Chesapeake Bay Watershed Agreement
Issue: Toxic Contaminants
Updated April 10, 2014 (for PSC meeting discussion)
IRC recommendations for PSC are highlighted in yellow below.

Current Language

- Toxic contaminant outcomes are not currently in the draft Agreement.
- Two outcomes had been in the Sept draft of the Agreement-one for research and another for contaminant reduction. However, the PSC choose not to include in the public comment draft.
- Addressing toxic contaminants is inferred in the Water-Quality Goal Statement:
    - Reduce pollutants to achieve water quality necessary to support the aquatic living resources of the Bay and its tributaries and protect human health.
    - To achieve this goal toxic contaminants would have to be part of the agreement.

Options to address partner, stakeholder and public comments.

Five options were developed to address partner, stakeholder, and public comments and discussed by the IRC:

1. Have a separate goal for toxic contaminants with supporting outcomes.
2. Modify the existing water quality goal and add new outcome
3. Reinsert under the water quality goal the previous outcomes that addressed reduction of mercury and PCB inputs and the planned coordination of research on contaminants of emerging concern
4. Develop new toxic contaminant outcomes under existing the water-quality goal
5. Status Quo: do not include toxic reduction outcomes

The IRC choose two options to move forward (highlighted in yellow) for the PSC to consider. For either option, the OUTCOMES are the same.

1. **Have a separate goal for toxic contaminants with supporting outcomes.**

This option would have a separate goal for toxic contaminants and two outcomes—one for research and one for reduction. Draft language, which was developed and agreed upon by the Chesapeake Bay Commission partners and the Adhoc team, is included. We are still considering an appropriate date for the second outcome.

PROPOSED NEW GOAL: Reduce the impact of toxic contaminants on fish and wildlife in the Bay and its watershed and protect human health.

Toxic contaminants harm fish and wildlife in the Bay and its watershed, and create risks to human health that limit the amount of fish that people can eat. Reducing the impacts of toxic contaminants is critical to improve the health of fish and wildlife, thereby improving their recreational value for citizens.

> **Toxic Contaminants Research Outcome**: By 2015, develop a research agenda and further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants of emerging and widespread concern. In addition, identify which BMPs might provide a dual benefit of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.
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> **Toxic Contaminants Policy and Prevention Outcome:** By _____ evaluate the implementation of additional policies, programs, and practices informed by the Toxics Contaminants Research, to reduce or eliminate loadings of persistent bioaccumulative and toxic contaminants (PBT) and

non-PBT contaminants to prevent harm to fish, wildlife, and citizens of the region.

2. **Develop new toxic contaminant outcomes under the existing water-quality goal**.

For the second option recommended by the IRC, two toxic contaminant outcomes (the same ones as listed above) would be added to the existing water-quality goal. A sentence would be added to the introduction section of the water-quality goal (in red). There would be clear distinction between nutrients/sediment outcomes and toxic contaminant outcomes.

WATER QUALITY

Excess amounts of nitrogen, phosphorus and sediment in the Bay and its tributaries have resulted in many portions of the Bay being listed as "impaired" under the Clean Water Act. In addition, toxic contaminants can harm fish and wildlife, creating risks to human health that limit the amount of fish that people can eat. Restoring these waters is critical to overall Bay watershed restoration because clean water is the foundation for healthy fisheries, habitats and communities across the region.

GOAL: Reduce pollutants to achieve the water quality necessary to support the aquatic living resources of the bay and its tributaries and protect human health.

Nutrients and sediment

2017 Watershed Implementation Plans (WIP) Outcome: By 2017, have practices and controls in place that are expected to achieve 60% of the nutrient and sediment pollution load reductions necessary to achieve applicable water quality standards compared to 2009 levels.

2025 WIP Outcome: By 2025, have all practices and controls installed to achieve the Bay's dissolved oxygen, water clarity/submerged aquatic vegetation and chlorophyll a standards as articulated in the Chesapeake Bay TMDL document.

