce v. fisheries

Activities Around the Massachusetts RFI Area

SouthCoastTODAY.com

NEWS SPORTS OPINION ENTERTAINMENT LIVING SPECIAL REPORTS SIGHTS & SOUNDS

Wind farms presentation draws howls of resentment from fishermen

By **Steve Urbon**
surbon@s-t.com
February 17, 2011 12:00 AM

NEW BEDFORD — Frustrated, angry and skeptical fishermen unleashed their criticism Wednesday to a group of state and federal officials who had come to town to talk about wind farms south of Nantucket.

Text Size: A | A | A
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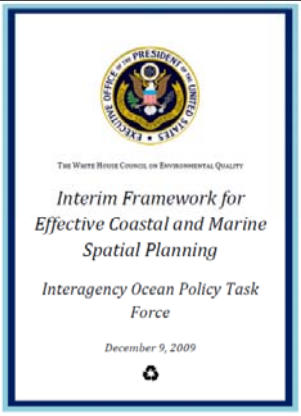
MOST VIEWED STORIES
• Selectmen reconsider order to



THE WHITE HOUSE COUNCIL ON ENVIRONMENTAL QUALITY

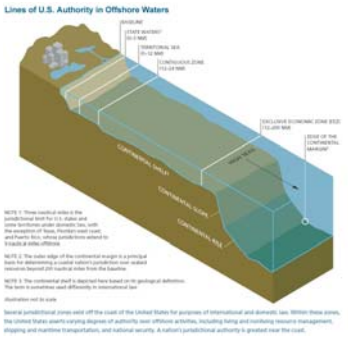
Interim Framework for Effective Coastal and Marine Spatial Planning

