



BEYOND PESTICIDES

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March 17, 2014

Chesapeake Bay Program
410 Severn Avenue, Suite 112
Annapolis, Maryland 21403
agreement@chesapeakebay.net

Re: *Comments Concerning Chesapeake Bay Watershed Agreement Final Draft*

Dear Sir/Madam:

If the Chesapeake Bay Program is to obtain true success in its Chesapeake Bay restoration efforts, then it must address toxic contamination. Beyond Pesticides submits the following comments concerning the Program's *Draft Chesapeake Bay Watershed Agreement* ("Draft Agreement") and for the reasons addressed in these comments, encourages the Program to amend the Draft Agreement to include goals and action items addressing toxic contamination.

Beyond Pesticides is a national, grassroots membership organization, representing community-based groups and a range of people seeking to improve protections for the environment and individuals from pesticides. Based in Washington, D.C., our membership includes residents from all 50 states, including those within the Chesapeake Bay Watershed, and from around the world.

We respect the difficult task that Chesapeake Bay Program partners face in rehabilitating the Chesapeake Bay—a task made even more difficult by the numerous factors impacting water quality, landscapes, and ecosystems throughout the invaluable national treasure that is the Chesapeake Bay. No matter the confluence of challenging factors, however, restoration of this resource cannot be achieved if critical factors of the problem are ignored and excluded from the goals and actions defining the path forward.

A. Executive Order 13508 and the Bay Strategy

Nearly five years have passed since President Obama's Executive Order 13508 declaring the protection and restoration of the Chesapeake Bay to be a federal priority. As noted in the Executive Order, "Restoration of the health of the Chesapeake Bay will require a renewed commitment to controlling pollution from all sources as well as protecting and restoring habitat and living resources, conserving lands, and improving management of natural resources, all of which contribute to improved water quality and ecosystem health."¹

Executive Order 13508 called for an end to decades of inadequate state efforts and weak federal leadership on all pollution fronts within the Chesapeake Bay. While a primary focus of this renewed restoration and protection framework targeted the conventional pollutants of sediment, nitrogen, and phosphorus and led to the establishment of the U.S. Environmental Protection Agency's (EPA's) Chesapeake Bay Total Maximum Daily Load (Bay TMDL)² for these pollutants, it was also understood

¹¹ Executive Order 13508, <http://www.gpo.gov/fdsys/pkg/FR-2009-05-15/pdf/E9-11547.pdf>.

² *Id.*

that efforts to assess and improve Bay contamination would not be limited to only these nutrient pollutants.

This is why in its 2010 *Strategy for Protecting and Restoring the Chesapeake Bay Watershed* (2010 Bay Strategy), EPA stated that “addressing the significant problem of toxic pollutant contamination in the Bay and its watershed is a key element of [the Bay] strategy.”³ The 2010 Bay Strategy defined specific action items to address the toxic contamination problem, including the production of a joint toxic assessment report to be conducted by the U.S. Geological Service (USGS), Fish & Wildlife Service (FWS), and National Oceanic and Atmospheric Association (NOAA) and the establishment of toxic pollutant reduction goals and strategies by 2015.⁴ Three years later, EPA released a follow-up action plan in which toxic contaminant assessment and reduction strategies still factored significantly in EPA’s Bay Strategy.⁵

B. 2012 Technical Report on Toxics in the Bay

Following up on EPA’s promise, USGS, FWS, and NOAA released a joint technical report at the end of 2012.⁶ Looking at 10 classes of toxic contaminants, including Polychlorinated Biphenyls (PCBs), Dioxins and Furans, Polycyclic Aromatic Hydrocarbons (PAHs), pesticides, pharmaceuticals, and biogenic hormones, researchers examined water-quality assessment reports from all Bay jurisdictions, federal and state reports, and scientific articles.⁷ The findings from the examination were startling across all fronts, but particularly concerning pesticides, pharmaceuticals, and endocrine disruptors:

- Widespread extent and occurrence of herbicides (primarily atrazine, simazine, metochlor, and their degradation products), were found throughout the Bay watershed.
- Localized extent and occurrence of dioxins/furans and some chlorinated insecticides (aldrin, chlordane, dieldrin, DDT/DDE, heptachlor epoxide, mirex).
- Information was insufficient to determine the extent of contamination for pharmaceuticals, some pesticides, and biogenic hormones.⁸

