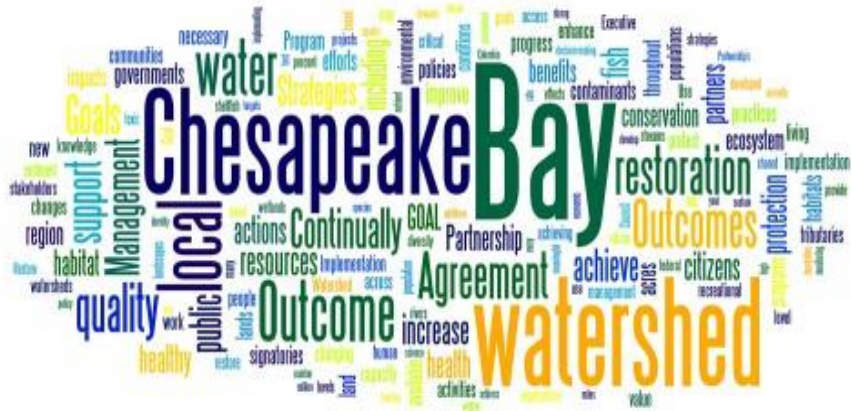


# Research Outcome



## Management Strategy and Work Plan for Toxic Contaminant Research(TCR): *Planning for Meeting on Fish Health and Contaminants*

Scott Phillips, USGS

Toxic Contaminant Workgroup March 2021

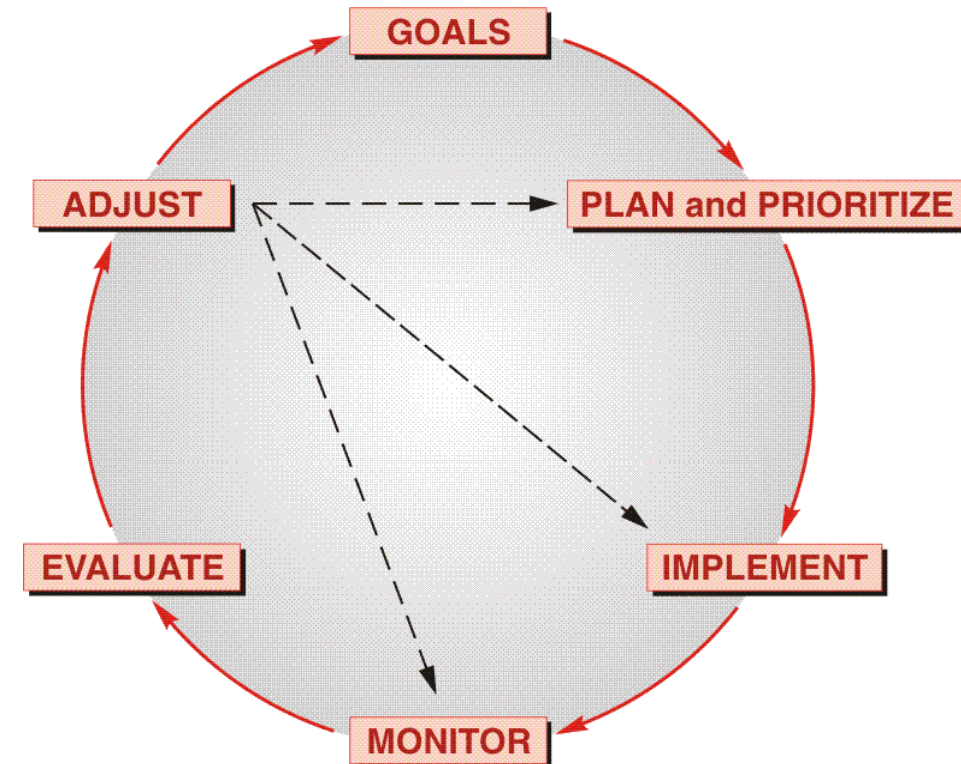
# TCW meeting on fish health and contaminants

## What we are covering today:

- Planning the May TCW call
- Results on multiple papers from USGS EDC project and related studies
  - TCW feedback on which topics will be of most interest
- Discuss ways to communicate and apply the results in decision making
  - Have a panel of jurisdictions, management agencies; other CBP WGs; CBC
  - Other approaches?

