

Existing Human Uses of Oregon's Territorial Sea



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OSU

Coastal Oregon Marine
Experiment Station

Organizing and Defining Uses

- Transportation
- Commercial fishing
- Recreational Fishing
- Wildlife Viewing
- Nature-Based Education
- Diving
- Aesthetics
- Energy
- Science
- Marine Reserves
- Underwater Cables
- Aquaculture
- “Pollution/Dilution”
- Dumping (dredge sediments)
- **Surfing**
- Kayaking
- Walking/Wading
- Conservation
- Security
- Existence Value
- Jetties....



Uses — Territorial Sea Plan

- Inventory and Evaluate
- Item 8—Cultural, Economic, and Social Issues
 - Commercial and Sport Fishing
 - Aquaculture
 - Scientific Research
 - Ports, Navigation
 - Recreation
 - Tourism
 - Mineral Extraction
 - Waste Discharge

 - Conservation (Non market values)
 - Undersea Cables
 - Aesthetics (Viewscape)



Historical Drivers

- **Economic**
 - Globalization
 - Energy -- Supply and Demand
 - Increase in Seafood Demand
 - Service Economy
 - Tourism and Recreation -- fastest growing sectors of ocean economy
 - Exploration, Inspiration, Education
- **Policy/Regulatory**
 - Sustainability
 - Oregon's Public Beach Use Law (1967)
 - Property Rights
- **Environmental**
 - Climate Change
- **Technology**
 - Containerization
 - Wave Energy
 - Aquaculture
 - Fiber optics



Demographics

- 200,000 people live on coast
 - 30% increase since 1970
- 3.4 million
 - 70% increase since 1970
- Shifting demographics
 - 13% of Oregon's population > 65
 - 21% of Coastal population > 65
 - Significant net migration to coast relative to “natural” growth



Fisheries - Commercial

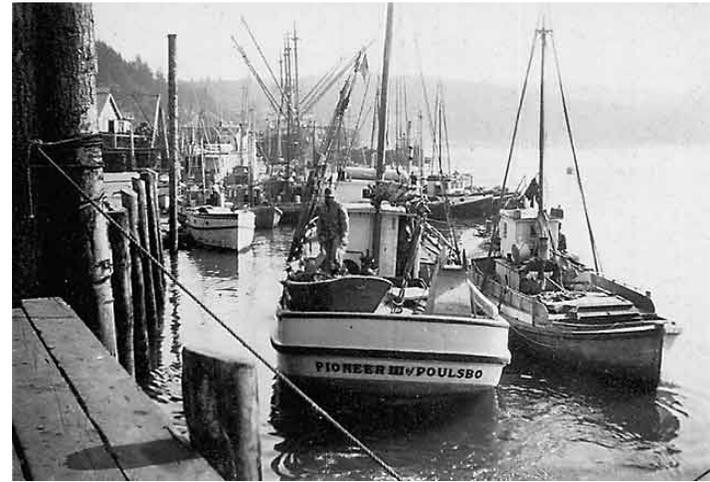
- Valuable traditional business
- Landings 200-300 million lbs
- 2005 record volume year
 - 300 million lbs
- Exvessel revenue in 2005
 - \$97 million
- 7% of earned income on the coast
- 11,400 annual full time equivalent jobs



Fisheries – Commercial

(continued)

- Astoria and Newport
 - often in top ten list
- 1,100 vessels (2004)
- \$342 million in state personal income (2004)
- Territorial sea harvests unknown (\$30-50 million?)
- “Nearshore” species
 - exvessel revenue \$2 million



Fisheries – Commercial 2004

	<u>Volume</u>	<u>Value</u>	<u>Vessels</u>
Astoria	47%	24%	29%
Tilamook	1%	4%	10%
Newport	38%	30%	23%
Coos Bay	10%	27%	24%
Brookings	3%	14%	14%

Recreational Fisheries

- Salmon and Bottom Fish
- \$31.9 million total economic contribution (ocean and estuary)
 - Ocean salmon \$7.9 million
 - Ocean groundfish \$10.9 million
 - 145,000 ocean salmon fishing angler days
 - 65,000 non salmon ocean angler days



