BEFORE THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

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Food & Water Watch et al. Petition to Include Microplastics on the Sixth Unregulated Contaminant Monitoring Rule under the Safe Drinking Water Act Submitted November 25, 2024 to the Administrator of the U.S. Environmental Protection Agency and the Principal Deputy Assistant Administrator of the Office of Water

I. Introduction

Pursuant to the Administrative Procedure Act ("APA"), 5 U.S.C. §§ 553(e) and 555(e), Food & Water Watch ("FWW") and the undersigned organizations (collectively, "Petitioners") hereby petition the United States Environmental Protection Agency ("EPA") to include microplastics on the Sixth Unregulated Contaminant Monitoring Rule ("UCMR 6") promulgated under the Safe Drinking Water Act ("SDWA or "the Act").¹

The SDWA aims to protect public drinking water from contamination.² In the fifty years since the SDWA was enacted in 1974, EPA has promulgated National Primary Drinking Water Regulations ("NPDWRs") for over 90 contaminants, setting enforceable limits on harmful substances in drinking water.³ As further discussed herein, under the Act, EPA must periodically take action on contaminants that are not yet regulated ("unregulated" or "emerging" contaminants). EPA's obligations include identifying unregulated contaminants that may occur in drinking water, requiring public water systems to monitor for unregulated contaminants, and determining whether regulation is necessary to protect public health. Specifically with regard to monitoring, EPA must promulgate a monitoring program for up to 30 unregulated contaminants every five years—the UCMR.⁴ UCMR 6, which will cover a monitoring period from 2027-2031, is scheduled for a notice of proposed rulemaking in August 2025 and a final rule in December 2026.⁵

Microplastics are harmful and pervasive emerging contaminants. As explained herein, EPA should include microplastics on UCMR 6 because microplastics are ubiquitous in the environment, threaten human health, and occur in drinking water. Moreover, under EPA's own prioritization framework for selecting UCMR contaminants, microplastics warrant monitoring,

¹ Under the APA, agencies must provide interested persons the right to petition for rulemaking. 5 U.S.C. § 553(e). Agencies must also resolve the matter within a "reasonable time", *id.* § 555(b) and provide "[p]rompt notice" and an explanation of a denial. *Id.* § 555(e).

² ENV'T PROT. AGENCY, *Summary of the Safe Drinking Water Act*, <u>https://www.epa.gov/laws-regulations/summary-safe-drinking-water-act</u> (last visited Sept. 26, 2024).

³ ENV'T PROT. AGENCY, *National Primary Drinking Water Regulations*, <u>https://www.epa.gov/ground-water-and-drinking-water/national-primary-drinking-water-regulations</u> (last visited Sept. 26, 2024); 40 C.F.R. pt. 141; ENV'T PROT. AGENCY, *Summary of the Safe Drinking Water Act, supra* note 2.

⁴ 42 U.S.C. § 300j-4(a)(2).

⁵ OFF. INFO. & REGUL. AFFS., *Revisions to Establish the Sixth Unregulated Contaminant Monitoring Rule (UCMR 6) for Public Water Systems* (2024),

https://www.reginfo.gov/public/do/eAgendaViewRule?pubId=202404&RIN=2040-AG33 (last visited Sept. 26, 2024).

and any failure to require it will needlessly delay a future regulatory determination for these dangerous particles. Nationwide monitoring is also timely and necessary to build upon the state-level monitoring that has already begun in California. Finally, in defining microplastics for the purposes of UCMR 6, EPA should account for small microplastics and nanoplastics, which could present even greater risks.

II. Interests of Petitioners

Petitioner FWW is a national non-profit membership organization headquartered in Washington, D.C., with approximately 1.4 million members nationwide. It was founded in 2005 to ensure access to clean drinking water, safe and sustainable food, and a livable climate. FWW uses grassroots organizing, policy advocacy, research, communications, and litigation to further this mission.

FWW advocates extensively on issues related to the fossil fuel and plastics industries, which harm our climate, the environment, public health, and local communities. FWW also educates its members, supporters, and the public about the negative impacts of fossil fuels and plastics, including through reports like *The Fracking Endgame: Locked Into Plastics, Pollution, and Climate Chaos*⁶ and fact sheets like *Plastic's Toxic Lifecycle*⁷ and *Food for Thought: Microplastics are a Macroproblem.*⁸ FWW works to build support for solutions like banning fracking and passing the Break Free From Plastics Pollution Act, while ultimately advocating for the cessation of fossil fuel use. FWW also advocates for policies like the Water Affordability, Transparency, Equity and Reliability ("WATER") Act to provide dedicated federal funding to support improvements to public water systems and wastewater systems.

Additional Petitioners include over 170 national, regional, state, and local organizations that advocate against plastic pollution and the fossil fuel industry and for clean drinking water, healthy communities, and climate and environmental protection, among many other things.

III. Microplastics endanger human health through drinking water

Plastics harm the planet from production to disposal.⁹ The overwhelming majority of plastics are derived from fossil fuels and the plastics lifecycle is replete with climate-damaging emissions.¹⁰ Globally, 400 million tons of plastic waste are produced every year, polluting and persisting in the environment while harming people and ecosystems worldwide.¹¹

⁶ FOOD & WATER WATCH, THE FRACKING ENDGAME: LOCKED INTO PLASTICS, POLLUTION AND CLIMATE CHAOS (2019), <u>https://www.foodandwaterwatch.org/wp-content/uploads/2021/03/rpt_1905_fracking-2019-web_2.pdf</u>. ⁷ FOOD & WATER WATCH, PLASTIC'S TOXIC LIFECYCLE (2023), <u>https://www.foodandwaterwatch.org/wp-</u>

content/uploads/2023/06/FSW_2306_Plastics_Lifecycle.pdf.

 ⁸ FOOD & WATER WATCH, FOOD FOR THOUGHT: MICROPLASTICS ARE A MACROPROBLEM (2023), <u>https://www.foodandwaterwatch.org/wp-content/uploads/2023/08/FSW_2308_MicroplasticsFood.pdf</u>.
 ⁹ See generally, CTR. FOR INT'L ENV'T L., PLASTICS & CLIMATE: THE HIDDEN COSTS OF A PLASTIC PLANET (2019),

https://www.ciel.org/wp-content/uploads/2019/05/Plastic-and-Climate-FINAL-2019.pdf. ¹⁰ Id. at 1. ¹¹ LIN ENV'T PROGRAMME Our Planet Is Choking on Plastic, https://www.upep.org/interactives/beat-plastic-

¹¹ U.N. ENV'T PROGRAMME, *Our Planet Is Choking on Plastic*, <u>https://www.unep.org/interactives/beat-plastic-pollution/</u> (last visited Sept. 26, 2024).

