

Use Analysis Process Update

Washington Coastal Marine Advisory Council
Meeting

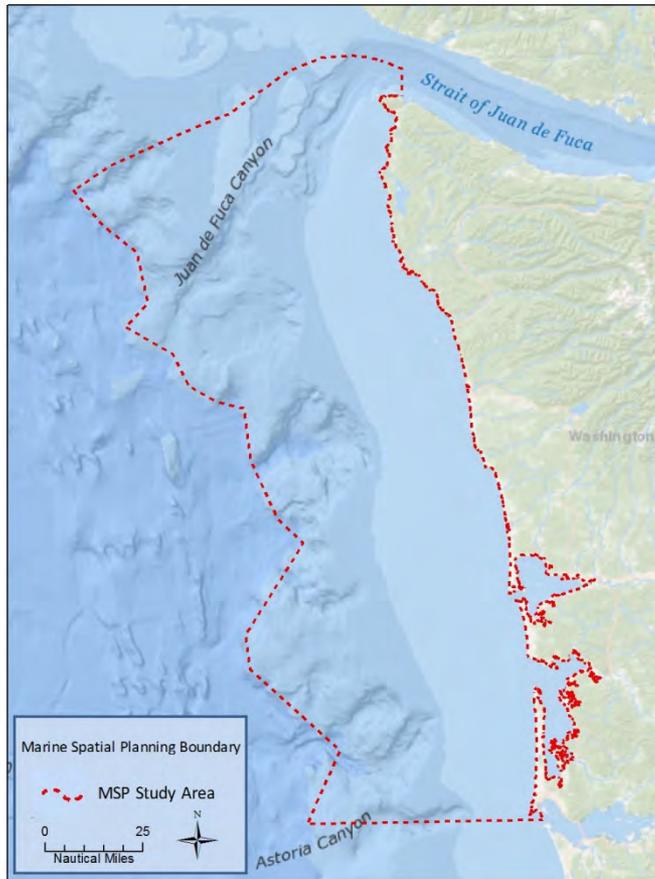
June 24, 2015

Montesano High School Library

Outline

1. Outline of MSP & Use Analysis project
2. Methods/Approach
3. Existing Use Mapping Progress
4. Next steps
5. Discussion

Scope of MSP



The study area is 700 fathoms offshore and includes federal waters and estuaries.

INTENT:

Address location of potential new marine uses.

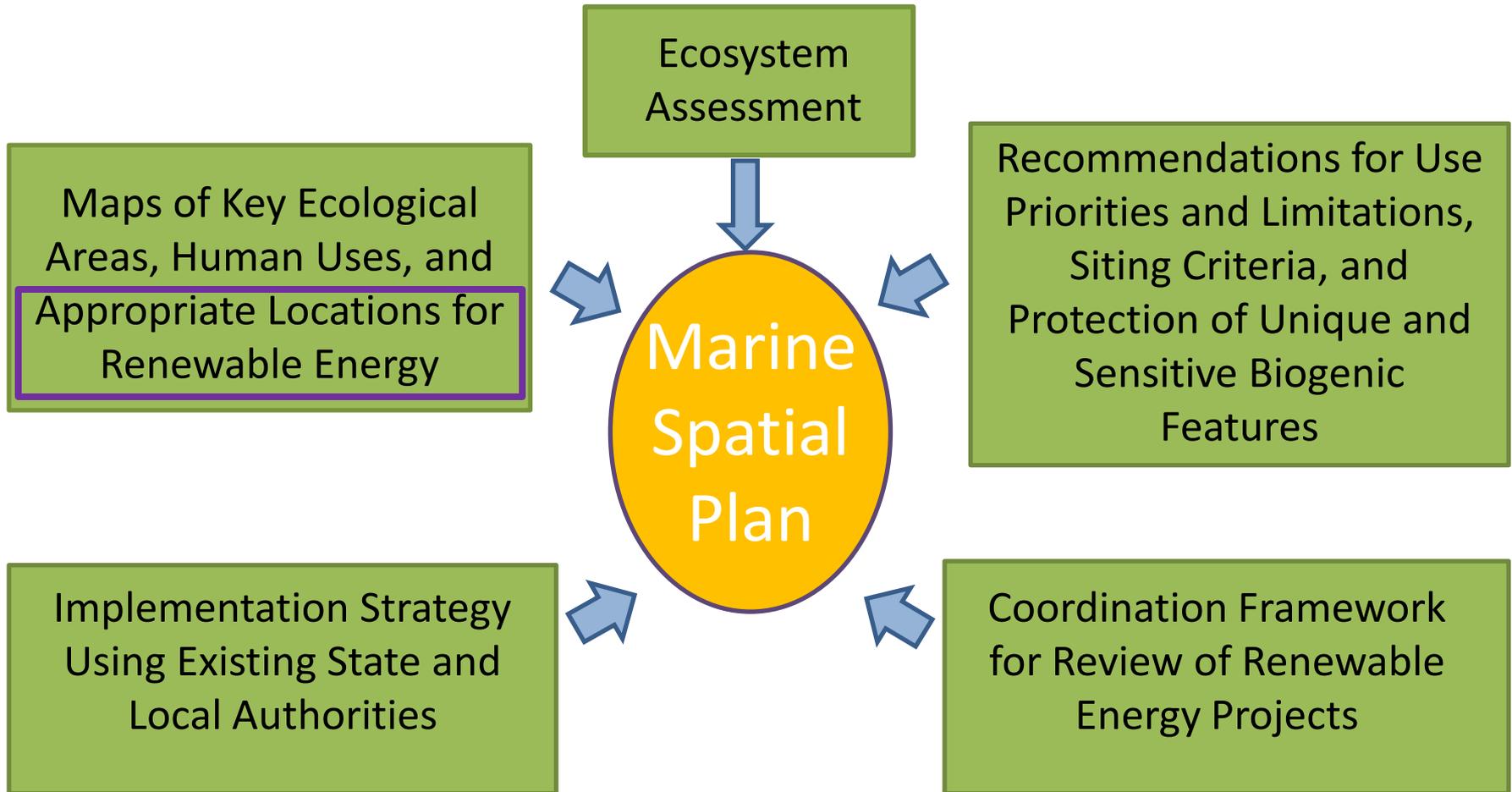
PLAN GOALS/OBJECTIVES:

- Protect existing uses
- Protect cultural uses/resources
- Preserve environment
- Integrate decision-making
- Provide new economic opportunities

NON-REGULATORY PLAN

MSP Context

The marine management plan must include but not be limited to...



RCW 43.372.040(6)

(6) The marine management plan must include but not be limited to:

...

(c) **A series of maps** that, at a minimum, summarize available data on: The key ecological aspects of the marine ecosystem, including physical and biological characteristics, as well as areas that are environmentally sensitive or contain unique or sensitive species or biological communities that must be conserved and warrant protective measures; **human uses of marine waters, particularly areas with high value for fishing, shellfish aquaculture, recreation, and maritime commerce;** and appropriate **locations with high potential for renewable energy production with minimal potential for conflicts with other existing uses or sensitive environments;**

-RCW 43.372.040

Use Analysis Process

Final Products:

1. Conflict map that provides general sense of where higher levels of conflict may occur with new uses
2. Recommendations for planning regarding new uses (space use)

Use Analysis Approach

1. Produce conflict maps for existing uses by sector
2. Overlay all sector conflict maps to produce map of all existing uses
3. Overlay renewable energy maps for comparison
4. Develop recommendations

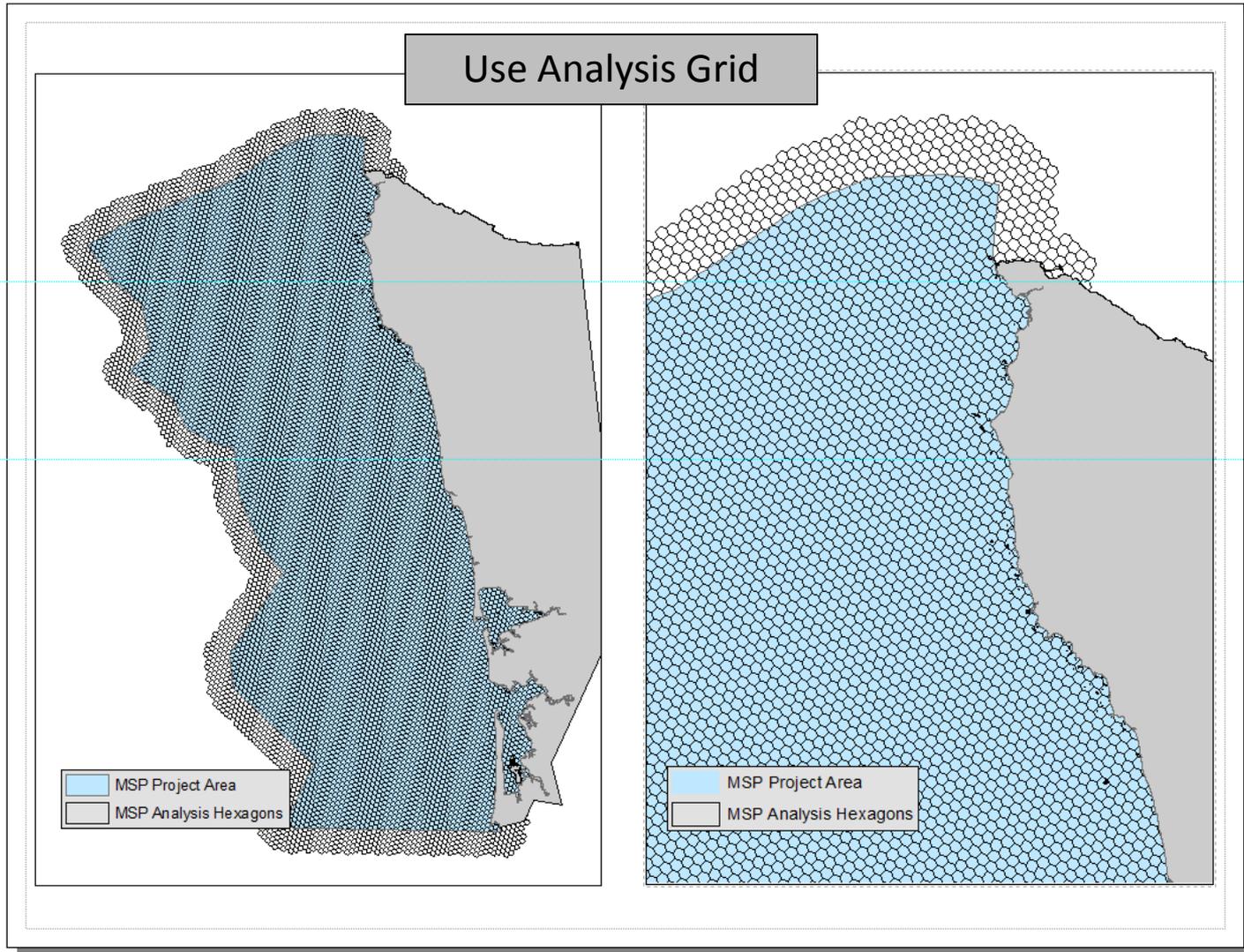
Process To Date

- Briefings to WCMAC on concept and process
- Meetings with marine use sectors regarding conflicts (*ongoing*)
- Initial GIS work

Existing Use Scoring Criteria

- Use intensity data, where available.
- Convert existing use data layers to level of conflict:
 - High, Medium, Low, None

Analysis Unit = 1 Sq Mile Hexagons



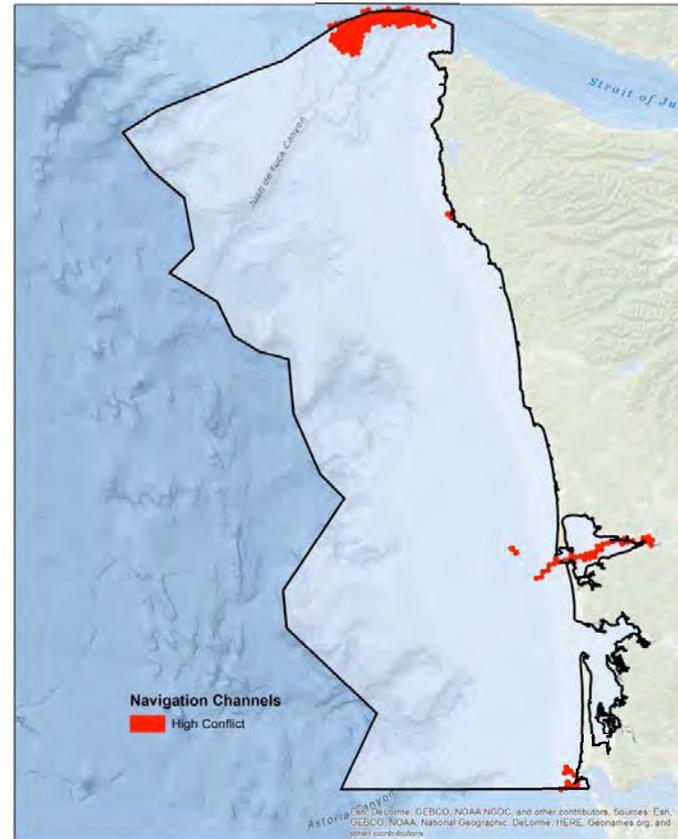
There are 8,272 hexagon cells in the grid within the boundaries of the planning area.

