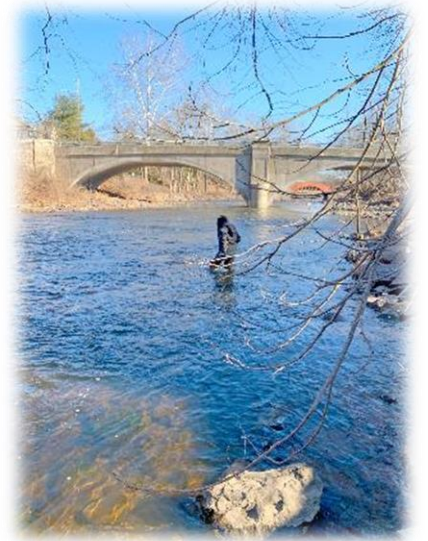


Delaware River Basin Commission

DRBC 2023 Monitoring Activities and Updates

Joint STAC-MACC Meeting

May 17, 2023

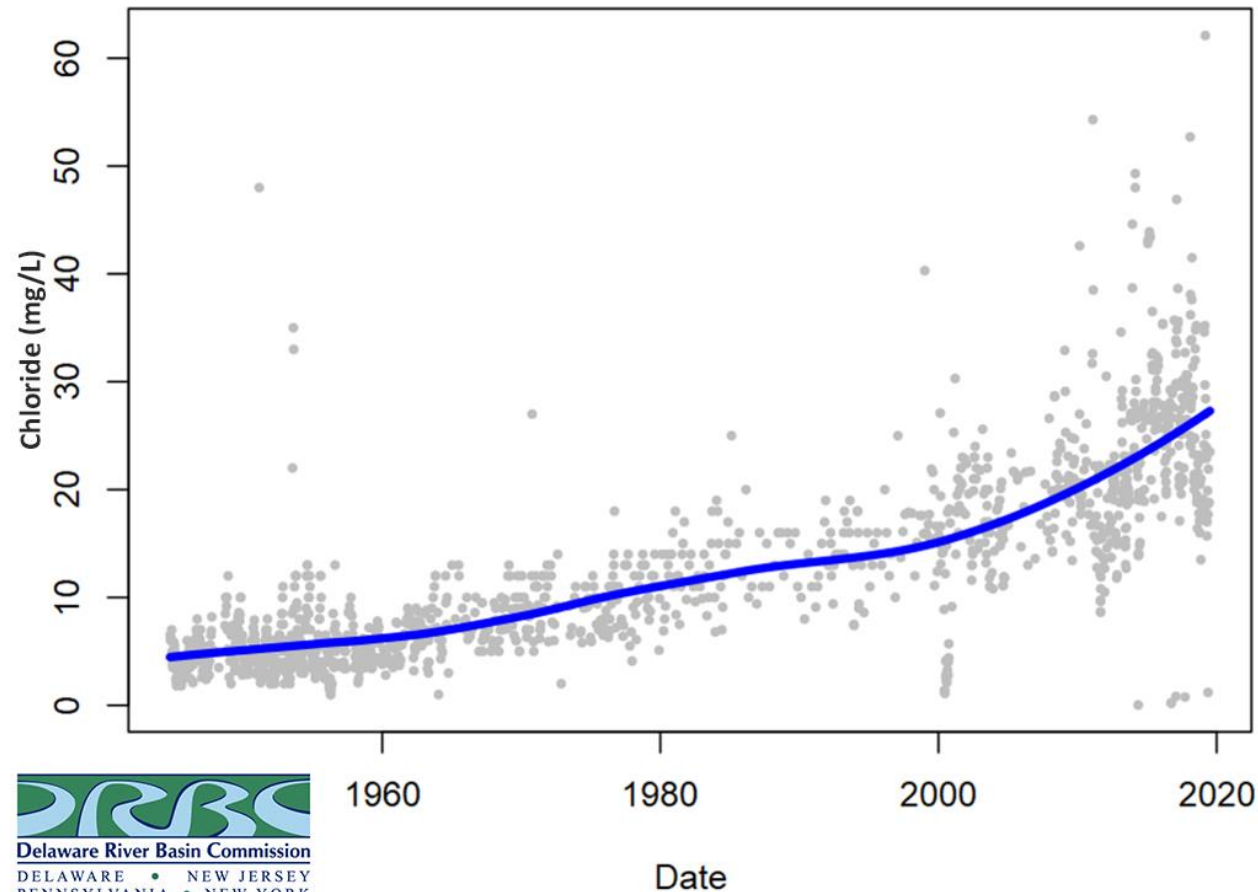


Presented to an advisory committee of the DRBC on May 17, 2023. Contents should not be published or re-posted in whole or in part without permission of the DRBC.