Microplastics are a significant aspect of the plastic pollution crisis. These small plastic particles typically fall into two categories: primary microplastics and secondary microplastics.¹² Primary microplastics are intentionally produced for use in consumer products, whereas secondary microplastics are those that result from the breakdown of larger plastic products.¹³ There is no universally accepted definition of microplastics; however, the term commonly refers to plastic particles smaller than 5 millimeters ("mm") in diameter.¹⁴ Nanoplastics are a subset of microplastics consisting of extremely small particles. Nanoplastics also lack a universally accepted definition, but the term can refer to plastic particles smaller than 1,000 nanometers ("nm"), or 1 micrometer ("µm"), in diameter.¹⁵

Microplastics are ubiquitous in the environment.¹⁶ They are present in our waterways, in the air we breathe, in the products we consume, and it follows, in our bodies.¹⁷ Ingesting or inhaling microplastics poses myriad risks to people's health. Additionally, microplastics transport other toxic substances and harmful contaminants that present health risks. Microplastics—and the threats they carry with them—travel from our drinking water supplies, through our distribution systems, and out our taps, making drinking water a chronic source of exposure to these dangerous contaminants.

a. Microplastics threaten human health.

Microplastics pose risks to people. When ingested, they have the potential to bioaccumulate and travel beyond the digestive system to the circulatory system and then to organs throughout the body.¹⁸ Notably, small microplastics "pos[e] comparatively serious health effects" in part because of their higher potential to reach distant organ systems.¹⁹ Microplastics have been found in the

https://www.sciencedirect.com/science/article/abs/pii/S0269749124005712.

https://iwaponline.com/ws/article/22/5/5650/88579/Microplastics-in-drinking-water-a-macro-issue. For an overview of the dangers posed by inhaling airborne micro- and nanoplastics, *see* CTR. FOR INT'L ENV'T L., BREATHING PLASTIC: THE HEALTH IMPACTS OF INVISIBLE PLASTICS IN THE AIR (2023), https://www.ciel.org/wp-

content/uploads/2023/03/Breathing-Plastic-The-Health-Impacts-of-Invisible-Plastics-in-the-Air.pdf.

¹² ENV'T PROT. AGENCY, *Microplastics Research*, <u>https://www.epa.gov/water-research/microplastics-research</u> (last visited Sept. 26, 2024).

¹³ Id.

¹⁴ See, e.g., *id*; Khaled Ziani et al., *Microplastics: A Real Global Threat for Environment and Food Safety: A State of the Art Review*, NUTRIENTS, Jan. 25, 2023, at 2, <u>https://pubmed.ncbi.nlm.nih.gov/36771324/</u>.

¹⁵ See, e.g., ENV'T PROT. AGENCY, Microplastics Research, supra note 12; Ziani, supra note 14, at 2.

¹⁶ Ling Yang et al., *Microplastics in Drinking Water: A Review on Methods, Occurrence, Sources, and Potential Risk Assessment*, 348 ENV'T POLLUTION, May 1, 2024, at 1–2,

¹⁷ Mary Kosuth et al., *Anthropogenic Contamination of Tap Water, Beer, and Sea Salt*, PLOS ONE, Apr. 11, 2018, at 1–2, <u>https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0194970</u>; Surya Singh et al., *Microplastics in Drinking Water: A Macro Issue*, 22 WATER SUPPLY 5650, 5661 (2022),

¹⁸ Singh, *supra* note 17, at 5661; Yue Li et al., *Potential Health Impact of Microplastics: A Review of Environmental Distribution, Human Exposure, and Toxic Effects*, 1 ENV'T & HEALTH 249, 251 (2023), https://pubs.acs.org/doi/10.1021/envhealth.3c00052.

¹⁹ Singh, *supra* note 17, at 5661.

liver, colon, lungs, placenta, and testes, for example,²⁰ and microplastic toxicity "has been reported in the gastro-intestinal system, liver, reproductive system, and neurological system."²¹

The potential health effects associated with microplastics include "exaggerated inflammatory response, genotoxicity, and oxidative stress resulting in cell and tissue damage, fibrosis, and potentially carcinogenesis."²² Further adverse health impacts may "range[] from an increased incidence of immune or neurodegenerative diseases, increased risk of lung diseases, [and] impairment in renal function" to other detrimental effects, including bone loss.²³ In addition, recent studies suggest that microplastics exposure may increase the risk of heart attack, stroke, or even death²⁴ and may be linked to colorectal cancer²⁵ and disease progression.²⁶

b. Microplastics transport harmful substances.

The health risks of microplastics may be compounded by chemical additives and contaminants they carry.²⁷ Because of their characteristics—size, surface area, and hydrophobic properties—microplastics adsorb toxins and other substances.²⁸ Here again, small microplastics pose an increased risk due to their large surface area and higher potential to interact with contaminants.²⁹ The litany of dangerous constituents associated with microplastics include phthalates and bisphenol A ("BPA"), polychlorinated biphenyls ("PCBs"), pesticides, antibiotics, bacteria, and metals such as cadmium, manganese, lead, arsenic, copper, zinc, and chromium.³⁰ These substances are linked to many negative health effects and threaten several organ systems, including the reproductive, nervous, and cardiovascular systems.³¹

²⁵ Meltem Cetin et al., *Higher Number of Microplastics in Tumoral Colon Tissues from Patients with Colorectal Adenocarcinoma*, 21 ENV'T CHEM. LETTERS 639, 645 (2023), <u>https://doi.org/10.1007/s10311-022-01560-4</u>; Marcella Bonanomi et al., *Polystyrene Micro and Nano-Particles Indue Metabolic Rewiring in Normal Human Colon Cells: A Risk Factor for Human Health*, CHEMOSPHERE, Sept. 2022, at 12,

https://www.sciencedirect.com/science/article/pii/S0045653522014400.

²⁶ Ekaterina Brynzak-Schreiber et al., *Microplastics Role in Cell Migration and Distribution During Cancer Cell Division*, CHEMOSPHERE, Apr. 2024 at 11, https://www.sciencedirect.com/science/article/pii/S0045653524003564.

²⁰ Li, *supra* note 18, at 251; Chelin Jamie Hu et al., *Microplastic Presence in Dog and Human Testis and its Potential Association with Sperm Count and Weights of Testis and Epididymis*, 200 TOXICOLOGICAL SCI., 235, 236 (2024), <u>https://doi.org/10.1093/toxsci/kfae060</u>.

²¹ Singh, *supra* note 17, at 5661.

²² Id.

²³ Id.

²⁴ Raffaele Marfella et al., *Microplastics and Nanoplastics in Atheromas and Cardiovascular Events*, 390 NEW ENG. J. MED. 900, 907–08 (2024), https://www.nejm.org/doi/full/10.1056/NEJMoa2309822.

²⁷ Singh, *supra* note 17, at 5661–62; Isabella Gambino et al., *Occurrence of Microplastics in Tap and Bottled Water: Current Knowledge*, INT'L J. ENV'T RSCH. & PUB. HEALTH, May 2022, at 10, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9103198/.

