

# Ecology's Puget Sound Nutrient Source Reduction Project Update

MWPAAC E&P Subcommittee

May 2, 2019

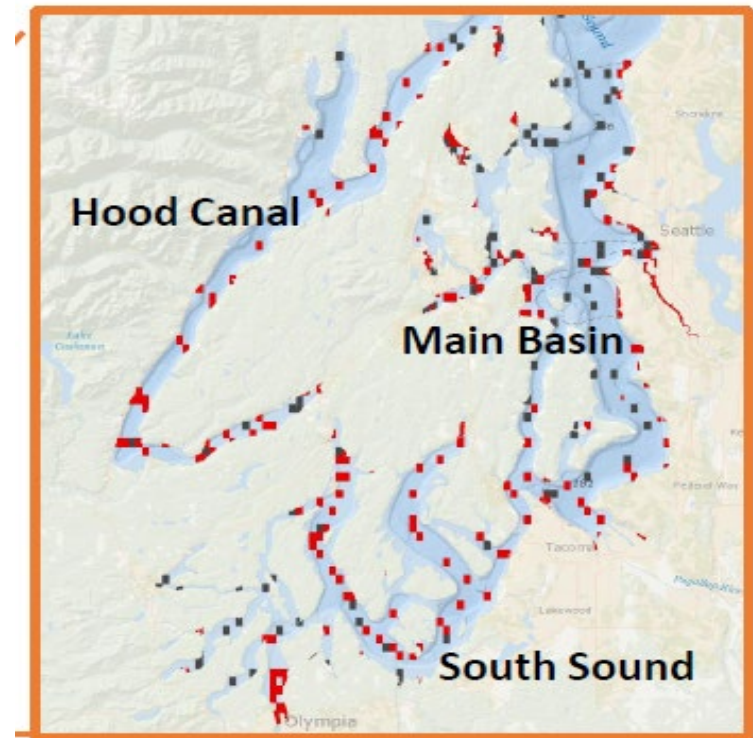
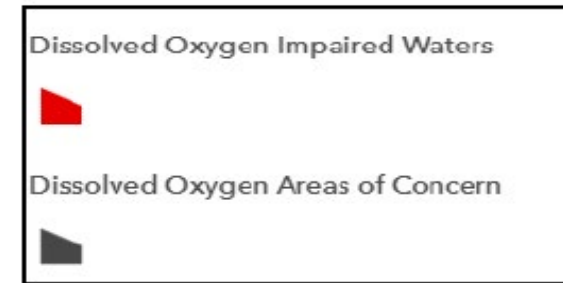


**King County**

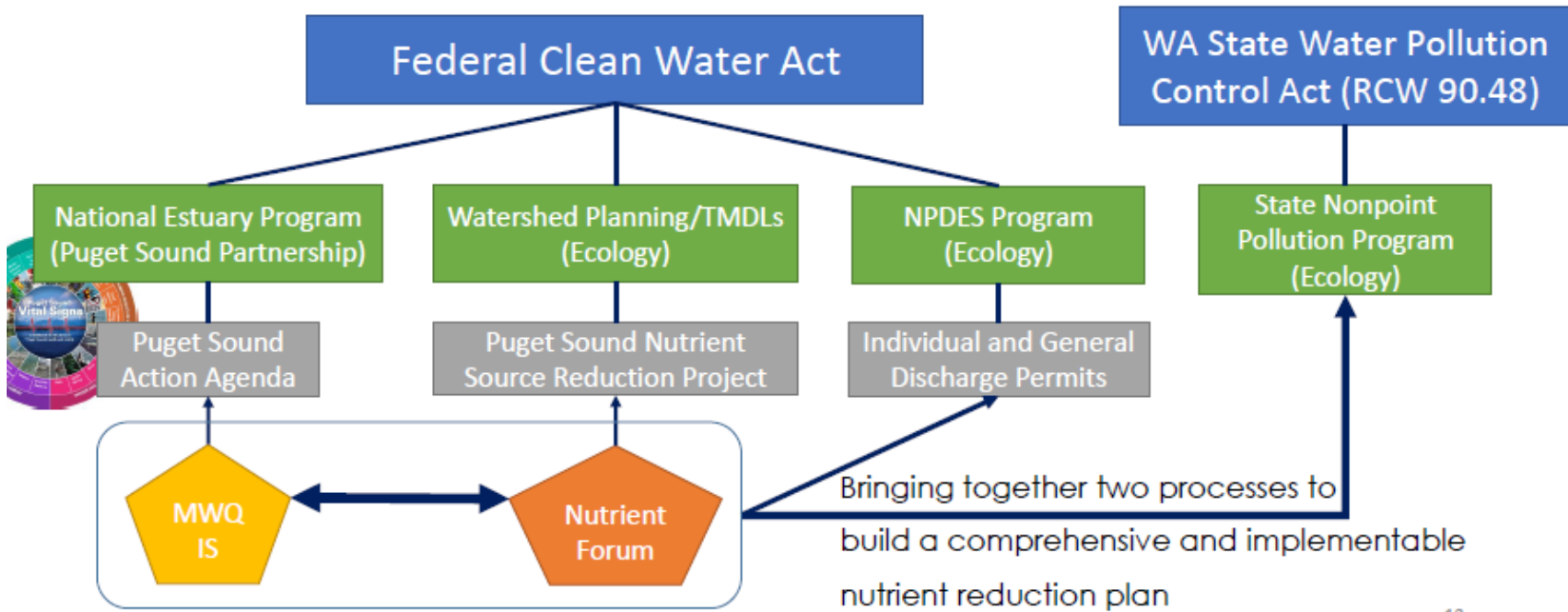
Department of Natural Resources and Parks  
**Wastewater Treatment Division**