Non-tidal Chloride Monitoring (May 2021 – April 2023)



Chloride Time Series, Delaware River at Trenton



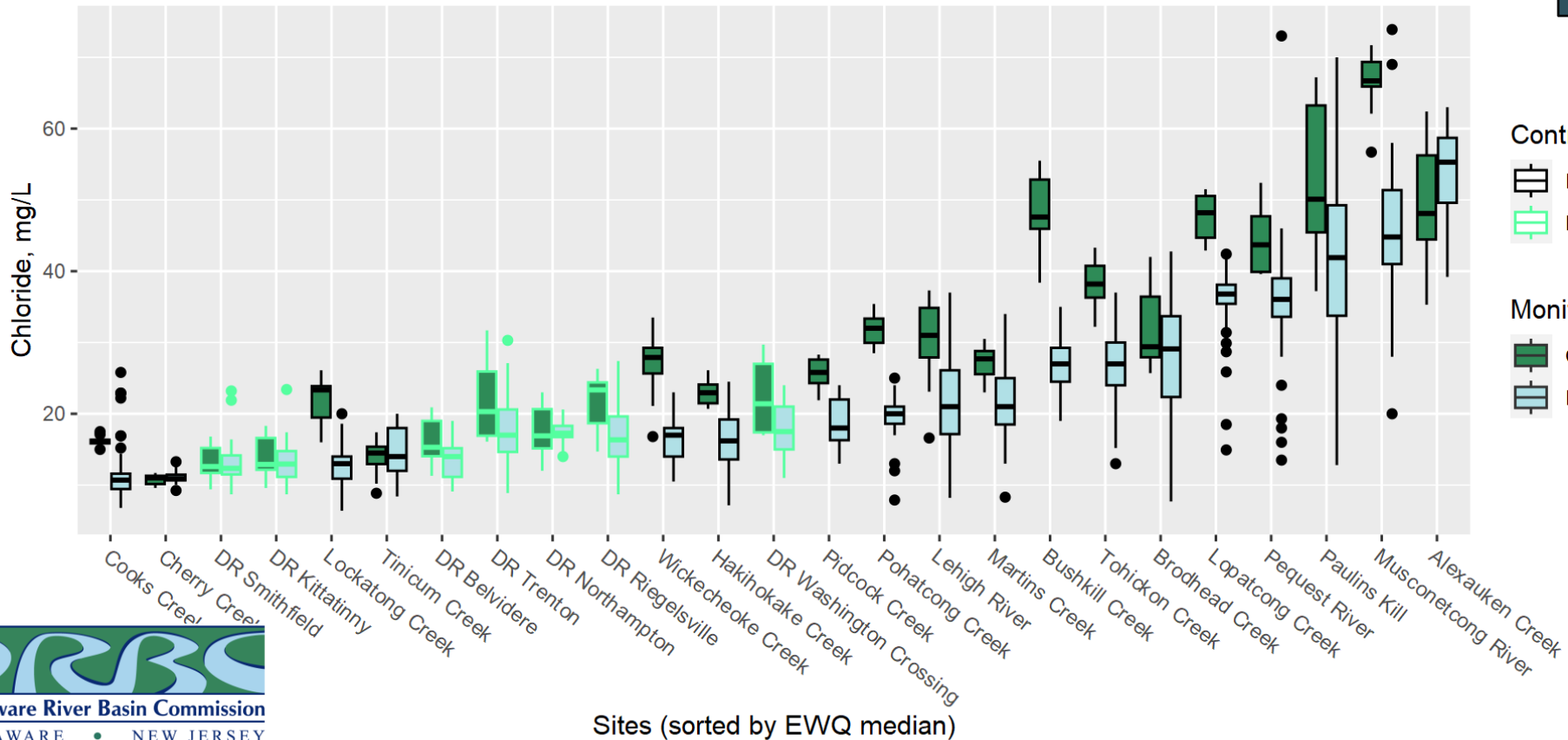
Initiated year-round monitoring in May 2021 for chloride and TDS within SPW

Added ions and other parameters in May 2022 (Na, K, Mg, Alkalinity, etc.)

