



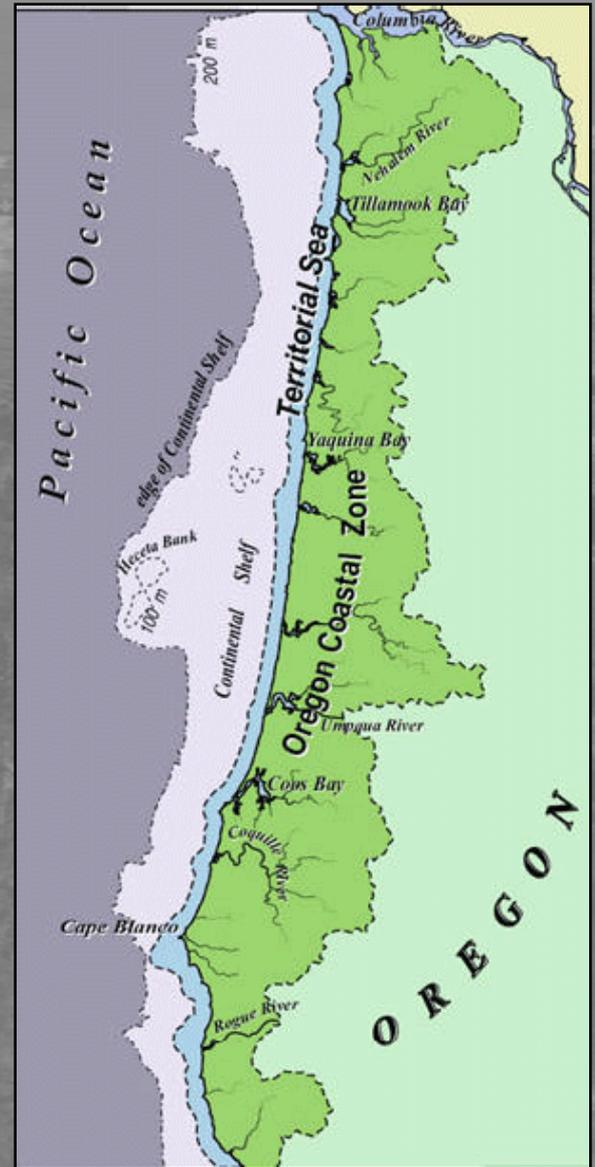
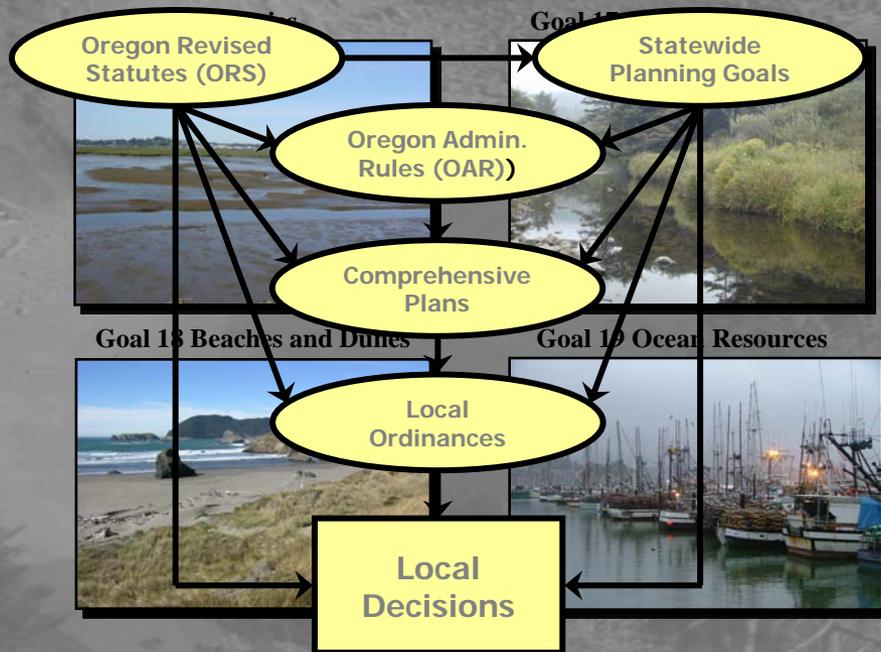
## **Ocean information products in support of Oregon's Marine Reserve Planning Process**

*Andrew S. Lanier, Tanya Haddad, Bob Bailey*

# Oregon Coastal Management Program

## Mission

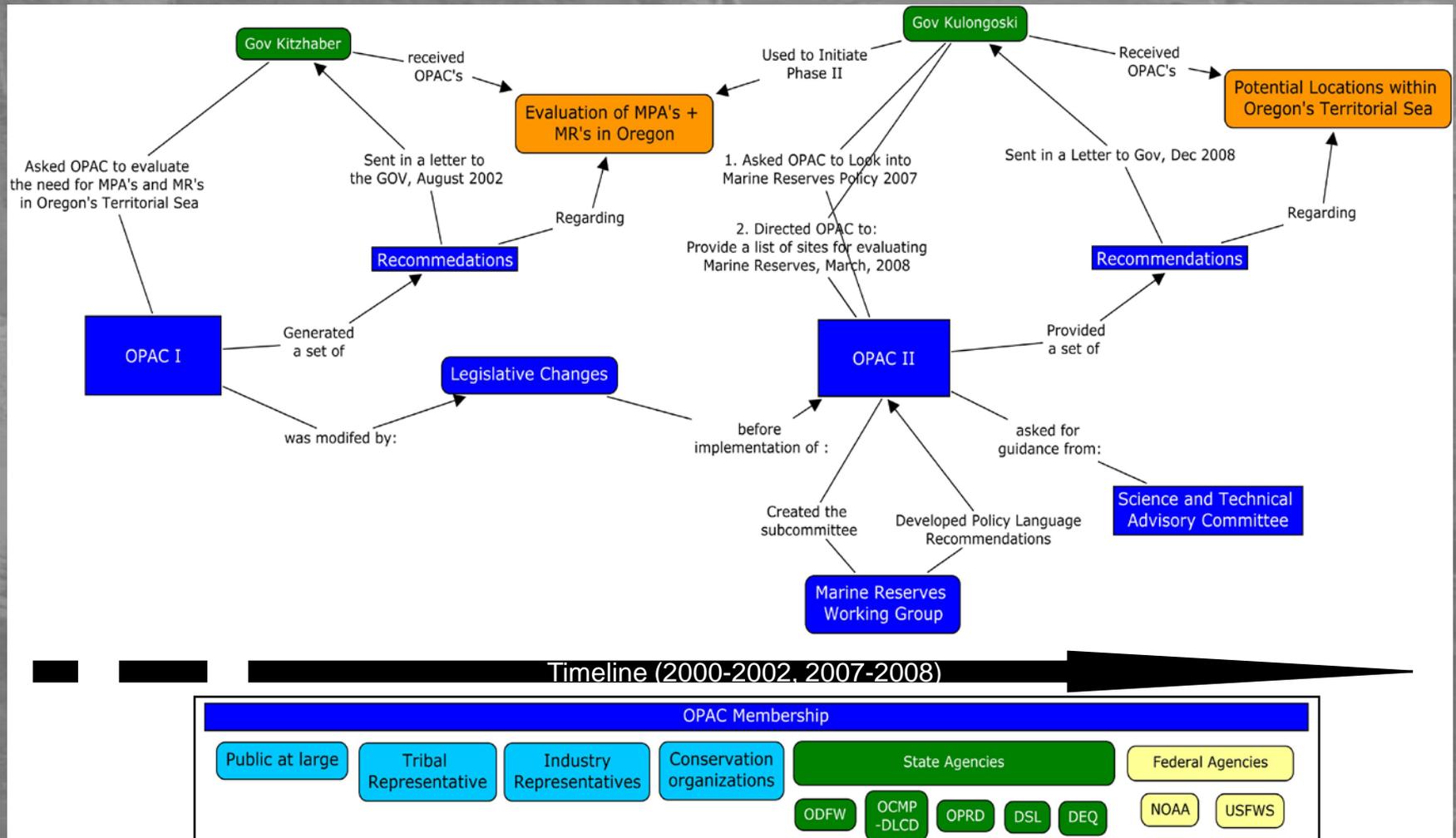
To work in partnership with local governments, state and federal agencies, and other stakeholders to ensure that Oregon's coastal and ocean resources are managed, conserved, and developed consistent with statewide planning goals. Four statewide planning goals specifically concern the use and management of coastal resources. In particular, Oregon's policy on ocean resources is based on Statewide Planning Goal 19.



**Goal 19:** seeks to *conserve the long-term values, benefits, and resources of the ocean*. It gives highest priority of use to management of renewable marine resources over nonrenewable, proclaims that the state has interests in ocean resource management in an Oregon Ocean Stewardship Area that extends seaward across the continental margin, and *emphasizes protection of biodiversity and habitats*.

