

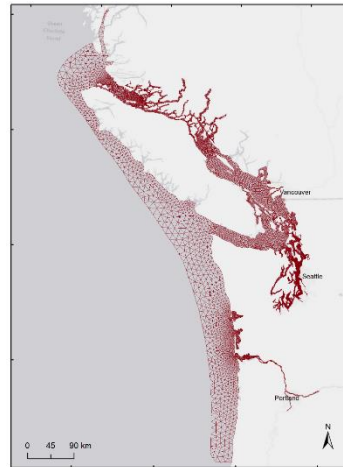


# Puget Sound Nutrient Forum

## AKART as Tertiary Treatment Petition & Ecology's Response

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# Outline

- Recent WQ Related Petitions
- AKART Petition Overview
- Explanation of AKART in Washington State
- TBELs and WQBELs
- Why did Ecology Deny the Petition?
- What did Ecology do Instead?
- 2019 Schedule and Beyond

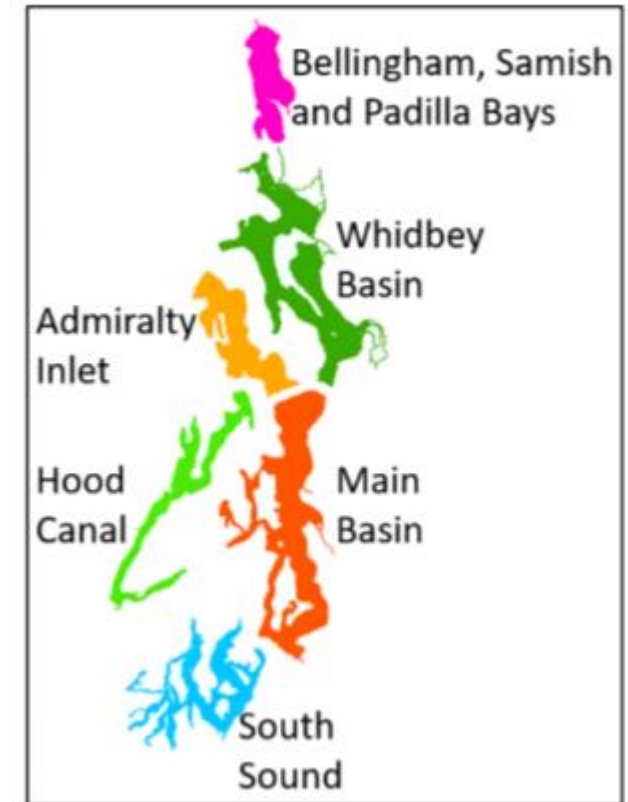


Figure 28. Basins in the greater Puget Sound.

# Summary of Petitions to Date

## NWEA

- 2016 – NPDES Delegation Removal
- 2018 – Rulemaking for Puget Sound TMDL
- 2018 – Rulemaking for AKART as Tertiary Treatment
- 2019 – Appeal of AKART Petition Denial

## City of Everett

- 2018 – Change in DO Standards



# AKART Petition Overview

# The AKART Petition

***Petition for Rulemaking to Adopt a Presumptive Definition of  
“All Known, Available, and Reasonable Treatment” as  
Tertiary Treatment for Municipal Sewage Dischargers to Puget  
Sound and its Tributaries.***

# Petition Expectations

- Update to WAC 173-221 – *Discharge Standards and Effluent Limitations for Domestic Wastewater Facilities*
- Amendment to include:
  - Regional Effluent limits:  **$\leq 3.0 \text{ mg/L TN}$  &  $\leq 0.1 \text{ mg/L TP}$**
  - Year round application of effluent limits for all dischargers
  - Requirement for tertiary treatment technologies

# Supporting Arguments

- WAC 173-221 contains out of date discharge standards
- Similar nutrient limits are routinely achieved by treatment plants across the country
- Readily attainable nitrogen limits
- AKART can be solely limited to Puget Sound
- Tertiary Treatment is reasonable for all dischargers
  - Minimal impact to rate payers