Interagency Ocean Policy Task Force

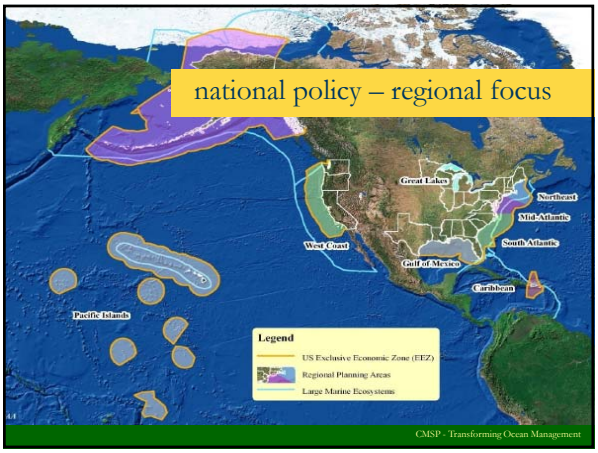
December 9, 2009

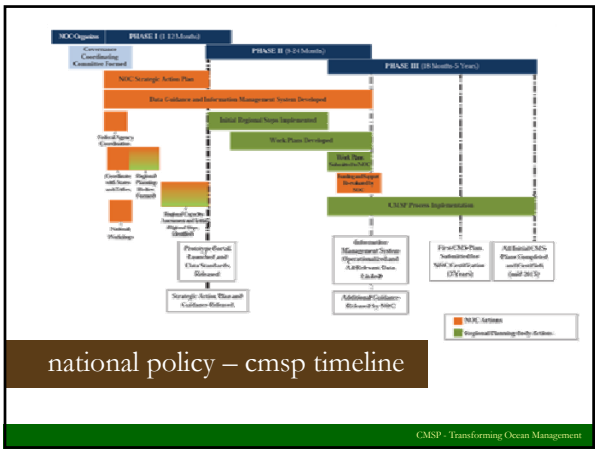
national ocean policy

federal waters



national policy – regional focus



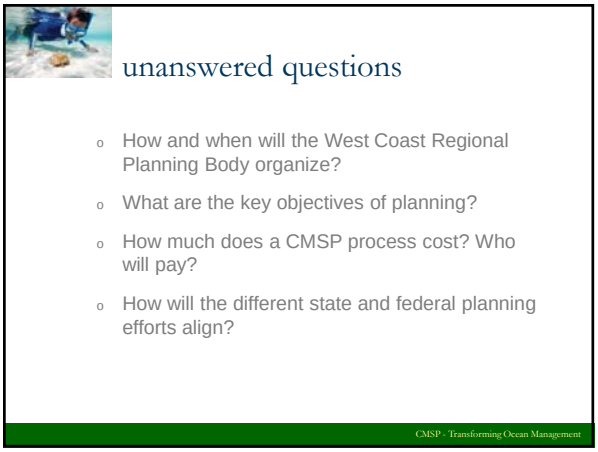


national policy – cmsp timeline

state level planning

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

data & decision support tools



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?

Oregon's

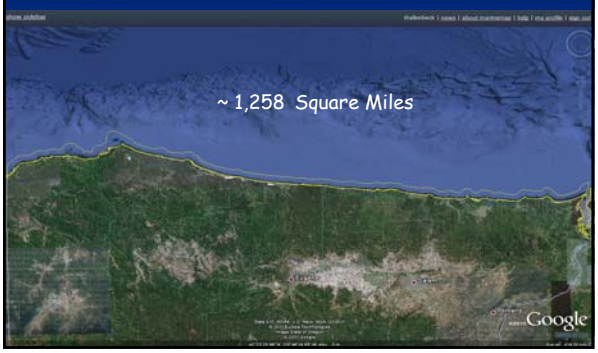
Territorial Sea Plan

and

Marine Spatial Planning

Paul Klarin
Department of Land Conservation and Development
October 2011

Oregon's Territorial Sea (3nm)



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;**
- **Beneficial Uses: Navigation, Recreation, Food Production, Aesthetic, Seafloor Uses.**

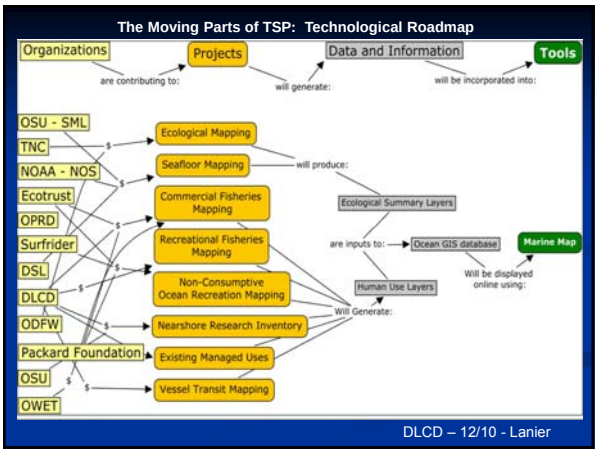
Phase 2. Spatial Mapping Process

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, FOORC
- OWET
- OPAC \ STAC
- Ecotrust
- Surfrider Foundation
- Conservation Community (TNC, OSCC, Our Ocean)