## ADAPTIVE MANAGEMENT FOR ECOSYSTEM DECISION MAKING

[Modified from Williams and others (2007)  
and Levin and others (2009)]





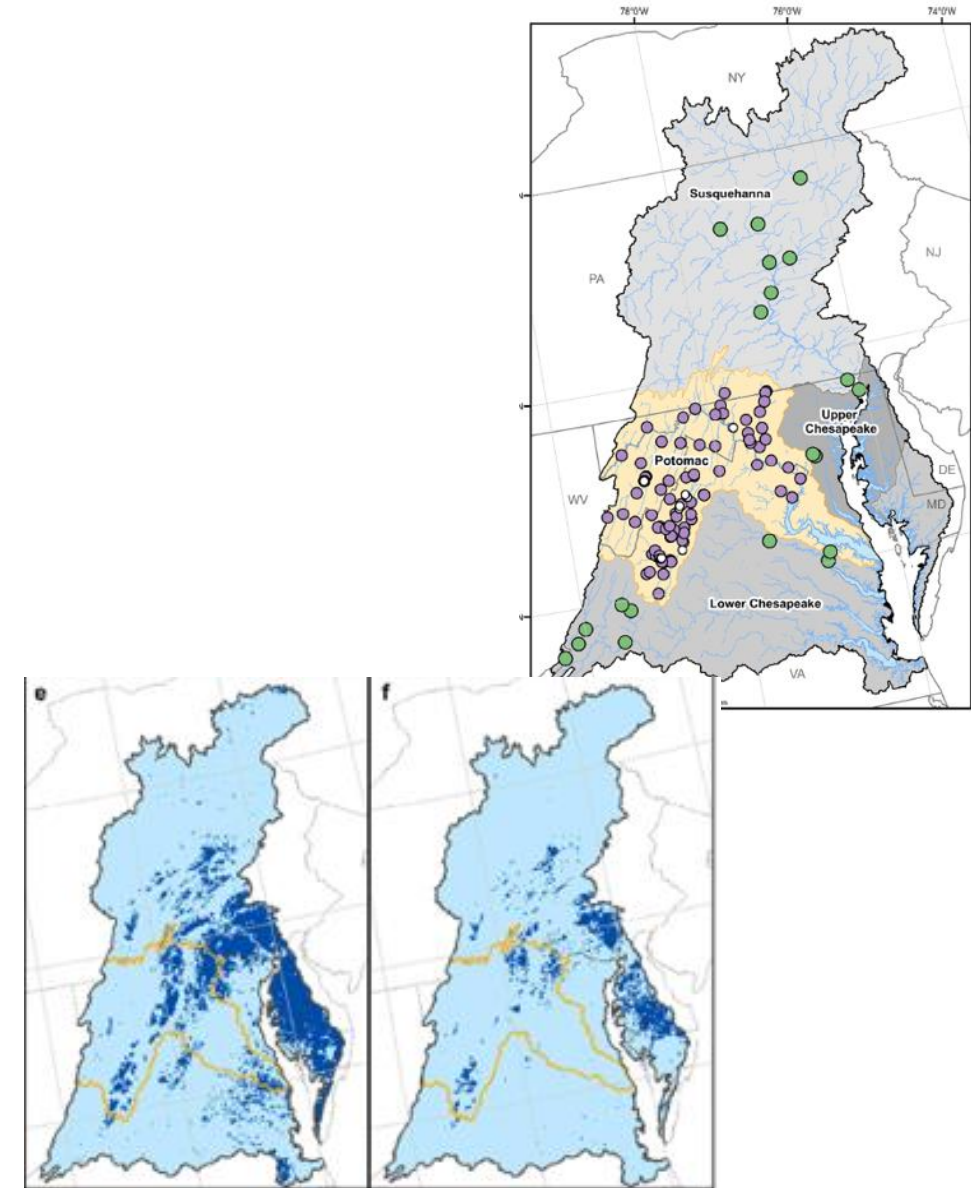
# Alignment with TCR Strategy and Work Plan

- (1) Synthesize science to make fish and shellfish safer for human consumption;
- (2) Understand the influence of contaminants degrading the health, and contributing to mortality, of fish and wildlife;
- (3) Document the sources, occurrence, transport of contaminants in different landscape settings;
- (4) Synthesize and promote science to help mitigate contaminants and emphasize co-benefits prioritize with nutrient and sediment reduction;
- (5) Gather information on issues of emerging concern

## MA 2: Contaminants degrading health and contributing to mortality of fish and wildlife;

### Papers published:

- Estrogenic endocrine disruption in the Chesapeake Bay Watershed: A retrospective review and land-use influences.
- Modeling estrogenic activity in streams throughout the Potomac and Chesapeake Bay watersheds.