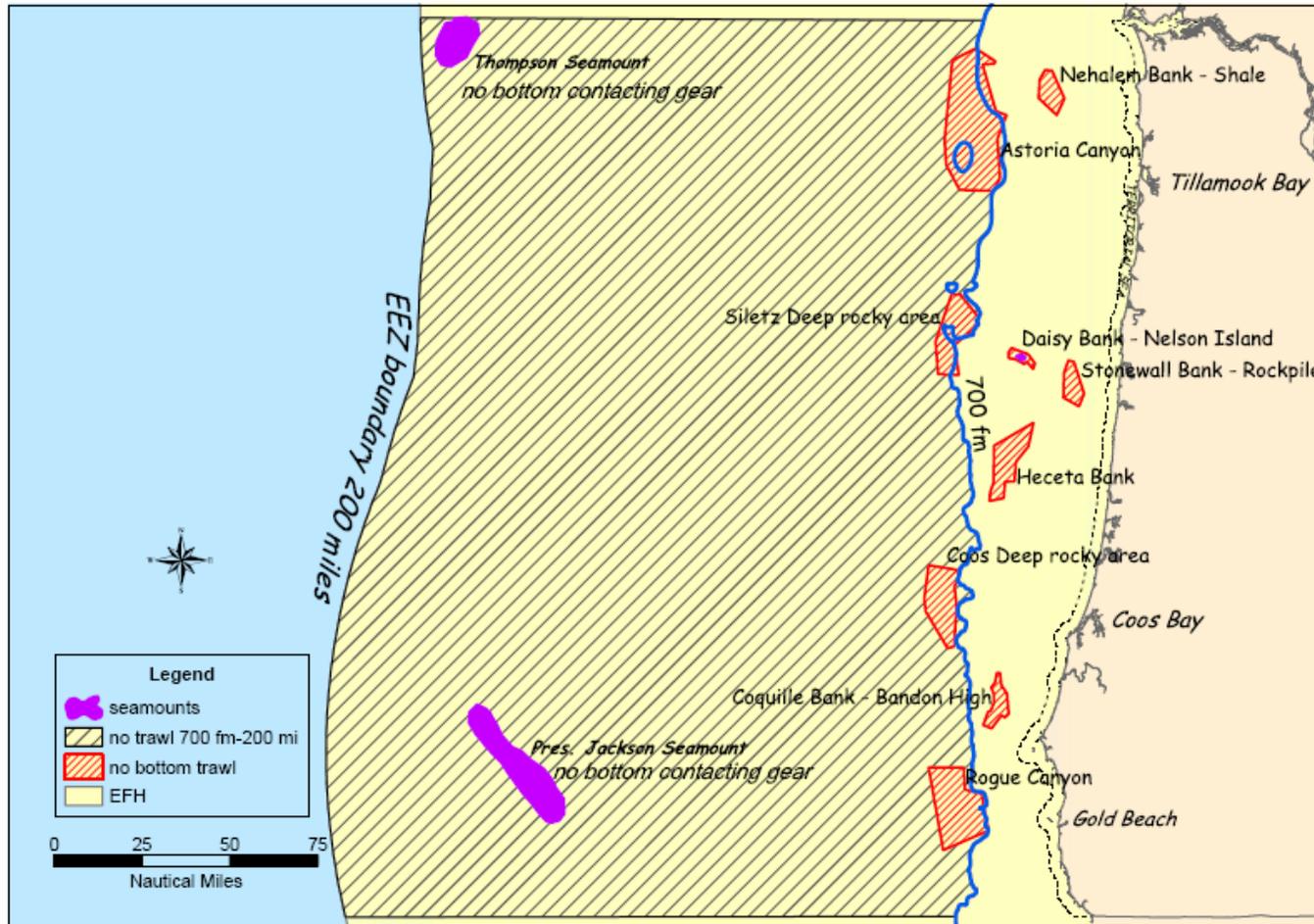
Key Fishery Drivers

- Complex Industry
- Consolidation
- Sustainability
- Spatial “dynamic” management
- Property rights
- Port infrastructure support issues



