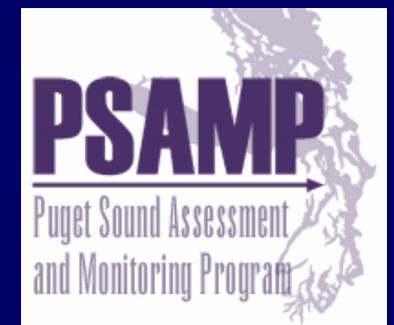


# Scientific considerations for Action Area Delineation

Jan Newton, Ph.D.  
University of Washington

Representing  
PSNERP and PSAMP



# Delineation Considerations

- Watersheds
- Marine basins
- Nearshore structure and processes
- Biota
  
- Humans



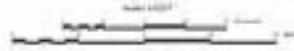
0 3.5 7 14 21 28

Washington State Plane South  
NAD 1983 HARN

San Juan  
Whatcom County  
Skagit County  
Island County  
Whidbey Basin  
North Central Puget Sound  
Snohomish County  
Stait of Juan de Fuca  
Clallam County  
Jefferson County  
Hood Canal  
Mason County  
Kitsap County  
South Central Puget Sound  
King County  
South Puget Sound  
Pierce County  
Thurston County

### PSNERP Recommended delineations

This map is an adaptation of nine oceanographic basins originally identified by the Puget Sound Ambient Monitoring Program. The adaptations include the combination of the East and West Straits of Juan de Fuca subbasins into a single Strait of Juan de Fuca subbasin; the combination of the Georgia Strait and San Juan Archipelago subbasins into a single San Juan Islands subbasin; the extension of the southeast boundary of the San Juan basin following the sill that extends from near the southwest portion of Lopez Island to near Point Partridge on Whidbey Island to better represent the influence of the Fraser River; the extension of the southern boundary of Admiralty Inlet (North Central Puget Sound) to a line from Point No Point on the Kitsap Peninsula to near Possession Point on the southern end of Whidbey Island to better address the Triple Junction, and; the extension of the Hood Canal subbasin to include all waters south of Tala point and Foulweather Bluff per RCW90.88.005(4) that identifies this as the Hood Canal Rehabilitation Zone and serves as the framework for programs directed at the recovery of Hood Canal. Upland regions of each area were delineated based on freshwater drainages with slight adjustments to boundaries between marine basins to match littoral drift processes.