Toxic Contaminants

Toxic Contaminants Research Outcome: By 2015, develop a research agenda and further characterize the occurrence, concentrations, sources and effects of mercury, PCBs and other contaminants of emerging and widespread concern. In addition, identify which BMPs might provide a dual benefit of reducing nutrient and sediment pollution as well as toxic contaminants in waterways.

Toxic Contaminants Policy and Prevention Outcome: By _____ evaluate the implementation of additional policies, programs, and practices informed by the Toxics Contaminants Research, to reduce or eliminate loadings of persistent bioaccumulative and toxic contaminants (PBT) and non-PBT contaminants to prevent harm to fish, wildlife, and citizens of the region.

Partner Comments:

Maryland: Toxic contaminants continue to degrade fish and wildlife in the Bay and limit the amount of fish that people can consume, reducing the viability and value of the Bay's living resources. Concerns have emerged related to toxic contaminants in the watershed making fish more susceptible to health effects from bacteria and pathogens and contributing to intersex conditions and fish kills.
Goal: Reduce the impact of toxic contaminants on the Bay watershed.

Option A: Three outcomes
• Outcome 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],
• Outcome 2(A): Implement practices to reduce loadings of priority non-PBT contaminants that have likely effects on ecosystem resources,
• Outcome 3 (A): Coordinate research and monitoring on the effects of contaminants on the health of fish and wildlife including contaminants of emerging concern.
Option B: Two Outcomes
• Outcome 1(B): Implement practices to reduce loadings of persistent, bioaccumulative and toxic (PBT) contaminants and non---PBT contaminants that have likely effects on the ecosystem resources.
• Outcome 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.

Citizens Advisory Committee: We believe not including a toxics contaminant goal in the Agreement is a glaring omission, particularly since there are emerging threats like endocrine disruptors that have impact on fish and human health. We recommend you re-instate the proposed Toxic Contaminant goal. This includes the Research Outcome to "Assess planned research and opportunities for new research to improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife by 2015 so future strategies can be considered" and the Reduction Outcome to "Identify existing and new practices and an implementation schedule by 2015 to reduce loadings of PCBs and mercury to the Chesapeake Bay and its watershed". We strongly support a goal be included that, at a minimum, addresses PCBs and mercury, particularly as these toxins in our water have impact on human health.

Scientific and Technical Advisory Committee: Need to add an Outcome for Toxic Contaminants:
Practices and controls are in place that keeps toxic compound loads below levels that impact the health of aquatic systems and human users.
Establish criteria for the definition of toxic contaminants relevant to Bay restoration.
o Clearly establish levels of toxic contaminants (in isolation and combinations) that would constitute a risk to aquatic systems and human users.
o Develop and implement monitoring protocols that identify the presence and concentrations of contaminants with the potential to impact the health of aquatic system of human users
o Develop and implement a program to identify contaminants of emerging concern and assess the need for monitoring in the Chesapeake Bay system
o Develop strategies and implement BMPs to prevent new inputs of toxic contaminants areas
o Develop and implement an outreach program to inform stakeholders of existing and potential issues with toxic contaminants used in the Chesapeake Bay system
o Assess the effectiveness of monitoring, management, and outreach programs to keep toxic loads below levels of significant impact

Federal Partners
DOI: DOI feels strongly that toxic contaminants need to be included in the new agreement. DOI wants the outcomes in earlier versions of the agreement included under the water-quality goal:
-"Toxic Contaminants Reduction Outcome: By 2015, identify existing practices and propose an implementation schedule for new practices, if necessary, to reduce loadings of PCBs and mercury to the Chesapeake Bay and its watershed."
-"Toxic Contaminants Research Outcome: By 2015, assess ongoing research and develop an agenda for new research, if needed, to improve knowledge of the effects of contaminants of emerging concern on

the health of fish and wildlife so future strategies can be considered."