# Marine Reserves Process

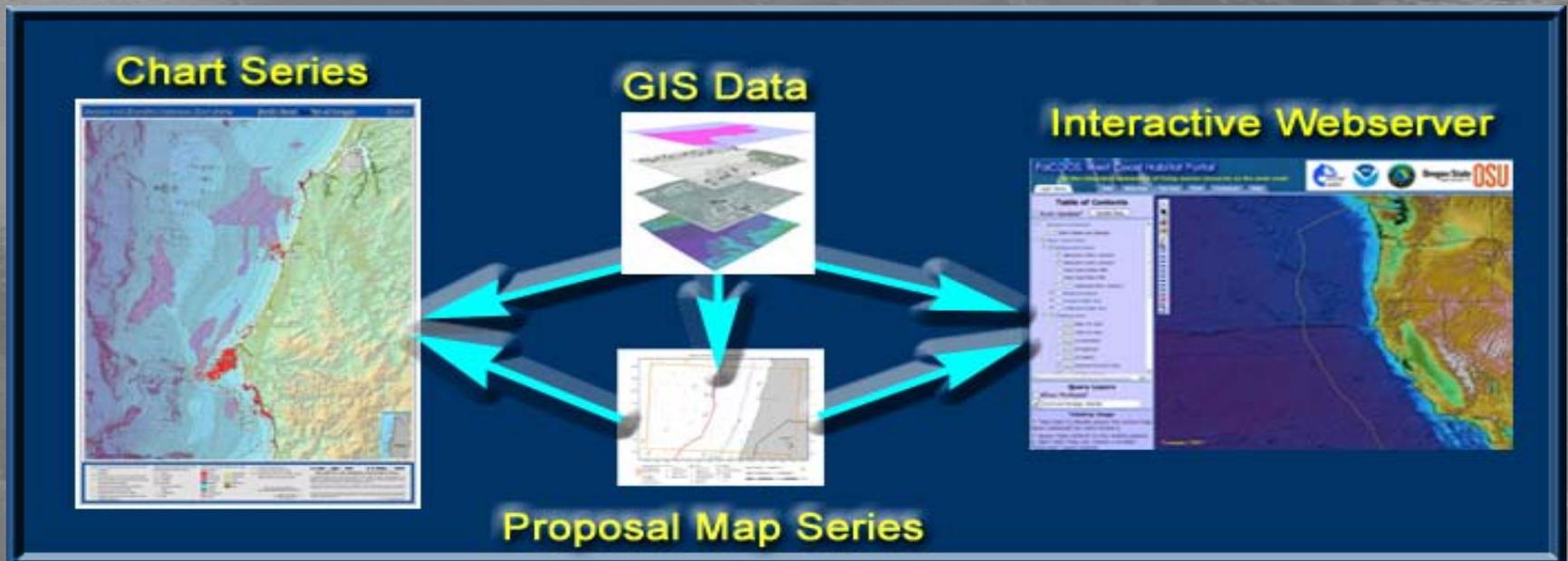
Concept map of Oregon's Marine Reserve Process (2000 – 2008)



# Marine Reserves Process

## Products include:

- Comprehensive Marine GIS data list
- Metadata library
- Mapping Products
  - Thematic Chart Series
  - Marine Reserve Proposal Maps
  - Interactive Web Mapping Capabilities
- Marine Reserves Website

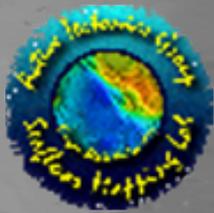


# Oregon Marine and Coastal Mapping Group

## Territorial Sea Mapping Group evolved...

Formed in the fall of 2007

- Provided mapping and technical support for the Ocean Policy Advisory Council and the Governor's Office in the arenas of marine reserves and wave energy.
- The group consisted of agency personnel, academic faculty and researchers, and non-governmental organizations.
- Many volunteered time and resources towards this project and the resulting products could not have been completed without their hard work.

