Updated May 8, 2013

Next Steps for Considering Toxic Contaminants as Part of the New Chesapeake Bay Agreement

Need for Toxic Contaminants to be part of a new Bay Agreement: As the Chesapeake Bay Program (CBP) revises their partnership goals for a new Bay Agreement, reducing the effect of toxic contaminants on fish and wildlife needs to be included because:

- The CBP is required to address toxic contaminants under of the Clean Water Act language that established the program. Reference Title II of the Clean Water Act Chesapeake Bay Restoration SEC. 117.g.1.C "…ensure that management plans are developed and implementation is begun by signatories of the Chesapeake Bay Agreement to achieve and maintain … the Chesapeake Bay Basinwide Toxins Reduction and Prevention Strategy goal of reducing or eliminating the input of chemical contaminants from all controllable sources to levels that result in no toxic or bioaccumulative impact on the living resources of the Chesapeake Bay ecosystem or on human health".
- The CBP has a long-standing commitment to reduce the effects of toxic contaminants. Reducing toxic contaminants was part of the water-quality goal of Chesapeake 2000 agreement. The CBP Executive Council adopted "Toxic 2000" to further enhance efforts to reduce the effect of toxic contaminants on living resources in the Bay.
- Toxic contaminants continue to degrade fish and wildlife in the Bay and are causing new concerns for the health of fisheries in the watershed. Results from a recent report that was prepared as part of the Presidents' Chesapeake Bay Executive Order (EO) Strategy (*Technical Report: Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects*, December, 2012) found:
    - 72% of the Bay and its tidal water segments are fully or partially impaired as a result of toxic contaminants.
    - Fish consumption advisories due to toxic contaminants restrict the amount of striped bass (and other valuable species) that are caught and eaten.
    - The health of fish continues to be degraded as indicated by: (1) increased infectious disease and parasites causing fish kills, (2) feminization (intersex conditions) of largemouth and smallmouth bass, (3) reduced reproductive success of yellow perch, and (4) and tumors in bottom-dwelling fish. All of these effects are likely to be related to the effects of toxic contaminants.
    - In a few locations, contaminants adversely affect the health of wildlife, primarily birds, as evidenced by: (1) eggshell thinning, (2) death of embryos, and (3) failure of eggs to hatch.
    - Some of the most widespread contaminant groups include PCBs, mercury, PAHs, and herbicides. Other contaminant groups had limited extent and several groups were of emerging concern.

Even with previous progress made as a result of the CBP Toxic 2000 strategy, and other existing state and federal programs, toxic contaminants still affect the health of fish and wildlife, thereby reducing their recreational and economic value to the 17 million people in the watershed. The President's Chesapeake EO strategy called for the report findings to be used in 2013 to develop toxic contaminant

reduction goals and outcomes. There is a clear need to have them considered in the new Bay Agreement.

Initial Feedback from CBP groups on developing a new goal and outcome. Based on presentations of the report findings to different CBP groups (Water Quality GIT, Fisheries GIT Executive Board, CAC, FOD, and STAR), some of the considerations for having a toxic contaminant goal and outcome(s) include:

- In general, all agree that toxic contaminants represent issues that compromise the environmental health and resource value of the Bay and watershed.
- The Water Quality Goal Team was unable to reach consensus on whether to propose a goal related to toxic contaminants.
- Concerns have been expressed that adoption of a goal addressing the effects of toxic contaminants may take away from efforts to implement the Chesapeake Bay Nutrient and Sediment TMDL, however several jurisdictions expressed support for undertaking coordinated efforts to reduce contaminant inputs (stated by the MD, DC, DE representatives of the Water-Quality GIT). The CBP could let existing jurisdiction and federal programs address toxic contaminants (PA and NY representatives on the WQ GIT) and not have them be part of a new Bay agreement.
- There is a need to define the added value of having toxic contaminants in the new Bay agreement versus of just relying on existing federal and jurisdiction programs or commitments under the Chesapeake Bay Executive Order.
- There are opportunities to take advantage of nutrient and sediment reduction activities under the Bay TMDL for also reducing toxic contaminants.
- A goal could focus effort for toxic contaminants to improve the health and economic value of Bay fisheries (Fisheries Goal Team Executive Council), such as reducing the number of fish consumption advisories in the Bay.
- Review current federal and state efforts to reduce toxic contaminants to help see where additional efforts under CBP specific goal would be most beneficial. Should begin with federal programs and also define activities that can be done under the President's EO to address contaminants.
- Focus on contaminant groups that have the most widespread extent and severity that could be addressed within the framework of the resources and authority of the Chesapeake Bay Program.