Existing Use Draft Conflict Maps: Shipping

Conflict data: Tug and Towboat lanes

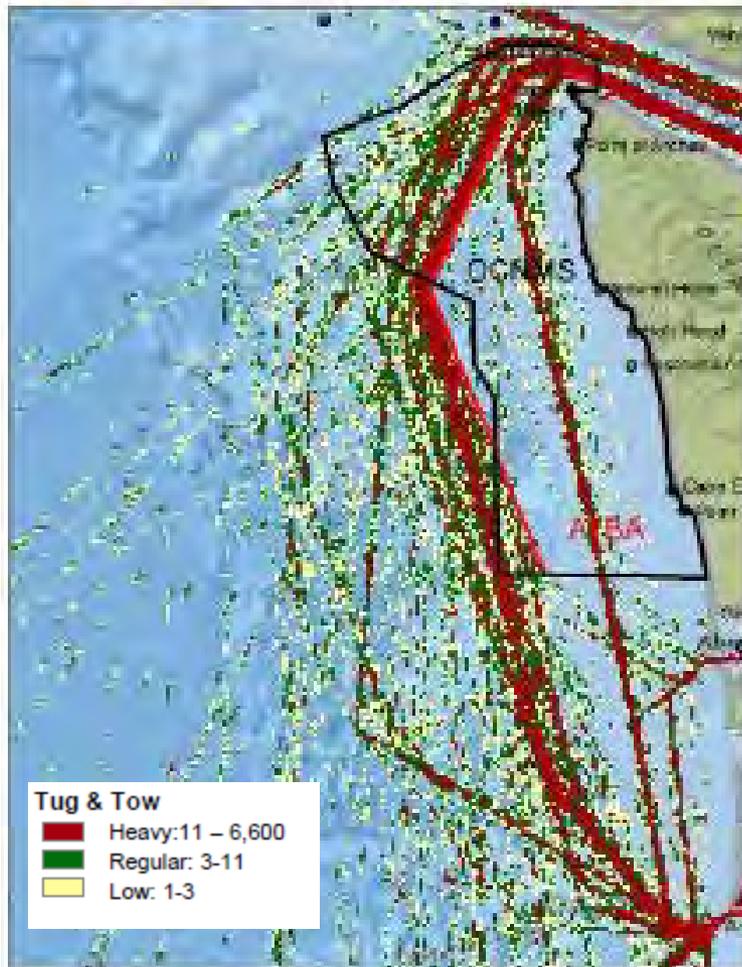


Federal Navigation Channel, Dredge Sites, & Shipping Lanes Conflict data

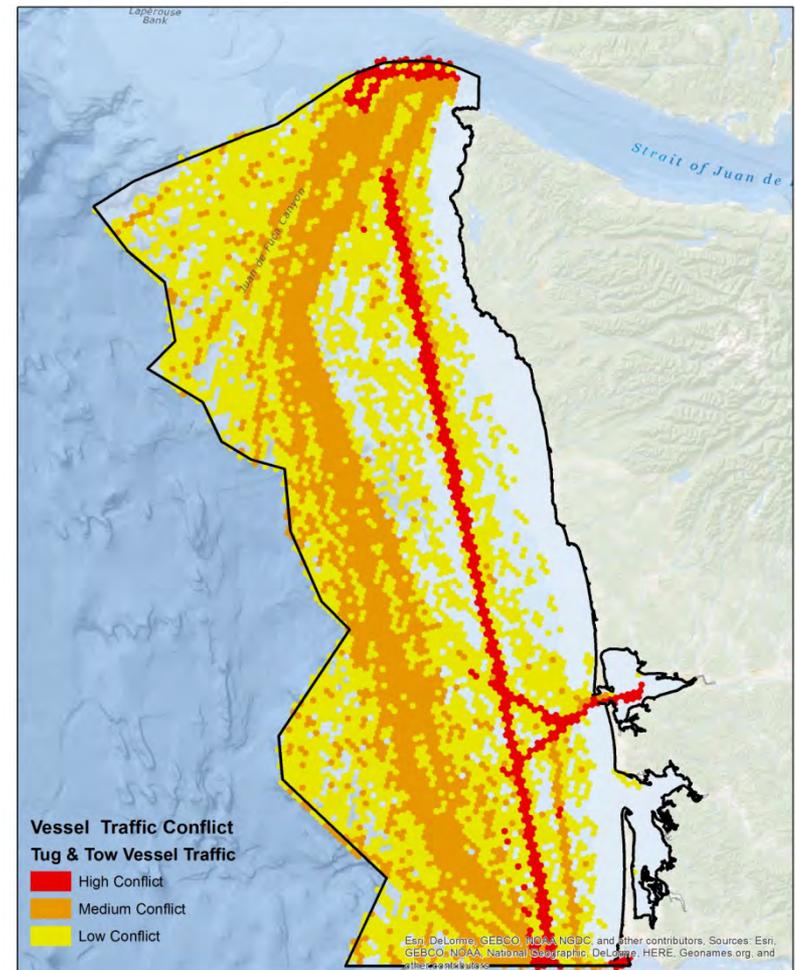


Existing Use Mapping – Shipping: draft conflict maps

Intensity data: Tug and Tow

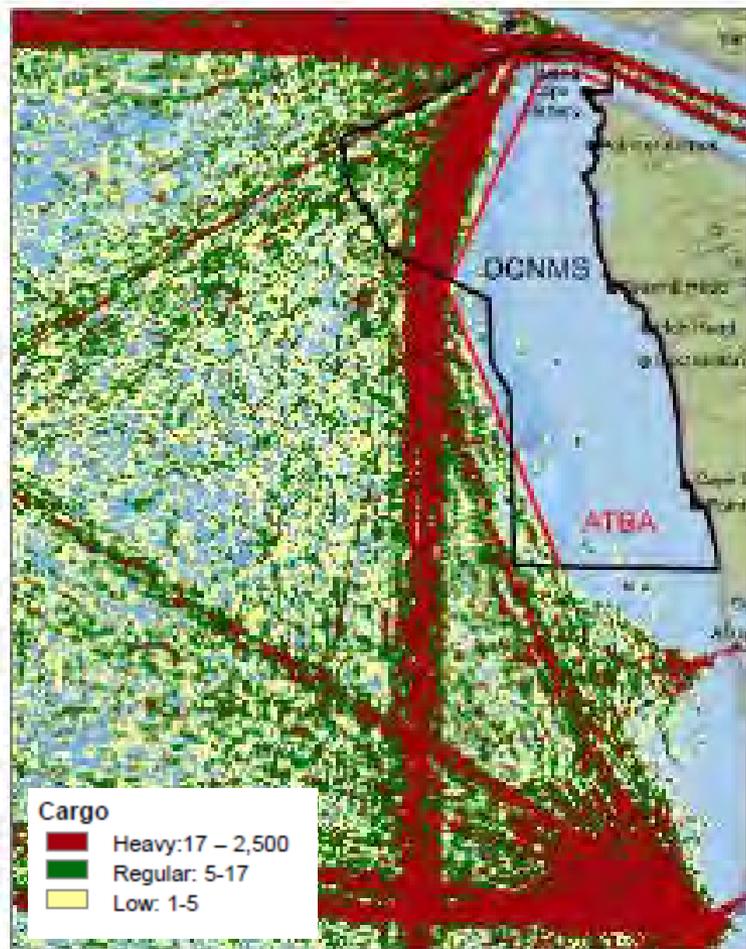


Conflict analysis: Tug and Tow

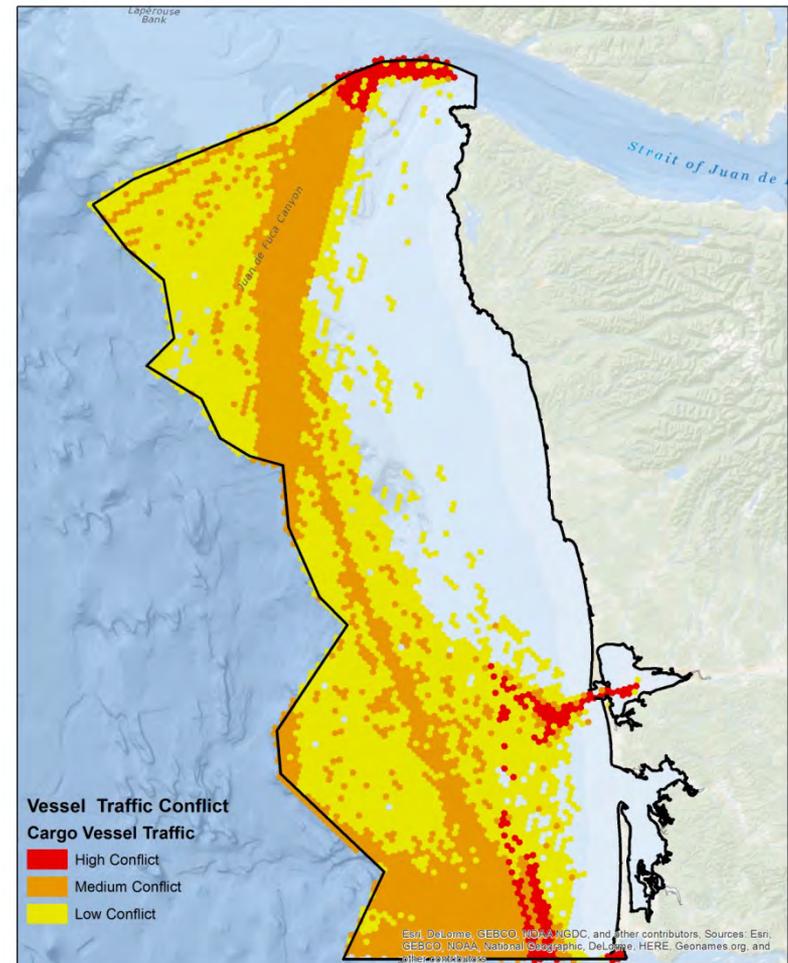


Existing Use Mapping – Shipping: draft conflict maps

Intensity data: Cargo

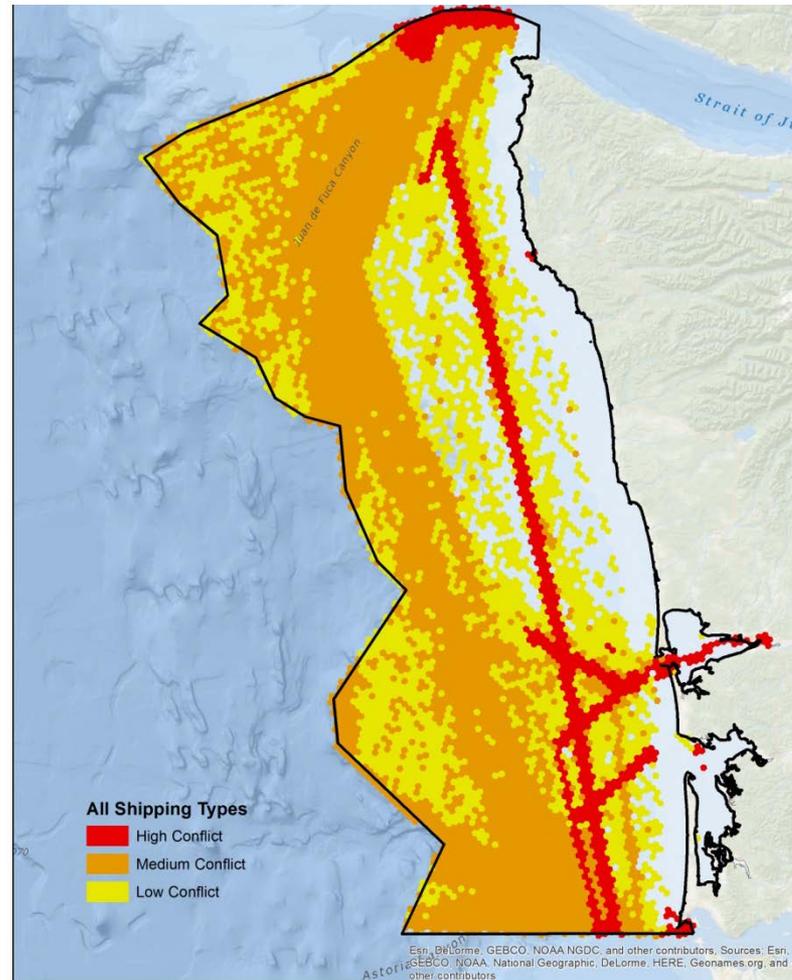


Conflict analysis: Cargo



Existing Use Mapping – Shipping: draft conflict maps

Conflict analysis: All shipping data



Next Steps & Timeline

Summer

Sector input on intensity data & conflict
GIS analysis

June 24

**WCMAC - describe general approach
& discuss conflicts**

Sept.

Tribal policy & technical review

Sept. 23

**WCMAC review draft conflict maps, discuss policy options
& provide input on recommended actions**

Oct

WDFW fisheries maps workshop?

Fall

GIS work & alternatives analysis

Dec.

Tribal policy & technical review

Dec. 9

**WCMAC review draft conflict maps, input on
recommended actions & alternatives**

Questions/Discussion

Questions to consider:

- If high conflict – what are the spatial actions we should consider?
- If medium conflict - what are the spatial actions we should consider?
- If low conflict - what are the spatial actions we should consider?

Social Indicators for the Washington Coast Integrated Ecosystem Assessment



Melissa Poe, Melissa Watkinson, Bridget Trosin & Kevin Decker
presentation to WCMAC June 24, 2015

Outline/Table of Contents

INTRODUCTION

- Integrated ecosystem assessments
- Social indicators of human wellbeing model
- Why indicators?

SOCIAL INDICATOR METHODOLOGY

- Quantitative Data
- Measuring Social Indicators

RESULTS

- Coast-wide conditions compared by domain
- Detailed Assessment by County, 2000-2013

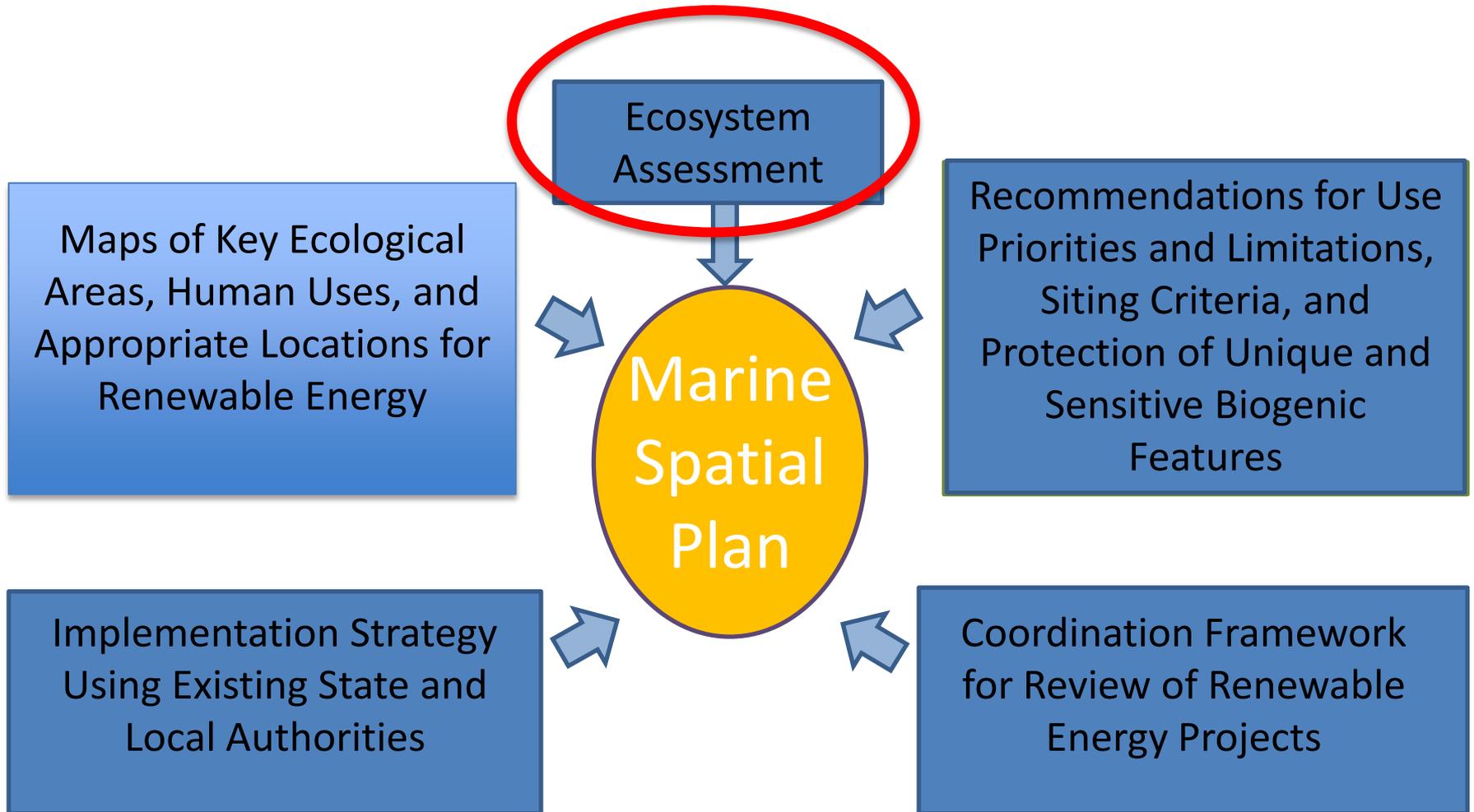
COMMUNITY ENGAGEMENT IN SOCIAL INDICATOR

DEVELOPMENT

- Identifying local coastal community values
- Social Indicator Workshops with Washington Coast
- Marine Resource Committees

CONCLUSION AND NEXT STEPS

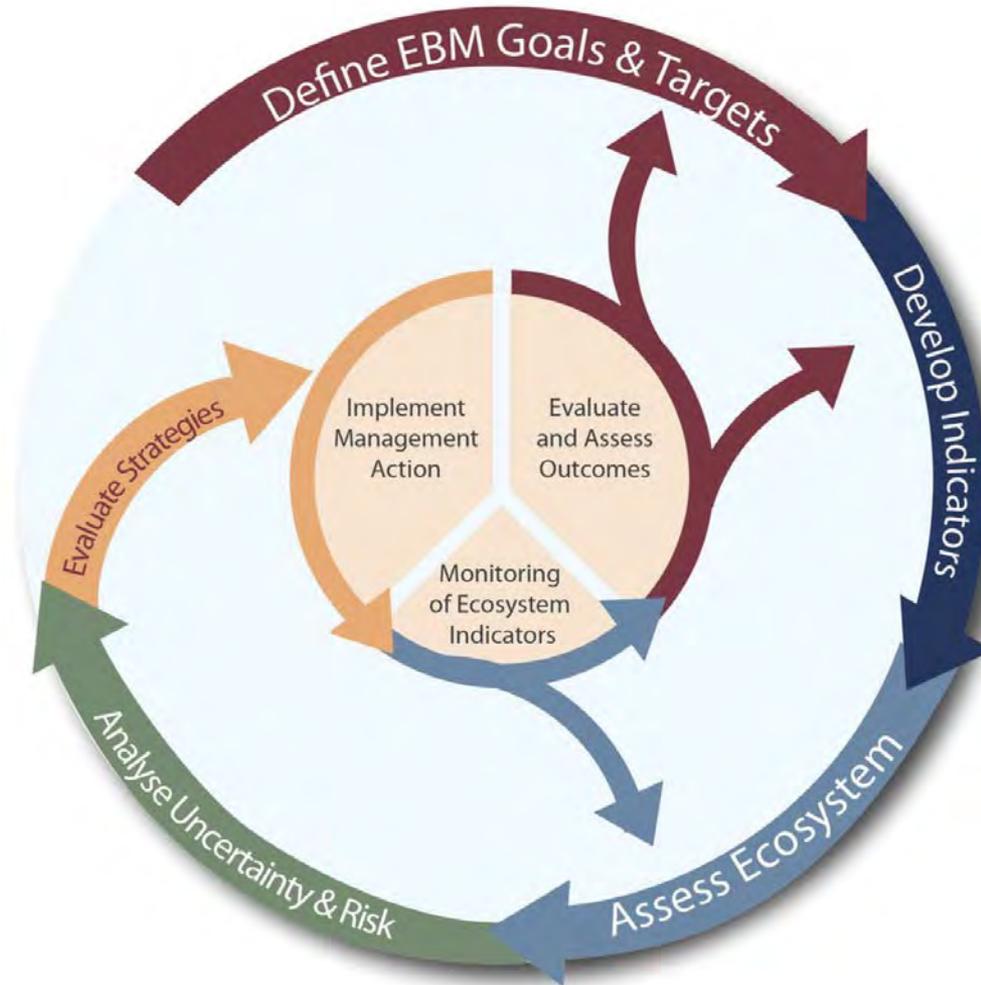
Requirements for marine spatial planning...



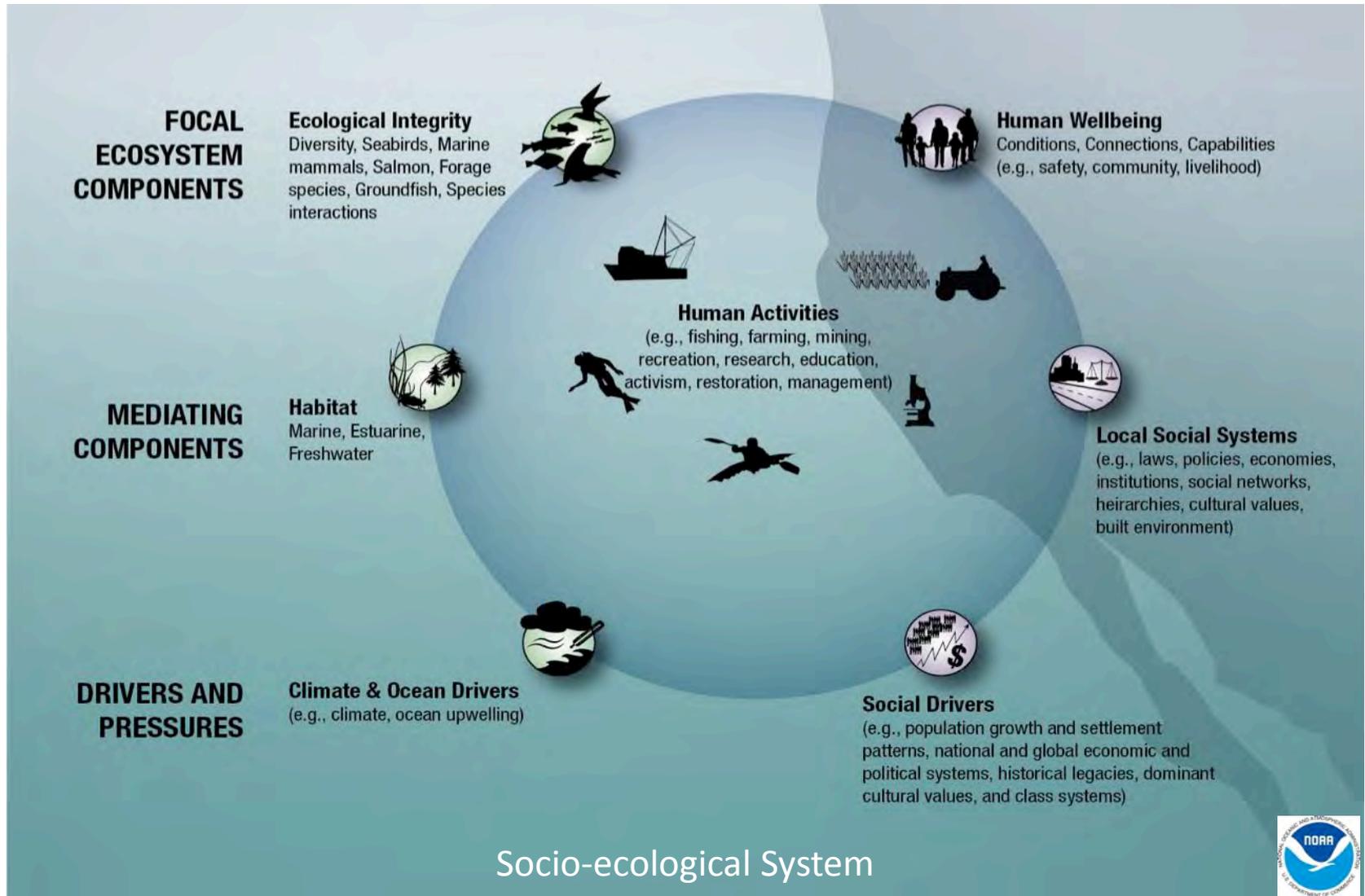
More than maps

- Sector analyses: shipping, recreation/tourism, fishing, renewable energy, and aquaculture
- Recreational use value
- Economic assessment
- Integrated ecosystem assessment
 - ecological, **social** and economic indicators

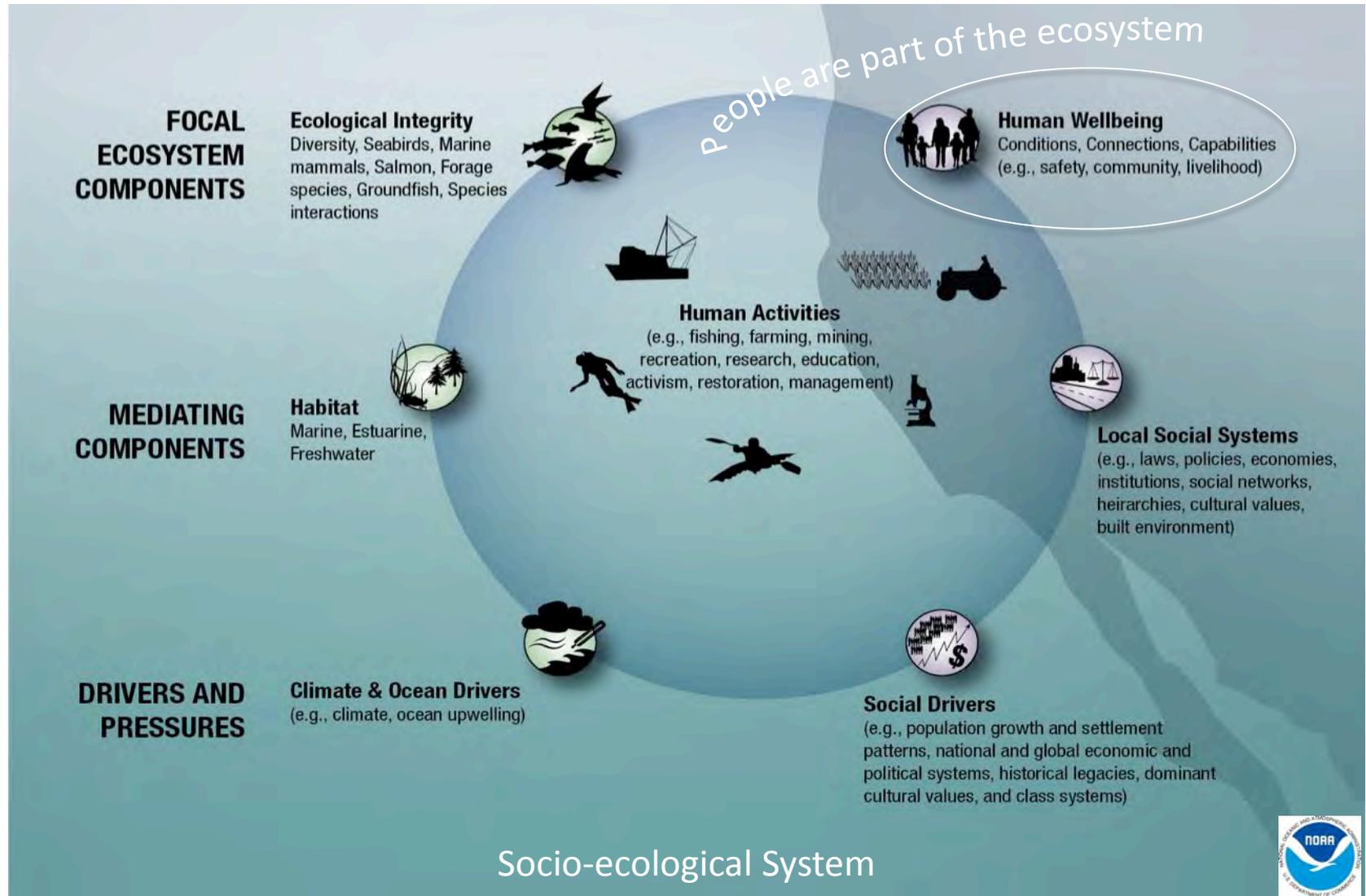
Integrated Ecosystem Assessments (IEA)



Integrated Ecosystem Assessments (IEA)



Integrated Ecosystem Assessments (IEA)



Human Wellbeing Overview

What is “human wellbeing” and why assess it?

