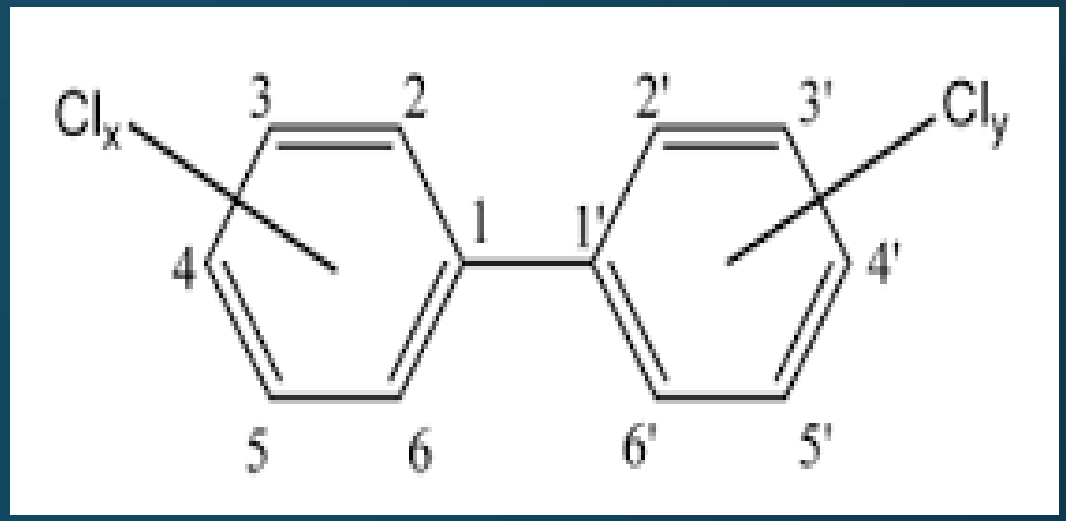

Sustainable Fisheries GIT Executive Committee
September 26th

Toxic Contaminants Workgroup Fish-Related Areas of Interest

Toxic Contaminants Workgroup (TCW) Fish-Related Topics

Primary foci

- Fish health related to exposure to endocrine disrupting chemicals
  - Intersex
  - Lesions/Infections
  - Mortality
- Fish consumption restrictions
  - PCBs
  - Mercury

TCW – Endocrine Disruption

What we know …

- Some species known to have high incidence of intersex – smallmouth and largemouth bass

- Incidence associated more strongly with certain land uses
  - Agriculture – hormones, pests.
  - Wastewater – pharmaceuticals, personal care products, other

Knowledge gaps …

- Causal factors
- Multiple stressors leading to mortality and low recruitment
- What chemicals are implicated?
- Other factors – temperature, DO, parasites?

TCW – Research Management Strategy

- **Understand the influence of contaminants in degrading the health, and contributing to mortality, of fish and wildlife**
  - Assess the effects of contaminants on fish and shell fish in tidal waters
  - Document fish health conditions in the Bay watershed
- **Document the occurrence, concentrations, and sources of contaminants causing fish and wildlife degradation**
  - Sources and occurrence of EDCs and other contaminant groups
- **Assess the relative risk of contaminants, and options for mitigation, to inform policy and prevention**
  - Develop approaches to assess the relative risk of contaminants
- **Gather information on issues of emerging concern**
  - Workshops to address contaminant toxicity to pollinators, and microplastics
  - Better delineate potential impacts of UOG activities.

TCW – Bioaccumulative Contaminants

What we know …

- Extensive advisories across the entire watershed
- Most advisories based on PCBs and Hg – highly persistent
- Inputs of both pollutants are ongoing
- Many sources of PCBs
- Hg dominated by air emissions

Knowledge gaps …

- PCBs
  - How effective are local TMDLs in reducing loads?
  - How can PCB TMDLs be accelerated?
  - Techniques and regulations for finding and reducing PCBs?
- Mercury
  - Are federal and state air regs reducing loads and are we seeing a response in the system?

Chesapeake Watershed Example fish consumption advisories(PCBs)

MD

- Striped Bass - <28" 3 meals/month; >28 " 1 meal/month
- White Perch (mid-Bay) - general pop. 1 meal/every other month; children no consumption
- Bluefish - < 15" 2 meals/month; >15" no consumption

VA

- Blue Catfish (James) - < 28" 2 meals/month; >32' no consumption
- Striped Bass – no more than two meals/month

DC

- Striped Bass – no consumption
- Blue Catfish - general pop. 3 meals/month

TCW – Prevention Strategy

- Regulatory Approaches
  - Monitoring
  - TMDL Implementation http://arcg.is/1MxTvgm
  - Guidance
  - Targeting Tools
  - TMDL/permit coordination
  - New EPA Rule TSCA for PCB use phase-out
- Education and Awareness
  - Raise awareness on TMDL best practices (e.g., PMPs, track-down studies)
- Voluntary Programs
  - Voluntary phase-out of PCB equipment
- Science
  - Remove barriers to high-sensitivity monitoring
  - Multiple benefits of BMPs
  - Atmospheric inputs

TCW and Fisheries GIT Collaboration

- Does fisheries sustainability include resource quality in addition to quantity?
- Are management programs considerate of contamination (e.g. blue catfish fishery)?
- Common research questions – endocrine disruption in tidal waters?
- Do toxic contaminants compromise the abundance of forage fish?
- How can we work together?