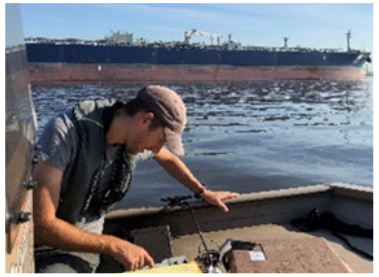

Wasteload Allocation Study: Methodology and Next Steps

Water Quality Advisory Committee

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Joseph Fogarty, PhD
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Namsoo Suk, PhD
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July 23, 2026
Zoom

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Baseline Scenarios

- Simulates hydrologic and climatic conditions for 2012, 2018, 2019
- Change Factor methodology extends results to 2011-2025

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- Actual Condition (**calibration / corroboration**)
  - "Actual Flows" hydrodynamic simulation
    - Best estimate of actual discharge flows and channel bathymetry
  - Best estimate of actual discharge concentrations
  - Used as baseline for vertical change factor (VCF)
- Baseline Permitted Condition
  - "Permitted Flows" hydrodynamic simulation
    - Channel bathymetry updated
    - Discharge flows set to permitted flow (constant)
  - Discharge concentrations based on last 5-years
    - Monthly or annual constants
  - CSO loads decreased to account for LTCP implementation

WLA Study Methodology

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Potential Impact

- Does discharge have the potential to impact DO in the estuary?
- Impact Potential Evaluation

Degree of Impactfulness

- To what degree does discharge impact DO in the upgraded portion of the estuary?
- Degree of Impactfulness Evaluation

WLA Derivation

- What effluent loads from impactful discharges would satisfy criteria?
- Apply allocation methodology to tiers of impactful discharges

Impact Potential Evaluation

UNDER DEVELOPMENT

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- Purpose
  - Identify which discharges have potential to impact DO such that model can be used to determine individual WLA
- Prepare two scenarios (2019 3D)
  - Insignificant Demand Scenario
    - Same as Baseline Permitted except all dischargers set to de minimis concentrations
      - CBOD = 1.5 mg/L
      - NH34 = 0.10 mg/L / NO3 = 10 mg/L
  - Individual (or group) Potential Demand Scenarios
    - Same as Insignificant Demand except individual (or groups) of dischargers set to high side of secondary treatment levels
      - CBOD = 35 mg/L
      - NH34 = 35 mg/L / NO3 = 10 mg/L
- Facilities included in subsequent scenarios if Impact Potential Evaluation results in a change in daily average DO concentration

How might we compare one scenario with another to assess degree of impactfulness?

These examples show the change in DO between the Actual Condition and the Baseline Permitted Condition.

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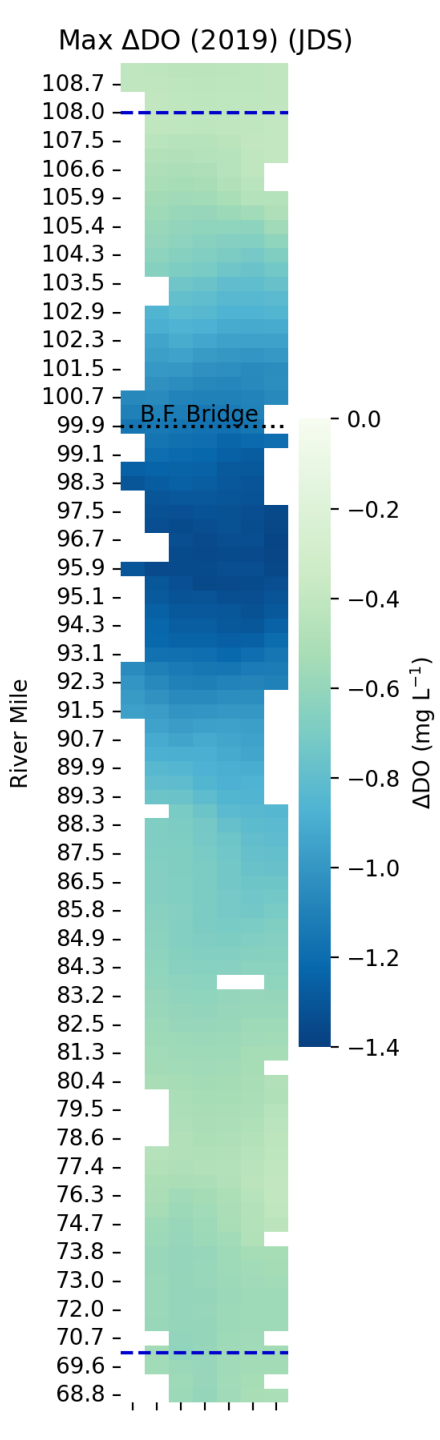