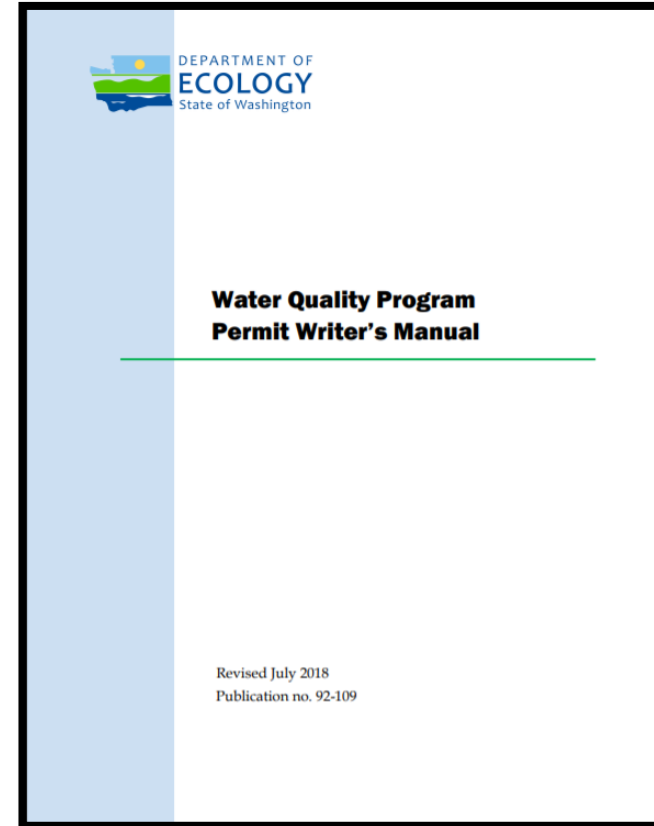


# AKART in Washington State



# What is AKART?

- All Known, Available, and Reasonable Methods of Treatment
- *Technology based* approach to limiting pollutants
- Very site specific; can be determined on case-by-case basis



# AKART in Statute

Statutes provide AKART *legislative intent*

- **RCW 90.48.010:** applies to industries, other pollution preventers
- **RCW 90.48.520:** relates to control of toxics, and issuance of wastewater discharge permits
- **RCW 90.52.040:** applies regardless of receiving water quality



# AKART in Regulation

- Regulations define AKART
  - WAC 173-201A: Surface Water Quality Standards
  - WAC 173-216: State Waste Discharge Permit Program
  - WAC 173-200: Ground Water Quality Standards
  - WAC 173-220: NPDES Permit Program
    - Refers to technology based process in CWA

# AKART and State Treatment Standards

Two regulations explicitly define effluent limitations as AKART

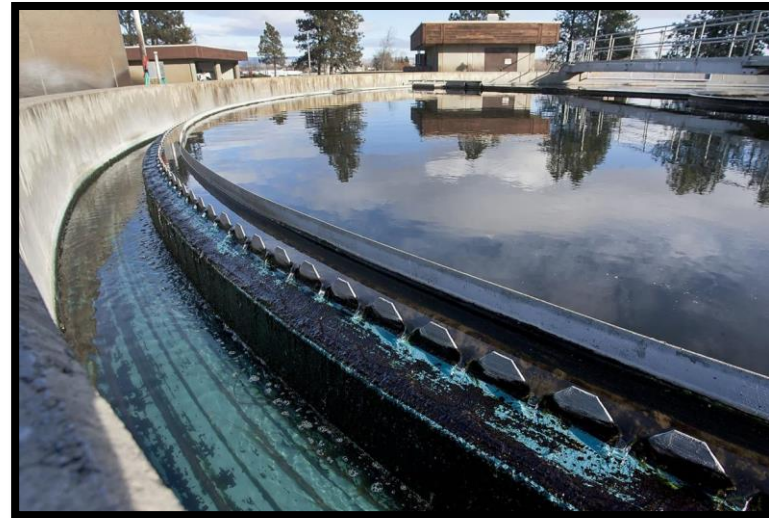
- WAC 173-221 : Discharge Standards and Effluent Limits for Domestic Wastewater Facilities
- WAC 173-221A: Wastewater Discharge Standards and Effluent Limitations [for Finfish Facilities]



# TBELs vs WQBELs

# Technology Based Effluent Limits

- CWA Goal: make progress towards eliminating discharge of all pollutants
- Not based on receiving water impacts
- 40 CFR 125.3(a) requires TBELs for minimum pollutant control
- TBELs in Washington



# Water Quality Based Effluent Limits

- Involves an evaluation of the discharge and its impact to the receiving water
- Surface Water Quality Standards
  - Protect designated uses
  - Include numeric and narrative WQ criteria
- Require Discharger Specific Analysis
  - Impact of nutrients difficult to predict without robust modeling
  - SSM/PSNSRP being used as a TMDL alternative process





