

Delaware River Basin Commission

DRBC Water Quality Monitoring Programs

Meerwald Legislative
Education Sail
September 7, 2018

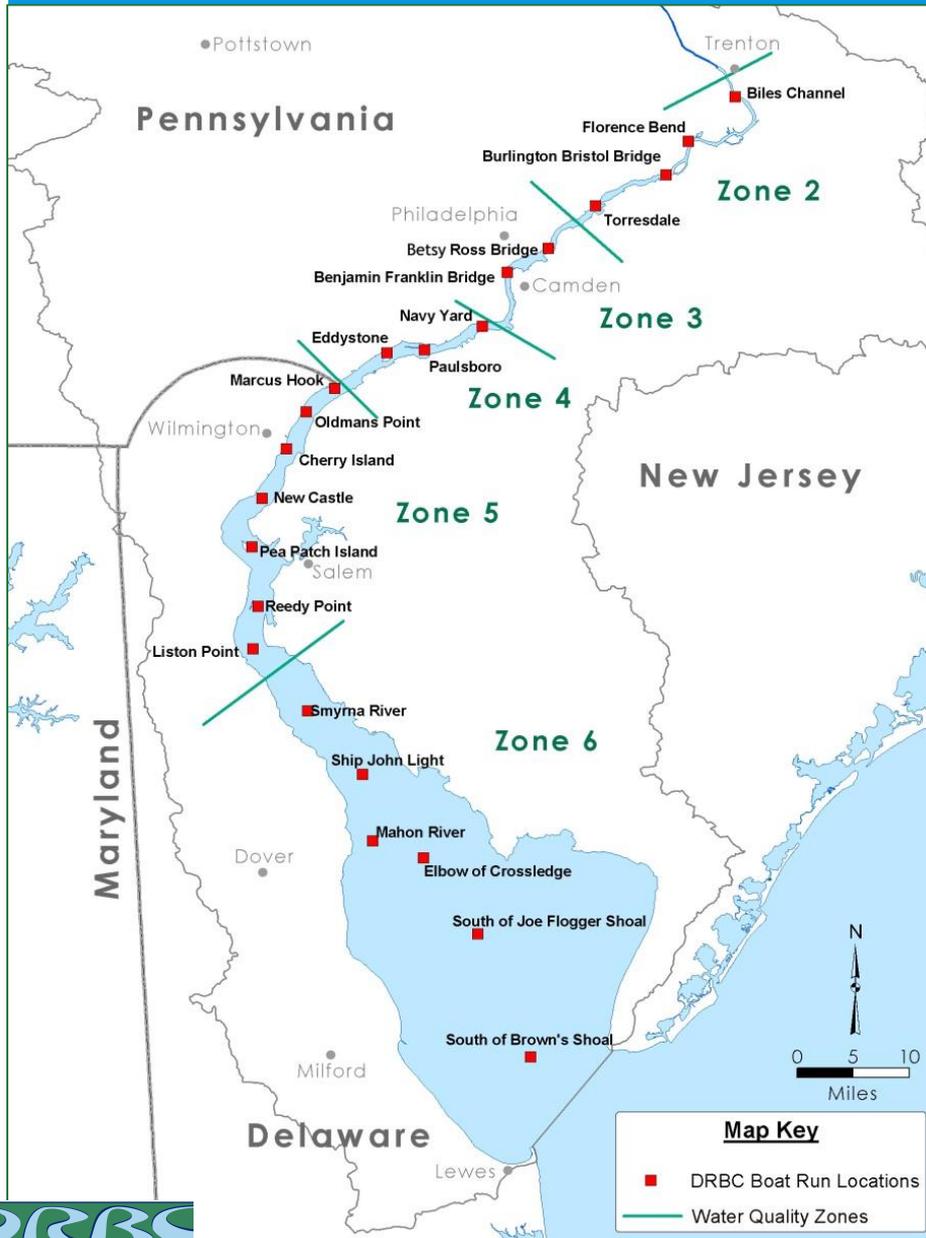
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Delaware River Basin Commission

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Delaware Estuary Water Quality Monitoring