Next Steps: Gather information and consider options for toxic contaminants

- An *ad hoc* group composed of federal agencies and interested states is gathering information on current federal and state programs addressing toxic contaminants. The group will identify gaps and potential options for CBP to consider for reducing the effects of toxic contaminants and develop options for the CBP partnership to consider for a revised toxic contaminant goal and outcome as part of the new Bay agreement. The *ad hoc* group would provide options to be considered by CBP Water Quality, Fisheries, and Habitat Goal Teams and federal agencies (through the Federal Office Directors). Options could move forward to MB and PSC.
- Membership of the *ad hoc* group would include federal representatives (EPA, FWS, NOAA, and USDA) and volunteers from jurisdictions (MD, DE, and DC have expressed interest) , as well as representatives from the Fisheries and Habitat Goal Teams (since they have missions associated

with improved water quality and sustaining fisheries). Additionally, STAR and USGS would also be considered for monitoring and research support.

Suggested guidance for considering toxic contaminants for new Bay Agreement. Based on the feedback from the CBP, the *ad hoc* working group should consider providing options for the CBP to consider for a goal and associated outcome. The options for a goal should include:

1. Having an overall water-quality goal for the new Agreement that includes reference to both meeting water-quality standards related to the Chesapeake Bay TMDL (DO, clarity, chlorophyll) and reducing toxic contaminants. This would be similar to language in the Chesapeake 2000 and EO strategy, such as: "Restore water quality to achieve standards for DO, clarity/SAV, and chlorophyll-a related to the Bay TMDL *and reduce the effect of toxic contaminants in the Bay and its watershed*".
2. Having a separate goal for toxic contaminants in the new bay agreement
3. Addressing toxic contaminants as part of the President's Executive Order strategy but not have in the new Bay Agreement

Considerations for a more detailed outcome(s) for toxic contaminants should include what could be in the new Bay agreement or in the EO strategy. The team should provide options for an outcome related to:

1. Fish consumption advisories, an example would be: "Reduce the number of fish consumption advisories due to toxic contaminants by xxx percent in the Bay watershed by 2025".
2. Addressing different contaminant groups that have widespread extent (see Appendix 1 for more discussion)
3. Only as part of the President's EO strategy (required to have an outcome done by Dec, 2013)
4. How progress would be measured/monitored for each of the outcomes

Appendix 1. Some of the future ideas for management strategies to reduce toxic contaminant groups with widespread occurrence include:

PCBs:

- Look at Toxic Loading Inventory to see which sources are the most prevalent. However, we will have to determine how up to date and sufficient the information is for the Chesapeake.
- Compile information on existing EPA Programs (TSCA, Clean Air Act, Clean Water Act, RCRA, and CERCLA, State).
- Assess if current programs (listed above) are being utilized by the CBP partners to remove impairments due to PCBs. If these are insufficient, develop additional actions.

Mercury

- Assess if the National mercury rules and state rules are sufficient to reduce the number fish consumption advisories in the Chesapeake Bay and its watershed (Follow up with John Sherwell MD DNR).

- If not, are there additional sources we need to consider to reduce Hg beyond regulatory outcomes?

Pesticides

- Focus on currently used pesticides and less on those pesticides already banned.
- Consider working with WQ GIT AG workgroup to: (a) discuss current nutrient and sediment management strategies, identify high-risk areas to fisheries and what could be the potential targeting of additional BMPs to reduce nutrients, sediments, and agricultural pesticides (suggested by Bill Angstadt, Md. Grain Producers).

In addition to the above there is a need for supporting science and research to further address the occurrence and extent of toxic contaminants and their effects on fish and wildlife. More specific items were in the Dec 2013 report.

Prepared by Greg Allen (EPA), Scott Phillips (USGS), and Fred Pinkney (FWS)