Extent and Severity of Toxic Contaminants in Chesapeake Bay and the Watershed

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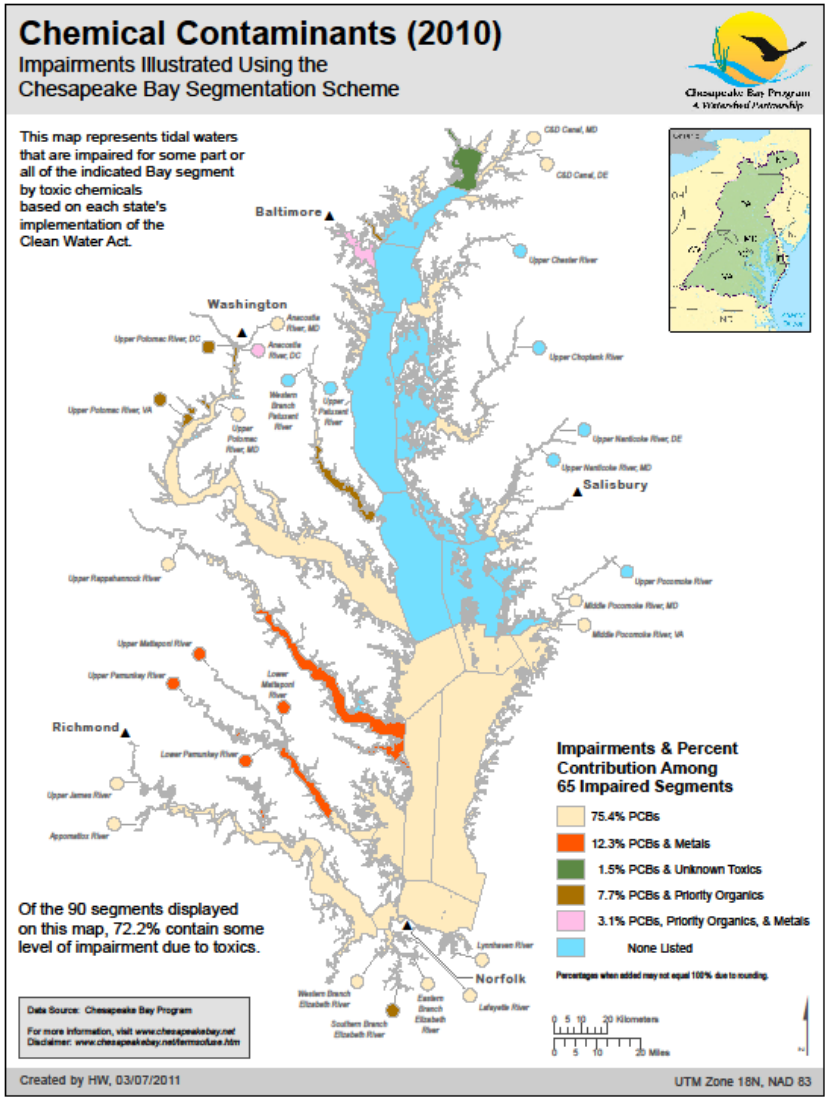
Need for Report

- Contaminants effect fish and wildlife
- CBP Toxics 2000 Strategy
- New concerns
- EO Strategy
- Used by EPA and CBP to consider:
  - Goal for reducing toxic contaminants
  - future research and monitoring activities



Report Contributors

- Bay Program Action Team
  - EPA
  - USGS
  - USFWS
  - NOAA
  - Hampton Roads Sanitation District
  - Chesapeake Research Consortium
  - UMd
- Jurisdiction contacts for the “Integrated Assessment Reports”

Scope of Report

- Polychlorinated Biphenyls
- Dioxins and Furans
- Polyaromatic Hydrocarbons
- Petroleum Hydrocarbons
- Pesticides
- Pharmaceuticals
- Household and Personal Care Products
- Polybrominated diphenyl ether Flame Retardants
- Metals and Metalloids
- Biogenic Hormones

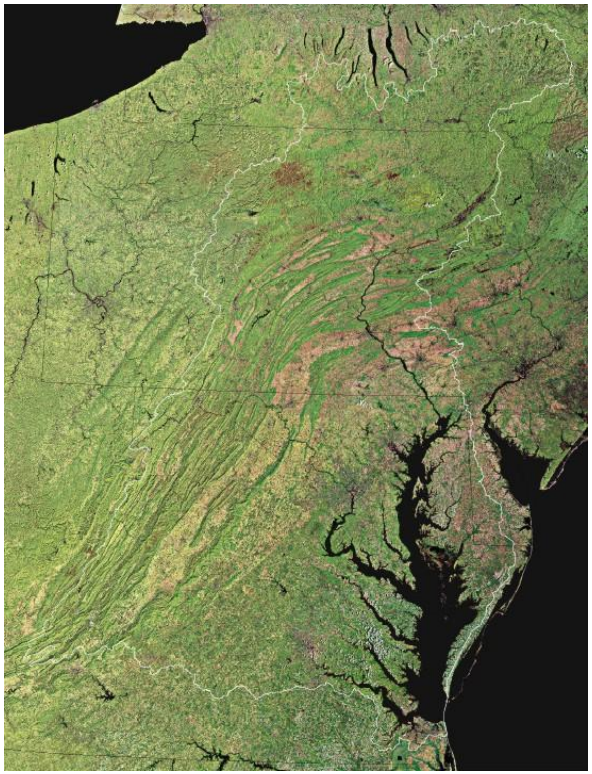
- Integrated effects on fish and wildlife

Sources of Information

- Focused on Chesapeake results
  - supplemental national information
- Bay jurisdictional 2010 integrated assessment reports; 303d impairment listings
- Fish consumption advisories
- Federal reports (e.g., NOAA, USGS)
- Published journal articles

Approach

- Define extent and severity
  - Widespread, localized, or uncertain
- Extent
  - Jurisdictional assessment reports
  - Published summaries
- Severity
  - Impairments
  - Fish consumption advisories
- Monitoring/Research



Extent

Widespread: PCBs, PAHs, some herbicides, mercury

Localized: dioxins/furans, petroleum, some pesticides and some metals

Uncertain: pharmaceuticals, care products, PBDEs, some pesticides, biogenic hormones

Severity

Widespread: PCBs and mercury

Localized: dioxins/furans, PAHs, petroleum, some pesticides and metals

Uncertain: herbicides, pharmaceuticals, care products, PBDEs, biogenic hormones

Biological Effects

- Fish consumption advisories
  - PCBs in fish tissue
- Degraded fish health
  - Reproductive system
  - Tumors
  - Immune systems
- Wildlife
  - Reproductive effects

Monitoring and Research Gaps

- Monitoring to better define extent
- Research-Severity
  - Exposure studies
  - Effects of newer contaminants
  - Multiple stressors
  - Pathways and exposure
- Goals and monitoring

Goal Considerations

- EPA and CBP will consider
- Sources
- Regulatory and voluntary controls
- Technology limitations and opportunities
- Resources
- Competing priorities

Next Steps

- Addressing reviewer comments
  - Independent, peer reviews
  - CBP partner reviews
- Report released
- EPA and CBP consider whether new goals for toxic contaminants are needed
- Science enhanced to address monitoring and research gaps