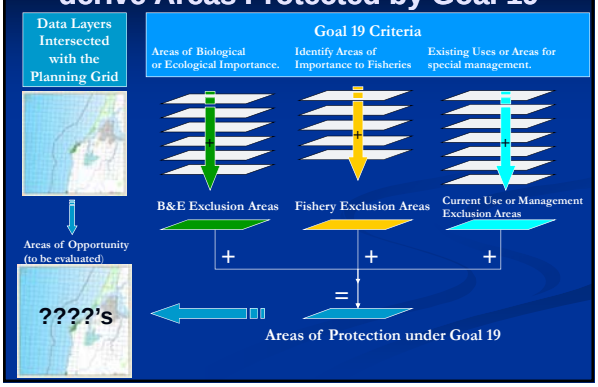


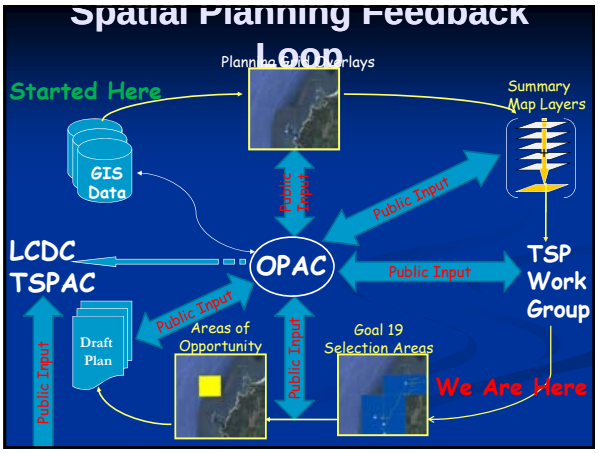
Marine Ecosystem

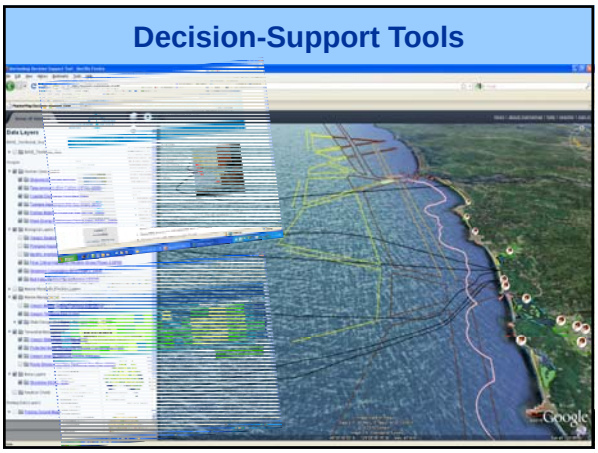
Fisheries

Other Marine Users

Overview: Geospatial Analysis to derive Areas Protected by Goal 19







MarineMap

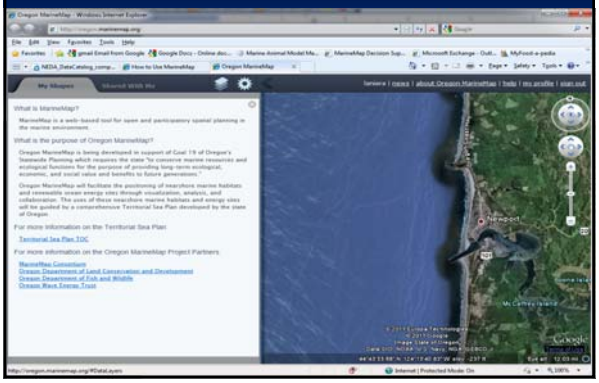
- Http://Oregon.MarineMap.org

Acknowledgements: Oregon Dept. of Fish and Wildlife, Oregon Dept. of Land Conservation and Development, Ecotrust, Oregon Wave Energy Trust

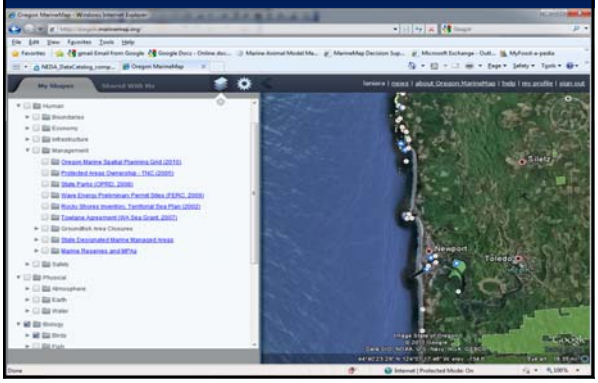
MarineMap Function

- Introduction
  - Requirements:
    - Compatible Browser
    - Google Earth Plugin
  - Orientation
    - Navigation Tools
    - Standard Google Earth Tools
    - Oregon Data Layers/Google Earth Layers
- Using Oregon MarineMap
  - Visualizing Data
    - Scale Dependent Views
    - Identifying Features
  - Areas of Inquiry
    - Creating/Uploading
    - Editing
    - Sharing
    - Downloading
  - Reports
    - Viewing
    - Downloading