²⁸ Seren Acarer, *Abundance and Characteristics of Microplastics in Drinking Water Treatment Plants, Distribution Systems, Water from Refill Kiosks, Tap Waters and Bottled Waters*, SCI. TOTAL ENV'T, Aug. 1. 2023, at 2, https://www.sciencedirect.com/science/article/abs/pii/S0048969723024877.

²⁹ Singh, *supra* note 17, at 5661.

³⁰ *Id.* at 5662; Acarer, *supra* note 28, at 2.

³¹ Singh, *supra* note 17, at 5662 (Table 4); Noor Haleem et al., *Microplastics and Associated Chemicals in Drinking Water: A Review of their Occurrence and Human Health Implications*, SCI. TOTAL ENV'T, Feb. 20, 2024, at 10–11, https://www.sciencedirect.com/science/article/abs/pii/S0048969723082244.

Per- and polyfluoroalkyl substances ("PFAS") are among the toxic contaminants transported by microplastics. PFAS exposure is associated with adverse health impacts, including on the liver, the immune system, the nervous system, growth and development, and reproduction, as well as increased cancer risk.³² To begin to address PFAS in drinking water, in 2024, EPA finalized NPDWRs for six PFAS chemicals.³³

Microplastics are "excellent carriers" for toxic chemicals like PFAS.³⁴ The pair commonly coexist in aquatic environments, where microplastics can adsorb PFAS and act as vectors for their transport.³⁵ Research suggests that this interaction may increase PFAS' resistance to environmental degradation as well as organisms' uptake of these toxic chemicals.³⁶ The combined effect of these components is concerning, as "[s]tudies have demonstrated that the co-existence of [microplastics] and PFAS can intensify each other's toxicity³⁷ While this is a developing area of study, it underscores the potential risks posed by microplastics and the contaminants they transport.

c. Microplastics occur in drinking water.

Water is a pathway for chronic microplastics exposure.³⁸ Not only do people consume water daily; water is also used extensively in food production and processing.³⁹ According to the authors of one paper on microplastics consumption, water is "without a doubt the most important source of [microplastics] in our diet." ⁴⁰ Similarly, the authors of another paper state that drinking water "is the main route by which humans are exposed to microplastics."⁴¹ And the authors of yet another paper characterized microplastics in drinking water as "an alarming issue, considering the direct and long-term exposure of the entire population, including the most vulnerable groups."⁴²

Sorokiniana: Perspective from the Cellular and Molecular Levels, J. HAZARDOUS MATERIALS, Mar. 5, 2024, at 10, <u>https://pubmed.ncbi.nlm.nih.gov/38211521/</u> (concluding that the effects of co-exposure to polystyrene microplastics and PFOA "were more intense than those of single-exposure, revealing a remarkable synergistic effect.").

https://foodsafetyandrisk.biomedcentral.com/articles/10.1186/s40550-022-00093-6.

³² PFAS National Primary Drinking Water Regulation, 89 Fed. Reg. 32532, 32537 (Apr. 26, 2024); ENV'T PROT. AGENCY, *Our Current Understanding of the Human Health and Environmental Risks of PFAS*, https://www.epa.gov/pfas/our-current-understanding-human-health-and-environmental-risks-pfas (last visited Sept.

^{30, 2024).}

³³ PFAS National Primary Drinking Water Regulation, 89 Fed. Reg. at 32532.

³⁴ Neha Parashar et al., *Microplastics as Carriers of Per- And Polyfluoroalkyl Substances (PFAS) in Aquatic Environment: Interactions and Ecotoxicological Effects*, WATER EMERGING CONTAMINANTS & NANOPLASTICS, Aug. 3, 2023, at 2, https://www.oaepublish.com/articles/ween.2023.25.

³⁵ *Id.* at 3–4, 8.

³⁶ *Id.* at 13.

³⁷ *Id.* at 15 (also noting the limitations on the research into synergistic effects of microplastics and PFAS); Zhilin Zhao et al., *Polystyrene Microplastics Enhanced the Effect of PFOA on Chlorella*

³⁸ Bozidar Udovicki et al., *Microplastics in Food: Scoping Review on Health Effects, Occurrence, and Human Exposure*, INT'L J. FOOD CONTAMINATION, July 21, 2022 at 6,

³⁹ *Id.*

⁴⁰ *Id*.

⁴¹ Yang, *supra* note 16, at 1.

⁴² Gambino, *supra* note 27, at 10.

Microplastics are present in drinking water from source to tap. They are discharged into waterways from sewage and wastewater treatment plants, combined sewer overflows, surface runoff, industrial wastewater, plastic waste, and atmospheric deposition.⁴³ Once in freshwater systems, microplastics are incorporated into the drinking water supply chain.⁴⁴

Water treatment plants do not remove all microplastics from drinking water.⁴⁵ While treatment processes remove some microplastics, resulting in lower concentrations at the tap than in source waters, they do so with variable results.⁴⁶ Moreover, water distribution systems can be sources of microplastics.⁴⁷ These systems often have plastic components, including pipes comprised of polyvinyl chloride ("PVC")⁴⁸—a known carcinogen.⁴⁹ The presence of these materials in distribution systems, and the potential for leaching,⁵⁰ adds to the microplastic pollution problems in the water they transport.⁵¹

Studies have shown that microplastics occur in tap water worldwide, including in the United States.⁵² One study analyzed drinking water samples from across the globe, including 33 tap water samples from various locations and major cities in the U.S, including Chicago, Los Angeles, New York City, and Washington D.C.⁵³ Anthropogenic particles—most likely microplastics⁵⁴—detected in the tap water samples ranged up to 61 particles per liter, with an overall mean of 5.45 particles per liter.⁵⁵ Of the 14 countries included in the study, the U.S. had both the highest mean—9.24—and maximum—60.9—particles per liter.⁵⁶ Considering daily consumption, and apparently relying on the overall mean, the authors of the study determined that people may consume from 4,400 to over 5,800 particles annually from drinking tap water and beverages derived therefrom.⁵⁷ Adjusted for the U.S. mean, those numbers climb to 7,400 to over 10,000 particles annually.

The concentration of microplastics in drinking water tends to increase as particle size decreases.⁵⁸ This is particularly alarming considering that risks posed by microplastics also increase as particle size decreases.⁵⁹ Further, nanoplastics may be prevalent in drinking water, the

⁴⁸ Acarer, *supra* note 28, at 8; Singh, *supra* note 17, at 5654; Haleem, *supra* note 31, at 3.

⁴³ Singh, *supra* note 17, at 5653–54; Udovicki, *supra* note 38 at 6.

⁴⁴ Singh, *supra* note 17, at 5653–54.

⁴⁵ Acarer, *supra* note 28 at 11–12.

⁴⁶ *Id.* at 3–4.