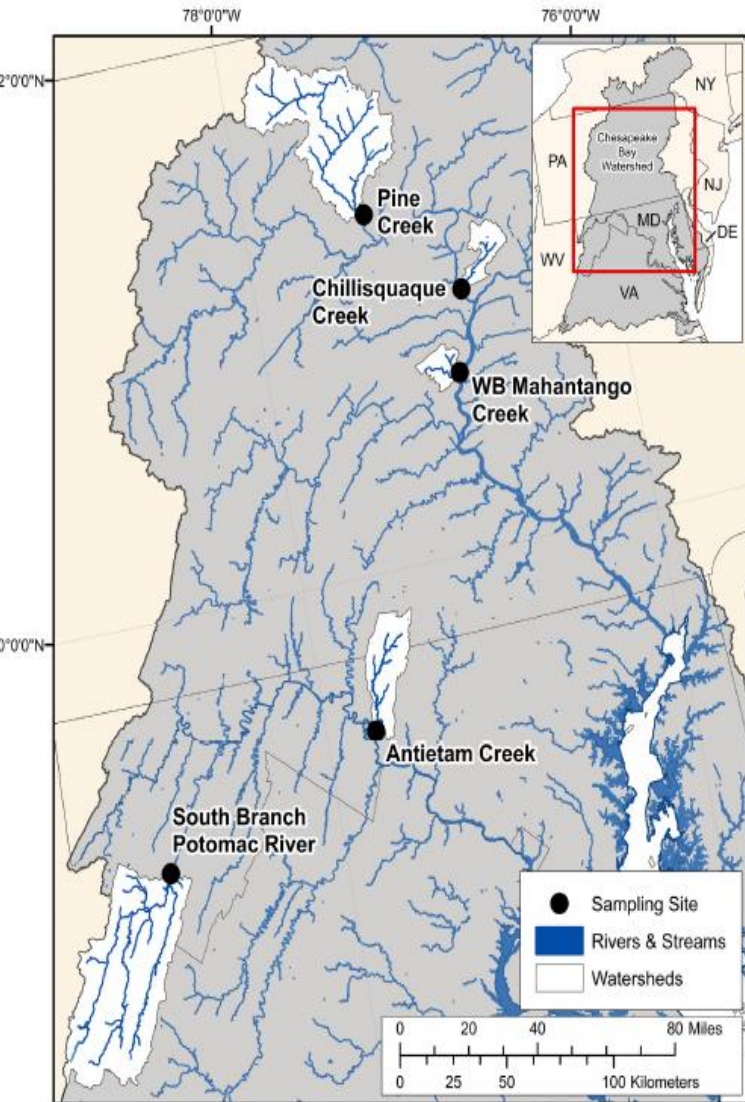




# MA 3: Sources, Occurrence, and Transport

## Papers published

- Environmental and anthropogenic drivers of contaminants in agricultural watersheds with implications for land management
- Spatiotemporal variation in occurrence and co-occurrence of pesticides, hormones, and other organic contaminants in rivers
- Groundwater discharges as a source of phytoestrogens and other agriculturally derived contaminants to streams



## Papers published:

- Evidence that watershed nutrient management practices effectively reduce estrogens in environmental waters