# Background – Puget Sound Dissolved Oxygen Impairment

- **Issue:** Ecology developing nutrient (nitrogen) control program for Puget Sound by 2022
- **Purpose:** Meet the state dissolved oxygen (DO) standards by 2040
- **Implications:** Potential NPDES permit limitations - treatment upgrades or other actions

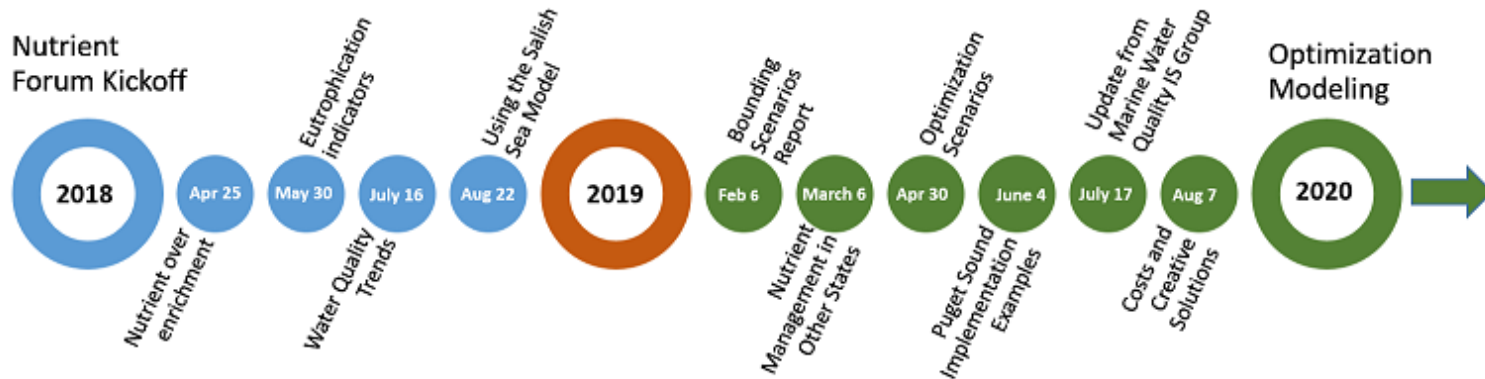


# Marine WQ Implementation Strategy & Forum Processes



12

## Puget Sound Nutrient Reduction Forum Timeline



# Forum and IS Process Updates: 2018

## **2018 –**

- April 2018 – Ecology starts “Forum” stakeholder group
- Marine water quality Implementation Strategy (IS) starts—  
Core and Interdisciplinary Team participation
- Existing science “Starter Package” prepared for IS
- Salish Sea Model (SSM) refinement through end of 2018