⁴⁷ Id. at 8; Singh, supra note 17, at 5654; Gambino, supra note 27, at 8.

⁴⁹ Singh, *supra* note 17, at 5661. For an overview of the dangers posed by PVC pipes in drinking water systems, *see* BEYOND PLASTICS, THE PERILS OF PVC PLASTIC PIPES (2023), <u>https://www.beyondplastics.org/publications/perils-of-pvc-pipes</u>.

⁵⁰ Gambino, *supra* note 27, at 10.

⁵¹ Singh, *supra* note 17, at 5654; Haleem, *supra* note 31, at 3.

⁵² Gambino, *supra* note 27, at 7–8.

⁵³ Kosuth, *supra* note 17, at 3.

⁵⁴ *Id.* at 5 (explaining the authors' choice to use "anthropogenic debris" rather than "microplastic" based on the methodology but noting that "it is logical to assume that the particles found are at least synthetic and most likely could be classified as microplastics").

⁵⁵ *Id.* at 7–8.

⁵⁶ *Id.* at 8.

⁵⁷ *Id.* at 13.

⁵⁸ Gambino, *supra* note 27, at 8; Yang, *supra* note 16, at 4–5 (discussing treated drinking water).

⁵⁹ See supra Part III.a., b.

toxic effects of which "are an enhanced version of microplastics, with smaller particle size, larger surface area, greater chemical reactively, higher adsorption, and more readily absorbed capacity than microplastics."⁶⁰

The journey microplastics take from drinking water sources to the tap only exacerbates the dangers posed by these pervasive particles. As microplastics travel from water sources through treatment and distribution systems, they age, break down, crack, and fragment.⁶¹ Certain water treatment methods can accelerate these processes for microplastics; for example, those associated with disinfection.⁶² The decomposition byproducts—which can be disease- and cancer-causing— contribute to negative health effects "includ[ing] oxidative stress, impairments in the gastrointestinal and reproductive systems, metabolic disturbances, and liver changes."⁶³

In short, microplastics are ubiquitous in the environment, threaten human health, and occur in drinking water—a primary pathway through which people are exposed to these pervasive contaminants.

IV. The Safe Drinking Water Act requires EPA to monitor for, and regulate, emerging contaminants like microplastics

Under the SDWA, EPA promulgates NPDWRs to limit contaminants in public water systems that pose risks to human health.⁶⁴ The NPDWRs establish maximum contaminant levels ("MCLs") for dangerous contaminants, such as lead and PFAS, in drinking water.⁶⁵

The SDWA requires EPA to take action on emerging contaminants like microplastics. Specifically, every five years, EPA must promulgate a monitoring program for up to 30 unregulated contaminants—the UCMR.⁶⁶ EPA prioritizes contaminants for the UCMR according to a multi-factor framework:

> The first step includes identifying contaminants that (1) were not monitored under previous UCMR cycles; (2) may occur in drinking water; and (3) are expected to have a completed, validated drinking water method in time for rule proposal.

> The next step is to consider the following: availability of health assessments or other health-effects information (e.g., critical health endpoints suggesting carcinogenicity); public interest (e.g., PFAS); active use (e.g., pesticides that are registered for use); and availability of occurrence data.

⁶⁰ Yang, *supra* note 16, at 8.

⁶¹ Haleem, *supra* note 31, at 2.

⁶² Id.

⁶³ Id.

⁶⁴ 42 U.S.C. § 300g-1.

⁶⁵ Id.; ENV'T PROT. AGENCY, National Primary Drinking Water Regulations, supra note 3.

⁶⁶ 42 U.S.C. § 300j-4(a)(2).

During the final step, EPA considers stakeholder input; looks at costeffectiveness of the potential monitoring approaches; considers implementation factors (e.g., laboratory capacity); and further evaluates health effects, occurrence, and persistence/mobility data to identify the list of proposed UCMR contaminants.⁶⁷

Monitoring results from the UCMR are included in, and made publicly available through, the National Contaminant Occurrence Database ("NCOD"), which compiles data on regulated and unregulated contaminants.⁶⁸

The UCMR is one step of a three-step process to address unregulated contaminants under the SDWA that also consists of EPA's issuance of Contaminant Candidate Lists ("CCLs")⁶⁹ and regulatory determinations.⁷⁰ CCLs catalog unregulated contaminants "which are known or anticipated to occur in public water systems, and which may require regulation" under the SDWA.⁷¹ In developing a CCL, EPA must consider the information contained in the NCOD.⁷² Like the UCMR, EPA issues a CCL every five years.⁷³ However, these processes occur at staggered intervals with the UCMR cycle currently preceding the CCL cycle.⁷⁴ Importantly, while EPA has typically described the process under the SDWA for emerging contaminants as one that begins with the CCL, there is no requirement for the agency to list a contaminant before taking other actions, like placing it on the UCMR.⁷⁵

In addition to the UCMR and the CCL, EPA issues regulatory determinations. At a minimum, the SDWA requires EPA to determine whether or not to regulate at least five contaminants on the CCL every five years.⁷⁶ However, listing on the CCL is not a prerequisite to a regulatory determination, as the SDWA expressly allows EPA to regulate unlisted contaminants if they meet the criteria for such determination.⁷⁷ As to those criteria, first, EPA considers whether "the contaminant may have an adverse effect" on people's health.⁷⁸ Second, EPA considers whether "the contaminant is known to occur or there is a substantial likelihood that the contaminant will

⁶⁷ ENV'T PROT. AGENCY, Learn About the Unregulated Contaminant Monitoring Rule,

https://www.epa.gov/dwucmr/learn-about-unregulated-contaminant-monitoring-rule (last visited Oct. 1, 2024). ⁶⁸ *Id.* §§ 300j-4(a)(2)(B)(i); 300j-4(g); ENV'T PROT. AGENCY, National Contaminant Occurrence Database (NCOD), <u>https://www.epa.gov/sdwa/national-contaminant-occurrence-database-ncod</u> (last visited Oct. 1, 2024). ⁶⁹ 42 U.S.C. § 300g-1(b)(1)(B)(i).

⁷⁰ *Id.* § 300g-1(b)(1)(B)(ii).

⁷¹ *Id.* § 300g-1(b)(1)(B)(i)(I).

⁷² Id

 $^{^{73}}$ Id

 ⁷⁴ The fifth UCMR was finalized in December 2021, whereas the fifth CCL was finalized in November 2022. Revisions to the Unregulated Contaminant Monitoring Rule (UCMR 5) for Public Water Systems and Announcement of Public Meetings, 86 Fed. Reg. 73131 (Dec. 27, 2021); Drinking Water Contaminant Candidate List 5-Final, 87 Fed. Reg. 68060 (Nov. 14, 2022). In prior cycles, the CCL preceded the UCMR. *See, e.g.*, Drinking Water Contaminant Candidate List 3-Final, 74 Fed. Reg. 51850 (Oct. 8, 2009); Revisions to the Unregulated Contaminant Monitoring Regulation (UCMR 3) for Public Water Systems, 76 Fed. Reg. 11713 (Mar. 3, 2011).
 ⁷⁵ CONG. RSCH. SERV., REGULATING CONTAMINANTS UNDER THE SAFE DRINKING WATER ACT (SDWA) 8 (2024), https://crsreports.congress.gov/product/pdf/R/R46652 ("EPA generally selects the list of unregulated contaminants for a UCMR based on the CCLs, but may select other unregulated contaminants as well.").