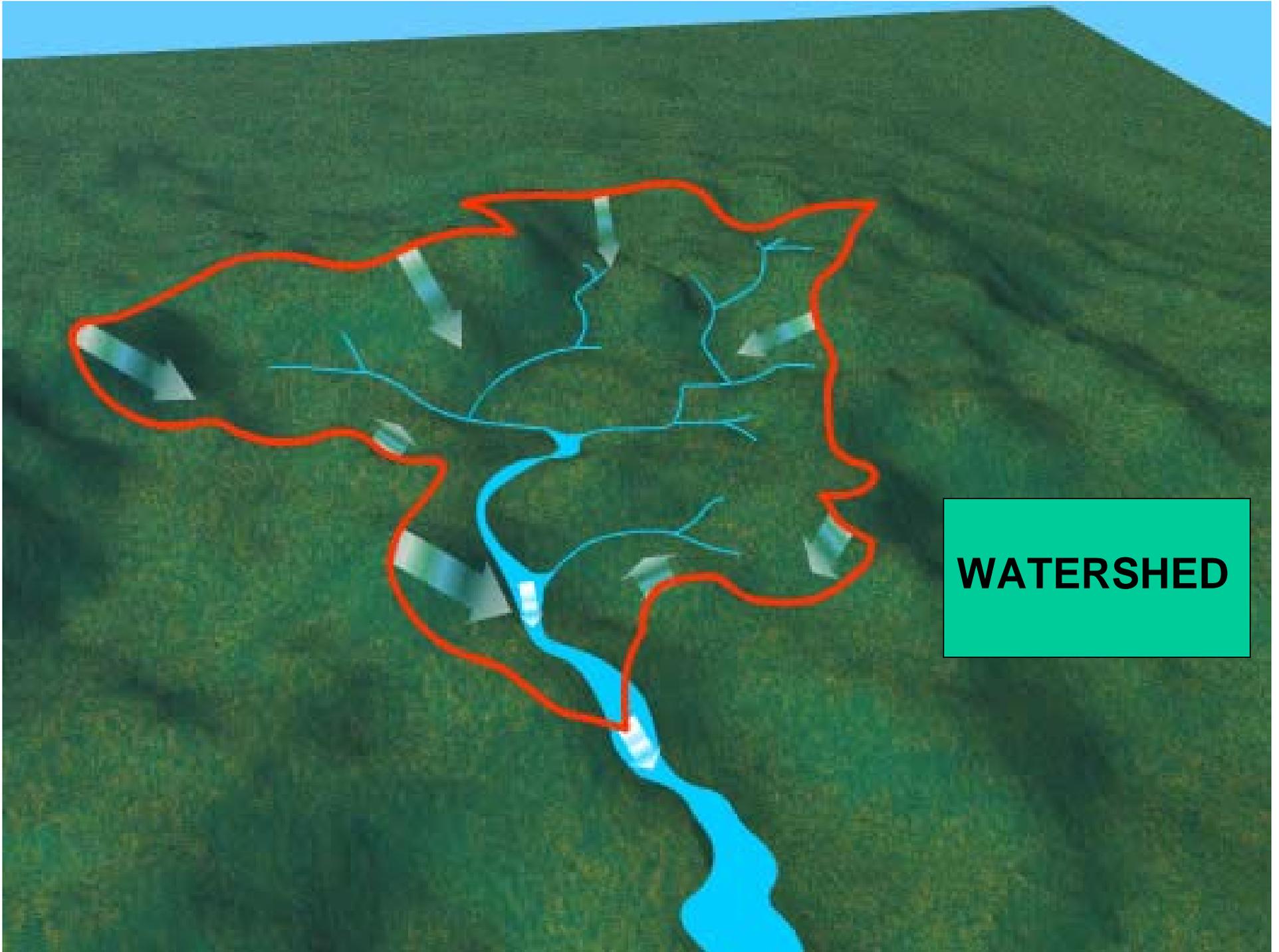
### Puget Sound

Washington State Department of Ecology  
Puget Sound Program

1000 University Street, Suite 1000  
Seattle, WA 98101  
206-467-3000  