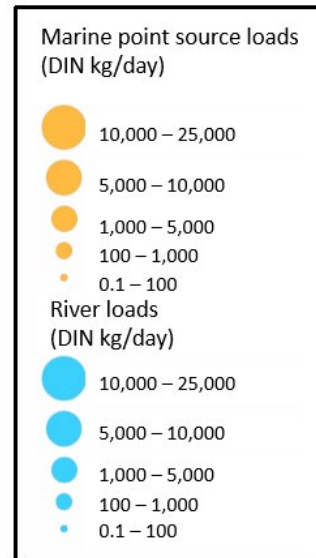
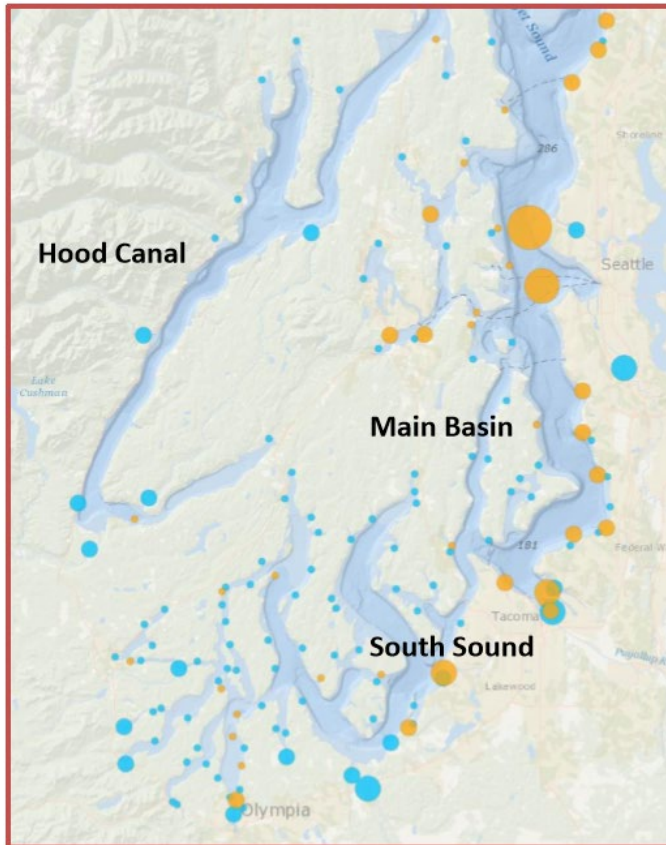
# Forum and IS Process Updates: 2019

## 2019 –

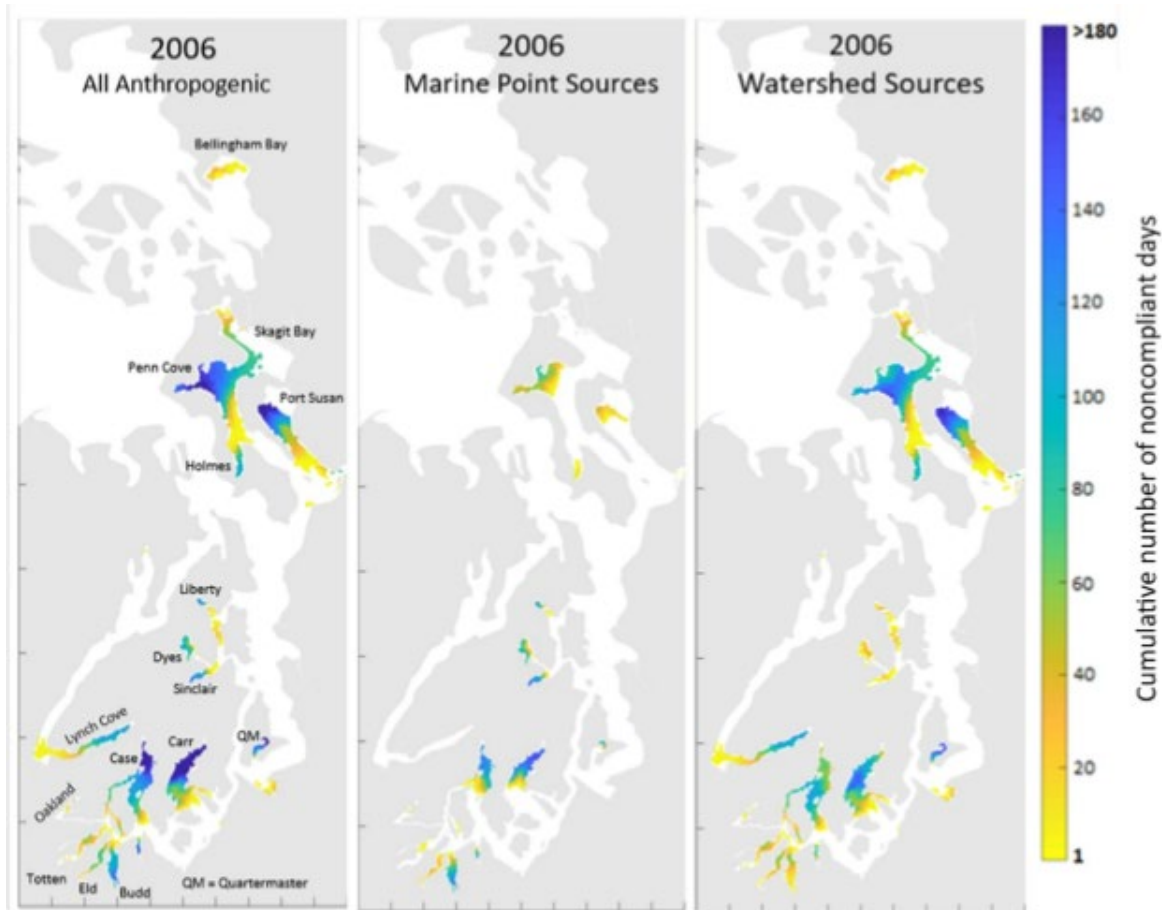
- IS “conceptual models” and “strategies” development
- January - SSM “Bounding Scenarios” report – initial evaluation of DO improvements with N load reductions
- NWEA petition for rulemaking - Ecology planning interim wastewater N loading cap and long-term plan requirement
- April - SSM “Optimization Scenarios” process begins
- IS to be completed by late 2019