Non-tidal Chloride Monitoring (May 2021 – April 2023)

Completed monitoring
and awaiting
laboratory data (all
results shown here are
preliminary)

EWQ (2000-2004) vs Current (2021-2023) Chloride Concentrations
May through September



Control Points

- BCP
- ICP

Monitoring Period

- Current
- EWQ

Preliminary – do not
distribute

Monitoring (Phase I) is
complete and heading
into data synthesis and
track-down (Phase II)

Freshwater Salinization and Increasing Chloride Workgroup Meetings

*Quarterly meetings
with partner agencies*

*Focus on regulatory
and road salt
management options*

*Seeking DOT contacts
to join the
conversations*



Photo source:

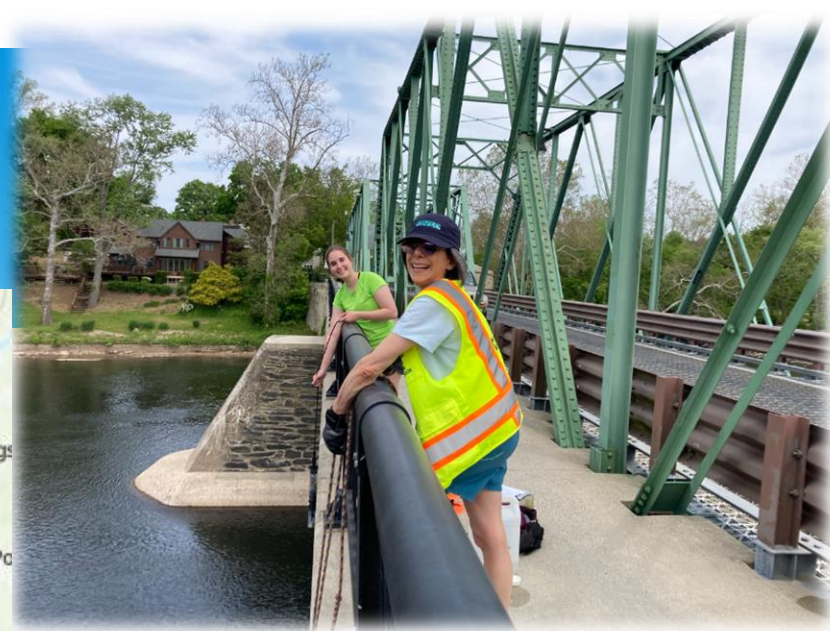
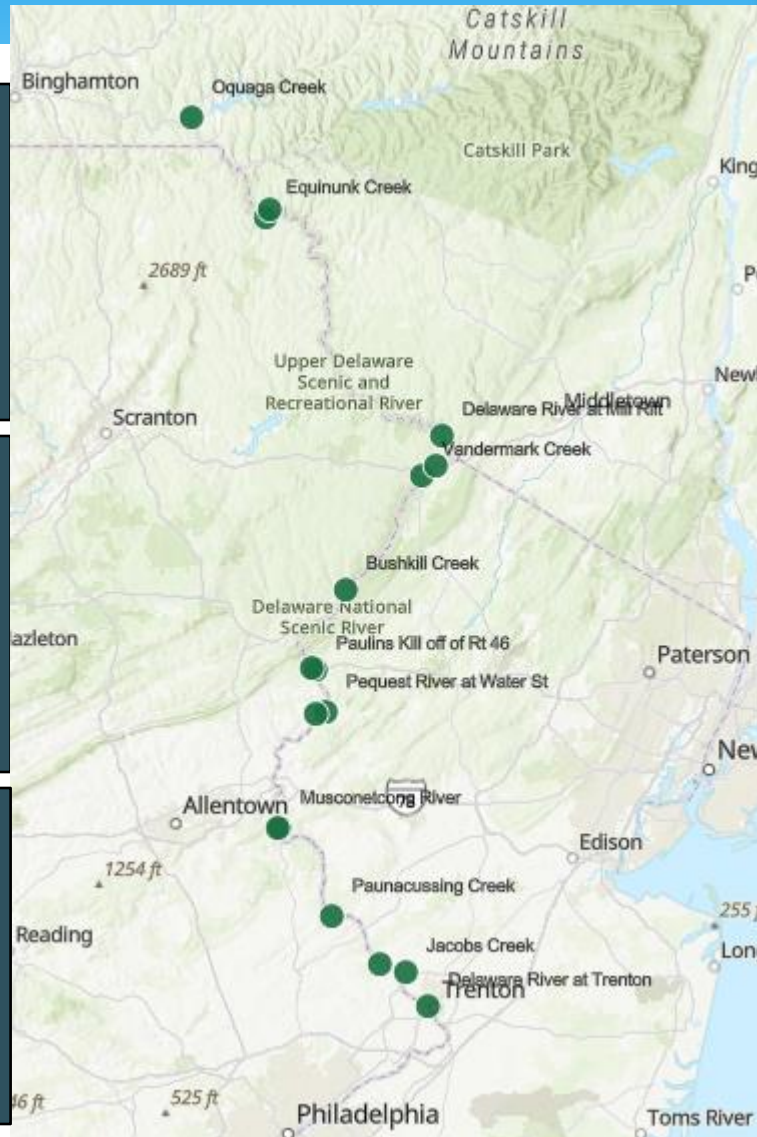
<https://cen.acs.org/environment/atmospheric-chemistry/Widespread-road-salt-use-affect/98/i23>