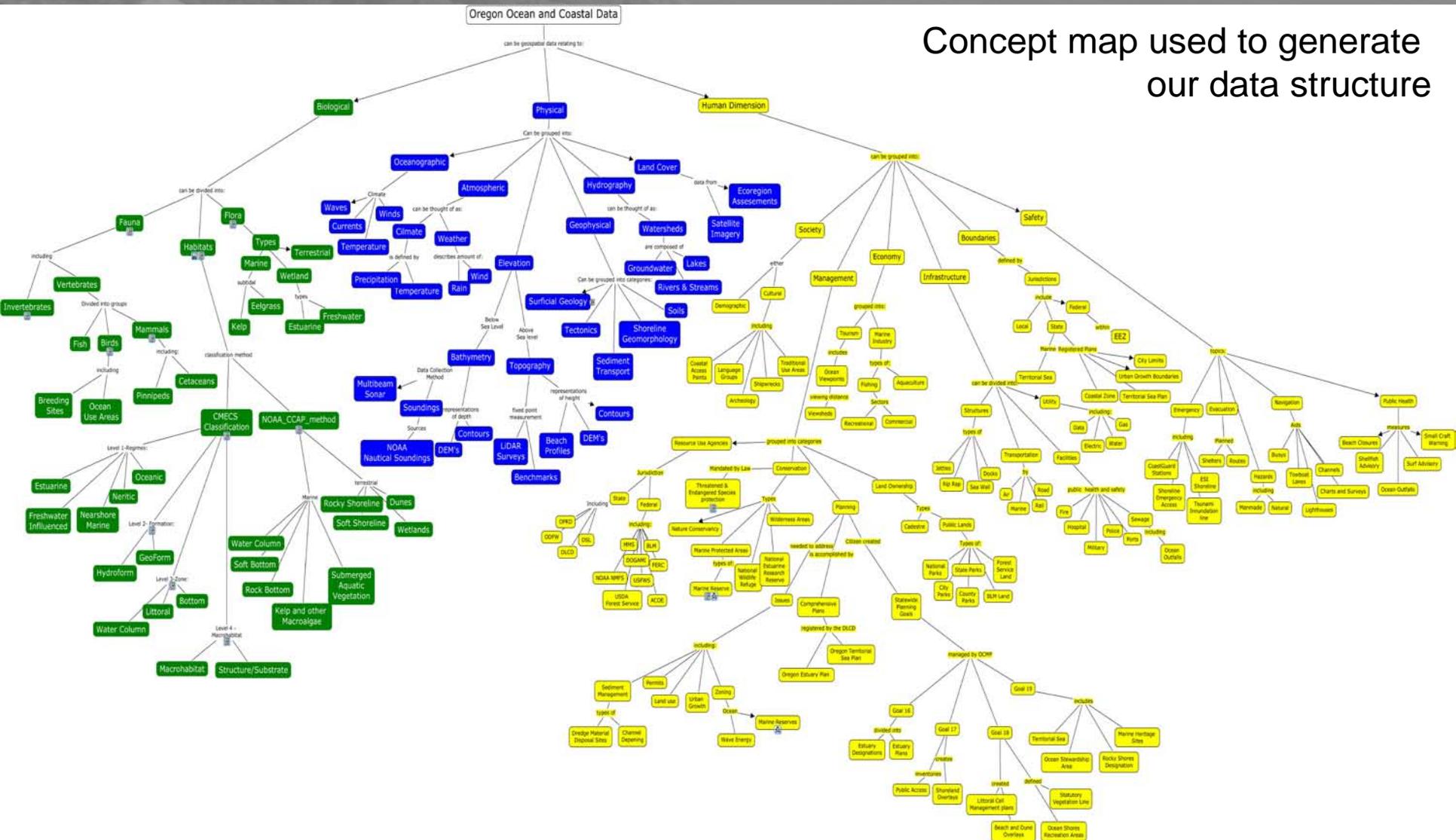


Organic Group: Academic – State Agencies – Federal Agencies

# Comprehensive Marine GIS data list

The Task: Organize Marine Data in a thoughtful way

Concept map used to generate our data structure



# Mapping Products

## Thematic Chart Series

### Themes:

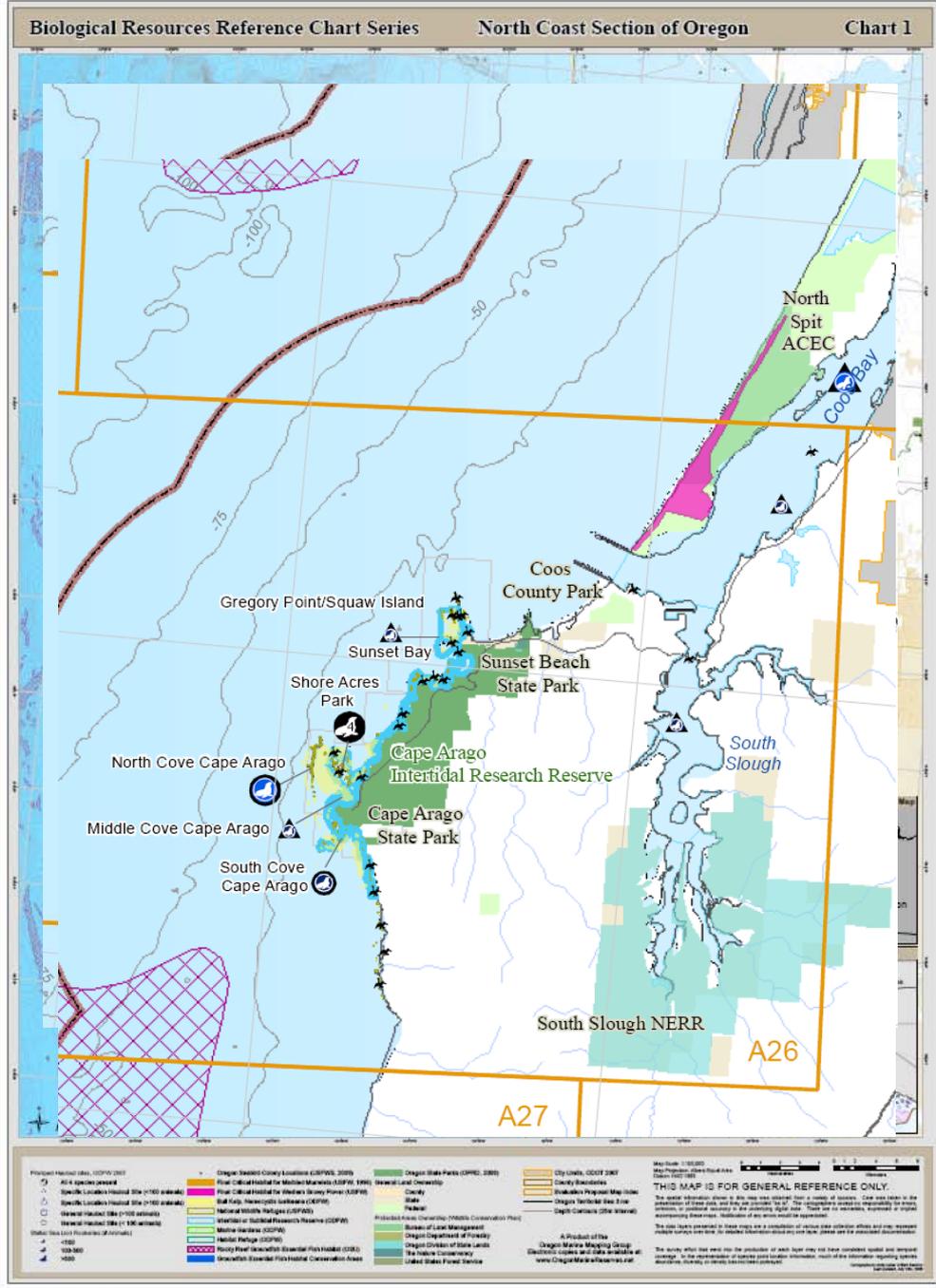
- Biological Resources
- Human Use and Management
- Seafloor and Shoreline
- 5 charts in each series
- 1:100,000 scale paper charts (36x54in).

### Technology Used:

- ESRI ArcMap: 1 .mxd for each theme
- Generated in ArcMap using Mapbook Extension (free)

# Biological Resources

- Pinniped Haulout sites, ODFW 2007**
- All 4 species present
  - Specific Location Haulout Site (<100 animals)
  - Specific Location Haulout Site (>100 animals)
  - General Haulout Site (>100 animals)
  - General Haulout Site (< 100 animals)
- Stellar Sea Lion Rookeries (# Animals)**
- <100
  - 100-500
  - >500
- Oregon Seabird Colony Locations (USFWS, 2008)**
- Final Critical Habitat for Marbled Murrelets (USFW, 1996)
  - Final Critical Habitat for Western Snowy Plover (USFW)
  - Bull Kelp, Nereocystis luetkeana (ODFW)
  - National Wildlife Refuges (USFWS)
  - Intertidal or Subtidal Research Reserve (ODFW)
  - Marine Gardens (ODFW)
  - Habitat Refuge (ODFW)
  - Rocky Reef Groundfish Essential Fish Habitat (OSU)
  - Groundfish Essential Fish Habitat Conservation Areas
- General Land Ownership**
- County
  - State
  - Federal
- Protected Areas Ownership (Wildlife Conservation Plan)**
- Bureau of Land Management
  - Oregon Department of Forestry
  - Oregon Division of State Lands
  - The Nature Conservancy
  - United States Forest Service
- Other Features**
- City Limits, ODOT 2007
  - County Boundaries
  - Evaluation Proposal Map Index
  - Oregon Territorial Sea 3 nm
  - Depth Contours (25m Interval)



# Human Dimension

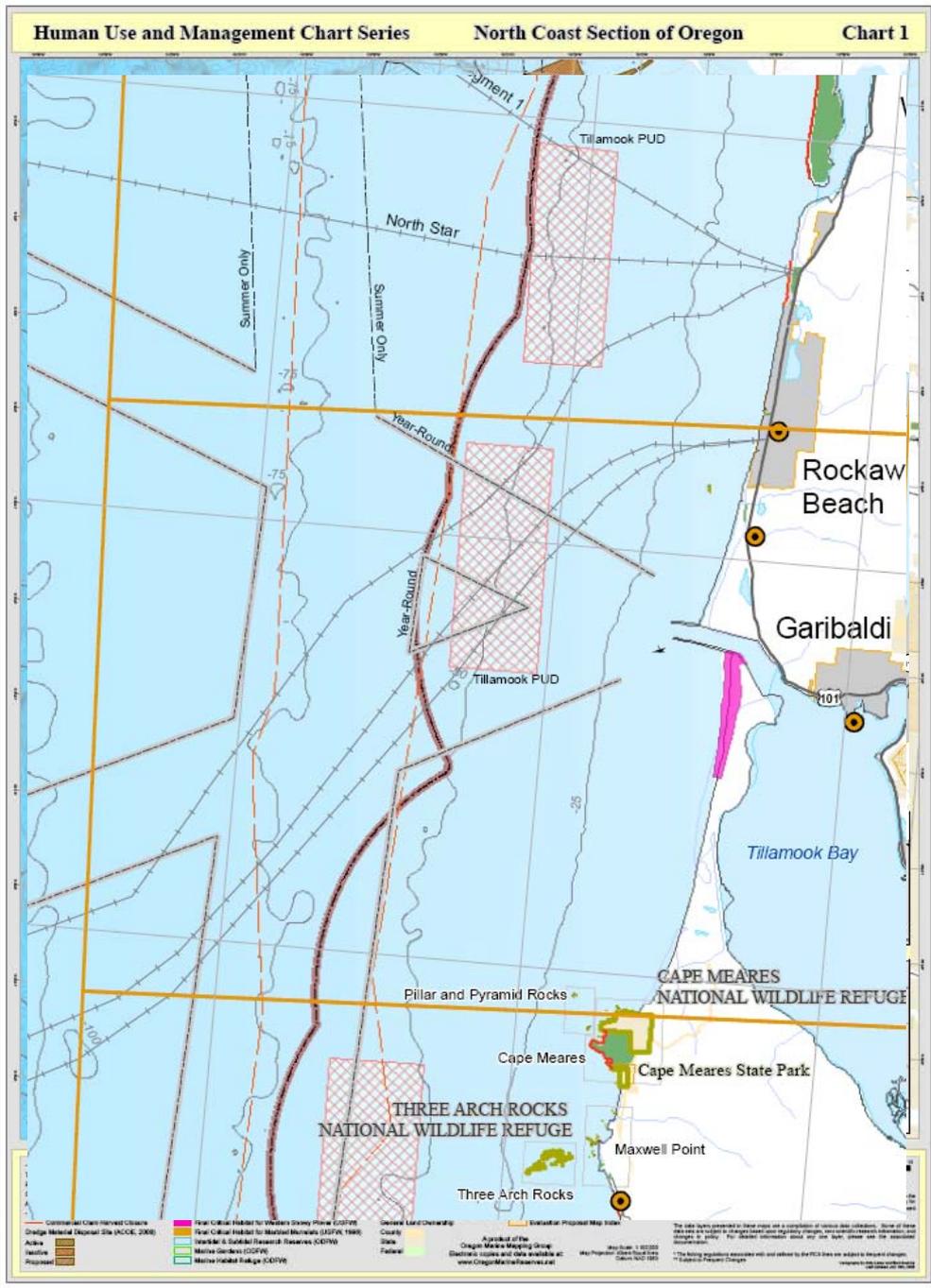
- Telecommunication Cables (OFCC, 2005)
- Towlane Agreement (WA Sea Grant, 2007)
- Permanent ———
- Summer Only ———
- Advisory Only ———
- Rockfish Conservation Area (RCA) Lines\*
- Commercial Clam Harvest Closure
- Dredge Material Disposal Site (ACOE, 2008)
- Active 
- Inactive 
- Proposed 

