Aquatic Life Designated Use Rulemaking

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Water Quality Advisory Committee

Delaware River Basin Commission
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DRBC Activities since the last WQAC

- DRBC published three final technical reports in September 2024
  - A Pathway for Continued Restoration: Improving Dissolved Oxygen in the Delaware River Estuary
  - Modeling Eutrophication Processes in the Delaware River Estuary: Three-Dimensional Hydrodynamic Model
  - Modeling Eutrophication Processes in the Delaware River Estuary: Three-Dimensional Water Quality Model
- PWD provided comments on the "Pathway …" report and DRBC provided responses (https://www.nj.gov/drbc/programs/quality/designated-use.html)
- DRBC is developing an improved DO model that dynamically simulates the impacts of sediments on water column DO

What are our “givens”?

- EPA is expected to promulgate new WQS
- New DO criteria will require significantly better (higher) DO condition
- DRBC estuary DO model developed for the purpose of calculating WLAs and represents state-of-the-art
- A few WWTPs drive the summer “sag” (low DO levels) due to high ammonia levels
- Upgrades to remove ammonia will incur significant costs
- Ammonia removal at WWTPs is feasible

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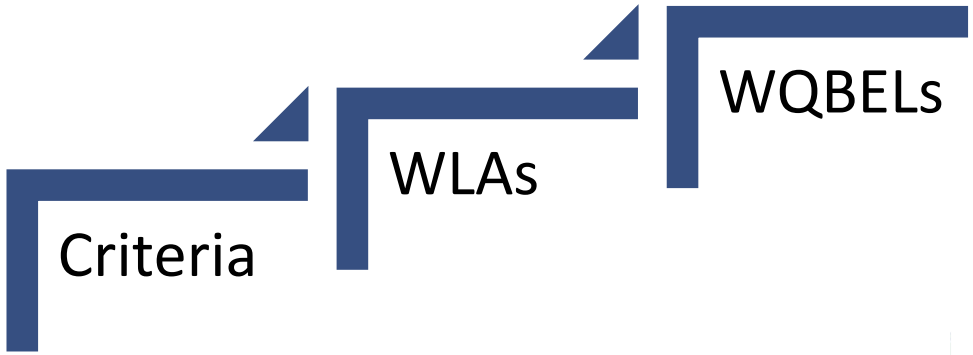
Dissolved Oxygen Criteria Implementation

- Currently finalizing a high-level strategy document with co-regulators that articulates regulatory basis, responsibilities, and schedule
- DRBC anticipates applying its estuary DO model to perform a focused technical study to determine allocations for criteria implementation
  - Co-Regulators Workgroup
    - Approximately monthly meetings
    - Resolve technical issues
    - Address each state's regulations and policies
  - Water Quality Advisory Committee
    - Plan to meet 4-6 times in 2026
    - Provide updates and solicit input from Committee members



Significant technical and administrative activity by DRBC over 15 years

Resolutions

Date	Directive
Jul-2010	Nutrient monitoring of point source discharges (Phase 1)
Dec-2012	Formation of Model Expert Panel
Jul-2013	Analysis of primary productivity by UMD (Phase 1)
Sep-2014	Study of effects of low DO on Atlantic sturgeon
Mar-2017	Consultation services for model development from LimnoTech
Sep-2017	Initiated DRBCs Aquatic Life Designated Use study
Sep-2017	Nutrient monitoring of point source discharges (Phase 2)
Dec-2017	Analysis of primary productivity by UMD (Phase 2)
Jun-2018	Feasibility and cost evaluation services from Kleinfelder
Jun-2019	Hydrodynamic model consultation services from GHD
Dec-2019	Algal composition analysis by Academy of Natural Sciences Drexel
Sep-2020	Extension of project period due to C19 and budget constraints
Jun-2021	Collection of information to evaluate social and economic factors
Mar-2022	Professional services from Environmental Finance Center at UMD
Sep-2023	Suspend rulemaking and prepare implementation strategy

Technical Studies

Date	Report
Sep-2015	Existing Use Evaluation for Propagation in Zones 3, 4, & 5
Mar-2018	Methodology for Evaluating DO Requirements of Estuary Species
Nov-2018	Review of DO Requirements for Sensitive Species
Jan-2019	Analysis of Primary Productivity in May and July 2014
Feb-2019	Analysis of Primary Productivity in May and July 2018
Sep-2020	Analysis of Primary Productivity in May and July 2019
Jan-2021	Nitrogen Reduction Cost Estimation Study
Sep-2022	Draft Analysis of Attainability Report
Sep-2022	Nitrogen Reduction Cost Estimation Study Addendum
Aug-2023	Nitrogen Reduction Cost Estimation Study Addendum #2
Sep-2024	A Pathway to Restoration: Final Report
Sep-2024	Hydrodynamic Model Calibration Report
Sep-2024	Water Quality Model Calibration Report
On-going	***Supplemental Water Quality Model Report***
TBD	***DO Criteria Implementation Plan ("WLA Stady")***