www.ecy.wa.gov



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**WATERSHED**

# PUGET SOUND PARTNERSHIP



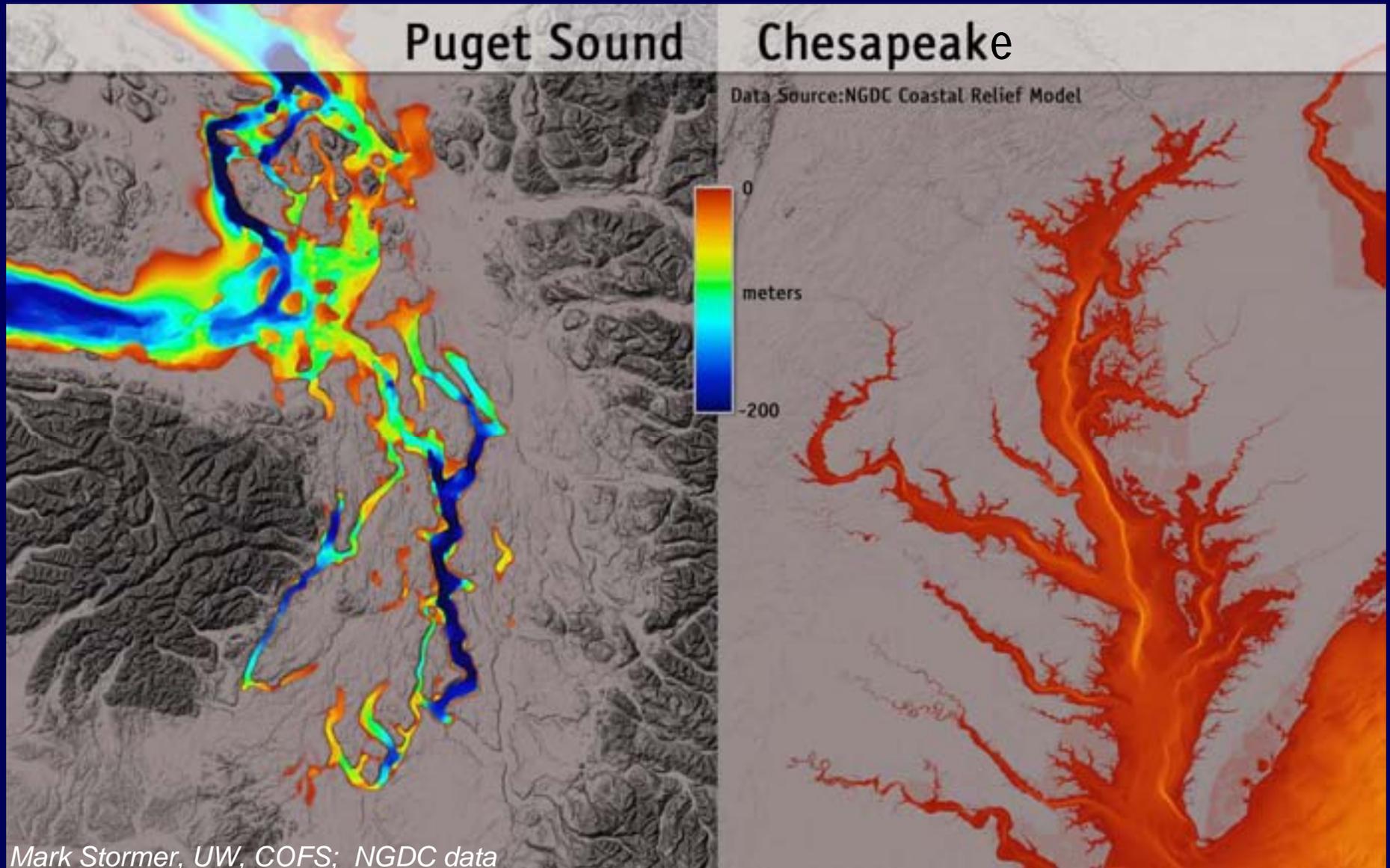
**Puget Sound**



**Chesapeake Bay**