⁷⁶ 42 U.S.C. § 300g-1(b)(1)(B)(ii)(I).

⁷⁷ Id. § 300g-1(b)(1)(B)(ii)(III).

⁷⁸ *Id.* § 300g-1(b)(1)(A)(i).

occur in public water systems with a frequency and at levels of public health concern."⁷⁹ Third, EPA considers whether, in its judgment, "regulation of such contaminant presents a meaningful opportunity" to reduce the risks for people who use public water systems.⁸⁰

EPA's findings with regard to the regulatory determination criteria must be based on the "best available public health information," including information contained in the NCOD.⁸¹ Additionally, EPA must prioritize unregulated contaminants with the most significant public health concerns for regulatory determinations.⁸² If EPA determines that a contaminant should be regulated, it must issue a health-based maximum contaminant level goal ("MCLG")⁸³ and promulgate a NPDWR with an enforceable MCL for that contaminant.⁸⁴

The SDWA thus imposes a framework to address emerging contaminants. Considering the risks presented by microplastics in drinking water, EPA must act immediately to determine the scope and scale of the problem to inform a future regulatory determination.

V. EPA should include microplastics on the Sixth Unregulated Contaminant Monitoring Rule

As an initial matter, EPA is already considering the possibility of monitoring for, and regulating, microplastics under the SDWA. In February 2024, the agency included microplastics in a request for public comment on analytical methods for emerging contaminants in drinking water to support future inclusion on the next or subsequent UCMRs.⁸⁵ Moreover, in November 2024, EPA identified "drinking water standards for microplastics" as a way in which it could potentially use its SDWA authority to better address the plastic pollution crisis.⁸⁶ Yet Petitioners urge EPA to take action immediately—by monitoring for microplastics through UCMR 6—rather than delaying critical information gathering and future regulation for years.

a. Microplastics warrant inclusion on UCMR 6 under EPA's prioritization framework.

Microplastics satisfy many criteria under EPA's own multi-factor prioritization framework for selecting contaminants for the UCMR. *First*, EPA considers contaminants that have not appeared on previous UCMRs, may be present in drinking water, and for which there is or will be an approved drinking water methodology when the rule is proposed.⁸⁷ These criteria are easily met here. Microplastics have not appeared on previous UCMRs. In addition, they are ubiquitous in

https://www.epa.gov/system/files/documents/2024-11/final_national_strategy_to_prevent_plastic_pollution.pdf. ⁸⁷ ENV'T PROT. AGENCY, *Learn About the Unregulated Contaminant Monitoring Rule, supra* note 67.

⁷⁹ *Id.* § 300g-1(b)(1)(A)(ii).

⁸⁰ Id. § 300g-1(b)(1)(A)(iii).

⁸¹ Id. § 300g-1(b)(1)(B)(ii)(II).

⁸² *Id.* § 300g-1(b)(1)(C).

⁸³ *Id.* § 300g-1(b)(1)(E). An MCLG is "the maximum level of a contaminant in drinking water at which no known or anticipated adverse effect on the health of persons would occur, and which allows an adequate margin of safety. Maximum contaminant level goals are nonenforceable health goals." 40 C.F.R. § 141.2.

⁸⁴ 42 U.S.C. §§ 300g-1(b)(1)(E), 300g-1(b)(4)(B). An MCL is "the maximum permissible level of a contaminant in water which is delivered to any user of a public water system." *Id.* § 300f(3).

 ⁸⁵ Unregulated Contaminant Monitoring Rule; Methods Request and Webinar, 89 Fed. Reg. 8584 (Feb. 8, 2024).
 ⁸⁶ ENV'T PROT. AGENCY, NATIONAL STRATEGY TO PREVENT PLASTIC POLLUTION (Nov.2024),

the environment and occur in drinking water sources and tap water.⁸⁸ And, according to EPA's February 2024 request for public comment, the agency is in the process of developing a microplastics methodology.⁸⁹

Furthermore, regardless of EPA's efforts, the agency is aware of several methodologies that already exist to analyze microplastics. To begin, EPA recognizes that two voluntary consensus standards methods are available.⁹⁰ EPA further acknowledges that various spectroscopic techniques are available, including fourier transform infrared ("FTIR") spectroscopy, laser direct infrared ("LDIR") spectroscopy, and Raman spectroscopy.⁹¹ Researchers also confirm that such methodologies exist to detect microplastics in drinking water,⁹² and the California State Water Resources Control Board ("California Water Board") has already adopted two approved methodologies—Raman spectroscopy and infrared spectroscopy—for use in its microplastics monitoring program, discussed *infra*.⁹³ In response to EPA's February 2024 request for public comment, the California Water Board recommended that EPA consider those approved methods, along with "exploring mass-based methods like Gas Chromatography Mass Spectrometry."⁹⁴

Second, EPA considers health assessments or health effects, public concern, active use, and occurrence data availability.⁹⁵ Here again, microplastics easily satisfy multiple criteria. As discussed *supra*, microplastics threaten human health.⁹⁶ The risks of ingesting microplastics through drinking water—a chronic source of exposure—are compounded by the contaminants they carry.⁹⁷ Microplastics and the substances they transport are associated with a litany of negative health impacts including, among many other adverse effects, cancers and chronic diseases.⁹⁸

Moreover, microplastics are of significant public interest and concern. According to the results of a nationwide survey on plastics released in April 2024, an overwhelming majority of people— 89%—are concerned about "plastic and its impact on air and water pollution," while an even greater portion of the public—94%—"believes ensuring clean drinking water" should be a

⁹⁶ See supra Part III.

⁹⁸ Id.

⁸⁸ See supra Part III.

⁸⁹ Unregulated Contaminant Monitoring Rule; Methods Request and Webinar, 89 Fed. Reg. at 8594.

⁹⁰ Id. (identifying ASTM D8332-20 and ASTM D8333-20); ASTM INT'L, Standard Practice for Collection of Water Samples with High, Medium, or Low Suspended Solids for Identification and Quantification of Microplastic Particles and Fibers (last updated Aug. 14, 2020), <u>https://www.astm.org/d8332-20.html</u>; ASTM INT'L, Standard Practice for Preparation of Water Samples with High, Medium, or Low Suspended Solids for Identification and Quantification of Microplastic Particles and Fibers Using Raman Spectroscopy, IR Spectroscopy, or Pyrolysis-GC/MS (last updated Aug. 14, 2020), <u>https://www.astm.org/d8333-20.html</u>.