S. Diaz, L.R. Iwanowicz, K. Noguera-Olledo et al.

Science of the Total Environment 758 (2021) 143904

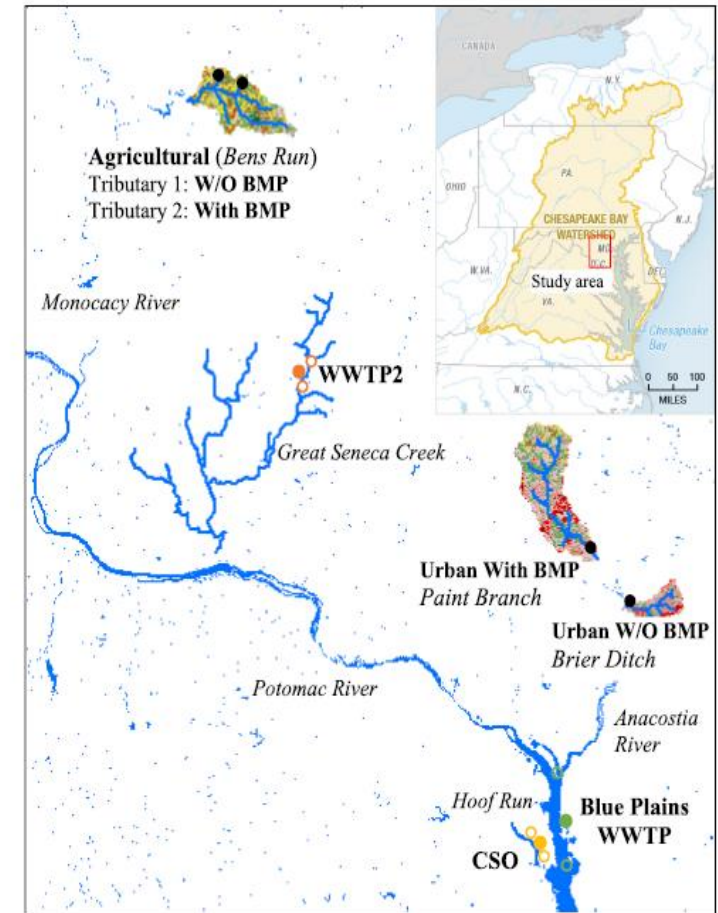
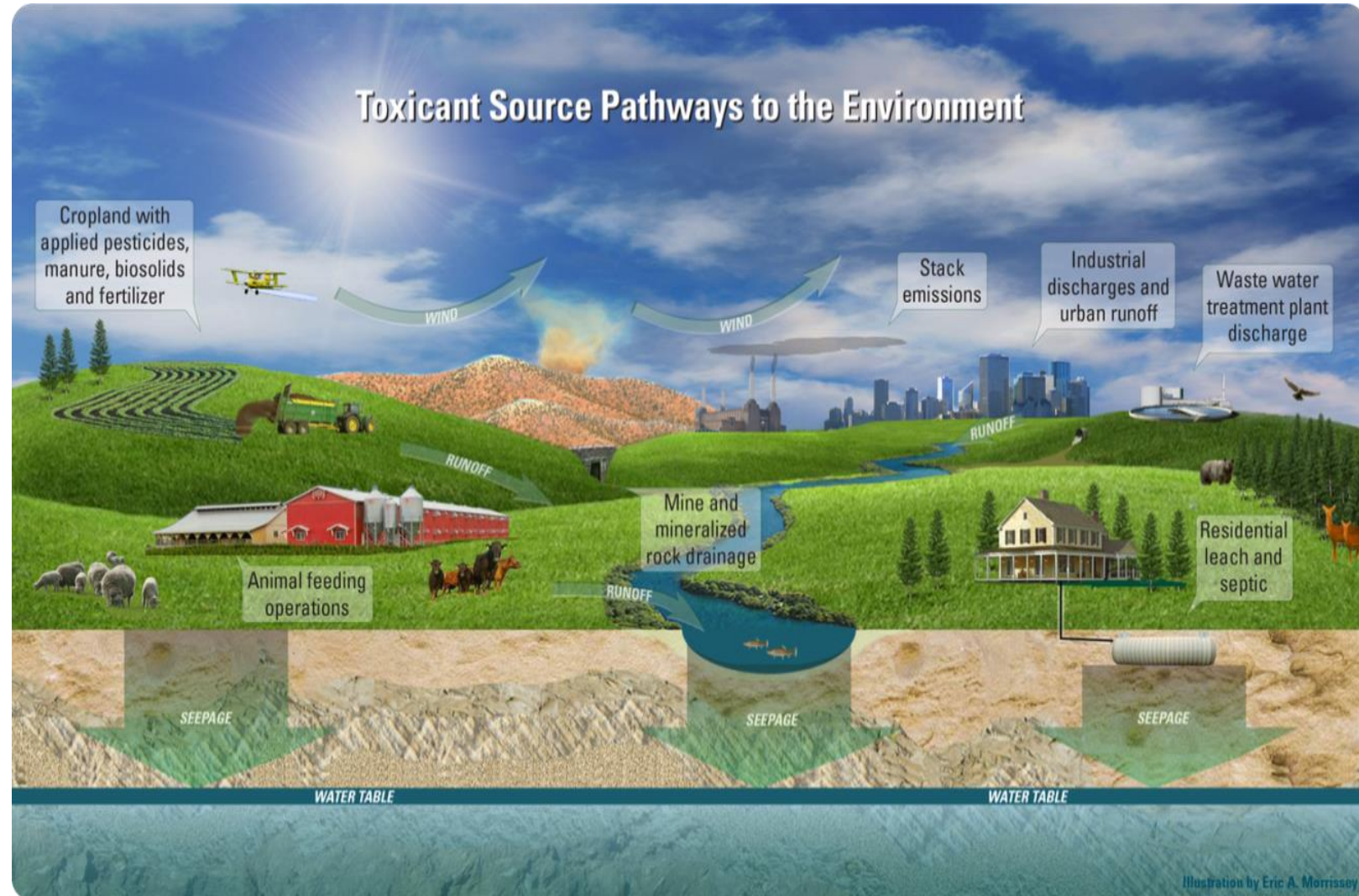


Fig. 1. Locations of 15 sampling sites in the Potomac watershed. Solid black dots are paired agricultural and urban rivers with/without (W/O) best management practice (BMP), while solid or open colorful dots refer to point inputs (wastewater treatment plants or WWTP, and combined sewer overflow or CSO) and upstream/downstream sites. The three solid dots in Blue Plains WWTP are located in the outlet of 2nd reaction basin, nitrification/denitrification basin, and effluent outfall. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)



# Planned Communication Products

- Science summary on land-use influence of fish health
- Science summary on EDCs in ag settings
- Story map tying together papers
- CBP blogs and Bay Journal articles



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