The report also found that the severity of the presence of these identified toxic contaminants ranged from extensive to the unknown. And while all toxic contaminants discussed in the report raise concerns for the feasibility of Bay restoration and public health, pesticides pose a particularly pressing problem. As described by USGS, “Because of the diverse uses, modes of action, and chemical characteristics of pesticides, the available data on environmental occurrence and related toxicology range from minimal to extensive. In addition, some pesticides are included in current monitoring programs, whereas many others are not.”⁹

³U.S. Env’t Prot. Agency, *Strategy for Protecting and Restoring the Chesapeake Bay Watershed*, p. 37, <http://executiveorder.chesapeakebay.net/file.axd?file=2010%2F5%2FChesapeake+EO+Strategy%20.pdf>

⁴ *Id.*

⁵ Executive Order 13508, http://executiveorder.chesapeakebay.net/EO_13508_FY13_Action_Plan.pdf.

⁶ U.S. Geological Service, *et. al.*, *Toxic Contaminants in the Chesapeake Bay and its Watershed: Extent and Severity of Occurrence and Potential Biological Effects*, December 2012 [hereinafter “2012 Bay Technical Report”], http://executiveorder.chesapeakebay.net/ChesBayToxics_finaldraft_11513b.pdf

⁷ 2012 Bay Technical Report at vi.

⁸ *Id.* at vii.

⁹ 2012 Bay Technical Report at 58.

C. Draft Chesapeake Bay Agreement

Despite these technical findings and a clear need to not only address toxic contamination in the Chesapeake Bay but also develop monitoring standards and frameworks for large swaths of currently unmonitored toxic contaminants like pharmaceuticals and many pesticides the Draft Agreement makes no mention of toxic contaminants.

What the Draft Agreement does mention is the Program's commitment to protect, restore, and enhance finfish, shellfish, and other living resources; restore enhance and protect a network of land and water habitats; reduce pollutants to achieve the water quality necessary to support the aquatic living resources of the Bay and its tributaries and protect human health; and sustain state-identified health waters and watershed. All of these goals, while admirable and necessary, cannot be achieved without also tackling toxic contaminants and at the very least establishing clearly defined monitoring and testing protocols.

What makes the omission of this critical factor even more disturbing is the Program's awareness of the toxic contaminant issue and stakeholder's previous requests that it be a part the Draft Agreement. Yet, in its *Summary of Public Comments on 7-9-13 Abridged Draft Agreement and Chesapeake Bay Program Response*,¹⁰ the Program provides the following rationale concerning the topic of "Toxic Contaminants" and why this topic was excluded from the Draft Agreement:

While several partners supported inclusion of toxic contaminant outcomes, some expressed concerns related to whether there is a need for the CBP to apply itself to contaminant issues that are the target of established impairments and, in some cases, local TMDLs in the jurisdictions. Most jurisdictions felt that toxic contaminants are being addressed already through state programs and local TMDLs for contaminants. Other arguments against including the reduction outcomes, such as the contaminants of concern are not transported across state boundaries and the contaminants are bound in legacy sediment only with no ongoing inputs, were influential but are not necessarily substantiated in the technical literature.¹¹

It stands to question how any partners serious about achieving the goals espoused within the final Draft Agreement and who have read the 2012 Bay Technical Report could believe that local TMDLs are accomplishing the task of Bay restoration and protection concerning toxic contaminants. If Bay partners should have learned anything during the past five years, it is that without a unified pollution standard and well-defined, collaborative progress markers, success is unlikely and action will not occur. Deferring to local pollution control standards without ensuring that strong, overarching goals and benchmarks are established and tracked should not be endorsed by the Program and places other Bay restoration goals at risk while exposing the public, wildlife, and the delicate ecosystems of the Bay to dangerous toxics, especially concerning pesticides, pharmaceuticals, and endocrine disruptors.

¹⁰ Chesapeake Bay Program, *Summary of Public Comments on 7-9-13 Abridged Draft Agreement and Chesapeake Bay Program Responses*, p. 4, http://www.chesapeakebay.net/documents/Draft_Public_Comment_Pd_1_Summary_and_CBP_Response_for_2013_EC_with_MB_edits_-_Public_Version_with_Cover_Page.pdf.

