

# Water-Dependent Uses



## Aquaculture case study

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# Overview

- ◉ Water-dependent uses
  - Shoreline Management Act
  - SMP Guidelines



- ◉ Aquaculture
  - What is it?
  - Challenges
  - Recommendations
  - Examples



Washington Coastal Atlas, top; Seattle Times, bottom.

# SMA preferred uses [RCW 90.58.020]

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- Control of pollution
- Prevention of damage to natural environment
- Unique to or dependent upon use of the State's shoreline



Lake Union, Seattle. Washington Coastal Atlas photo.

# SMA priority uses

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- ◎ “...in those limited instances when authorized...”
  - Single family residences
  - Ports
  - Recreational uses related to public access
  - Industrial/commercial dependent on location on or use of shorelines of state
  - Opportunity for substantial numbers of people to enjoy shorelines

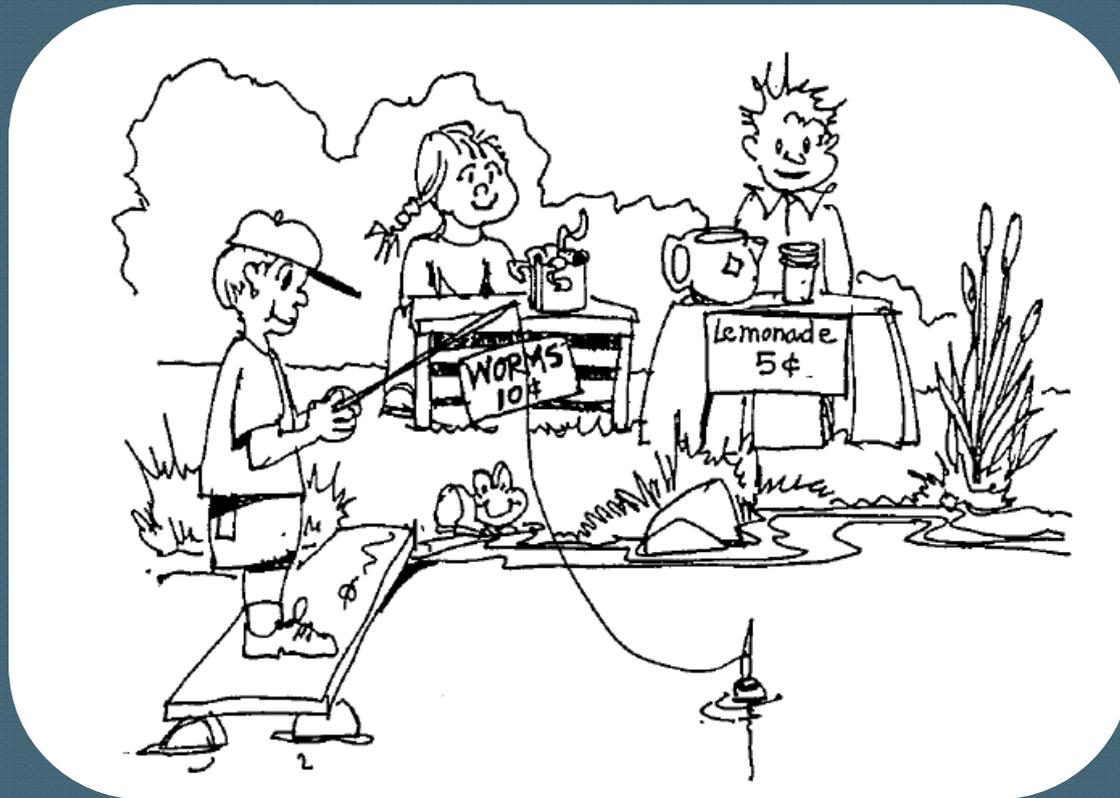
# Water-dependent use

- Cannot exist in location not adjacent to the water.
- Dependent on the water due to intrinsic nature of operations [WAC 173-26-020].



Bremerton ferry terminal. Washington Coastal Atlas photo.