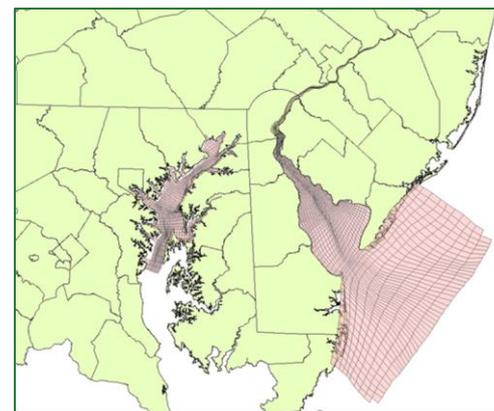
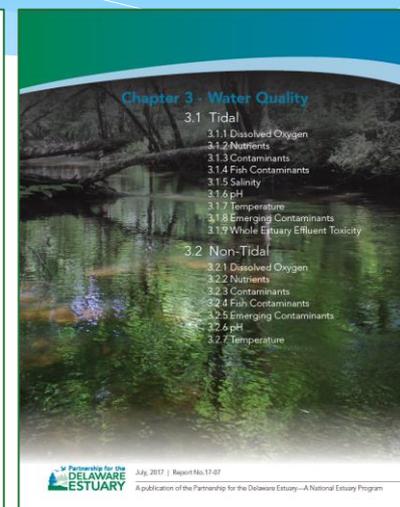
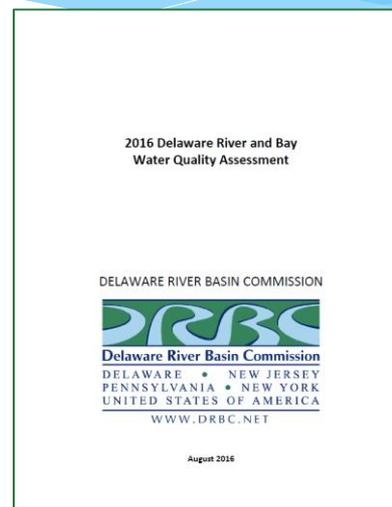


- * Since mid-1960's
- * 22 Sites, once per month
- * Parameter Groups
 - Routine
 - Nutrients
 - Sodium, biotic ligand model & Algal parameters
 - Bacteria
 - Metals



How we use the Delaware Estuary water quality data

- * Delaware River & Bay Water Quality Assessment Reports
- * State of the Estuary / Basin Reports
- * Estuary Water Quality Models
- * Canned database queries on DRBC web site at <http://www.state.nj.us/drbc/quality/datum/>
- * Estuary Water Quality Explorer at <https://johnyagecic.shinyapps.io/BoatRunExplorer/>

