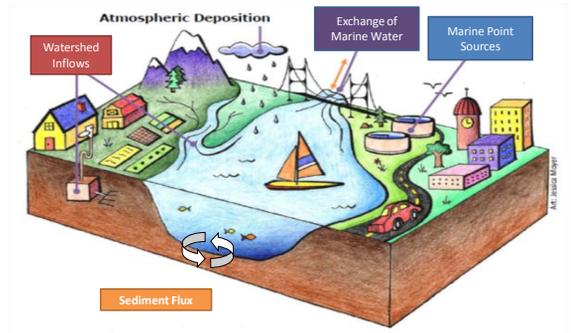


Dissolved Oxygen Modeling Results for South Puget Sound and the Salish Sea

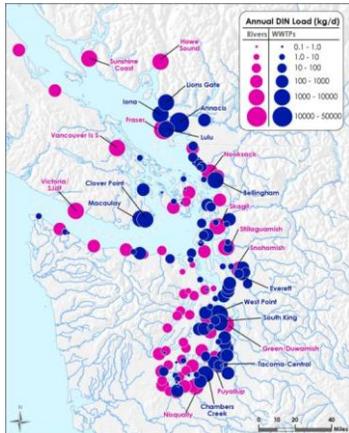


November 21, 2013

What are the sources of nitrogen?

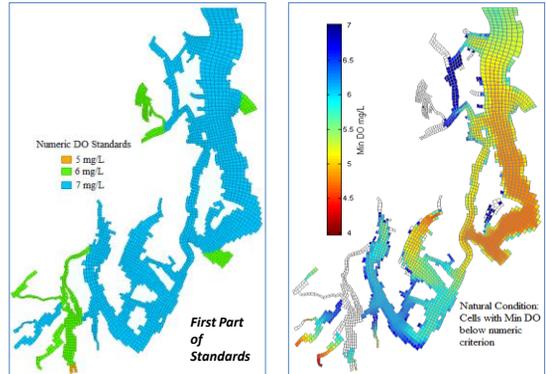


What are the sources of nitrogen?



Dissolved inorganic nitrogen (DIN) = nitrate + nitrite + ammonium

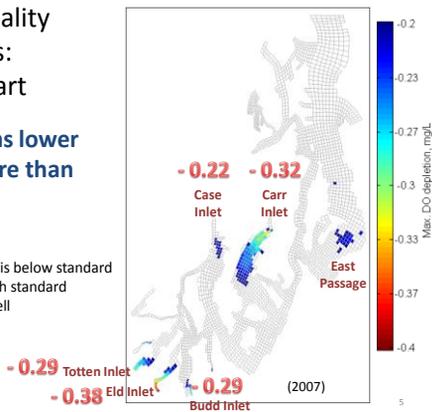
Water Quality Standards: First Part



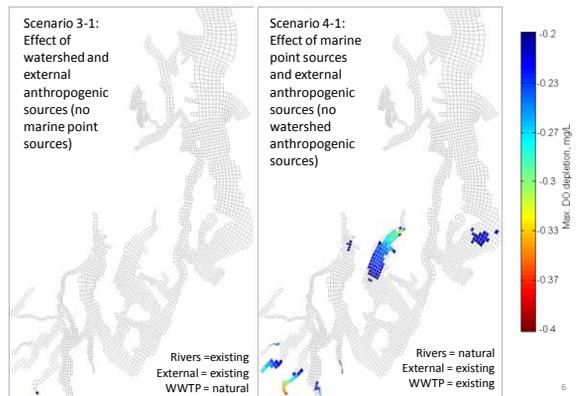
Water Quality Standards: Second Part

Do humans lower DO by more than 0.2 mg/L?

** When natural is below standard else compare with standard
 > For each grid cell
 > For every day

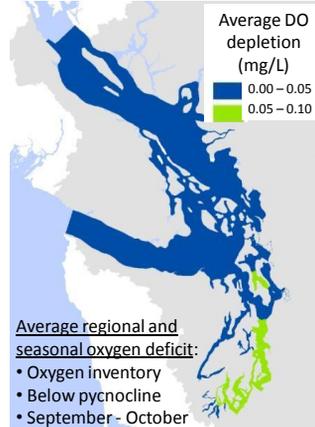
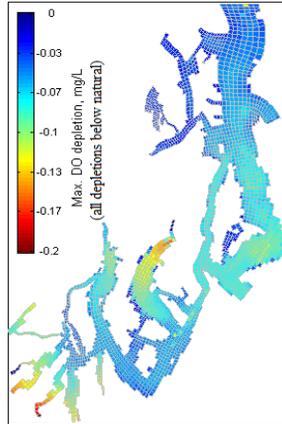


Marine point sources have greater influence than watershed sources



Effect of only external anthropogenic sources (north of Edmonds)

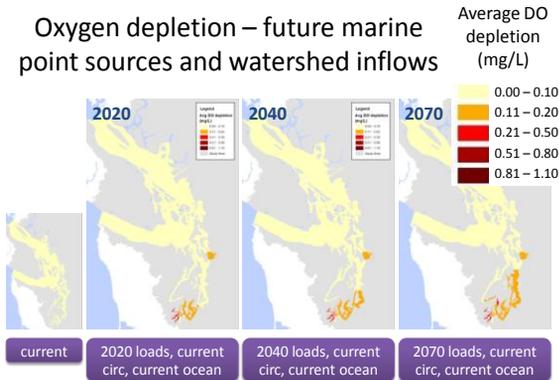
- No single cell >0.2 mg/L
- External anthropogenic sources add to the depletions from local sources
- Together local and external human sources cause DO in some cells to decrease by >0.2 mg/L



Oxygen depletion – current sources (wastewater, watersheds)

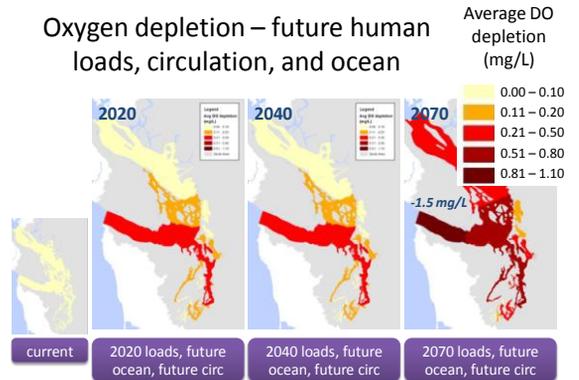
- Biggest impacts in South and Central Puget Sound
- Not directly applicable to State of WA water quality standards

Oxygen depletion – future marine point sources and watershed inflows



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Oxygen depletion – future human loads, circulation, and ocean



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