Toxic Contaminant Outcomes and Metrics

July 8, 2015

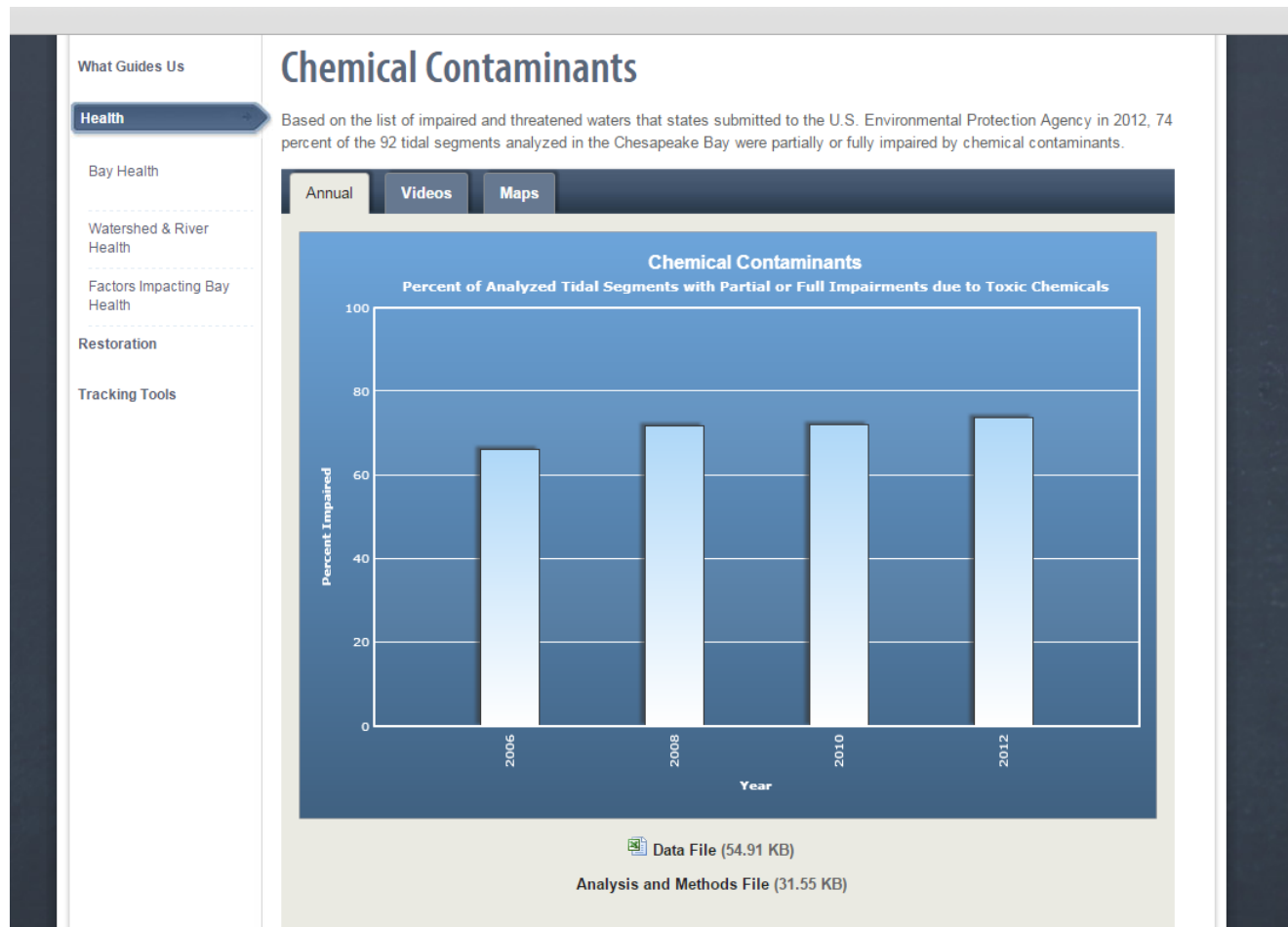# Indicators for Policy and Prevention

Indicators to Assess Progress Toward Outcome
- Toxic impairments (current indicator)
- Fish Tissue Concentrations for PCBs and Mercury
- Fish Advisories

