

# Toxic Contaminant and PCB Indicators

A Watershed Wide Approach

# 2012 Indicator Map

Current Indicator Map focuses on Chesapeake Bay Segments.

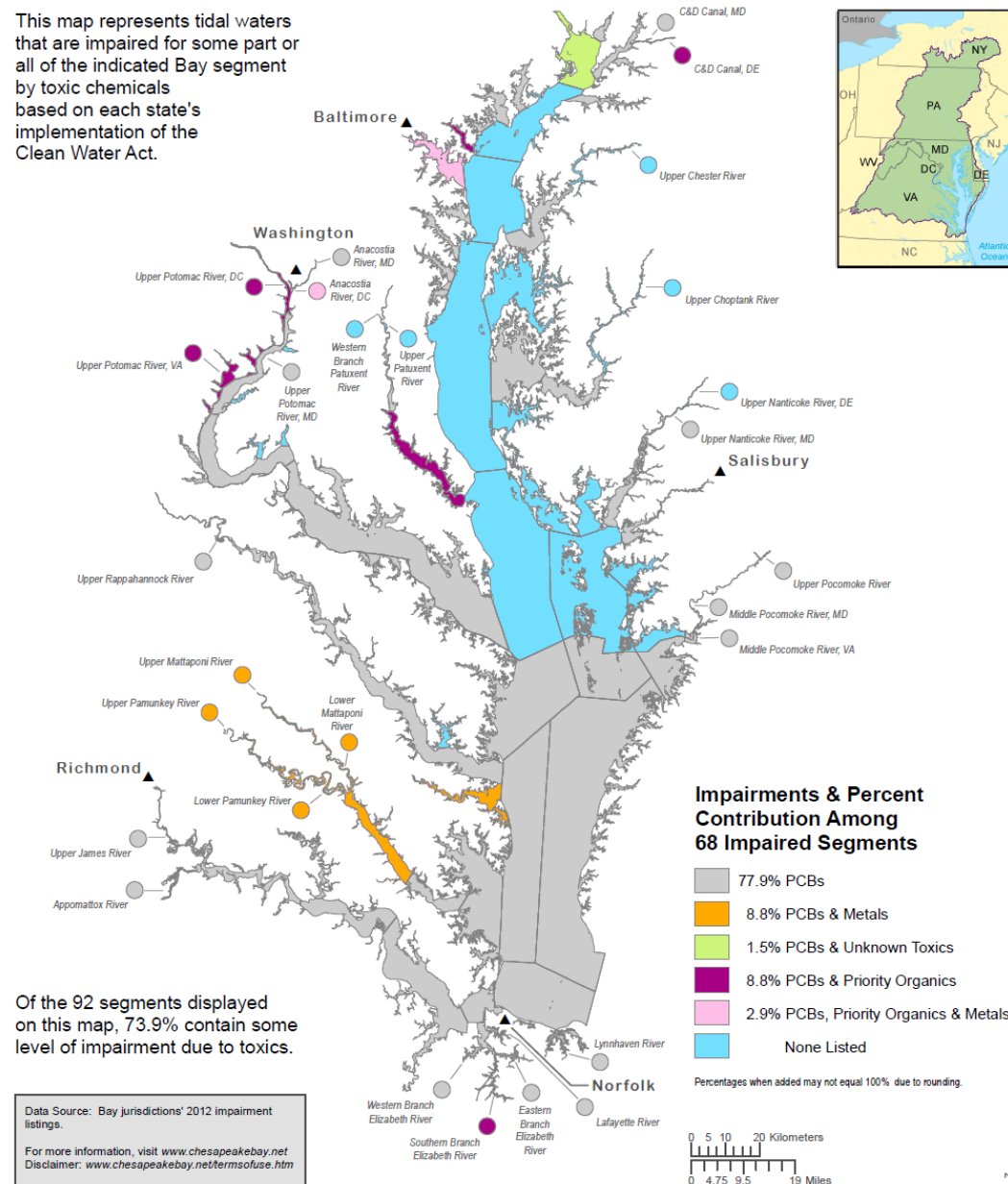
- Segments based on Salinity Profiles, not drainage or physiological properties.
- 92 total segments
- 68 Impaired Segments
- All impaired segments contain a full or partial overlay with state designated PCB impairments
- Plan to update this map and expand the methodology to the entire watershed
- Unit of Area chose for entire watershed - HUC 12 Watersheds.

## Chemical Contaminants (2012)

Impairments Illustrated Using the Chesapeake Bay Segmentation Scheme



This map represents tidal waters that are impaired for some part or all of the indicated Bay segment by toxic chemicals based on each state's implementation of the Clean Water Act.