SPW Monitoring (2023-2025)

**Initiated SPW
Monitoring Assessment
Period (May-Sept 2023-
2025)**

**Rotating-site basis
rather than reach-wide
assessment periods (17
sites selected)**

**NPS staff collecting
Upper Delaware and
Delaware Water Gap
sites**



Parameter list (NJDOH analytical lab):

**Alkalinity, Chloride, Hardness, Sulfate,
TSS, TDS, Nitrate+Nitrite, Total
Nitrogen, Ammonia, TKN, TP, Silica,
Ca, Mg, Na, K, DO, turbidity, pH, water
temperature**

Cyanotoxins SPATT Bag Pilot Study

2022: 11 tidal Delaware River locations (three 8-day deployments late summer)

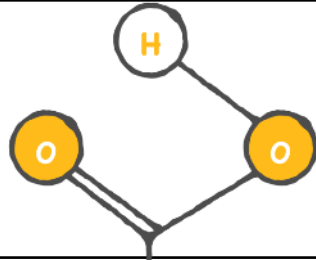
DNREC lab used ELISA immunoassay method for analyses of microcystin, anatoxin-a, and cylindrospermopsin

Presence of microcystin at all sites, and anatoxin-a at most sites

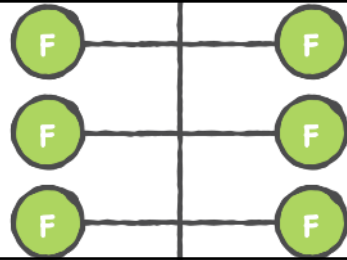


Repeating this effort in 2023 at 15 non-tidal Delaware River locations (late August-September)

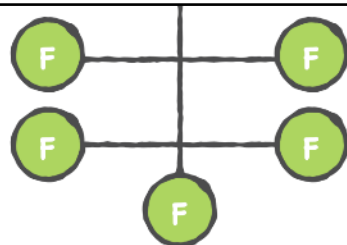
PFAS, POPs and other CECs in the Delaware Catchment



NFWF: Yrs 1 & 2 Synthesis
w/ Yr 3 sample collection



PDE BIL: Source tracking of
PFAS, PCBs, Dioxins/Furans,
PAHs, Pesticides, OC
Pesticides in Delaware River
Tributaries



PA CZM: A second year of
funding to sample PFAS in
the ...