Informative for Developing Strategies
- Current impairments, current TMDLs, TMDLs in the works
  - Help to identify areas of impairment that need a TMDL
- Sources and Loadings

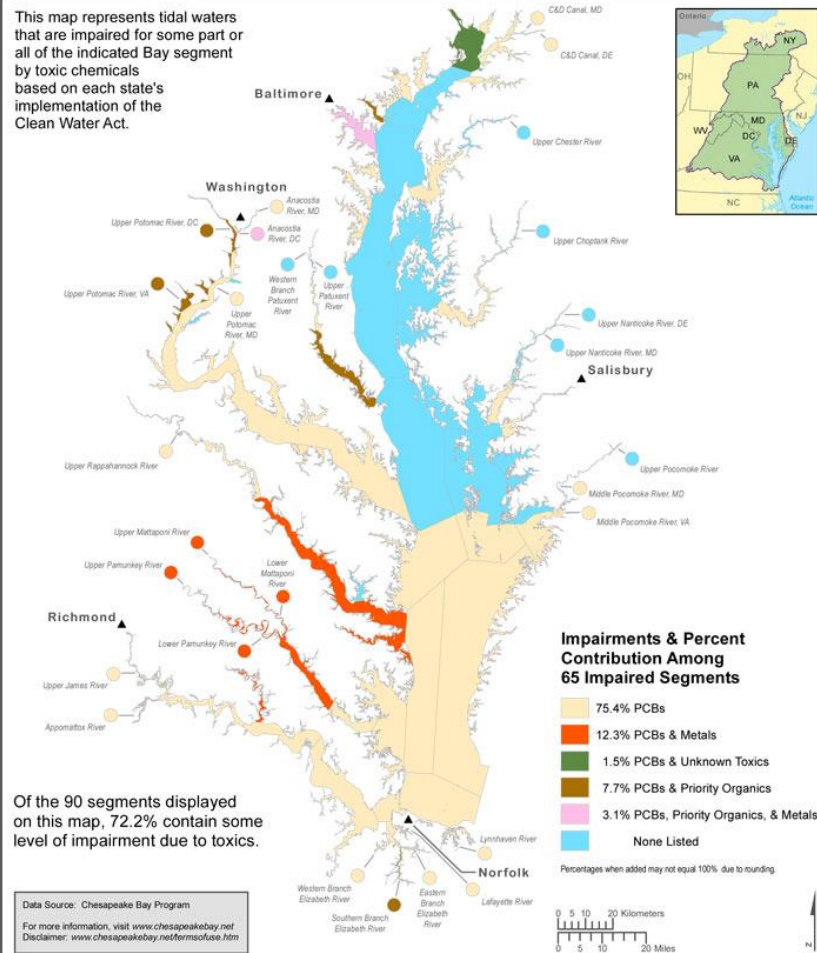# Current Indicator – Chemical Contaminants

Can we expand to the entire watershed?