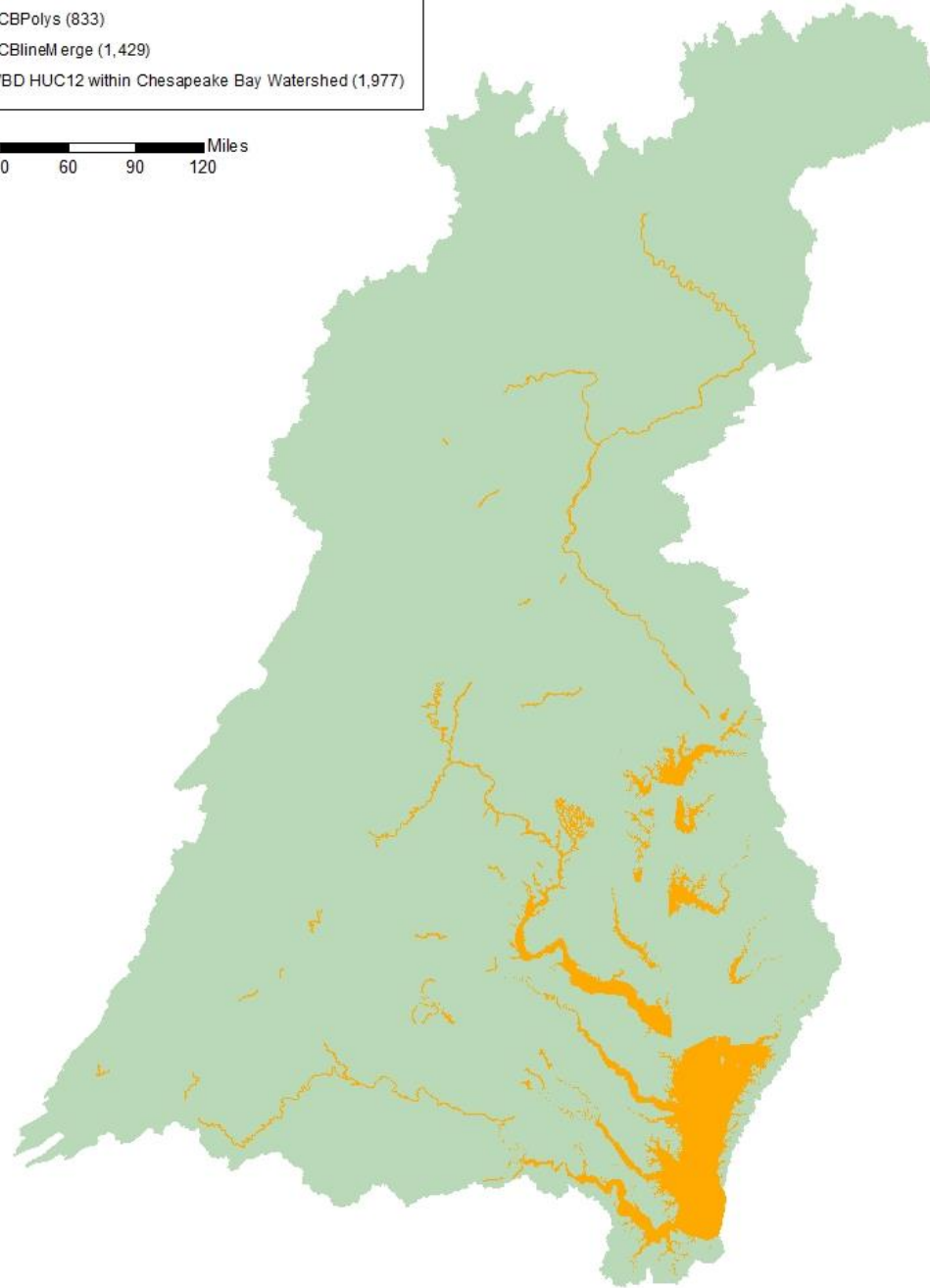
# Issues

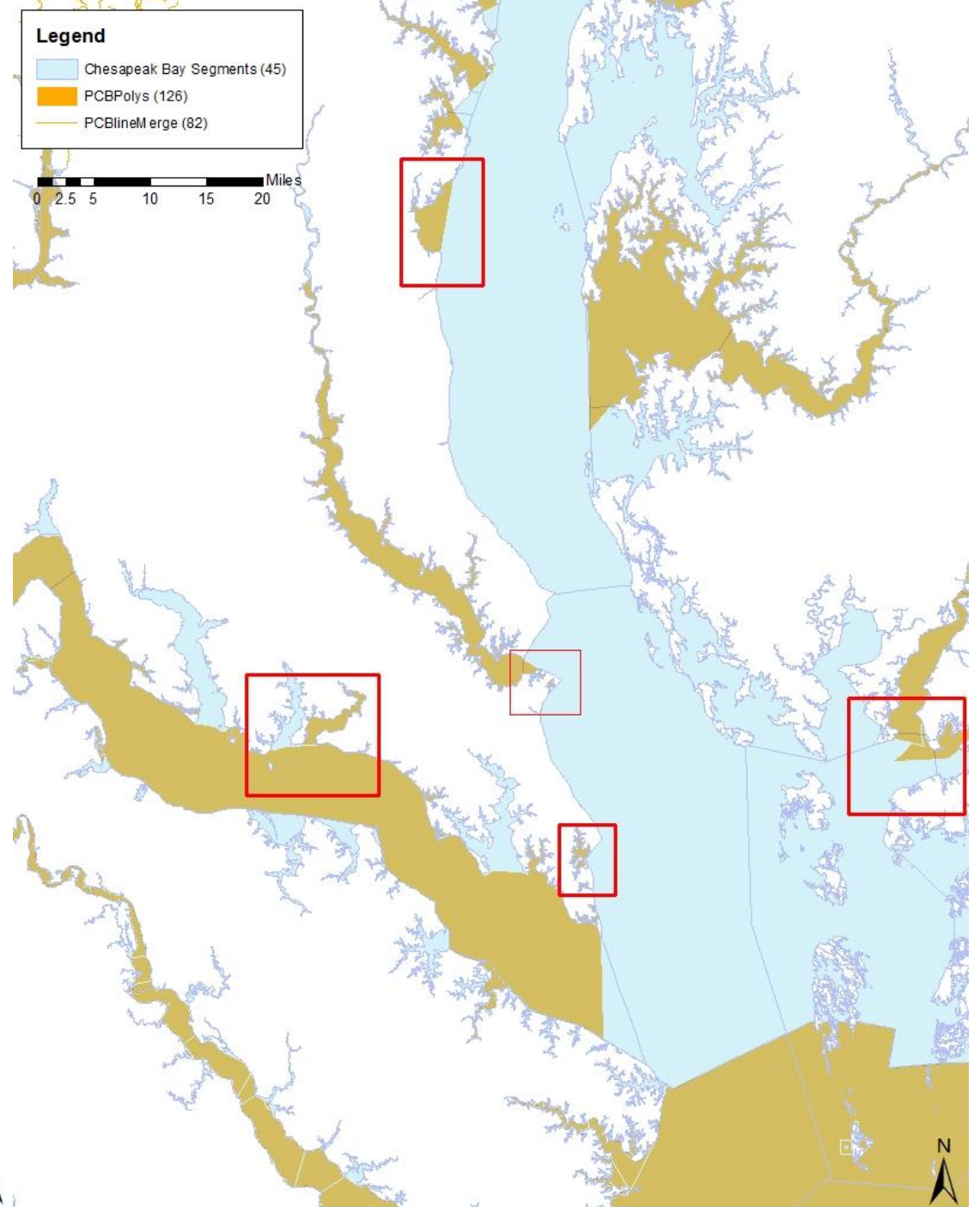
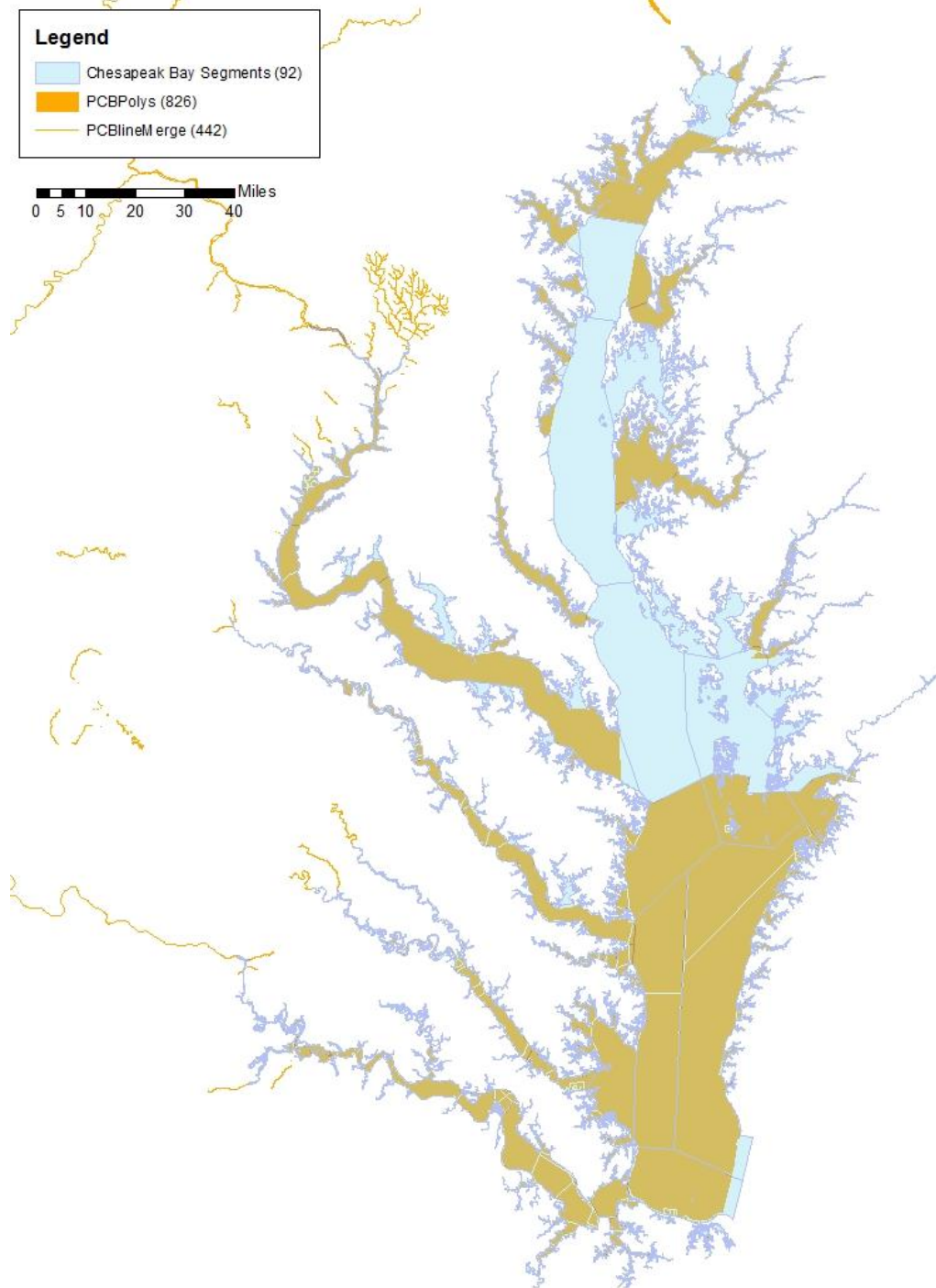
- 3 different shape puzzle pieces representing the same area
  - State Monitoring areas and River segments
    - Total Number of monitoring areas : Unknown (lakes, impoundment, reservoirs, Tidal Water areas)
    - Impaired Number of state monitoring areas : 833
    - River Segments – extend throughout the bay (only denote flow line and not width of river)
  - Chesapeake Bay Segments
    - Total number of segments : 92
  - Huc 12 watersheds
    - Total Number of Huc12s in watershed : 1,977
    - Total Number that overlap the 92 Chesapeake Bay Segments : 335
    - 2 HUC 12s cover in the entire mainstem channel of the Bay
- How to fit these 3 shapes together into a coherent product that does not over or under represent the extent of impairments

**Legend**

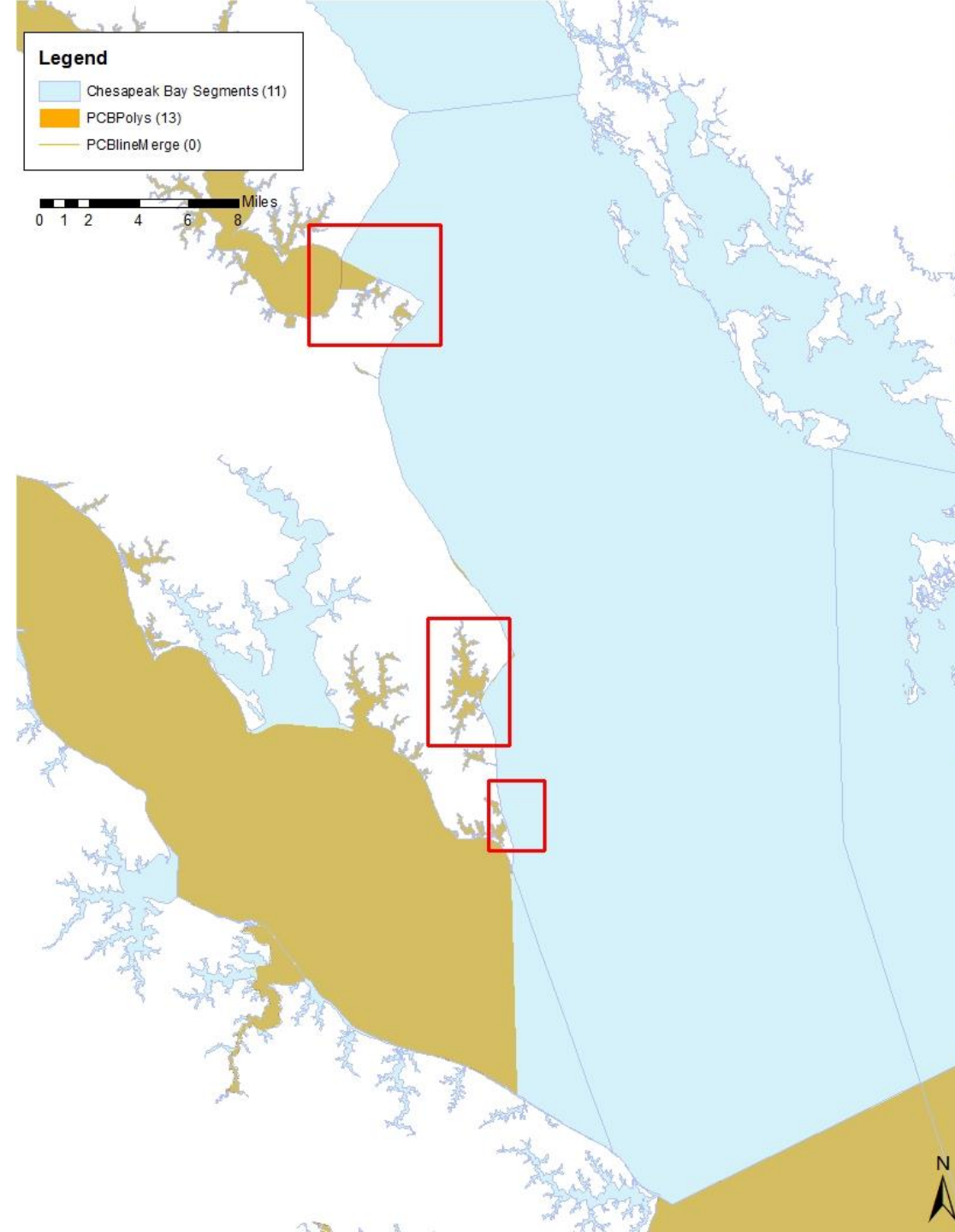
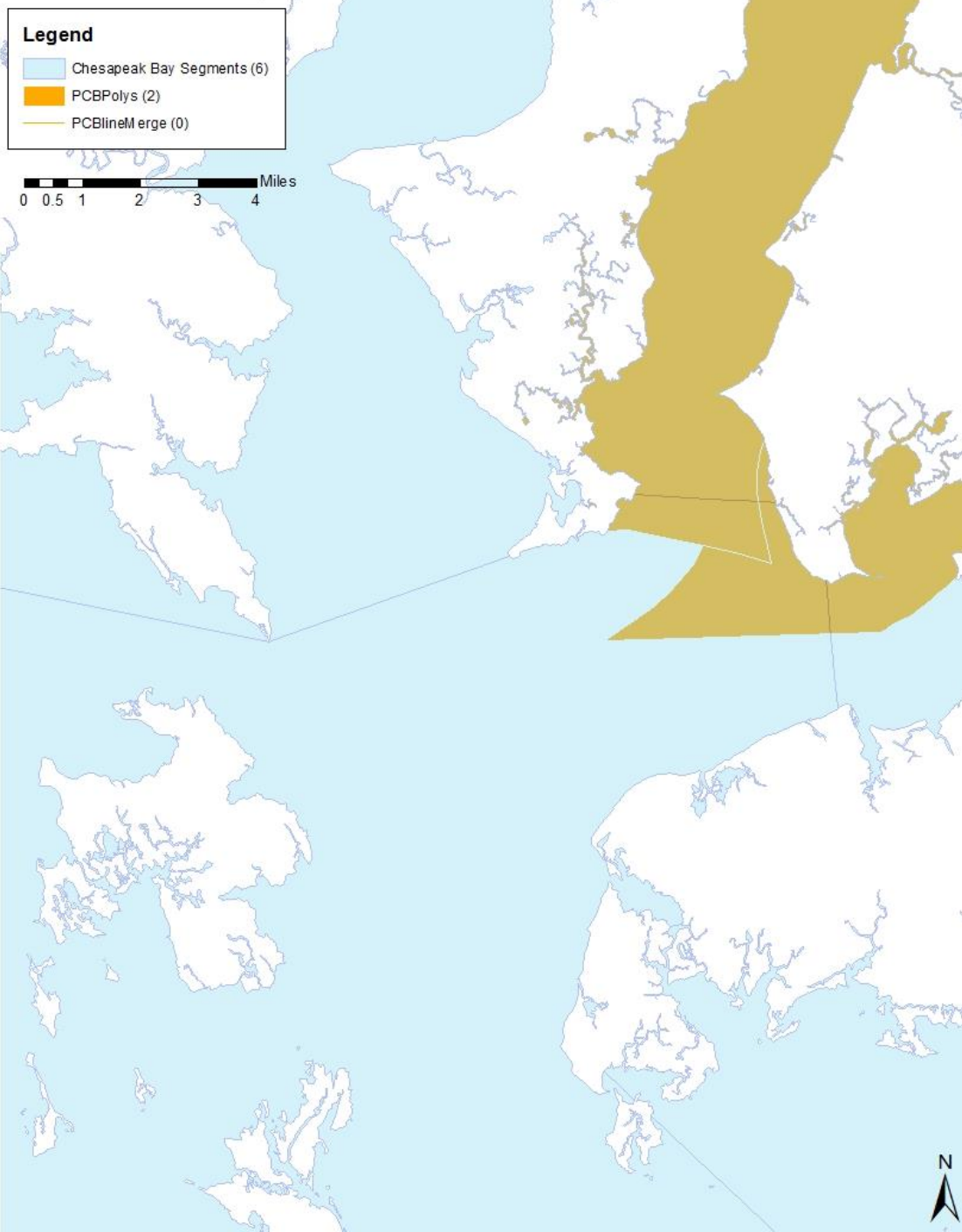
- PCBPolys (833)
- PCBlineMerge (1,429)
- WBD HUC12 within Chesapeake Bay Watershed (1,977)