- Wellbeing reflects the **socioeconomic conditions** of a population
- Populations can be **thriving, maintaining, declining**
- Assessments track **changes** in conditions, using indicators

Human wellbeing is a state of being with others and the environment, which arises where human needs are met, where individuals and communities can act meaningfully to pursue their goals, and where individuals and communities can enjoy a satisfactory quality of life.

Washington Coast Human Wellbeing Social Indicators Model



What are **Indicators**?

Indicators are commonly used tools for measuring a **system**

Ex: “pulse” or “temperature” for health vital signs

Types: Direct and indirect, objective and subjective



In socioecological systems, *indicators can be used to:*

- **Monitor, anticipate, and mitigate** conditions
- Provide **baselines** for planning and recovery
- Focus attention on areas **sensitive** to change and action



Washington Coast Social Indicators Model

- Social indicators for each domain of well-being
 - *Data quality and availability*
 - already exists
 - quantitative
 - collected at regular intervals
 - geographically comparable
 - Framework adapted from NOAA regional project

Dillard, M. K., Goedeke, T. L., Lovelace, S., & Orthmeyer, A. (2013). Monitoring well-being and changing environmental conditions in coastal communities: development of an assessment method. <http://aquaticcommons.org/14677/>

Basic Needs



Availability of clean water

Availability of healthy food

Child nutrition

Housing: value, size, age, facilities, availability

Access to Social Services

Human Services

Nutrition Assistance

Medical facilities

Medical care

Transportation



Health



Life expectancy

Mortality due to: cardiovascular, respiratory, cancer

Behavioral Health:
excessive alcohol use; mortality due to alcohol consumption

Fertility/Birth rate

Recreational opportunity: facilities, access to public lands

Education



Expenditure

Attainment

Enrollment

Social Connectedness



Access to communication

Participation in democracy

Social gathering places

Arts and culture

Tenure in community

Governance: Planning & Management

County planning

County management

Emergency Planning



Safety



Exposure/vulnerability to severe storms

Exposure/vulnerability to floods

Exposure/vulnerability to property crime

Exposure/vulnerability to violent crime

Environmental Conditions



Air quality

Coastal water quality

Beach closures

Impervious cover

Economic Security



Median household income

Poverty rates

Childhood poverty

Income inequality

Unemployment rate

Employment diversity

Industry distribution

Gross domestic product

Federal government expenditure

Local government revenues

Demographics



Population

Age

Gender

Race/ethnicity

Language

Disability

Veteran Status



Results:

Social Indicators Assessment

Coast-wide Comparisons

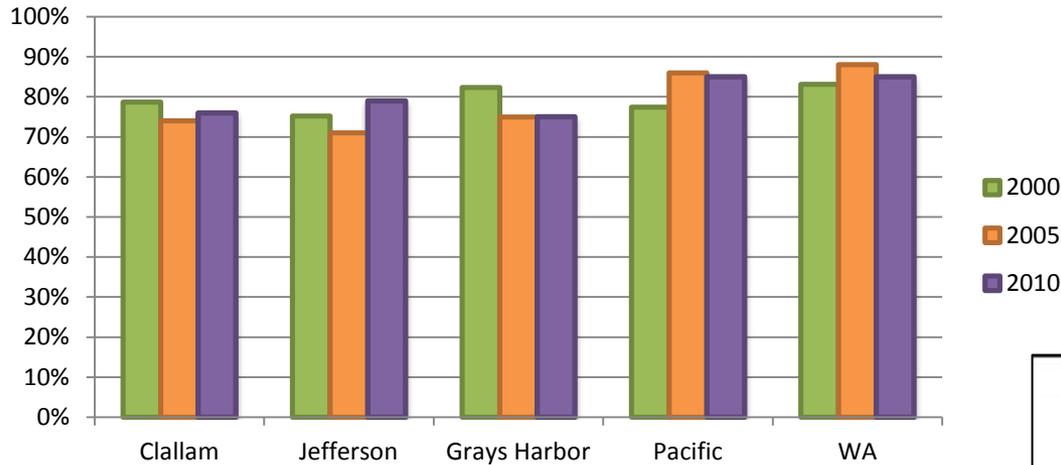
- Each indicator (59) for wellbeing domains (10)
- Trend analysis
 - ✧ change across time (2000-2013)
 - ✧ comparisons across counties/state averages
 - ✧ GIS maps of values ranges

In-depth County Assessment

- Each indicator (59) for wellbeing domains (10)
- change across time (2000-2013)

Basic Needs

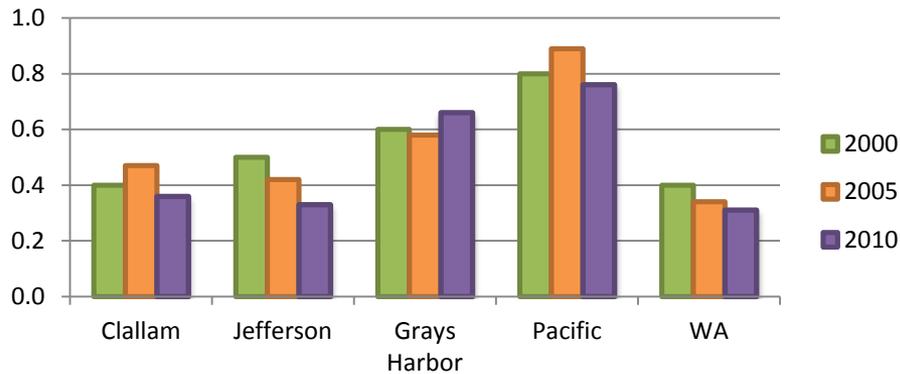
Availability of Clean Water Proportion of total population served by public water supply



Basic Needs – 9 indicators

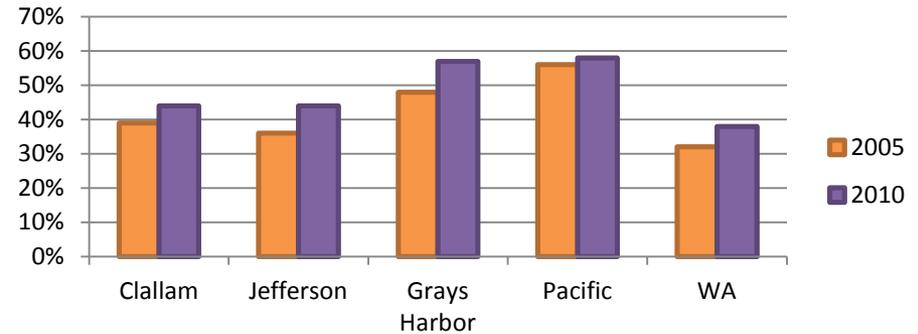
Availability of Healthy Food

Healthy food outlets per 1000 people



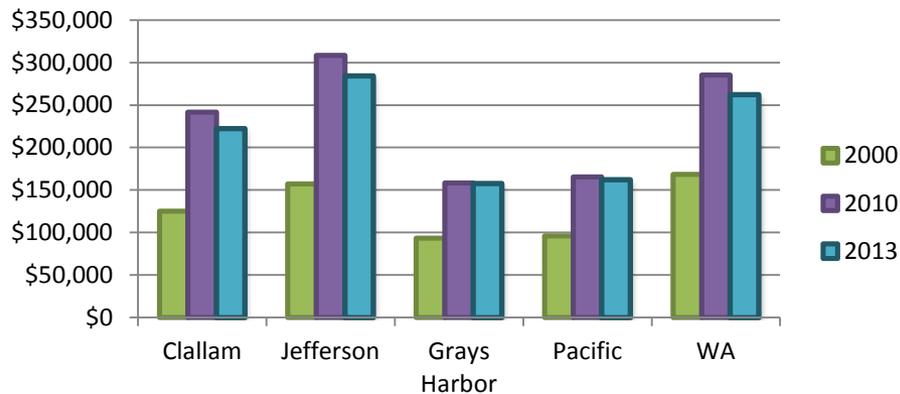
Child Nutrition

Proportion of enrolled students eligible for the National School Lunch Program



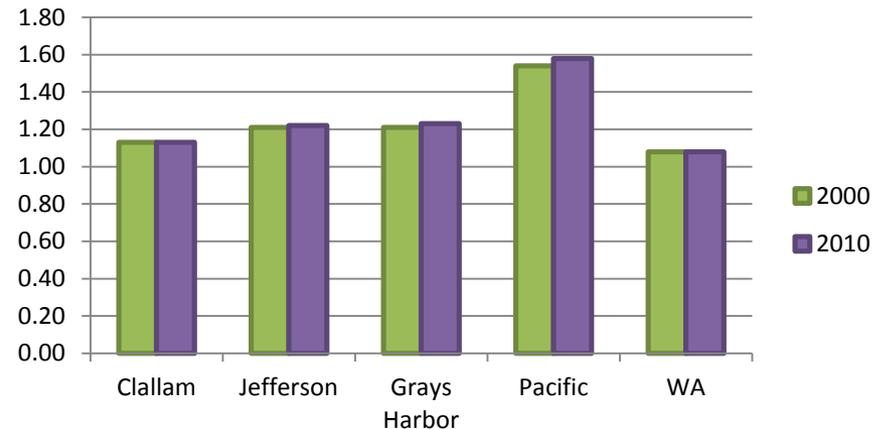
Housing Value

Median dollar value of housing units



Housing Availability

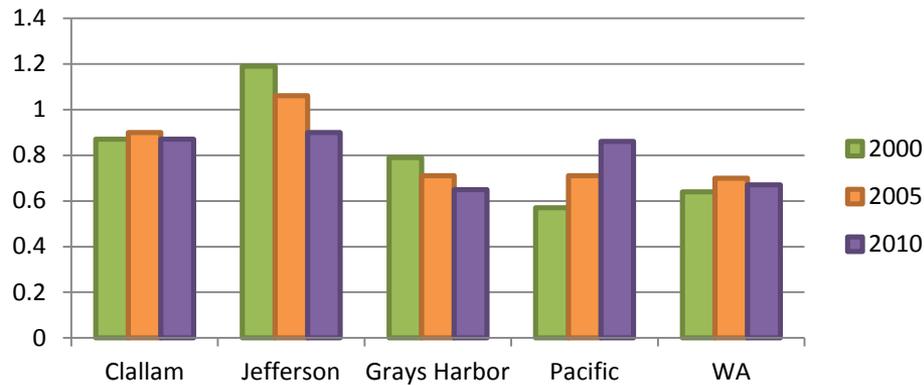
Number of housing units available per household



Access to Social Services – 5 indicators

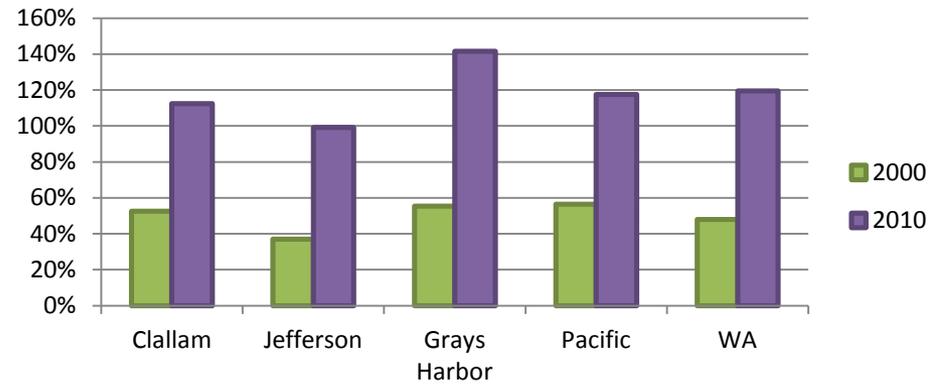
Human Services

Social assistance establishments per 1000 people



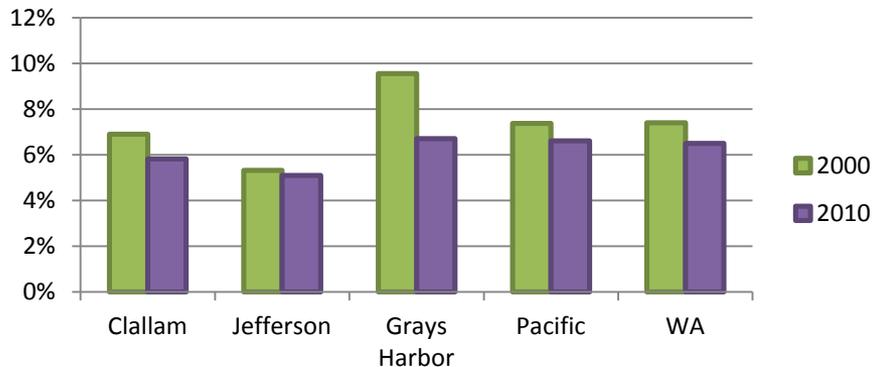
Nutrition Assistance

Proportion of people in poverty participating in SNAP



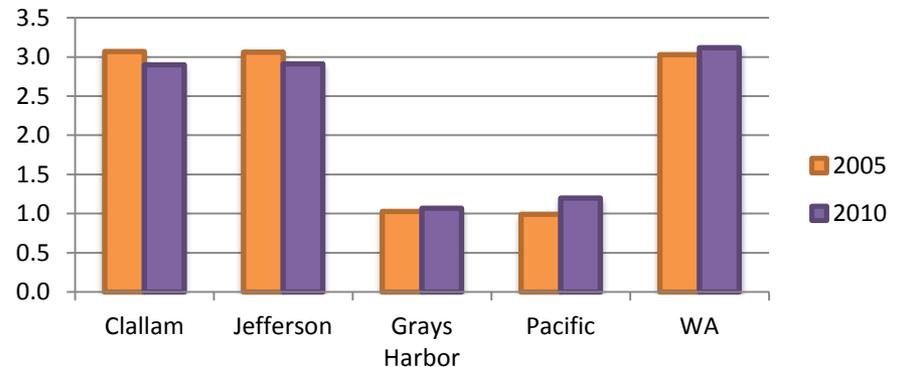
Transportation

Proportion of households without a vehicle



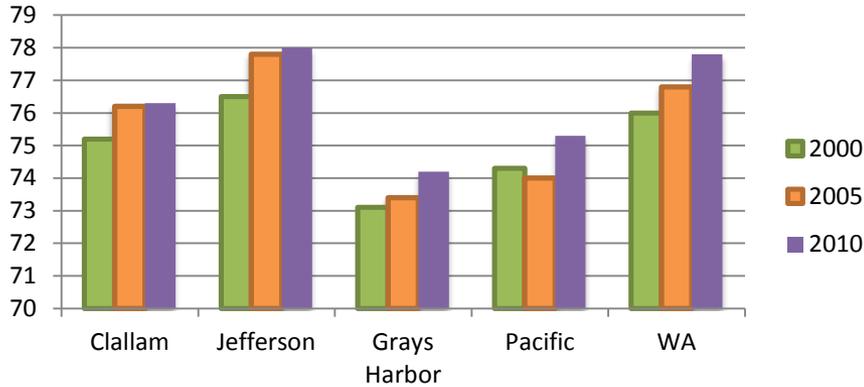
Medical Care

Number of physicians per 1000 people

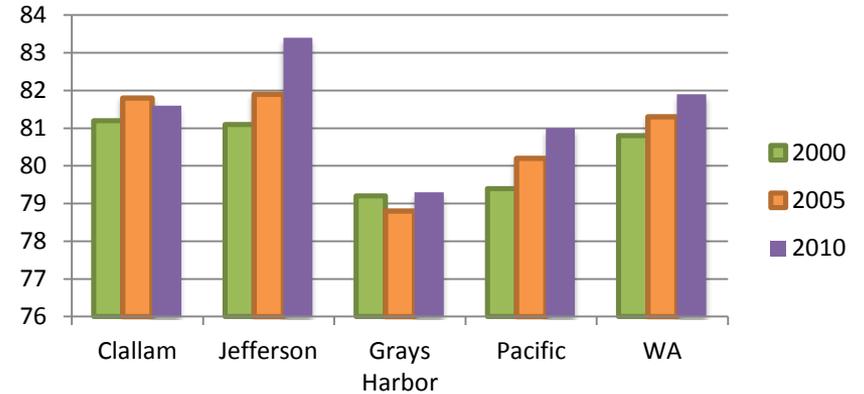


Health – 9 indicators

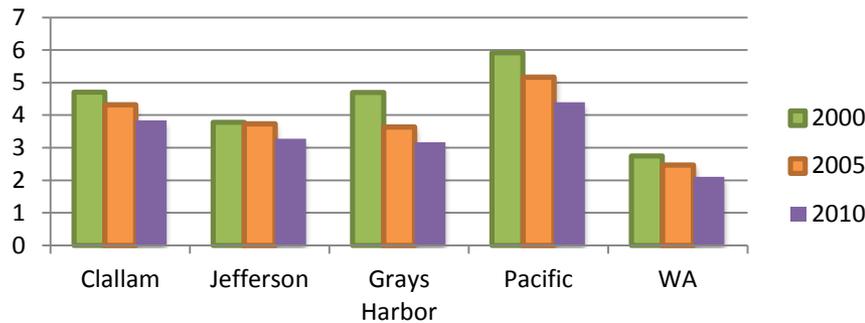
Life Expectancy (M)
Male life expectancy