# Ecology's Review, Concerns, and Response



# AKART Rulemaking Petition Review

- Difficulty in limiting AKART requirement to Puget Sound
- Equity and Affordability Requirement
- Implementation Timeframe
- Justification for TP and TN + Tertiary Treatment Requirements
- Need to account for variability in treatment efficiency
  - Load vs. concentration
  - Evaluation of Seasonal vs. year round application

# Connecting the Petition to Puget Sound



- DO impairments in Puget Sound come from anthropogenic sources
- Tertiary Treatment for all POTWs is not considered reasonable.
- A water quality based approach to limit nutrients is necessary based on model outputs
- One size fits all solution shortcuts PSNSRP and MWQ-IS work

# Resulting Commitments

1. Set nutrient loading limits at current levels from all permitted dischargers in Puget Sound and its key tributaries to prevent increases in loading that would contribute to the Sound's impaired status.
2. Require permittees to initiate planning efforts to evaluate different effluent nutrient reduction targets.
3. For treatment plants that already use a nutrient removal process, require reissued discharge permits to reflect the treatment efficiency of the existing plant by implementing numeric effluent limits used as design parameters in facility specific engineering reports.

# Commitment 1: Nutrient Loading Cap

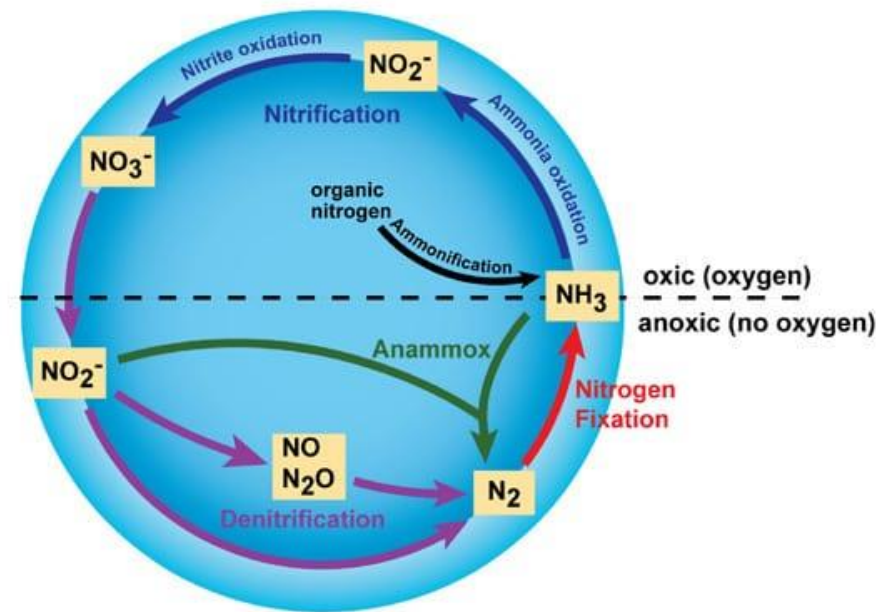
***Set nutrient loading limits at current levels from all permitted dischargers in Puget Sound and its key tributaries to prevent increases in loading that would contribute to the Sound's impaired status.***

1. Permitted dischargers contribute to the impairment of Puget Sound
2. Recognize that completion of the PSNSRP/SSM process will take time
3. Provides time to integrate funding efforts while modeling continues

# Commitment 2: Planning

**Require permittees to initiate planning efforts to evaluate different effluent nutrient reduction targets.**

- Facility Planning documents will be a required submittal in reissued permits
- Language in the individual permit's special condition will be structured to provide guidance on nutrient removal targets identified for that specific facility



<https://www.eartheclipse.com/environment/process-of-nitrogen-cycle.html>

# Commitment 3: Limits Based on Design

*For treatment plants that already use a nutrient removal process, require reissued discharge permits to reflect the treatment efficiency of the existing plant by implementing numeric effluent limits used as design parameters in facility specific engineering reports.*

- Use **WAC 173-220-130** as basis for this requirement
- Facility specific conditions will be developed and implemented with permit reissuance





# Working within the PSNSRP



# Puget Sound Nutrient Source Reduction Project

*Project Vision:*

***Develop and implement a Puget Sound nutrient source reduction plan to guide regional investments in point and nonpoint source nutrient controls so that Puget Sound will meet DO water quality criteria and protect aquatic life designated uses by 2040***



# Involving the PSNSRP

- Ecology committing to beginning the process with permitting now.
- Bounding Scenario Report has provided a starting point for model optimization
  - Encouraging stakeholder involvement in the next phases of the project
- Accomplish more working together moving towards a common goal.



# Questions?



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