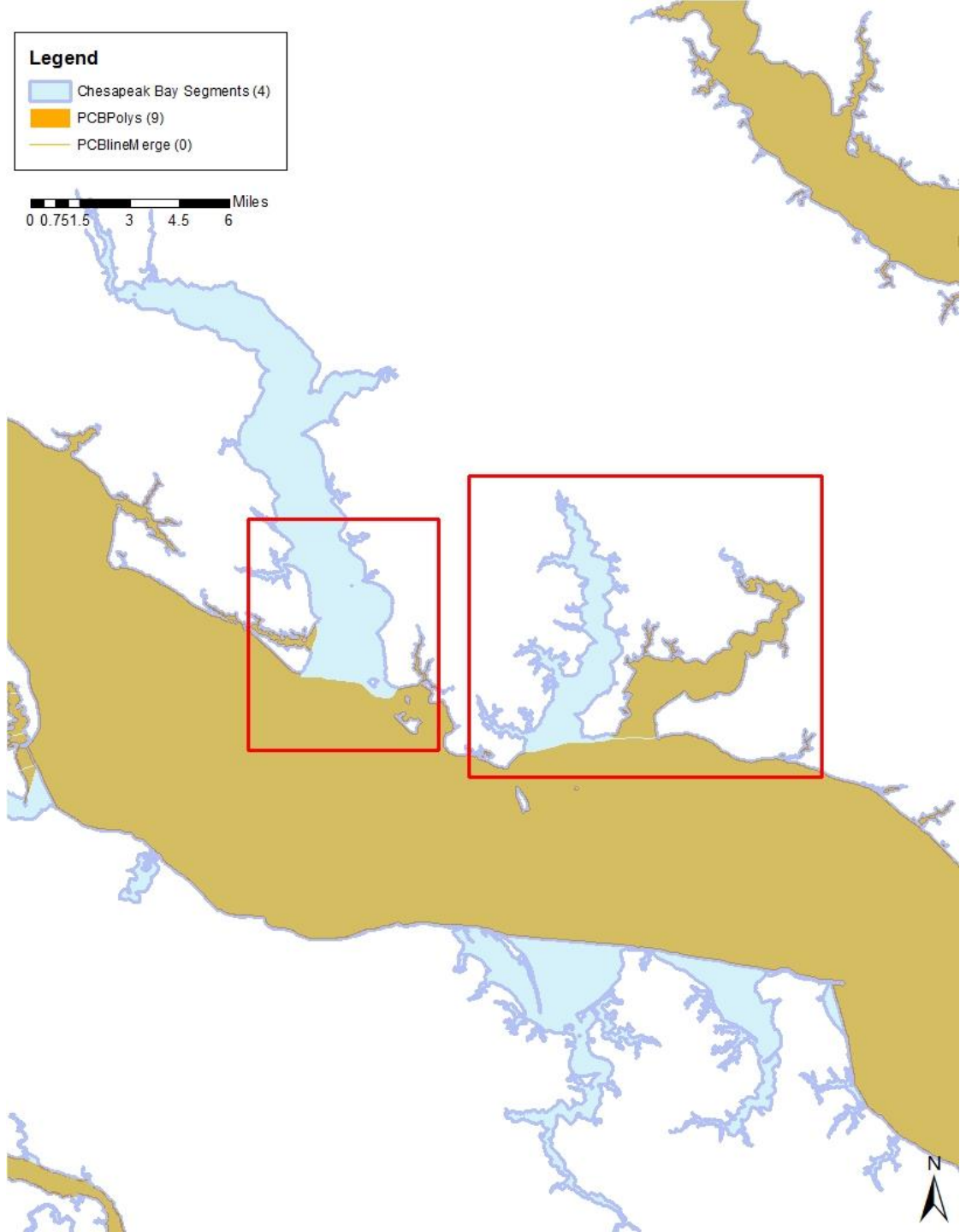
0 15 30 60 90 120 Miles



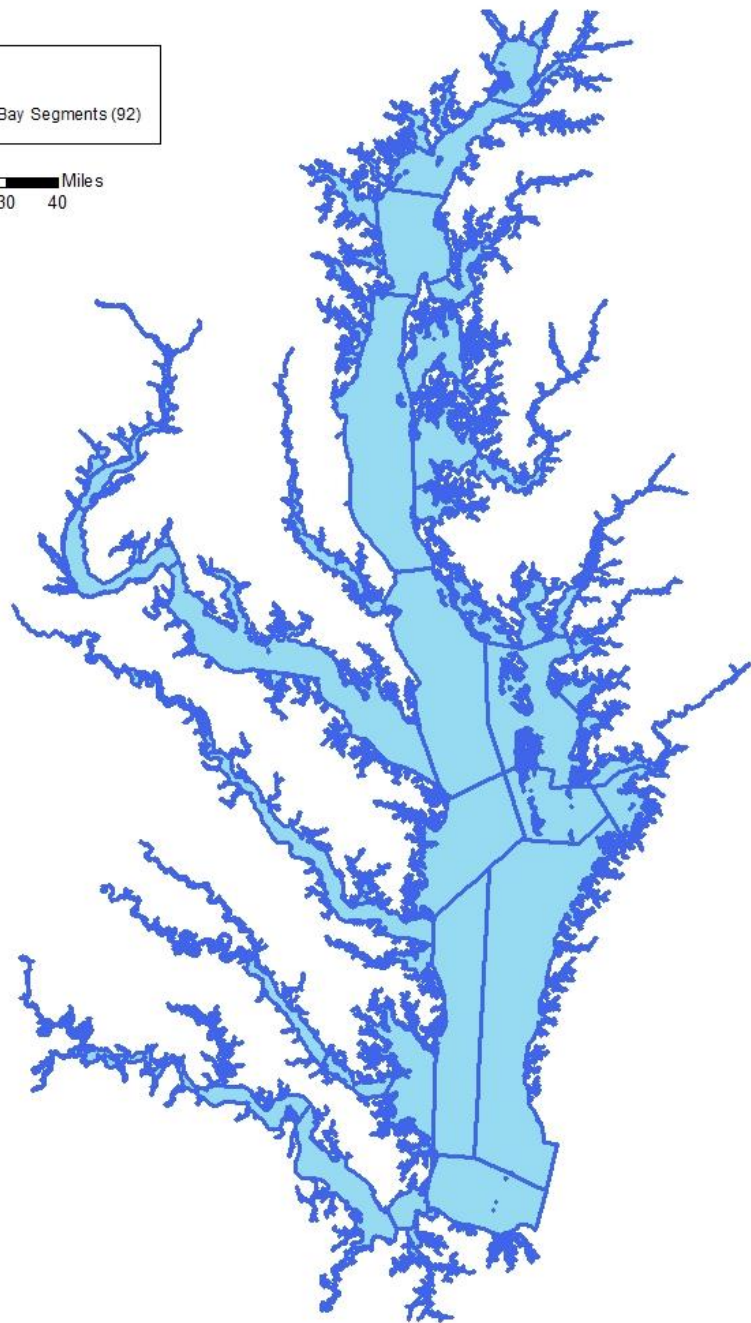
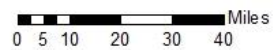