-  Seasonal Closure - Urchin Fishery (Stellar Sea Lion Rookery)
-  Seasonal Closure - All Fisheries (Stellar Sea Lion Rookery)
-  Closed to Commercial Fish Harvest
-  Wave Energy Preliminary Permit Sites (FERC, 2008)\*\*
-  National Wildlife Refuges (USFWS)
-  Groundfish Essential Fish Habitat (EFH) Conservation Areas
-  Final Critical Habitat for Western Snowy Plover (USFW)
-  Final Critical Habitat for Marbled Murrelets (USFW, 1996)
-  Intertidal & Subtidal Research Reserves (ODFW)
-  Marine Gardens (ODFW)
-  Marine Habitat Refuge (ODFW)

-  Permitted Outfall (DEQ / DLCD)
-  Shipwrecks (NOAA ENC's)
- Depth Contours (25m Interval)
-  County Boundaries
-  City Limits, ODOT 2007
-  Oregon State Parks (OPRD, 2008)



# Seafloor & Shoreline

**Shoreline Geomorphology and Exposure (NOAA ESI)**

- Undefined
- Marshes
- Exposed Rocky Shores and vertical seawalls
- Wave-cut platforms and exposed pier structures
- Fine-grained sand beaches
- Medium-to coarse-grained sand beaches
- Mixed sand and gravel beaches
- Gravel beaches and exposed riprap
- Sheltered rocky shores and coastal structures
- Sheltered tidal flats

**Oregon Seafloor Sediment (OSU, 2004)**

**Sediment Type (Dominant/Subdominant)**

- ROCK
- BOULDER
- COBBLE
- GRAVEL
- MIX SAND/GRAVEL
- SAND
- SAND/MUD
- MUD

**Territorial Sea Sediment Map (OSU, 2008)**

**Sediment Type**

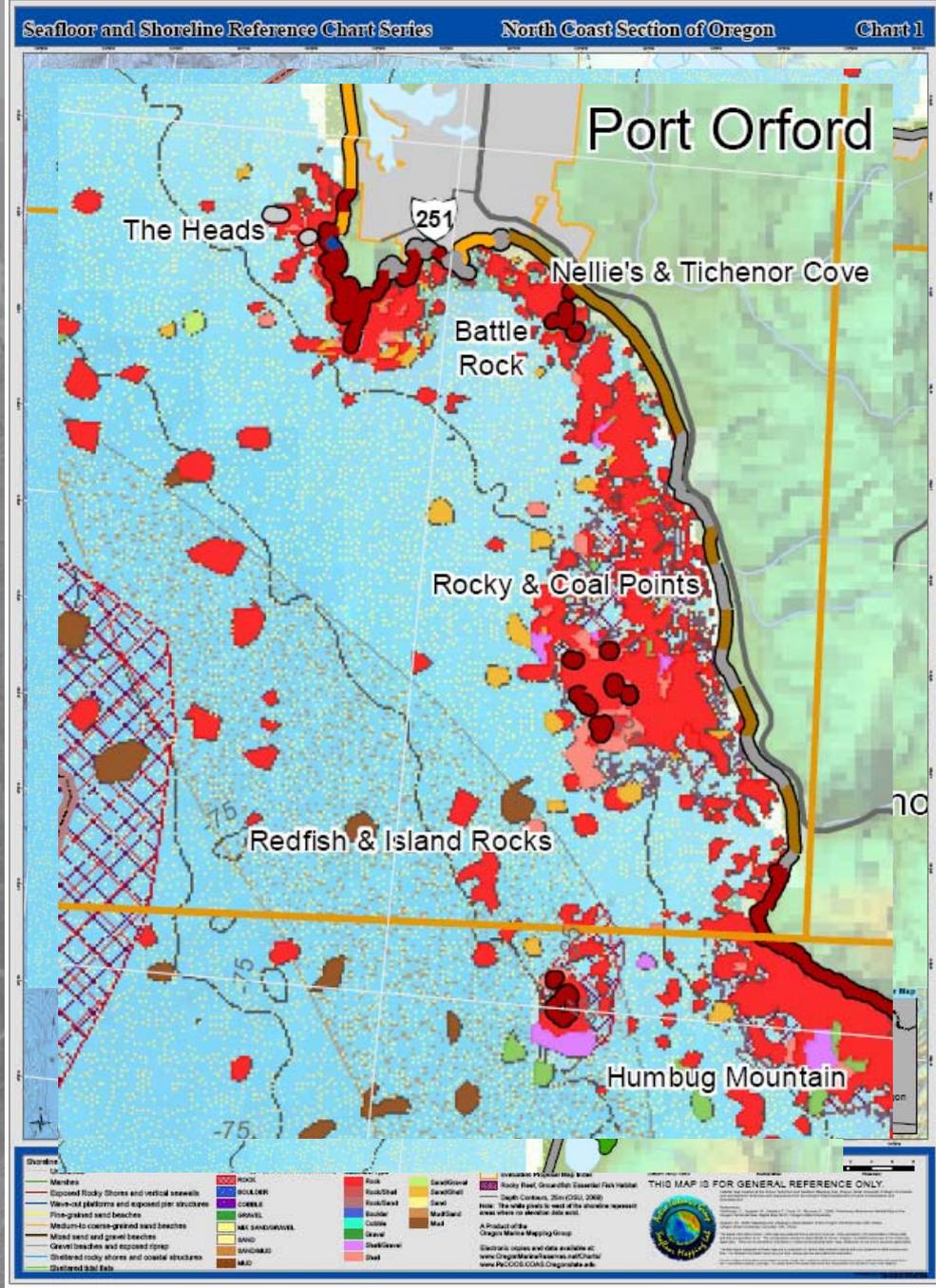
Rock	Sand/Gravel
Rock/Shell	Sand/Shell
Rock/Sand	Sand
Boulder	Mud/Sand
Cobble	Mud
Gravel	
Shell/Gravel	
Shell	

— Oregon Territorial Sea 3 nm

— Evaluation Proposal Map Index

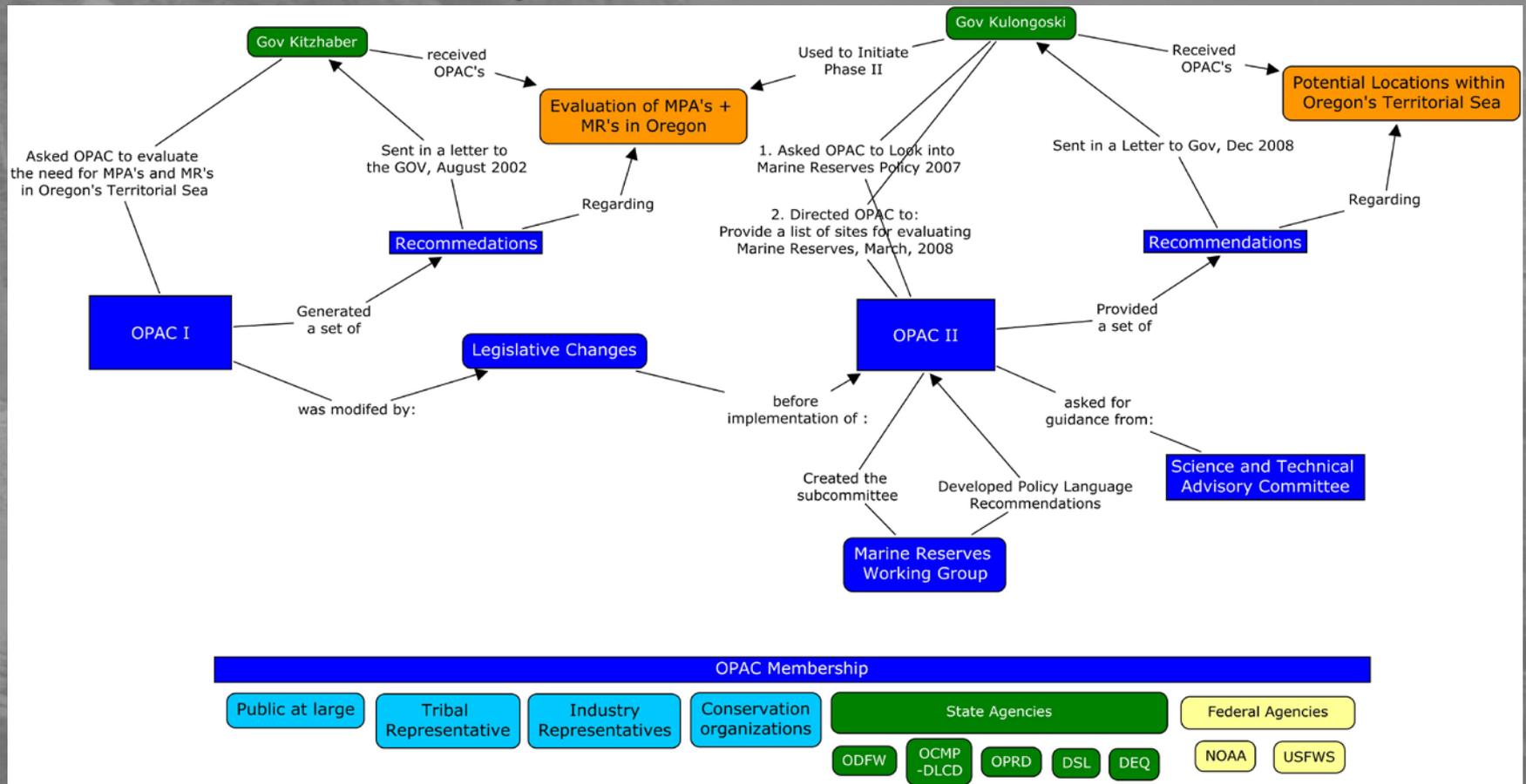
— Rocky Reef, Groundfish Essential Fish Habitat

— Depth Contours, 25m (OSU, 2008)



# Marine Reserves Process

Concept map of Oregon's Marine Reserve Process (2000 – 2008)



## Process criteria:

- Open public process -- best available information -- community proposals were weighted more...