⁹¹ Unregulated Contaminant Monitoring Rule; Methods Request and Webinar, 89 Fed. Reg. at 8594.

⁹² *E.g.*, Gambino, *supra* note 27, at 4 (identifying "four currently validated processes for the identification of microparticle composition: Fourier-transform infrared spectroscopy (FTIR), Raman spectroscopy (RM), pyrolysis gas chromatography/mass spectrometry (Pyr-GC-MS) and scanning electron microscopy plus energy-dispersive X-ray spectroscopy (SEM-EDS)").

⁹³ Letter from Darrin Polhemus, Cal. State Water Res. Control Bd. to Bruno Pigott, Env't Prot. Agency 5–6 (Apr. 5, 2024), <u>https://www.regulations.gov/comment/EPA-HQ-OW-2023-0469-0087</u>.

⁹⁴ Id.

⁹⁵ ENV'T PROT. AGENCY, Learn About the Unregulated Contaminant Monitoring Rule, supra note 67.

⁹⁷ Id.

priority for the federal government.⁹⁹ Most people—83%—are worried about the health impacts of plastic pollution on them and their loved ones.¹⁰⁰ As such, it is unsurprising that "[t]he public especially wants to see action to eliminate the most toxic forms of plastic and to prevent microplastics from entering our food and water supplies."¹⁰¹

Further, plastics are actively generated, used, and discarded in overwhelming quantities in the U.S. According to EPA, in 2018, the U.S. generated 35.7 million tons of plastics and landfilled 27 million tons.¹⁰² Microplastics permeate nearly every aspect of our lives, including the food we eat, the water we drink, the products we buy, and the air we breathe. Tap water is no exception, as microplastics occur in drinking water supplies, travel through drinking water treatment and distribution systems, and into our homes.¹⁰³

Third, EPA considers several other factors, including stakeholder input.¹⁰⁴ Here, the agency is already receiving stakeholder input on microplastics in drinking water, including from congressional representatives, state officials, and advocates. In May 2023, over 70 members of Congress demanded that EPA promulgate NPDWRs for microplastics, urging the agency to "use the [SDWA] regulatory process to establish clear goals and enforceable limits on the number of microplastics in drinking water."¹⁰⁵ Moreover, in February 2024, the agency specifically requested input regarding analytical methods for microplastics.¹⁰⁶ In response, EPA heard from the California Water Board urging the agency to define microplastics and consider certain microplastics methods.¹⁰⁷ It also received input from environmental organizations advocating for EPA to approve microplastics methods and require microplastics monitoring in UCMR 6.¹⁰⁸

In sum, microplastics clearly meet many of EPA's own prioritization criteria and the agency should include these pervasive and harmful particles on UCMR 6.

b. Failure to include microplastics on UCMR 6 will cause unnecessary delay.

If EPA does not take action to monitor for microplastics immediately, it could significantly delay critical information gathering. For example, if EPA declines to develop a monitoring program in

⁹⁹ Memorandum from Glob. Strategies Grp. to Interested Parties 1 (Apr. 15, 2024), <u>https://www.nrdc.org/sites/default/files/2024-04/international-plastics-treaty-polling-20240415.pdf</u>. The survey was

commissioned by the Natural Resources Defense Council ("NRDC"). *Id.* ¹⁰⁰ *Id*

 $^{^{101}}$ Id. at 2.

¹⁰² ENV'T PROT. AGENCY, *Plastics: Material-Specific Data*, <u>https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data</u> (last visited Oct. 2, 2024) (citing the American Chemistry Council as the primary source of data).

¹⁰³ See supra Part III.

¹⁰⁴ ENV'T PROT. AGENCY, *Learn About the Unregulated Contaminant Monitoring Rule, supra* note 67.

¹⁰⁵ Letter from Lloyd Doggett et al., Members of Congress, to Michael S. Regan, Env't Prot. Agency Adm'r. 2 (May 12, 2023), <u>https://doggett.house.gov/sites/evo-subsites/doggett.house.gov/files/evo-media-document/quill-letter-</u> 111195-epa-microplastic-actions-version-3-05-12-2023-09-36-am.pdf.

¹⁰⁶ Unregulated Contaminant Monitoring Rule; Methods Request and Webinar, 89 Fed. Reg. at 8594.

¹⁰⁷ Letter from Darrin Polhemus, Cal. State Water Res. Control Bd. to Bruno Pigott, Env't Prot. Agency, *supra* note 93, at 5–6.

¹⁰⁸ Letter from Anna Reade, PhD, et al., NRDC & Andria Ventura, Clean Water Action to Bruno Pigott, Env't Prot. Agency 6 *Id.* § 300g-1(b)(1)(10 (Apr. 8, 2024), <u>https://www.regulations.gov/comment/EPA-HQ-OW-2023-0469-0094</u>.

order to first list microplastics on the CCL, a years-long delay will result.¹⁰⁹ There is no reason for EPA to take that course of action, as listing a contaminant on the CCL is not a prerequisite to monitoring.¹¹⁰ Yet if EPA opts to do nothing until when—or even if—it lists microplastics at some point in the future, it would—at a minimum—result in a proportional delay for monitoring, wasting time that could otherwise be used to collect valuable data on microplastics in drinking water.¹¹¹

In any case, EPA should not delay monitoring for microplastics until subsequent UCMR cycles. Given that UCMRs are issued at five-year intervals, and that UCMR 6 will cover a monitoring period from 2027 to 2031,¹¹² the next monitoring cycle would not begin until 2032 and would not conclude until 2036. Any delays in monitoring could have cascading effects on any future regulatory determinations and, ultimately, any actual enforceable limits for microplastics in drinking water.

EPA's regulatory timeline for certain PFAS—particularly PFOA and PFOS—demonstrates the prolonged process for regulating emerging contaminants under the SDWA. PFOA and PFOS first appeared on CCL 3 in 2009 and were first monitored under UCMR 3 beginning in 2013.¹¹³ EPA did not issue final regulatory determinations for PFOA and PFOS until 2021 and did not finalize NPDWRs for these contaminants until 2024.¹¹⁴ Given EPA's lengthy timeline for promulgating enforceable limits for emerging contaminants in drinking water, the public cannot afford unnecessary delay in regulating microplastics.

c. A nationwide monitoring program for microplastics is timely and necessary to build upon state-level monitoring that has already begun.