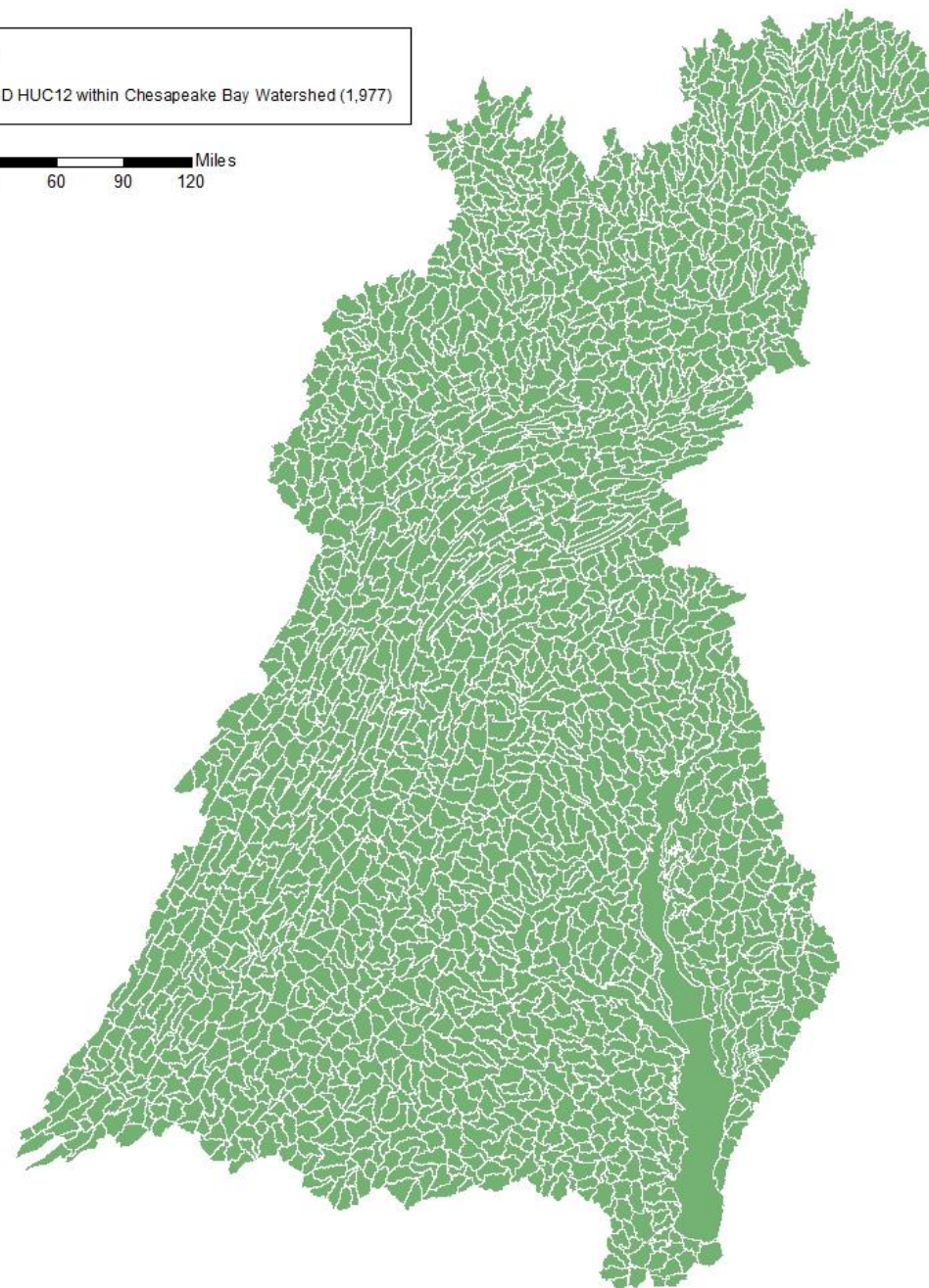
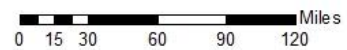




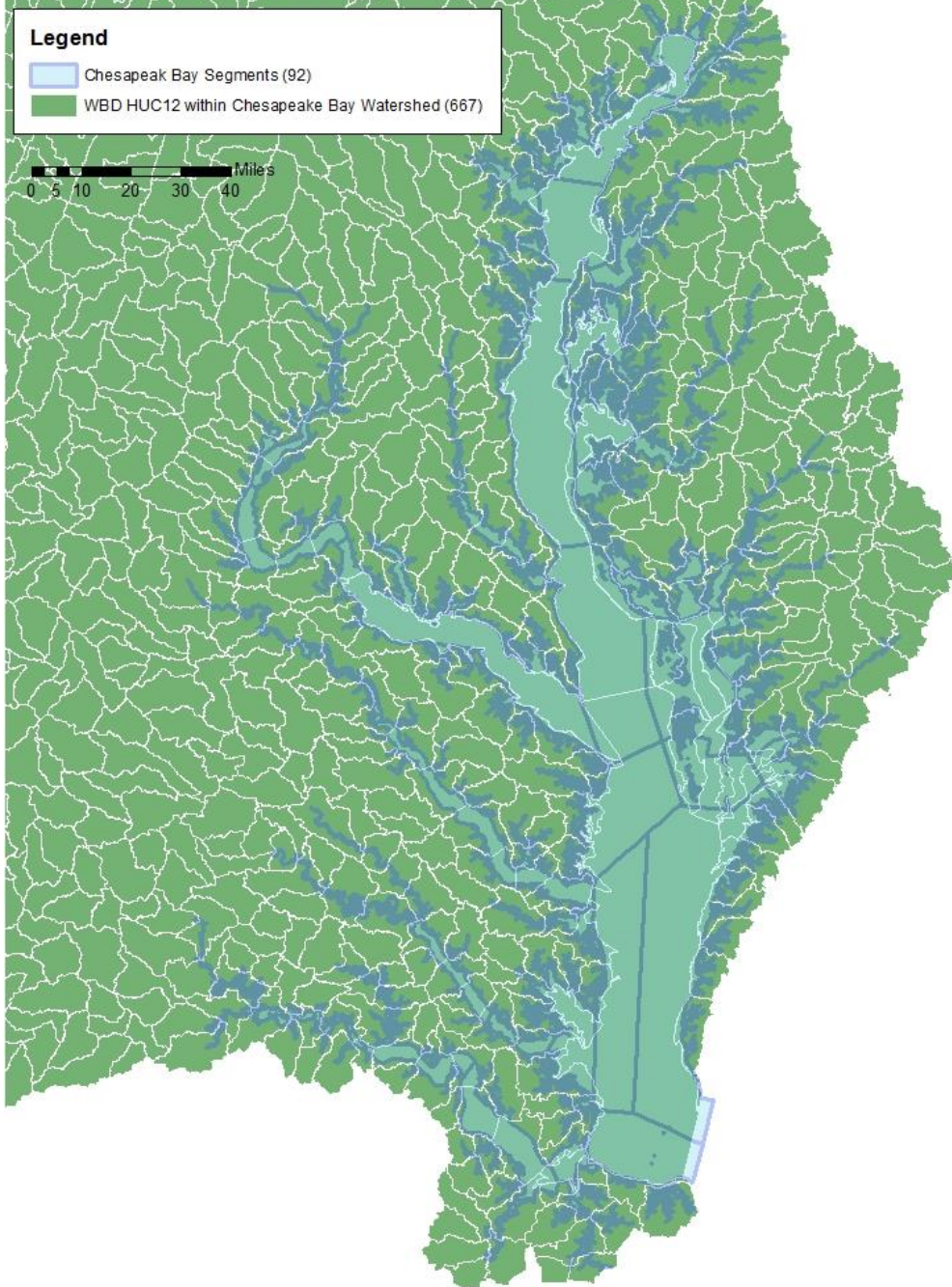


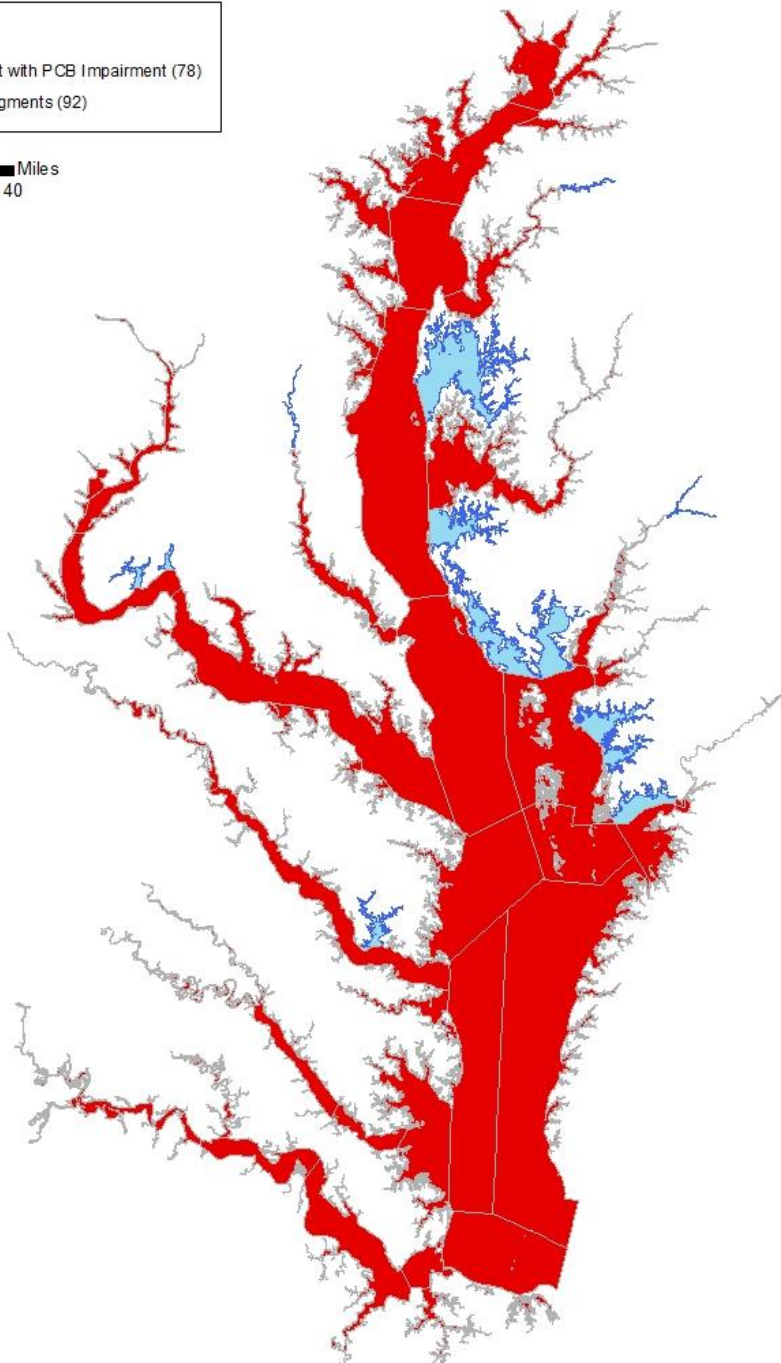
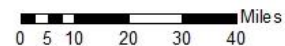
**Legend**

WBD HUC12 within Chesapeake Bay Watershed (1,977)