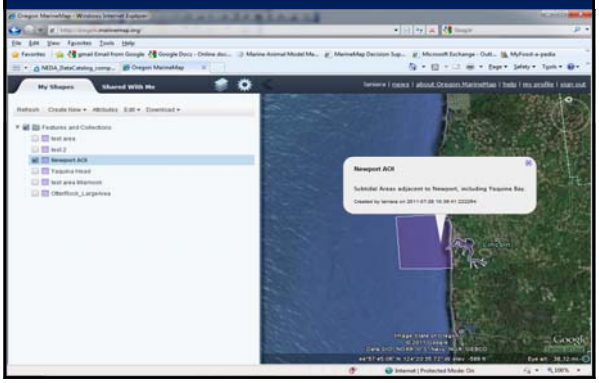
Orientation - Navigation



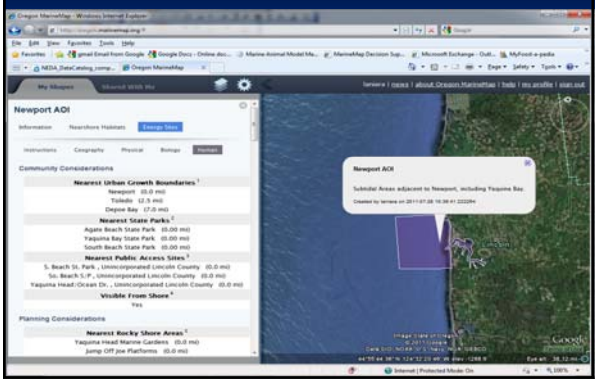
Using Oregon Marinemap



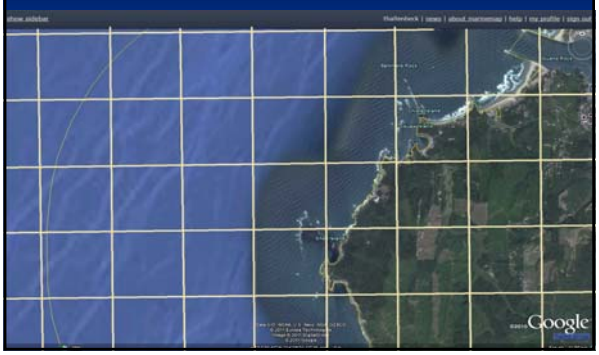
Using Oregon Marinemap



Using Oregon Marinemap

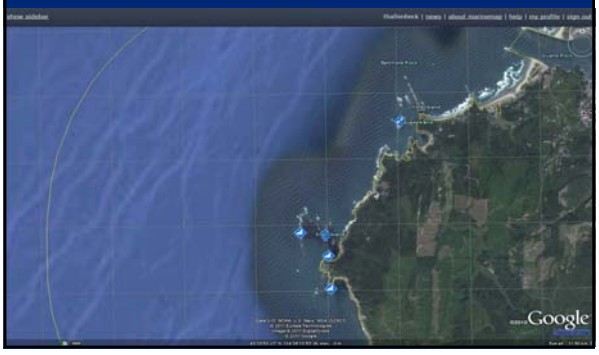


Statewide Planning Grid (1nm^2)

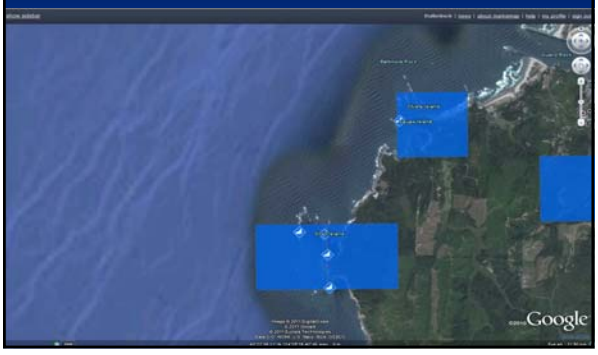


Statewide Planning Grid (1nm^2)