FWS: The [Fish and Wildlife] Service agrees with the STAC Recommendations (January 17, 2014) on toxic contaminants; recommends adding the following outcome and potential management strategies:
"Outcome: Practices and controls are in place that keep toxic compound loads below levels that impact the health of aquatic systems and human users"
Potential management strategies:
o Establish criteria for the definition of toxic contaminants relevant to Bay restoration.
o Clearly establish levels of toxic contaminants (in isolation and combinations) that would constitute a risk to aquatic systems and human users.
o Develop and implement monitoring protocols that identify the presence and concentrations of contaminants with the potential to impact the health of aquatic system of human users
o Develop and implement a program to identify contaminants of emerging concern and assess the need for monitoring in the Chesapeake Bay system
o Develop strategies and implement BMPs to prevent new inputs of toxic contaminants areas
o Develop and implement an outreach program to inform stakeholders of existing and potential issues with toxic contaminants used in the Chesapeake Bay system
o Assess the effectiveness of monitoring, management, and outreach programs to keep toxic loads below levels of significant impact"

NOAA: The existing and potential impact of toxics on human health and living resources is a major concern and deserves attention. NOAA supports the Contaminant reduction and research outcomes proposed at the September 24 Principals' Staff Committee meeting.

EPA**:** EPA supports adding back the Toxics research commitment from the prior draft of the Agreement, and remains open to evaluating other toxics commitments after full consideration of the public comments and signatory comments on the draft Agreement.

Public/Stakeholder Comments:
There were over 425 private citizen comments received in support of inclusion of toxics (the most comments except for climate change). The major themes expressed by many commenters were:

- .The vision cannot be achieved without the inclusion of toxics
- Cleanup has been successful in another watershed (e.g., PCBs in Delaware Bay led by PA and DE) so we should be able to apply in the Chesapeake.
- There should be recognition of TMDLs for PCBs that are in place throughout the watershed

Below are some selected stakeholder organization comments. All but one organization supported addressing toxic contaminants in the new agreement.

Multiple stakeholders suggested **reinserting the previous outcomes that addressed reduction of mercury and PCB inputs and the planned coordination of research on contaminants of emerging concern under the water quality goal** (CBF, Anacostia Watershed Citizens Advisory Committee, Anacostia Watershed Society, Congressman Sarbanes, Cons Pa CCWC, Va League of Cons Voters, Potomac Conservancy, Va Cons Network, Potomac Riverkeeper, PennFuture, Allegheny Highlands Alliance, Rock Creek Cons, Md Cons Council, James River Assn, Nat'l Parks Cons Assn, Friends of the Rappahannock, NRDC, NWF, Ridgway Hall, SELC, Sierra Club Pa Ch., Elizabeth River Project, Susquehanna Greenway, 70+ Individuals). These are the outcomes that would be re-instated:

- By 2015, identify existing practices and propose an implementation schedule for new practices,

if necessary, to reduce loadings of PCBs and mercury to the Chesapeake Bay and its watershed.

- By 2015, assess ongoing research and develop an agenda for new research, if needed, to improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife so future strategies can be considered.

Potomac Conservancy: To remove the partnership's accountability for the 2000 goals to reduce toxic contaminants would be irresponsible. But, there is hope for the 2014 Agreement to catalyze successful toxic pollution reductions. As the Delaware Bay's cleanup efforts are showing reductions in PCB levels, the Conservancy recommends that the 2014 Chesapeake Bay Agreement include similar implementation effort in concert with toxic outcomes and management strategies. Pennsylvania and Delaware are partners in both cleanup efforts and can appropriately facilitate the inclusion of such management strategies.

Chesapeake Bay Foundation: The Agreement should include outcomes committing to reduce loads of polychlorinated biphenyls (PCBs) and to study the effects of "new and emerging" chemicals. We have not solved our historic problems with fish consumption advisories or in the Regions of Concern, while at the same time scientists are discovering new issues related to fish health and "new and emerging chemicals."