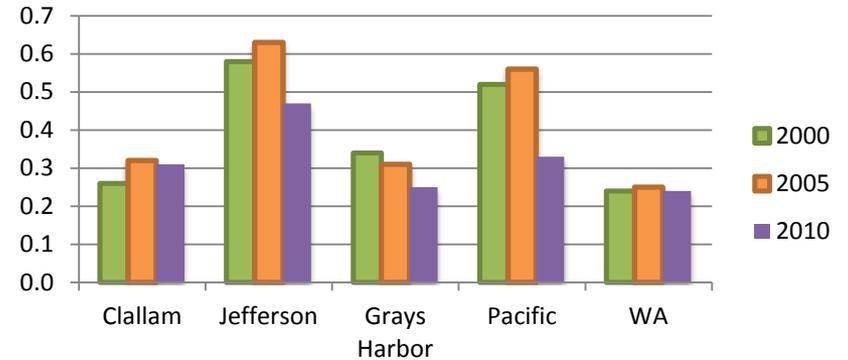
Life Expectancy (F)
Female life expectancy



Mortality - Cardiovascular Disease
Proportion of deaths caused by major cardiovascular diseases per 1000 people



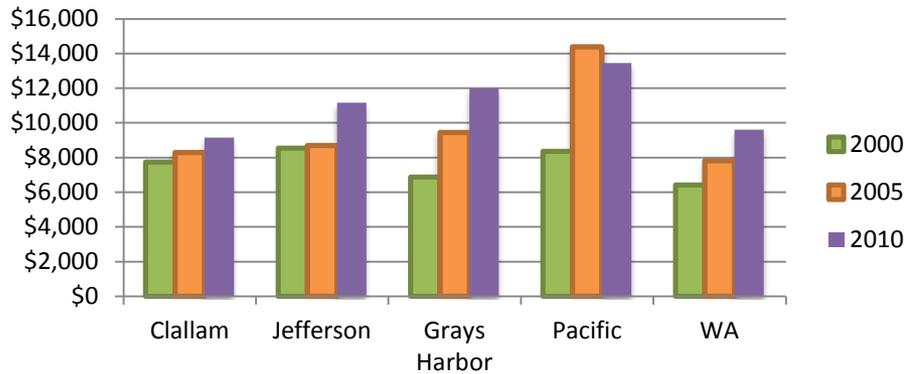
Recreational Opportunity
Recreational facilities per 1000 people



Education – 3 indicators

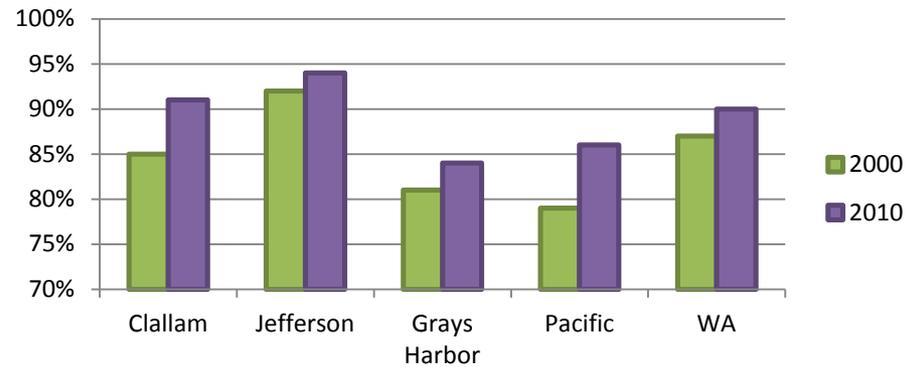
Education Expenditure

Average education expenditure per student enrolled in public school (K-12)



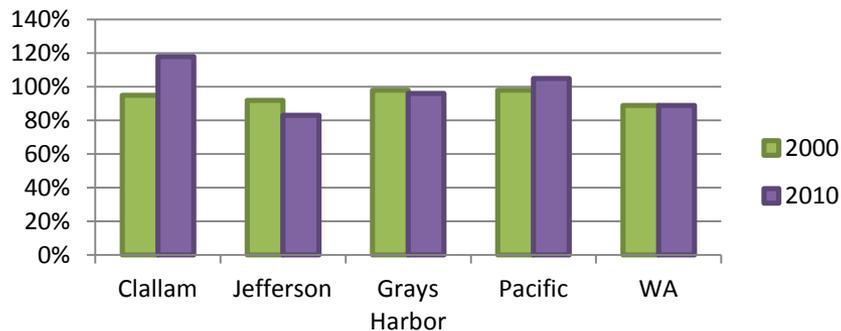
Education Attainment

Proportion of total population over 25 years of age with at least a high school diploma or equivalent



Education Enrollment

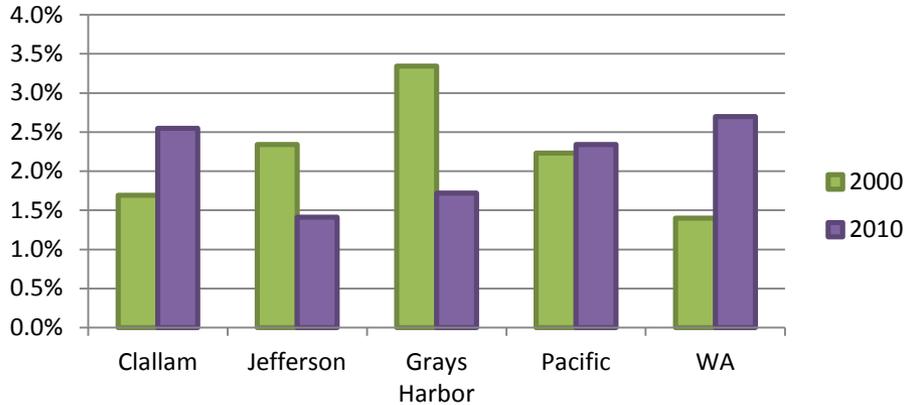
Proportion of total school age (5-17) population enrolled in public school



Social Connectedness – 5 indicators

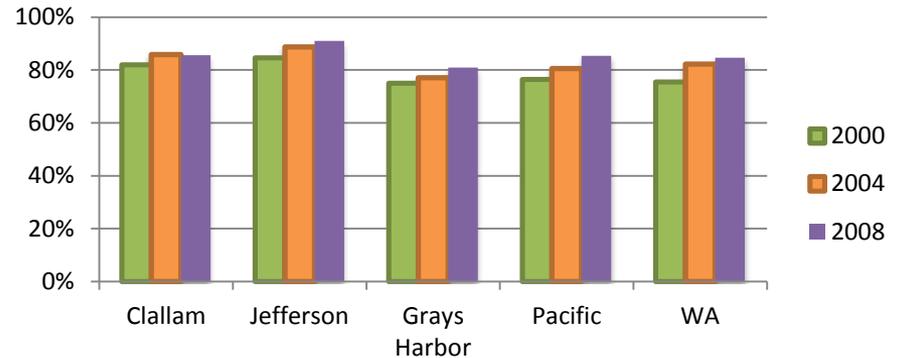
Access to Communication

Proportion of households without telephone service



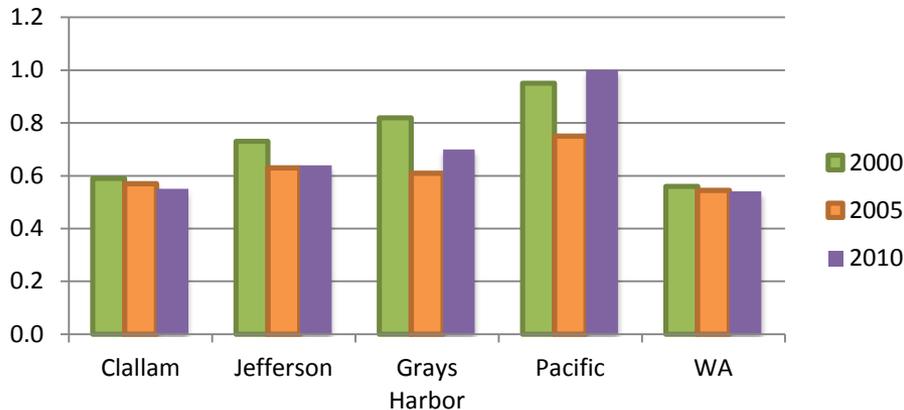
Participation in Democracy

Proportion of registered voters who participated in national/presidential elections



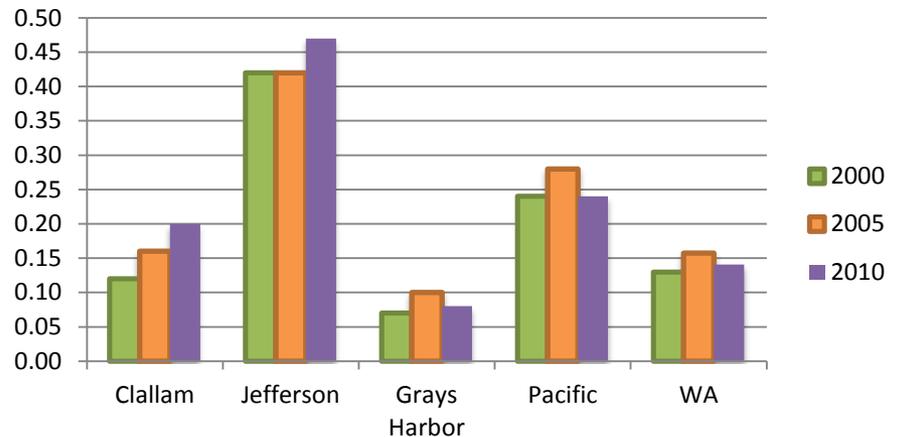
Social Gathering Places

Religious organizations per 1000 people



Arts and Culture

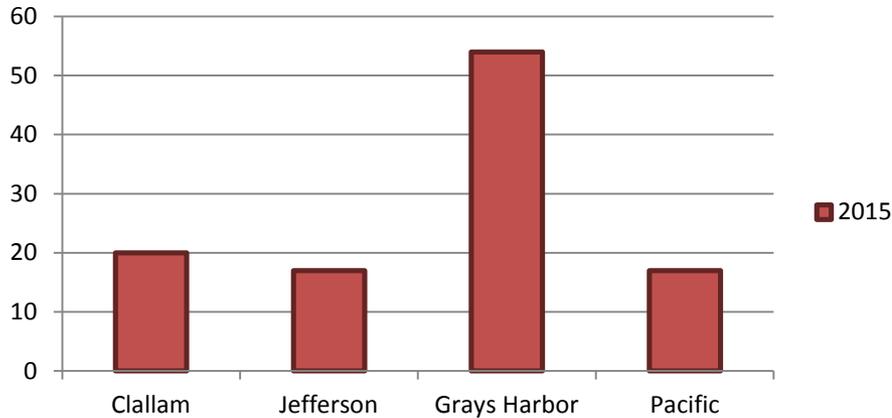
Arts and humanities organizations per 1000 people



Governance: Planning & Management – 3 indicators

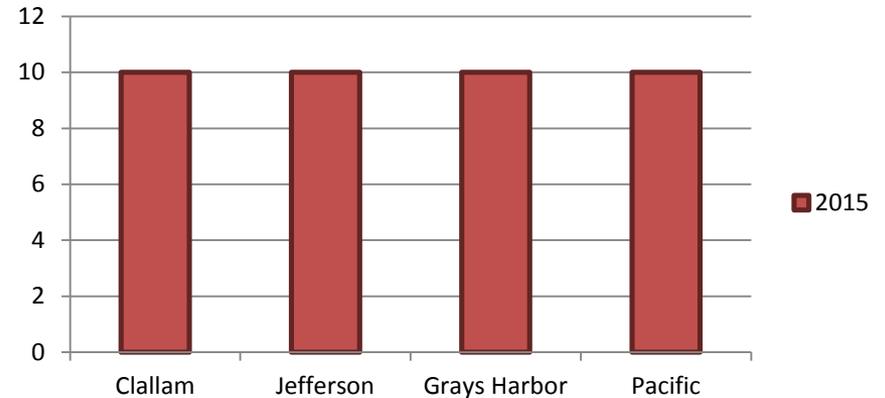
County Planning

Years since comprehensive plan was adopted



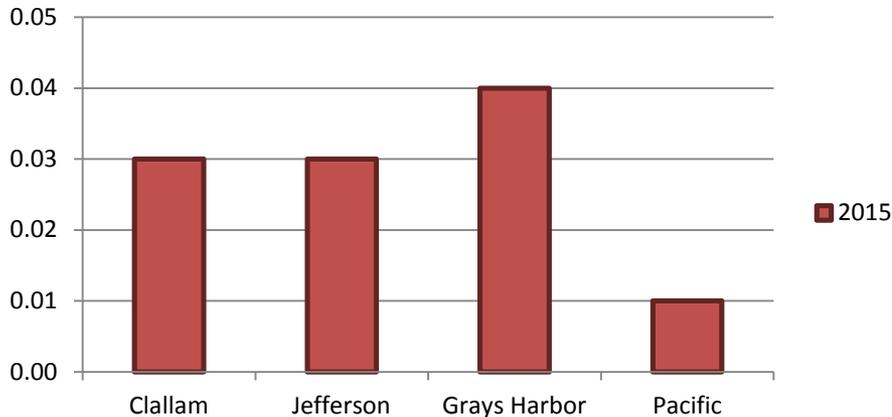
County Management

FEMA's Community Ranking System county score



Emergency Planning

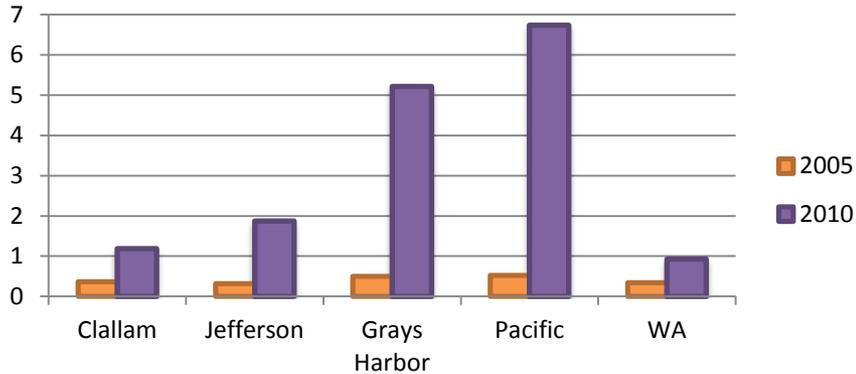
Number of CERT programs per 1000 people



Safety – 4 indicators

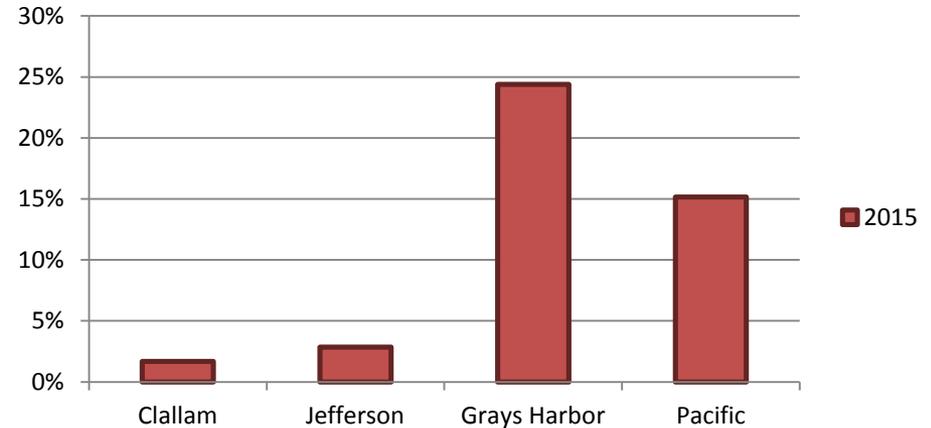
Exposure to Severe Storms

Number of FEMA funded projects for declared events per 1000 people



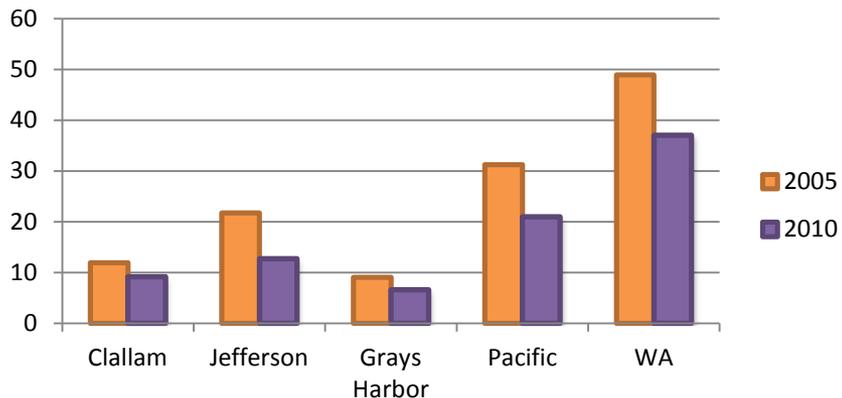
Exposure to Flood Events

Proportion of population in the SFHA zone



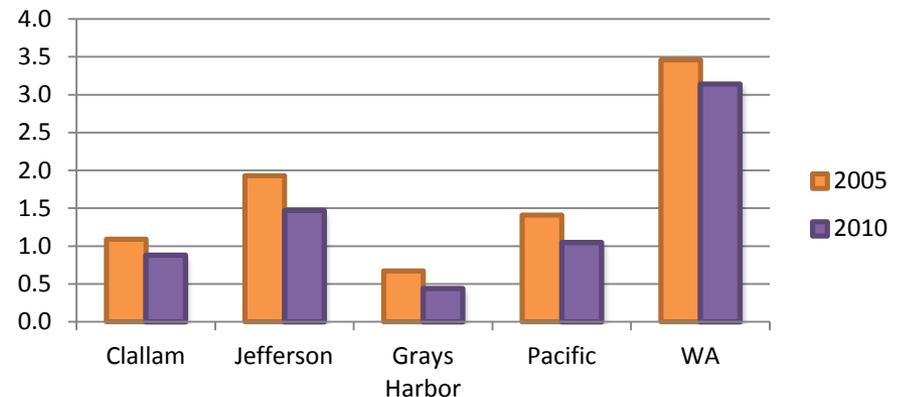
Exposure to Property Crime

Property crime rate (known incidents per 1000 people)



Exposure to Violent Crime

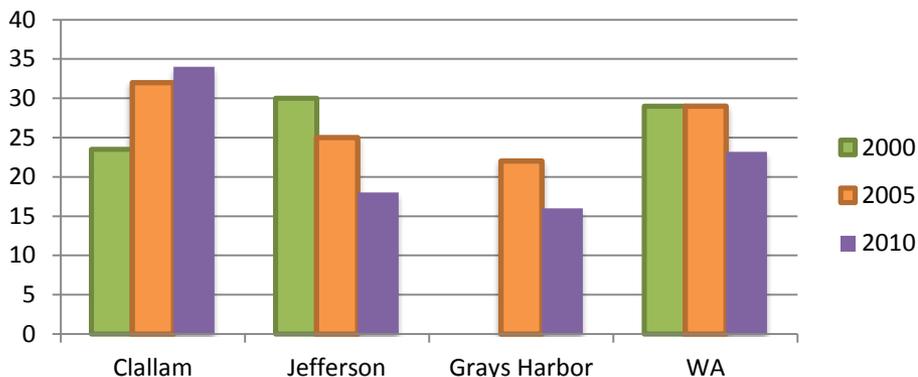
Violent crime rate (known incidents per 1000 people)



Environmental Conditions – 4 indicators

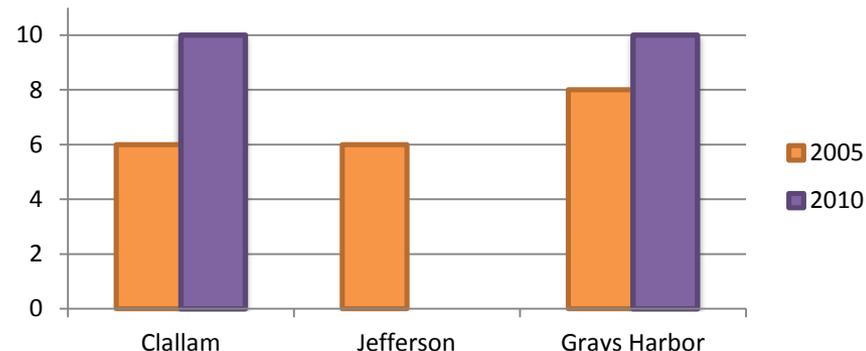
Air Quality

Median Air Quality Index score (1-200; 1=best)



