EPA Draft Risk Assessment - Comments

Commenter Name(s), Link to Docket ID	Summary of Comment
American Farm Bureau Federation, et al. *Other agricultural commenters include*: National Association of State Departments of Agriculture, U.S. Poultry & Egg Association	Organizations represent the "overwhelming majority of farmers and rangers in the United States raising row crops and livestock, and state agricultural leaders." The commenters articulate the benefits of using biosolids as a fertilizer or soil conditioner for agriculture and describe the current federal regulations. The one ppb assumed starting point is concerning and will "effectively serve as a de facto ban of biosolids." EPA should consider variations in uptake levels across crops (as opposed to relying on an average bioaccumulation), use more relevant studies (i.e., field conditions versus greenhouse studies), reconsider its inaccurate and largely inapplicable assumptions about exposure and land application practices (i.e., unlikely that a farmer would consistently apply biosolids for 40 years in a row), and consider the impact common best management practices would have on risks. The relationship between PFAS exposure and various health effects is "still a subject of ongoing scientific debate and research." "Finally, the Agency's most spectacular assertion is that the draft risk calculations are not conservative estimates. Our organizations represent the farm and ranch families that were highlighted in the hypothetical situation. And, drawing on our member families' experiences, we believe that the many layers of assumptions made to support this assessment lead to a nonsensical conclusion. We challenge the Agency to reevaluate this work and create a model that is more in line with real-world conditions."
American Forest & Paper Association	The Draft Risk Assessment could lead to unintended consequences that could impede the safe and beneficial land application of pulp and paper residuals. There are several scientific problems with the assessment, including the Draft Risk Assessment's use of an unrealistic family farm model, its use of studies involving contaminated sites and other irrelevant studies, and its failure to consider background concentrations of PFOA and PFOS. References to paper manufacturing, paper, and PFAS in toilet paper should be removed. Draft Risk Assessment should use the best available science (probabilistic risk assessment). Recommends that EPA withdraw the Draft Risk Assessment.
American Water Works Association	Critiques EPA's use of hypothetical scenarios in the Draft Risk Assessment and a lack of communication regarding the Draft Risk Assessment's limitations and assumptions. Includes detailed comments on health effects basis for the Draft Risk Assessment: Studies relied on for the noncancer hazard and PFOA cancer classifications do not account for certain confounding factors. The human and animal toxicokinetic models are reasonable. PFAS mixture risk assessment should clarify that it works best when applied to source-specific assessments, not state-level drinking water standards; mixtures should be grouped and added based on common health effects. PFAS cardiovascular risk does not consider study quality in its analysis; the causal evidence between PFAS and cardiovascular disease is weak; a preferred approach would be to use fewer assumptions to minimize uncertainty in the model.
American Water Works Company, Inc.	EPA should review the Draft Risk Assessment methodology and use the National Sewage Sludge Survey results for data.
Association of Metropolitan Water Agencies	Sewage sludge is a necessary by-product of the wastewater treatment process, and biosolids and land application are a sustainable method of disposal that maximizes their usefulness. EPA should address methodological flaws in the Assessment, including unrealistic exposure assumption, incomplete review of alternative disposal methods, and flawed unrealistic models. EPA should also develop guidelines to assist utilities in addressing PFAS and wastewater management. Coordinated intergovernmental cooperation at the federal level is essential to develop a comprehensive action plan to best protect public health from PFAS.
Association of Ohio Metropolitan Wastewater Agencies	EPA should withdraw the Draft Risk Assessment as it lacks risk management analysis and fails to contextualize PFAS exposure from biosolids relative to other sources. The assessment overlooks the environmental and agricultural benefits of land-applied biosolids and does not adequately consider the limited alternatives for biosolids disposal. The assessment relies on unrealistic assumptions and outdated or unrepresentative data, ignoring more recent studies showing lower PFAS levels in most biosolids.
Association of State and Territorial Solid Waste Management Officials	EPA should include recommendations for additional PFAS chemical classes and expand research into identifying upstream sources of PFAS, developing feasible PFAS destruction and remediation technologies, and improving analytical, investigative, and enforcement capabilities.
Beyond Pesticides	PFAS is found in biosolids because of industrial and non-industrial sources. All types of PFAS should be included in the Draft Risk Assessment and land application on residential or agricultural land should not be allowed. There are other "persistent toxic pollutants" in biosolids and the chemicals, including PFAS, can migrate into food. Biosolids should be analyzed to determine whether they cause acute toxicity, cancer, genetic mutations, birth defects, reproductive or developmental effects, neurotoxicity, endocrine disruption, or immune system effects. Other exposure pathways need to be evaluated in the Draft Risk Assessment and the current modeling of the Assessment does not combine risks of PFOA and PFOS.
California Association of Sanitation Agencies	The Draft Risk Assessment is incomplete. It fails to include a risk management component, does not acknowledge limited biosolids management options, is not representative of most biosolids land applications (assumptions use crops grown on contaminated lands), and does not use recent research on long-term application sites with low PFAS mobility. The Draft Risk Assessment deviates from past practice and established protocols for the development and use of adjusted reference intake pollutants. Includes six experts' individual reviews of the Draft Risk Assessment: • Dr. Sally Brown: People are a significant source of PFAS into WWTPs; Draft Risk Assessment should include other PFAS exposure pathways; data should be based on realistic soil conditions. • Dr. Jay Gan: Soil composition can play a big role in PFAS mobility; Draft Risk Assessment underestimates PFAS adsorption and overestimates PFAS bioavailability; Draft Risk Assessment is premature because it lacks field-based estimates. • Dr. Ganga Hettiarachchi: Bioconcentration factors have many uncertainties. The soil studies only included field data for forage, silage, and aboveground vegetables; uncertainties with soil contamination should be taken into account; plant sampling for measuring PFAS uptake could be contaminated with PFAS-contaminated soil or dust. • Dr. Drew McAvoy: Draft Risk Assessment could be improved with better field data for PFAS soil transport, sensitivity analysis on PFAS soil to surface water transport, additional data on PFAS uptake in fruits and vegetables, and additional data for chicken and eggs and beef and milk PFAS concentrations. • Dr. Ian Pepper: Omission of recent PFAS biosolids studies and inclusion of other studies is arbitrary. The models listed do not use real world data on PFAS soil concentrations and do not account for sorption at air-water interface. • Dr. Tom Young: Alternative biosolids management methods have not been assessed. The Draft Risk Assessment ignores background PFAS exposure. Additionally, "farm family" is not representative.