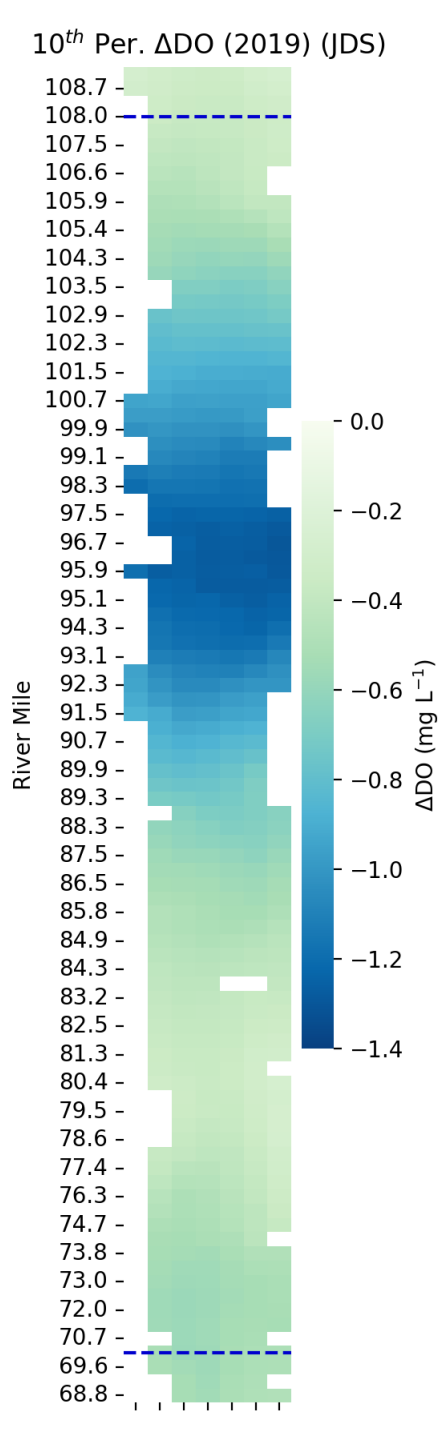

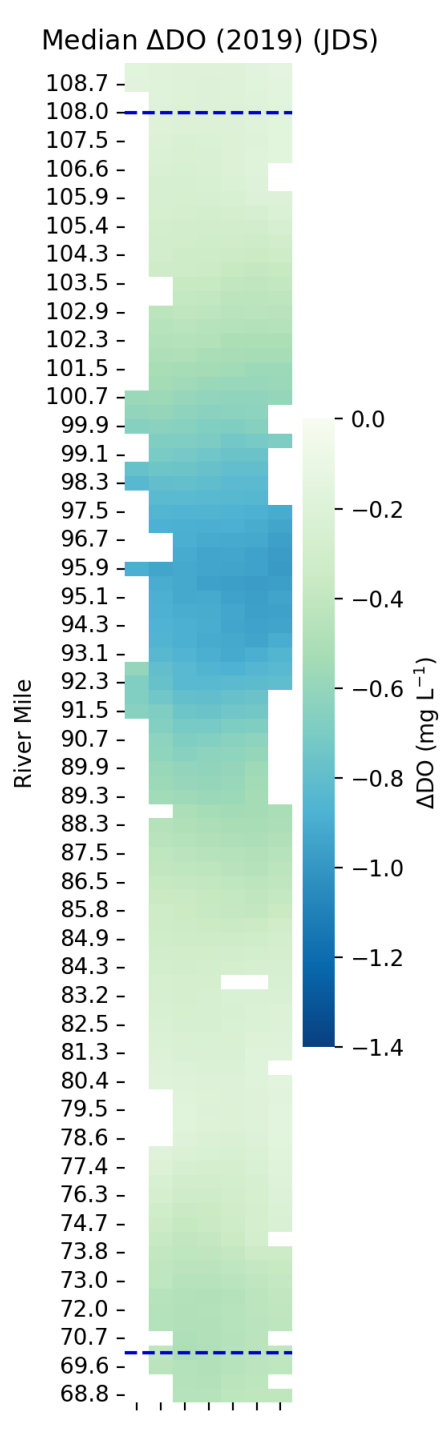

Degree of Impactfulness Methodology

UNDER DEVELOPMENT

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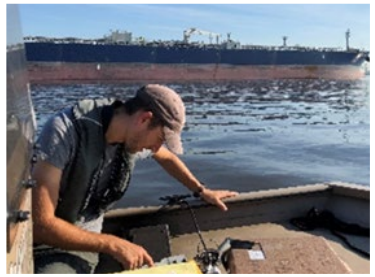
- Phase 3 objective:
  - "For *impactful discharges*, test combinations of reduction scenarios that satisfy criteria"
- How to identify most impactful discharges
  - Compare Insignificant Demand Scenario (de minimis concentrations) with individual tests at existing effluent quality
  - Facilities considered most impactful if test results in change in average daily DO on any day in FMA
  - Facilities in top [95%?] of cumulative oxygen demand automatically qualify
- Issues to resolve
  - Allocation methodology
    - How do less impactful discharges relate to the more impactful ones?
  - Reserve capacity
    - How to account for future growth

Discussion



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