

Minutes
Water Quality Advisory Committee

August 18, 2022

Members & Alternates:

NYS DEC

Sarah Rickard

EPA

Kuo-Liang Lai

NJDEP

Frank Klapinski

Environmental

Maya van Rossum & Erik Silldorff

Regulated Community Industrial

Lisa Pfeifer

National Park Service

Caleb Tzilkowski

DNREC

Bhanu Paudel

PADEP

Josh Lookenbill

Academia/Science

John Jackson

Local Watershed Organizations

Erin Landis

Regulated Community Municipal

Jay Cruz (PWD)

Other Attendees:

Steve Tambini (DRBC)

John Yagecic (DRBC)

Namsoo Suk (DRBC)

Li Zheng (DRBC)

Chad Pindar (DRBC)

Kate Schmidt (DRBC)

Sara Sayed (DRBC)

Amy Shallcross (DRBC)

Bailey Adams (DRBC)

Beth Brown (DRBC)

Elaine Panuccio (DRBC)

Pam Bush (DRBC)

Kevin Pregent (DRBC)

Elba Deck (DRBC)

Kristen Bowman Kavanagh (DRBC)

Thomas Amidon (DRBC)

Kelly Anderson (PWD)

Melanie Murphy (PWD)

Andy Thuman (HDR)

Scott Hinz (LimnoTech)

Paula Kulis (CDM Smith)

Kinman Leung (PWD)

Denise Hakowski (EPA)

Katherine Bentley (EPA)

Garret Kratina (PAFBC)

Dalia Ghobrial (Trenton)

Helen Pang (NJDEP)

Yaso Sivaganesh (NJDEP)

Bill Brown (PADEP)

Matthew Shank (PADEP)

Sheila Eyler (USFWS)

Stephen Williams (DNREC)

Lori Brown (DNREC)

Michael Bott (DNREC)

Ian McMullen (DNREC)

Bryan Lennon (Wilmington)

Kurt Cheng (PDE)

Angela Padeletti (PDE)

Doug O'Malley (Environment New Jersey)

Steve Seeberger (NJDEP)

Alex Ridyard (Sage Services)

Preston Luitweiler (WRADRB)

Skelly Holmbeck (WRADRB)

Leslie McGeorge (retired NJDEP)

Andrew Reif (USGS)

Verna Harrison (Verna Harrison Associates)

Nicole Brown (Suburban Consulting Engineers)

Therese Wilkerson (DRN)

Greg Voigt (EPA)
James Ray (EPA)
Wayne Jackson(EPA)
Rayna Laiosa (Chemours)
Carl DuPoldt (Green Building
Solutions and Supplies)
Michael Dillon (Manko, Gold,
Katcher & Fox)
Brenda Gotanda (Manko, Gold,
Katcher & Fox)
Jason Fry (CCMUA)
Cheryl Hess (Calpine)

Abby Jones (PennFuture)
Irene Fitzgerald (DELCORA)
Greg Cavallo (CES)
Karen Moore (NYCDEP)
Alissa Vanim (Aqua)
Charles Hurst (DELCORA)
Don Hamilton (NPS)
Eloise Gibby (Greeley and Hansen)
Joe Duris (USGS)
Christa Reeves (Musconetcong Watershed Association)
Eileen Althouse (CDM Smith)
Kimi Artita (CDM Smith)

Welcome and Call to Order

The meeting was called to order by Jay Cruz at approximately 9:35AM. Voting members were asked to introduce themselves.

Review of WQAC Minutes from July 14, 2022

Draft minutes from the July 14, 2022 meeting were distributed the previous day for review and comment. Erik Silldorff moved that adoption of the minutes be postponed to allow for additional review and edits. Frank Klapinski seconded the motion. All voted in favor of the motion.

Source Sensitivity Evaluations

Thomas Amidon presented results of load sensitivity analyses based on several hundred 2D and 3D model runs. His presentation included an evaluation of the factors that do and do not impact modeled estuary DO, ranking of dischargers, and a comparison of effluent reduction scenarios. Mr. Amidon's presentation is posted on the DRBC website at https://www.nj.gov/drbc/library/documents/WQAC/081822/AnalysisAttainability_update_drbc.pdf

Model results confirm that summer ammonia loads from large point source dischargers within the estuary significantly impact DO in the Delaware Estuary. CSOs also exert a non-negligible impact on modeled DO. Tributary carbon loads from the Delaware River at Trenton and, to a much lesser degree, the Schuylkill River also have an impact; however, these impacts are driven by flows and consequential loads, not elevated concentrations. Finally, effluent dissolved oxygen levels from the largest dischargers also have an impact.

Factors that do not demonstrate a substantial impact on modeled DO include carbon and nitrate loads from point sources within the estuary, winter ammonia loads from point sources, tributary nutrient concentrations, and direct runoff and stormwater.

Mr. Amidon reviewed the process of ranking and classifying dischargers based on individual impacts to modeled DO. He reviewed the results of preliminary scenarios of nitrogen reduction by showing model simulated DO from May through October 15 by river mile using two types of metrics: 1) 2nd, 10th, 25th, and 50th percentiles of simulated DO; and 2) percent of time that simulated DO is above 4, 5, 6, and 7 mg/L. Mr. Amidon stated that based on model simulations

five plants (the three PWD plants, plus CCMUA and GCUA) have the potential to substantially improve DO at the trough of the DO sag and that six additional plants (Wilmington, DELCORA, Hamilton, Lower Bucks, Trenton, and Morrisville) have the potential to improve DO at the upstream and downstream portions of the fish maintenance area (FMA). Further evaluation showed that Wilmington, DELCORA, and Hamilton exerted substantial impact on modeled DO at RM 60 through 80 and above RM 100. A smaller but visible impact was noted when loads from Lower Bucks and Trenton were included. Additional tests are underway to isolate those discharges that measurably impact modeled DO in the fish maintenance area and to exclude those that do not.

Setting effluent DO to 2 mg/L for all point discharges impacted the modeled DO sag by ~0.25 mg/L, however it is possible that the impact of effluent DO is caused by fewer than the six largest facilities. Additional tests are underway.

Amidon described candidate scenarios to be characterized including establishing the baseline design condition, followed by setting “Class A” plants to summer ammonia levels of 10, 5, and 1.5 mg/L and 4 mg/L total nitrogen (TN) and specifying other plants at different ammonia levels. Amidon indicated that CSO loads would be reduced by 85% to account for impacts from CSO long term control plan activities beyond the model calibration period. Both Bryan Lennon and Jay Cruz indicated that significant portions of CSO improvement had occurred prior to the model calibration period such that the remaining expected reductions would be less than 85%. Amidon agreed that additional coordination with CSO facilities would be needed to refine the estimate.

Mr. Amidon also mentioned that DRBC was considering a reserve capacity of loads by zone. Next steps for the analysis of attainability include finalizing discharge classifications and Analysis of Attainability scenarios, assembling costs, characterizing affordability, and preparing recommendations.

John Jackson noted that it would be important to document expected localized ammonia improvements, specifically over sensitive areas like shellfish nursery beds.

Dr. Namsuk Suk reviewed the documentation to be prepared for the Analysis of Attainability September 30th deliverables. He also reviewed work to be performed after September 30th including development of Criteria and an Implementation Strategy, consideration of alternative permitting strategies (such as bubble permits), consideration of discharger prioritization and initiation of the rulemaking process.

Adjournment

John Jackson moved to adjourn the meeting and Frank Klapinski seconded the motion. The meeting was adjourned at approximately 11:35 AM.