Capital Region Water	A one ppb limit is overly conservative. The "farm family" model is not a typical control group. It would be impracticable and cost prohibitive to remove PFAS from biosolids. Reducing PFAS in biosolids is unlikely to reduce overall PFAS exposure; the Draft Risk Assessment ignores other exposures to PFAS. The uncertainty of some factors in the Draft Risk Assessment can significantly affect the model results.
Casella Waste Systems, Inc.	EPA should include a risk benefit analysis or risk management plan, use a probabilistic model, use a more representative model than the family farm model currently used, and use current data on PFAS transport from biosolids.

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Center for Food Safety	EPA says that publicly owned treatment works generate 3.76 million metric tons of sewage sludge. This may be misleading because it's a small share of all wastewater treatment plants. The total estimate actually being 1.5–2.1 times greater. EPA's scenarios analysis should also include non-agricultural land applications such as home gardening. EPA underestimates risk by using central tendency exposure rather than upper bound. The average PFAS concentrations in biosolids are 10 times higher than one ppb. Therefore, 10 years for length of exposure for farm family is unjustified.
City of Los Angeles Bureau of Sanitation and Environment	EPA should use a probabilistic model (range of input values) rather than a deterministic model (single input value). Additionally, EPA should conduct a risk management component before releasing the Risk Assessment, consider studies that use realistic biosolids application data, and include guidance on limited biosolids management options.
Coalition of Greater Minnesota Cities	The Draft Risk Assessment may lead to inappropriate federal regulations for land application of biosolids that are not scientifically grounded. The Minnesota Pollution Control Agency has already moved forward to address PFAS, but these drafts could be seen as a justification to take unwarranted actions, such as banning land application of biosolids.
Coalition of Recyclers of Residual Organics by Practitioners of Sustainability	Requests that EPA adopt interim guidance for use of PFAS in biosolids while it finalizes the Draft Risk Assessment and considers next steps. The one ppb premise could be, and is being, misinterpreted. The assumptions used in the Draft Risk Assessment do not represent common land application. EPA omits recent research on typical land application.
Columbus Water & Power	EPA should withdraw the Draft Risk Assessment and address PFAS pollution at the source (both industrial and commercial uses). EPA should revoke the Draft Risk Assessment because it does not contain a full risk management analysis. Even while issued as a draft, it has "begun to erode public confidence of the reuse of biosolids and has encouraged legislators to introduce laws prohibiting land application across the country." There are benefits to land application and the limited alternative disposal methods for biosolids that are not covered in the Draft Risk Assessment. EPA must examine other daily exposure pathways as well as the benefits of land application. The Draft Risk Assessment's assumptions, including those about the modeled farm family, the one ppb concentration, and land application practices create inaccurate results. EPA should use more accurate and reliable data in any future analyses. EPA should also address the current gaps in their data and continue to allow the science to develop before issuing more risk assessments.
Conservation Law Foundation (CLF)	The Risk Assessment should be based on sound science, but its current assumptions are overly conservative. It overstates the ability of WWTPs to reduce PFAS with pretreatment. EPA doesn't consider the negative impacts of alternative biosolid management methods. The Draft Risk Assessment should be improved by using a probabilistic risk assessment, collecting real world PFAS concentration data, clearly communicating model assumptions, focusing PFAS mitigation efforts on upstream source reduction, and developing a biosolids management implementation guide.
DC Water (4/22/2025 comment, 8/21/2025 comment)	The Draft Risk Assessment is being misconstrued across the country and was issued prematurely. Adoption of the one ppb assumption would effectuate a de facto ban of biosolids across the country. The Draft Risk Assessment is premature because research into plant uptake of PFAS is ongoing, it doesn't include a risk management component, and it fails to acknowledge the limited biosolids management options. The assumptions and conclusions presented in the Draft Risk Assessment are not accurate. Utilities that apply are required to provide nutrient data to farmers in order to facilitate the accurate application of biosolids. Moreover, studies have confirmed that plants do not uptake PFAS compounds when typical low-concentration municipal biosolids are applied. EPA's assessment uses data that is not reflective of real-world field conditions. EPA did not follow its own prescribed hierarchy for data (field studies with biosolids, greenhouse/pot studies, field studies with other sources of PFAS). The scientific papers referenced in the Draft Risk Assessment showed contradictory results and are based on outdated data. The Draft Risk Assessment does not provide alternative disposal mechanisms and does not provide acknowledged the limited risk management options.
Department of Health, State of Hawaii	Uncertainties and degree of error in the models are not well described. The farm family scenario failed to include several key factors including: PFAS transport is too complex to make broad generalizations on health and environmental impacts; only PFOA and PFOS are covered and other types of PFAS must be evaluated separately; modeling is for example only and shouldn't be used as basis for regulation; children and women of child-bearing age are sensitive groups and should have extra focus; and tools to identify low risk and high risk fields. Recommends changes to specific sections of the Draft Risk Assessment including: systemic uncertainties; PFAS transport and uptake; and PFAS fact sheets.