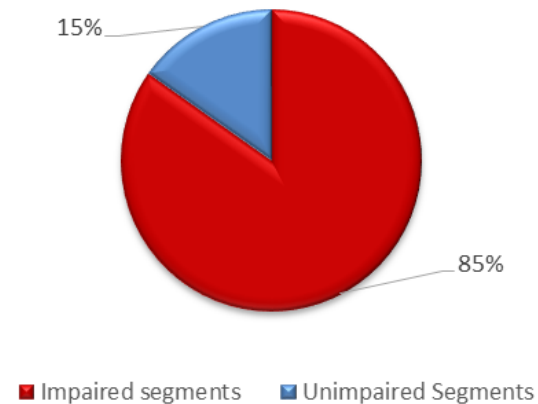




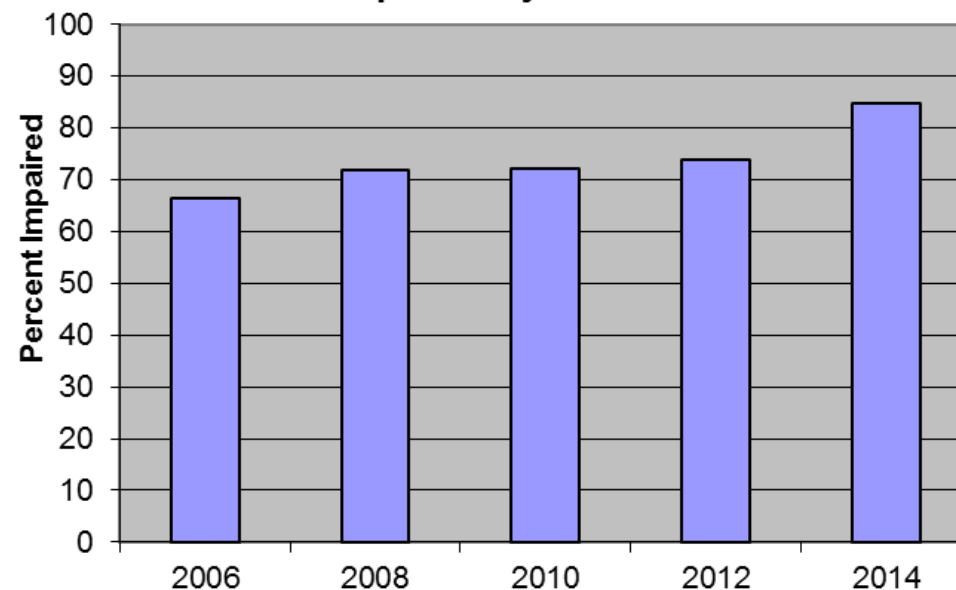




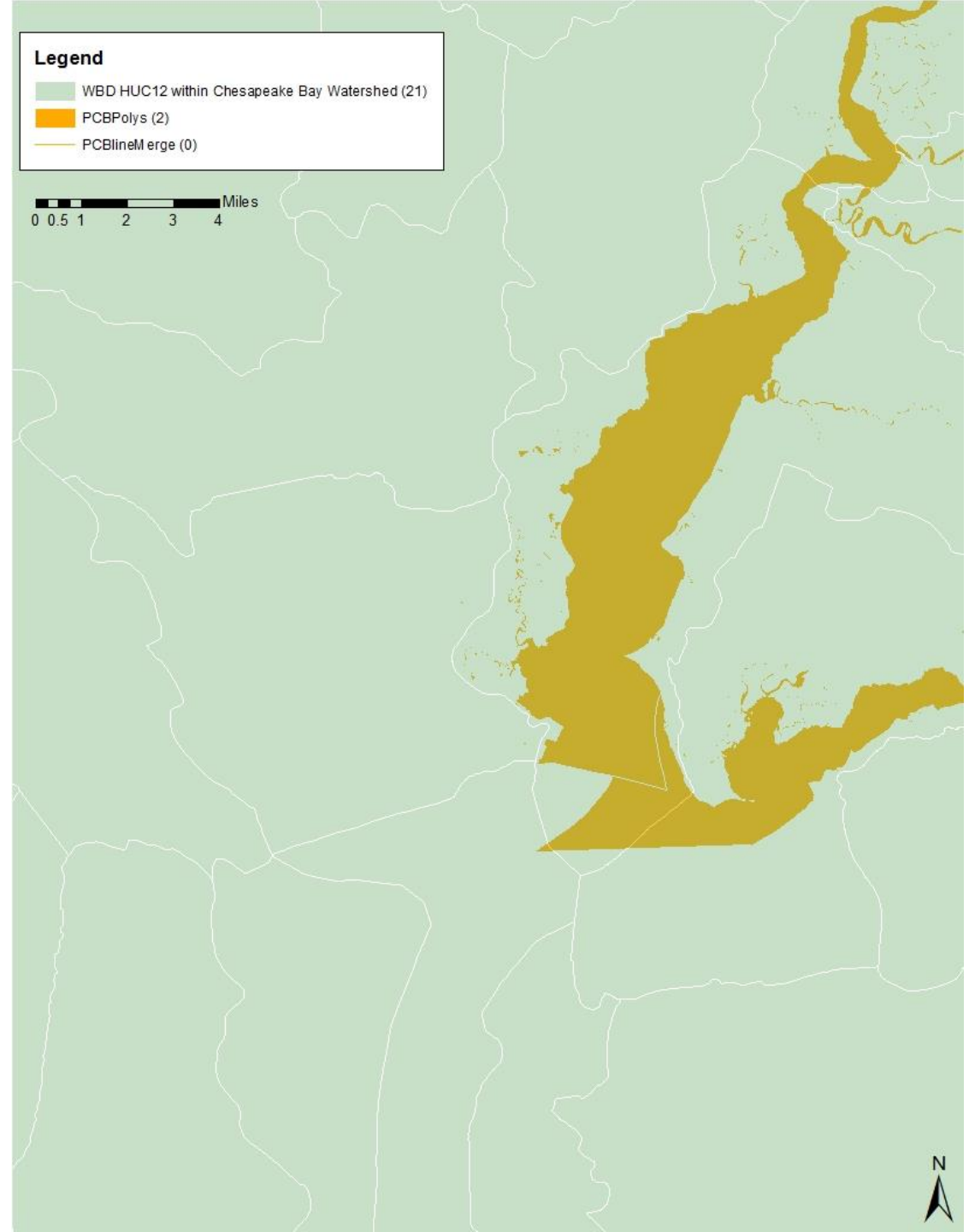
2014 Percentage of Chesapeake Bay Segments Impaired by PCBs



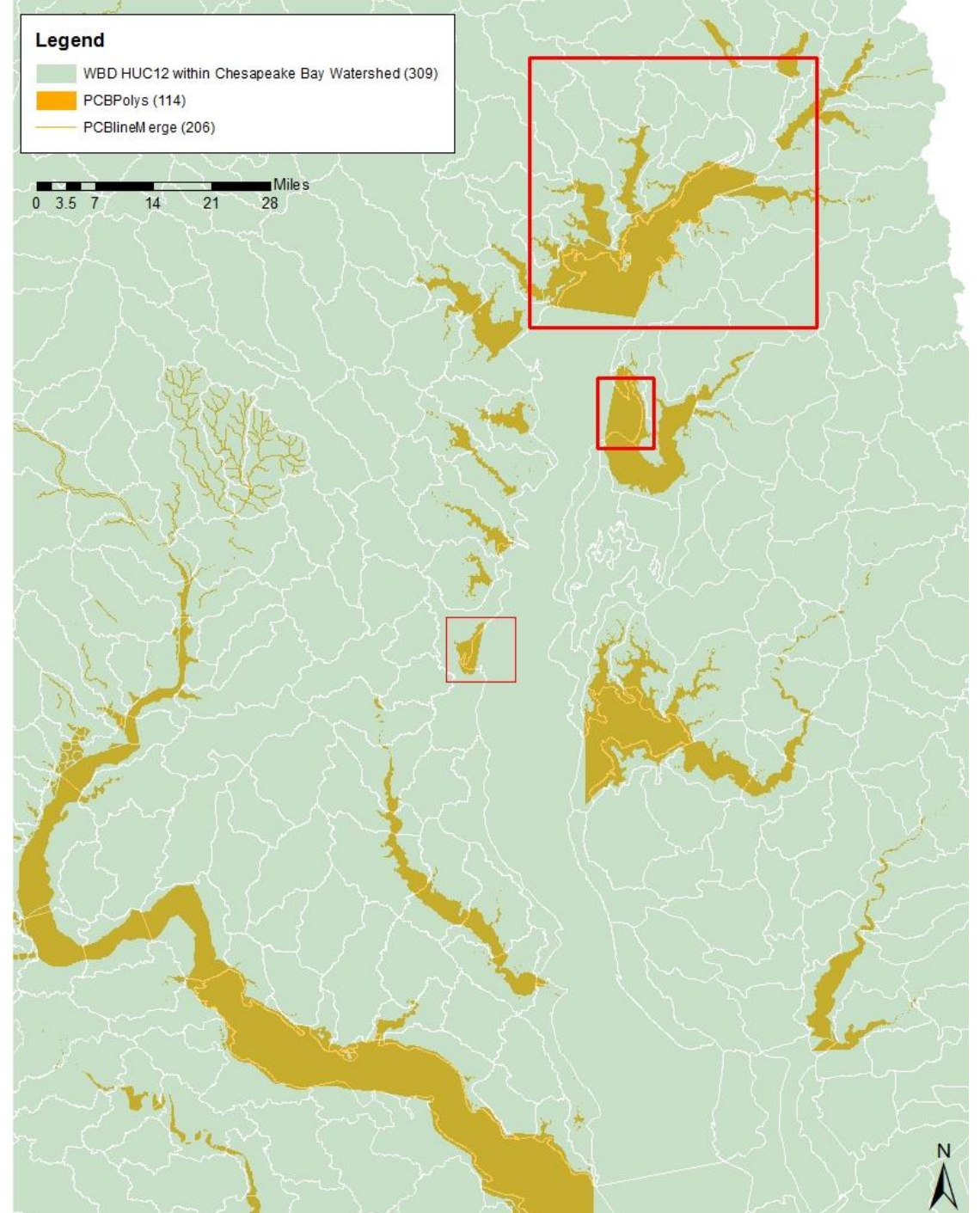
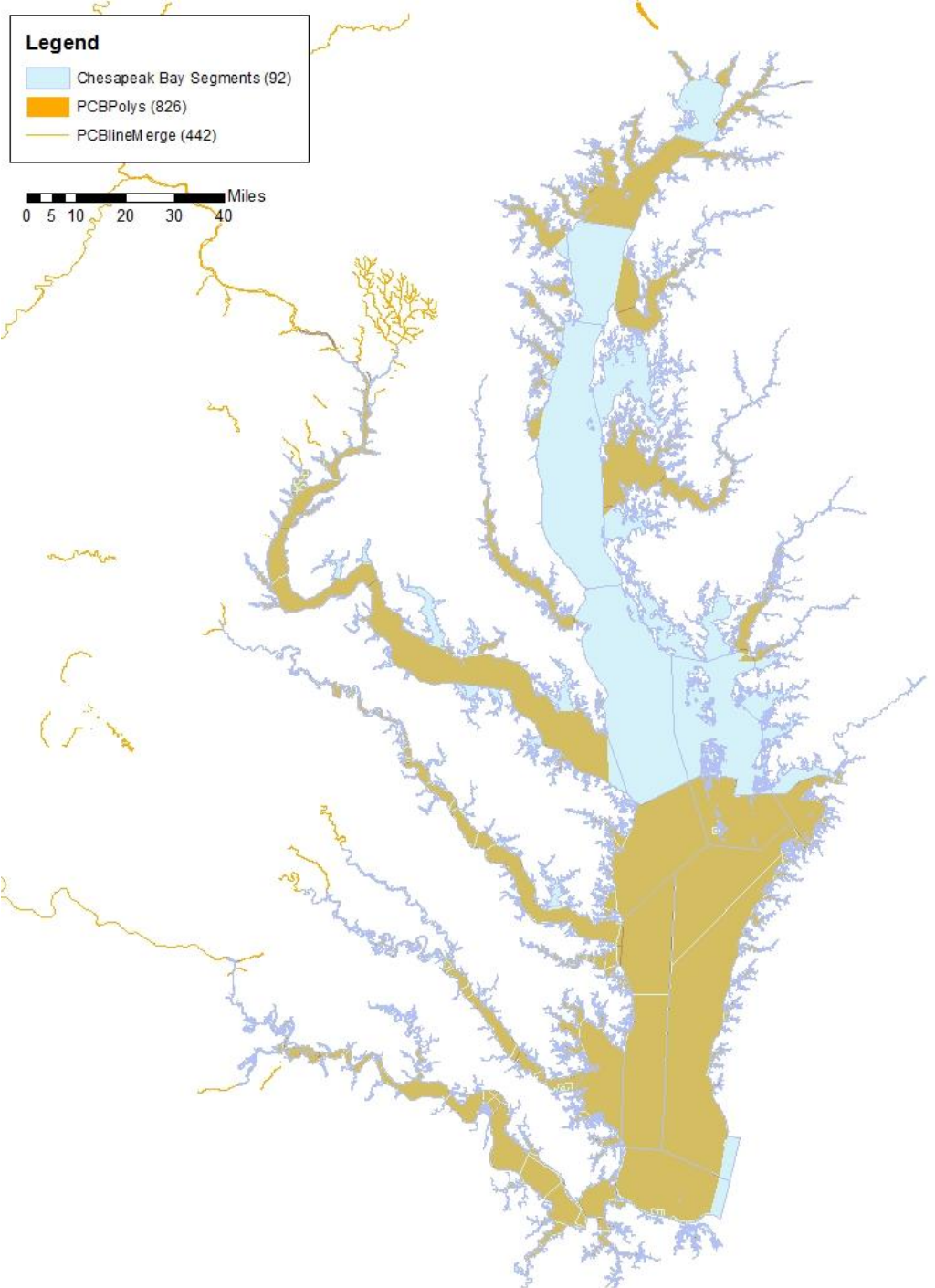
Percent of Chesapeake Bay Segments Impaired by PCBs