# Marine Reserves Website

## Functions of the Website:

- Provide one place for information regarding marine reserves to be posted
- Guide people to information resources that are available
- Host the evaluation proposal information products and materials

## Website Technology:

- Joomla Content Management System (Open source)

The screenshot shows the homepage of the Oregon Marine Reserves website. At the top is a blue navigation bar with links for Home, Oregon's Process, Get Involved, Nomination, News, Links, and FAQ. Below the navigation bar is a header section with a small image of a person and the title "Oregon Marine Reserves Public Gateway to Information". The main content area features several sections: "Oregon's Path to Marine Reserves" with a paragraph about the public process and a link to the OPAC; "What is a Marine Reserve?" with a definition and a link to "Read more..."; "How You can get Involved" with a link to "Read more..."; "Upcoming Events" with a list of two meetings; "Latest Additions" with a list of three articles; and "Popular" with a list of four links. The website uses a clean, professional layout with a mix of text, images, and links.

<http://OregonMarineReserves.net>

# Information Resources

## Marine Reserve Proposal Materials

- General Information
- Mapping Products
  - GIS data
  - Data Documentation
  - Thematic Charts
  - Proposal Materials

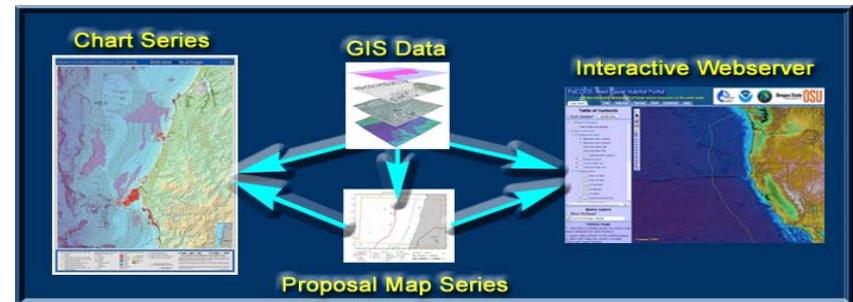


## Oregon Marine Reserves Public Gateway to Information

[Home](#) > [Site Proposals](#) > [Information Resources](#)

### Information Resources

In an effort to make sure that all who wish to propose marine reserve evaluation sites will have equal availability to data and resources, several sets of standardized information products have been created to help provide geographic context for potential proposals.



### Theme Based Reference Charts

To provide an overview of the existing resource inventory information, three different chart series have been produced including a Biological Resource Information Series, a Human Use and Management Information Series, and a Seafloor and Shoreline Map Series. The charts were designed to be plotted at a wall poster size, and therefore will not be clearly legible when printed out on letter size. It is important to recognize that not all of the information present in our Ocean GIS database can be portrayed on a map. An index of the proposal basemaps is included on all of the charts in order to cross reference the information portrayed on the charts with sites of interest on the basemaps. [Click Here](#) for more Information and to see the Charts.

### Nomination Basemaps

A series of site proposal base maps has been produced covering the entire length of the Oregon coast. The base maps were designed for complete coverage of the Territorial Sea, with enough land based information present to provide the spatial context necessary for a locating a site of interest. [Click here](#) to view the nomination base maps.

### Interactive Webserver

All of the geospatial data presented on the theme based reference charts has also been incorporated into the PaCOOS web portal. This resource is available for all users interested in interactively identifying and selecting different layers of interest for spatial display and analysis. Please keep in mind that this site is a resource that has been generously offered by the Active Tectonics and Seafloor Mapping Laboratory at Oregon State University, in collaboration with NOAA Northwest Fisheries Science Center, and is designed for advanced users. [Click here](#) to navigate to the site.

Charts are available from the website as Adobe PDF's

Just Click to Download



Home Oregon's Process Get Involved Site Proposals News Links FAQ

## Oregon Marine Reserves Public Gateway to Information

Home Site Proposals Thematic Information Charts

### Thematic Information Charts

The thematic reference charts available below are provided to show where existing resources and uses occur in the vicinity of the Oregon Territorial Sea.

There are 3 thematic series based on the themes of Biologic resources, Management and Human Uses, and Seafloor Type. Each thematic series contains 5 charts, covering the entire Oregon coast from north to south.

Biological Resources	Human Uses	Seafloor Type
 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>
 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>
 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>
 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>
 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>	 <a href="#">Download PDF</a>

Map Disclaimer

# Proposal Map Resources

Home Oregon's Process Get Involved Nomination News Links FAQ

## Oregon Marine Reserves Public Gateway to Information

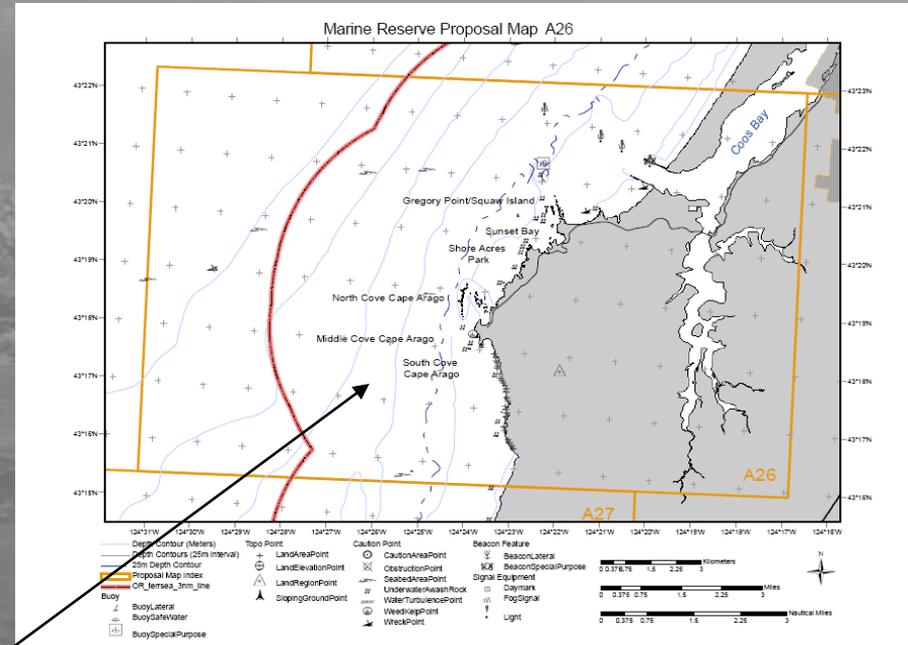
[Home](#) [Nomination](#) [Nomination Map Series](#)

### Nomination Map Series

A series of nomination base maps has been produced covering the entire length of the Oregon coast. The base maps were designed for complete coverage of the Territorial Sea, with enough land based information present to provide the spatial context necessary for a locating a site of interest.

These are the maps which must be used to nominate sites. To download a map for your area of interest, please follow the "Read More" link below, note the Nomination Map number on the index map (eg. A23), and download the corresponding PDF file.