Discovery Clean Water Alliance	The risks from PFAS in land-applied biosolids must be characterized appropriately so that future federal regulations and potential numeric standards are scientifically grounded and based on realistic exposure pathways. The draft model makes several assumptions that would result in a farm family consuming foods that have come in direct contact with biosolids. The model is not reflective of actual practices, and there is no analysis on exposure to PFAS from other known pathways to the general public.
Eastern Municipal Water District	The Draft Risk Assessment fails to consider human exposure to PFAS from consumer products rather than just biosolids, lacks up-to-date national occurrence data, uses an overly conservative national model, and could result in overly conservative regulations which would involve extensive compliance costs. Additionally, the incineration of inorganic fertilizers may affect climate emissions. EPA should significantly revise the Draft Risk Assessment before finalizing it.
Eastern Pennsylvania Water Pollution Control Operators Association	The Draft Risk Assessment should be withdrawn and a statement released that it grossly overestimates risks. "The release of the Draft Risk Assessment and the related fact sheets and narrative have created uncertainty and confusion." The use of biosolids is financially and environmentally sustainable and contributes to circular economy and soil health. Waste resource recovery facilities are passive receivers of PFAS, and polluters should ultimately be responsible for PFAS remediation. The Draft Risk Assessment should be revised because it does not use the newest research, it should include a risk management analysis, EPA must first regulate upstream sources of PFAS (polluter pays principle), there are currently no reliable methods to measure PFAS, the alternative techniques to remove PFAS are expensive and unproven, and benefits to using biosolids as fertilizer should be considered. If farmers stop using biosolids, they will turn to alternatives that have not been evaluated for PFAS.
Easton Area Joint Sewer Authority	The one ppb limit is overly conservative. The "farm family" model is not a typical control group. It would be impracticable and cost prohibitive to remove PFAS from biosolids. Reducing PFAS in biosolids is unlikely to reduce overall PFAS exposure; the Draft Risk Assessment ignores other exposures to PFAS. The uncertainty of some factors in the Draft Risk Assessment can significantly affect the model results.
Easton Wastewater Treatment Plant, City of Easton, Pennsylvania	The use of biosolids is financially and environmentally sustainable and contributes to circular economy and soil health. Waste Resource Recovery Facilities are passive receivers of PFAS, and polluters should ultimately be responsible for PFAS remediation. The Draft Risk Assessment should be revised because it needs to use newest research, EPA should consider everyday pathways of PFAS exposure, EPA should communicate that this assessment overestimates risk, risk assessment before risk management component is unprecedented, EPA should first regulate upstream sources of PFAS (polluter pays principle), there are no reliable methods to measure PFAS, alternative techniques to remove PFAS are expensive and unproven, and benefits to using biosolids as fertilizer should be considered. The "farm family" is unrealistic and does not represent the general public. If farmers stop using biosolids, they will turn to alternatives that have not been evaluated for PFAS.
Environment America Research & Policy Center	PFAS pose a threat to public health, and the presence of these toxic chemicals in sewage sludge fertilizer risks contaminating American farmland. EPA must stop the application of PFAS-laden sludge. 210 pages with hundreds of signatures are attached.
European Federation for Agricultural Recycling	EPA should include a table showing flows and mass balance from biosolids to soil to surface, and groundwater to drinking water. Toxicity values for PFOA are 20 times more restrictive than European standards. Plant uptake studies focused on vegetables that are rarely spread with biosolids; there are limited studies on PFAS exposure through food intake. Scenarios with the Draft Risk Assessment are exaggerated. For example, the spreading rate, the consumption of food produced on the land, and the groundwater extraction are beyond normal values.

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European Federation for Agricultural Recycling	EPA should include a table showing flows and mass balance from biosolids to soil to surface, and groundwater to drinking water. Toxicity values for PFOA are 20 times more restrictive than European standards. Plant uptake studies focused on vegetables that are rarely spread with biosolids; there are limited studies on PFAS exposure through food intake. Scenarios with the Draft Risk Assessment are exaggerated. For example, the spreading rate, the consumption of food produced on the land, and the groundwater extraction are beyond normal values.
Florida Department of Environmental Protection	EPA's Draft Risk Assessment for PFOA and PFOS in biosolids does not adequately reflect realistic exposure scenarios and public health risks. The deterministic approach used should be supplemented with a probabilistic Monte Carlo analysis to help improve the accuracy of the risk assessment. The modeled biosolids application rate of 10 metric tons per hectare over 40 years is not representative of Florida's practices, which are significantly lower. Additionally, the scenario involving a "farm family" consuming site-grown products is unrepresentative of typical public exposure. EPA should revise the Draft Risk Assessment to include more realistic scenarios and reassessing the applicability of the most sensitive endpoints.
Hampton Roads Sanitation District	EPA's Draft Risk Assessment relies on unrealistic exposure scenarios and flawed data. The Draft Risk Assessment should reflect real-world land application practices, such as Virginia's restrictions on crop types, application frequency, and buffer zones EPA needs to incorporate recent, representative research and contextualize biosolids-related PFAS exposure relative to other common sources. PFAS exposure is ubiquitous and risk assessment results must include discussions on relative risk so that the farm community is not left thinking land application of biosolids is the main source of their exposure. Furthermore, overly conservative conclusions could lead to unnecessary bans and increased costs without public health benefits.
