



Delaware River Basin Commission

25 Cosey Road

PO Box 7360

West Trenton, New Jersey

08628-0360

Phone: (609) 883-9500 Fax: (609) 883-9522

Web Site: <http://www.drbc.net>

Steven J. Tambini, P.E.

Executive Director

Monitoring Advisory and Coordination Committee (MACC)

Meeting Minutes

December 18, 2019 - 9:30 AM

Delaware River Basin Commission – Goddard Conference Room 25 Cosey Rd., West Trenton, NJ 08628

Attendees:

Jacob Bransky (DRBC)

Jack Gibs (retired USGS)

Heather Heckathorn (USGS)

Ron MacGillivray (DRBC)

Elaine Panuccio (DRBC)

Kristin Regan (EPA)

Kelly Somers (EPA)

John Yagecic (DRBC)

Matthew Fritch (PWD)

Eric Vowinkel (Rutgers)

Emily Baumbach (PDE)

Sheila Eyler (USFWS)

David Wolanski (DNREC)

Sara Wuerstle (Local resident)

1) Welcome & Call to Order

- Welcome & Call to order around 9:40 with introductions around the room and over the phone.

2) MACC Business

- Vacancies for MACC non-reserved members discussed, and website shown. Applications due by January 31, 2020 and will be selected within 6 months of application due date. Kristin Regan offered to be EPA representative (reserved member). Deadline was extended to March 16, 2020 as of February 1, 2020.
- A date of April 29, 2020 was discussed for the joint STAC-MACC spring meeting. DoodlePoll was emailed after the meeting.

3) DRBC Enhanced monitoring updates for Estuary Eutrophication Model Development

- By 10:00, Elaine Panuccio started off the discussion with DRBC's intensive monitoring in support of eutrophication model development. A PowerPoint presentation was shown to indicate the updates from earlier 2019 on following topics: Intensive Tributary Nutrient Monitoring, Year-Round Nutrients at Delaware and Schuylkill Rivers, Tributary Ultimate BOD monitoring, and Point-discharge Nutrient Monitoring. This presentation is available on the DRBC website.

- Jacob Gibs asked if we collect samples at, or above, the head-of-tide on tributaries (we collect above the head-of-tide, yes);
- He also asked about TOC-20 being a regulatory parameter (he's never seen this before); We selected TOC-20 to be tested concurrently with the ultimate BOD analyses and is not a regulatory parameter.
- Jake Bransky continued the 2019 monitoring updates with a discussion on Light Extinction data collection and Upper Estuary Primary Productivity project.
- John Yagecic concluded the 2019 eutrophication model development monitoring discussion with updates on the Year-Round Boat Run monitoring. John also indicated that Boat Run samples will be collected year-round in 2020 as well.

4) Other DRBC Monitoring Efforts

- Jake Bransky continued to update the group on 2019 monitoring:
 - Microplastics sampling methodology and analyses underway;
 - Size, color, type, shape, composition, etc. to categorize microplastics;
 - Laboratory analyses with Temple University;
 - Whole water samples collected under NFWF grant; will utilize model that is underway to determine where large loads of microplastics are coming from and will target a DRBC cleanup effort.
 - Mussel cage study – above and below Lehigh River to test impacts on mainstem Delaware;
 - Deployed in September and checked in November (all cages were still intact).
- John Yagecic added on about the bacteria monitoring done in 2019:
 - 5 times per month from August to October at 6 locations spanning Zones 3 through upper Zone 4;
 - Recreational designated use option being investigated;
 - Mid-channel bacteria concentrations look fine (when collected via Boat Run);
 - In 2019, the near-shore monitoring focused on areas where people are likely to recreate;
 - Concentrations are much higher (~50% of the time, exceed recreational bacteria concentrations);
 - Come up with a way to predict high concentrations based on flow, turbidity, rainfall, etc.
 - Something similar to Philly RiverCast system by PWD for Schuylkill river;
 - PWD included that they also collected near-shore bacteria samples in 2019.

5) DRBC 2020 Monitoring Activities (the agenda shifted during the meeting)



Delaware River Basin Commission

25 Cosey Road

PO Box 7360

West Trenton, New Jersey

08628-0360

Phone: (609) 883-9500 Fax: (609) 883-9522

Web Site: <http://www.drbc.net>

Steven J. Tambini, P.E.

Executive Director

-
- DRBC continued with a discussion of 2020 planned monitoring around 10:30:
 - Semi-intensive nutrient monitoring of tributaries and Delaware and Schuylkill rivers;
 - Budget cut for 2020 – sampling events cut from 24 to 19 for Delaware at Trenton & Schuylkill River nutrients sampling;
 - Will begin sampling late February/early March rather than start of year and will collect through October;
 - Tributary sites cut from 25 locations to 18 (will select in near future based on watershed sizes, land use, data gaps, etc.).
 - Jake Bransky continued to discuss 2020 Biomonitoring plans;
 - 25 island sites targeting riffles from non-tidal Trenton, NJ to Hancock, NY Delaware River;
 - Macroinvertebrate samples, algae, periphyton, nutrients, and chlorophyll-a are collected;
 - In addition, there is a habitat assessment component, velocity measurements, pebble count, and photographs;
 - ANS reviewed DRBC's methodology since last survey year (2017). PA method will be tested out in 2020 (used 3-minute kick D-frame net sampling procedure during past surveys since 2001).
 - Ron MacGillivray discussed the possibility of deploying passive PCBs samplers in Estuary locations;
 - Axy's Laboratory has experience with passive samplers;
 - Kristin Regan: EPA started to recently investigate them as well for marine purposes;
 - Heather Heckathorn: USGS deployed passive samplers for algal toxins in lakes & reservoirs where HABs are, or may be, problematic;
 - Jack Gibs asked about how the data will be quantified regarding flow (will be difficult and nearly impossible in tidal reaches);
 - Yagecic responded that passive samplers will paint a picture of trends over the years to see if concentrations are generally decreasing or increasing. Success with dischargers and PMPs, but system response is very low (water column samples hard to capture variability throughout water body).
 - Grant proposal through PA Coastal Zone Management for PFAs sampling of sediment, water, and fish from 6 tributaries & mainstem in Fall 2020 (not definite)
 - John Yagecic concluded DRBC's monitoring updates with the potential for bacteria transect monitoring in 2020;
 - See differences in concentrations from center-channel to near-shore samples.