# Ecology's Salish Sea Model (SSM)

- SSM evaluates effects of different point and river nitrogen sources
- Watershed nonpoint sources not explicitly simulated currently



# SSM Bounding Scenario Results



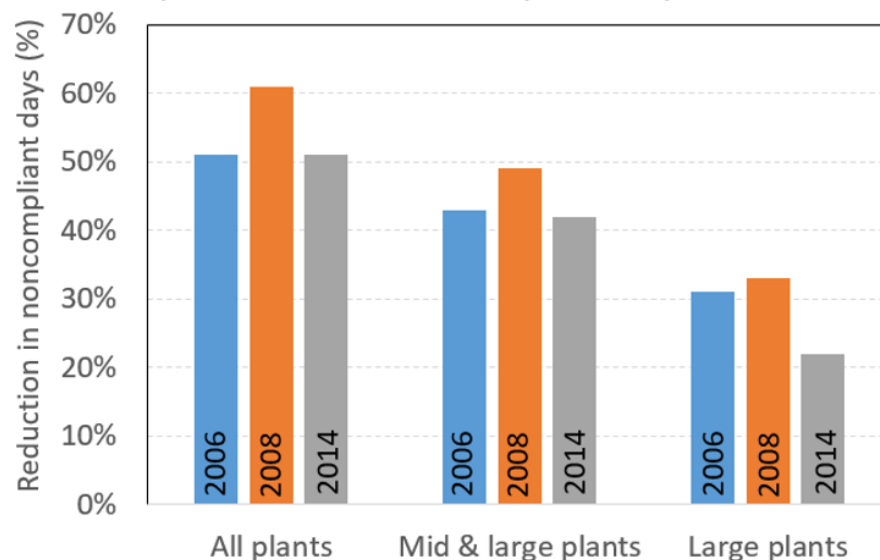
- Output - noncompliant days and depletion below standard
- Majority of low DO in embayments and south Sound
- Both point and nonpoint sources contribute to low DO
- Seasonal point/nonpoint controls won't resolve compliance



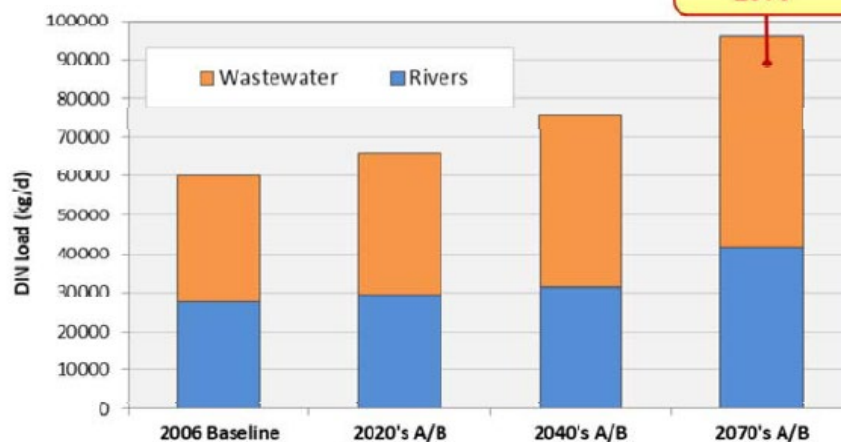
# Upcoming in 2019

- Input on next phase **modeling scenarios**
  - equivalency of controls by basin and season
  - future loads and climate change
- King County conducting **nutrient technology assessment** for treatment plants
- Coordination with local and regional utilities and other stakeholders

Improvement in non-compliant days with BNR



Annual average DIN loading estimates from point and nonpoint sources into Puget Sound (south of Admiralty Inlet)





For additional information or questions, please contact:

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