Nomination Map Index	Download PDF Maps Below	Links to Web GIS
A01	Download Map A1	View Area A1 in PaCOOS
A02	Download Map A2	View Area A2 in PaCOOS
A03	Download Map A3	View Area A3 in PaCOOS
A04	Download Map A4	View Area A4 in PaCOOS
A05	Download Map A5	View Area A5 in PaCOOS
A06	Download Map A6	View Area A6 in PaCOOS
A07	Download Map A7	View Area A7 in PaCOOS
A08	Download Map A8	View Area A8 in PaCOOS
A09	Download Map A9	View Area A9 in PaCOOS
A10	Download Map A10	View Area A10 in PaCOOS
A11	Download Map A11	View Area A11 in PaCOOS
A12	Download Map A12	View Area A12 in PaCOOS
A13	Download Map A13	View Area A13 in PaCOOS
A14	Download Map A14	View Area A14 in PaCOOS
A15	Download Map A15	View Area A15 in PaCOOS
A16	Download Map A16	View Area A16 in PaCOOS
A17	Download Map A17	View Area A17 in PaCOOS
A18	Download Map A18	View Area A18 in PaCOOS
A19	Download Map A19	View Area A19 in PaCOOS
A20	Download Map A20	View Area A20 in PaCOOS
A21	Download Map A21	View Area A21 in PaCOOS
A22	Download Map A22	View Area A22 in PaCOOS
A23	Download Map A23	View Area A23 in PaCOOS
A24	Download Map A24	View Area A24 in PaCOOS
A25	Download Map A25	View Area A25 in PaCOOS
A26	Download Map A26	View Area A26 in PaCOOS
A27	Download Map A27	View Area A27 in PaCOOS
A28	Download Map A28	View Area A28 in PaCOOS
A29	Download Map A29	View Area A29 in PaCOOS
A30	Download Map A30	View Area A30 in PaCOOS
A31	Download Map A31	View Area A31 in PaCOOS
A32	Download Map A32	View Area A32 in PaCOOS
A33	Download Map A33	View Area A33 in PaCOOS
A34	Download Map A34	View Area A34 in PaCOOS
A35	Download Map A35	View Area A35 in PaCOOS
A36	Download Map A36	View Area A36 in PaCOOS
A37	Download Map A37	View Area A37 in PaCOOS



West Coast Marine Habitat Server - Windows Internet Explorer

PaCOOS: West Coast Habitat Portal

The integrated assessment of living marine resources on the west coast

Layer Query

Table of Contents

Auto Update? Update Map

- PaCOOS Data
- Data Index Layers
- Fish and Invertebrates Data
- Bathy Data (zooms close to the coast)
- Hydrographic Data
- Oceanographic Data
- Change Historical Sea State
- Biological
- Geological
- Remote Sensing (See query only)
- Features
- Unresolved Content

Query Layers

Allow Multiple?

Surficial Geologic Model

Table of Contents Usage

- Left click TOC layer for meta data
- Right click TOC layer for legend
- Select visible layers
- Select feature layer for queries

# Marine Reserve Proposals

- 20 Proposals Received
- Published ~ 1 week after receipt
- Products made available:
  - Standardized Map
  - Proposal PDF
  - GIS Shapefile



## Oregon Marine Reserves Public Gateway to Information

[Home](#) • [Site Proposals](#) • [Site Proposals](#)

### Site Proposals Overview

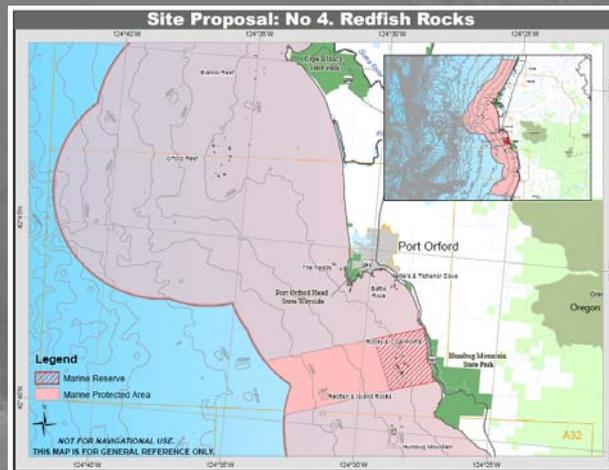
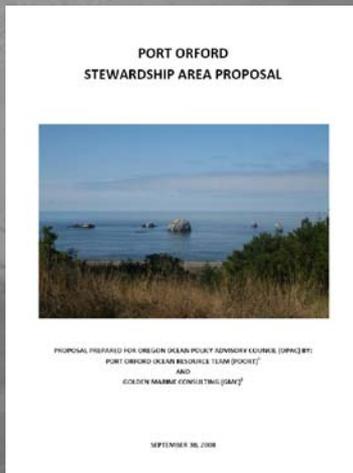
The public submitted proposals for specific sites in state ocean waters to be considered for further evaluation as potential marine reserves. The proposals are posted on our site for public viewing. All submitted proposals will remain posted on this website through the Oregon legislative session in 2009. The graphic below shows the general location of each proposal submitted.



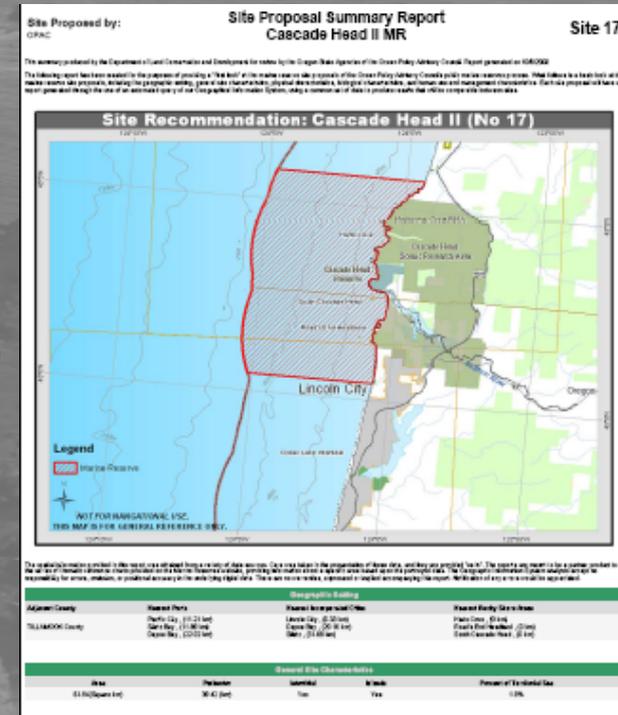
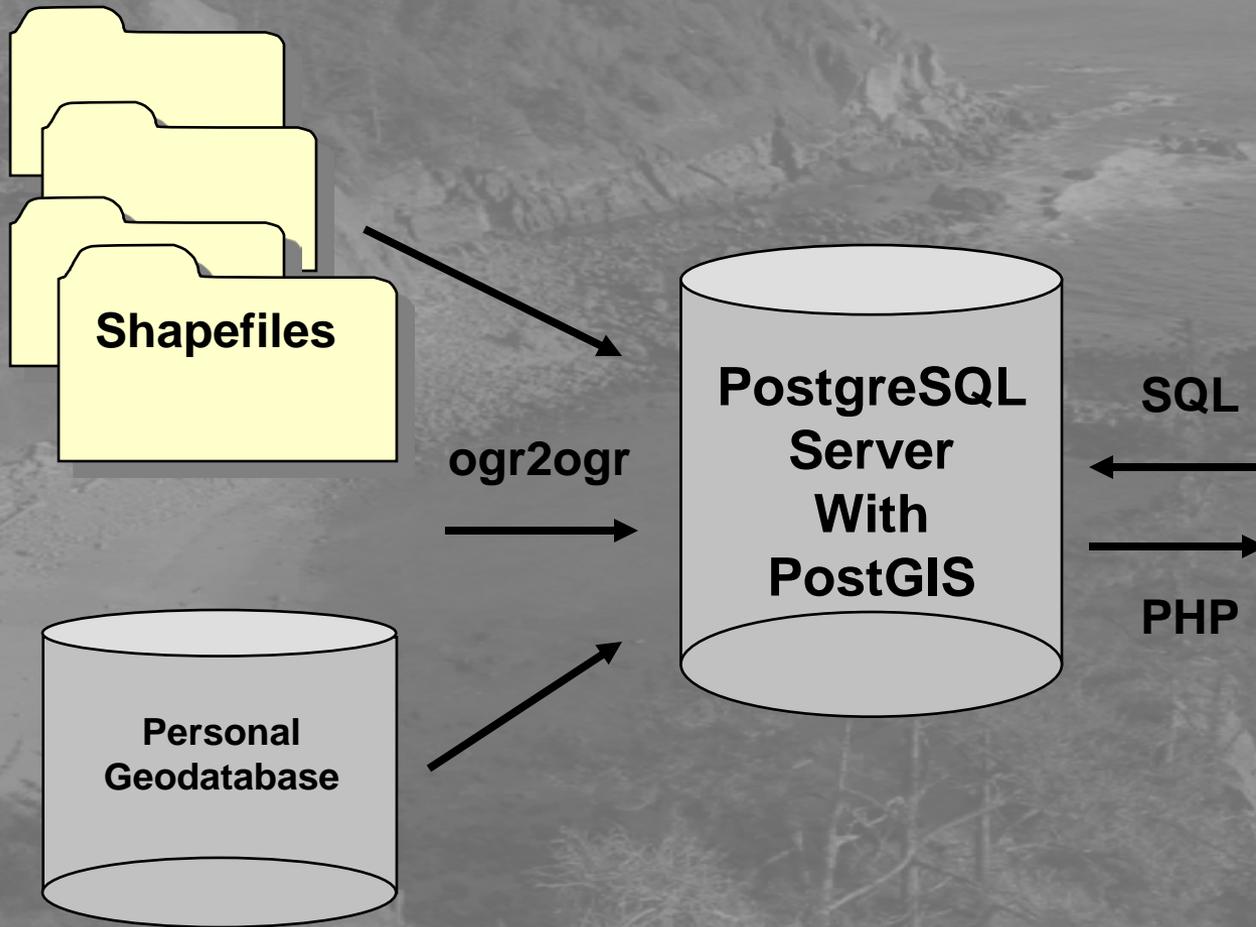
The table below is a list of all submitted marine reserve proposals. They are in geographic order from North to South. You can download a scanned pdf of the proposals by clicking the proposal title. A preliminary standardized map of each site was generated to allow viewers a quick link to the areas that have been proposed. You can download a Adobe PDF version of the standardized proposal maps by clicking on the standardized map icon.