# Water-oriented uses



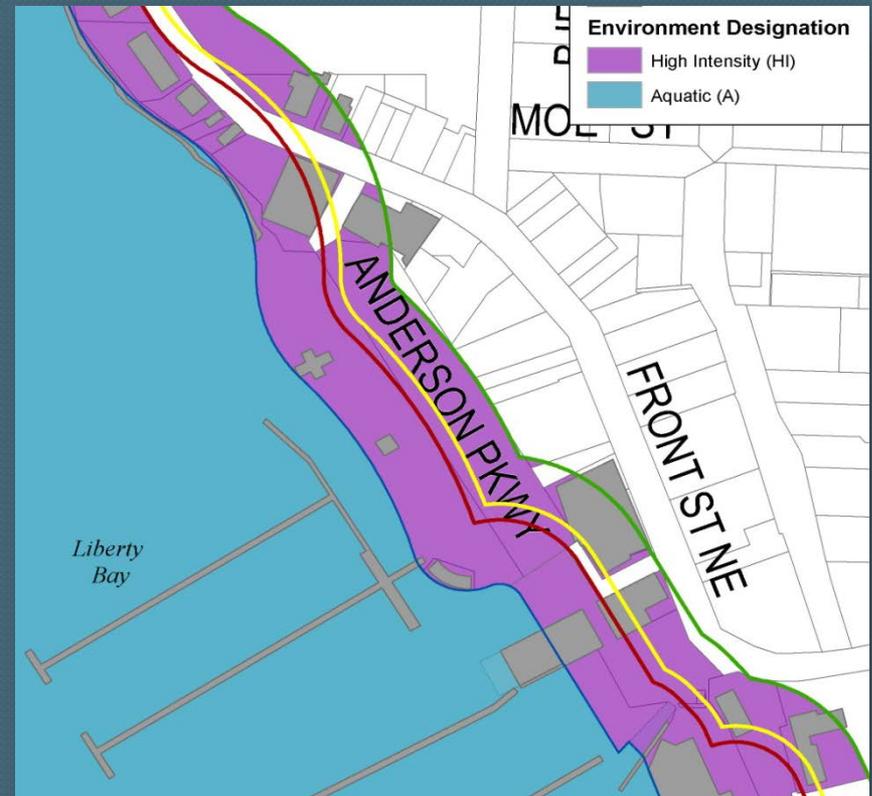
# Preferred uses [WAC 173-26-201(2)(d)]

1. Areas for ecological functions
2. Water-dependent & associated water-related uses
3. Other water-related uses & water-enjoyment uses
4. Single family residences
5. Nonwater-oriented uses

Banks Lake net pens, eastern Washington. Kokanee or Rainbow trout rearing for recreational fisheries.

# Water-dependent uses

- Determine appropriate locations.
- Explain rationale.
- Keep good records.



# Shoreline use analysis

- Current patterns of land uses
- Likely shoreline uses & future demand
- Opportunities for preferred uses
- Potential use conflicts



Friday Harbor, San Juan Island. Washington Coastal Atlas photo.

# Cumulative impacts analysis

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- Anticipated uses and development
- Cumulative impacts on shoreline functions
- No net loss



# Aquaculture: A case study

- Preferred use [WAC 173-26-241(3)(b)(i)(A)]
- Statewide interest; if properly managed [WAC 173-26-241(3)(b)(i)(B)]:
  - Long-term over short-term benefits
  - Can protect shoreline ecology
- Local ecological conditions a factor



# What is aquaculture?

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- “...the culture or farming of fish, shellfish, or other aquatic plants and animals.”



Harvest of geoduck  
on state-owned lands  
not included.

[WAC 173-26-020(6)]

# Aquaculture: A big “bucket”

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- Wide range of locations, scales, designs, species, and potential impacts

Statewide  
Fresh and marine waters  
All environmental designations



# Plants and animals

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# Native and non-native species

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*Oncorhynchus tshawytscha* (Chinook salmon).



*Salmo salar* (Atlantic salmon).