¹¹ *Id.*

D. Pesticides and the Threats They Pose to the Bay

Numerous studies are reviewed within the 2012 Bay Technical Report concerning pesticides and none shed a rosy light on the presence of pesticides in the Bay. More importantly, the report highlights the numerous sources of pesticides that flood into the Bay, from agriculture (the largest at 75% contributor) to smaller but significant contributors like golf courses. Even per capita home, garden, and personal-care pesticide use is significant within the Bay, contributing about 6.5 million pounds a year.¹² The report also notes that with the increase of transgenic crops used within Maryland, pesticides used on these crops will bring ever-larger quantities of pesticides, like atrazine, glyphosate, and 2,4-D, into the Bay.

Known health and environmental risks abound with these kinds of pesticides and the myriad others found throughout Bay waters. Using atrazine as an example, a pesticide often touted as “safer,” the pesticide has been linked with cancer, birth defects, reproductive effects, neurotoxicity, and kidney and liver damage.¹³ Within the Chesapeake Bay watershed, studies have shown statistically significant correlations between atrazine concentrations in the water column above smallmouth bass nesting sites in the Potomac River and intersex conditions in male smallmouth bass collected at those sites.¹⁴ These effects and worse have been documented for many of the known pesticides within the Bay. More unsettling than the known hazards of the pesticides in the Bay, however, are the unknowns.

i. Unknown and Unmonitored

Throughout the 2012 Bay Technical Report, USGS emphasizes the limitations in its findings, as many of the toxic contaminants, particularly pesticides and pharmaceuticals, lack comprehensive data with regard to Bay presence and the risks associated with the contaminant.

a. Inert Ingredients In Pesticides

Also known as “adjuvants,” pesticides are composed of active ingredients and inert ingredients. Unfortunately, most risk assessments and testing standards for pesticides do not require extensive testing or even disclosure of the inert ingredients. These ingredients are anything but inert and can pose more dangers than the active ingredients, while also amplifying the toxic effects of the active ingredients.¹⁵ Because these ingredients are often unknown even to those applying the pesticides, they are even harder to track and monitor.

b. Endocrine Disruptors

Yet another hazard that lies within many toxic contaminants is their endocrine-disrupting effects that can impact humans, wildlife, and aquatic species. Most toxic contaminants, like pesticides, are not evaluated for these hazards because traditional risk assessment protocols and standards do not require it. Risk assessments justify use patterns for widely used pesticides based on assumptions about toxicity and exposure. Yet these traditional risk assessments are skewed in favor of the continued use of

¹² 2012 Bay Technical Report at 45.

¹³ Beyond Pesticides, *ChemicalWATCH Factsheet: Atrazine*, <http://www.beyondpesticides.org/pesticides/factsheets/Atrazine.pdf>.

¹⁴ *Id.* at 54.

¹⁵ 2012 Bay Technical Report at 49 (“In other recent research on the potential for pesticide usage to do environmental harm, the adjuvants have been implicated in potentially increasing the toxicity of pesticide mixtures in the environment.”)

hazardous chemicals because they fail to capture data on non-traditional risks and effects. This is why the 2012 Bay Technical Report points out studies questioning “conventional ‘benchmarks,’ which have been, and continue to be, developed on a contaminant-by-contaminant basis for a limited range of toxicology endpoints.”¹⁶

Endocrine disruption occurs when chemicals interfere with human or other species’ hormones and hormone-receptors. In humans, adverse effects from endocrine-disruption are far ranging and include reproductive abnormalities, neurological effects, and diseases such as diabetes, ADHD, and cancer.¹⁷ In fish and other aquatic species, similar problems with reproductive systems and neurological development have been documented.

E. Conclusion

Because of this and the reasons discussed in our comments, Beyond Pesticides recommends that the Draft Agreement should be amended to include specific goals addressing toxic contaminants, especially with regard to pesticides. Universal monitoring and control plans must be set for these dangerous contaminants.

By ignoring not just pesticides but all toxic contaminants, the Chesapeake Bay Program ignores both known and unknown risks threatening the Bay. It undermines the very goals and ambitions set forth within the Draft Agreement and brings into question the small, but significant gains made through the hard and dedicated work of the last five years. No matter how inconvenient, the Program cannot parcel out the issues it deems worthy of attention if it is to be serious about taking the Chesapeake Bay forward.

Sincerely,

A handwritten signature in black ink, appearing to read "Aimee Simpson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Aimee Simpson
Policy Director and Staff Attorney

¹⁶ *Id.* at 49.

¹⁷ N Harriott and J. Feldman, Beyond Pesticides, *Pesticides That Disrupt Endocrine System Still Unregulated by EPA*, <http://www.beyondpesticides.org/gateway/health%20effects/endocrine%20cited.pdf>.