

# Coastal MRC Projects - Nexus With Northwest Straits MRCs

Northwest Straits MRC Conference  
November 3, 2012



# Session Agenda



8:30 – 10:15

- Program Overview by Jenna Jewett, WDFW
- North Pacific Coast by Katie Krueger, Quileute Nation
- Grays Harbor County by Garrett Dalan, Grays Harbor County
- Pacific County by Mike Nordin, Pacific County
- Wahkiakum County by Carrie Backman, WSU Wahkiakum County Extension



10:30 – 11:15

- Overview of Coastal MRC Summits by Eric Delvin, The Nature Conservancy
- Coast-wide Marine Debris Removal by Eric Delvin, The Nature Conservancy
- Assessing Washington's Working Coast by Jody Kennedy, Surfrider Foundation
- Washington Coastal Marine Advisory Council by Doug Kess, PCMRC and WCMAC Chair



11:15 -11:45

- Nexus with Northwest Straits – East Clallam County MRC by Cathy Lear, Clallam County



# Coastal Marine Resources Committees Program

*Understand, steward, and restore the marine and estuarine ecological processes of the Washington coast in support of ecosystem health, sustainable marine resource-based livelihoods, cultural integrity, and coastal communities.*

Jenna Jewett  
Coastal MRC Program Coordinator  
Washington Department of Fish and Wildlife  
[jenna.jewett@dfw.wa.gov](mailto:jenna.jewett@dfw.wa.gov)



# A few local marine resources

- 
- Seabirds and Shorebirds
  - Whales
  - Salmon
  - Razor Clams
  - Dungeness Crab
  - Sea Otters
  - Ocean Beaches
  - Ocean Energy
  - Maritime Communities
  - Ocean Views
  - Healthy Estuaries
  - Clean water

# State benefits from marine resources

- Employment & Economy
- Fisheries & Aquaculture
- Tourism & Recreation
- Marine Transportation & Ports
- Cultural & Historical Preservation

- Research & Education
- Human Health & Biodiversity
- Offshore Energy & Minerals
- Aesthetics & other non-market values

# Threats

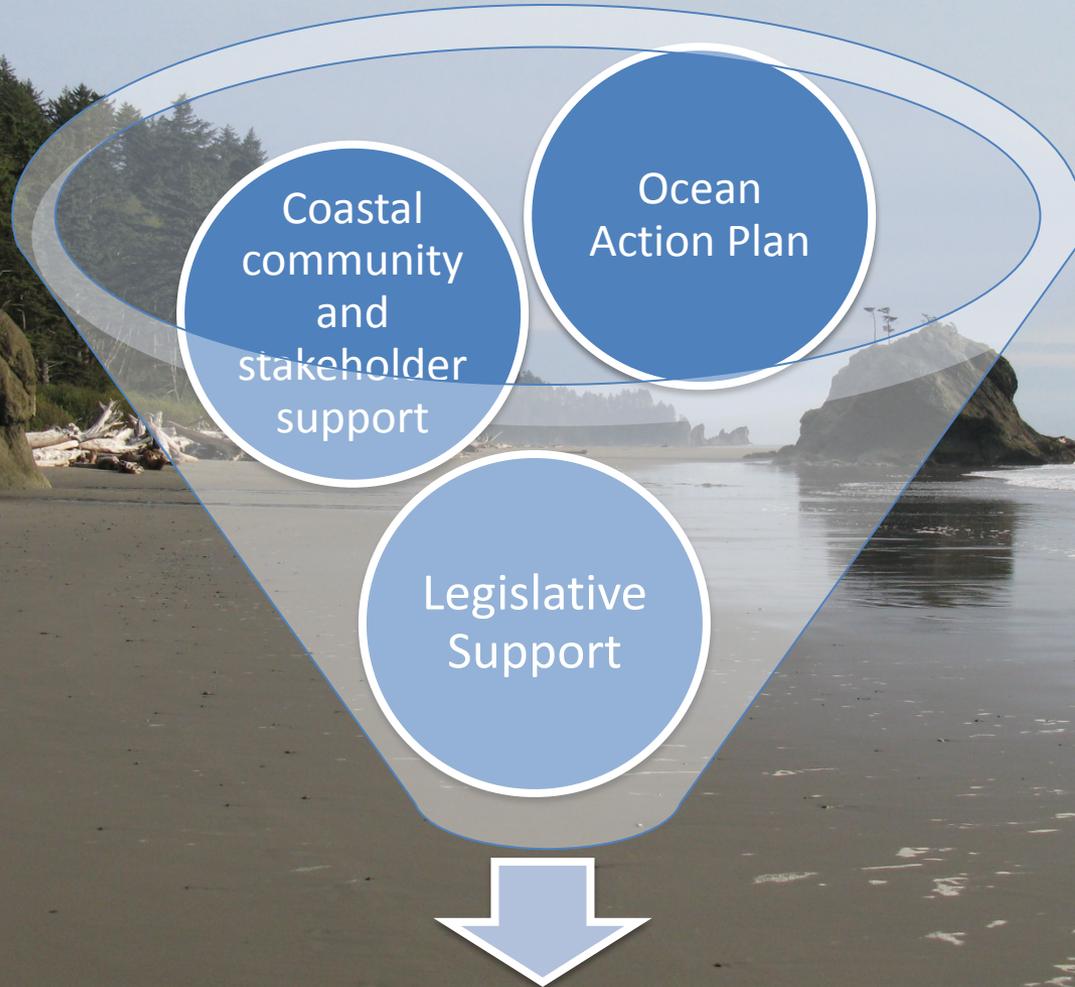
- Invasive species
- Ocean acidification
- Tsunamis
- Marine debris

- Flooding
- Erosion
- Water pollution
- Sea level rise

# Preserving and enhancing resources

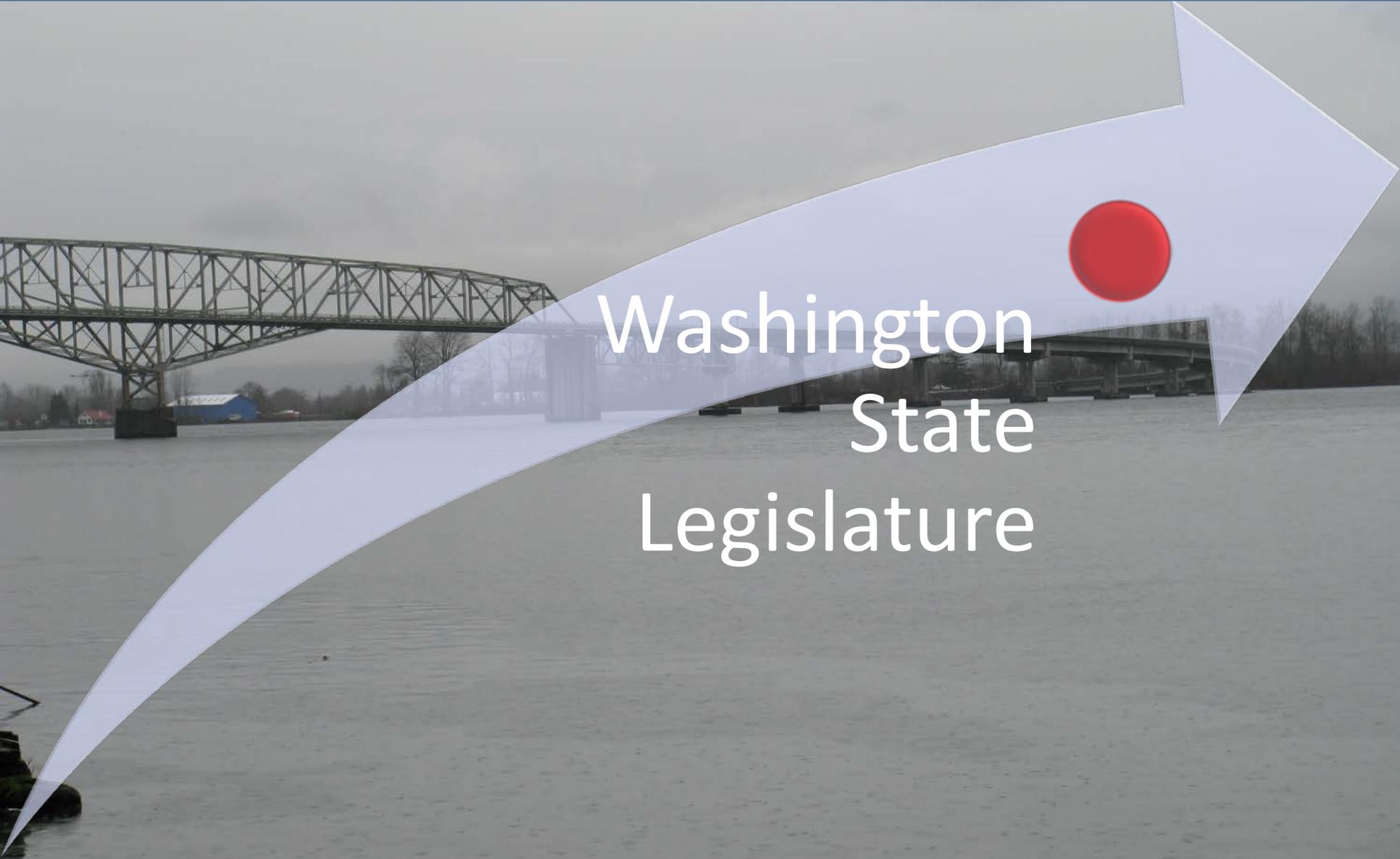
- Mechanism to continue state and local efforts
- Success of the NW Straits Model
  - Community based
  - Solution oriented
  - Locally driven and prioritized

# MRC Legislation



Marine Resources Committees  
(RCW 36.125)

# MRC Legislation

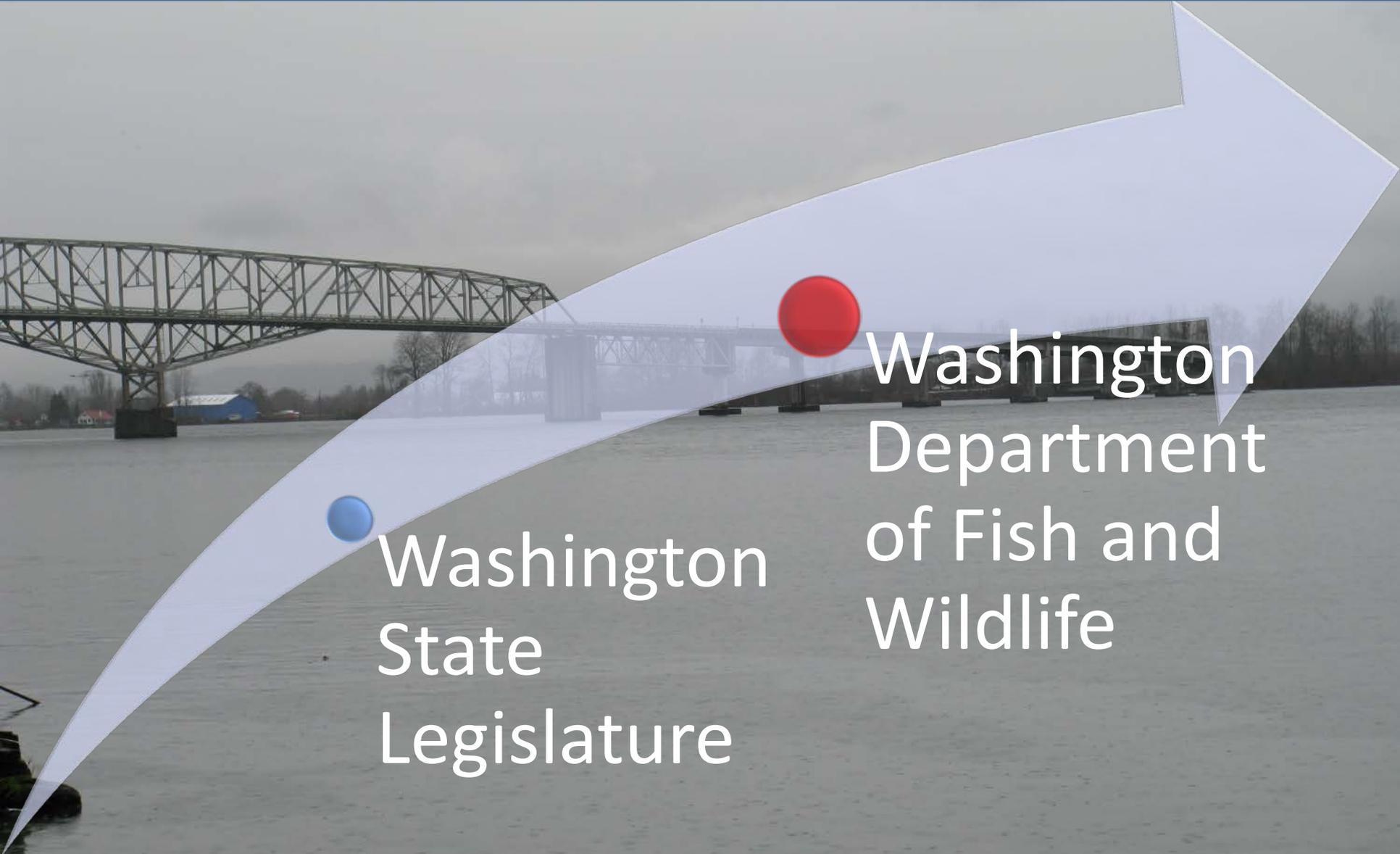


Washington  
State  
Legislature

# MRC Legislation

- 2007/2008 Legislature endorsed NW Straits model and authorized additional MRCs, and provided funding
- Authorized South Puget Sound (PSP) and Outer Coast (WDFW) MRCs
- Directed MRCs to learn from NW Straits Initiative and coordinate efforts