Ocean static “zones”: Fishery Area Closures

*Minimization of Fishing Impacts on EFH
No Bottom Trawl Areas*



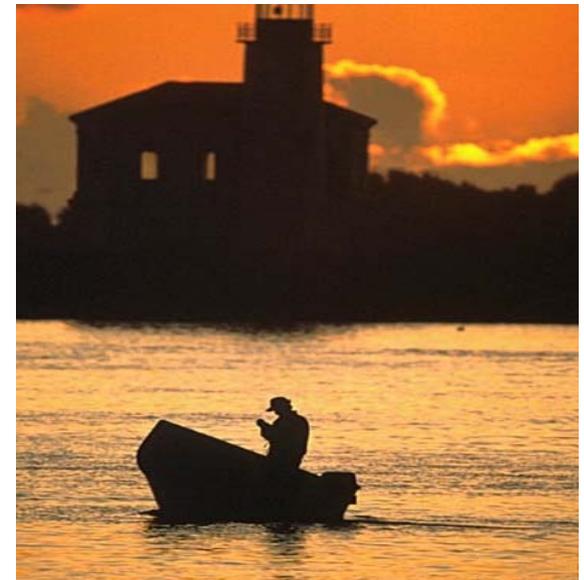
Recreational and Commercial Navigation/Boating

- 12 marine ports (complex infrastructure)
- Vessel ocean crossings (2001)
 - 110,000 commercial
 - 350,000 recreational
- \$300 Million personal Income (excluding port of Portland)
- 2.7 million metric tons tonnage
 - 50% decrease in tonnage (since 1992)



Tourism

- 1997
 - 43 million trips to coast
 - (86% pleasure-“visit the beach”)
 - 50% travel from within the state
 - 17 million overnight trips
 - \$1 Billion in direct travel spending
 - 13,000 jobs
- 2006 – 1.3 times higher (*Dean Runyan 2006*)
- \$300 million personal income in coastal counties (*Research Group 2005*)



Recreational Beach Activities (> 45 activities)

- **Scenic Enjoyment**
- **Relaxing**
- **Walking**
- **Beachcombing**
- **Tide pooling**
- **Playing in the Sand**

- Recreational Mining
- Bird Watching
- Dog Walking
- Surfing
- Horseback Riding
- Jogging
- Picnicking
- Fishing
- Driftwood Fires
- Skimboarding...

(Oregon Shore Recreational Use Study 2002)



Effluent and Sediment Disposal

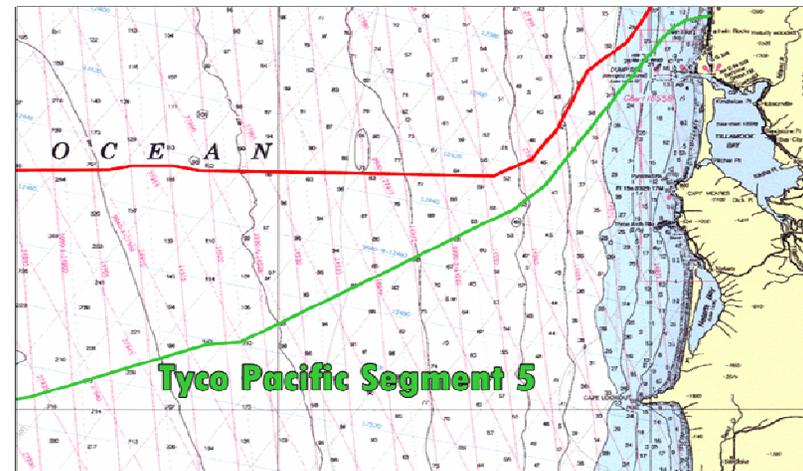
“Pollution Dilution”

- Major “valuable” use of territorial sea
- Five municipal ocean outfalls in 1990(?)
- Multiple municipalities discharge in the bays/estuaries
- One industrial outfall-GP Pulp and Paper Mill --Toledo
 - Discharge in 1990’s about 4,800 million gallons a year
 - Without discharge permit would be forced to close??
 - Loss of \$60 million in local personal income
 - Loss of 500 direct jobs
 -
- Dredge Sites
 - 17 sites
 - 10’s millions of metric tons deposited last twenty years