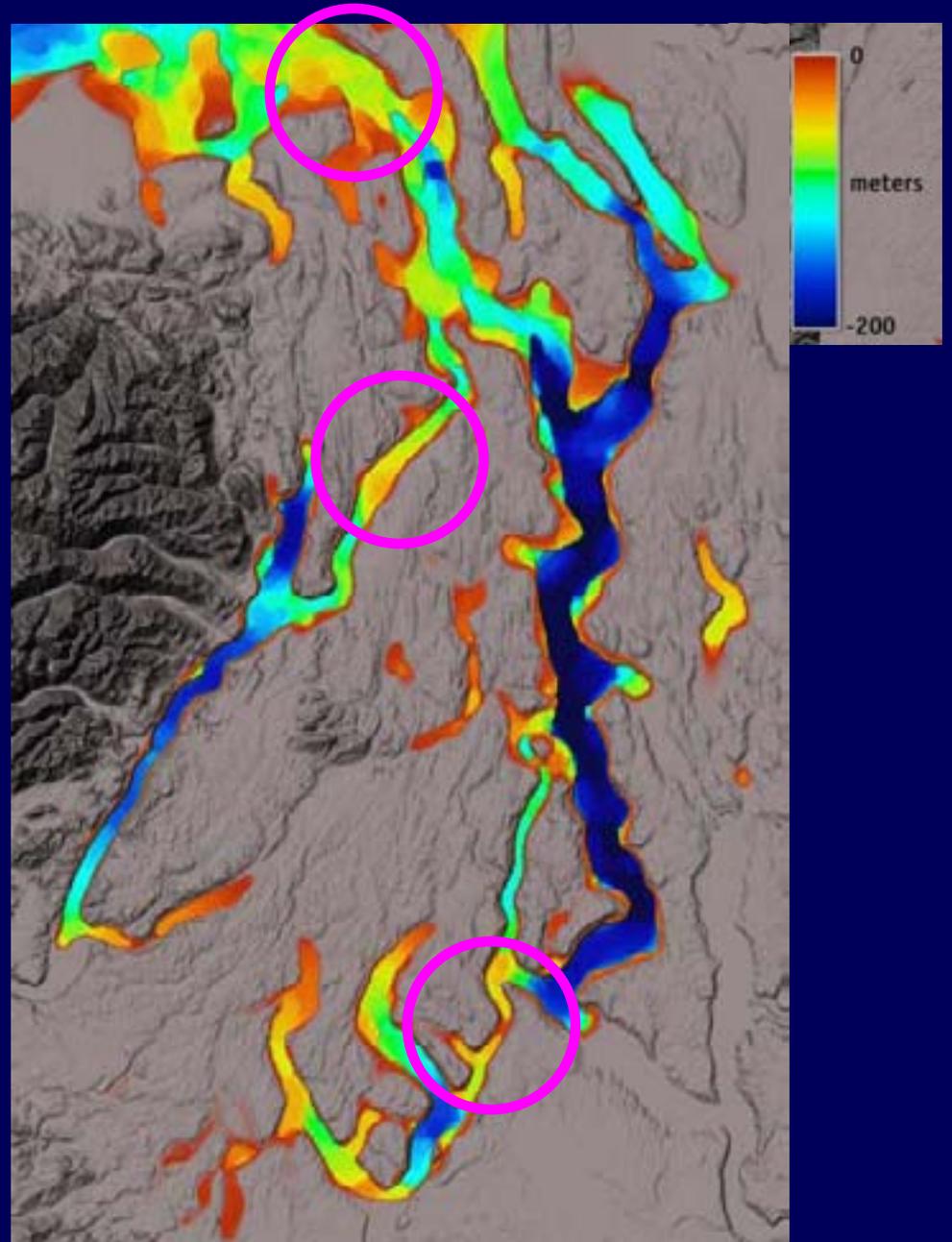
# PUGET SOUND PARTNERSHIP

*Same depth scale used*



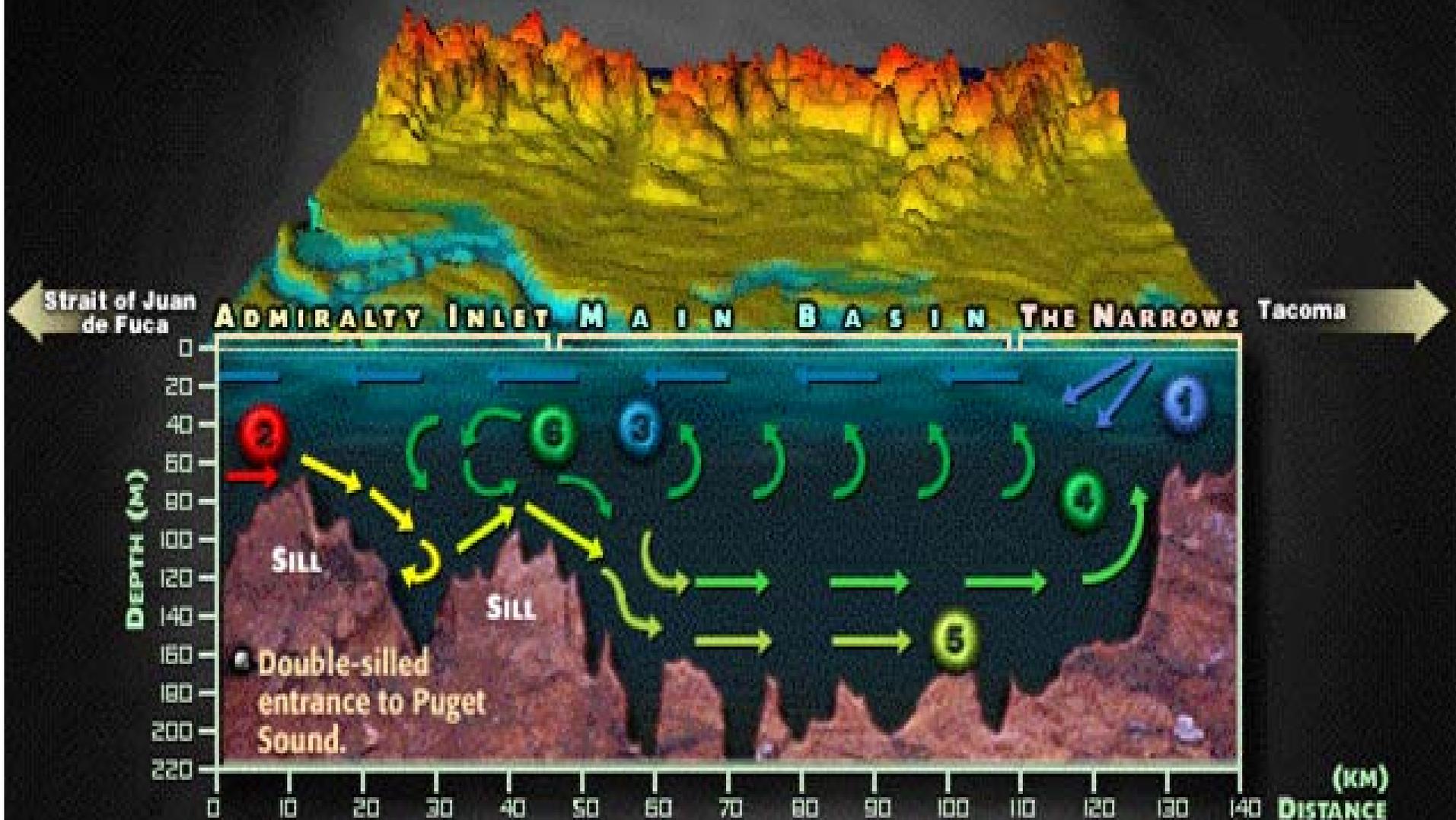
# PUGET SOUND PARTNERSHIP

Puget Sound  
is deep, with  