# Coastal MRC Program



Washington  
State  
Legislature

Washington  
Department  
of Fish and  
Wildlife

# Program Development



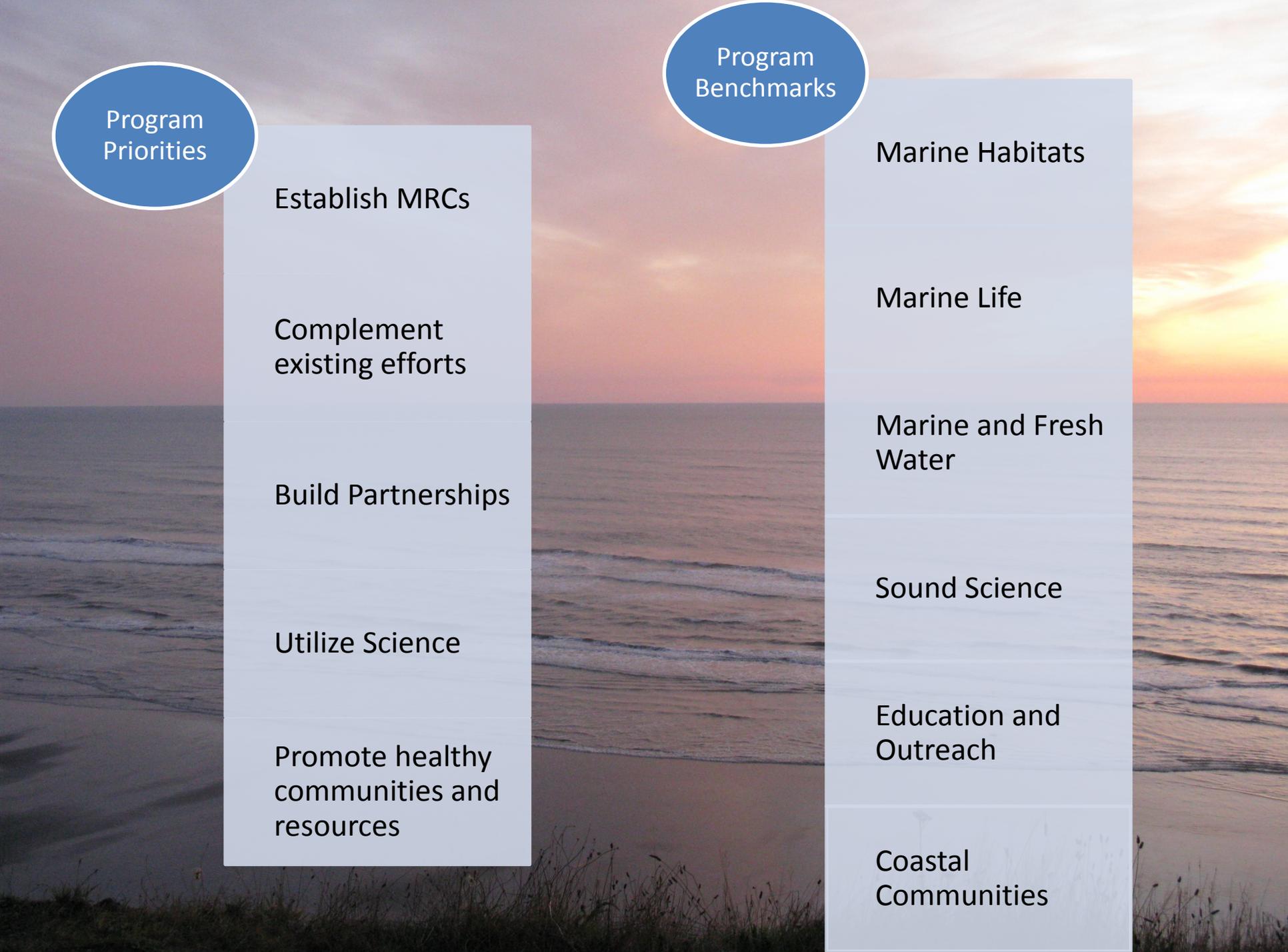
- Convened Ad Hoc Work Group Winter 08/09
- Set clear priorities and benchmarks



- Introduced MRC model to coastal counties
- Formed and funded Exploratory MRCs



- Formation of all Coastal MRCs by September 2010
- Annual funding of projects and coordination



Program  
Priorities

Establish MRCs

Complement  
existing efforts

Build Partnerships

Utilize Science

Promote healthy  
communities and  
resources

Program  
Benchmarks

Marine Habitats

Marine Life

Marine and Fresh  
Water

Sound Science

Education and  
Outreach

Coastal  
Communities

# WDFW's Role

- Provide basic programmatic **structure**



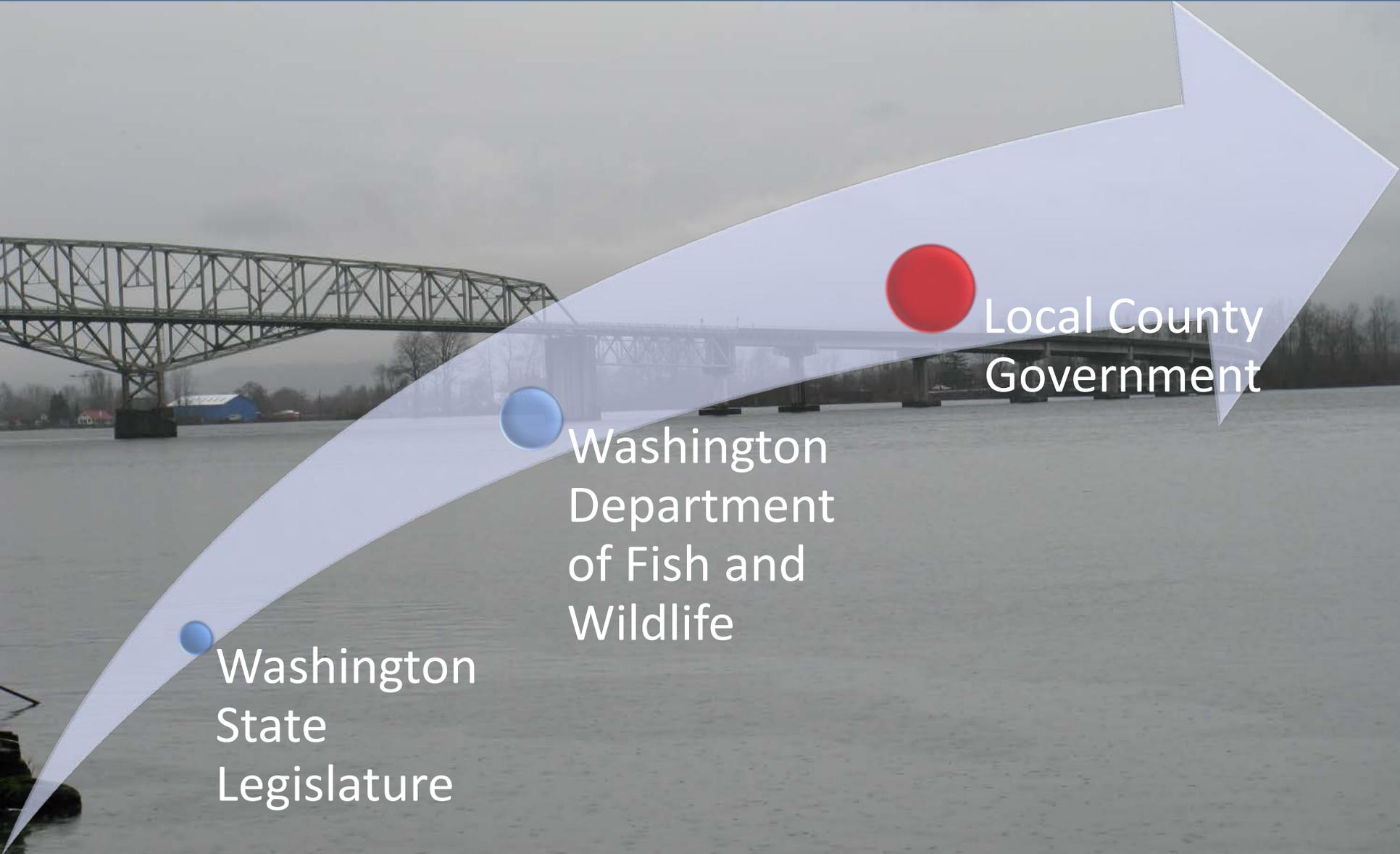
- Maintain regional **ecosystem perspective**, helping MRCs to reach benchmarks



- **Coordinate communication** and information across the MRCs

- Coordinate with:
  - NW Straits Commission
  - Lead Entities
  - Conservation districts
  - Tribes and local governments
  - Olympic Coast National Marine Sanctuary
  - State Ocean Caucus
  - Washington Coastal Marine Advisory Council

# Local Government Role



Washington  
State  
Legislature

Washington  
Department  
of Fish and  
Wildlife

Local County  
Government

# County's Role

- **Establish MRCs in local code**

- **Ensure balanced representation**

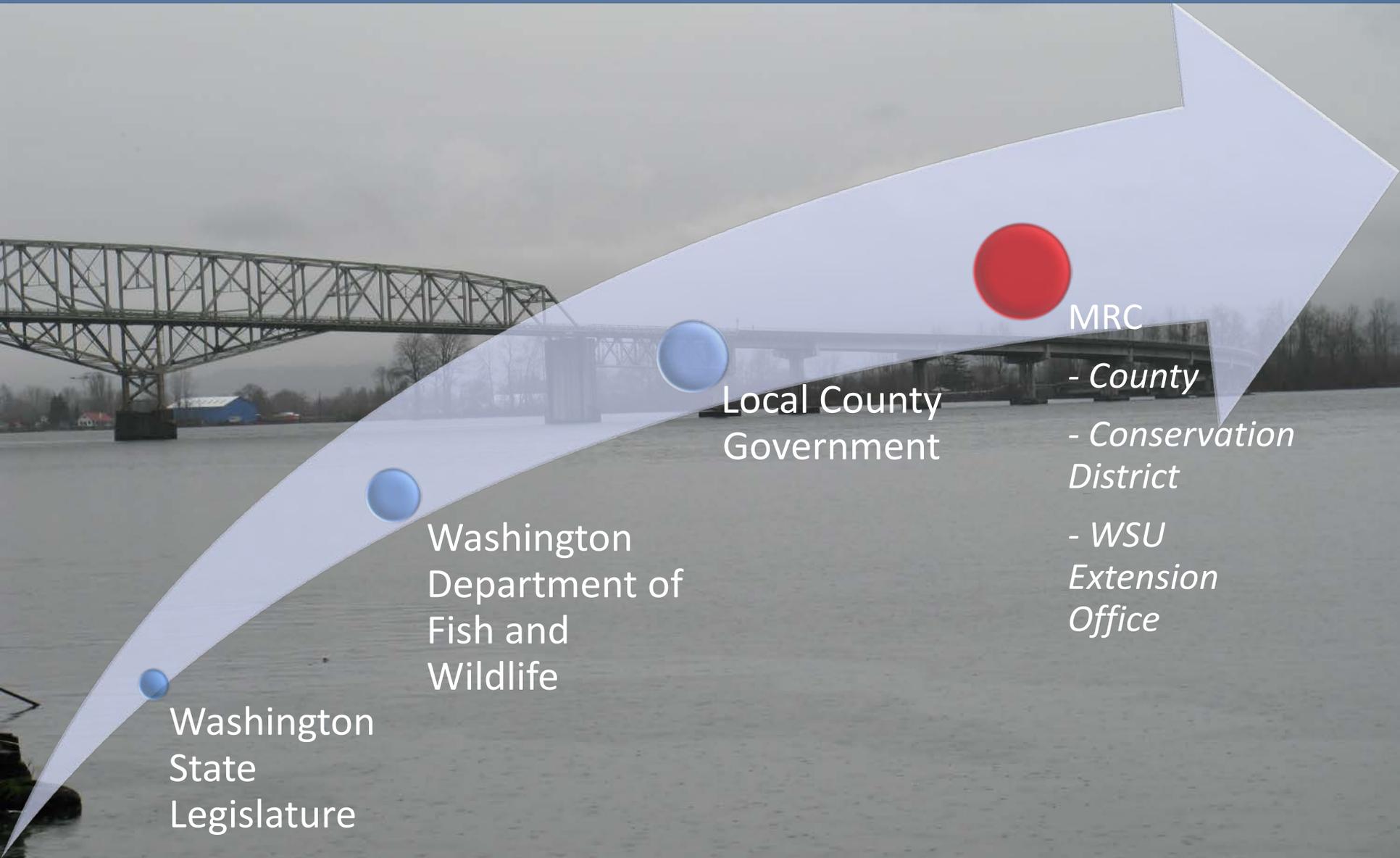


- **Remain accountable for grants** from WDFW for MRC administration and projects



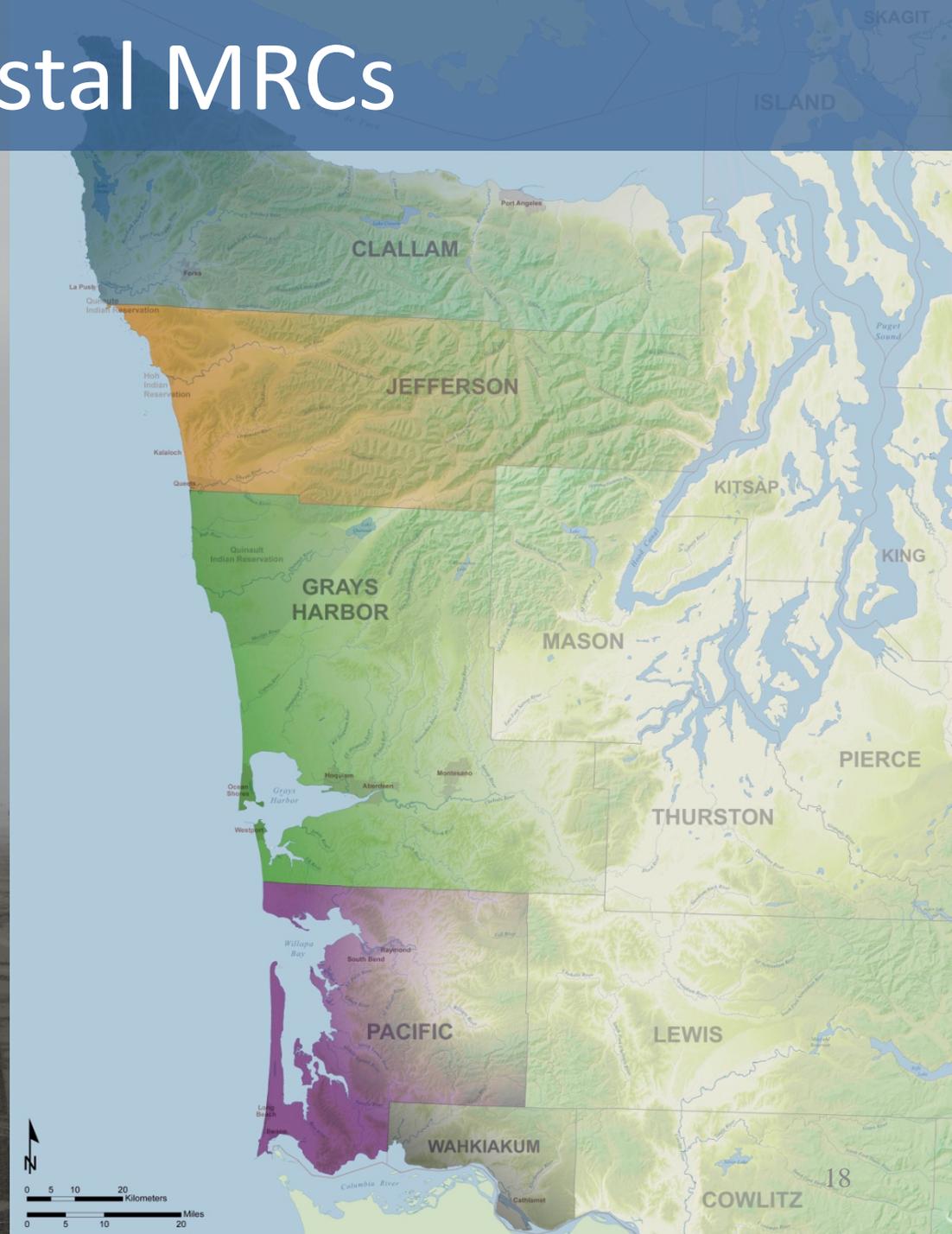
- **Convene and coordinate the MRC**

# Marine Resources Committees



# Coastal MRCs

- MRCs are county-based groups of volunteers that carry out local projects and advise the county on marine resource issues.
- Balanced representation:
  - Local government
  - Tribal government
  - Local residents
  - Scientific experts
  - Economic interests
  - Recreational interests
  - Environmental & conservation interests