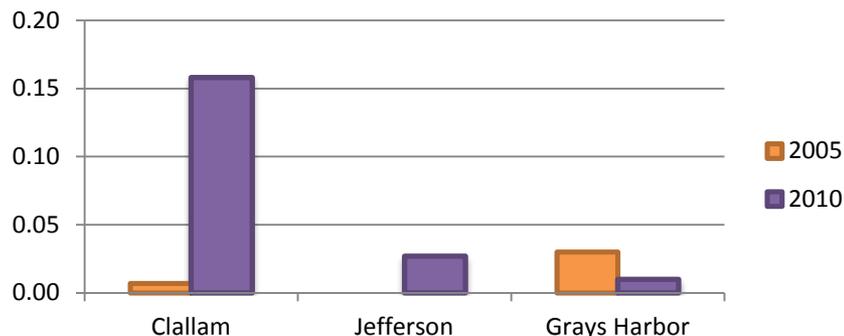
Beach Water Quality

Median water quality grade of wet days



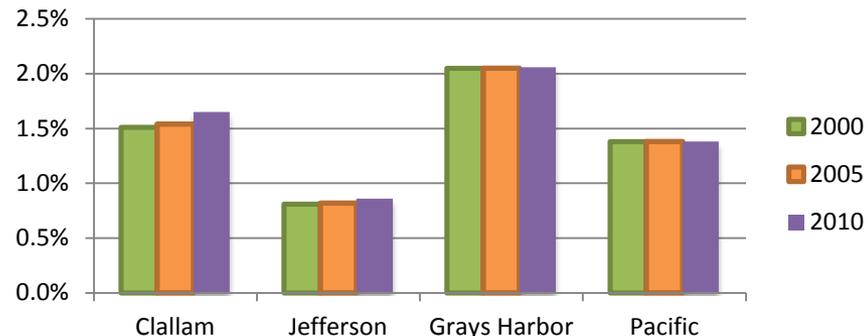
Beach Closures

Number of reported beach advisories or closures per last 5 years (*per mile or shoreline)



Impervious Cover

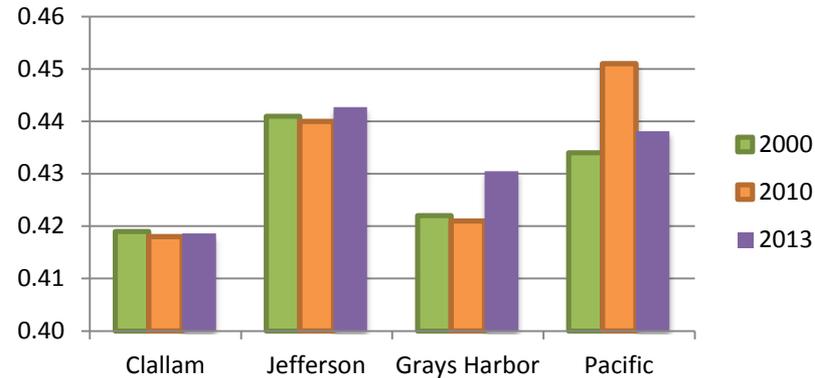
Percentage of total land cover that is developed (sq mi)



Economic Security – 10 indicators

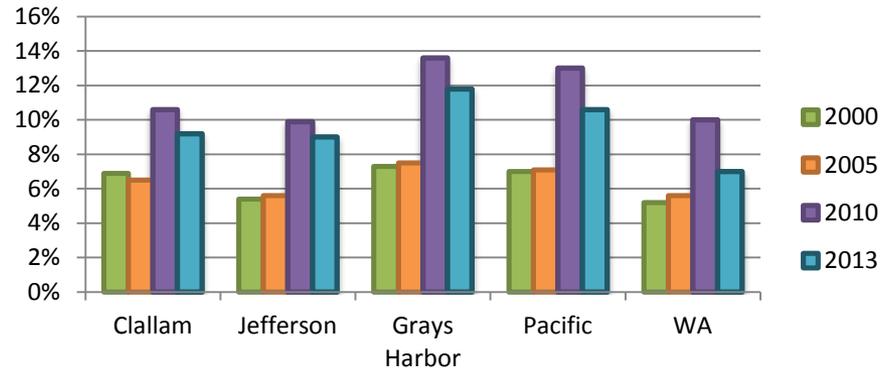
Income Inequality

County Gini Coefficient

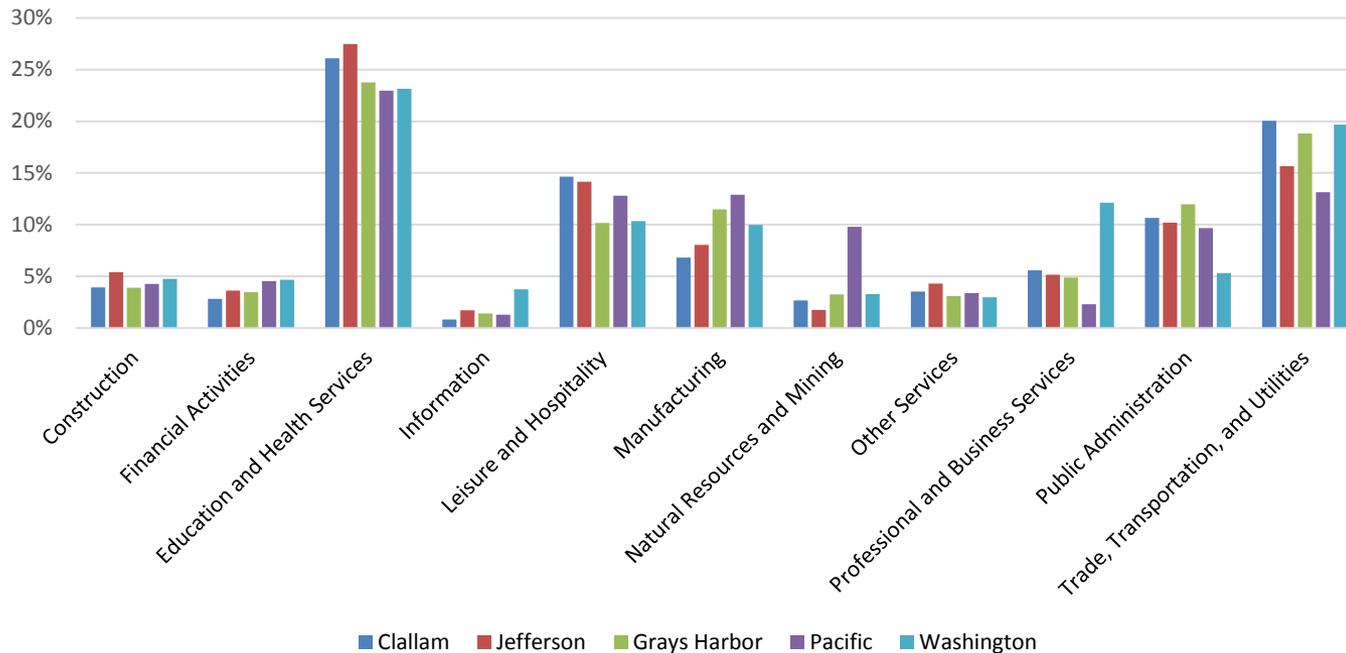


Economic Security of Individuals

Civilian labor force unemployment rate

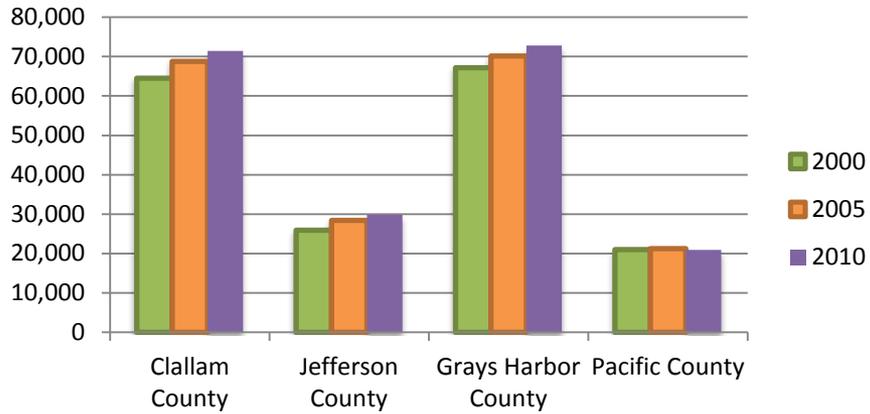


Industry Distribution 2013

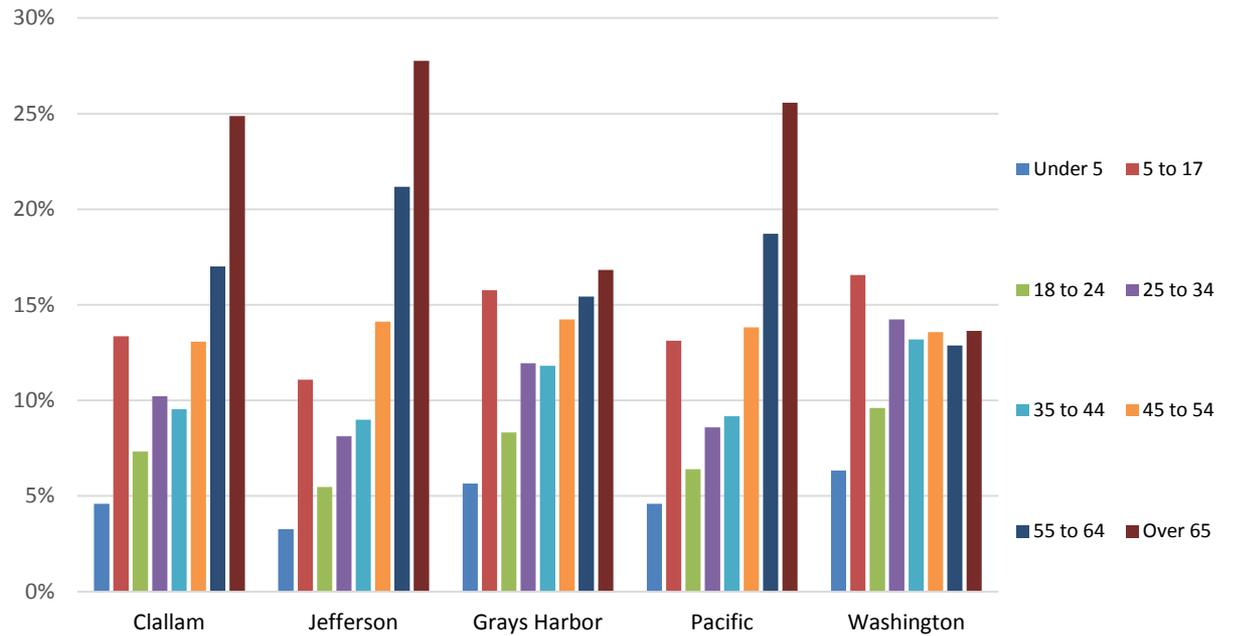


Demographics – 9 indicators

County Population



Age Distribution 2013

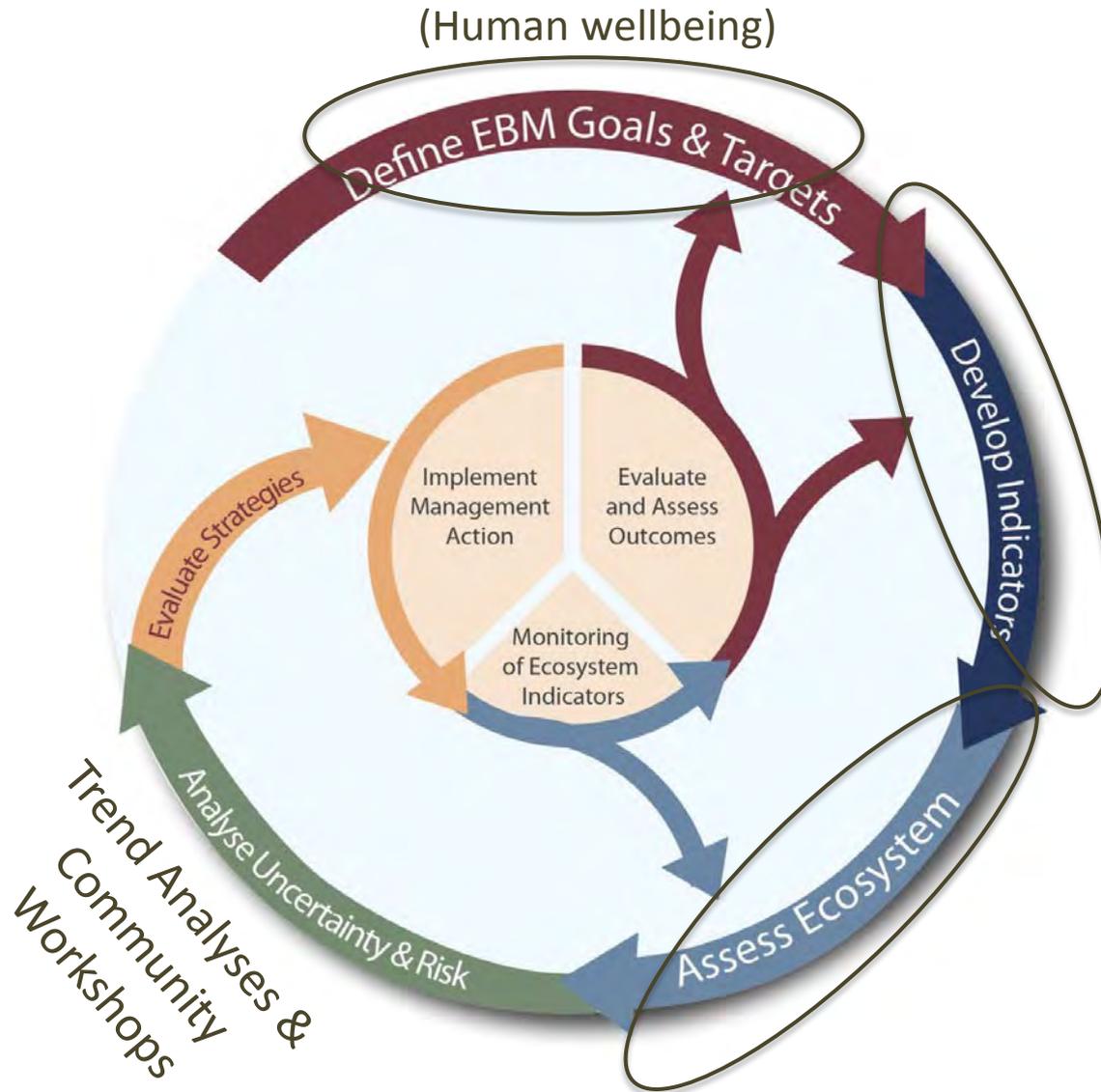




Community Engagement in Social Indicator Development

- Identifying local coastal community values
- Social Indicator Workshops with Washington Coast Marine Resource Committees (3 workshops)

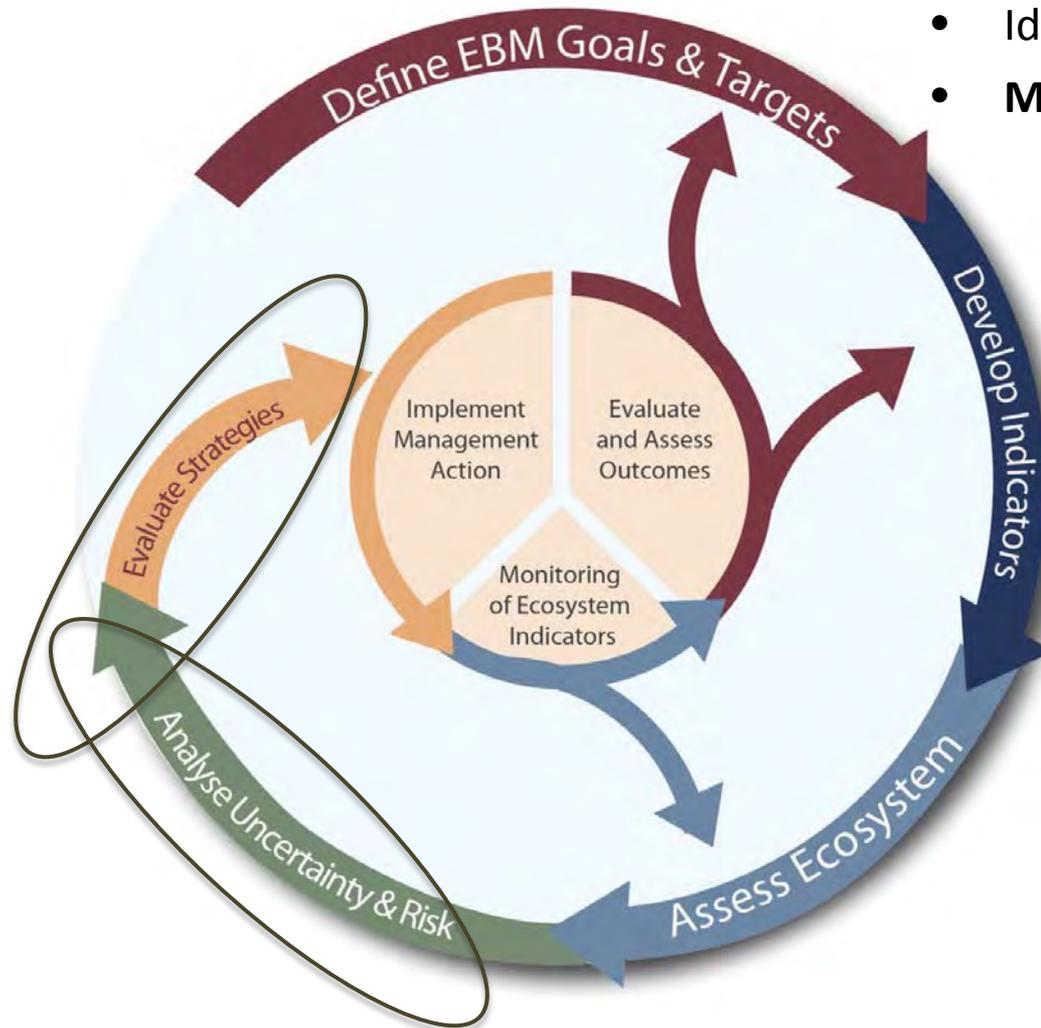
Summary: Social indicators for WA IEA



Washington IEA Social Indicators

➤ Next steps:

- Provide **baselines**
- **Monitor** and **anticipate**
- Identify **vulnerabilities**
- **Mitigate** conditions



Comments or Questions?

For more information, contact:

Melissa Poe, Social Scientist: mpoe@uw.edu

Bridget Trosin, Coastal Policy Specialist: bemmett@uw.edu

Kevin Decker, Marine Outreach Specialist: kadecker@uw.edu



Washington State Seashore Conservation Area



MISSION

THE WASHINGTON STATE PARKS AND RECREATION COMMISSION CARES FOR WASHINGTON'S MOST TREASURED LANDS, WATERS AND HISTORIC PLACES. STATE PARKS CONNECT ALL WASHINGTONIANS TO THEIR DIVERSE NATURAL AND CULTURAL HERITAGE AND PROVIDE MEMORABLE RECREATIONAL AND EDUCATIONAL EXPERIENCES THAT ENHANCE THEIR LIVES.