*(Files with an asterisk "\*" are very large, please be patient when downloading.)*

Standardized Map	Original Site Proposal	Shapefile
	<a href="#">Tillamook Head</a>	
	<a href="#">Cannon Beach and Manzanita</a>	
	<a href="#">Cape Falcon</a>	
	<a href="#">Three Arch Rocks I</a>	
	<a href="#">Three Arch Rocks II</a>	
	<a href="#">Twenty Miracle Miles</a>	
	<a href="#">Cascade Head I</a>	
	<a href="#">Cascade Head II</a>	
	<a href="#">Cape Foulweather I</a>	
	<a href="#">Cape Foulweather II</a>	
	<a href="#">Whale Cove to Devil's Punchbowl</a>	
	<a href="#">Otter Rock</a>	
	<a href="#">Cape Perpetua*</a>	
	<a href="#">Heceta Head and Cape Perpetua*</a>	
	<a href="#">Siltcoos</a>	
	<a href="#">Cape Arago</a>	
	<a href="#">Seven Devils</a>	



# Using the Data: Site Analysis



PostGIS supports a variety of vector formats and geospatial queries that can be embedded in an HTML template via PHP.

# Proposal Reports

## Marine Reserve Analysis:

### Reports provided -

- For Each Proposal (Both MR +MPA)
- Based on a set of # Standard Questions (queries)
- Compact Information Delivery
- Objective comparison between the proposal sites.

Geographic Setting	
1	Queries the adjacent County for a geographic reference.
2	Lists the distance to the nearest three ports (as defined by ODFW Marine Resource Program landings records).
3	Incorporated cities are determined using ODOT's city limits polygon shapefile
4	Lists nearest Rocky Shore Areas and the distance to their nearest boundary (Rocky Shores Inventory polygons are approximate boundaries of Rocky Shore Areas)
5	Once the proposal area is clipped to the Territorial Sea (limited on it's eastern side by the shoreline and on the western side by the Territorial Sea line), the area is calculated.
6	Once the proposal area is clipped to the Territorial Sea, the perimeter of the site is calculated.
7	Queries whether or not the site proposal touches the Oregon shoreline (including any island shorelines).
8	Number of Islands - Determined by the presence of any island polygons within site proposal (from USFWS Islands layer)
9	Area of site calculated in Item 5 above / Area of Territorial Sea Polygon) x 100

Intertidal Physical Characteristics					
Length of Intertidal Shoreline	Percent of Oregon Coast Shoreline	Shoreline Types & Proportions		Number of Islands	Total Island Area
3.071 (meters)	0.5 %	66% Exposed rocky shores and vertical seawalls (2,030 meters)	15% Gravel beaches and exposed riprap (579 meters)	7 Islands	33,956 (sq meters)
		15% Mixed sand and gravel beaches (461 meters)			

Intertidal Biological Characteristics		
Pierined Haulouts	Steilar Sea Lion Rookeries	Bird Colonies
No (0 haulouts)	No (0 rookeries)	Yes (29 colonies)
Pierined Haulout Details		Bird Colony Details
		Redfish Rocks (East Central), (Colony #270-045) Common Murre West Glaucous-winged Gull Pied-billed Grebe Brandt's Cormorant Black Oystercatcher Tufted Puffin Pigeon Guillemot Redfish Rocks (Northern), (Colony #270-043) Pigeon Guillemot Tufted Puffin Black Oystercatcher Brandt's Cormorant Pied-billed Grebe West Glaucous-winged Gull Common Murre Redfish Rocks (Northwestern), (Colony #270-044) Common Murre West Glaucous-winged Gull Pied-billed Grebe Brandt's Cormorant Black Oystercatcher Tufted Puffin Pigeon Guillemot Redfish Rocks (Southern), (Colony #270-047) Common Murre Tufted Puffin Black Oystercatcher West Glaucous-winged Gull

Community & Recreational Considerations			
Nearest State Park	Nearest Public Access		
Humbog Mountain State Park (0 km)	Hwy 101N, Rocky Pt., Unincorporated Curry County (0.1 km)		
Humbog Mountain State Park (0.22 km)	Humbog Mt S.P., @ Rez Cr., Unincorporated Curry County (0.2 km)		
Humbog Mountain State Park (1.98 km)	Humbog Mt. S.P., Cook Pt., Unincorporated Curry County (0.44 km)		
Existing or Proposed Transportation & Infrastructure Considerations			
Drudge Material Disposal	NPDES Outfall	Undersea Cables	Towlines
No	No	No	No
Closest OMD	Closest Outfall	Closest Cable	Closest Wave Energy
Rogue Rogue Disposal Site, (0.02 km)	PACIFIC HIGH SCHOOL STP, (4.26 km)	TPC 5 Segment T1, (55.05 km)	Aqua Energy Group, LTD., (04.63 km)
Fishery Considerations			
Proximity to Ports	Proximity to Existing State MMA	Proximity to ODFW Closures	Proximity to EFH Conservation Areas
Port Orford (3.23 km) Gold Beach (20.81 km) Bandon (45.21 km)	Cape Arago Research Reserve (64.26 km) Cape Arago Research Reserve (65.21 km) Cape Arago Research Reserve (65.01 km)	Orford Reef Seasonal Closure Urchin Fishery (9.41 km) Rogue Reef - Pyramic Rock Closure (28.4 km) Rogue River Commercial Fishery Closure (29.3 km)	Bandon High Spot (34.95 km) Rogue Canyon (38.79 km) Chequamegon of Cook Bay (80.76 km)

Geographic Setting			
Adjacent County	Nearest Ports	Nearest Incorporated Cities	Nearest Rocky Shore Areas
CURRY County	Port Orford , (3.23 km) Gold Beach , (29.81 km) Bandon , (45.21 km)	Port Orford , (2.94 km) Gold Beach , (29.16 km) Bandon , (41.54 km)	Rocky & Coal Points , (0 km) Redfish & Island Rocks , (0 km) Humbog Mountain , (0.713303 km)
General Site Characteristics			
Area	Perimeter	Intertidal	Islands
6.81(Square km)	10.79 (km)	Yes	Yes
			Percent of Territorial Sea
			0.21%

# OPAC Site Recommendations

## OREGON OCEAN POLICY ADVISORY COUNCIL

**SCOTT McMULLEN, CHAIR**  
**JAMES W. GOOD, VICE CHAIR**

MAILING ADDRESS: OREGON DLCD  
 635 CAPITOL STREET, NE, STE 150  
 SALEM, OR 97301

**Voting Members**  
 Steve McMillan, Chair  
 Oregon Fishermen's Cable Committee  
 (South Coast Commercial Fisheries)

**Jim Good, Vice Chair**  
 (Public Representative)

**David Allen**  
 (Public Representative)

**Jim Bergeson**  
 (Ports, Marine Transportation or  
 Navigation)

**Jack Brown**  
 City Councilor, Depoe Bay  
 (Coastal City Elected Official)

**Paul Englebauer**  
 National Audubon Society  
 (Non-Profit Conservation Organization)

**John Orville**  
 Commissioner, Clatsop County  
 (South Coast County Commissioner)

**Robin Harrison**  
 Oregon Marine Conservation Coalition  
 (Coastal Conservation Organization)

**Robert Kautz**  
 Confederated Tribes of Siletz  
 (Coastal Indian Tribe)

**David Pattison**  
 Oregon Travel Commission  
 (South Coast Commercial Fisheries)

**James Paz**  
 (South Coast Charter, Sport or  
 Recreational Fisheries)

**Frank Shaker**  
 (Coastal Non-Fishing Recreation)

**Terry Thompson**  
 Commissioner, Lincoln County  
 (South Coast County Commissioner)

**Frank Weaver**  
 (South Coast Charter, Sport or  
 Recreational Fisheries)

**Ex-Officio Members**

**David Fox**  
 Marine Resources Program Asst. Manager  
 Department of Fish and Wildlife

**Roy Elshor**  
 Director, Department of Fish and Wildlife

**Debbie Hobbs**  
 Assistant Director, Department of  
 Agriculture

**Omni Haring**  
 Executive Director, Oregon Coastal  
 Zone Management Association

**Paul Klein**  
 Department of Land Conservation and  
 Development

**Patti McConnell**  
 Director, Department of Geology and  
 Mineral Industries

**Greg Peatt**  
 Laboratory Administrator, Department  
 of Environmental Quality

**Jay Rosenman**  
 Associate Director, Oregon Sea Grant  
 Program

**Leslie Sullaby**  
 Director, Department of State Lands

**Tim Wood**  
 Director, Department of Parks &  
 Recreation



THEODORE R. KULONOSKI, GOVERNOR

November 29, 2008

The Honorable Theodore R. Kulonoski, Governor  
 State Capitol, Room 254  
 Salem, Oregon 97301-4047