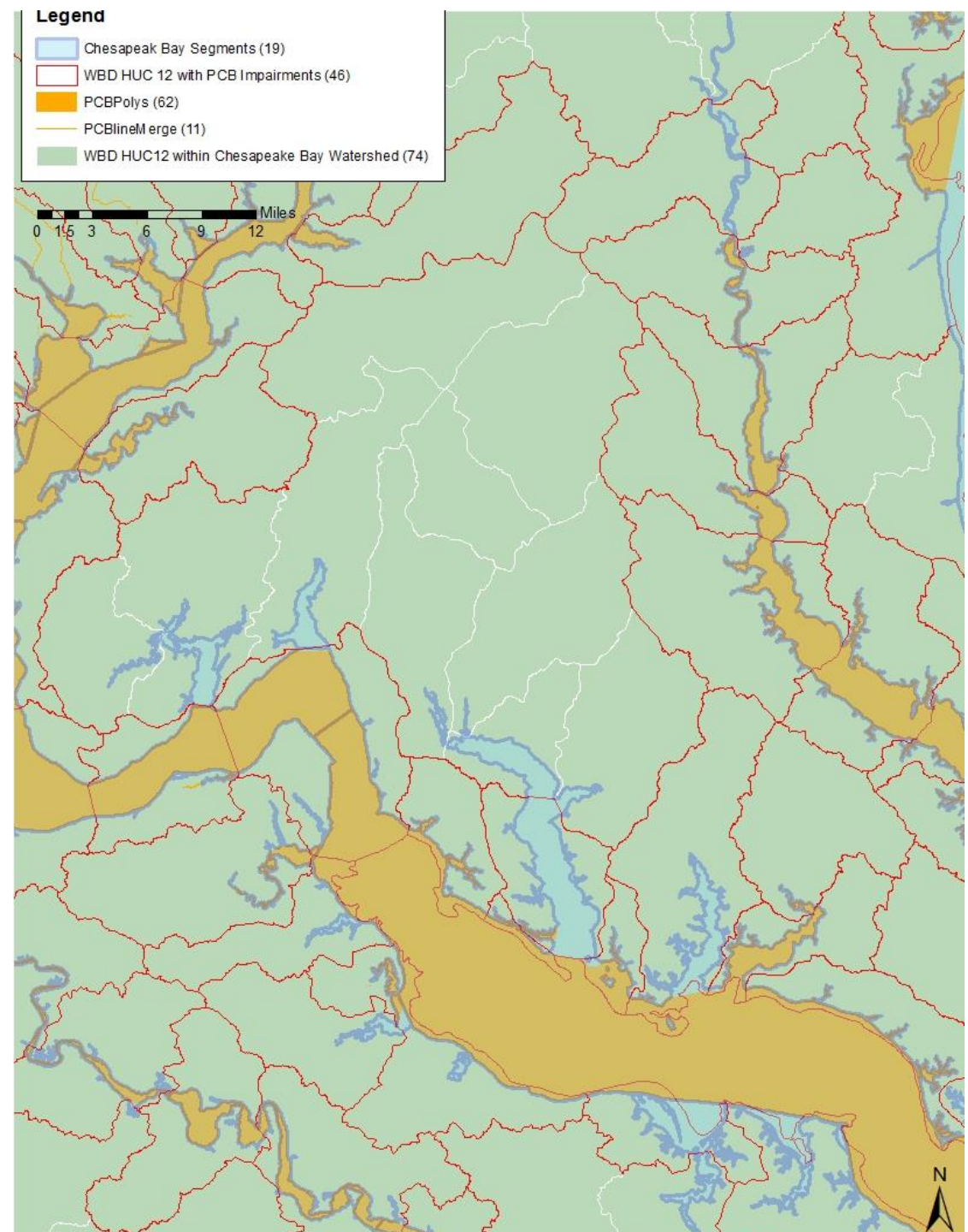
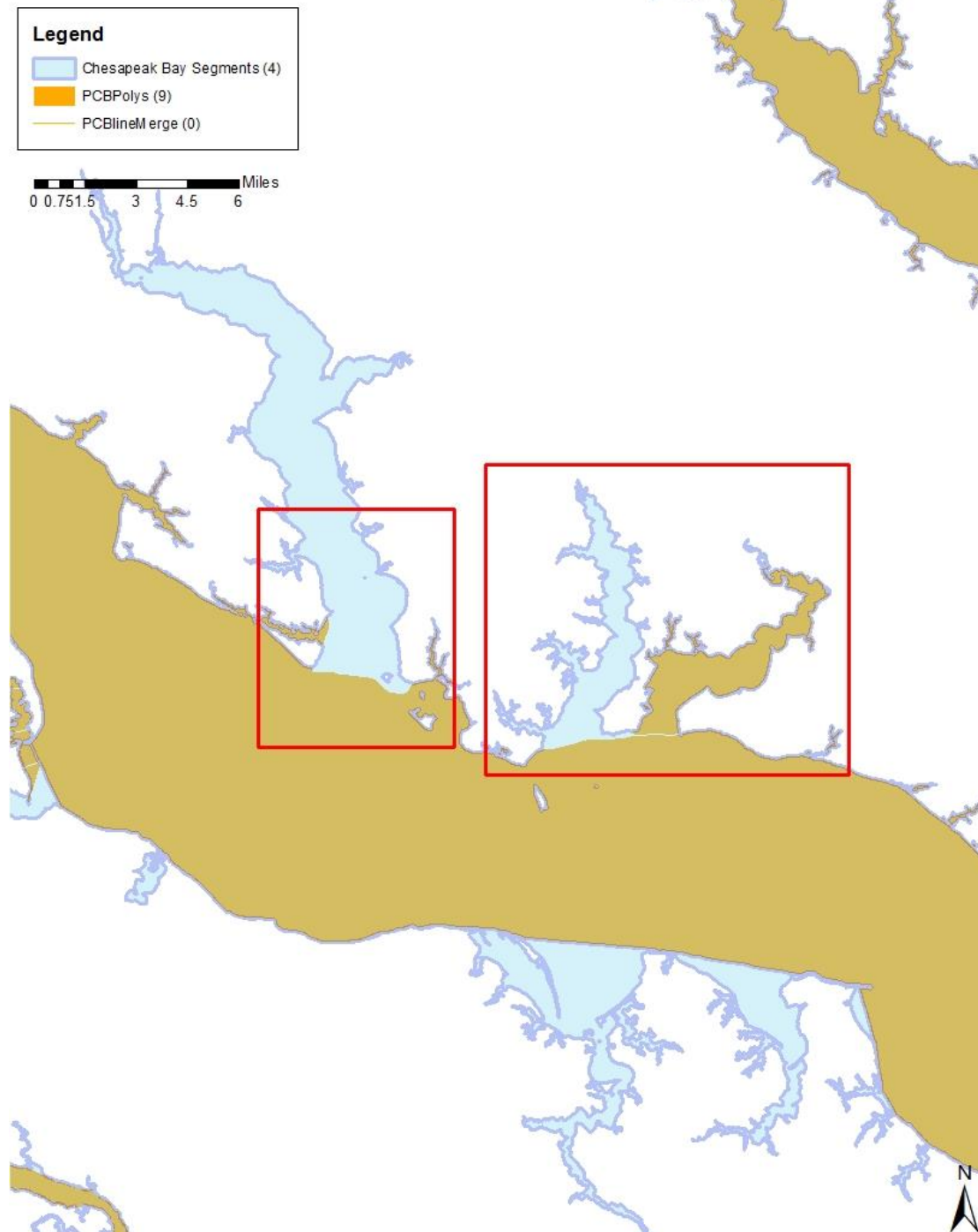
- 78/92 Chesapeake Bay Segments overlay Impairment Features
  - 18.4% increase in 8 years.