Identifying and Quantifying the presence of the Salmonid toxicant: 6-PPDq



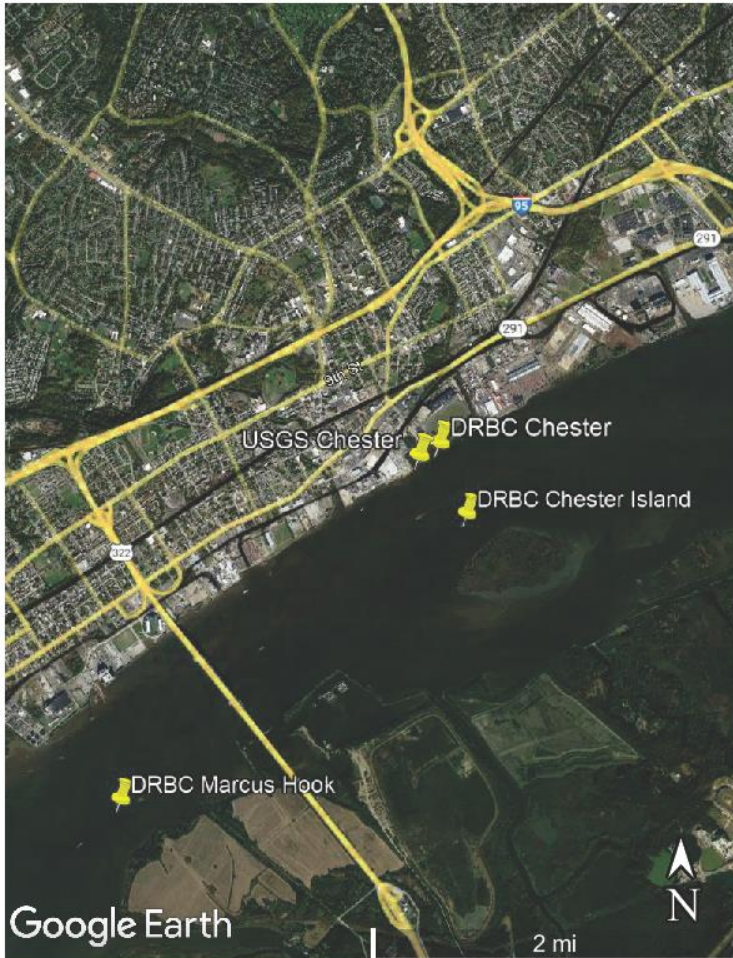
PA Sea Grant: Full proposal submission in early June for 6-PPDq in tidal areas of Delaware River



NFWF: Study 6-PPDq in non-tidal portion of the Delaware River there are several important species of salmonids

Please join DRBC's TAC (Toxics Advisory Committee Meeting) on June 14, 2023 from 9AM-12PM for more information: https://www.nj.gov/drbc/about/advisory/TAC_index.html

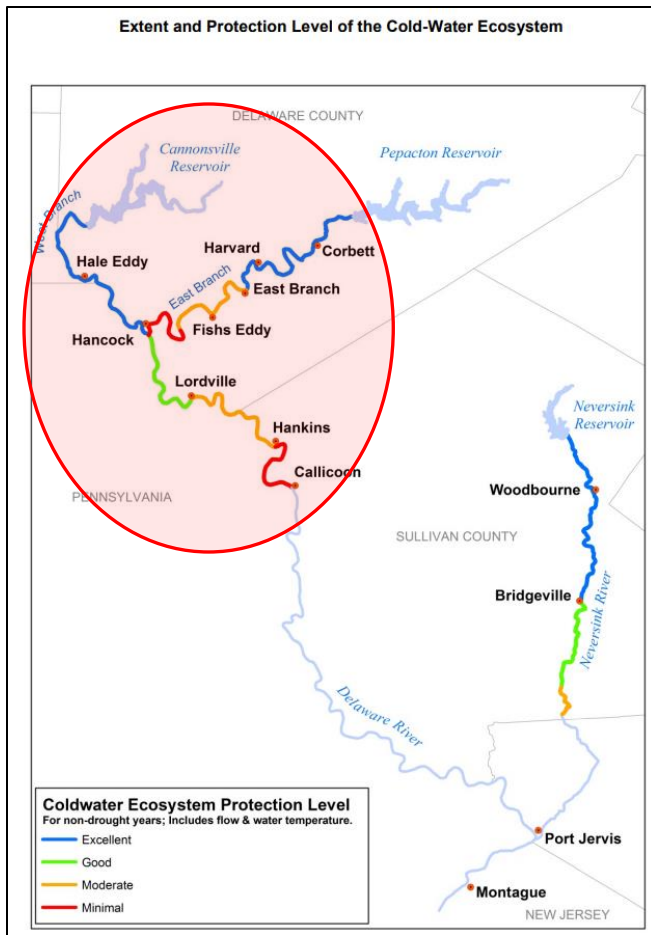
DO Monitoring Sturgeon Habitat



- Current USGS logger at Chester is several miles upstream of important sturgeon nursery grounds
- Collect enhanced spatial resolution DO data in portion of the estuary important to young-of-year Atlantic sturgeon
- Deploy several top/bottom DO loggers at multiple locations
- Target low DO time of year (July-September)
- 2022 was proof of concept year. Plan to redeploy in 2023.



Thermal Shading Study



- Estimate canopy cover using a hemispherical camera in areas that support cold water fisheries
- Areas lacking canopy cover could be targeted for tree planting efforts