Chemical Contaminants (2010)
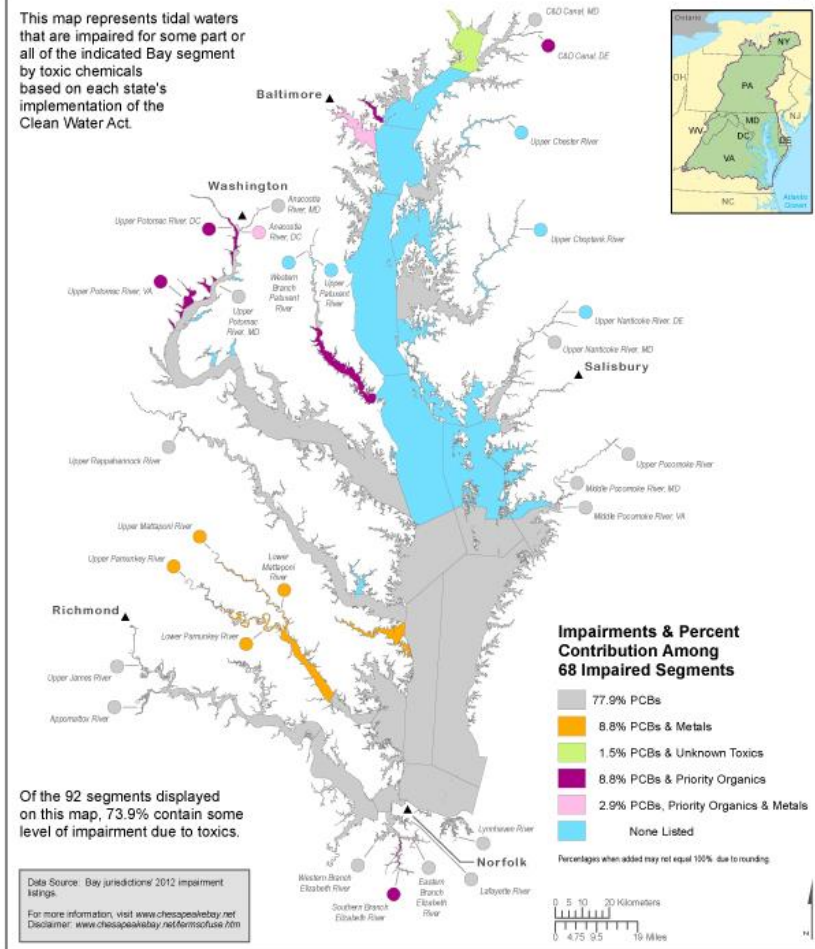Impairments Illustrated Using the Chesapeake Bay Segmentation Scheme

Chemical Contaminants (2012)
Impairments Illustrated Using the Chesapeake Bay Segmentation Scheme

Status of Metrics

Mapping Fish Advisories
- GIS team is waiting on the data
- Can we apply population demographics?

Current impairments, current TMDLs, TMDLs in the works

- GIS team has mapped current impairments and current places with TMDLs

- Mindy will be gathering information on TMDLs in the works

  - Who should be contacted?

Future Metrics

Fish Tissue Concentrations for PCBs and Mercury

- Fish species - white perch
- Trend analysis
- Mapping

Sources and Loadings of PCBs

- 1999 mass balance
  - Storm water
  - Wastewater
  - Atmospheric
  - In water sediment

Indication of Research Outcome Progress

Contaminant Groups	Occurrence	Concentrations	Sources	Effects
PCBs	Small	Mid	Mid	Small
Dioxins/Furans	Small	Mid	Small	Small
PAHs	Small	Small	Small	Small
Petroleum Hydrocarbons	Mid	Mid	Small	Small
Pesticides	Large	Large	Mid	Mid
Bio. Hormones	Large	Large	Mid	Large
Pharms.	Large	Large	Mid	Large
HPCP	Large	Large	Mid	Large
PBDEs	Large	Large	Mid	Mid
Metals	Mid	Mid	Mid	Small
Mixtures	Large	Large	Large	Large

Uncertainty
Small
Mid
Large

Priorities for an agenda to increase certainty?

Figure 1: Level of uncertainty for ten contaminant groups with regard to the occurrence, concentrations, sources and effects on fish and wildlife.

Discussion and Follow-up

Additional Metric:

Workplan Progress– How do we show that we are doing what we said we would?

What are your thoughts on these metrics?

TMDLs in Development – TMDL and GIS contacts for each jurisdiction