Illinois Association of Wastewater Agencies	The Draft Risk Assessment lacks a risk management component and is based on nonexistent land application scenarios and assumptions that do not actually exist. Many of the assumptions and parameters are based on insufficient data, and the use of one ppb is an exaggeration of the risk of PFOA/PFOS in biosolids. The risk management component should look at all human exposure pathways and quantitatively compare the risks of land application to other biosolids end use options. The land application scenarios are not realistic or representative, do not reflect that most land applied biosolids are not used on crops for human consumption, and do not follow best management practices for Class B biosolids. Thus, overexaggerating the risk to modern farm families and should be modified. EPA should use more recent and ongoing studies in the Draft Risk Assessment, and the use of one ppb overstates potential risks and is higher than concentrations already found in Michigan, Maine, and Vermont.
Illinois Farm Bureau, Illinois Corn Growers Association, Illinois Soybean Growers	EPA's methodology is based on unrealistic and extreme assumptions, and relies on highly contaminated sites. PFOA and PFOS migration models are present. Further, the models used to measure exposure in edible tissues of produce and animals were developed for hazardous waste combustion facilities and are therefore inappropriate here, potentially leading to inaccurate parameters. Additionally, plants exhibit species-specific bioaccumulation tendencies and EPA's use of bioconcentration factors from lettuce generate additional uncertainties. EPA must obtain more specific data in order to prepare a more accurate risk assessment.
Institute for Policy Integrity at New York University School of Law	The economic harm from PFAS contamination is substantial; therefore, regulations that aim to reduce contamination, such as the ones contemplated in the Draft Risk Assessment, would likely reduce these costs. Moreover, regulating the usage of PFAS is likely more cost-effective than after-the-fact remediation efforts.
Knoxville Utilities Board	The model uses risk assessment values that are not scientifically grounded or based on actual, real-world risk. Additionally, the model uses a non-typical control group, which means the draft could result in regulations that increase costs to utilities and taxpayers. Furthermore, the model does not consider other source of PFAS exposure to humans, such as consumer products.
Lancaster Area Sewer Authority	The one ppb limit is overly conservative. The "farm family" model is not a typical control group. It would be impracticable and cost prohibitive to remove PFAS from biosolids. Reducing PFAS in biosolids is unlikely to reduce overall PFAS exposure, and the Draft Risk Assessment ignores other exposures to PFAS. The uncertainty of some factors in the Draft Risk Assessment can significantly affect the model results.
Los Angeles County Sanitation Districts	EPA's assumptions in the assessment are not representative of actual biosolids management practices and any regulations based on the assessment would not be accurate to the risk associated with actual biosolids management practices. The Draft Risk Assessment fails to reflect actual land application practices and to account for PFAS contribution from multiple sources and address alternative disposal in municipal solid waste landfills, a particular concern for California, which requires organic waste including biosolids to be diverted from landfills for beneficial reuse. The Draft Risk Assessment has the potential to reverse progress made nationally by beneficially reusing biosolids, including increasing GHG emissions, creating crisis in biosolids management, hurting state organic recycling industries, etc.
Louisville/Jefferson County Metropolitan Sewer District	EPA's Draft Risk Assessment uses an unrealistically low threshold that may mislead the public. Additionally, farm and ranch families represent less than 2% of the population. The Draft Risk Assessment acknowledges the majority of food is not grown on fields where sewage is land applied, and fails to include essential risk management analysis, ignoring riskier sources of exposure. The current treatment options are prohibitively expensive. There are also several environmental benefits of biosolids land application, including, but not limited to; carbon sequestration; decreased use of commercial nitrogen; limited alternatives for biosolids management; and the challenges of implementing pretreatment programs without federal standards. EPA needs to revise the Draft Risk Assessment to include proposals for upstream source reduction and effluent limitation guidelines, reevaluation of thresholds, redefinition of the study group, and consideration of broader exposure contexts and environmental benefits.
Madison Metropolitan Sewerage District, Wisconsin	The Draft Risk Assessment does not consider new data on everyday PFAS exposure pathways. It creates pressure to limit land application, for which there are limited alternatives. EPA should use more representative exposure scenarios, include a risk management study, analyze other PFAS exposure pathways, incorporate PFAS mass losses in modeling, justify the one ppb limit, use current data, and recognize the limitations in the current state of pretreatment programs.
Maine Center for Disease Control and Prevention, Maine Department of Health and Human Services	EPA should update the Draft Risk Assessment with the provided scientific resources regarding the uptake of PFAS in plants, which can be used to compare against EPA's modeling exercise. EPA should also consider revising based on the provided validated dynamic exposure model for modeling a beef farm, where winter feed is sourced from biosolids. Finally, an initial soil sampling results from a statewide survey of PFAS levels in Maine farmland with a history of land application of biosolids is included for EPA's consideration.
Merrell Bros., Inc.	The Draft Risk Assessment contains information that should be reconsidered. "Current research shows no significant health risks from human exposure to biosolids and indicates that contamination of surface or groundwater from biosolids is very unlikely." Cases of PFAS contamination of groundwater and surface water have been efficiently addressed through industrial pretreatment requirements and other source controls. The Draft Risk Assessment should consider PFAS exposure from other everyday sources.
Michigan Department of Environment, Great Lakes, and Energy - Water Resources Division	The Draft Risk Assessment models are not consistent with field conditions. The data comes from land applications with excessively high PFAS concentrations, the model scenario does not represent targeted population, and there is no risk management assessment.
Michigan Farm Bureau	The scenarios reviewed, the selected methodology, and the risk concentration are not realistic. The Draft Risk Assessment is based on studies that have numerous uncertainties, and EPA should obtain a better understanding of the uptake in crops and livestock before creating human exposure risks. Based on concerns with the Draft Risk Assessment's scenarios, EPA should illustrate actual farm scenarios and provide more realistic results.