VISION

WASHINGTON'S STATE PARKS WILL BE CHERISHED DESTINATIONS WITH NATURAL, CULTURAL, RECREATIONAL, ARTISTIC AND INTERPRETIVE EXPERIENCES THAT ALL WASHINGTONIANS ENJOY, APPRECIATE AND PROUDLY SUPPORT.

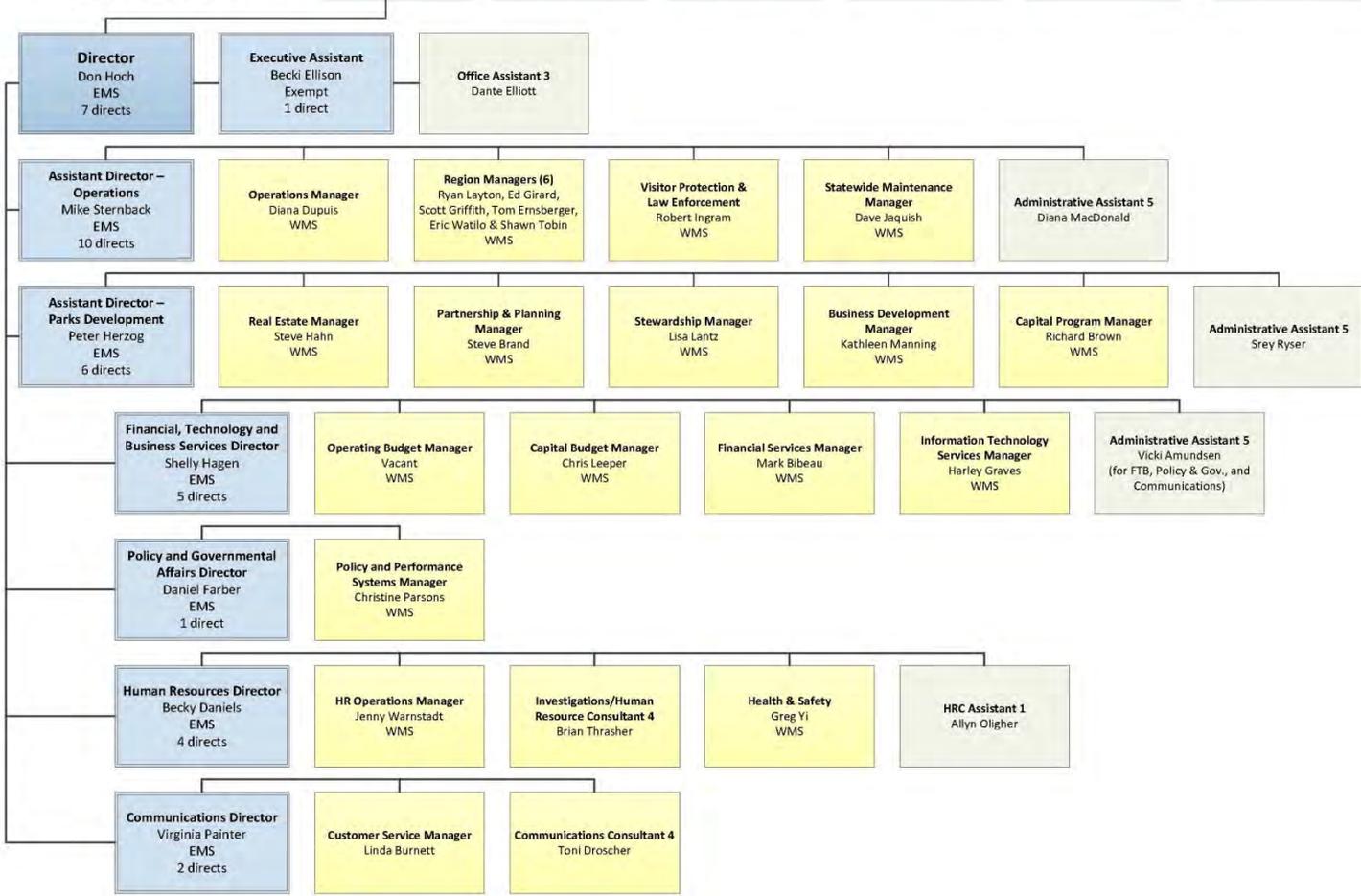


Organizational Chart



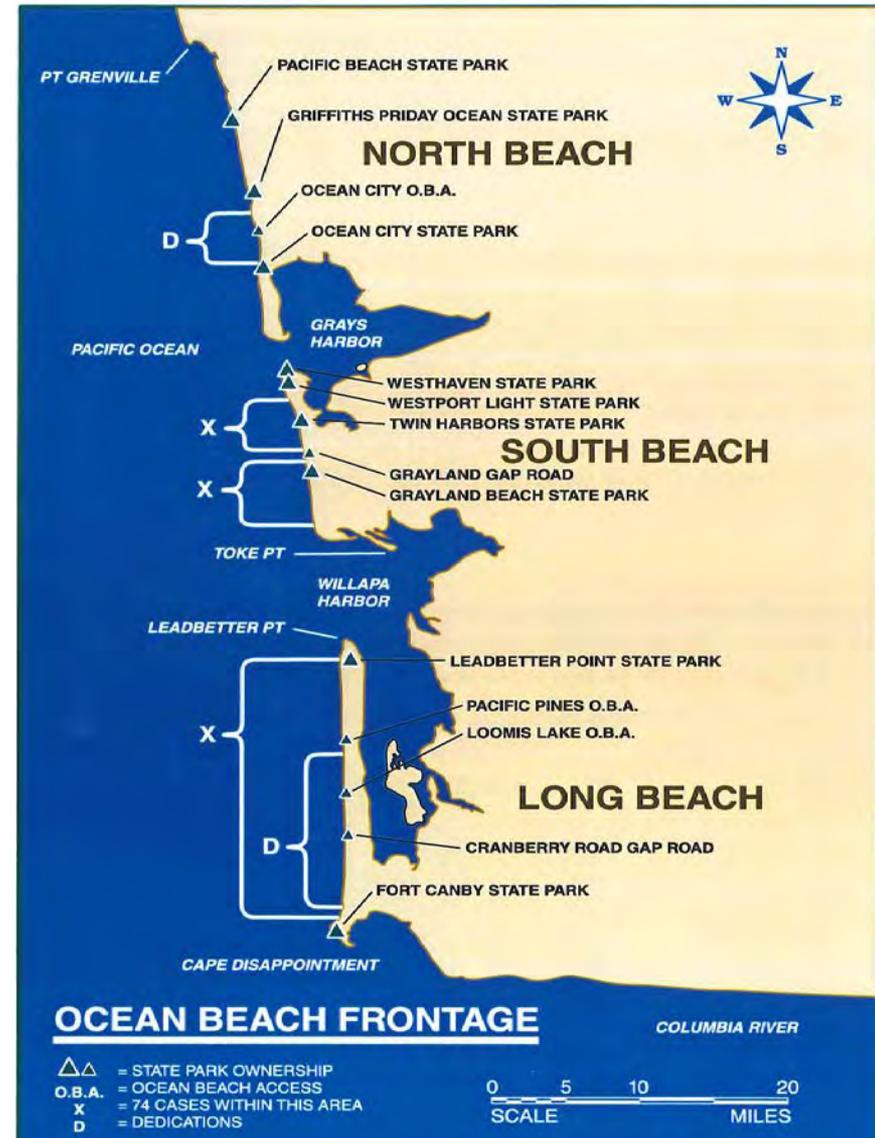
Washington State Parks and Recreation Commission
Updated January 2015

- Commissioner**
Lucinda Whaley
Term Exp: 12/20
- Commission Chair**
Patricia Lantz
Term Exp: 12/20
- Commission Vice-Chair**
Steve Milner
Term Exp: 12/16
- Commission Secretary**
Mark Brown
Term Exp: 12/16
- Commissioner**
Ken Bounds
Term Exp: 12/18
- Commissioner**
Douglas Peters
Term Exp: 12/18
- Commissioner**
Rodger Schmitt
Term Exp: 12/20

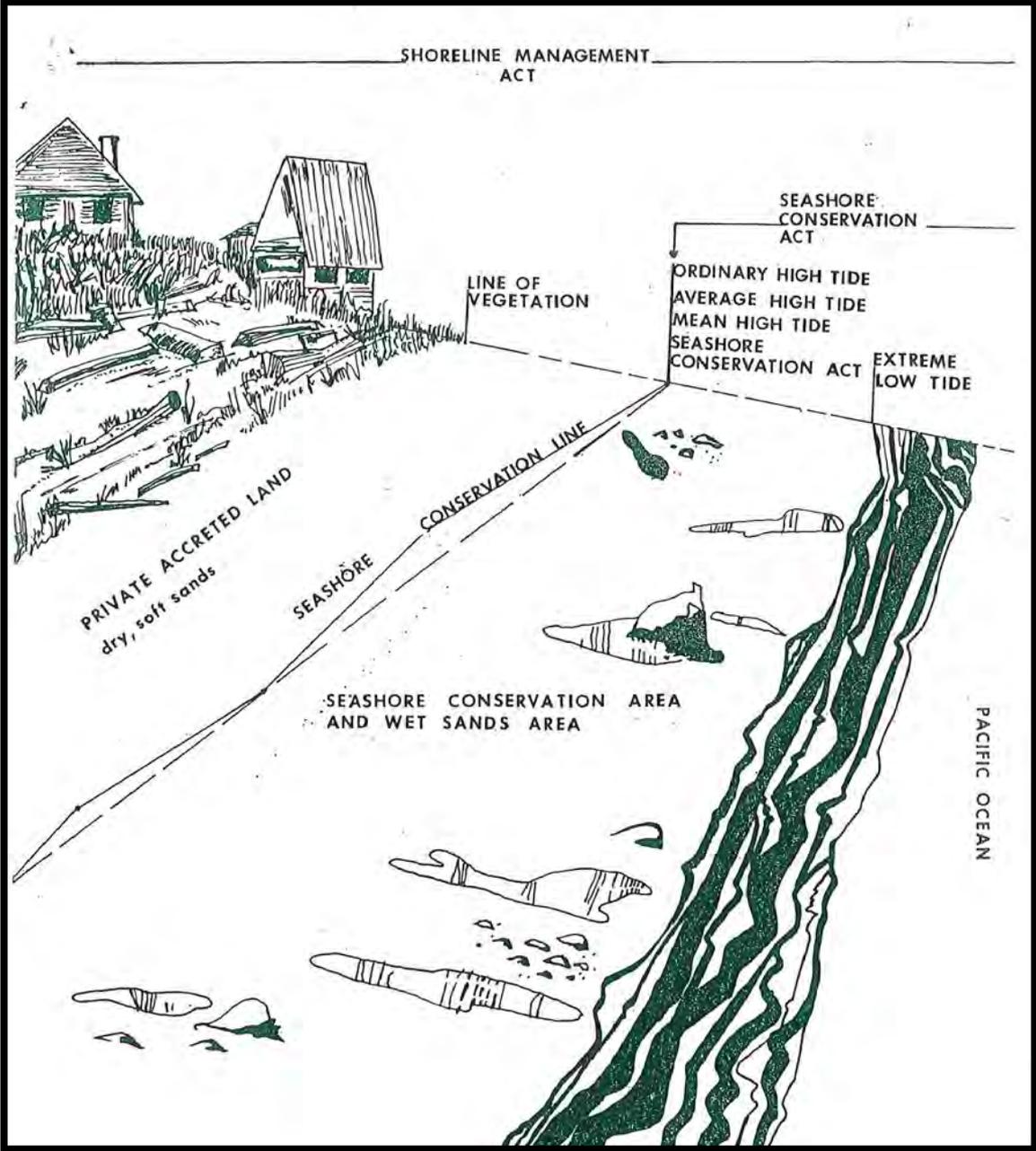


Seashore Conservation Area

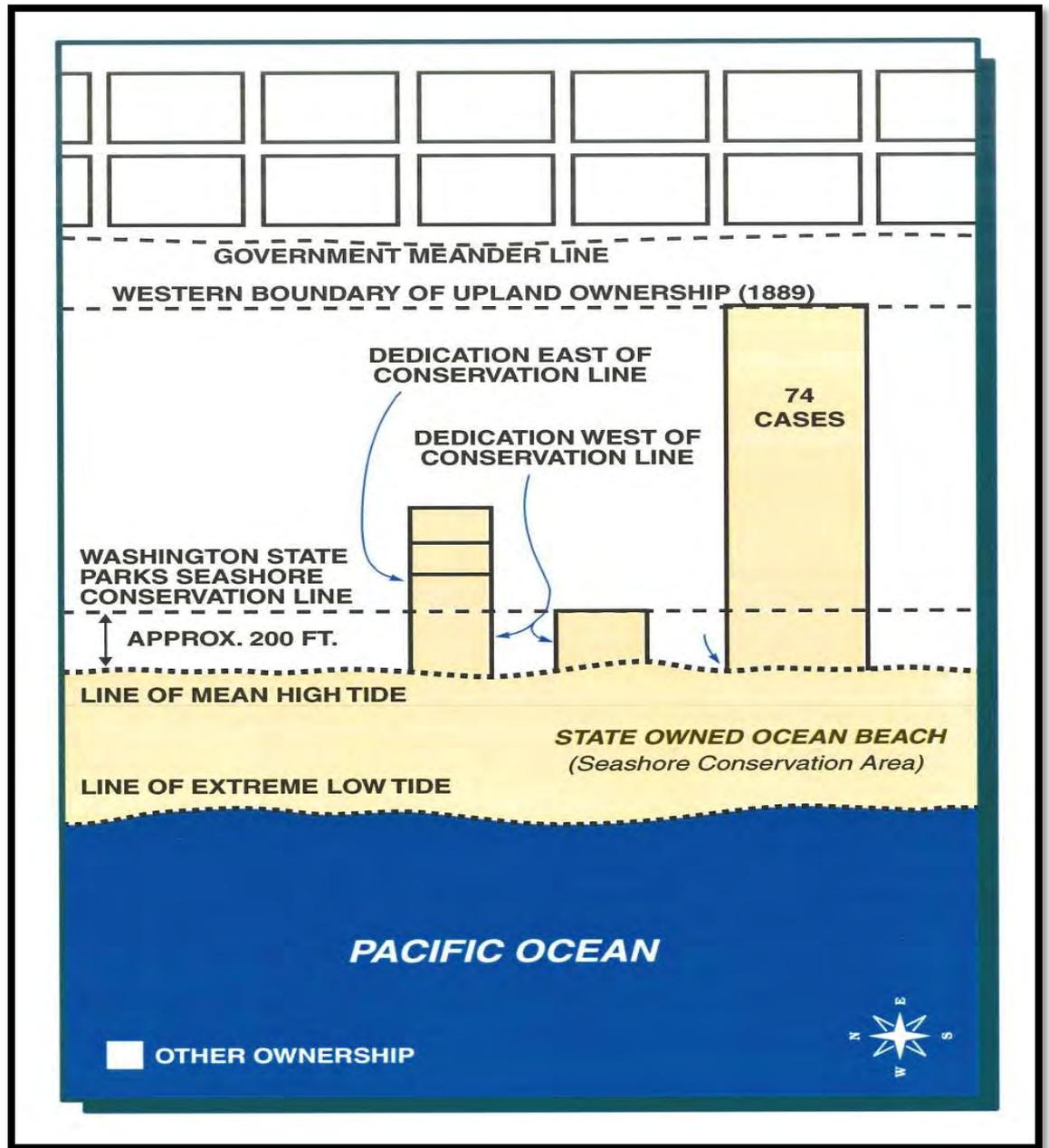
- Established in 1967
- Managed by State Parks
- Purpose = Recreational use and public enjoyment
- Mouth of the Columbia River to Quinault Reservation
- From extreme low tide line to mean high tide line
- Surveyed every 10 years
- Legislatively established public highway



Seashore Conservation Area



Seashore Conservation Area



Wet Sand Area



Upland Vegetation



Seashore Conservation Area

RCW 79A.05.600

- Specifically preserves WDFW authority to regulate conservation and taking of food fish and shellfish
- Specific DNR authorization to lease lands for oil and gas exploration and production
- Allows sale of sand to cranberry growers
- Reserves 40% of length of beach for pedestrian (non-motorized) use



Seashore Conservation Area

Project Authorizations in SCA

- Commercial use permit to operate concessions in the SCA
- Scientific research permit
- Easements authorizing use of park land for a defined amount of time (i.e. installing underground cable, above ground infrastructure, etc.)
- State Environmental Policy Act (SEPA)

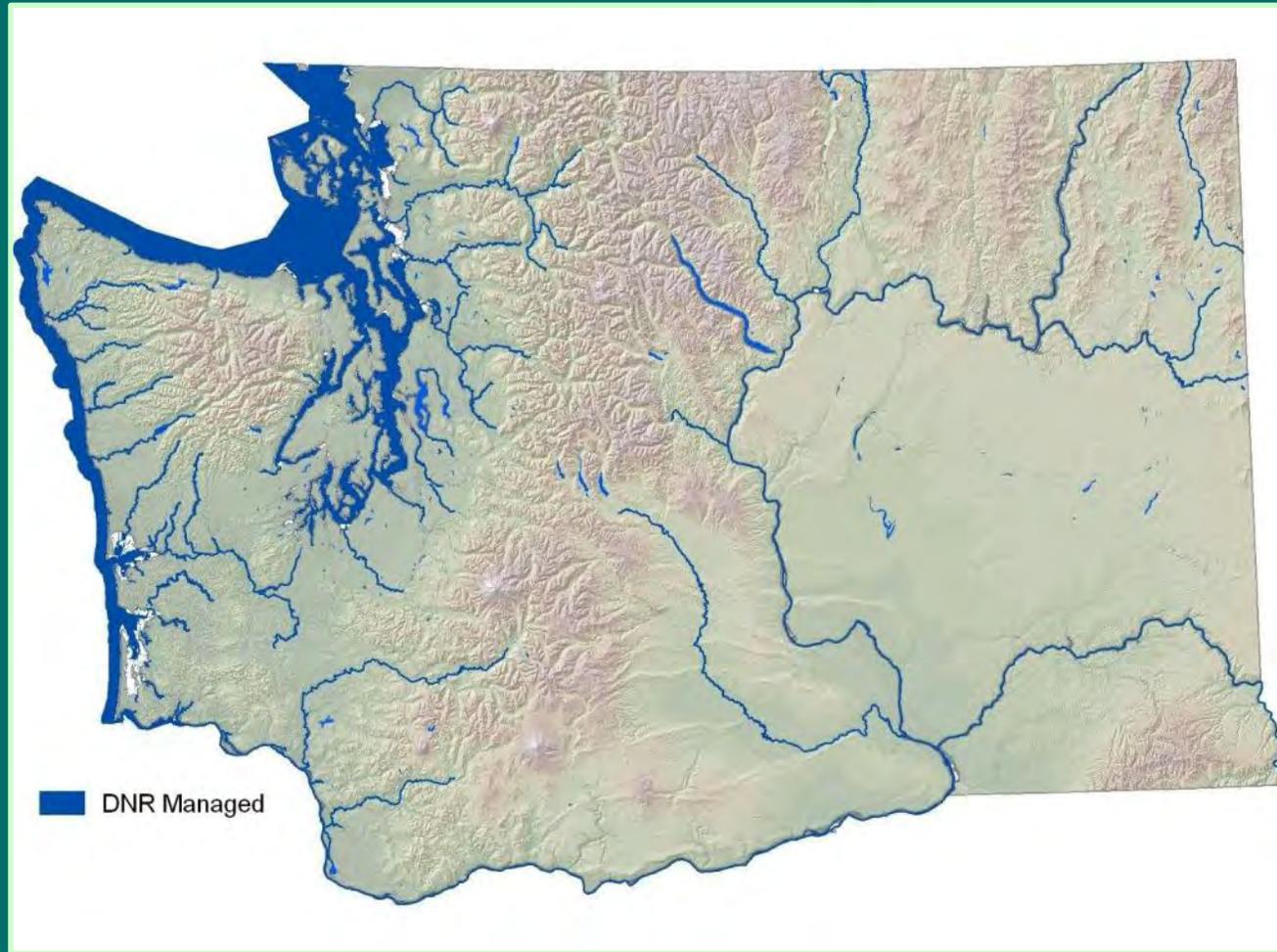




WASHINGTON STATE DEPARTMENT OF
Natural Resources

Peter Goldmark - Commissioner of Public Lands

State-Owned Aquatic Land



"...all tidelands, shorelands, harbor areas, the beds of navigable waters, and waterways owned by the state and administered by DNR..."