strong tides,  
but **sills** too

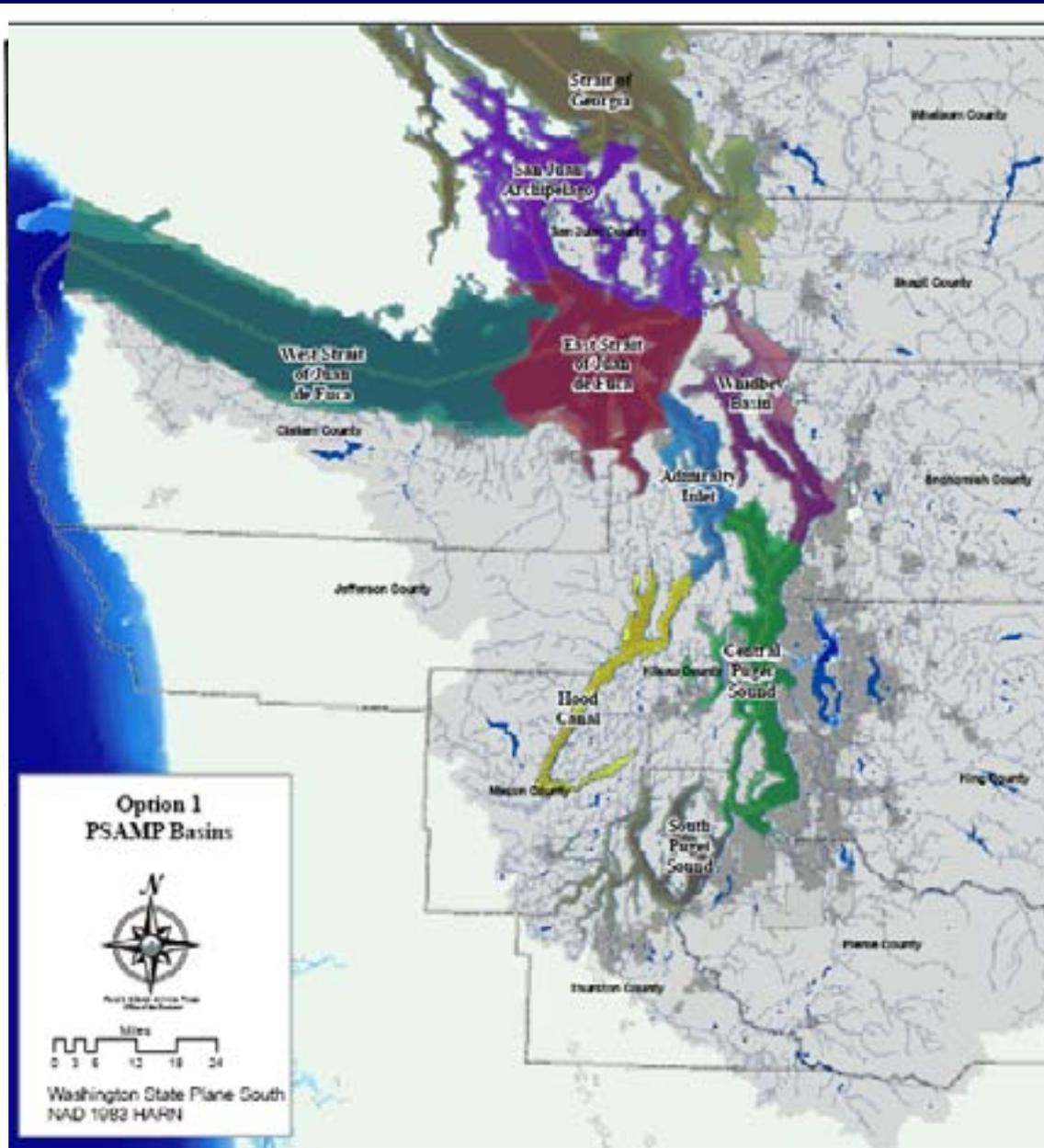


# PUGET SOUND PARTNERSHIP

## Puget Sound circulation is retentive



# BASINS AND SILLS



*PSAMP, 2002*