In 2018, the California State Legislature amended the California Safe Drinking Water Act ("CSDWA") to require monitoring of microplastics in drinking water.¹¹⁵ Specifically, the amendment—Section 116376 of the CSDWA—directed the California Water Board to define microplastics by mid-2020; approve a microplastics methodology for drinking water; and develop a four-year monitoring program, including testing and reporting, for microplastics by mid-2021.¹¹⁶

The purpose of the amendment was to raise public awareness "of the extent of microplastics present in drinking water because of the potential dangers they pose to human health and the

¹⁰⁹ CCLs are issued at five-year intervals, and the most recent CCL was issued in November 2022. Drinking Water Contaminant Candidate List 5-Final, 87 Fed. Reg. 68060. Thus, even if EPA listed microplastics on the next CCL— which will not be issued until approximately 2027—it would push microplastics to the next UCMR cycle.

¹¹⁰ CONG. RSCH. SERV., REGULATING CONTAMINANTS UNDER THE SAFE DRINKING WATER ACT (SDWA), *supra* note 75, at 8.

¹¹¹ While EPA should not delay monitoring, it should list microplastics on the next CCL regardless.

¹¹² OFF. INFO. & REGUL. AFFS., *Revisions to Establish the Sixth Unregulated Contaminant Monitoring Rule (UCMR 6) for Public Water Systems, supra* note 5.

¹¹³ PFAS National Primary Drinking Water Regulation, 89 Fed. Reg. at 32537.

¹¹⁴ *Id.* at 32532, 32537–38.

 ¹¹⁵ CAL. STATE WATER RES. CONTROL BD., *Microplastics*,
 <u>https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/microplastics.html</u> (last visited Oct. 2, 2024).
 ¹¹⁶ Id.; Cal. Health & Safety Code §116376.

environment."¹¹⁷ Regarding occurrence in tap water, the California Senate Committee on Environmental Quality's bill analysis cited a study, also discussed herein, where researchers collected 159 drinking water samples across the globe and found microplastics in 83% overall and 94% within the U.S.¹¹⁸ The Committee's analysis concluded that people ingest microplastics "when they drink and eat foods prepared by using tap water."¹¹⁹

In 2022, the California Water Board adopted a policy handbook to implement Section 116376.¹²⁰ The Board settled on a two-step approach to test drinking water over a period of four years, with time in between to review results and adjust.¹²¹ Under the Board's two-step approach, Phase I of the program focuses on source water monitoring, whereas Phase II focuses on treated drinking water monitoring.¹²²

California is leading the nation in monitoring for microplastics in drinking water. Federal action is timely given that EPA can now benefit from the California Water Board's experience and recommendations—as it already has regarding methodologies¹²³—and model its program accordingly. Federal action is also necessary to ensure consistent, nationwide data collection on microplastics in drinking water.

d. EPA's definition of microplastics should account for small microplastics and nanoplastics.

Should EPA include microplastics on UCMR 6, the agency's definition must account for small microplastics and nanoplastics to the greatest extent possible. Small microplastics and nanoplastics could present even greater health risks than larger particles. According to one paper, "[t]he highest toxicity in human cell lines was registered when they were exposed to [nanoplastics]"¹²⁴ According to another, small microplastics "have higher potential for acting as adsorbate for contaminants and also for reaching up to the distant organs; thus posing comparatively serious health effects."¹²⁵ And according to yet another, small microplastics and nanoplastics "can penetrate epithelial cell membranes, blood-brain barriers, and the placenta, leading to more severe health problems."¹²⁶

https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/docs/2022/mp-hndbk.pdf.

¹¹⁷ CAL. S. COMM. ON ENV'T QUALITY, SB 1422 Bill Analysis at 3 (2017-2018 Reg. Sess.), available at <u>https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=201720180SB1422</u>.

¹¹⁸ *Id.* at 3; *see also*, Kosuth, *supra* note 17.

¹¹⁹ CAL. S. COMM. ON ENV'T QUALITY, *supra* note 117, at 3.

¹²⁰ CAL. STATE WATER RES. CONTROL BD., Res. No. 2022-0032 (Sept. 7, 2022); CAL. STATE WATER RES. CONTROL BD., POLICY HANDBOOK ESTABLISHING A STANDARD METHOD OF TESTING AND REPORTING OF MICROPLASTICS IN DRINKING WATER 2–3 (Aug. 9, 2022),

¹²¹ CAL. STATE WATER RES. CONTROL BD., POLICY HANDBOOK ESTABLISHING A STANDARD METHOD OF TESTING AND REPORTING OF MICROPLASTICS IN DRINKING WATER, *supra* note 120, at 9–10.

¹²² *Id.* at 10.

¹²³ Letter from Darrin Polhemus, Cal. State Water Res. Control Bd. to Bruno Pigott, Env't Prot. Agency, *supra* note 93, at 5–6.

¹²⁴ Gambino, *supra* note 27, at 3.

¹²⁵ Singh, *supra* note 17, at 5661.

¹²⁶ Haleem, *supra* note 31, at 4.

EPA has not promulgated a regulatory definition of microplastics. A Microplastics Expert Workshop Report produced by EPA's Office of Wetlands, Oceans and Watersheds states that microplastics are "broadly defined as plastic particles <5 mm in size in any one dimension," without specifying a lower limit.¹²⁷ EPA's Microplastic Beach Protocol from 2021 includes the same general definition,¹²⁸ as does EPA's Trash Free Waters Program.¹²⁹ EPA's researchers, however, define microplastics "as plastic particles ranging in size from 5 [mm] ... to 1 [nm]."¹³⁰ The California Water Board's definition of microplastics reflects the same size range.¹³¹

Considering the increased risks posed by small microplastics and nanoplastics, EPA should define microplastics in a way that requires monitoring for the smallest particles possible and allows for improvements in detection methodologies.¹³² In any event, EPA's definition should not be any less inclusive than that of the agency's own researchers and the California Water Board.

VI. Conclusion

Microplastics are pervasive and harmful particles. They are ubiquitous in the environment, endanger human health, and occur in drinking water, which people consume and use daily. As such, EPA should urgently require monitoring of microplastics under the SDWA. Any failure to include microplastics on UCMR 6 despite the available evidence would be arbitrary and capricious, unreasonably delay critical data collection and regulation, and prolong an already lengthy process for setting enforceable limits on emerging contaminants in drinking water. For the aforementioned reasons, Petitioners urge EPA to include microplastics on UCMR 6.

Respectfully submitted,

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¹²⁷ MARGARET MURPHY, ENV'T PROT. AGENCY OFF. WETLANDS, OCEANS & WATERSHEDS, MICROPLASTICS EXPERT WORKSHOP REPORT 2 (Dec. 4, 2017), <u>https://www.epa.gov/sites/default/files/2018-</u> 02/de support final 12/4/17 wff

^{03/}documents/microplastics_expert_workshop_report_final_12-4-17.pdf.

¹²⁸ ENV'T PROT. AGENCY, EPA'S MICROPLASTIC BEACH PROTOCOL: A COMMUNITY SCIENCE PROTOCOL FOR SAMPLING MICROPLASTIC POLLUTION 3 (Sept. 2021), <u>https://www.epa.gov/system/files/documents/2021-09/microplastic-beach-protocol_sept-2021.pdf</u>.