# MRC Role

- Set local priorities through work plans and strategic plans
- Sponsor projects
- Gather data on marine resources and use sound science to address the local marine ecosystem needs and provide recommendations
- Build partnerships and complement other efforts
- Offer education and outreach on marine resource conservation and management
- Report progress quarterly and annually

# Coastal MRC Projects – Marine Life, Habitat & Water Quality



# Coastal MRC Projects – Coastal Communities



# Coastal MRC Projects – Education & Outreach



# Questions?



WDFW Coastal MRC Program Contacts:

Michele Culver, Region 6 Director  
(360) 249-4628

[michele.culver@dfw.wa.gov](mailto:michele.culver@dfw.wa.gov)

Jenna Jewett, MRC Program Coordinator  
(360) 902-2658

[jenna.jewett@dfw.wa.gov](mailto:jenna.jewett@dfw.wa.gov)

Program Website: <http://wdfw.wa.gov/about/volunteer/mrc>

# North Pacific Coast MRC



“the Little Engine that Could!”\*

**US EPA**

- pollution laws
- ocean dumping

**USFWS**

- sea otters
- seabirds

**USACE**

- dredge/fill
- jetty maintenance

**Counties and Cities**

- land use plans/ordinances
- CZMA

**US CG**

- oil spills (lead)
- navigation
- safety

**NOAA Fisheries**

- marine mammals
- ocean fisheries management

**WDFW\***

- intertidal animal harvest
- fisheries management
- seabirds and pinnipeds

**WDOE\***

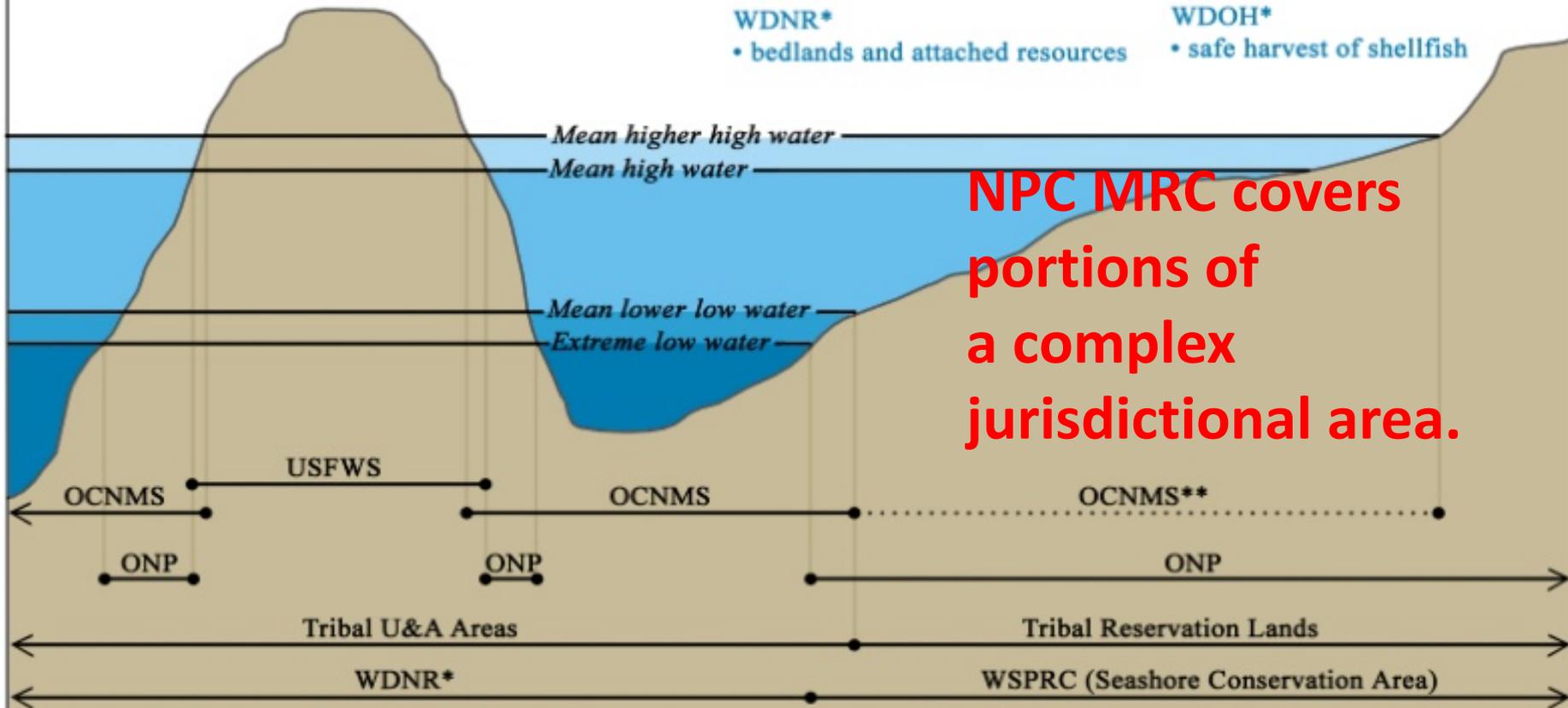
- water quality
- pollution control
- oil spill response

**WDNR\***

- bedlands and attached resources

**WDOH\***

- safe harvest of shellfish



**NPC MRC covers portions of a complex jurisdictional area.**

\* Washington State ownership and jurisdiction extends out to 3 nautical miles from shore.

\*\* OCNMS' jurisdiction extends shoreward to mean higher high water when adjacent to ONP and to mean lower low water when adjacent to Indian reservations, State, and county owned lands.

# Who we are

- Pacific Coast of Jefferson and Clallam Counties
- Voting: 3 Treaty Tribes (3), one city (1), two counties (1 govt. representative and 3 citizens, each = 8). 12 votes overall.
- Non-voting: federal and state ex-officio members; plus Sea Grant of UW (“partner”) and interested members of public. (Discuss)



# Authority



- State enabling statute RCW 36.125.010
- Began planning in 2008 after WDFW Rept. to Legislature on forming MRCs
- Joint County Resolutions Sept. 2009 (Clallam, Jeff.)
- Bylaws
- Mission
- Vision
- Annual state funds for operating/grants

(Using as guidance focus points from Addendum A from Priorities developed by Coastal MRC Program Work Group)

# **Mission (Approved Aug 16<sup>th</sup>, 2011):**

*The North Pacific Coast Marine Resources Committee will actively promote ecosystem resilience through understanding, conserving, and restoring our marine resources. This will be accomplished through research, education, community engagement and advocacy for our shared marine environment and the sustainability of its coastal communities.*

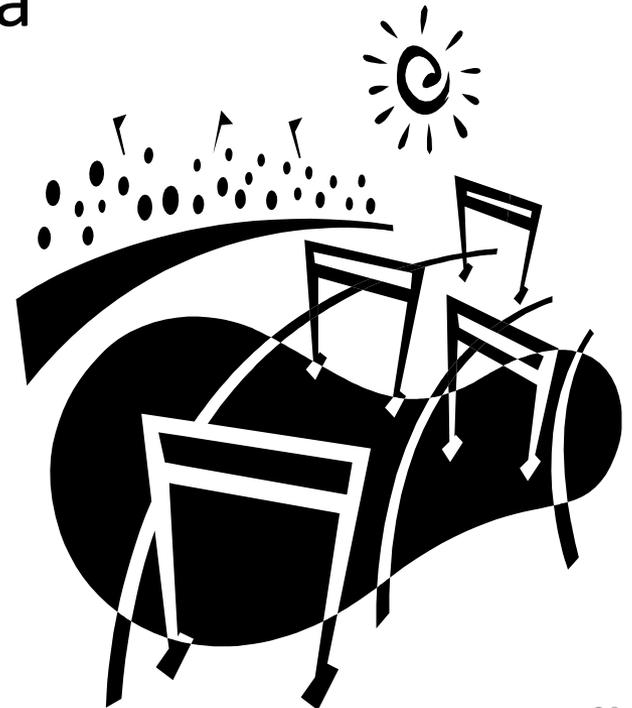
The background of the slide is an underwater photograph of a rocky seabed. The scene is dominated by numerous purple sea urchins with their spines pointing upwards. Interspersed among the urchins are several bright green sea anemones with prominent, pointed tentacles. The water is clear, and the lighting highlights the textures of the marine life and the rocks.

## **Vision (Approved October 18<sup>th</sup>, 2011):**

*“As residents of Clallam and Jefferson Counties, we envision our Pacific Coast having sustainable, healthy natural resources that enhance local livelihoods while embracing a unique past, a challenging present and a hopeful future.”*

# Hurdles to Work Through.

- No federal seed or support moneys
- Sparsely populated service area
- Tsunami debris
- Marine Spatial Planning



# Showcases of Our Activities

- *West End Natural Resources News*
- Oceans and Rivers BBQ

Some projects (examples)

- \* Feiro /schools
- \* Debris cleanup
- \* Research (otter scat and Lake Ozette Sockeye)
- \* WA Working Coast

# Hurdle: No federal seed or support moneys



- With limited funds, conduct annual grant competition
  - Use Appendix A benchmarks from Coast MRC Planning as grant topic and scoring vehicle
  - Focus on leveraged or small projects re Mission and APP. A.
  - Seek projects related to *our MRC*
- Join with other coastal MRCs in plans and projects
  - Annual meetings (Westport 2010, Forks 2011, Pacific County 2013)
  - Prioritization of projects
  - Shared funding



# Hurdle: sparse population in service area

- Many participants already serve on related committees
- New players challenged by distance and meeting times
- Communication bridged by
  - \* *West End Natural Resources News*
  - \* Annual Barbeque
  - \* *Forks Forum* ads of meetings

Image © 2012 TerraMetrics  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2012 Cnes/Spot Image  
© 2012 Google

Google earth  
Kalaloch Lodge

# Hurdle: Tsunami debris

<http://marinedebris.noaa.gov/tsunamidebris/>

- Cost and impact still an unknown
- Responsibility for cleanup areas still being sorted out
- NOAA brochures and meetings re safety, protocol
- Parties beginning to step up
  - Olympic National Park
  - Olympic Coast National Marine Sanctuary/NOAA
  - State receipt of federal funds
  - Tribal CWA 319 opportunities
  - Grants from MRC (Feiro including this in projects, now, Coastsavers, with volunteers)—these are inclusive of all debris.

JPR 日本パレットレンタル(株)

APP  
www.jpr.co.jp

フォークのツメ突禁止  
契約者以外使用禁止

所有物件  
PT-11



A0403069

**Olympic National Park at Third Beach—“unconfirmed”  
as to *tsunami* origin. Photo by D. Preston**

# Coastsavers volunteers, end of Sept. 2012—near Ranger Station at Ozette, Olympic National Park



# Hurdle: Marine Spatial Planning

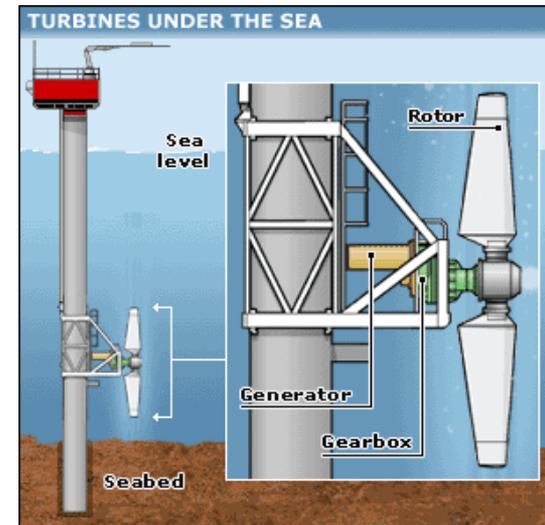
[http://news.bbc.co.uk/2/hi/uk\\_news/england/devon/2992996.stm](http://news.bbc.co.uk/2/hi/uk_news/england/devon/2992996.stm)

- Federal government wants planning for energy siting on the coast
- States funded to explore this
- Local planners/businesses want more input
- Treaty tribes' governments want direct relationship with state (MOU in process).

Tribes are engaging in MSP; asking for funds but none received yet.