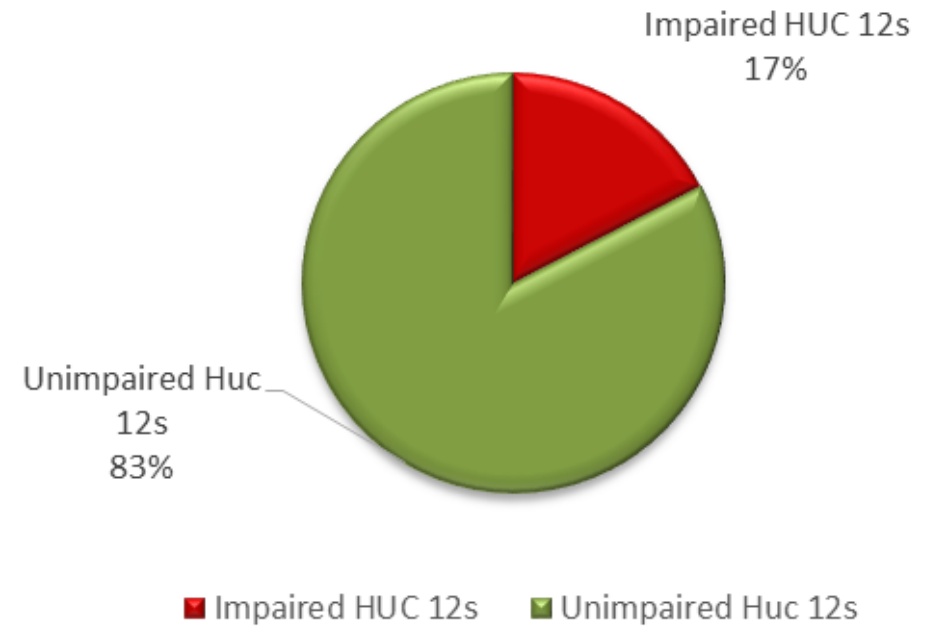








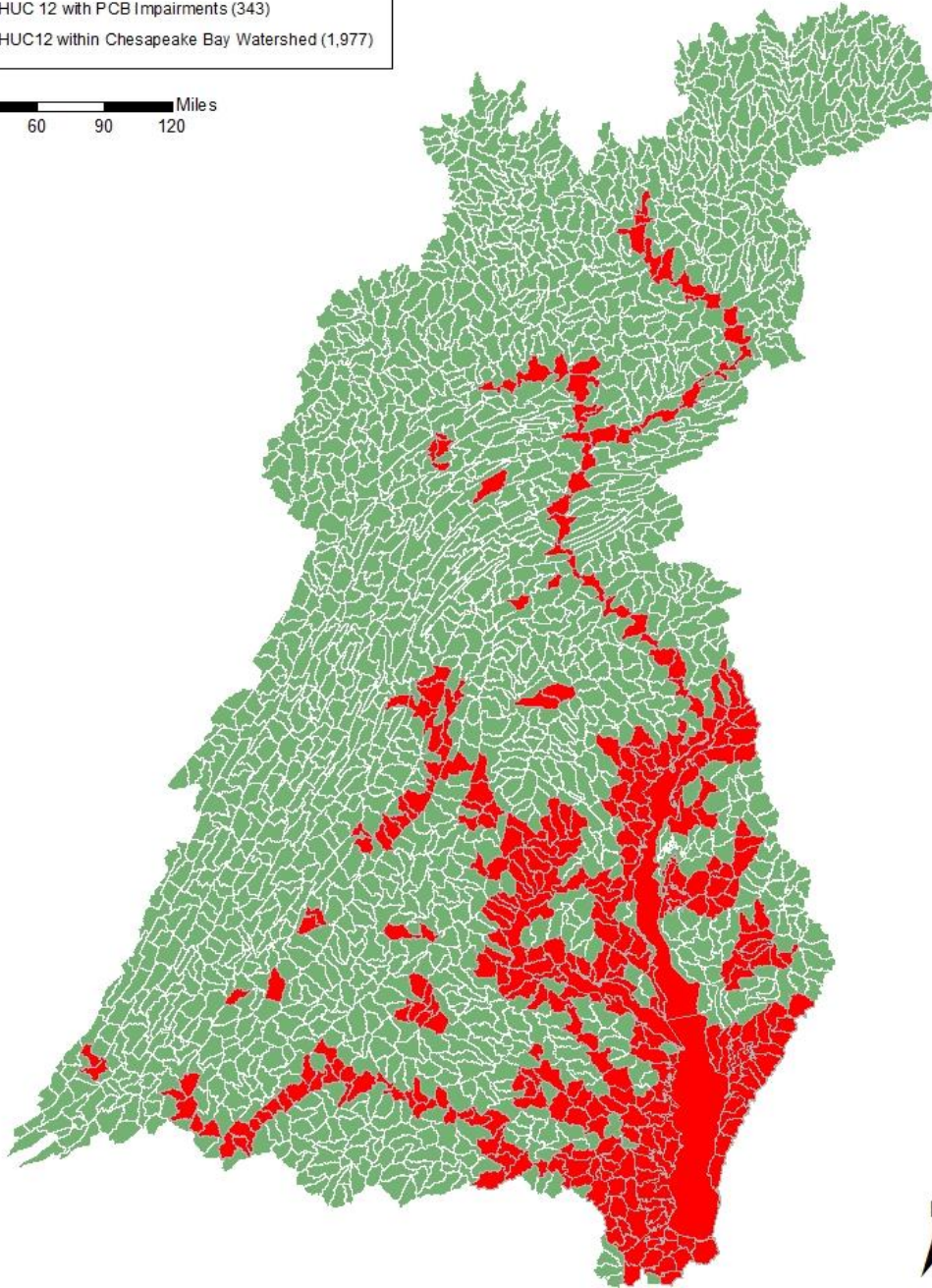
## 2014 Percentatge of HUC 12s Impaired by PCBs



**Legend**

- WBD HUC 12 with PCB Impairments (343)
- WBD HUC12 within Chesapeake Bay Watershed (1,977)

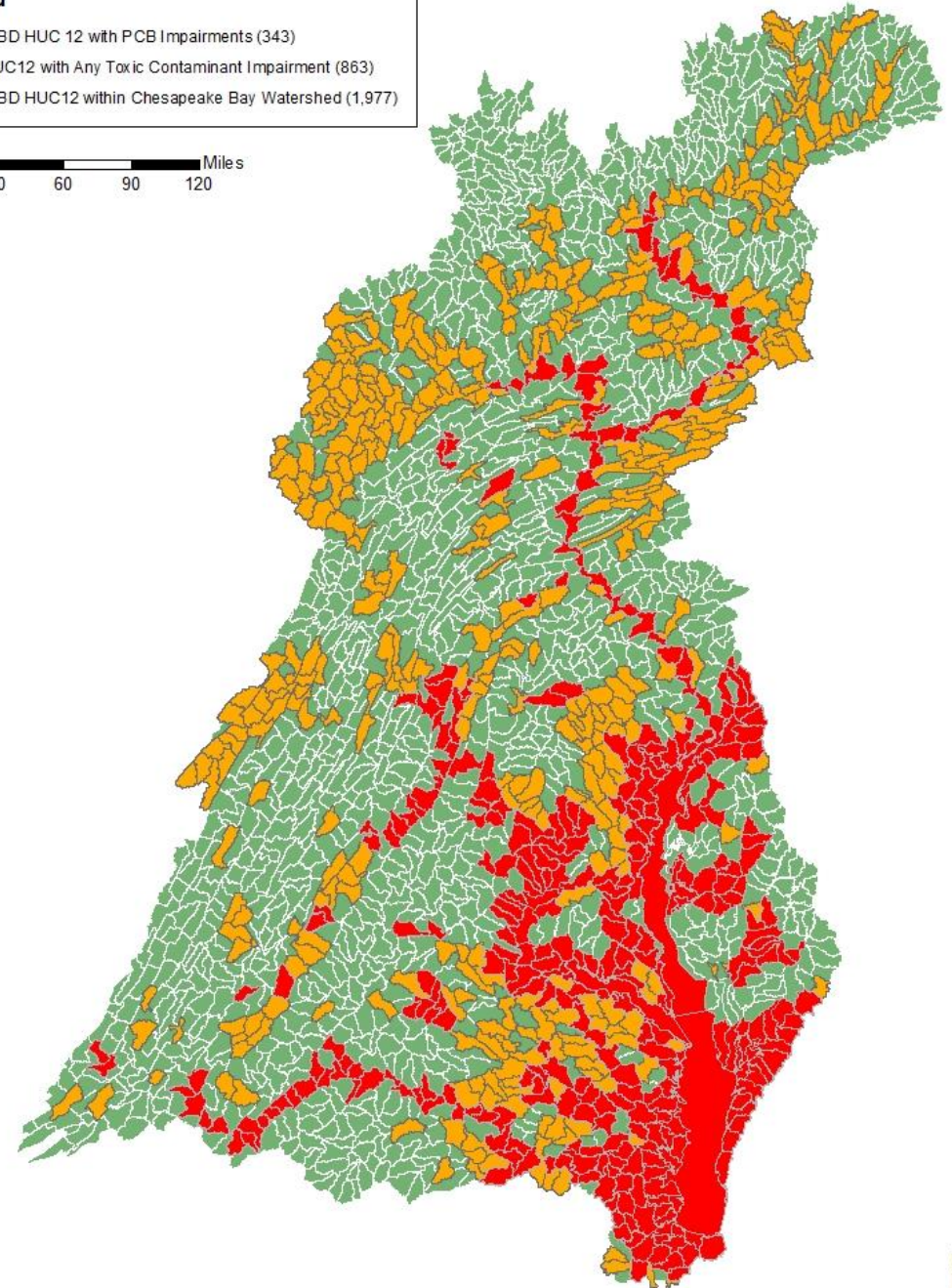
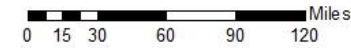
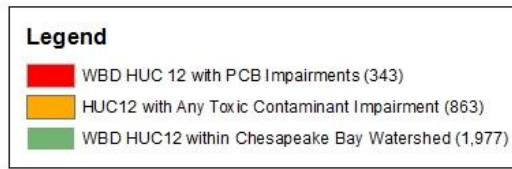
0 15 30 60 90 120 Miles