¹²⁹ ENV'T PROT. AGENCY, *Learn About Aquatic Trash*, <u>https://www.epa.gov/trash-free-waters/learn-about-aquatic-trash</u> (last visited Oct. 2, 2024).

¹³⁰ ENV'T PROT. AGENCY, *Microplastics Research*, *supra* note 12.

¹³¹ CAL. STATE WATER RES. CONTROL BD., POLICY HANDBOOK ESTABLISHING A STANDARD METHOD OF TESTING AND REPORTING OF MICROPLASTICS IN DRINKING WATER, *supra* note 120, at 4.

¹³² Significant improvements in detection capabilities can occur after a contaminant appears on the UCMR. *See, e.g.*, PFAS National Primary Drinking Water Regulation, 89 Fed. Reg. at 32576 (noting significant improvements in the analytical capabilities for PFOA and PFOS, as demonstrated by the fact that "...the minimum reporting levels calculated for UCMR 3 (2012-2016) were 40 ng/L and 20 ng/L for PFOS and PFOA, respectively, [and] the minimum reporting levels calculated for UCMR 5 (2022-2025) were 4 ng/L each for PFOA and PFOS"). Thus, EPA's definition should anticipate, not foreclose, enhanced monitoring for microplastics that may be possible with improvements in detection capabilities.

Additional Petitioners

National Organizations:

Aytzim: Ecological Judaism **Beyond Plastics Bold Alliance** Center for Biological Diversity Center for International Environmental Law **Climate Equity Policy Center** Corporate Accountability **Elders Climate Action** FracTracker Alliance Friends of the Earth GAIA (Global Alliance for Incinerator Alternatives) Grassroots Environmental Education GreenLatinos Greenpeace USA Indigenous Environmental Network Just Zero Nukewatch Our Zero Waste Future Plastic Pollution Coalition Rachel Carson Council **Resource Renewal Institute** Safe Healthy Playing Fields, Inc. Safer States Scientist Rebellion, Turtle Island Seaside Sustainability Sisters of Mercy of the Americas Justice Team Surfrider Foundation The 5 Gyres Institute The Last Plastic Straw The People's Justice Council The YEARS Project Unitarian Universalists for a Just Economic Community United Native Americans Waterkeeper Alliance

Regional, State, and Local Organizations:

350 Bay Area Action
350 Central Mass
350 Colorado
350 Conejo / San Fernando Valley
350 Seattle
350Hawaii
350Petaluma

Alabama Interfaith Power & Light Alaska Community Action on Toxics Algalita Marine Research and Education Animals Are Sentient Beings, Inc. Aquamarine Studio Bayou City Waterkeeper Beaver County Marcellus Awareness Community Berkshire Zero Waste Initiative Better Path Coalition Between the Waters **Beyond Plastics Greater Boston** Beyond Plastics Greater Mankato Area **Beyond Plastics Louisville Beyond Plastics Queens** Beyond Plastics Sullivan County NY Beyond Plastics, Montgomery County, Maryland Black Women for Wellness **Breathe Project** Brookhaven Residents' Climate Change Committee Buckeye Environmental Network **Bucks Environmental Action BYO - US Reduces** Californians Against Waste Campaign for Renewable Energy Center for Coalfield Justice Center For Environmental Health Change Begins With ME (Indivisible) **Cherokee Concerned Citizens** Church Women United in New York State Climate Reality Chapter of the Lehigh Valley PA Climate Reality Massachusetts Southcoast Coalition for Plastic Reduction **Coastal Watch Association** Color Brighton Green Columbia County Reduces Waste-BYO Concerned Health Professionals of Pennsylvania Cut The Plastic Environmental Mitigation Solutions Daughters of Wisdom Office of JPIC Defend Our Health Deignan Institute For Earth And Spirit At Iona University Denver Justice and Peace Committee Dominican Sisters of Sinsinawa Peace and Justice Office Don't Waste Arizona Earth Ethics. Inc. EARTHDAY.ORG **Ecology** Center

Ecumenical Eco-Justice of St Joseph **Extinction Rebellion Western Massachusetts** Fairmount Indigo CDC Collaborative Fannie Lou Hamer Institute Fayetteville Police Accountability Community Taskforce FoCo Trash Mob Fox Valley Citizens for Peace & Justice Frack Free Genesee FreshWater Accountability Project Freshwater Future Fridays for Future Capital Region Gas Free Seneca Georgia Interfaith Power and Light **Giniw** Collective Great Old Broads for Wilderness Greater Boston Physicians for Social Responsibility Greater Highland Area Concerned Citizens Greater New Orleans Interfaith Climate Coalition Green New Deal Virginia Inland Ocean Coalition It's Easy Being Green Long Beach Gray Panthers Micah Six Eight Mission Micronesia Climate Change Alliance Mid-Ohio Valley Climate Action Milwaukee Riverkeeper Missouri River Bird Observatory MLK Coalition of Greater Los Angeles Mothers Out Front - Winthrop Mountain Watershed Association MoveOn.org HobokenRESIST NATURE COAST CONSERVATION Neighborhood Art House New York Progressive Action Network No False Solutions PA No Fracked Gas in Mass North American Climate, Conservation and Environment (NACCE) NYC H2O NYCD-16 Indivisible Okaloosa Chapter of the Democratic Environmental Caucus of Florida One Montgomery Green Our Common Wealth 670 People Over Petro Coalition Phil Berrigan Memorial Veterans For Peace Physicians for Social Responsibility Pennsylvania Physicians for Social Responsibility, Arizona chapter

Pittsburghers Against Single Use Plastics **Plastic Free Future** Port Arthur Community Action Network (PACAN) Project Outreach: The Frac Sand Sentinel **Protect Franklin Park** Protect Our Water, Heritage, Rights Putnam progressives Quittapahilla Watershed Association Rail Pollution Protection Pittsburgh (RP3) San Antonio Bay Waterkeeper Save our Susquehanna Schenectady Neighbors for Peace Seneca Lake Guardian Sequoia ForestKeeper® SERCAP, Inc. Sheffield Saves Sisters of Charity of New York Solidarity Committee, Capital District South Seattle Climate Action Network Sustainable Tucson Templeton Community Against Toxic Waste Terra Advocati Texas Campaign for the Environment The Enviro Show The Water Collaborative of Greater New Orleans Third Act Massachusetts Three Rivers Waterkeeper **Topanga Peace Alliance** Turtle Island Restoration Network Unitarian Universalist Fellowship of Marshalltown UNM Leaders for Environmental Action and Foresight Upstream Valley Improvement Projects Voices for Earth Justice Vote Climate Wall of Women Waterspirit WESPAC Foundation, Inc. Youth United for Climate Crisis Action Zero Waste Capital District Zero Waste Ithaca Zero Waste Washington