# Private, public and tribal lands

SPECIES	LIMITS	SEASON
<i>All species require a State License</i>		
Rock Crab	6/person/day - 5" min.	OPEN
Dungeness Crab	Wading: hardshell males - 6 1/4" min., 6" in Hood Canal	OPEN
Dungeness Crab	Pots: hardshell males - 6 1/4" min., 6" in Hood Canal.	OPEN
Oysters	18/person/day - Shuck on beach	CLOSED
Steamer Clams	Up to 40 clams, not over 10 lbs. total. 1 1/2" min. size on Littlenecks, Manila and Butter Clams.	CLOSED
Geoducks	3 - cannot take siphon only	CLOSED
Horse Clams	First 7, no discards	CLOSED
Mussels	10 lbs. in shell	CLOSED

*Information of seasons and limits is summarized for your convenience and applies to waters and beaches at this state park only. For detailed regulations, see Department of Fish and Wildlife Sport Fishing Guide.*

**PUBLIC  
BEACH**  
ENDS HERE  
PRIVATE PROPERTY



# Good and poor water quality



Jamestown S'Klallam Tribe oyster aquaculture.



Nutrient mitigation research by Puget Sound Restoration Fund.

# Structures and no structures

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American Gold Seafoods' Fort Ward net pen,  
Bainbridge Island.



Seeding private tidelands.

# In water and out of water

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Ocean Falls, British Columbia. Salmon transfer.



Oysterville, Washington. Store front.

# Permanent and temporary



American Canadian fish processing plant in Bellingham.



Palmer Lake Kokanee trap and spawn.

# Tube-type geoduck

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Attorney General Opinion  
2007, No. 1  
[WAC 173-26- 241(3)(b)(iii)]

“Use” or  
“Development and uses”

Geoduck aquaculture on Hartstine Island.

# Challenges: Shellfish

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## Use and habitat

- Critical saltwater habitats  
[WAC 173-26-221(2)(c)(iii)(A)]
- Fish and Wildlife  
Habitat Conservation Areas  
[WAC 173-26-221(2)(a)(ii)]



*Melibe leonina* on *Z. marina* in Puget Sound.  
Sea Slug Forum.

# Challenges: Shellfish

A large white fishing vessel is docked at a pier. In the foreground, there is a large net pen structure extending into the water. The background shows a forested hillside under a cloudy sky.

Aquaculture provisions[WAC 173-26-241(3)(b)(i)(C)]

Not permitted in areas where:

- Results in net loss.
- Impacts eelgrass and macro-algae.
- Significantly conflicts with navigation or other water-dependent uses.

# Challenges: Shellfish

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- ◉ Design and locate facilities to avoid:
  - Spreading disease
  - Establishing new non-native species
  - Impacting aesthetic qualities
- ◉ Mitigation sequence – required
- ◉ Commercial geoduck provisions  
[WAC 173-26-241(3)(b)(iii)-(iv)]

# Challenges: Shellfish

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Science, policies, regulations and case law evolving

- Governor's WA Shellfish Initiative
- State Noxious Weed Board – *Z. japonica*
- NWP 48 and 401 WQ Certifications – Fudge Pt. geoduck permits
- DNR's Habitat Conservation Plan
- Case law – Pierce County Longbranch
- Industry and agency-sponsored research

# Challenges: Net pens



Monthly monitoring by Squaxin Island Tribe of their net pens of Coho salmon.

- Evolving, but more slowly than shellfish
- Public concerns
  - Water quality, disease, escapement
  - Addressed by industry and permits

# Challenges: Net pens

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## Science

- No interbreeding with or colonization of Atlantic salmon
- Sea lice can't survive in low salinity
- Diseases not easily transferred from pen fish
- Experts available



Sea lice on Atlantic salmon (*Salmo salar L.*).

# Recommendations: Categories

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- Commercial
- Non-commercial
  - Subsistence
  - Private property for personal use
  - Research
  - Restoration and enhancement



Point No Point Treaty Council shellfish biologist, Randy Hatch, planting clam seed on Indian Island.