*Ebbesmeyer et al., 1984*

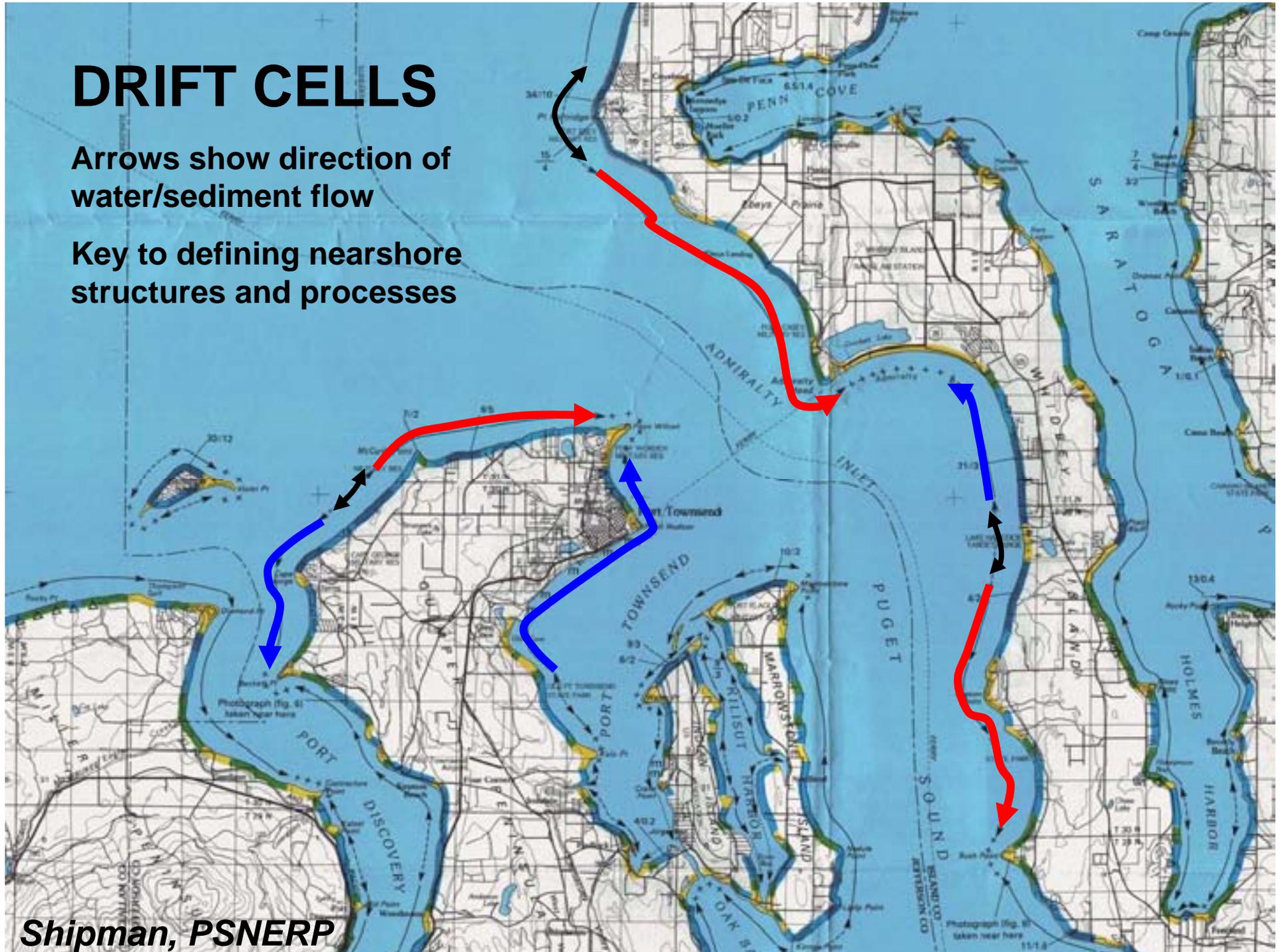
# Marine Basin Criteria

- Bathymetry and geology
- Basin water residence time, turnover and mixing
- Freshwater inflow and watersheds

