TOXIC CONTAMINANTS GOAL

Toxic Contaminants Research Outcome

2025 PROGRESS
ON COURSE

OUTCOME: Continually increase our understanding of the impacts and mitigation options for toxic contaminants. Develop a research agenda and further characterize the occurrence, concentrations, sources and effects of mercury, polychlorinated biphenyls (PCBs) and other contaminants of emerging and widespread concern. In addition, identify which best management practices (BMPs) might provide multiple benefits of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.

PROGRESS AS OF 2021: The Toxic Contaminants Research Outcome is on course. Progress has been made to further characterize the occurrence, concentrations, sources and effects of mercury and PCBs, along with a new emphasis on per—and polyfluoroalkyl substances (PFAS). However, our ability to characterize more regional occurrences and concentrations of other contaminants, such as pesticides, has been limited. A recent Chesapeake Bay Program Scientific and Technical Advisory Committee workshop, Integrating Science and Developing Approaches to Inform Management for Contaminants of Concern in Agricultural and Urban Settings, provided insights for a limited number of BMPs that have co-benefits between nutrient, sediment and contaminant reductions. As this scientific area is somewhat limited, the Phase III Watershed Implementation Plans do not have an emphasis on addressing the co-benefits for contaminant reductions at this time.

BACKGROUND: In 2013, a Chesapeake Bay Program report, Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Side Effects, revealed that more information was needed to formulate effective reduction strategies for contaminants. The Toxic Contaminants Workgroup worked with stakeholders in 2015 to identify five priority issues to be addressed in the Toxic Contaminant Research outcome. They include: Synthesize information to make fish and shellfish safer for human consumption; Understand the influence of contaminants degrading the health and contributing to the mortality of fish and wildlife; Document the sources, occurrence and transport of contaminants in different landscape settings; Provide science to help mitigate contaminants and emphasize the co-benefits with nutrients and sediment reductions; Gather information on issues of emerging concerns.

BASELINE: Baseline information for the contaminants impacting the five priority issues originally came from the above-referenced 2013 Chesapeake Bay Program report. A qualitative assessment of the baseline understanding for the sources, occurrence and effects for these contaminant groups was prepared by the Toxic Contaminants Workgroup. The contaminant groups with the greatest uncertainty are the primary emphasis of the research efforts.

DATA SOURCE: One supporting item in the outcome provides a qualitative assessment of progress—further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants of emerging and widespread concern. Data are based on impairments reported by each jurisdiction and research by federal agencies and academic partners, who rely on the monitoring of select toxic contaminants in water, sediment and fish tissue to increase the understanding of their impacts.