- MRCs need to participate (time and \$ concerns)  
Currently WA Coast Marine Advisory Committee formed with some NPC MRC presence (discuss)

<http://www.ecy.wa.gov/programs/sea/ocean/advisorycouncil.html>



# Showcasing:



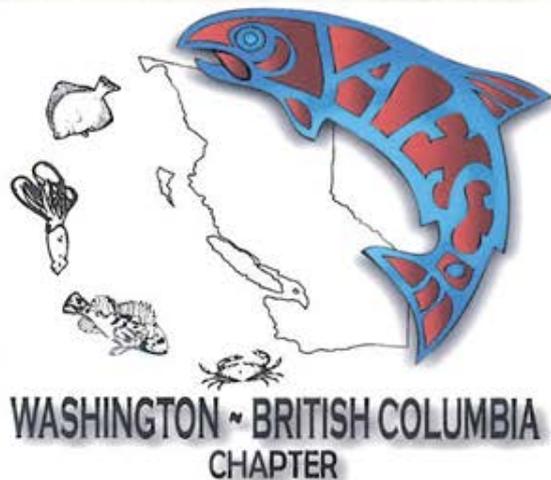
- Editor: Tami Pokorny of Jefferson County
- Contributors: Researchers, NGOs, Tribal Staff, etc.
- Topics: Coastal cleanup (tsunami and the usual), COASST dead bird surveys, NANOOS buoys, Lake Ozette committee, otter scat research, marine spatial planning, high school programs, whale trail—whatever is timely!

American Fisheries Society

# Haig-Brown Award

to

## *West End Natural Resources News*



- ❖ For producing outstanding, non-technical publications on fishery management, research, habitat protection, and enhancement.

*Thank you!*

Awarded: September 2011

# Showcasing: Grants

- Feiro Marine Life Center in PA: workshops and field trips for school programs
- Marine debris cleanup through nonprofit leads and/or schools, volunteers
- Otter scat research (relates to Lake Ozette sockeye)
- Coastal MRCs: Washington's Working Coast--  
<http://www.onrc.washington.edu/MarinePrograms/WWC.html>

# Our Annual Ocean and Rivers Barbeque

- Now includes all local committees re NR
- Entertainment and great food
- Posters
- Booths with show and tell



# Forage Fish



## The Coastal Observation and Seabird Survey Team (COAST)

School of Aquatic and Fishery Sciences, University of Washington

### What is citizen science?

Citizen science is a contract between citizen scientists to collect, verify, analyze and report rigorous, high quality data of direct relevance to management, conservation and environmental quality.

### What is COAST?

- COAST is a citizen science project of the University of Washington in partnership with tribal and federal agencies, environmental organizations and community groups in the Pacific.
- Participants survey beaches monthly using high-cast bird carcasses as environmental indicators.

### How does COAST work?

Weekly members bring in 10-15 high-cast bird carcasses to the lab. Early morning foraging for marine invertebrates. To split carcasses into 10-15 samples for environmental indicators. Western gull population genetics.

### What do volunteers do?

- Step 1**  
Find a bird!
- Step 2**  
Take 3 measurements.  
Bill    Wing    Tarsus (foot)
- Step 3**  
Use the food key and/or wing table to identify the seabird to family.
- Step 4**  
Narrow down possible species using the family page.
- Step 5**  
Take photos and fill out data sheet so COAST scientists can verify species.

### Where is COAST?

- 350+ beaches
- 450 km (276 mi) of coastline monitored
- Northern California to Alaska

### What have we found?

- 27,000 birds
- 130 species
- 3,000+ photos



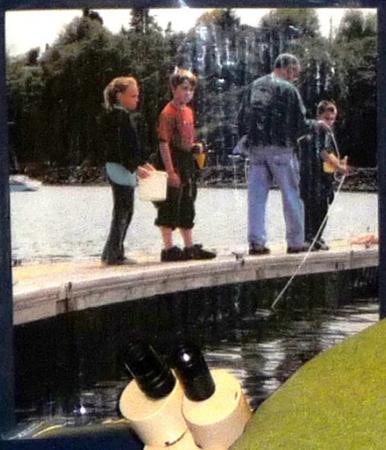
## Zooplankton

City Pier - Port Angeles

### Chain Diatoms

### Disc Diatoms

### Other Diatoms



## Zooplankton

City Pier - Port Angeles

### Larvae with Diatoms

### Trachyleberis

### Metachlorella Stage

### Polychaete Worm Larvae

### Borealis Larvae - Hagfish

### Polychaete Hagfish Larvae (Asteroidifera)

### Harpacticoids

### Salt Water

### Arthropods

### Crustacean Larvae

## Energy Education Programs

Energy education programs are designed to help students understand the importance of energy conservation and the impact of energy use on the environment. These programs are available for schools, community groups, and individuals.

## Feiro Marine Life Center

Mission Statement: Adopted August 2006

The mission of the Feiro Marine Life Center is to foster the understanding and appreciation of the health of the marine environment and coastal resources of the Olympic Peninsula, and their importance to its communities.

- Provide students from our school through college with meaningful learning experience related to their field in a healthy marine environment.
- Provide community residents with the information we need to the maintainability with our marine resources.
- Provide opportunities for visitors to increase their appreciation and care for Olympic Peninsula's marine resources.



# OLYMPIC COASTAL CLEAN-UP 2009

## Marine Debris Category Analysis



Hannah McNabb, North Olympic Peninsula Skills Center

### Introduction

#### Observation and Prior Knowledge

- Marine life can be tangled up, choked, suffocated, starved, damaged, and killed by debris on the beach or in the ocean.
- Beachgoers can be harmed by sharp objects.
- Nets can become tangled in boat propellers which is a hazard.
- According to NOAA, 80% of marine debris is land based.

### Hypothesis

If I analyze the amount of trash that is recorded on all Western Olympic Peninsula beaches during 2009 coastal clean up, then I will find Shoreline Recreational Activities will be most abundant in number of trash items because 80% of marine debris is land based and Shoreline Recreational Activities is land based. I also believe that Medical/Personal Hygiene will be the category with the smallest number of items because people are less likely to use medical and personal hygiene materials on a beach than the other categories.



Skills Center Natural Resources students removing marine debris on West Elwha Beach

### Materials

- 2009 Coastal Clean-up Data
- Microsoft Excel

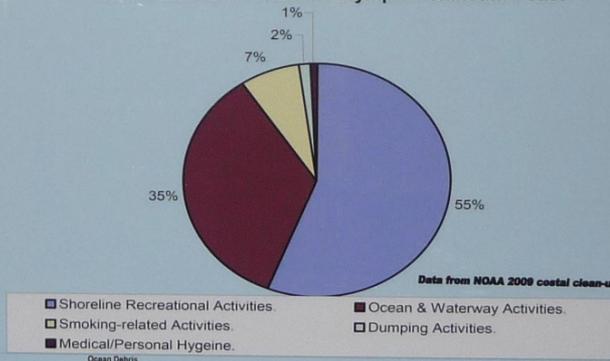
### Procedure

1. Turn on a computer and access the 2009 Coastal Clean-up Data
2. Appropriately sort the data using Microsoft Excel
3. Create graphs of the data

### Data

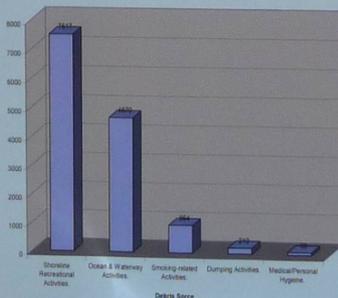
Marine Debris Category	Number of Marine Debris Items Collected
Shoreline Recreational Activities	7517
Ocean & Waterway Activities	4670
Smoking-related Activities	964
Dumping Activities	210
Medical/Personal Hygiene	98

Marine Debris on Western Olympic Peninsula Coast



### Results

The data shows that shoreline and recreation activities is the category with most debris with 7,517 different pieces of debris or 55% of the trash found, and that medical/personal hygiene has the lowest number of items with 90 different pieces of debris or 1% of the trash found.



I would like to thank the volunteers who surveyed the beaches and gathered the data for my inquiry.

### Conclusion

The debris that has been found on the Western Olympic Peninsula can be split into five different categories: shoreline/recreational activities, ocean and waterway activities, smoking-related activities, dumping activities, and medical/personal hygiene. My prediction that shoreline recreational activities would have the most debris and medical/personal hygiene would have the least debris recorded is supported by the data.

The category with most debris is shoreline recreation activities with 7,517 different pieces or 55% of the trash found and the category medical/personal hygiene has the least with 90 different pieces of debris or 1% of the total debris found.

When adding shoreline recreational activities, smoking-related activities, medical/personal hygiene, and dumping activities percentages the total amount was 65% which is lower than the 80% figure from NOAA. I think this is because the Olympic Coast is not surrounded by land like the Puget Sound and other locations are. If this is what the data shows on the Olympic Coast, I am curious what the Puget Sound data shows.

# Sanctuary Ocean Literacy



## Ocean Literacy

Stewardship and responsible citizenship go hand in hand. But in order to understand the effects of our actions on the ocean, everyone needs to know more about the ocean and its problems. Ocean Literacy is a challenge. Developing knowledge and skills for today – and tomorrow’s – citizens requires connecting people to the ocean and presenting the best information in ways that engage and inspire the process of lifelong learning. Sanctuary programs educate students, their teachers, families, volunteers, and visitors – their individual roles as ocean citizens.



# Contacts

**A LIST OF OUR CURRENT  
[11/2/12] VOTING AND NON-  
VOTING PARTICIPANTS IS  
AVAILABLE AS A HANDOUT**





*Grays Harbor County*

**MARINE**  
*Resource Committee*

RESOLUTION

2009-14





PROJECTS!!!







Two men in work clothes are moving a damaged boat. The boat's interior is white and heavily stained with numerous dark, handprint-like marks. The exterior of the boat is green and has the word "TAPAC" painted in orange letters.

The boat is overturned on a gravelly shore. The interior is white and heavily stained with numerous dark, handprint-like marks. The exterior of the boat is green and has the word "TAPAC" painted in orange letters.

TAPAC





06/29/2010



© Kathy Greer 2010

# WASHINGTON

## Forum on Marine Spatial Planning



October 20, 2009  
9:30 a.m. – 4:30 p.m.

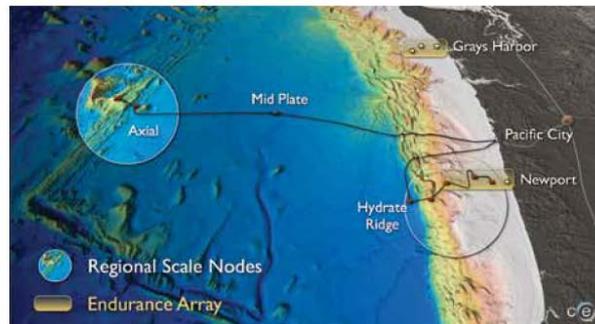
Aberdeen, WA  
Bishop Center for the Performing Arts, Grays Harbor College



# 20,000 Gigabits Under the Sea: Next-Generation Ocean Science off the Washington & Oregon Coasts

A presentation by Dr. John Delaney, Professor of Oceanography, University of Washington.

Ocean Shores Convention Center • 7:00pm • Thursday, May 20, 2010



For more information,  
e-mail: [ghcmrc@co.grays-harbor.wa.us](mailto:ghcmrc@co.grays-harbor.wa.us)

Sponsors: Grays Harbor County MRC, WA Sea Grant, UW College of the Environment, Regional Scale Nodes Program. Graphics courtesy of Regional Scale Nodes Program and Center for Environmental Visualization at the University of Washington.



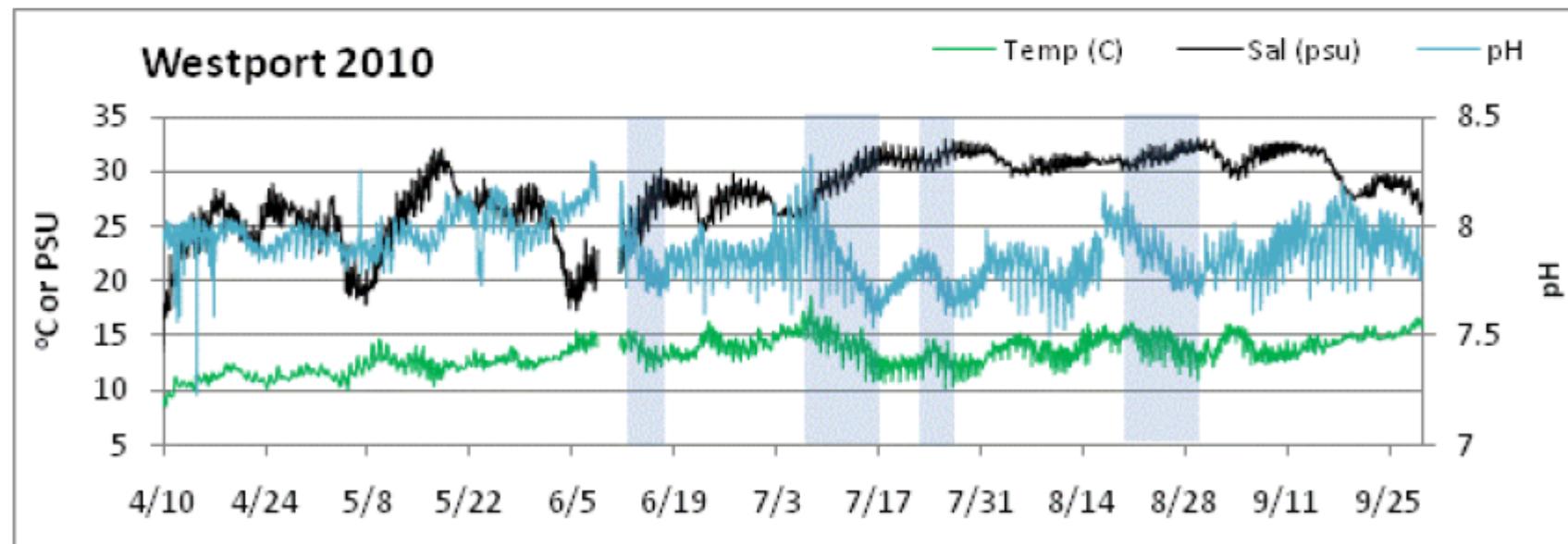
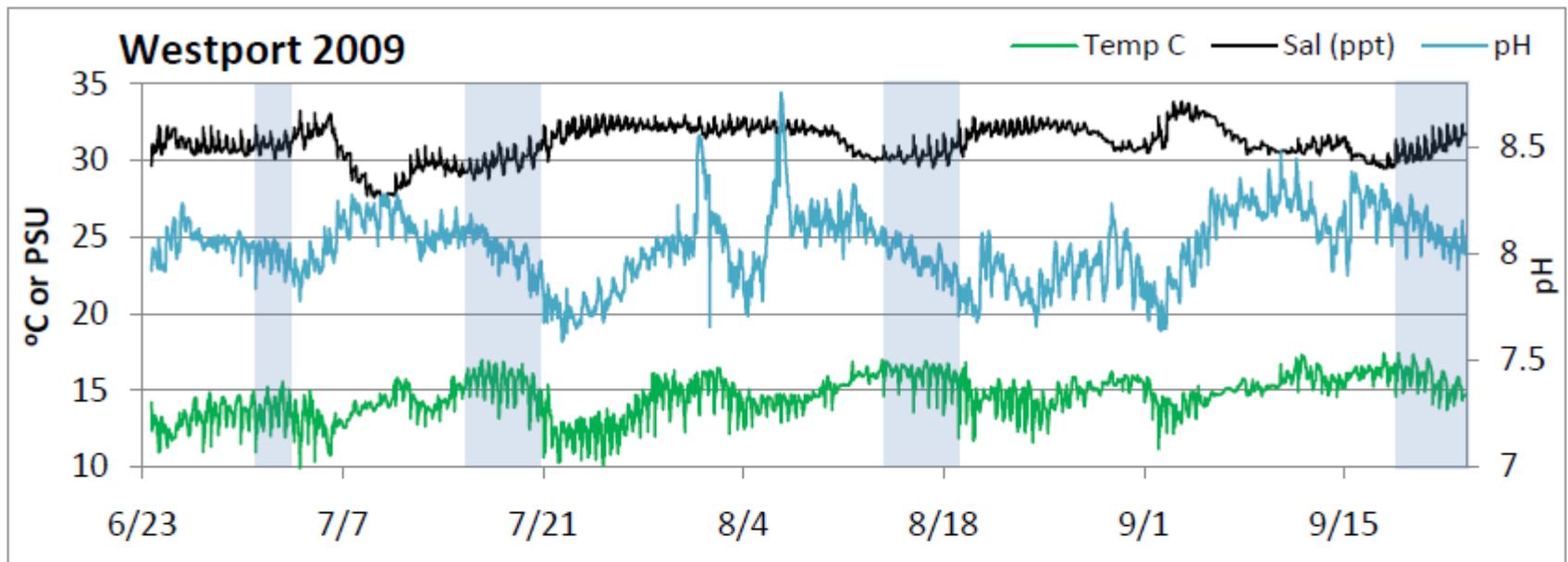


