Outcome Justification for Toxic Contaminants (draft for June 13 MB meeting)

Goal: Restore water quality to achieve standards for the Bay watershed

Outcome: Toxic Contaminants

(a) Implement practices to reduce loadings of persistent, bioaccumulative and toxic (PBT) contaminants and non-PBT contaminants that have likely effect on the ecosystem resources.

(b) Improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife so future strategies can be considered.

The desire is to have the outcome be more specific and time bound as it is developed for the new Agreement.

Current Condition:

72% of segments of the Bay and its tidal rivers have full or partial impairment due to toxic contaminants. Impairments also exist in rivers throughout the watershed. Impairments are developed by the states and DC based on monitoring of selected toxic contaminants in water, sediment, and fish tissue. Fish consumption advisors due to contaminants in striped bass and other species limit the amount that should be eaten by people. Finally, some waters are not swimmable due to bacteria and pathogens.

Supporting Details

1. Why is this outcome important?

The CBP is required to address toxic contaminants under of the Clean Water Act language that established the program. 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 based on results from a recent report on extent and severity of toxic contaminants. Toxic contaminant need to be addressed to ensure swimmable, fishable, and drinkable waters under for the 17 million people in the watershed.

2. Generally, how was the outcome derived?

The results from the recent contaminants report (Jan, 2013) were used to develop the outcome. The results showed widespread extent of several PBT groups (PCBs, Hg, PAHs) and some herbicides. The health of several species of fish and wildlife is degraded due to toxic contaminants in the Bay and its watershed. The effects on fish and wildlife are due to a combination of contaminant groups with widespread and local extent and/or contaminants of emerging concern (such as pharmaceuticals and personal care products).

3. Which partners (state, federal agencies, goal teams, committees) were involved in creating this outcome?

An adhoc group was created that includes all the jurisdictions (except NY), EPA, NOAA, FWS, USGS. The group has received feedback from the WQ GIT, Fisheries GIT, Federal agency directors, and members of CAC.

4. Which partners (state, federal agencies, other GITs) need to be involved to achieve the outcome?

CBP partners with regulatory responsibilities (including EPA, states, and DC) and voluntary approaches to reduce the effect of toxic contaminants on the health of fish and wildlife and ensure their safe consumption by people. In the CBP this includes agencies within the water quality and fisheries GITs.

5. What are major factors influencing ability to achieve outcome?

The major factors include (1) lack of management practices to reduce loading of some contaminant groups, (2) the large number of toxic contaminants that need to be reduced, and (3) lack of knowledge about effects of emerging and multiple toxic contaminants on the health of fish and wildlife. Additionally, many of these contaminants persist in the environment so management actions to reduce their occurrence will not have an immediate benefit.

6. What is the basis for the target?

The results from the recent contaminant report were used to develop the outcome. Examples in the Delaware Estuary and Great Lakes were reviewed to see how other programs have reduced some contaminants groups (such as PCBs). However, besides a few geographic areas the CBP lacks models of toxic contaminants that would be needed to set a more specific target(s) for the amount of loading reduction needed to remove impairments in the Bay and its watershed.

7. What management strategies will ensure the outcome is met?

Management strategies will need to be specific for different contaminant groups since each has unique sources and effect on fish and wildlife (and potentially the people that consume them). So may need specific strategies for PCBs, PAHs, pesticides, and other groups. States and EPA would be involved through carrying out existing programs to reduce toxic contaminants. There is potential for states and federal agencies to enhance management strategies by taking advantage of the Bay TMDL and improved science as it becomes available.

8. What data will be used to measure progress?

This will depend on "quantitative target" in the final outcome. Options include: (1) number of management practices implemented, (2) number of impairments in the Bay and watershed due to toxic contaminants, (3) number of fish health advisors due to toxic contaminants.

More Information: There is a table of pro/cons being developed the adhoc WG provides more information on options for an outcome(s).

The percent of segments without impairments due to toxic contaminants has worsened since the CBP indicator was established (from 34% in 2006 to 28% in 2010). The majority of the impairments include PCBs. See
http://www.chesapeakebay.net/indicators/indicator/chemical_contaminants