Re: Recommendations from OPAC on Marine Reserves

Dear Governor Kulonoski:

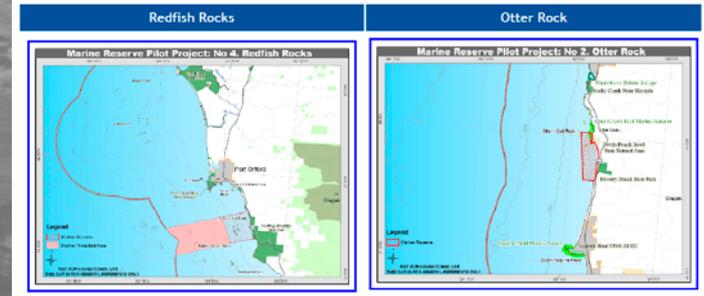
In response to your March 26, 2008 letter to the Ocean Policy Advisory Council (OPAC) and Executive Order 08-07, OPAC has continued our work over the past eight months to develop policy guidelines and evaluation criteria, and accept and evaluate proposals for potential marine reserves. With this letter I am transmitting to you the results of those efforts. It is my expectation that the Oregon Department of Fish and Wildlife (ODFW) will transmit to you under separate cover the details of the 20 proposals we received, along with the proposal guidance issued to the public.

First, OPAC recommends two proposals, *Otter Rock* near Depoe Bay, and *Redfish Rocks* near Port Orford, move forward as pilot marine reserves. Pilot reserves, as defined by ODFW, will expedite the process of identifying, evaluating, and initiating restrictions on disturbing activities within those areas during the next two years. We find these two proposals the most mature, best supported in their communities, and most suited to evaluate the potential success of marine reserves in Oregon's Territorial Sea. These proposals are identified by ODFW as numbers 2 and 4. The text of OPAC's adopted motion is given in Appendix A.

OPAC also recommends three areas, Cape Falcon, Cascade Head, and Cape Perpetua, as deserving of further study and evaluation as sites for potential marine reserves. We feel the ecological significance of these areas, combined with mixed initial indications of support from the affected communities, justifies more effort to find an acceptable compromise. Each area has a citizen-generated proposal for a marine

## Marine Reserve Pilot Recommendation

OPAC recommended two proposals, Otter Rock near Depoe Bay, and Redfish Rocks near Port Orford, move forward as pilot marine reserves. Pilot reserves, as defined by ODFW, will expedite the process of identifying, evaluating, and initiating restrictions on disturbing activities within those areas during the next two years. OPAC found these two proposals the most mature, best supported in their communities, and most suited to evaluate the potential success of marine reserves in Oregon's Territorial Sea. These proposals are identified by ODFW as numbers 2 and 4.



## Sites for Further Study and Evaluation

OPAC also recommended three areas, Cape Falcon, Cascade Head, and Cape Perpetua, as deserving of further study and evaluation as sites for potential marine reserves. OPAC found that the ecological significance of these areas, combined with mixed initial indications of support from the affected communities, justifies more effort to find an acceptable compromise. Each area has a citizen-generated proposal for a marine reserve that OPAC recommends for further analysis.



## Cape Arago/Seven Devils Area

Finally, OPAC recommended that the interested parties in the Cape Arago/Seven Devils area, led by the Oregon International Ports of Coos Bay, be encouraged and supported to engage in further collaboration to develop a marine reserve proposal. In making this recommendation, OPAC does not endorse the two proposals submitted for this area, the Cape Arago Proposal Area, Proposal 12, and the Seven Devils Marine Reserve, Proposal 18.



# Summary

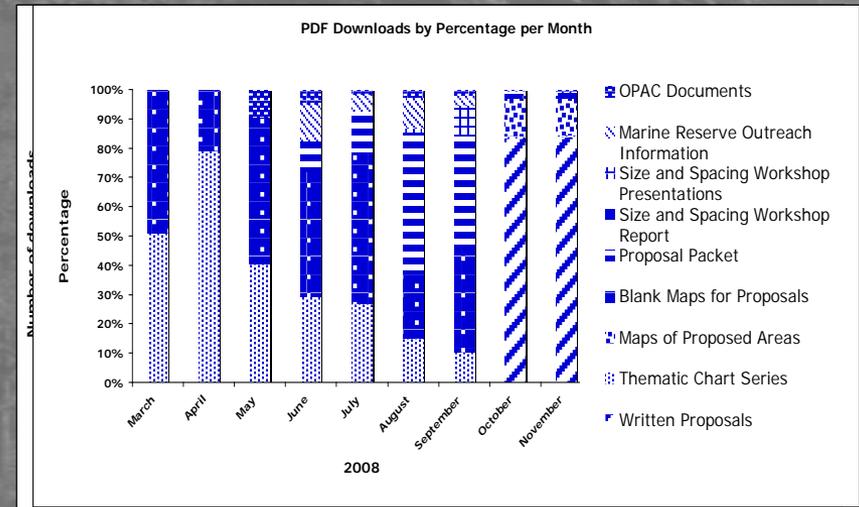
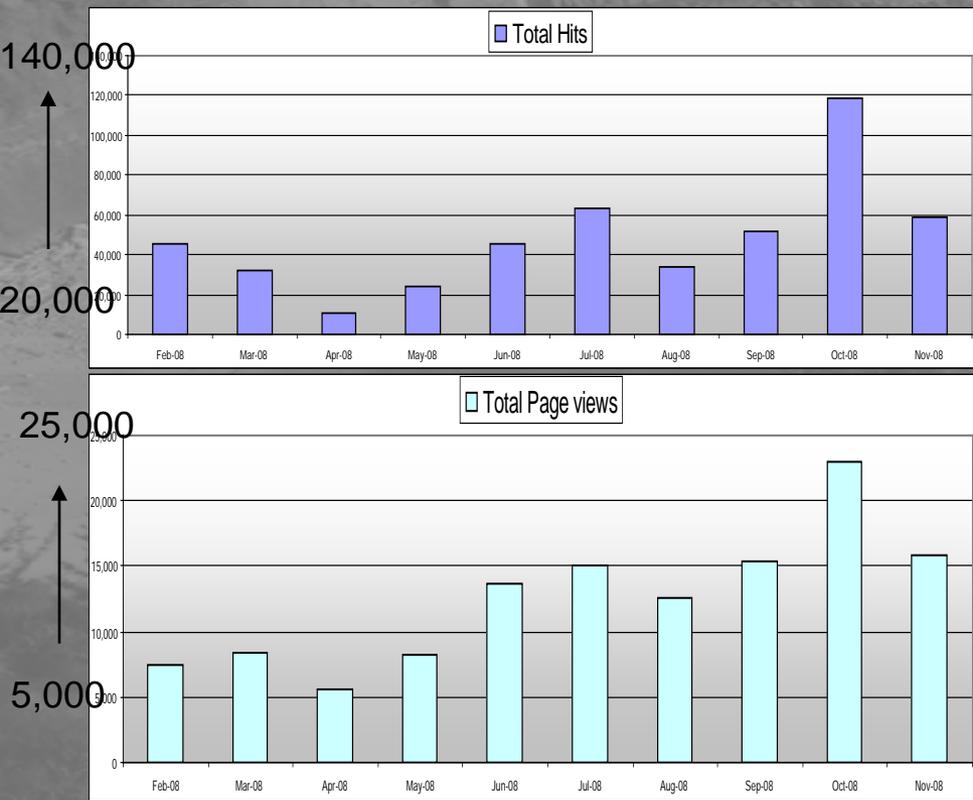
## Marine Reserves Proposal Process

- Support included:
  - GIS (Data, Metadata, Personal Geodatabase, Reports)
  - Cartography (charts, proposal maps, interactive webserver, proposal maps, OPAC recommendations)
  - Marine Reserves Website
- Successful Conclusion:
  - OPAC recommendations were submitted
  - Comprehensive, multi-sector GIS database was generated
  - Public participation and awareness happened

# Post-process Evaluation

## Analysis of server statistics (WebTrends Software):

- Number of hits/page views followed the proposal process
- Peak # of views - > 20,000 in 1mo.
- Downloads indicated an engaged citizenry
- Products available during process were downloaded most frequently.



# Conclusions (personal bias included...)

- General Findings:
  - Leadership wanted... (executive branch)
    - Goals, understanding roles, providing incentives
  - \$\$\$ is a *BIG* issue (planning & implementation)
  - Place Matters
    - Abstract concepts vs. proposed actions
    - NIMBY effect
  - Support a “Fellow”
    - NOAA Coastal Management Fellowship (1 current, 3 alumni)
    - Knauss Marine Policy Fellowship (1 alumni)
    - Oregon SeaGrant Natural Resource Policy Fellowship (1 current)