(RCW 79.105.060(20))



State-Owned Aquatic Land

Roughly 2.6 Million Acres

Marine

Freshwater

Nearshore



Rivers



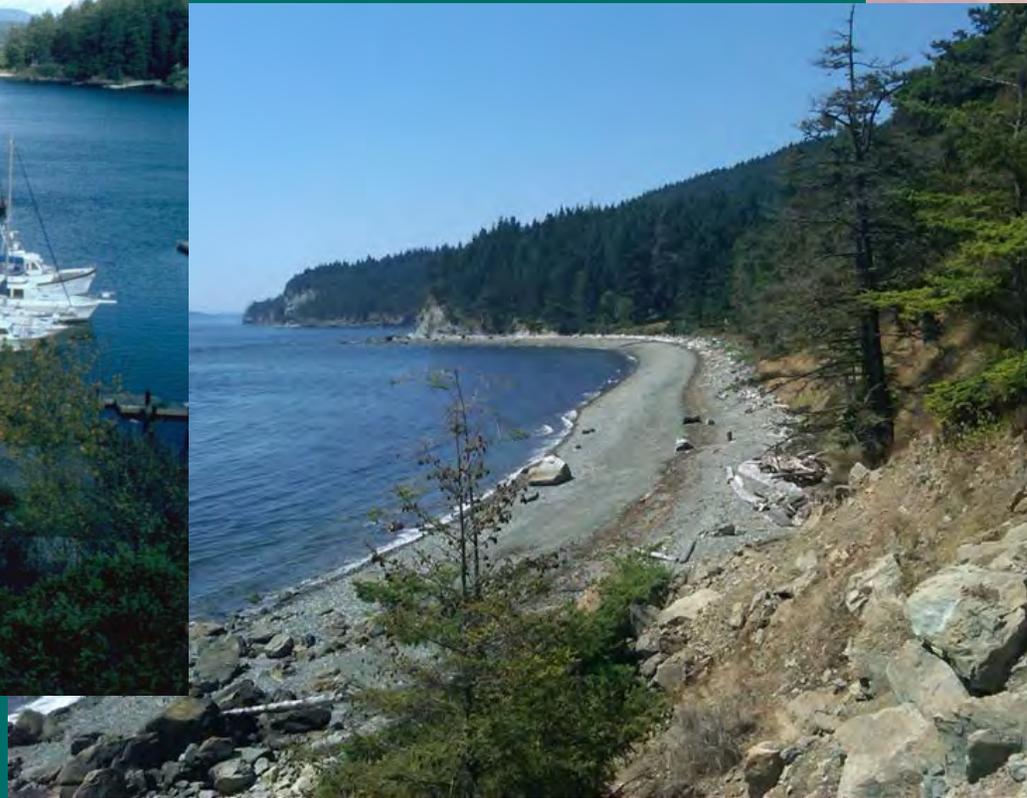
Offshore



Lakes



1984 Aquatic Lands Act

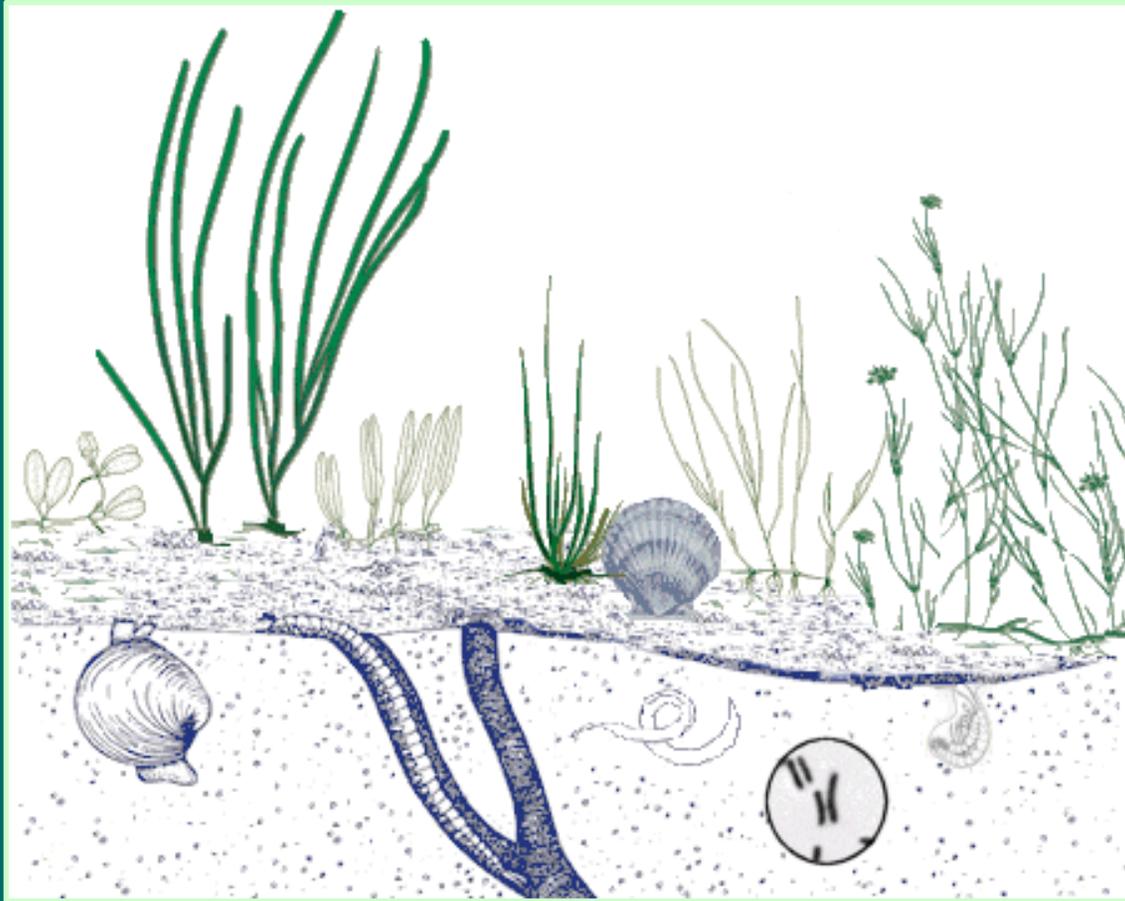


Leasing: A Strong Emphasis on Land Stewardship



Resources Managed

Attached Biological Communities



Graphic: NOAA Coastal Services

- Vegetation
- Diatoms
- Molluscs
- Shrimp
- Sponges
- Worms
- Bacteria



DNR Authorities

- WA State Constitution
 - Articles XV, XVII
- Aquatic Land Statutes (RCW)
 - RCW Chapter 79.100 through 79.140
- Aquatic Lands Administrative Code (WAC)
 - WAC 332-30
- Administrative rules govern implementation of statutes



Applying for Authorization

- DNR is a proprietary entity and manages land on behalf of the people of the state
- JARPA is used to request private use
- Stewardship
- Compensation to the state
- Regulatory requirements must also be met



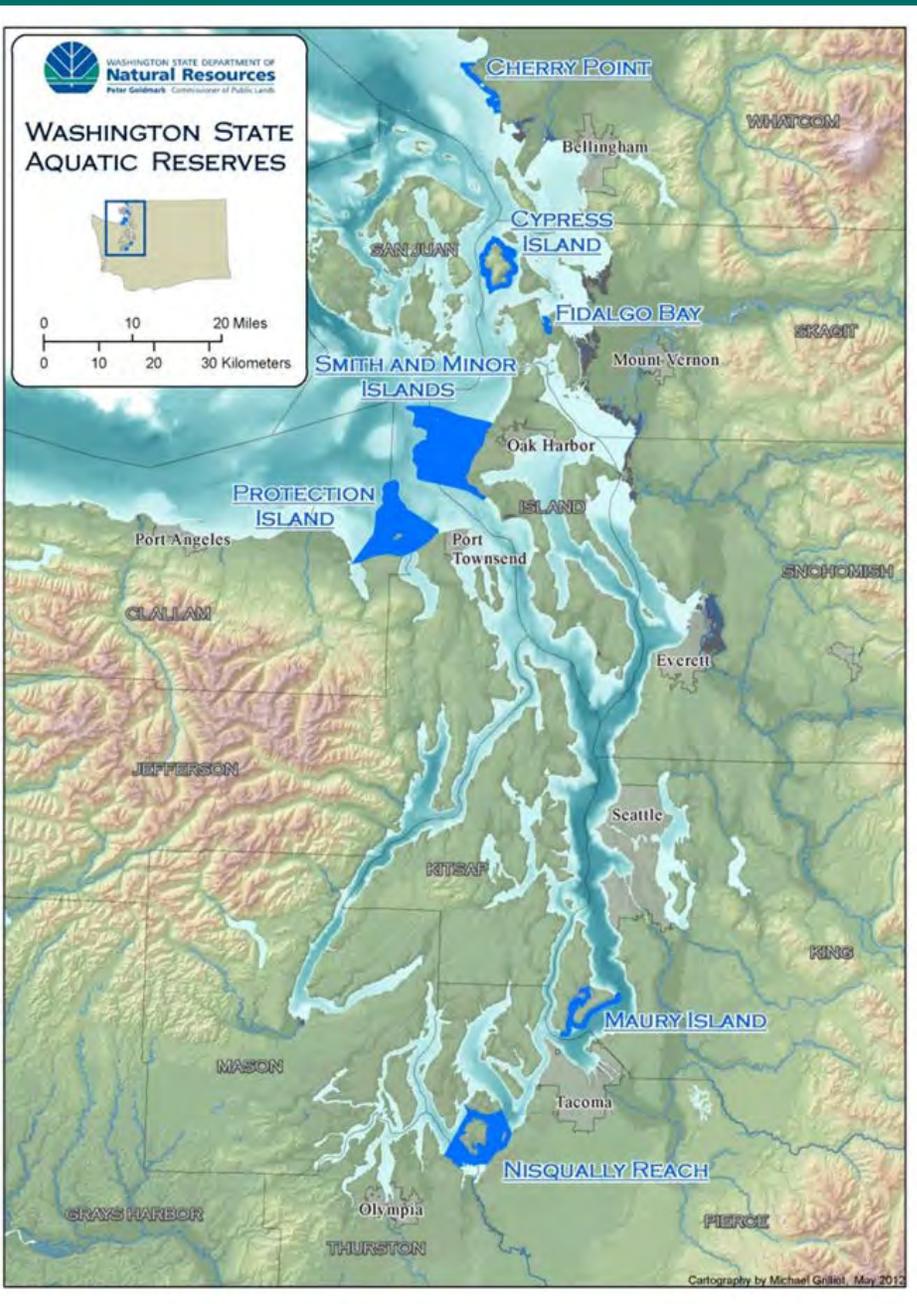
Contracts for Use

- Terms, conditions, and length in accordance with Constitution and applicable statutes
 - Length: generally 12 to 55 years, depending on land class and situation.
 - Terms and conditions
 - Insurance, bonds and other securities.
 - Rent: water dependent, non-water dependent, fair market value



Aquatic Reserve Program

- Created to promote the preservation, restoration, and enhancement of state-owned aquatic lands
- Three types of reserves
- Currently 7 Reserves



Derelict Vessel Removal Program

- Used as a model for other states
- 516 Vessels removed, 18 in progress
- Funding: ~\$1.6M each biennium



DNR Conservation Programs



Creosote Piling Removal



Large Debris Removal



Restoration





WASHINGTON STATE DEPARTMENT OF
Natural Resources

Peter Goldmark - Commissioner of Public Lands



Washington Pacific Coast Recreational Use Survey

Gus Gates – Surfrider
Cheryl Chen – Point 97



POINT 97

Overview

- * Present study approach/methods
- * Present study results
 - * Survey Data
 - * Spatial Data
- * Questions



Recreational Use Survey

- * Partnerships:
Surfrider, Point97,
State Agencies,
MRC's, Recreational
Stakeholders, &
OCNMS Staff
- * Surfrider's direct
contribution to MSP



So what do results show?

- * Provides **geospatial information** on recreational use
- * Estimates **number of recreators** on Washington's beaches
- * Estimate the **economic impact** of recreation on coastal communities and the state

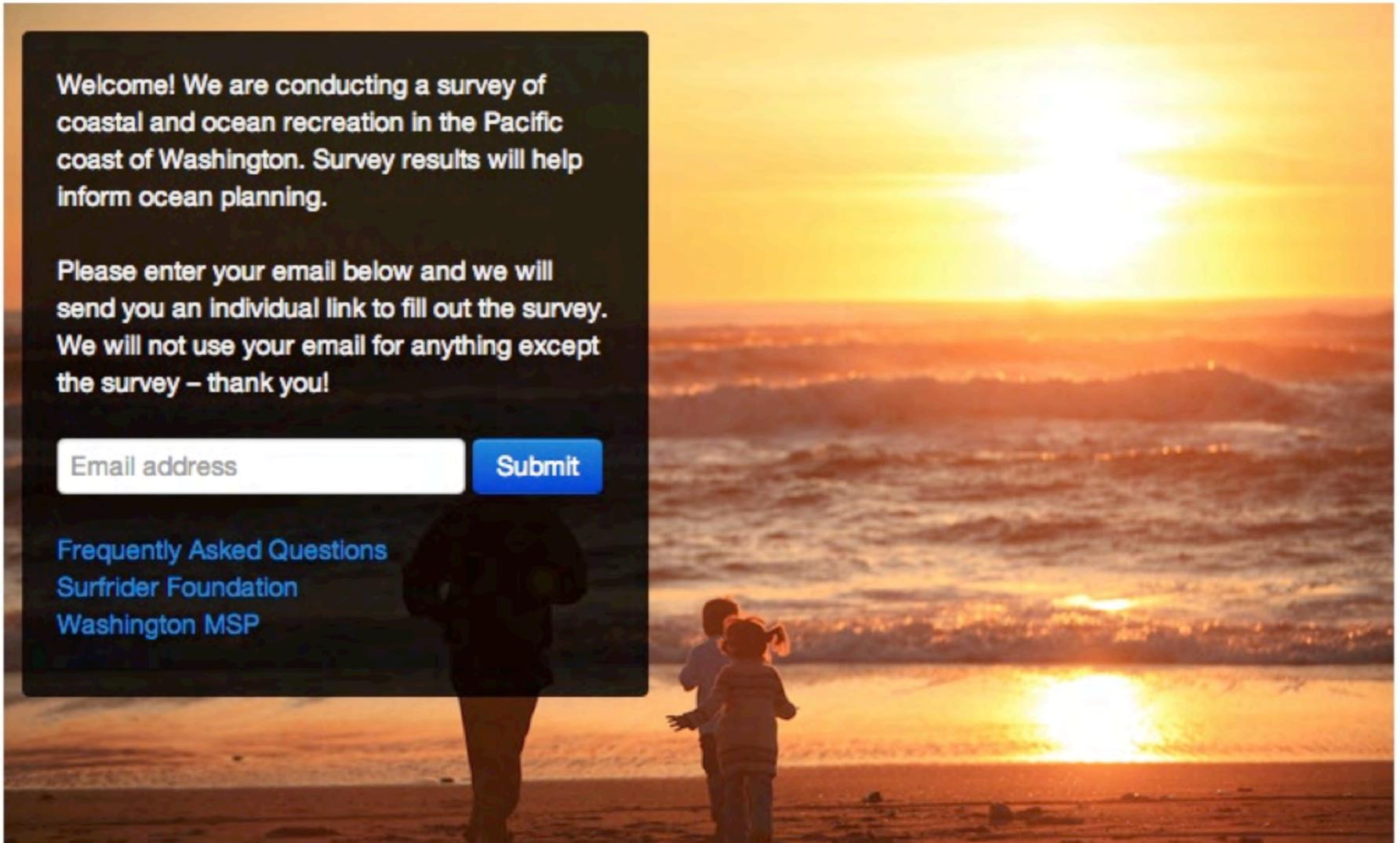


2 Modes of Collecting Data: Opt In & Panel

Welcome! We are conducting a survey of coastal and ocean recreation in the Pacific coast of Washington. Survey results will help inform ocean planning.

Please enter your email below and we will send you an individual link to fill out the survey. We will not use your email for anything except the survey – thank you!

[Frequently Asked Questions](#)
[Surfrider Foundation](#)
[Washington MSP](#)



Online Survey Methods

- * Panel Survey

- * Probability based sample of WA state residents
- * Launched June 2014 to Feb 2014
- * 6,219 respondents and 10,252 spatial data points

- * Opt In Survey

- * Complement panel survey
- * Launched May – Nov 2014
- * 397 respondents and 7,286 spatial data points

Opt in Survey: Spreading the word

- * In-person and online outreach
- * 218 gatekeepers sharing it online, in newsletters, in stores
- * Numerous outreach events





Study Region

- * 10 miles onshore
- * 12 miles offshore
- * OR border to Port Angeles

Online Survey: Spatial Data Collection

Search

My Activities

Go here for a list of your **activities from the last 12 months** or to review and edit your activity markers.

You can also **click markers in the map** to make changes.