# Recommendations: Existing regulations

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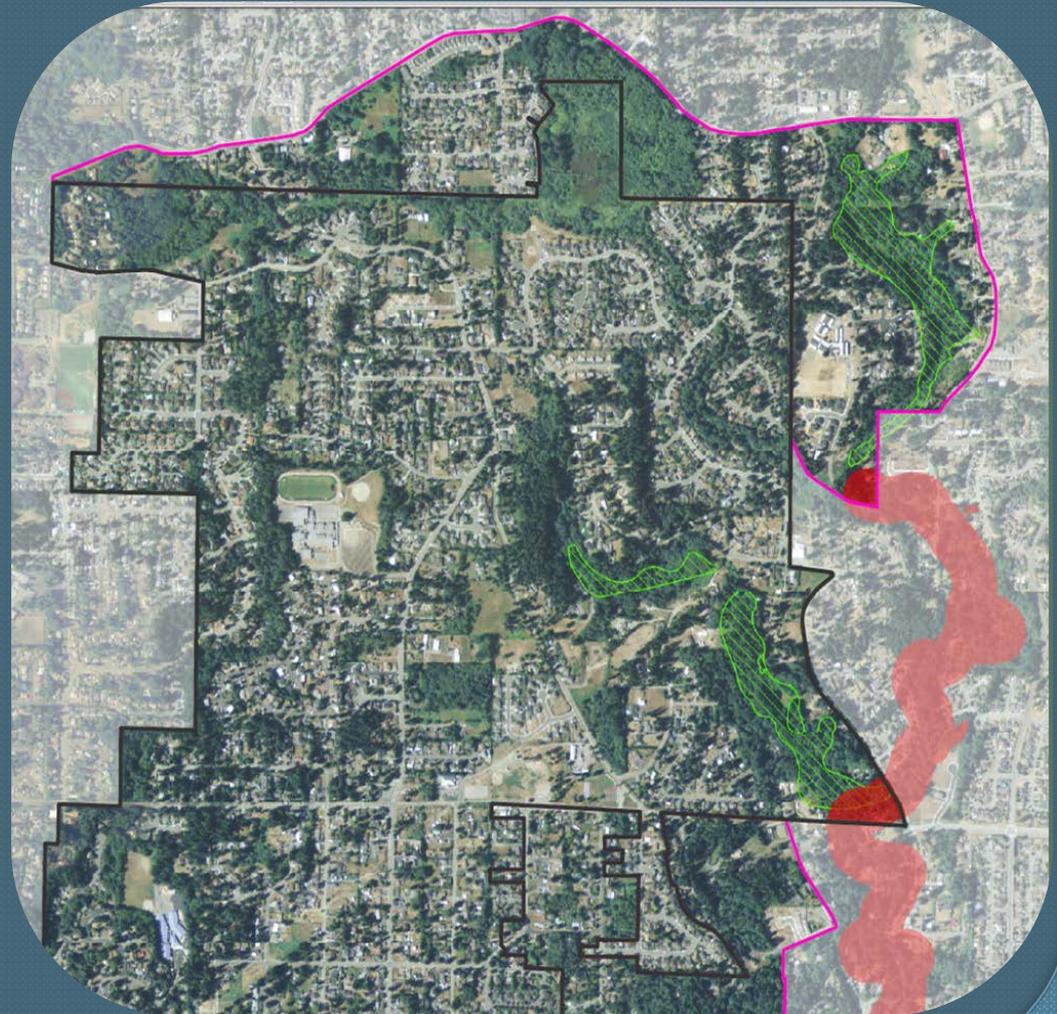
- **Non-native species and water quality**
  - WDFW Shellfish Import and Transfer Permit
  - Ecology NPDES permits (net pens)
  - Ecology 401 WQCs (new commercial geoduck)
- **Marking of structures**
  - US Coast Guard
- **Litter, noise and smells**
  - Local ordinances

# City Examples

## CUP

### Unclassified Use

- No existing or expected aquaculture
- Inland location
- No lake, no saltwater, no marina



# City Examples

CUP

Aquatic SED

- No existing aquaculture
- Urban waterfront
- Existing marina
- Suquamish Tribe  
FLUPSY



# Summary

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- ◉ Definitions matter
- ◉ Big bucket – assume it may occur
- ◉ Shellfish beds are a use and a habitat
- ◉ Net pens have changed
- ◉ Match regulations and intent – categories
- ◉ Rely on existing provisions and regulations
- ◉ Simple approaches available for cities

# Aquaculture Handbook Guidance

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## ◉ Web:

- Shoreline Planners Toolbox, Handbook web page

## ◉ Revision underway:

- Revise City example; add County example language
- Add categories, existing regulations
- Add case law summary
- Expand Appendix C: Information Sources

# Questions

## Suggestions for handbook guidance?



Blau Oyster operations. Totes will be taken into building for processing.