Clean Water Action: Goal- Toxics: The effects of thousands of chemicals and the mixtures of those chemicals in our waterways are some of the least understood influences on the Chesapeake Bay and its watershed tributaries. The addition of known eco-toxins and endocrine disrupting chemicals to our waterways makes it necessary to increase research and re-emphasize the goal of the Clean Water Act to reduce these chemicals. Our goal is to improve knowledge of the effects of toxic contaminants on the health of fish, wildlife and the public by 2015 so strategies can be determined to reduce loadings of PCBs, PAH's, pesticides, pharmaceuticals and mercury in order to return water to the ecosystem that has the least amount of chemicals of any kind, and has no toxic or bio-accumulative impact on living resources or on human health.

 Monitoring Outcome: Jurisdictions will address toxic contaminant data gaps as outlined in the 2012 Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects Report; Jurisdictions will increase their own monitoring of the toxics identified in the Toxic Contaminants Report, and their cooperation with federal agencies currently working to improve our understanding of toxics and potential toxics in order to identify and implement strategies for reducing occurrence and impact of toxic contaminants in the Chesapeake Bay.

Chesapeake Bay Trust: We recommend the Bay Program modify the existing water quality goal to read as follows: Reduce pollutants, including nitrogen, phosphorus, sediment, and toxics to achieve the water quality necessary to support the aquatic living resources of the Bay and its tributaries and protect human health. An additional outcome for this goal should include the following: By 2017, all partner jurisdictions include existing toxic remediation plans, TMDL implementation strategies and related programs to abate impacts from toxic contamination in the updated Watershed Implementation Plans.

MD Pesticide Network: (and 130 letters) I am very concerned about the exclusion in the 2014 Chesapeake Bay Program (CBP) Agreement of toxic reduction goals, particularly at this time when toxic chemicals are linked to intersex fish, hermaphroditism in amphibians, alarming rates of bee hive deaths and a growing body of research linking toxic contaminants to increased rates of asthma, neurological and developmental impacts, cancer, autism and Parkinson's disease plus other long-term and even life-threatening impacts. Recent research links systemic neonicotinoid pesticides, already linked to bee hive deaths, to brain damage in children and adverse impacts on crabs. The 2012 federal report Toxic

Contaminants in the Chesapeake Bay and its Watershed found that current state programs and local toxic maximum daily load (TMDL) standards inadequately address the serious and pervasive contaminant data gaps. We urge the CBP to fully implement the 2010 Chesapeake Bay Protection and Restoration Executive Order 13508 mandate to establish toxic contaminant reduction goals. Toxic contaminants of concern include PCBs, PAHs, pesticides, mercury, pharmaceuticals and endocrine disruptors. To minimize the importance of a clear and aggressive strategy for toxics as a priority in the Bay Agreement is to ignore the health and environmental threats that continue to escalate. I urge you to carry out the mandate of the Executive Order, respond to the 2012 report, and incorporate clear and specific strategies and toxic chemical reduction goals into the Agreement.

Congressman John Sarbanes: our bay will not be safe for swimming & fishing until toxic contaminants are addressed. … causing abnormalities in reproductive system of fish & leading to fish kills & beach closures throughout the watershed. CBP has a long history of commitment to reducing toxic contaminants dating back to 1976. Both the 1987 and 2000 agreements contain goals and objectives related to toxic contamination. Yet the current draft fails to address toxic contamination as part of its WQ goals & outcomes. I strongly encourage the Partnership to reinstate its commitment to addressing this pervasive issue in the final agreement.

Anacostia Watershed Society: We urge you to put the following back into the Agreement under the Water Quality goal:- Toxic Contaminants Reduction Outcome: By 2015, identify existing practices and propose an implementation schedule for new practices, if necessary, to reduce loadings of PCBs [and other priority contaminants identified by the Partnership] to the Chesapeake Bay and its watershed.

