Discussion Draft Toxic Contaminants Goal and Outcome(s) (draft June 5, 2013)

Goal and Outcome Options	Pros	Cons
GOAL		
Restore water quality to achieve standards for the Bay watershed	Focused on achieving standards for toxic contaminants <u>and</u> TMDL standards including criteria for DO, clarity, and Chlorophyll. This was the goal recommended by the MB.	May restrict addressing the effects of toxic contaminants with no criteria on fish and wildlife (and people) unless narrative criteria allow. Very broad goal as written.
Outcome Options		
Option 1: *Three outcomes* 1(a) Implement practices to reduce loadings of priority persistent, bioaccumulative and toxic (PBT) contaminants *Note: Separating outcomes PBT 1(a) from non-PBT 1(b) allows for more clarity in development of management strategies and tracking progress.*	Focuses on the widespread contaminant groups that are basis for many impairments in tidal waters (PCBs, mercury, dioxins/furans, organochlorine pesticides, PAH). Would eventually result in reduction in the number of impairments and fish advisories.	The CBP does not have adequate information to determine how much reduction in impairments could be achieved under different management strategies, which is a hindrance to developing a numeric outcome. Outcome would need to include gathering the necessary monitoring information on loading of contaminant groups to assess progress and develop supporting management strategies. Could assess progress by documenting stewardship activities (such as number of completed TMDLs, practices/ programs being implemented). Probably would need focus groups for each of contaminant group (PCBs, mercury, PAHs, etc). Could have outcomes to reduce loading of one or two groups (PCBs and Hg) by 2017 and other groups by 2025.
1(b) Implement practices to reduce loadings of priority non-PBT contaminants that have likely effect on ecosystem resources	Allows for management actions on pollutants that are not bioaccumulative (such as atrazine). Could take advantage of practices being implemented for Bay TMDL to provide additional benefit to reduce toxic contaminants	There is a very wide scope of chemicals that would be part of this outcome so could be very difficult to measure progress.

1(b) Coordinate research and monitoring on the effects of contaminants on the health of fish and wildlife including contaminants of emerging concern	Would follow up from findings in EO Toxic contaminant report that information exists to set outcomes for some contaminant groups but need more information on others.	Very general and would be difficult to measure progress.
Option 2: *Two outcomes* 2(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.	Combines outcomes to reduce PBT and non-BPT contaminants into one outcome.	The CBP does not have adequate information to determine how much reduction in impairments could be achieved under different management strategies, which is a hindrance to developing a numeric outcome. Outcome would need to include gathering the necessary monitoring information to develop assess progress and develop supporting management strategies.
2(b) Improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife so future strategies can be considered.	Would follow up from findings in EO Toxic contaminant report that information exists to set outcomes for some contaminant groups but need more information on others.	Very general and would be difficult to measure progress.
Other Outcome Options Considered but not Viable		
OPTION (a): Reduce impairments in the Bay and tidal waters (general 1a or numeric 1b). Option (b): Reduce the number of tidal segments impaired by toxic contaminants by 2025 Option (c): Achieve a X percent	Option a and b can be measured using information from the Jurisdictions' Integrated Assessment reports. The information is used to prepare the current CBP indicator (72% of the tidal tributaries were fully or partially impaired from	Not likely to see short term change. The percent of segments without impairments has worsened since the indicator was established (from 34% in 2006 to 28% in 2010). See http://www.chesapeakebay.net/indicators/indicator/chemical_contaminants The CBP does not have models of toxic contaminants to test how much reduction could be achieved under different management strategies, which is another hindrance to developing a numeric outcome.

reduction in the number of tidal segments impaired by toxic contaminants by 2025	chemical contaminants as of 2010).	Does not directly address toxic contaminants in the non-tidal portion of the watershed.
Option (a): Reduce the number of fish consumption advisories in the Bay (and its watershed?)	Option (a) could be measured using information from the jurisdictions on the number of fish consumption advisors due to toxic contaminants.	It is difficult to set a numerical outcome since the CBP does not have information on whether changes in the number of fish advisories can be expected. The CBP does not have models of the relationship between the loadings of toxic contaminants and the amount of time it will take to reduce the number and severity of fish consumption advisories. Thus, such information is needed as part of a program to develop appropriate management strategies, which could include a numeric outcome. Does not directly address the impacts of toxic contaminants in the non-tidal portion of the watershed (unless expanded to do so).