Figure 2. Westport pH, Salinity and Temperature data during the summers of 2009 and 2010 with highlighted upwelling events.



[www.ghmrc.org](http://www.ghmrc.org)

# Pacific County Marine Resources Committee



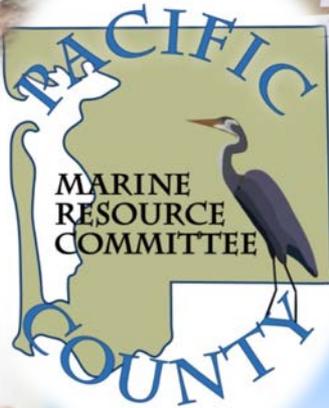
## PCMRC Board Members;

Local Government	Mike Nordin (Pacific County)	Alt - Tim Crose (Pacific County)
Local Citizen	Doug Kess	Alt – Open
Recreational Groups	Michael Spencer (Pacific County Angler's	Alt – Open
Economic Groups	Cathy Russ (Pacific County EDC)	Alt – Dan Todd (Port of Chinook)
Environmental Group	Tom Kollacsh (TNC)	Alt – Open
Scientific Community	Kim Patten (WSU)	Alt – Key McMurry (KES)
Tribal Government	Ray Gardner (Chinook Indian Nation)	Alt – Open
Aquaculture	Tim Morris (Coast Seafood's)	Alt –Brian Sheldon (Northern Oyster Co.)
Commercial Fishing	Dale Beasley (CRCFA)	Alt – Dwight Eager (CRCFA)
Cities	Mike Cassinelli (Mayor; City of Ilwaco)	Alt – Open
State/Federal Gov.	Jackie Ferrier (USFW )	Alt – Open
Education	Kathleen Sayce (Shoalwater Botanical)	Alt – Open
Agriculture	Open	Alt – Open
Ports	Jim Neva (Port of Ilwaco)	Alt Mary DeLong (Port of Peninsula )

# PCMRC Meetings



04/10/2009 08:33



04/10/2009 08:33



# PCMRC Projects Education



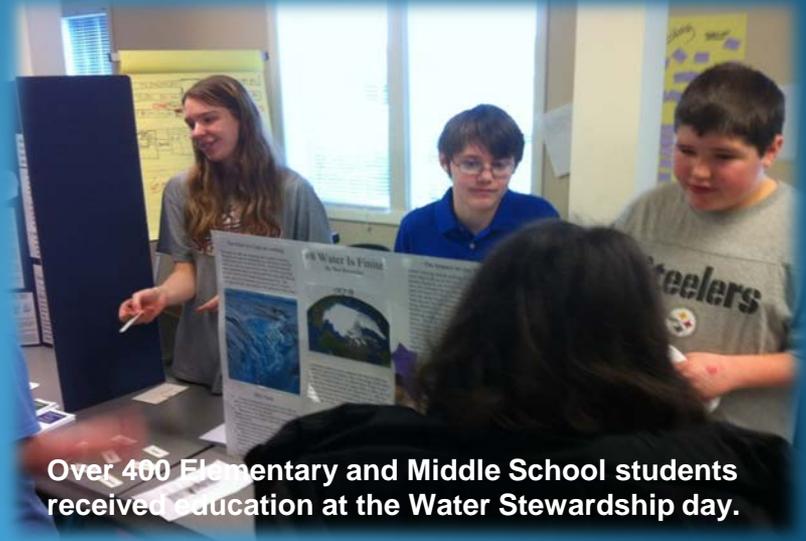
Students at Water Stewardship day



135 Middle school students attended the Stewards of Our Peninsula field tour.



24 of the 135 middle school students presented at the Water Stewardship Day to Elementary Students



Over 400 Elementary and Middle School students received education at the Water Stewardship day.

# PCMRC Projects Debris Cleanup

Willapa Bay and Long Beach Peninsula



Willapa Bay Debris Cleanup funded by the PCMRC



Pacific County Commissioner: Lisa Ayers and family at Long Beach Debris Cleanup.



Volunteer with a truck load of debris collected on Peninsula Beaches.



Willapa Bay debris Cleanup; 1800 cubic feet of debris was collected from Willapa Bay.

# Columbia River Sediment Management



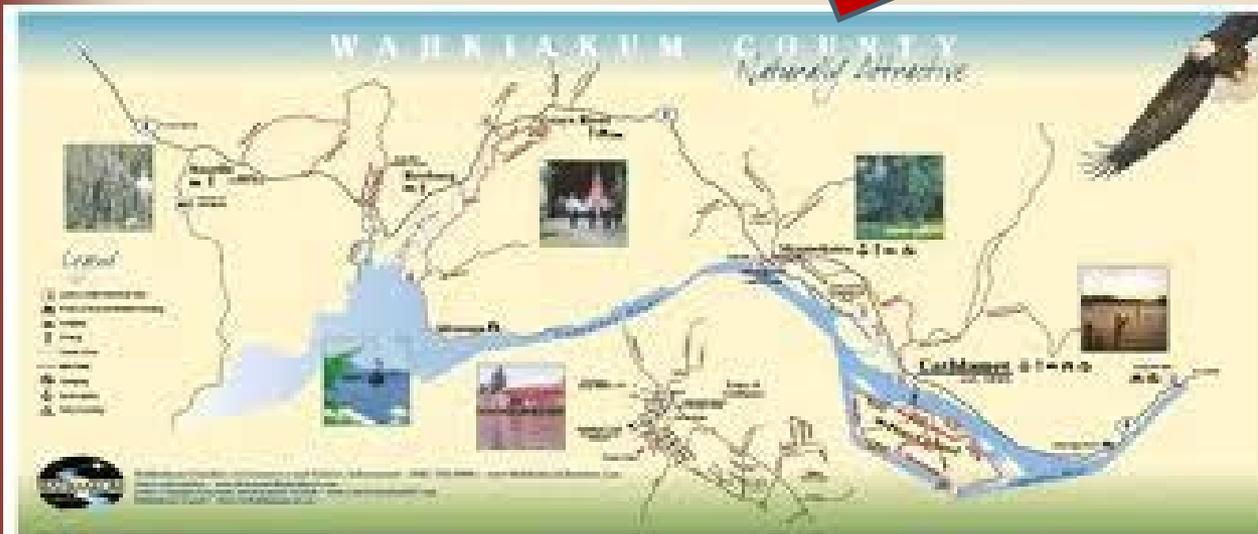
## Wahkiakum County Marine Resources Committee



Lower Columbia River in Wahkiakum  
County

## Wahkiakum County:

- Life on the water big part of culture, heritage, economy
- Pop. 4000



## Our unique partnership...

### ***The Intent and Role of State MRCs under Chapter 36.125 RCW***

The legislature did not stray far from the basic intent of the Northwest Straits Initiative – it essentially mirrored the basic concept of a citizen-based, nonregulatory approach for marine ecosystem restoration and protection (RCW 36.125.005).

**WSU Wahkiakum County Extension** has a long history and good reputation for citizen-based, nonregulatory decision-making.



Drainage meeting - 1927 - Grays River

## Development of the Wahkiakum MRC



Bringing everyone to the table...



## Wahkiakum MRC Projects:

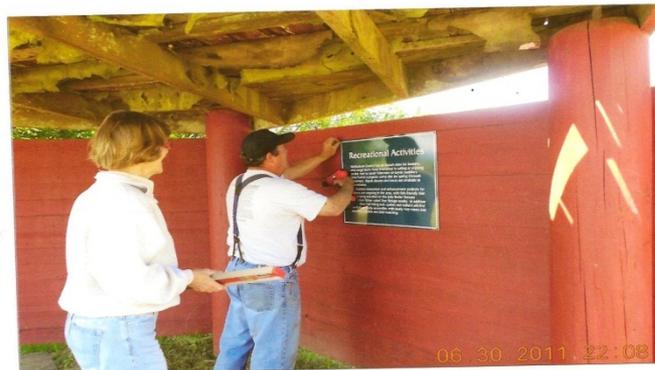
**Columbia River Invasive Species Survey And Education – A** baseline survey of the presence and extent of invasive plant species on the Columbia River in Wahkiakum County was accomplished using a local kayak company and Wahkiakum High School Students



**Propagation of Native Plants for Riparian Planting** – The Natural Resources class at the Naselle High School took Cuttings of native plants from local areas to start in the school greenhouse then later planted them along the river to provide wildlife habitat.



**Shoreline Trail Enhancement & Signage** – Volunteers at Skamokawa Vista Park cleaned up and re-surfaced a handicap trail. Signs about native plants were placed along the trail.



**Fishermen Promotion** – The MRC sponsored a booth at the a farmer’s market in Wahkiakum County to educate the public on the fishing industry on the Columbia River and its harvest techniques.



**Columbia River Fisheries Exhibit** – This exhibit demonstrates the uniqueness of the Columbia River’s tribal and non-tribal fisheries. This exhibit can travel to other areas for viewing.



**Fish Hatchery Job Shadowing** – Students from the Naselle High School Natural Resources class visited the Grays River fish hatchery to shadow employees and assist with the fish spawning process.



Marine Resource Monitoring and Education – Fourteen Wahkiakum High School Students and one teacher spent three hours per week over a three month period monitoring the water quality and habitat health of three local streams in Wahkiakum County.



**Field Trip to Young's Bay in Astoria, Oregon** – Wahkiakum High School Biology students visited the Young's Bay select area fishery to observe and learn about the fish net pen hatchery rearing program.



**Field Trip to Columbia Maritime Museum – Wahkiakum High School** Biology students visited the museum to learn about the history of the first canneries and how the fish and other marine resources have affected people living along the Columbia River.



## Anticipated next steps:

- Analysis of Alternative Fishing Strategies and Terminal Fishing Areas in Wahkiakum County
- Pinneped Citizen Science
- Assessments of Sedimentation in River Mouths

2010 Washington  
**Coastal Marine  
Resources  
Committee Summit**

September 29-30  
Westport, WA



© Kathy Greer 2010.