West Virginia Rivers Coalition: The Elk River chemical leak and ensuing water crisis brings in sharp focus the threat of toxic chemicals to our region's waterways, our health and our economy. A meaningful Bay Watershed Agreement must address the reduction of loadings of toxic pollutants. It must also prioritize research of toxic contaminants on aquatic and human health. Our state is learning from this experience the incalculable value of clean water. It will take a long time to restore the public trust in government to adequately protect us and the water we drink and enjoy from harm. We have an immense hole to dig out of to redeem our state's image as a safe place to live and visit. We do not wish these consequences on any of the Bay watershed states. We urge the Board to address the threat of toxic contaminants in the Agreement. We advise the Board to take every step possible to respond to citizens' insistence, as represented loudly and strongly in West Virginia, that accountability measures are in place to produce real improvement and results that ensure our right to clean water now and in the future.

Penn Agriculture: We do not support the inclusion of toxics in the Chesapeake Bay Watershed Agreement. At this time, it is not clear which toxics are of interest to the greater good. In addition, this is an issue best suited to be handled individually, by the States. Again, if all Bay States would approach Bay Restoration from the local stream standpoint, the issue of toxics would be addressed locally. The issue of toxics is highly scientific and best if omitted for the Chesapeake Bay Agreement at this time.

Alliance for the Chesapeake Bay: A modern Bay agreement must include a toxics outcome. We believe it would be appropriate for future strategies to focus on reduction of persistent bio-accumulative and toxic (PBT) contaminants and non-PBT contaminants that affect the ecosystem and human health. Strategies should also improve our knowledge of the effects of contaminants of emerging concern on human health and the health of fish and wildlife.

Background

- The two outcomes that were in earlier versions of the Agreement. (1) "Toxic Contaminants Reduction Outcome: By 2015, identify existing practices and propose an implementation schedule for new practices, if necessary, to reduce loadings of PCBs and mercury to the Chesapeake Bay and its watershed." (2) "Toxic Contaminants Research Outcome: By 2015, assess ongoing research and develop an agenda for new research, if needed, to improve knowledge of the effects of contaminants of emerging concern on the health of fish and wildlife so future strategies can be considered."
- The outcomes were removed based on voting at the Sept 24, 2013 PSC meeting. The research outcome was supported by 2/3 of the PSC but WVA, VA, and NY did not support it. The reduction outcome was voted down 5-4 by the PSC.
- The outcomes were developed based on the latest scientific information. All recent evidence is showing that extent and effects of toxic contaminants continue to be widespread and persist in the Bay and its watershed. Information from Maryland, Virginia, and the District of Columbia show that in 2012, close to 74% of the tidal waters segments of the Chesapeake Bay are either fully or partially impaired due to Toxic contaminants, up from 66% in 2006. EPA, USGS, and FWS released a technical report in (Jan, 2013) that indicates that there are 10 different groups of toxic contaminants detected in the Bay watershed. In addition to causing the fish consumption advisories in the Bay, the health of fish are degraded (intersex conditions) and fish kills linked to toxic contaminants are occurring in the watershed (including locations in VA, VWA, MD, and PA).
- Significant public and stakeholder comment was received on the first draft of the Agreement calling for inclusion of toxic contaminants into the Agreement. Reasons for toxic contaminants to be in the agreement based on public and stakeholder comments included:
    - The public wants to have safe water for swimming and edible fish.
    - The extent and effects of toxic contaminants are widespread and persist.
    - The CBP is required under the Clean Water Act to address toxic contaminants
    - The Executive Council committed to reduce toxic contaminants.

- Maryland commented that “Toxic contaminants continue to degrade fish and wildlife in the Bay and limit the amount of fish that people can consume, reducing the viability and value of the Bay’s living resources.” Suggesting that achieving the vision of an economically sustainable Bay is supported by inclusion of toxics outcomes.