Mid-Atlantic Biosolids Association	The Draft Risk Assessment needs to be revised to use the newest research, consider everyday pathways of PFAS exposure, communicate that this assessment overestimates risk, and disclose that completing the risk assessment before completing the risk management component is unprecedented. Additionally, benefits to using biosolids as fertilizer should be considered.

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Midwest Biosolids Association	EPA's Draft Risk Assessment lacks a risk management component and relies on scenarios and assumptions that do not exist. With respect to risk management, EPA should evaluate all major human exposure sources to PFOA and PFOS, as well as quantitatively compare the risk of biosolids land application to other biosolids end use options. As to land application scenarios and assumptions, the modeled scenarios exaggerate risk by assuming continuous biosolids application, production of a variety of crops for harvest and human consumption, and use of onsite water sources, which are uncommon. Further, assumptions and parameters in the Draft Risk Assessment are based on limited or non-representative data. The use of a one ppb benchmark may mislead the public and policymakers. EPA should incorporate more realistic scenarios, current field data, and a comprehensive risk-benefit analysis before finalizing the assessment.
Milwaukee Metropolitan Sewerage District	The Draft Risk Assessment does not appropriately address biosolids used on residential lawns and golf courses. State legislatures are already taking "erroneous" interpretations of the Draft Risk Assessment and taking regulatory action. The Draft Risk Assessment does not address risks for alternatives to land application, such as landfilling and incineration.
Minnesota Environmental Science and Economic Review Board	EPA must revise the Draft Risk Assessment before finalization and must appropriately characterize PFAS risks associated with land application. The Draft Risk Assessment presents unrealistic and overly conservative estimates that are not scientifically grounded of "based on actual, real-world risk." The term "biosolids" should be used instead of sewage sludge in order to "accurately reflect[] the treated, regulated, and beneficially reused product generated by publicly owned treatment works in compliance with EPA's 40 CFR Part 503 standards. EPA should take other potential exposure pathways into account. If EPA releases the Draft Risk Assessment without a risk mitigation or management section, it would be inconsistent with EPA practices and could lead to misinterpretation and unwarranted actions by governments/agencies. The farm family is not a typical control group and is unrealistic and any regulation based on this scenario would increase costs for utilities and ratepayers. The one ppb reference point risks overstating potential harm and has already lead to misinterpretation.
Minnesota Pollution Control Agency	The state has adopted a statewide strategy to address PFAS in the environment, including PFAS monitoring, product prohibitions, and wastewater permitting strategies. With respect to biosolids, the Minnesota Pollution Control Agency recently published the Minnesota Biosolids PFAS Strategy, which requires WWTFs to take certain actions that are intended to decrease potential PFAS human exposure. EPA's Draft Risk Assessment does not fully address vulnerable subpopulations (infants, pregnant woman, or the elderly) and relies on a non-conservative assumption of median exposure conditions, which may underestimate potential risks. Therefore, a more detailed evaluation of sensitive subpopulations is needed. EPA must quantify risks from biosolids incineration (a more common disposal method in Minnesota) and continue to characterize the human health risks associated with land applied biosolids, while considering the entirety of the conditions that contribute to that risk. There must be a comprehensive national strategy to prevent further PFAS contamination and cleanup already existing PFAS in the waste stream.
Missouri Public Utility Alliance	The Draft Risk Assessment uses unrealistic scenarios that do not reflect typical biosolids application practices and overly conservative assumptions. It also simplifies the ability of municipal utilities to reduce PFAS concentrations through pretreatment programs. "We ask that EPA acknowledge and reference the structural and technical limitations faced by municipal utilities in reducing PFAS at the source as well as during the wastewater treatment process." Warns that "[r]estricting land application without considering the full implications for rural and urban communities could have severe unintended consequences" including increased costs for ratepayers, environmental impacts from landfill usage, and detriments to soil health. Requests that EPA conduct a probabilistic risk assessment using updated, real-world biosolids PFAS concentration data, clearly communicate the assumptions and limitations of the modeled scenarios, and focus on source reduction strategies.
National Association of Clean Water Agencies	States and localities are already misconstruing EPA's use of the one ppb threshold as support for proposals to ban land application. Encourages EPA to significantly revise the Draft Risk Assessment before finalizing it, and to gather the necessary occurrence data before making decisions on whether regulations is warranted. It should also contextualize any risks with challenges facing clan water utilities and agricultural users, including the challenge of compliance with any future changed regulations. "As a result of the extreme conservatism in deriving the risk and hazard values for individual exposure pathways, the Draft Risk Assessment mischaracterizes risk and hazards from impacted biosolids and leaves the results open to misinterpretation based on unrealistic assessment results." The Draft Risk Assessment currently uses excessive conservatism, including in its family farm model, its toxicity values for PFOA and PFOS, its modeling of PFOA and PFOS concentrations in receiving environmental media, and its assumptions regarding land application practices, how biosolids are used, mass conservatism, and its exposure assessment. EPA should use a different groundwater source model. The Draft Risk Assessment does not, and should, include information on comparative risks. It also overstates the ability of utility pretreatment programs to reduce PFAS sources.
National Council for Air and Stream Improvements, Inc.	EPA's blanket interpretation of certain studies cannot properly provide scientific or empirical justification, specifically for the use of an "incremental biomarker" as representation of an adverse effect on humans. In making its conclusions, EPA "categorically ignores" the effect of exposures in animals versus humans, overestimates the risk to human health, prioritizes expedited completion of the Draft Risk Assessment over the use of best available scientific data, and generally provides estimates more representative of Maximum Individual Exposure instead of the statutory Reasonably Maximum Exposure required under the Clean Water Act. EPA should revisit the Draft Risk Assessment and employ a "complete probabilistic approach."
National Milk Producers Federation	EPA's model is not a model of a realistic farm; the model assumes that farms have been applying biosolids sludge when in actuality, many farms use manure and purchase groceries at stores. Consequently, the model overestimates biosolid exposure.