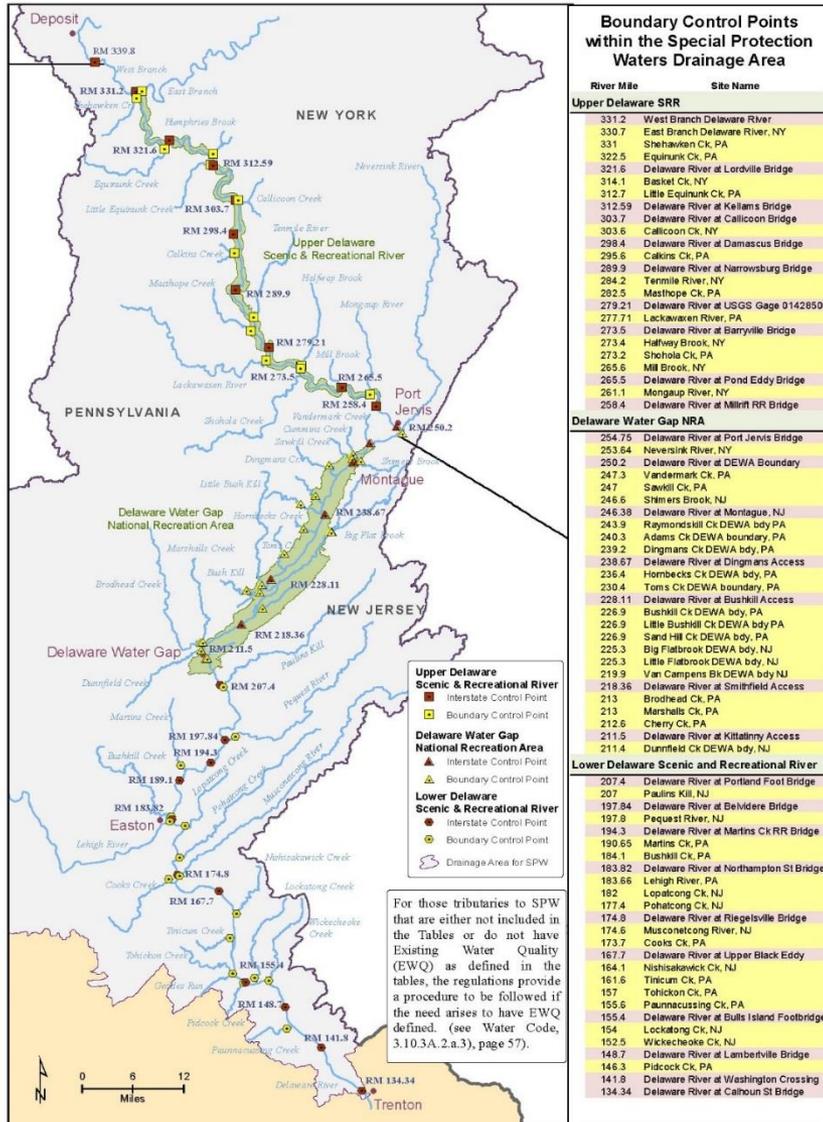


Special Protection Waters Monitoring

- * Nutrients & field measurements
- * Mainstem Delaware River
- * Tributaries near confluence with Delaware in non-tidal Delaware
- * Number of stations flexible from year to year depending on strength of definition of Existing Water Quality



Special Protection Waters Monitoring Stations



- * “It is the policy of the Commission ... no measurable change in existing water quality except towards natural conditions ...”
- * Data used to establish permit requirements
- * Monitoring to define Existing Water Quality & Assess whether or not Existing Water Quality is being preserved

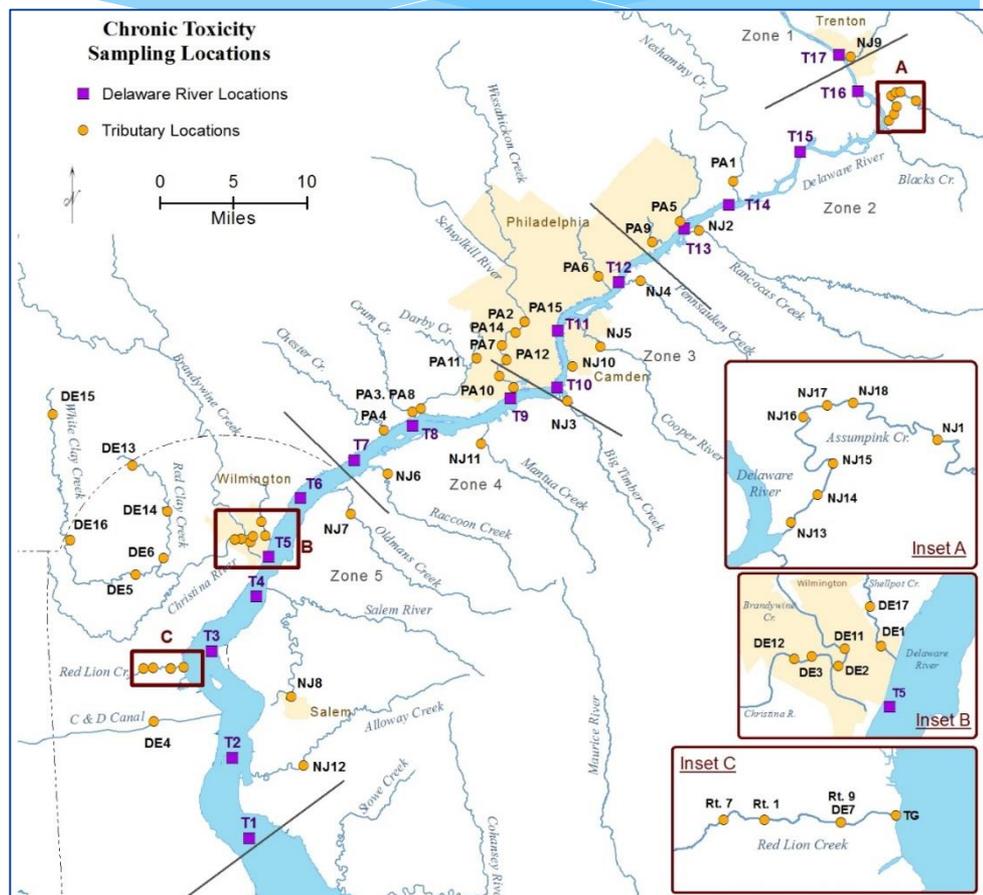
Biological Monitoring Program

- * Macroinvertebrates
- * Periphyton
- * 25 riffle sites in non-tidal Delaware River
- * Every 2 or 3 years
- * Assessment included in Delaware River Water Quality Assessment (305(b))