OK

Add Done

View Nautical Charts

+

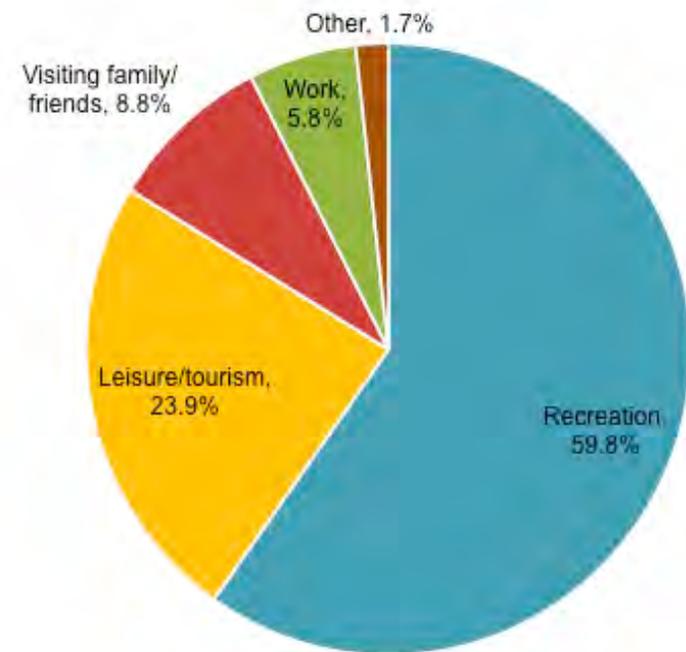
-

Copalis Beach Copalis Crossing Ocean City Tulips New London 109 101 Sampson Ocean Shores Gray Gables Grays Harbor South Arbor Westport Ocosta Johns River Cohasset Beach

Bing, Earthstar Geographics SIO, © 2015 Microsoft Corporation, © 2015 Nokia, © Harris Corp, Earthstar Geographics LLC, © AND

Coastal Recreation Statistics

- * Approximately 41% of WA State residents visited the WA Pacific Coast in the last 12 months
- * ~60% of those trip were for recreation purposes
- * 13% day trips; 34% one night; 26% two nights; and 26% three night or more

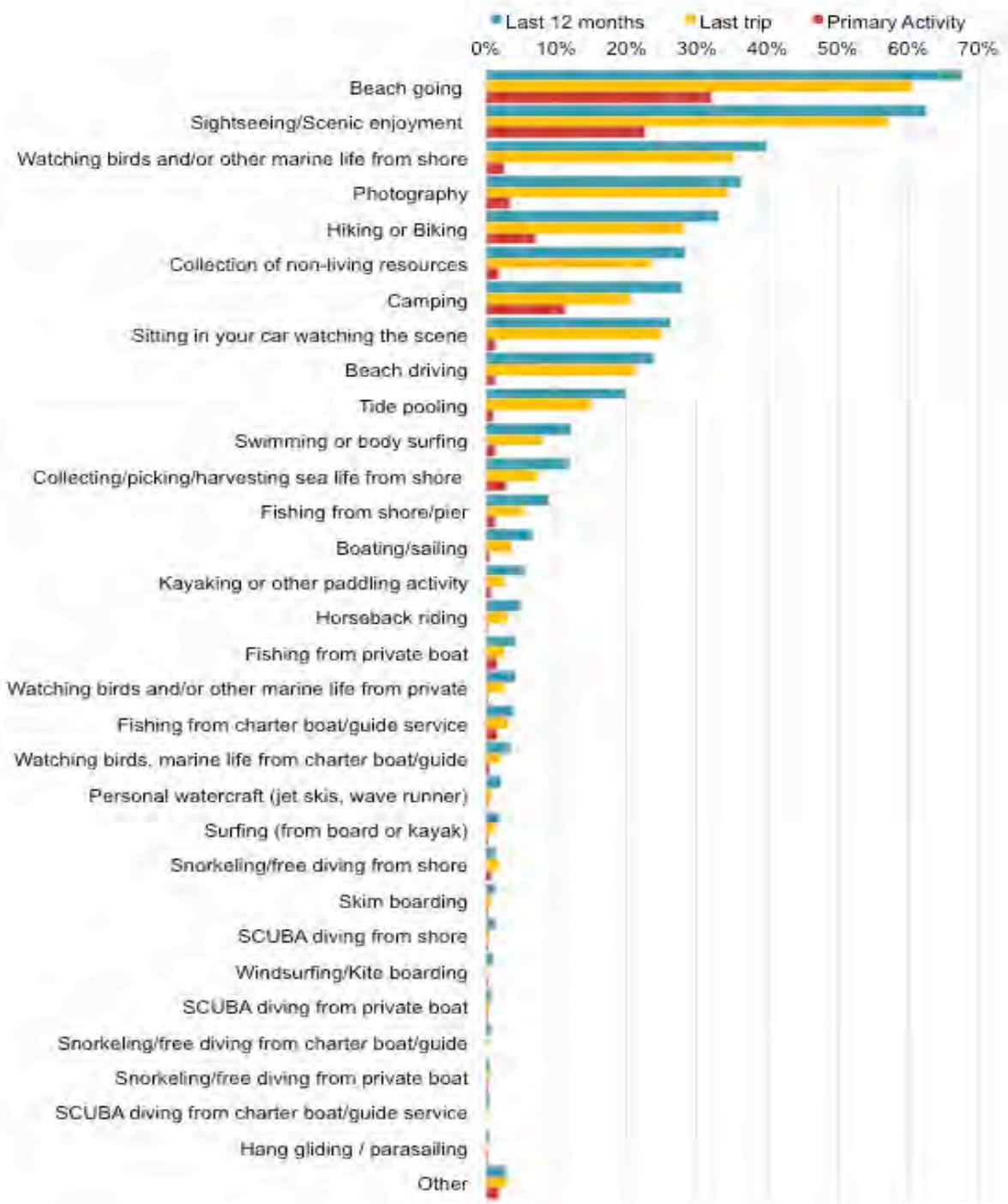


Percent of Trips to Counties

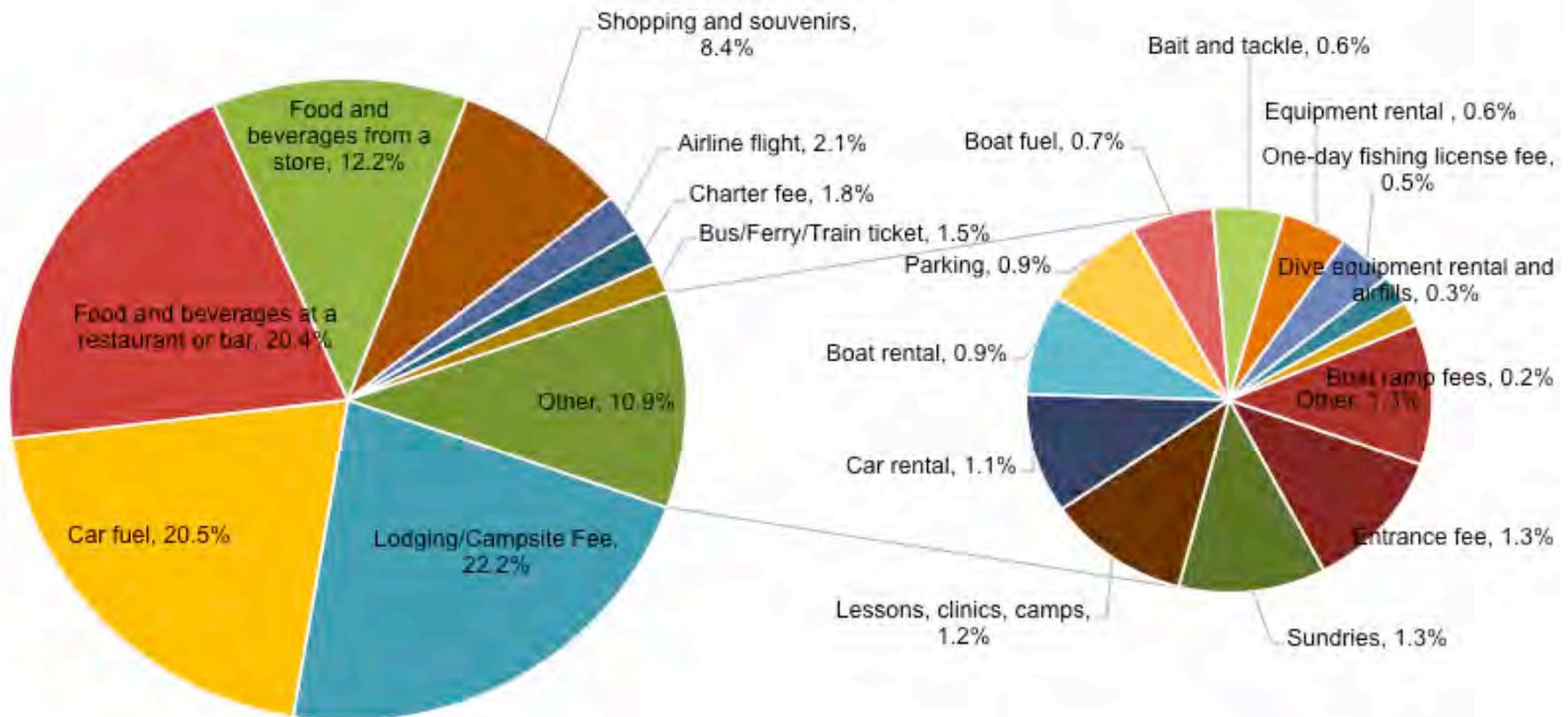
County	Average % of total sample	95% Confidence Interval	
		Low	High
Clallam	20.2%	17.8%	22.6%
Jefferson	7.2%	6.1%	8.3%
Grays Harbor	35.6%	28.1%	43.1%
Pacific	37.0%	30.6%	43.3%

Source: Current study

Most Popular Activities

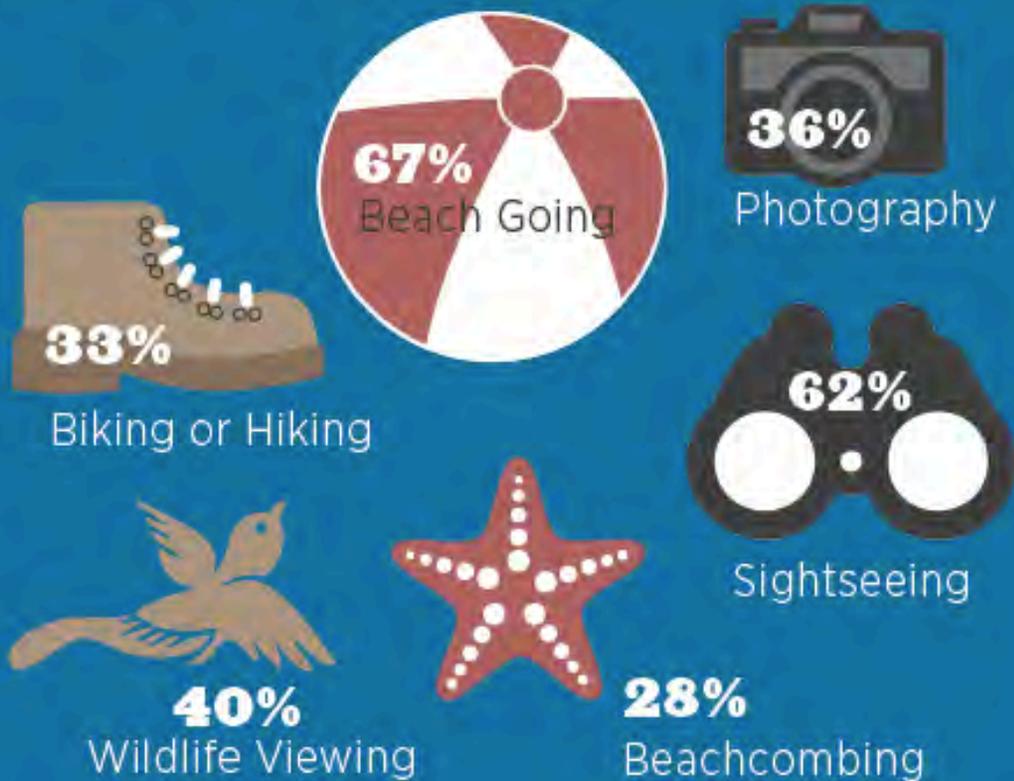


Average Trip Expenditures



Where is the money being spent?

MOST POPULAR ACTIVITIES



The Big Picture

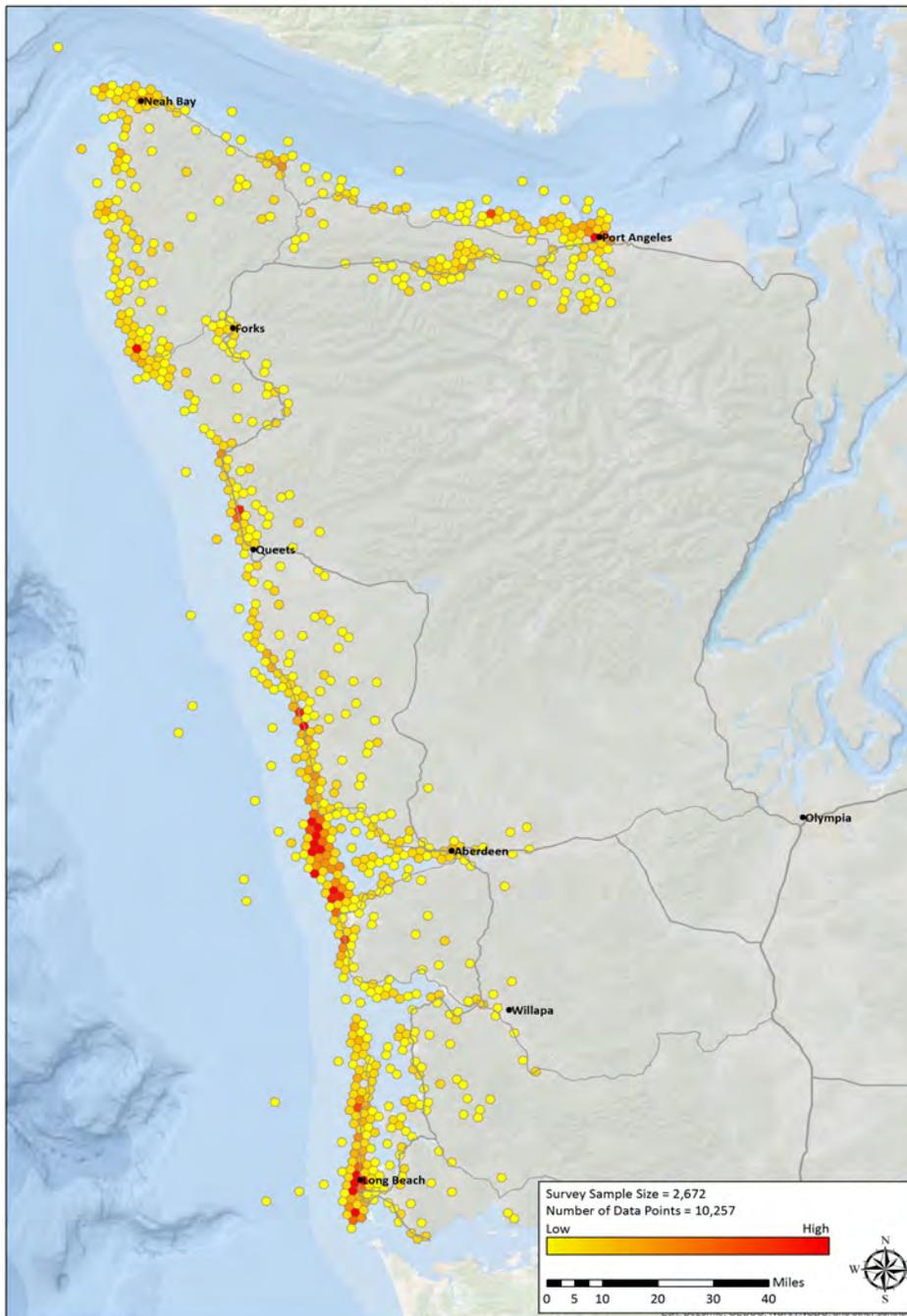
- * Washington residents took an estimated **4.1 million trips to the coast for primarily recreation purposes.**
- * When at the coast, these trips translated to an estimated **\$481 million dollars** in direct expenditures.



Spatial Data

- * All data summarized to hexagon planning unit grid to create a 'heat map'
- * For each survey method we created several data layers:
 - * All activities
 - * Each individual activity
 - * Grouped activities
- * Panel survey: Provides extrapolated spatial economic data (# of person-trips for each activity; \$ trip expenditures)
- * Data available to view at: <http://www.msp.wa.gov/explore/>

Washington Pacific Coast - Intensity of Coastal Recreation Use
All Activities

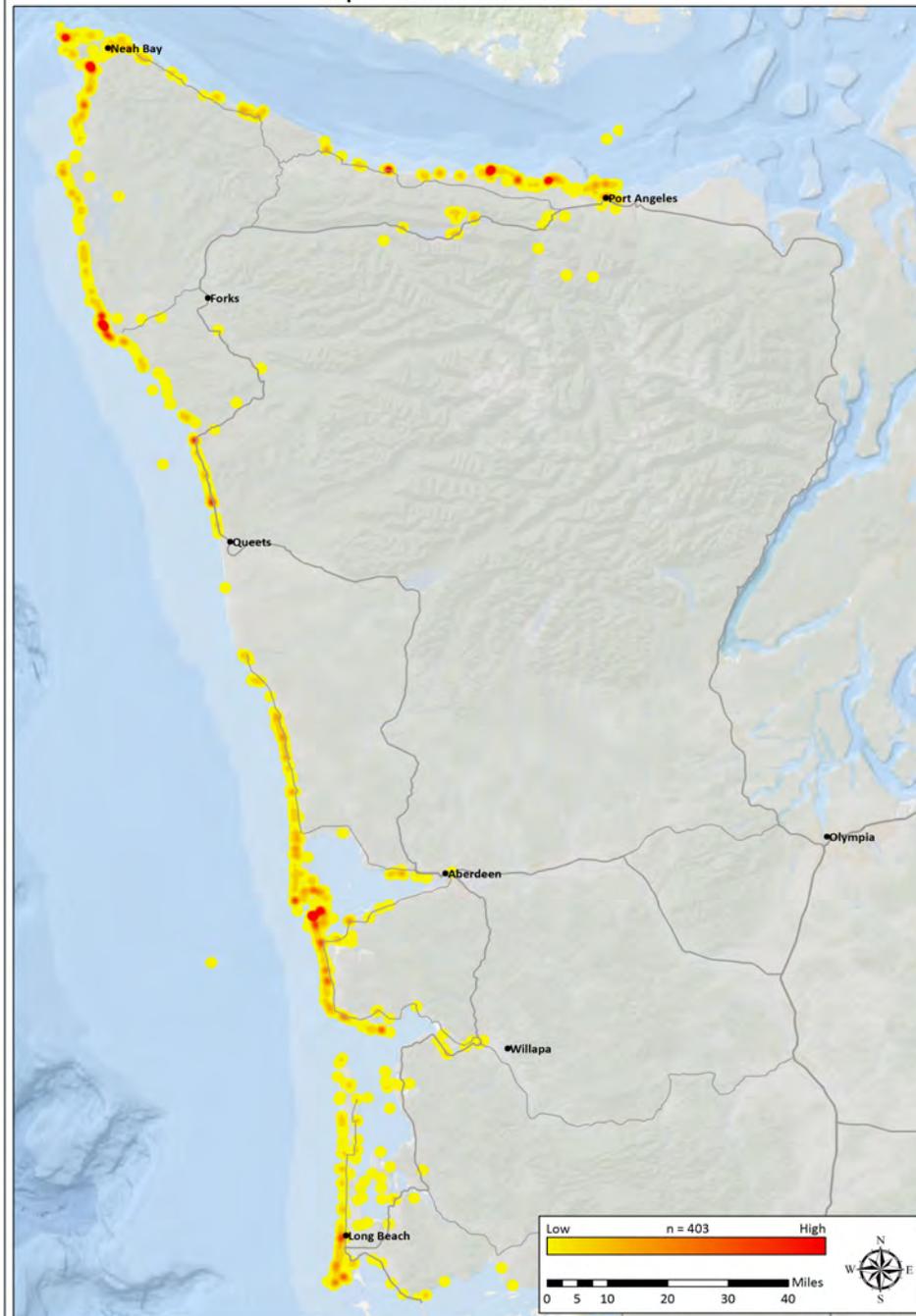


FINAL MAP PRODUCT

FEBRUARY 27, 2015

FINAL MAP PRODI

Washington Coastal Recreation Survey
Opt-In Results - All Activities



DRAFT MAP PRODUCT

NOVEMBER 17, 2014

DRAFT MAP PRODUCT

Activity Groupings	Activities
All Activities	Includes all mapped activities (includes 'other' activities)
Shore-based Activities	Beach going (sitting, walking, running, dog walking, kite flying, etc.) Beach driving Collection of non-living resources/beachcombing (agates, beach glass, beach mining, driftwood) Horseback riding Camping Biking or hiking Tide pooling Collecting/picking/harvesting sea life from shore (clamming, seaweed, mussels, etc.) Coastal tribal events Hang gliding/parasailing
Surface Water Sports	Skim boarding Kayaking or other paddling activity (canoe, stand up paddle board, Tribal canoe journey) Boating/sailing Kite boarding Surfing (from board or kayak) Windsurfing Personal water craft to surface water activities Swimming or body surfing
Wildlife & Sightseeing	Scenic enjoyment/sightseeing Photography Sitting in your car watching the scene Watching birds, whales, seals and/or other marine life (from shore or boat)
Diving	SCUBA diving (from shore, from boat) Free diving/snorkeling (from shore, from boat)

Stay Informed, Get Involved!

- * Visit Our Blogs, Websites, and Facebook

- * <http://washington.surfrider.org/rus>

- * <https://www.facebook.com/pages/Surfrider-Foundation-Washington-Chapters/>

- * <http://www.msp.wa.gov/>

- * Gus Gates- ggates@surfrider.org

- * Casey Dennehy – cdennehy@surfrider.org

- * Brice Boland- bboland@surfrider.org

Thank you! Questions?