2011 Washington  
Coastal Marine  
Resources  
Committee  
Summit

October 13-14  
Forks, WA

*Olympic Natural Resources Center*

© K. Greer





# WORLD'S LONGEST BEACH

Coastal MRC Summit – 2012

December 7-8<sup>th</sup>, Long beach Washington

Ocean Science Summit - Saturday December 8<sup>th</sup>

9:00 Ray Hilborne – Ocean abundance

10:00 Brian Atwater – Coastal Earthquakes

11:00 Ocean Acidification – Governor's Blue Ribbon Panel

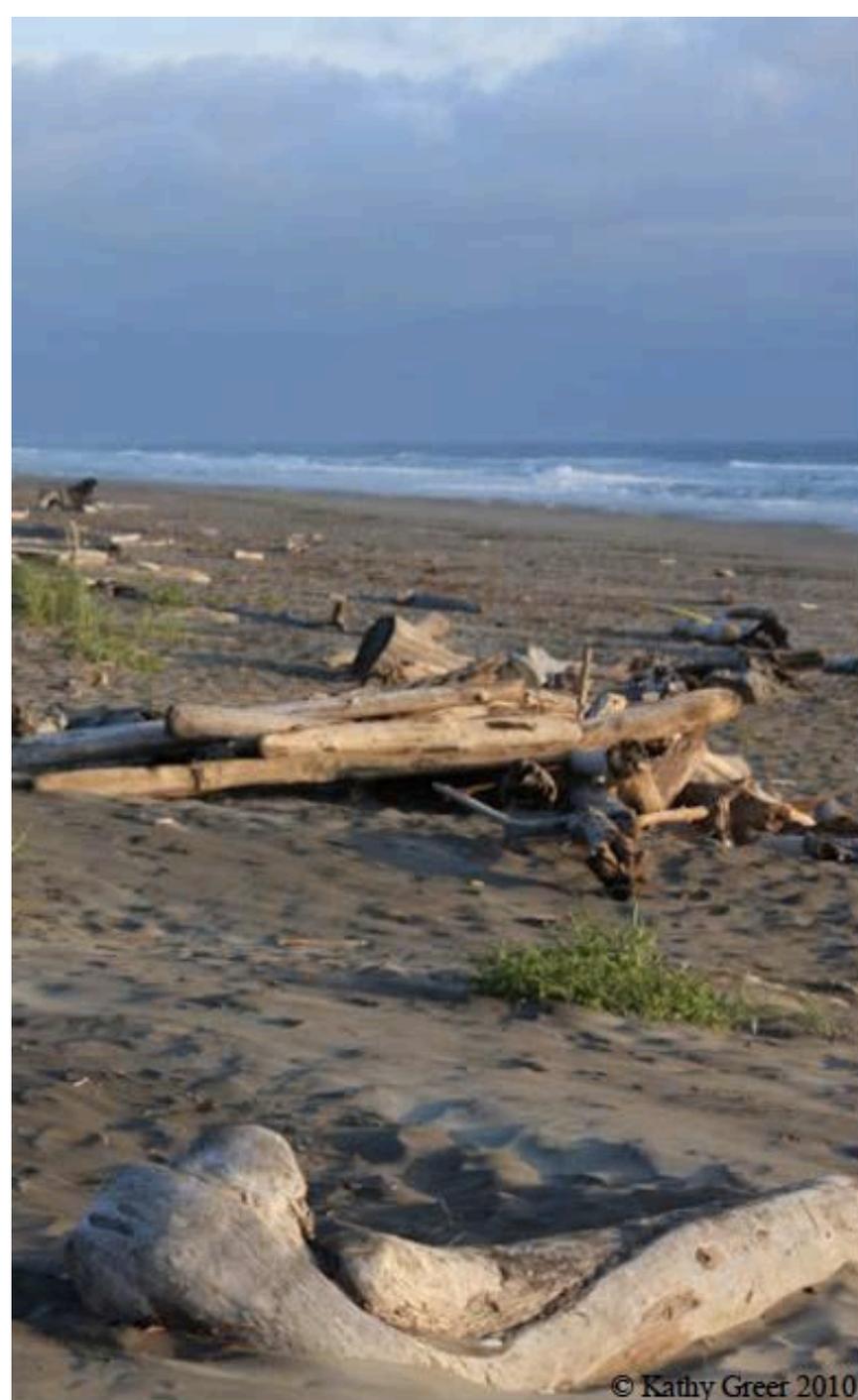
12:00 Lunch, with ocean acidification breakout sessions

1:00 Ann Murphy – Ocean Plastics

2:00 Banos/Hickey – Ocean modeling

## Results of Coastal MRC Summits:

- Formation Washington Coast Marine Advisory Council
- Development of two Coast-wide priority projects:
  - Derelict gear and marine debris project
  - Assessing Washington's working coast

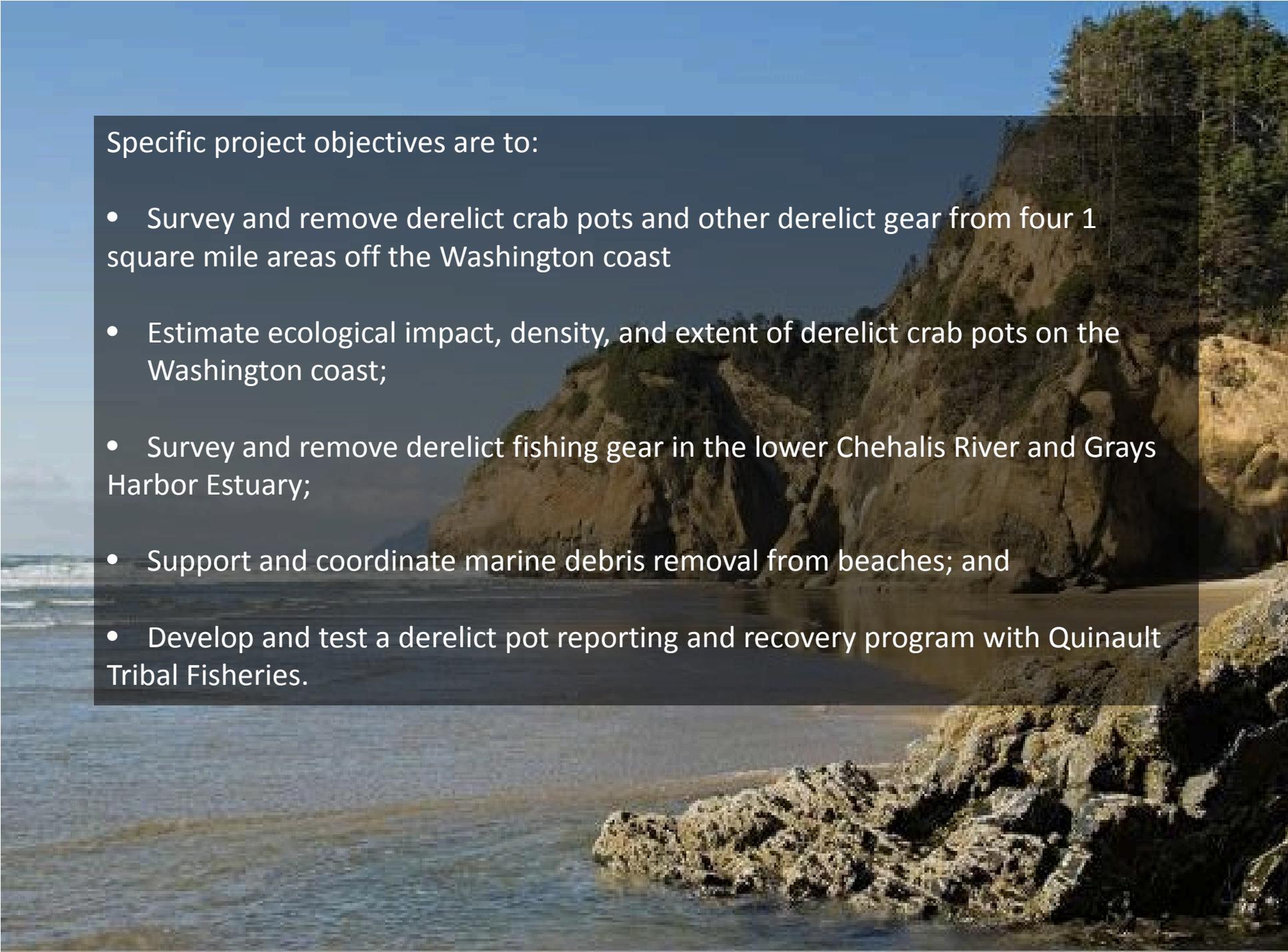


# Washington Coast Derelict Gear and Marine Debris Removal Project - 2012







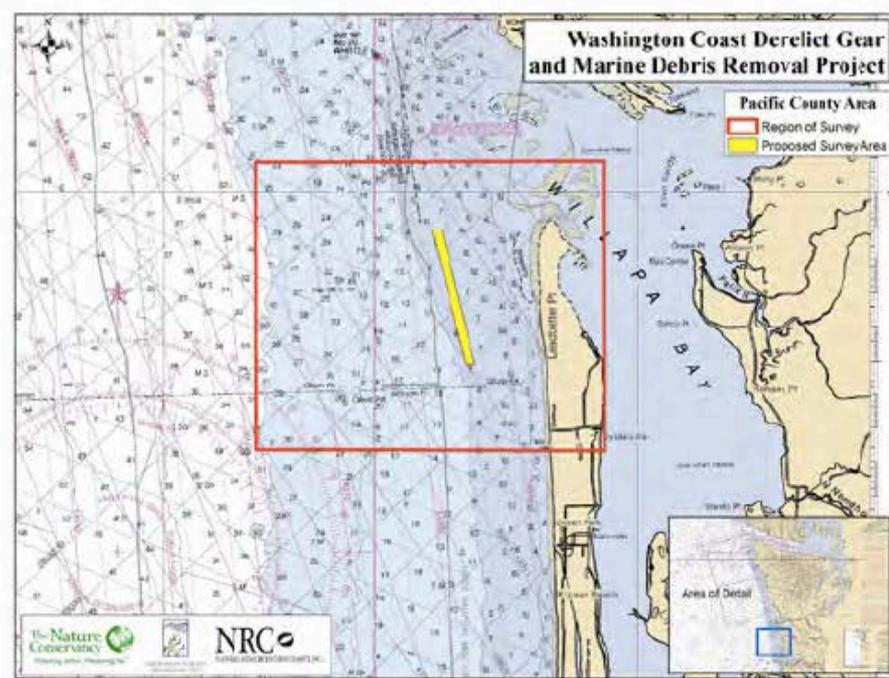
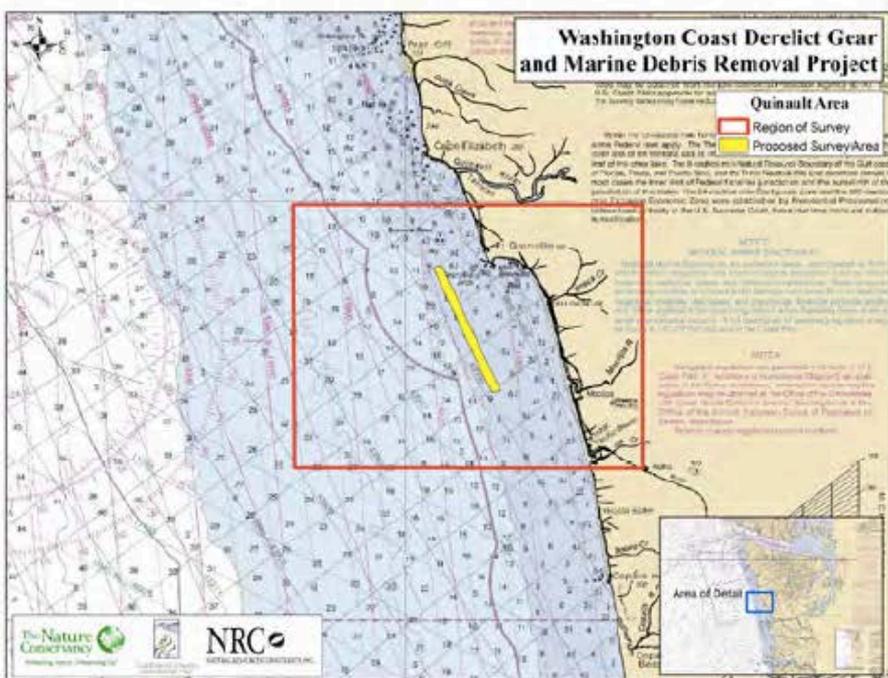
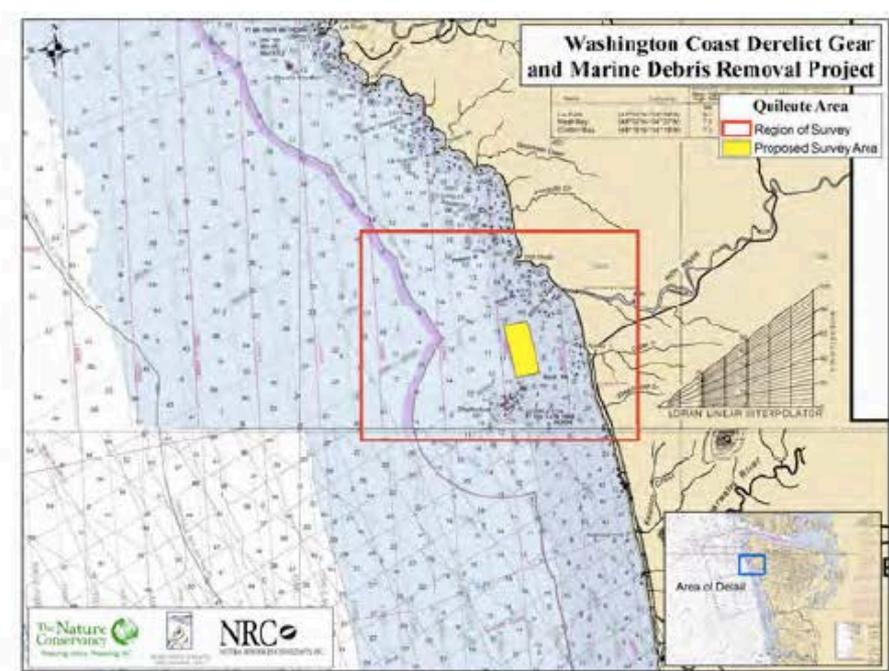
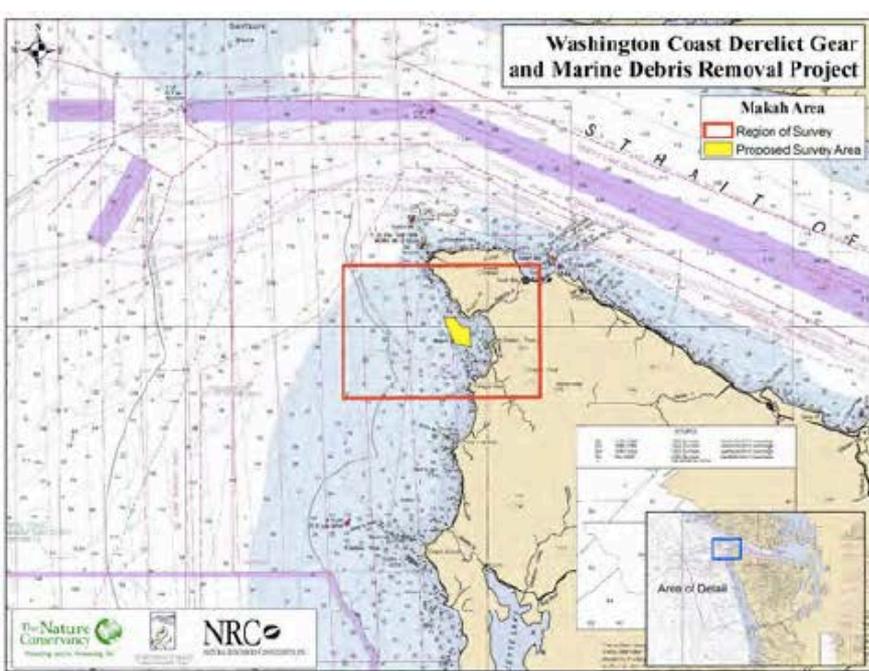


Specific project objectives are to:

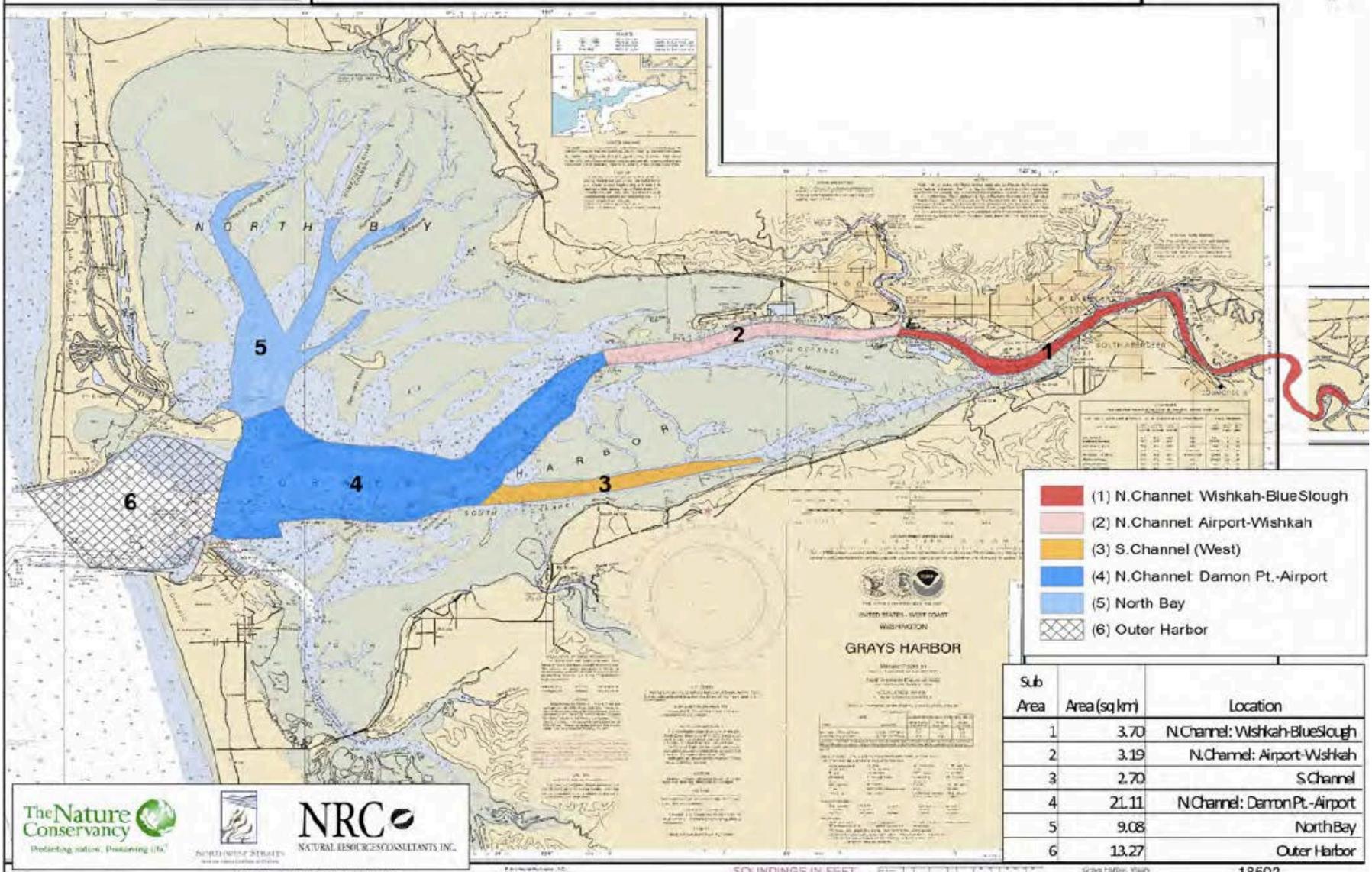
- Survey and remove derelict crab pots and other derelict gear from four 1 square mile areas off the Washington coast
- Estimate ecological impact, density, and extent of derelict crab pots on the Washington coast;
- Survey and remove derelict fishing gear in the lower Chehalis River and Grays Harbor Estuary;
- Support and coordinate marine debris removal from beaches; and
- Develop and test a derelict pot reporting and recovery program with Quinault Tribal Fisheries.







# Sidescan Sonar Survey and Removal Areas for Derelict Gear in Grays Harbor/Chehalis River



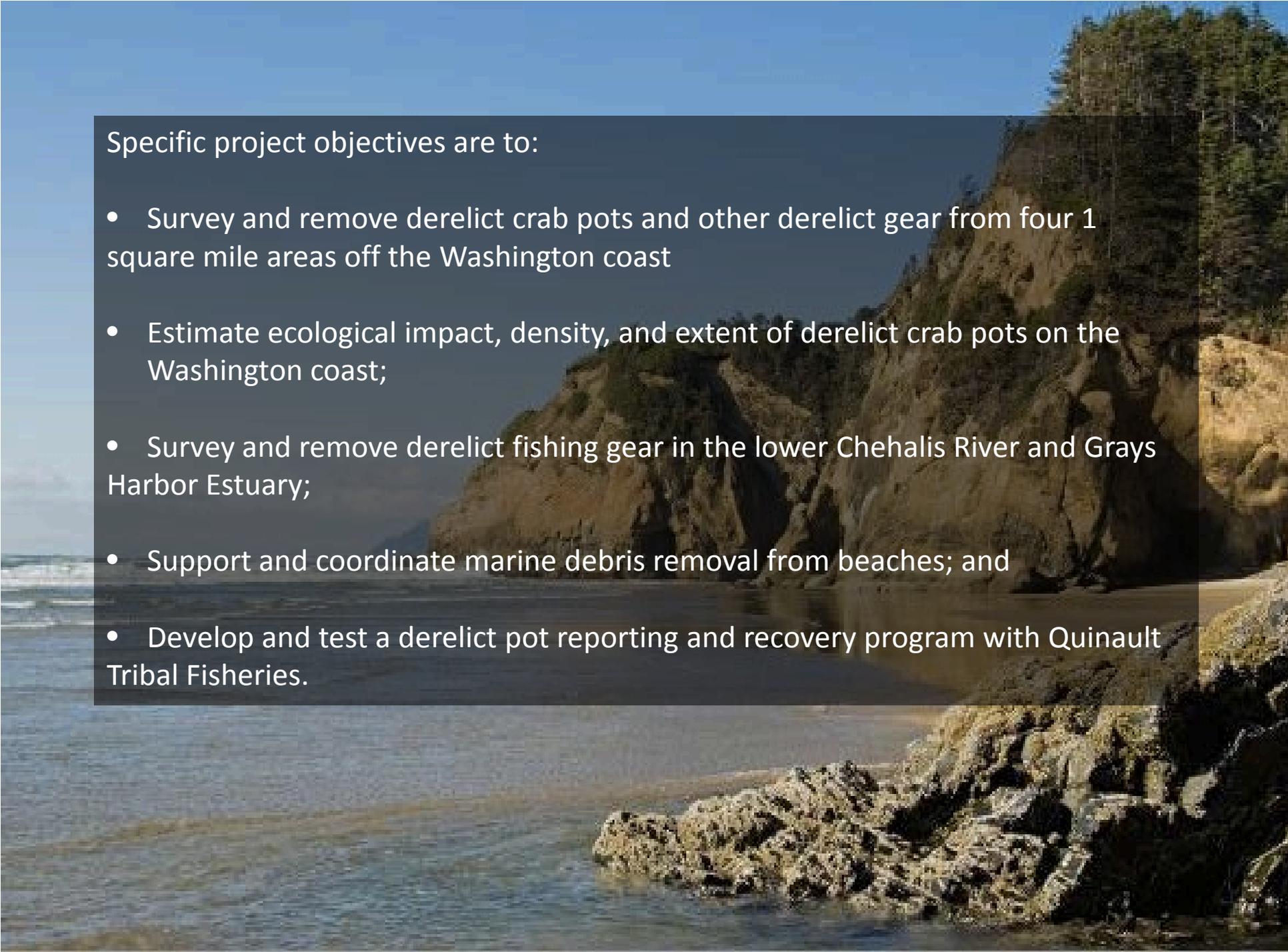
- (1) N.Channel Wishkah-BlueSlough
- (2) N.Channel Airport-Wishkah
- (3) S.Channel (West)
- (4) N.Channel Damon Pt.-Airport
- (5) North Bay
- (6) Outer Harbor

Sub Area	Area (sq km)	Location
1	3.70	N.Channel: Wishkah-Blueslough
2	3.19	N.Channel: Airport-Wishkah
3	2.70	S.Channel
4	21.11	N.Channel: Damon Pt.-Airport
5	9.08	North Bay
6	13.27	Outer Harbor





01.19.02	12 volunteers	840 lbs
04.06.02	36 volunteers	1,890 lbs
07.07.02	50 volunteers	4 tons
01.18.03	100 volunteers	1 ton
04.25.03	200 volunteers	4 tons
07.06.03	300 volunteers	6 tons
01.23.04	130 volunteers	3 tons
04.25.04	150 volunteers	4 tons
07.05.04	400 volunteers	8 tons
01.15.05	100 volunteers	3 tons
04.23.05	150 volunteers	2.5 tons
07.05.05	200 volunteers	7.5 tons
01.21.06	150 volunteers	5 tons
04.22.06	250 volunteers	4 tons
07.05.06	350 volunteers	4.5 tons
01.13.07	135 volunteers	3 tons
04.21.07	150 volunteers	3.25 tons
07.05.07	500 volunteers	10 tons
01.26.08	200 volunteers	2 tons
04.26.08	300 volunteers	2.8 tons
07.05.08	700+volunteers	17.5 tons
01.31.09	450 volunteers	7.75 tons
04.28.09	450 volunteers	7+tons
07.05.09	500 volunteers	15+tons
2002 = 7 tons		2005 = 13 tons
2003 = 11 tons		2006 = 13.5 tons
2004 = 15 tons		2007 = 16.5 tons
2008 = 22.3 tons		2009 = 30 tons



Specific project objectives are to:

- Survey and remove derelict crab pots and other derelict gear from four 1 square mile areas off the Washington coast
- Estimate ecological impact, density, and extent of derelict crab pots on the Washington coast;
- Survey and remove derelict fishing gear in the lower Chehalis River and Grays Harbor Estuary;
- Support and coordinate marine debris removal from beaches; and
- Develop and test a derelict pot reporting and recovery program with Quinault Tribal Fisheries.

Questions?



# WASHINGTON'S WORKING COAST



© Kathy Greer 2009

Northwest Straits Initiative 14th Annual MRC Conference

Jody Kennedy, Surfrider Foundation

# JOBS JOBS JOBS



## PURPOSE:

**Build understanding of the marine resource based economic engine and seek ways to sustain and expand it.**

(Coastal MRC Summit, 10/2011)

# 3 PHASES

**WHAT INFORMATION IS AVAILABLE?**

**WHAT CAN WE SAY ABOUT MARINE-BASED JOBS?**

**WHAT ARE NEXT STEPS?**



# PHASE 1

onrc.washington.edu

Business Name	Marine Use	Contact Name	Contact Information	Business Address	County	Tribe
Apocolypto Motel	Tourism	Linda Colfax	lindacolfax@hotmail.com; (360)640-2192; (360)640-4558	1110 Bayview Avenue Neah Bay, WA 98357	Clallam	
Cape Motel and RV Park	Tourism		(360)645-2250	1510 Bayview Avenue Neah Bay, WA 98357	Clallam	
Carol's Iyee Motel	Tourism		(360)645-2221	1230 Bayview Avenue Neah Bay, WA 98357	Clallam	
Hobuck Beach Cabins and RV Resort	Tourism		mtchobuck@centurytel.net; (360)645-2335	2726 Makah Passage Neah Bay, WA 98357	Clallam	
The Village RV Park	Tourism		(360)645-4005; (360)640-0028	1184 Bayview Avenue Neah Bay, WA 98357	Clallam	
Linda's Wood-Fired Kitchen	Tourism/Serving coastal and tribal community	Linda Colfax	lindacolfax@hotmail.com; (360)640-2192; (360)640-4558	1110 Bayview Avenue Neah Bay, WA 98357	Clallam	
Makah Mini Mart	Tourism		(360)645-2302	931 Bayview Avenue Neah Bay, WA 98357	Clallam	
Washburn's Deli	Tourism/Fishing Gear/Serving coastal and tribal community		(360)615-2211	1420 Bayview Avenue Neah Bay, WA 98357	Clallam	
Whaler's Moon Delight	Tourism		(360)645-2122	1081 Bayview Avenue Neah Bay, WA 98357	Clallam	
Museum Store Makah Cultural and Research Center	Tourism/Serving coastal and tribal community		(360)645-2711 <a href="mailto:makahmuseum@centurytel.net">makahmuseum@centurytel.net</a> <a href="http://makah.com">makah.com</a>	1880 Bayview Avenue Neah Bay, WA 98357	Clallam	Makah
Raven's Corner Gallery and Gift Shop	Tourism		ravensc@centurytel.net; ravenscornerart.com	221 Halfway Creek Neah Bay, WA 98357		
Neah Bay Chamber of Commerce	Tourism		(360)615-2711	1081 Bayview Avenue Neah Bay, WA 98357	Clallam	Makah