National Rural Water Association	The Draft Risk Assessment should have consultation with small entities, including small wastewater utilities and municipalities. The model is limited to data from large POTWs when it should include small entities, and the frequency and details of land-applied waste in agricultural operations are overestimated/inaccurate.
National Tribal Water Council and the Tribal PFAS Working Group	Tribal members have unique lifeways different from the general population, which should be addressed in the final Risk Assessment. Subsistence hunting, gathering, and fishing in risk scenarios would be a good complement to the Risk Assessment, especially considering there is limited data on biosolids near tribal lands. The final Risk Assessment should assess risks for high-end exposure, not median, and consider cumulative exposure, not isolated exposure.
National Waste & Recycling Association	The Draft Risk Assessment lacks a needed risk management analysis and uses a scientifically unsound exposure risk scenario. Additionally, the thresholds used are too low (lower than background levels), the analysis was completed with limited data, and failed to contextualize risk.
New Jersey Department of Environmental Protection	EPA should include a discussion of using Koc over Kd (other factors than organic carbon can influence PFAS retention), and additional scenarios that are more representative of commonly used land application. The New Jersey Department of Environmental Protection (NJDEP) includes copyedits and design preferences (e.g. typos, ordering). "Overall, the NJDEP supports the approach and conclusions of the [Draft Risk Assessment]" and "encourages the USEPA to continue its efforts in understanding human health and environmental risks associated with land application, surface disposal, and incineration of sewage sludge that contains PFOA and PFOS, and to finalize this risk assessment."

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New York City Department of Environmental Protection	By releasing the Draft Risk Assessment without first conducting a risk management analysis, EPA has created "the false impression that biosolids land application poses a substantial threat"; risk management analysis is needed for adequate context. The Draft Risk Assessment uses extreme and unrepresentative assumptions, fails to incorporate the latest peer-reviewed research on PFAS, and overlooks the limited long-term capacity of landfills. By characterizing all biosolids management practices as high-risk, EPA fails to account for varying practices. "The Draft Risk Assessment for PFOA and PFOS: Information for Farmers Fact Sheet provides premature and unsubstantiated recommendations to farmers that will only create more uncertainty as it grossly underestimates risk."
New York State Department of Environmental Conservation and New York State Department of Health	EPA does not clearly articulate or acknowledge when and how it is using conservative assumptions, including its focus on farm families and those relying on farm products. EPA should evaluate additional exposure scenarios and evaluate potential combined effects of PFAS exposure in addition to other substances in biosolids. "[S]tating 1 ppb as nonconservative component of this risk assessment is misleading; it is recommended to state that 1 ppb is a starting point for the modeling for which can then be scaled to any real world biosolid concentration." EPA should address the inconsistency between its use of one ppb with research findings concluding that background levels of PFAS in soils are often higher than one ppb. EPA also does not clearly communicate uncertainties in the presented fate and transport modeling and potential impacts from PFAS in biosolids on groundwater, including how land application will impact groundwater relative to the new maximum contaminant levels." The executive summary lacks sufficient information on the goals and necessary context of the Draft Risk Assessment—*i.e.,* that it is not intended to model risks to the general food supply, that most food crops grown in the U.S. do not use biosolids, and that state regulation of and requirements for land application varies widely. EPA should conduct field investigations to better understand PFAS transport modeling and plant uptake.
North Carolina Farm Bureau Federation	The Draft Risk Assessment methodology is concerning and does not model risks to the general public or model scenarios that are common in real world practice. Farmers are passive receivers of biosolids with high PFAS levels and the modeling and assumptions of the Draft Risk Assessment lead to a "nonsensical conclusion." Biosolids generators should be the ones testing for PFAS. The Draft Risk Assessment could lead to overly restrictive regulation and a ban that will strain farmers' ability to obtain fertilizer. Regulations limiting PFAS to one ppb "will effectively eliminate agricultural use of biosolids," and EPA must reevaluate the Draft Risk Assessment with real world scenarios, reexamine the methodology used for the one ppb threshold, and begin collecting data about PFAS concentrations in biosolids.
North Carolina Water Quality Association, South Carolina Water Quality Association, West Virginia Municipal Water Quality Associations, Association of Missouri Cleanwater Agencies, and the Wet Weather Parntership	The vast majority of municipal biosolids will contain more than one ppb of either or both PFOA or PFOS; many jurisdictions are regulating PFAS in biosolids far above one ppb. EPA should put out guidance for local governments and farming partners with the final Risk Assessment. EPA assumes PFAS exposure only comes from crops and well water, but dust is a major contributor to body burden. Alternative chemical fertilizers have unquantified PFAS levels. Finally, landfilling and incinerating biosolids is costly with adverse side effects.
Northeast Biosolids & Residuals Association	The Draft Risk Assessment is flawed because the exposure scenarios are extreme and unrealistic; scientific data is outdated and inappropriate; and the draft lacks risk characterization, risk management, and cost-benefit analyses.
Northeast Ohio Regional Sewer District	The Draft Risk Assessment's use of a "farm family" is atypical and not representative of the general population/food supply and overlooks other sources of food. The Draft Risk Assessment also fails to address other sources of PFAS in the environment. Lastly, the Draft Risk Assessment fails to take into account the added, significant cost that POTWs would incur if regulations are established based on the current Draft Risk Assessment's results—with little corresponding exposure reduction.