# DRIFT CELLS

Arrows show direction of water/sediment flow

Key to defining nearshore structures and processes

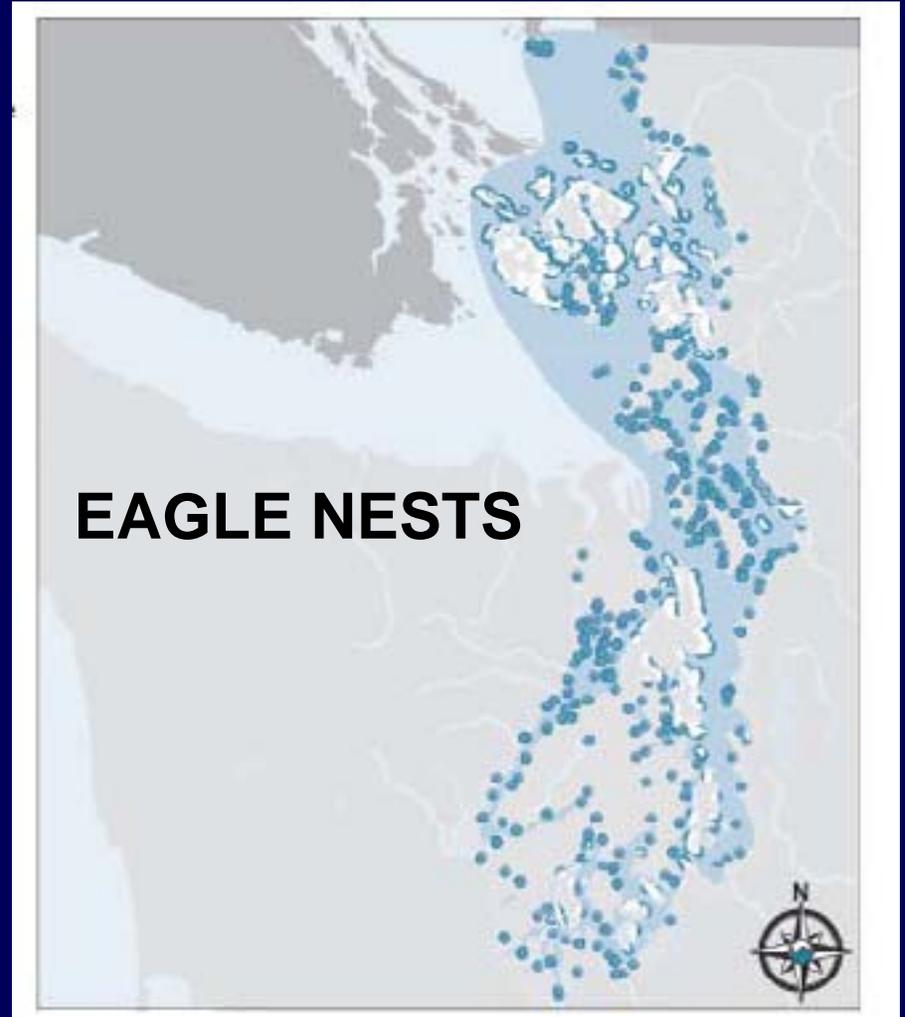
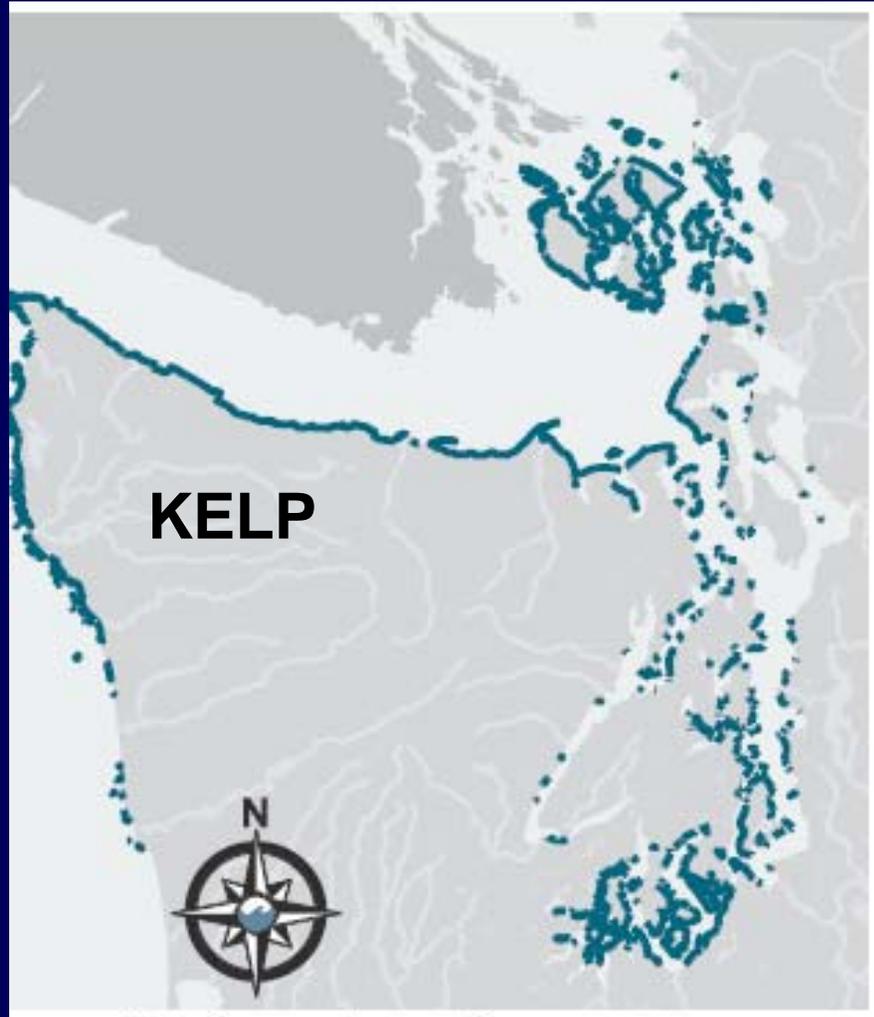