6) Roundtable Discussion

- Around 10:50, the group moved onto discussions about 2019 monitoring efforts and potential future monitoring in the Basin:
 - EPA SAV surveys in tidal portion; 2017-2018 presence-absence studies;
 - Habitat assessments, WQ, nutrients, biomass, shoreline characteristics, fish utilization, and vegetation macroinvertebrate sampling to be done;
 - Remote sensing used to determine locations of SAV beds;
 - Shoreline characterization & biomass based on shoreline type & density assessment (work to be done in 2020);
 - Goal is to complete SAV map by summer 2020;
 - John Yagecic informs Kelly Somers & Kristin Regan of communicating with the Local Area Committee and Coast Guard once maps are finalized to update Environmentally Sensitive Areas Maps.
 - EPA microplastics sediment sampling from Christiana and Schuylkill rivers;
 - Ecological risk assessment using biological endpoints.
 - Plastic Pollution Action Coalition part of this effort;
 - Chesapeake Bay Program has ongoing microplastics workshops about state of knowledge, data gaps, and relationship to management goals.
- Matt Fritch from PWD provided updates:
 - Schuylkill boat run monitoring completed in 2019;
 - Assess green infrastructure cooling effects on heat-stressed areas study through Office of Sustainability (William Penn grant) in 2020. Will be done on a microclimate scale;
 - PFAs characterization near drinking water intakes (Poquessing, Wissahickon, and Pennypack creeks); Eurofins will complete analyses [EPA method 537.1];
 - Cryptosporidium and bacteria near-shore sampling planned for 2020.
- Heather Heckathorn provided USGS updates:
 - Streamgauge:
 - In 2019:
 - 20 new sub-basin streamgages with continuous temperature and salinity;
 - 20 existing sub-basin gages with continuous temperature and salinity added;
 - 1 new streamgauge on C&D Canal;
 - In 2020:
 - NJWSA (congressionally funded) funding temperature & specific conductivity to be added to flow gages for IWAA (Integrated Water Availability Assessments).
 - Microplastics



Delaware River Basin Commission

25 Cosey Road

PO Box 7360

West Trenton, New Jersey

08628-0360

Phone: (609) 883-9500 Fax: (609) 883-9522

Web Site: <http://www.drbc.net>

Steven J. Tambini, P.E.

Executive Director

-
- North Atlantic Appalachian sediment microplastics sampling in 2019 (North site, central site, and Assunpink);
 - 2-3 years study (2017-2020); figuring out methodology collecting isokinetically at each site;
 - Coastal Plain intensive PFAs monitoring (number of Delaware River tributaries)
 - Co-op with NJDEP long-term monitoring network (120 sites throughout NJ);
 - 2 times per year at each site, targeting both high and low flows;
 - SGS Axys lab being used for analyses.
 - SPAT bags for cyanotoxin monitoring (2 deployed) in Spruce Run reservoir in 2 locations;
 - Analyses for these just beginning in Washington USGS office (able to share process with others, just not perfect yet).
 - AUV deployed recently to capture data across and within water column (transect data collected) – Ecomapper YSI instrumentation used;
 - Matt Fritch asked Heather Heckathorn about the possibility of deploying continuous nutrient sensors (yes, this is a goal);
 - JY: keeping nitrate sensors in at Trenton & Chester through a portion of 2020 (DRBC partially funds the deployment and maintenance of these sensors).
 - Emily Baumbach from PDE provides the group with updates:
 - Routine monitoring wetlands for Living Shorelines goals in CCMP completed in 2019
 - In early 2020, a workshop and inventory of monitoring results assessment to be completed;
 - Goal: pull together needs analysis and see where monitoring gaps are;
 - Report to roll out in 2020.
 - Eric Volwinkel (former USGS, currently at Rutgers):
 - Past USGS study about nutrient isotopes to determine source (land use changed considerably from 20 years ago). Eric proposed that a similar study is repeated to identify non-point sources of nutrients.
 - General discussion/questions:
 - John Yagecic asked group about cyanobacteria testing – laboratory in Florida, but any reputable labs with testing or lab capacity in area? Someone from group offered to send list;
 - Jack Gibbs commented on non-contact sensors (infrared/temp): advantage: more flexibility and no fouling of equipment (cone sensor);
 - Heather Heckathorn informed the group that a USGS non-contact sensor being deployed at Montague (no finalized plan, but a preliminary study);



Delaware River Basin Commission

25 Cosey Road

PO Box 7360

West Trenton, New Jersey

08628-0360

Phone: (609) 883-9500 Fax: (609) 883-9522

Web Site: <http://www.drbc.net>

Steven J. Tambini, P.E.

Executive Director

-
- Since Delaware River and streams are vertically well-mixed in basin, mixing issues won't present a problem, but horizontal mixing might due to salt and solids fluxes.
 - Heather Heckathorn: Regression models being developed for continuous USGS sensors to ground-truth data;
 - Freshwater salinization issue somewhat discussed. Heather Heckathorn mentioned future work of adding continuous chloride sensors at gages to assess trends;
 - **Meeting adjourned by 11:30.**