Other Uses

- Marine Science (OSU/HMSC > \$200 million year)
- Underwater Cables
- Aquaculture (salmon hatcheries)
- Aesthetic Public Good
“Viewshed” (\$100’s millions in value but not measured)
- Nonuse and non-market value (unknown)
- Mineral extraction (0)



Future Uses

- Biotechnology
 - Pharmaceuticals/neutricuticals harvesting
- Aquaculture
 - Fastest growing sector of world's food economy
- Wind Energy
- Minerals
- Desalinization
- Power Plant Cooling
- Oil and gas
- Submarine Tours
- Expanded Science (including fishermen)



Implications

Unique moment in Oregon history

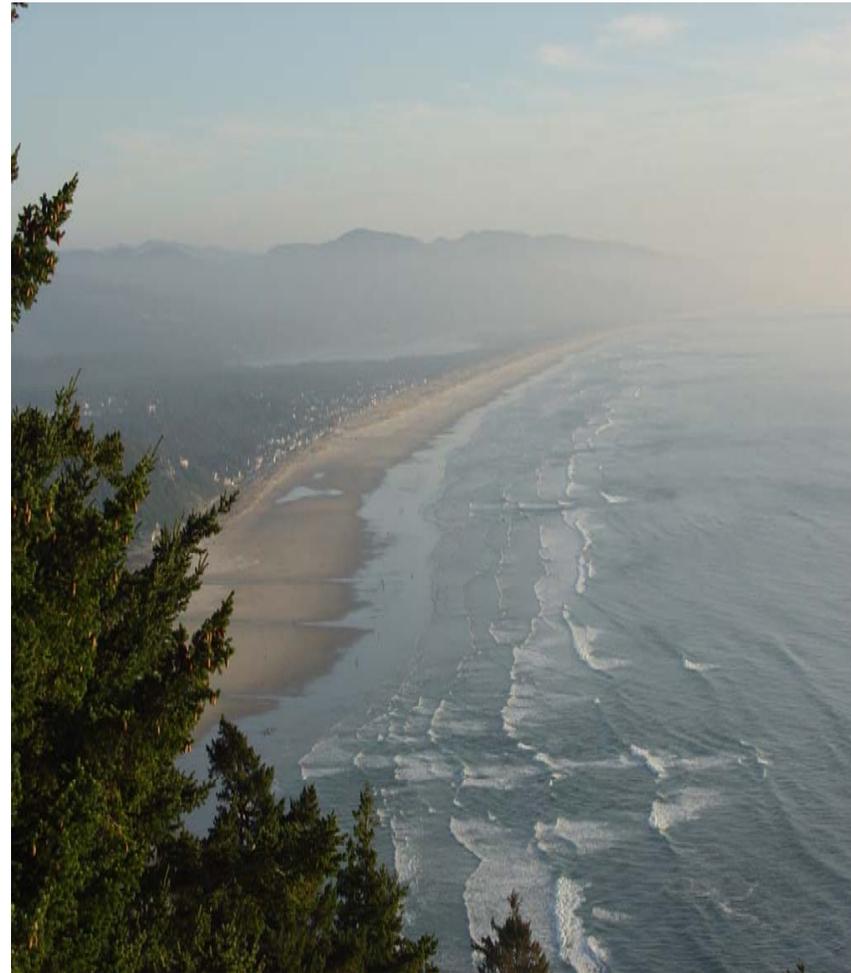
- Growing demands for use of Territorial Sea
- Balancing ecological and economic concerns – sustainability



Implications and Challenges

(continued)

- Need for Institutional Design
 - Incentives and Property Rights (including territorial user rights for commercial fishing?)
 - Asset “thinking”
 - Effective zoning process
 - Spatial “four dimensional analysis”



Research Challenge

Achieving Goal 19

- Need to develop an “inventory” of uses and issues
 - Economic/social values
 - Trends
 - Tradeoffs
 - Policy issues/analysis



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