*Shipman, PSNERP*

## Nearshore Criteria

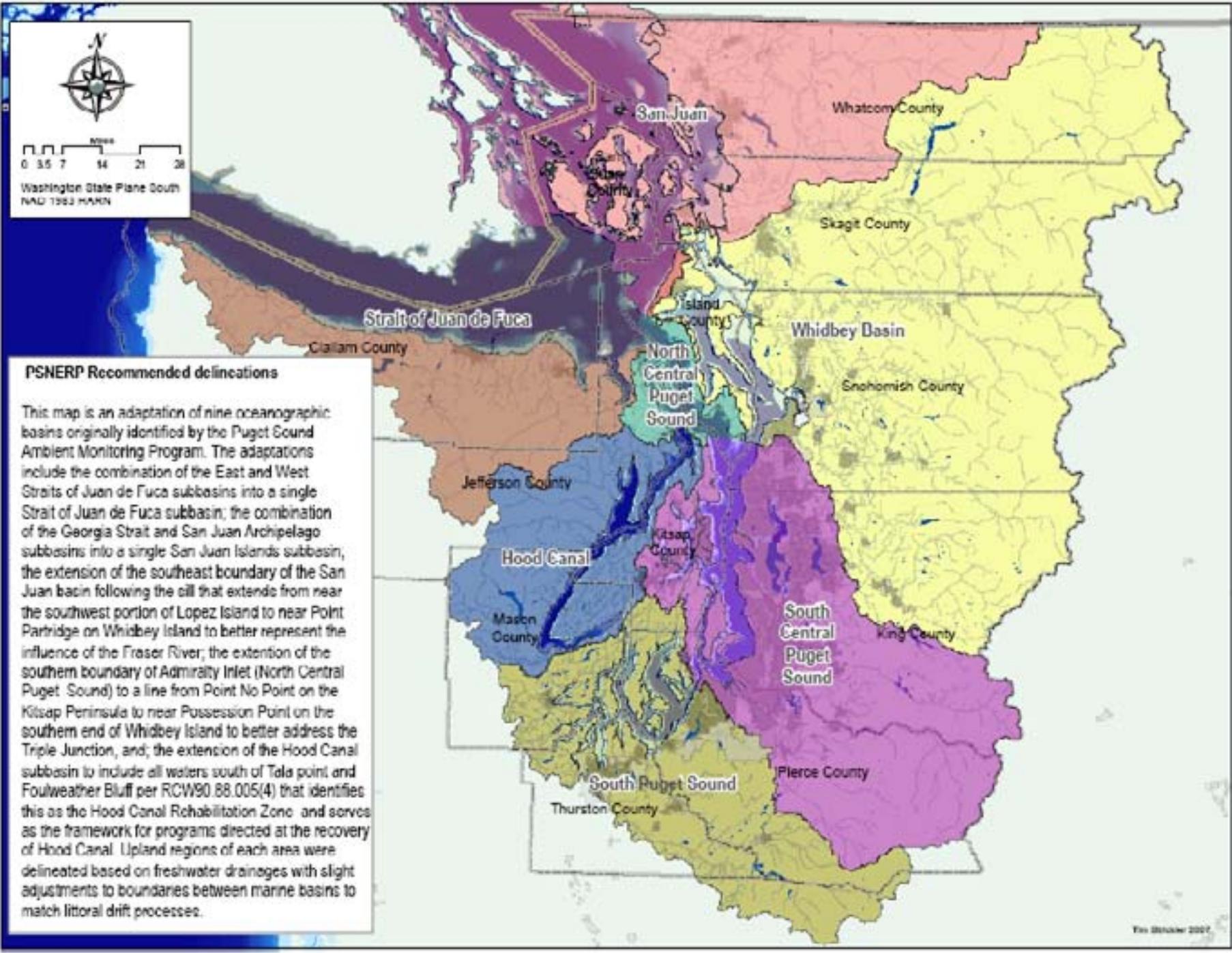
- Shoreline structure
- Wind-wave regime divisions
- Nearshore bathymetry/geology

# BIOTA DISTRIBUTIONS



## Biota Criteria

- Organism population distributions
- Biotic indicators, assemblages, and communities that are resident, long-lived, etc.



**PSNERP Recommended delineations**

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# Recommendations

- Do not split marine basins in half
- Do not bisect drift cells
- Anticipate sub-divisions for evaluation
  - Strait of Juan de Fuca: East vs. West
  - Strait of Georgia vs. San Juan Island
  - Sinclair-Dyes Inlet vs. S. Central Puget Sound
- Change names to North Puget Sound and Central Puget Sound