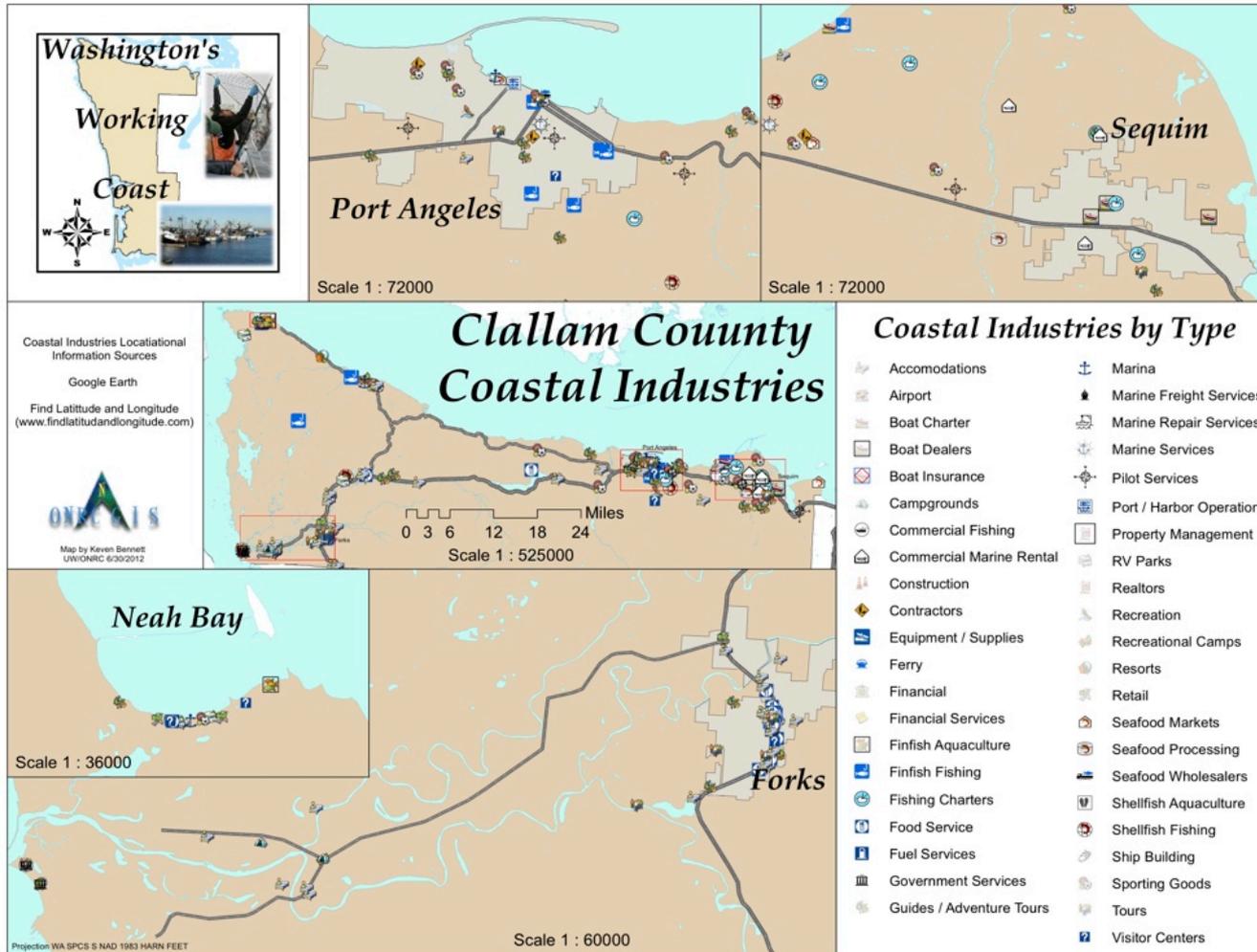
## OLYMPIC NATURAL RESOURCES CENTER

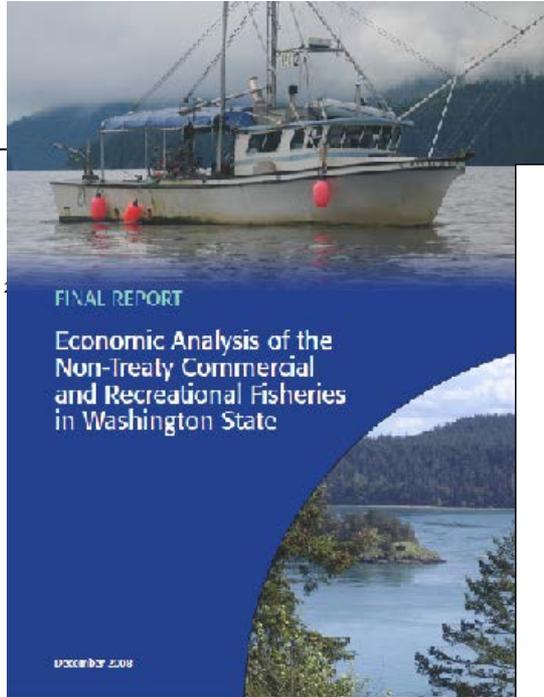
COLLEGE OF THE ENVIRONMENT • SCHOOL OF ENVIRONMENTAL AND FOREST SCIENCES

UNIVERSITY of WASHINGTON



*Investigating critical issues in forestry  
and coastal marine resources*





Final  
 Washington Commercial Fisheries Economic Value in 2008

prepared by  
 The Research Group  
 Corvallis, Oregon

in association with  
 TCU Economics  
 Sacramento, California

prepared for  
 Washington Department of Fish and Wildlife

December 11, 2008

**Social and Economic Description of Selected  
 Coastal Oregon and Washington Counties  
 2000 Update**



*photo courtesy of National Oceanic and Atmospheric Administration*

**Pacific Northwest Coastal Ecosystems Regional Study**

**December 2002**

**OLYMPIC NATURAL RESOURCES CENTER**  
 COLLEGE OF THE ENVIRONMENT • SCHOOL OF ENVIRONMENTAL AND FOREST SCIENCES

UNIVERSITY of WASHINGTON **W**

*Investigating critical issues in forestry  
 and coastal marine resources*

# PHASE 2

**7 GRADUATE STUDENTS**

**FACULTY MENTOR**

**MRC STEERING COMMITTEE**



UNIVERSITY OF WASHINGTON  
PROGRAM ON THE ENVIRONMENT



# PORTRAIT OF MARINE RESOURCE-BASED JOBS



# EMPLOYMENT



# VALUE OF GOODS & SERVICES



# ECONOMIC CONTRIBUTION





**CHALLENGES & OPPORTUNITIES**

PHASE 3

**COAST-WIDE  
ECONOMIC  
SUMMIT**

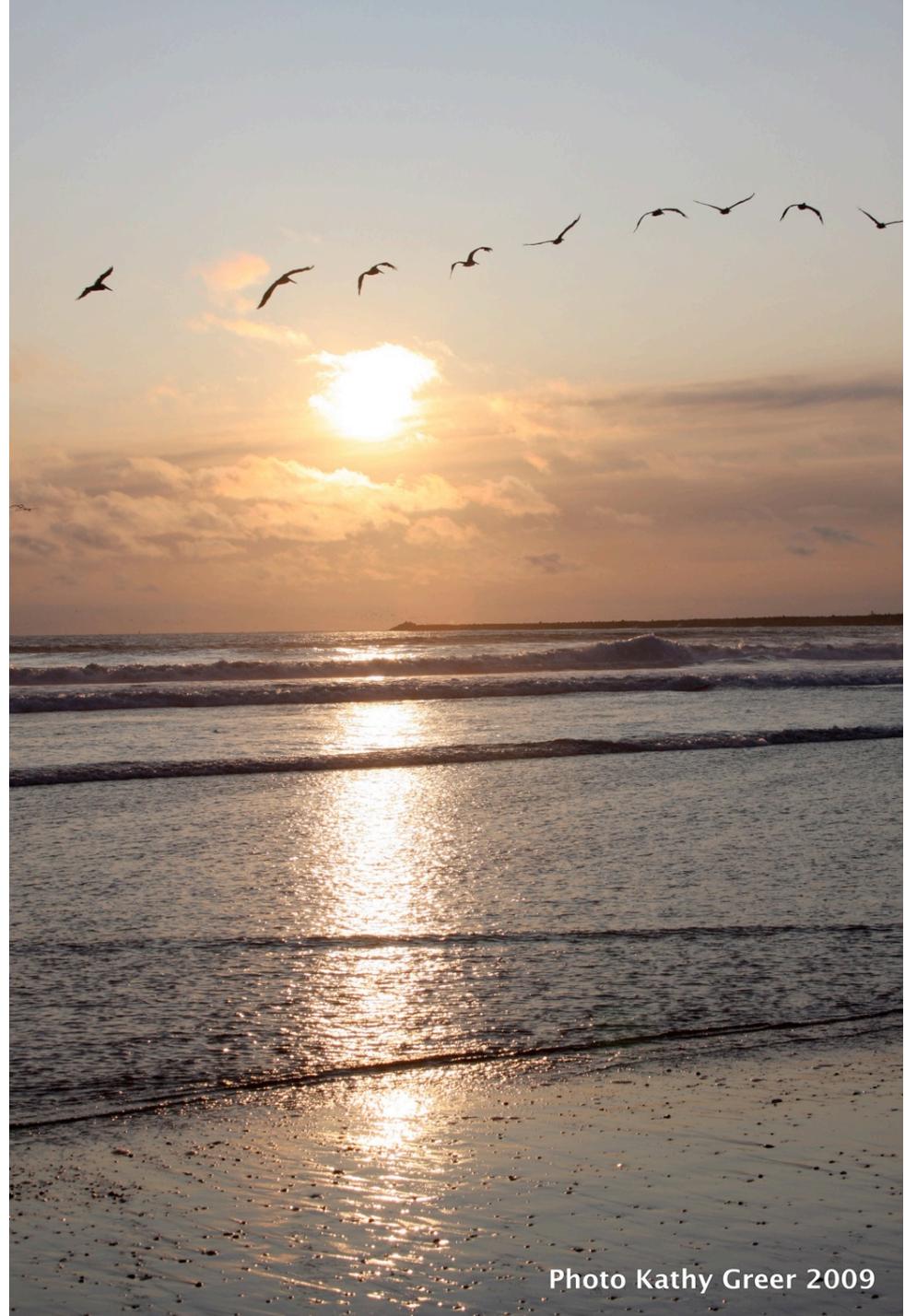


Photo Kathy Greer 2009



**SURFRIDER**  
**FOUNDATION**

[jkennedy@surfrider.org](mailto:jkennedy@surfrider.org)

206.940.6509



# Washington Coastal Marine Advisory Council



# WCMAC Mission Statement:

“The Washington Coastal Marine Advisory Council is a strong voice for coastal communities on marine resource issues, protecting and preserving existing sustainable uses, marine-based economies and healthy marine ecosystems.”

## Appointments for Washington Coastal Marine Advisory Council

<b>Seat</b>	<b>Name</b>
Citizen	Key McMurray, Key Environmental Solutions LLC
Commercial Fishing	Ray Toste, Westport Crabbers Association
Commercial Fishing	Dale Beasley, Columbia River Crab Fishermens Association
Conservation	RD Grunbaum, Friends of Grays Harbor
Economic Development	Tami Garrow, Grays Harbor Public Development Authority
Education	Lorena Maurer (Marchant), educator
Energy	Rick Lovely, Grays Harbor PUD
Energy	Jeff Ward, Pacific Northwest National Labs
Ports	Marc Horton, Port of Grays Harbor
Recreation	Casey Dennehy, Surfrider Foundation
Recreational Fishing	Mark Cedergreen, Westport Charterboat Association
Shellfish Aquaculture	Brian Sheldon, Willapa-Grays Harbor Oyster Growers Association
Shipping	Charlie Costanzo, The American Waterways Operators (AWO): Pacific Region
Science	Rich Osborne, Research Consultant, UW Olympic Natural Resources Center



# CLALLAM COUNTY Marine Resources Committee



Data-driven science combined with grassroots citizen involvement in an effort to address the depletion of marine resources in the Straits of Juan de Fuca.

The Clallam County's MRC's job is to discover collaborative ways to improve shellfish harvest areas, protect marine habitat, support salmon and bottom fish recovery and examine resource management alternatives.



<http://www.clallam.net/ccmrc/>

# But first , some history



Granuile O'Maille  
Westport, County Mayo

# Looking Back...

- Northwest Straits Commission created in 1998, the outcome of a study done by Senator Patty Murray and Congressman Jack Metcalf
- Northwest Straits Commission comprises 7 Counties: Clallam, Jefferson, Island, San Juan, Skagit, Snohomish, Whatcom
- Clallam Area of geographic interest: Nearshore and marine areas of the Strait of Juan de Fuca
- 15 voting members (12 seats filled)
- Many local partners, including (not limited to) US Coast Guard, Peninsula College, Surfrider, DNR, WDFW, Feiro Marine Life Center, Dungeness River Audubon Center, Washington Sea Grant, WSU Beachwatchers, Puget Sound Anglers, individual volunteers



# Marine Water Quality



**Sampling groundwater in the Dungeness basin**

**(What contaminants might we find in the groundwater?  
Do those contaminants travel to Dungeness Bay?)**



**Collecting shellfish to test for toxins**

**(Are these butter clams safe to eat?)**

# Marine Water Quality



Members of Surfrider and Clallam MRC sponsor a Sani-Kan at a popular local beach

(What immediate steps can we take to improve marine water quality?)

# Elwha River Restoration, and...



Scott Church

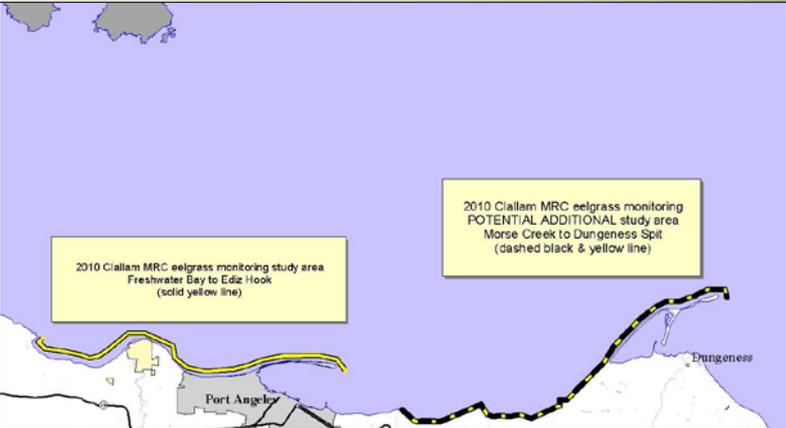


Scott Church



Elwha man with chinook salmon. Photo courtesy Jamestown S'Kallam Tribe.

# Elwha Drift Cell/Nearshore Restoration



Ediz Hook, 1884



(What baseline data can the MRC provide for the restoration?)

# Sound Science



**Sediment survey in Elwha and Dungeness drift cells**

**(What size and type of sediment do we have in these neighboring, and now vastly different, drift cells?)**

# Sound Science



**Monitoring nearshore fish use**  
**(Who uses the nearshore?)**



# Education and outreach

(How do we share information?)



Feiro Marine Life Center elementary grades education and senior culminating projects



Local events and festivals

# Education and outreach

Oiled wildlife collection and recovery



HAZWOPER training and refresher courses

(How can we best be prepared for an oil spill?)



# Marine habitats



Volunteer Nancy Mesmer tosses trash at a beach clean up

What immediate steps can we take to improve marine habitats?

# Thank you



Emily Carr, "Strait of Juan de Fuca," oil, McMichael Collection of Canadian Art