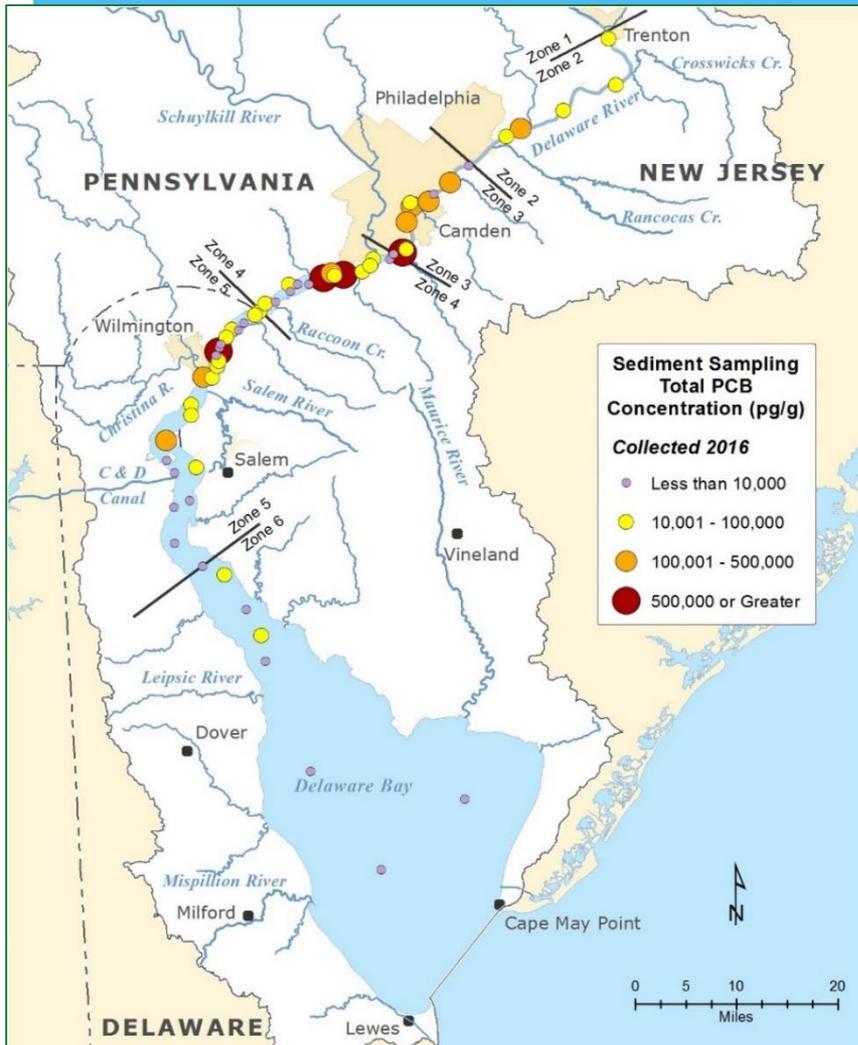


Ambient Toxicity

- Surface Water Samples
- Laboratory Tests using EPA Short-Term Chronic Methods
- Freshwater and Estuarine species
- 1990 to present
- 2015 & 2016 in cooperation with DNREC WATAR program
- Next sampling proposed for main stem in 2018 following Ambient Toxicity Workgroup recommendation of main stem monitoring every 3 to 5 yrs



Sediment Monitoring



- * Periodic
- * PCBs, PAHs, perflourinated compounds, emerging contaminants
- * Monitoring recovery under PCB TMDL, special studies in support of states

Special Projects



* Natural Gas Baseline Monitoring

- Biological Monitoring
- Conductivity Loggers
- Radioactivity
- Archived samples, barium & strontium

* Model Calibration Monitoring

- Brodhead, Neversink, & Lehigh Watersheds

* Response Monitoring

- Vinyl Chloride spill response monitoring
- Estuary tritium, gross alpha, gross beta emitters



Special Projects (continued)

* Aquatic Life Studies

- Lower non-tidal Delaware Mussel Survey
- Didymo Survey
- Matlock Periphytometer Study
- Winter Estuary Ammonia monitoring

* Support for other organizations

- Philadelphia Water Department dye study support
- Support to Shad young-of-year survey
- Periodic Emerging Contaminant monitoring

