



## King County

Department of Natural Resources and Parks

### Wastewater Treatment Division

King Street Center, KSC-NR-5501  
201 South Jackson Street  
Seattle, WA 98104-3855

May 26, 2023

Kimberly Grieves  
Phthalates Action Plan Project Manager  
Washington State Department of Ecology  
c/o [ChemActionPlans@ecy.wa.gov](mailto:ChemActionPlans@ecy.wa.gov)

RE: Phthalates Action Plan Comments

Dear Ms. Grieves:

Thank you for the opportunity to comment on the Washington State Department of Ecology's (Ecology) draft Phthalates Action Plan. We appreciate the work that Ecology is undertaking to address this pervasive class of chemicals, in support of human and environmental health.

King County's Wastewater Treatment Division (WTD) serves about 1.8 million people within a 424 square mile service area including most urban areas of King County and parts of Snohomish and Pierce Counties. In 2022, our three regional treatment plants and two smaller treatment plants treated a combined daily average of 178 million gallons of wastewater, and together produced 123,500 wet tons of biosolids that were land applied to forests and farms in Washington as a beneficial soil amendment.

As the largest wastewater treatment utility in the state, we support regulations and programs that result in fewer chemicals in the wastewater stream as a positive step. Wastewater should not be viewed a "source" of these chemicals, instead it receives the chemicals that are produced or used in our homes and businesses. Wastewater treatment is designed to remove pathogens, but not chemicals. Therefore, source control is the most efficient and effective action mechanism to control exposure for humans and the environment. We appreciate the opportunity to work with Ecology and others to prevent and mitigate impacts to water quality and public health.

Approximately 8.2 million acres, or 18 percent of the land area of Washington state, is cropland. It is important to note that less than one-quarter of one percent of that cropland acreage receives biosolids land application.<sup>1</sup> This is an extremely small amount of acreage. We assume that Ecology's intent in making these recommendations is to assess human exposure pathways from contaminated agricultural soil. We appreciate and share this concern, however focusing solely on cropland that has been land applied with biosolids will only minimally and

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<sup>1</sup> [Washington — National Biosolids Data Project](#)

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not fully address the question of human exposure pathways from contaminated agricultural soil. We urge Ecology to not miss the bigger picture in answering this important question.

Research indicates that the presence of phthalates in agricultural soil comes from diverse sources such as chemical fertilizer and additives, agricultural activities such as plastic film mulching and other plastic waste, application of biosolids or other organic soil amendments to cropland, and airborne emissions from open burning in uncertified facilities or industrial emissions.<sup>2</sup> With the myriad of potential sources of phthalates to agricultural land, it is possible and perhaps likely that all agricultural land in Washington state is contaminated with phthalates to some degree.

Research has also shown that chemical fertilizers have higher phthalate content than organic fertilizers (such as biosolids and compost). A quote from a December 2022 literature review is as follows: “Organic fertilizers are often produced from organic wastes via compost, which makes them less phthalate polluted, while chemical fertilizers may involve plastic in their production and final presentation (packaging).”<sup>3</sup> Again, to focus solely on biosolids would not effectively address the question of human exposure pathways from contaminated agricultural soil and would miss the bigger picture in answering this important question.

Given this information, we offer the following suggested modifications to the current biosolids-related recommendations listed in the draft Phthalates Action Plan. Our intent is aligned with Ecology’s, to understand and address sources of phthalates and potential impacts on human and environmental health. We believe that these modifications would further these goals and strengthen the Phthalates Action Plan overall.

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<sup>2</sup> [Groundwater contamination pathways of phthalates and bisphenol A: origin, characteristics, transport, and fate – A review - ScienceDirect](#), see Section 4.3 “Contaminated soil”

<sup>3</sup> [Groundwater contamination pathways of phthalates and bisphenol A: origin, characteristics, transport, and fate – A review - ScienceDirect](#), see Section 4.3.1 “Chemical products”

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**Suggested modifications to Biosolids-related recommendations:**

Topic	Number	Existing recommendation in Phthalates Action Plan	Suggested modification
Biosolids	Recommendation #1	Ecology should evaluate the transport and breakdown of upstream sources of phthalates in Washington's WWTP influent, effluent, sludge, and biosolids.	None. Agree with recommendation.
Biosolids	Recommendation #2	Ecology should evaluate the transfer potential of phthalates from biosolids to soil and groundwater.	<ul style="list-style-type: none"> <li>• Create a new topic "Agriculture" for this instead of Biosolids.</li> <li>• Modify as follows: "Ecology should evaluate the transfer potential of phthalates from <b><u>soil amendments</u></b> to soil and groundwater."</li> </ul>
Biosolids	Recommendation #3	Ecology should evaluate plant uptake of crops and fodder grown in or on biosolids-amended soils and fields in Washington state.	<ul style="list-style-type: none"> <li>• Create a new topic "Agriculture" for this instead of Biosolids.</li> <li>• Modify as follows: "Ecology should evaluate plant uptake of crops and fodder grown <b><u>in or on contaminated soil</u></b> in Washington state."</li> </ul>
Biosolids	Recommendation #4	Ecology should evaluate the fate of phthalates in composted biosolids in Washington state.	<ul style="list-style-type: none"> <li>• Merge this recommendation with "Compost" Recommendation #2.</li> <li>• Modify as follows: "Ecology should develop and implement a plan to test the levels of phthalates in finished compost that comes from <b><u>various feedstocks, including yard and food waste, biosolids, and manure.</u></b>"</li> </ul>
<b><u>Agriculture</u></b> (suggested new topic)	<i>Suggested new recommendation</i>		Add new recommendation stating: <b><u>"Ecology should develop and implement a plan to test the levels of phthalates in various inputs to agricultural land outside of biosolids and compost, including commercial fertilizers and pesticides."</u></b>

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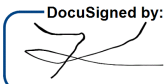
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It is important that Ecology continue to lead on this issue, in the interest of consistency across our state, and avoiding an overly narrow focus on just wastewater agencies and our ratepayers. As passive receivers of contaminants such as phthalates, we want to do our part to address the problem, and we believe others who have a responsibility should do so as well.

Finally, we offer our continued support. We understand that Ecology will need funding and staff resources to implement these recommendations. Please let us know if we can provide letters of support and biosolids samples to assist with this important work. We appreciate the opportunity to offer comments on the draft Phthalates Action Plan. This vital work will help with source control and preventing and minimizing impacts to human and environmental health.

If you have any questions regarding WTD's comments, please contact WTD's Resource Recovery Policy & Research Supervisor Erika Kinno at erika.kinno@kingcounty.gov or 206-477-0942.

Sincerely,

DocuSigned by:  
  
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Kamuron Gurol, Division Director  
Wastewater Treatment Division