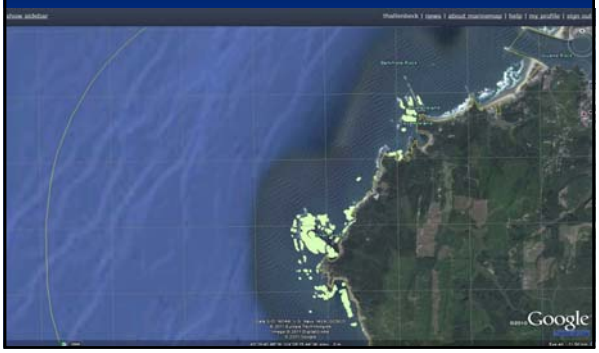
Pinniped Haulouts (points)



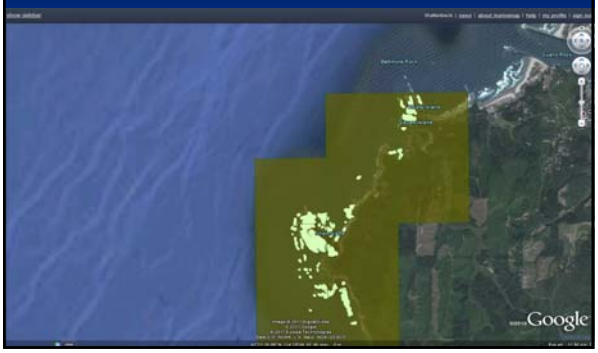
Goal 19 Selected Cells



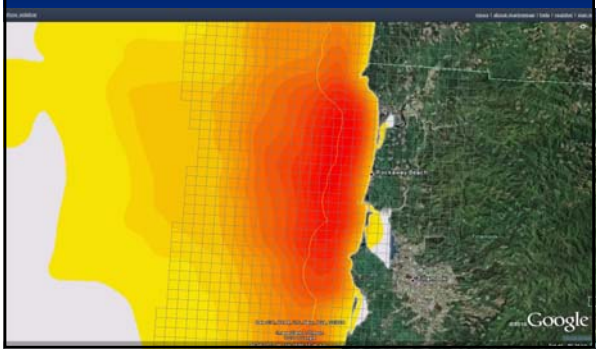
Bull Kelp (polygons)

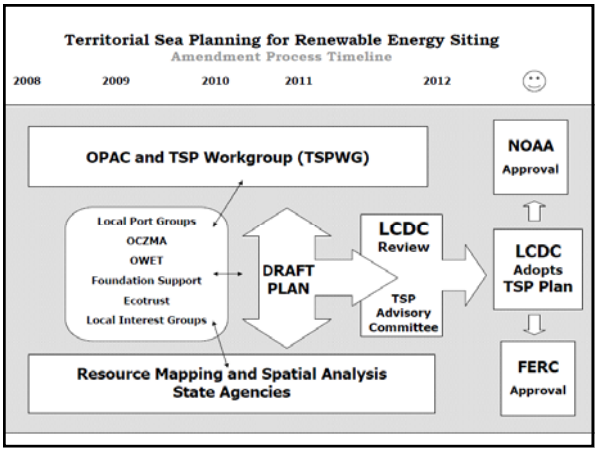


Goal 19 Selected Cells



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:

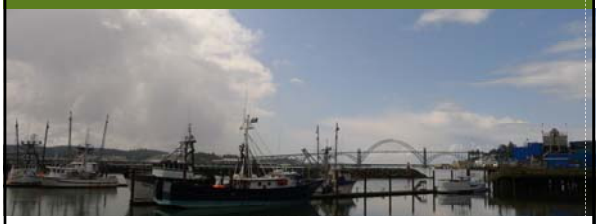
It beats the alternatives (e.g. settlement agreements, lawsuits and appeals), and it's a cost-effective means of doing business because it

- 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



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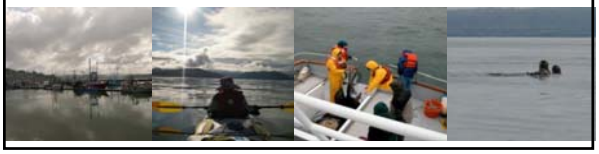
Questions: Will they work? What will the impacts be?