- Toxic Contaminant Impairments

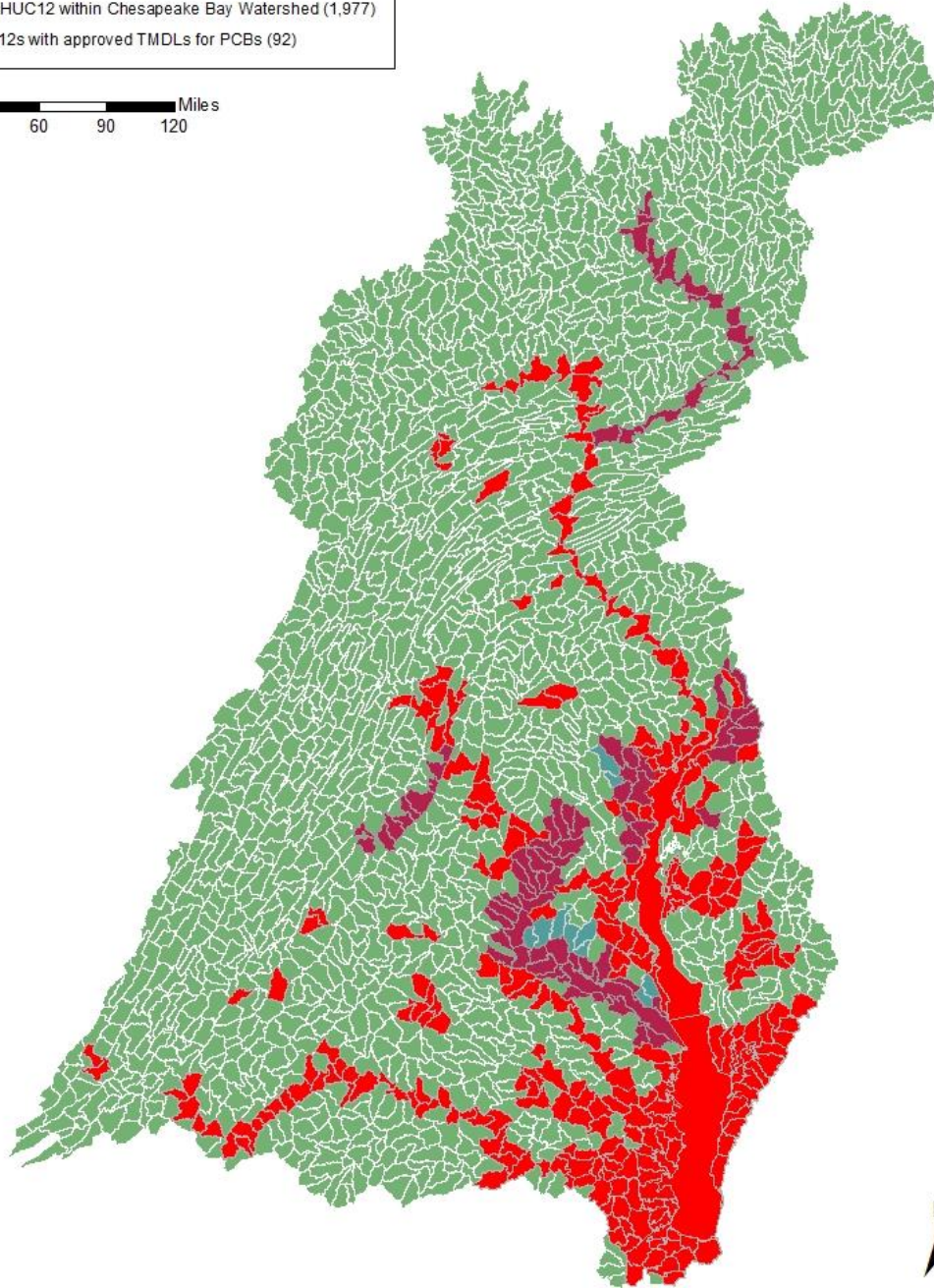
- Ammonia
- Cyanide
- Oil and Grease
- Metals Other than mercury
- Mercury
- Polychlorinated Biphenyls
- Pesticides
- pH/Acidity/Caustic Conditions
- Salinity/Total Dissolved Solids/Chlorides/Sulfates
- Toxic Organics
- Total Toxics



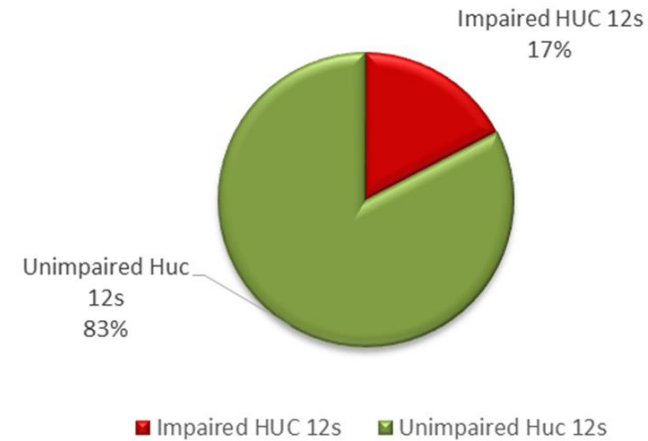
### Legend

- WBD HUC 12 with PCB Impairments (343)
- WBD HUC12 within Chesapeake Bay Watershed (1,977)
- HUC 12s with approved TMDLs for PCBs (92)

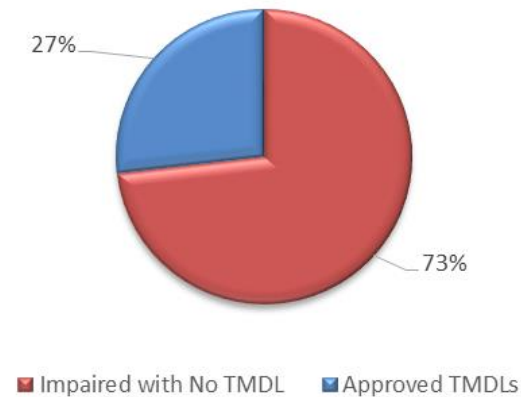
0 15 30 60 90 120 Miles



### 2014 Percentatge of HUC 12s Impaired by PCBs

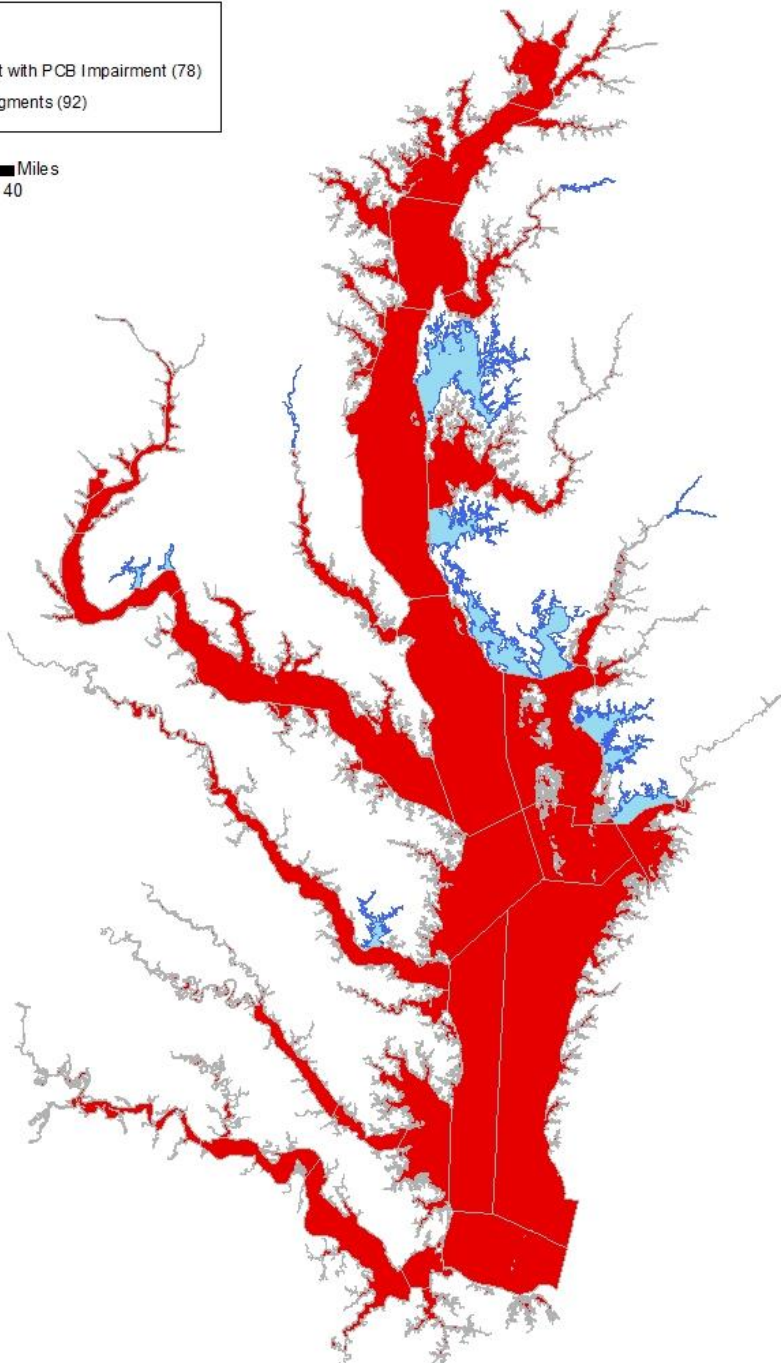
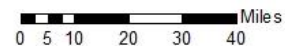


### HUC 12s with Approved TMDLs vs no TMDLs

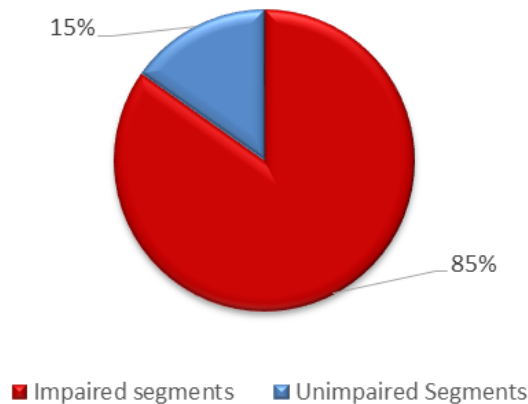


Can be used to identify areas to prioritize for TMDL implementation, and begin to track and publicize TMDL implementation over time.

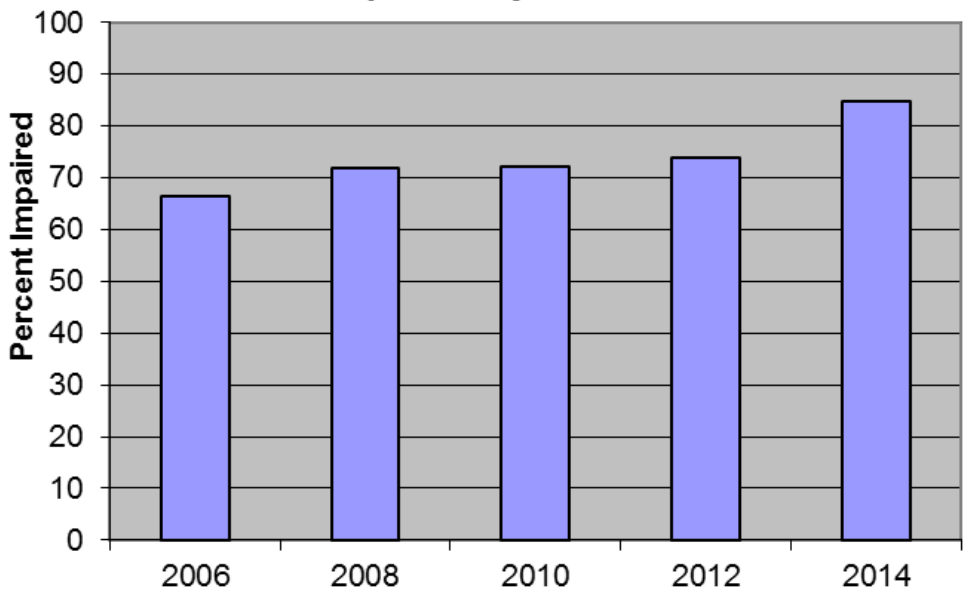




2014 Percentage of Chesapeake Bay Segments Impaired by PCBs



Percent of Chesapeake Bay Segments Impaired by PCBs



- 78/92 Chesapeake Bay Segments overlay Impairment Features
  - 18.4% increase in 8 years.