Northwest Biosolids	The primary route for PFAS exposure is through dietary intake, not biosolids management. Any concern for PFAS health risks should be addressed at the source. EPA's failure to conduct/address risk management has fueled public fears. "Risk management information is essential to provide proper context and informed decision-making", and EPA has a responsibility to provide proper context. "EPA should emphasize that the risk to the average citizen or family across the U.S. is *far less* than predicted for the theoretical farm family (which itself is well removed from actual farm families), and when it comes to PFAS in biosolids, is likely *diminishingly small*." EPA should work with other agencies to address PFAS at the source, commit to a pretreatment approach, and overall evaluate its modeling and assumptions.
PFAS Regulatory Coalition *(A coalition of industrial companies, municipal entities, agricultural parties, aviation representatives and trade associations, "each of which has members or facilities that are directly affected by the development of policies and regulations related to per- and poly-fluoroalkyl substances")*	The Draft Risk Assessment has substantial scientific flaws, substantially overestimates risks, and should be withdrawn and revised by EPA.
Public Health-Seattle & King County and King County's Wastewater Treatment Division	Application scenarios in model are different than actual applications in Washington (e.g. applications use lower rates and less frequent, WA farms don't crow crops for direct consumption, deep groundwater table in eastern WA). The final Risk Assessment should include scenarios for: workers, nearby residents, and the general population. The final Risk Assessment should calculate the range of PFAS thresholds, provide guidance on how to safely apply biosolids with more than one ppb, and assess biosolids in home and community garden scenarios. EPA should also assess other PFAS sources, the effects of PFAS mixtures, and precursors and short chain PFAS. EPA should provide a national database of PFAS concentrations from the National Sewage Sludge Survey and share information on how to use the final Risk Assessment.
Sacramento Area Sewer District	The EPA Draft Risk Assessment must be edited to accurately represent risks from PFAS for land application. If not, land application will be limited. Additionally, some of the factors utilized in the Draft Risk Assessment have a high degree of uncertainty. Regulations based on the conservative risk assessment will cause higher utilities and ratepayers to bear the cost of PFAS treatment.
Sheremeta Compost Consulting	The Draft Risk Assessment creates uncertainty, confusion, and could jeopardize the practice of land applying biosolids. The Draft Risk Assessment should be withdrawn and revised to use relevant and ongoing field research for land application (including research on typical biosolids land application), consider empirical data on known/everyday pathways, conduct a risk management analysis, and consider other exposure pathways. Encourages EPA to immediately withdraw the assessment and "[note] that they grossly overestimated risk." EPA should also acknowledge that indirect exposure to PFAS from land application represents a fraction of the exposure that occurs from everyday household products. "EPA should consider what current and avialable alternatives exist for biosolids management if all options pose an unacceptable risk."

EPA Draft Risk Assessment - Comments

Commenter Name(s), Link to Docket ID	Summary of Comment
Sierra Club	Wastewater treatment plants are not equipped to remove PFAS, the benefits of land application have caused the concerns for PFAS to be overlooked, the approximately 40 percent of sewage sludge not land applied goes to landfills where the PFAS enters leachate and air with some ultimately going back to wastewater treatment plants, and the incineration of sewage sludge does not fully destroy PFAS. There is concern about the concentration of PFAS found in fertilizer, so there should be a hazard warning for PFAS at minimum. There are several intermediate PFAS treatment options for wastewater, which include pretreatment, regulating PFAS via NPDES permits, and placing limitations on PFAS levels in sewage sludge. EPA could be doing more by combining the Draft Risk Assessment to address PFOA and PFOS together, requiring manufacturer standards, reviewing potential PFAS transformation in the environment, and combining targeted and untargeted methods.
Southeast Biosolids Association	Wastewater treatment plants are passive receivers of PFAS. EPA should not finalize the risk assessment until additional peer reviewed research can be considered. EPA should also look to international efforts to establish thresholds. The Draft Risk Assessment could be improved by considering risk management, exposure risks via other PFAS exposure pathways, and environmental and agronomic benefits that can influence PFAS mobility and bioavailability. The Draft Risk Assessment relies on conservative assumptions that are not representative of real-world situations, including land application rates, plant PFAS uptake, and geographic/temporal land application patterns/practices.
Southern Environmental Law Center et al.	Farm families are more likely to suffer from the harmful effects of PFAS. Land application contaminates local drinking water sources. The Draft Risk Assessment should account for actual PFAS exposures (beyond one ppb), other exposure pathways, longer PFAS exposure timelines (beyond 10 years), impacts of exposure to multiple PFAS, and risks to children and pregnant and lactating women. Wastewater treatment plants plants have broad authority to regulate industries to remain compliant with CWA. Enforcing pretreatment programs is important to reducing PFAS contamination.
Tennessee Farm Bureau Federation	Fertilizer prices have been unnaturally high and highly volatile in recent years; biosolids are a cheap and viable alternative to commercial fertilizer. Wastewater treatment plants should be required to test for PFOA/PFOS, and farmers should not be liable if contaminants are detected on their land. EPA should develop solutions to reduce contaminants, and establish indemnification programs for farmers and landowners. “Any legislation or administrative action should not release the federal government and their contractors and subcontractors from liability associated with contamination of their land, water, crops, livestock, or products by PFOS/PFOA.”
Texas Commission on Environmental Quality	EPA should create a separate risk assessment for municipal solid waste landfills. The application rates used by EOPA are "roughly comparable" to application rates authorized by TCEQ. Overconservative assumptions made could impact land application and increase demand for disposal and incineration. The reference doses are not sufficient for a quantitate risk assessment/toxicity factor. There are inconsistent findings in scientific reports regarding antibody titer papers, which use the incorrect measurement to indicate adverse effects and do not control for simultaneous co-exposure for multiple PFAS compounds.