- Ecological
- Economic
- Social



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Basics of Ocean Renewable Energy

Hydrokinetic Devices (Wave/Tidal)

Wind Devices (Near-shore & Off-shore)

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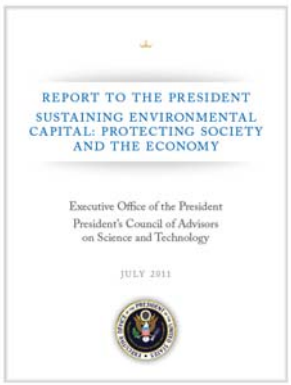

http://www.whitehouse.gov/administration/eop/ostp/pcast/docsreports

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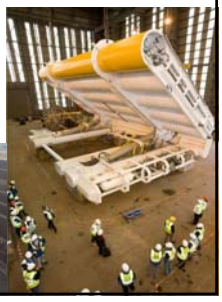
Wave Devices

- Attenuator
- Point Absorbers
- Pressure Differential
- Surge Devices



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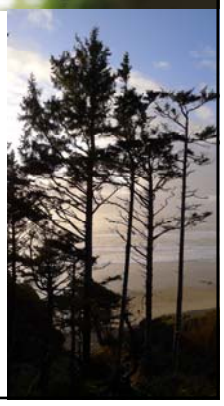
Key Findings

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



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)*

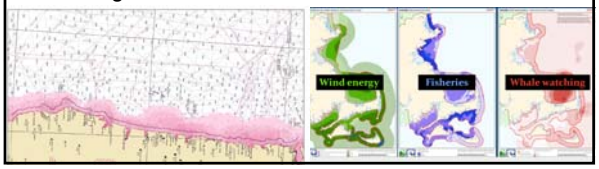
-President's Council of Advisors on Science and Technology. *Sustaining Environmental Capital: Protecting Society and the Economy"* July 2011

Types of Tools

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

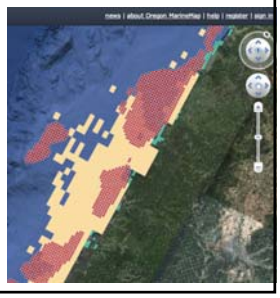
Planning Efforts

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



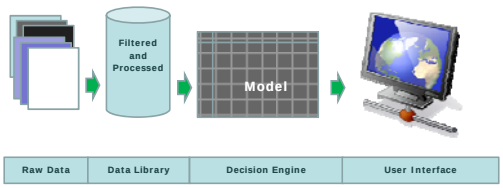
Participatory and Optimization

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



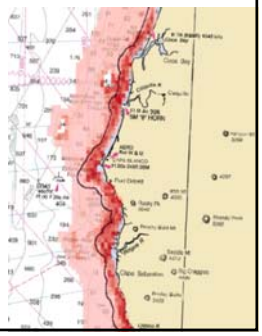
Decision Support Tools

Manage Data, Values, and Relationships



Cumulative Effects Analysis Tool

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



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Scenario Analysis

Functions

Attributes

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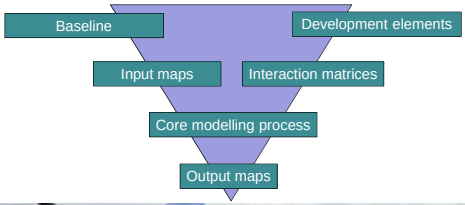
Analytical framework structure



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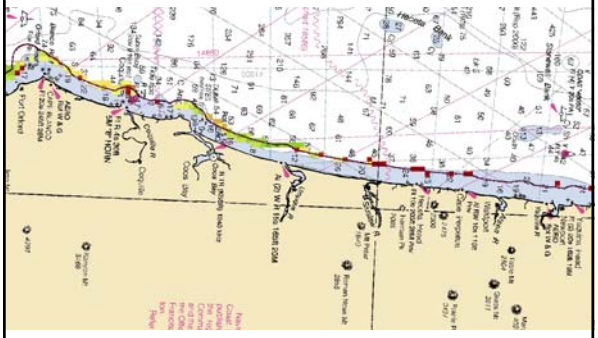

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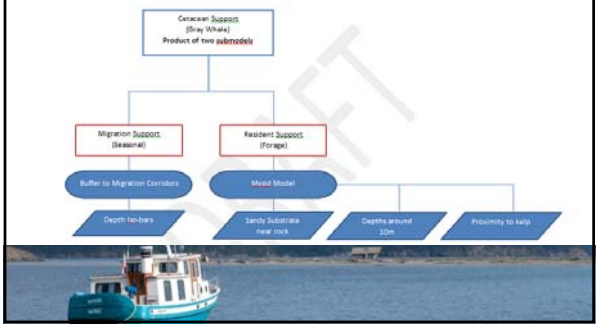
Concept Models



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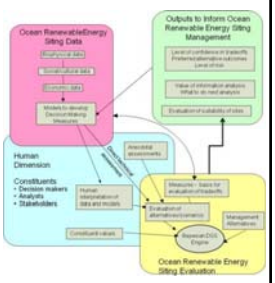
Some Challenges

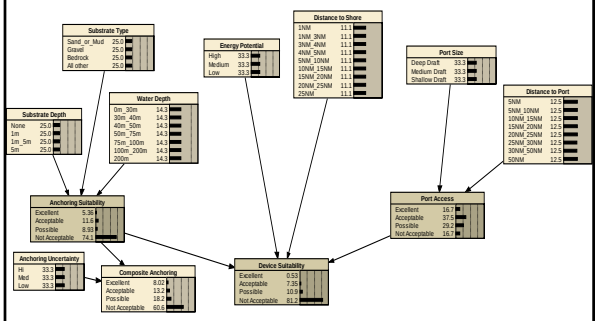
- Data Gaps
- Uncertainty
- Black-Box Perception

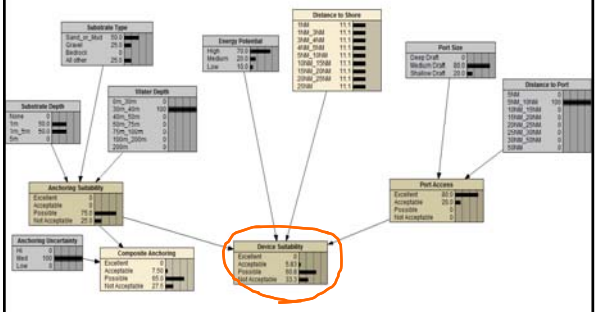
Bayesian Analysis

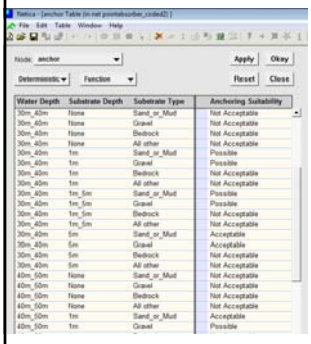
- Probability Driven
  - Conditional probabilities to capture complex uncertainty
- Partners
  - Oregon State University
  - Robust Decisions
  - The Nature Conservancy



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



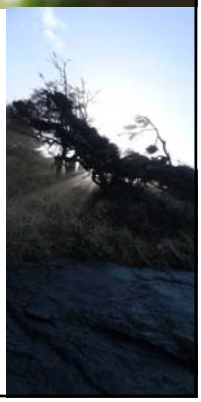




- Conditional Probability Tables
  - Engine for decisions
  - Creates probabilities
  - Allows for analysis of value of information

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



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Hatfield School of Government
Public Affairs and Policy PhD Program

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National Oceanographic Partnership Program
Bureau of Ocean Energy Management (BOEM), Department of Energy (DOE) and the National Oceanic and Atmospheric Administration (NOAA)