US Composting Council	The Draft Risk Assessment’s one ppb threshold is unrealistically low and its focus on farm families is inadequate for entire population. The data used from contaminated sites with high levels of PFAS skews risks. EPA failed to consider alternative exposure pathways. The Draft Risk Assessment “was completely lacking in guidance as to limits, mitigating practices, and other information to help guide industry” manage PFAS and without that, “we are now faced with legislation in numerous states that is misaligned, not informed by a signal standard, and providing difficulty to the compost industry in how to best comply with health recommendations. The compost industry WANTS to mitigate harm, and this missing link increase the uncertainty around this issue.”
Viriginia Association of Municipal Wastewater Agencies and Maryland Association of Wastewater Agencies	EPA should consider whether using its planned process, which is based on TSCA, is appropriate for evaluating biosolids, in light of the TSCA process’s bar on consideration of costs and benefits in the screening and refined risk assessment stages. The Draft Risk Assessment uses over conservative assumptions and complex modeling that lacks transparency. Wastewater treatment plants are passive receivers of PFAS, and biosolids pose relatively low public health risks compared to consumer products. VAMWA and MAMWA are working with state regulators to reduce PFAS levels from identified significant users. There are limited biosolids management options, increased costs passed along to consumers if options are reduced, environmental benefits offered by land application, and lack of cost-effective options to treat PFAS at WWTPs. EPA should conduct a cost-benefit approach, abandon overly conservative assumptions, and consider impacts of other PFAS sources and the relative risk of other pathways.
Veolia	The Draft Risk Assessment is overly narrow, relying on unrealistic exposure scenarios centered around a hypothetical “farm family”, which is statistically an outlier. It also fails to account for broader, more typical biosolids use cases. The Draft Risk Assessment fails to model potential risks to the general public, in part based on EPA’s choice to limit its analysis to a hypothetical farm family using land application scenarios that are not reflective of actual or known exposure pathways. “The exposure scenario that forms the basis of the risk assessment is of limited value and does not address the vast majority of biosolids beneficial use cases in the United States. Unfortunately, that informational gap creates the possibility that EPA’s risk conclusions could be applied out of context by regulators, courts, and other interested stakeholders.” EPA should revise the Draft Risk Assessment to use more representative assumptions. EPA should orient its modeling around a typical person and include more contextual information. EPA should also accelerate work on potential mitigation measures and best practices for biosolids management to guide states amid growing regulatory divergence.
Virginia Biosolids Council	Requests that EPA not finalize the Draft Risk Assessment until additional data is considered, and that EPA highlight the fact that it was completed without the essential risk management component. The Draft Risk Assessment fails to acknowledge the limited options for biosolids management, deeming three of the four options for managing biosolids as unacceptable and failing to consider the fourth. “[G]iven the findings of this risk assessment, it is not clear what current and available alternatives exist for biosolids management if every single option identified for biosolids management poses an “*unacceptable risk*.” The Draft Risk Assessment should be updated to reflect realistic land application and exposure scenarios, include recent research on typical biosolids, and consider differences in regional topography and other region-specific factors.
Virginia Department of Environmental Quality	Virginia's regulatory requirements vary from those in the Draft Risk Assessment, which appears to consider only the management restrictions in 40 CFR Part 503. Virginia has stricter biosolids management practices, such as setbacks distances, buffers (35-foot vegetated and 100-foot non-vegetated buffer), and lower land application rates and frequency (once per two years on average). The Draft Risk Assessment’s assumptions do not align with actual conditions in Virginia, leading to exaggerated risk estimates. There needs to be modeling scenarios that incorporate Virginia’s best management practices, more realistic exposure pathways, and comparisons to other common PFAS exposure sources. EPA must clarify the non-regulatory nature of the assessment to prevent misinterpretation, and to contextualize biosolids-related risks within the broader landscape of PFAS exposure.
Washington State Department of Ecology	EPA should fill in data gaps regarding the uncertainties in the referenced studies and analyze cumulative sources of PFAS exposure.

Last updated November 14, 2025.

EPA Draft Risk Assessment - Comments

Commenter Name(s), Link to Docket ID	Summary of Comment
Washington Suburban Sanitary Commission	The Draft Risk Assessment has created uncertainty and confusion, and led to "unachievable and hastily developed regulatory legislation in several jurisdictions" that threaten the practice of land application of biosolids. EPA should consider other relative risks and PFAs exposure and relevant new or upcoming research.
Wastewater Advisory Committee to the Massachusetts Water Resources Authority	Wastewater treatment plants have no control over PFAS from commercial and residential sources. PFAS levels in manure and artificial fertilizers are unknown. The Draft Risk Assessment's lack of context is misleading to the public and could lead to bans on land application. EPA should delay finalization until it determines PFAS levels in other fertilizers and conducts a risk assessment for biosolid incineration.
Water Environment Federation	The Draft Risk Assessment utilizes overly conservative assumptions that are also unrealistic. Further, the Draft Risk Assessment lacks a risk management component that would compare alternative disposal mechanisms while considering real-world biosolids land application. Further, the Draft Risk Assessment must place PFAS exposure in context by considering alternative sources of exposure. The Draft Risk Assessment could damage and limit beneficial reuse of a necessary waste by product.
Waterkeeper Alliance	Research conducted in 2024 and 2024 by Waterkeeper Alliance found PFAS in surface water downstream from wastewater treatment plants and land application sites. Building on those results, EPA should: (i) ban land application of "PFAS-contaminated biosolids, (ii) uphold existing national safe drinking water standards for PFAS (as opposed to adopting the rescissions proposed on May 14, 2025), (iii) enforce existing PFOA and PFOS deadlines without further extensions, (iv) adopt pending additional surface water quality criteria, (v) implement class-based regulation of PFAS compounds, and (vi) adequately fund PFAS monitoring and treatment technologies, especially in underserved communities.