Informational Item
June 16, 2026

Item 6b

Information Item:
Statewide Microplastics Strategy: Report to the Legislature

Kyla Kelly, Ph.D., Water Quality Program Manager

Location: Statewide

Strategic Plan Goals and Objectives:

Goal 3: Safeguard Coastal and Marine Biodiversity; Objective 3.4: Protect and improve coastal and marine water quality; Target 3.4.5: Advance coordinated state investments to effectively reduce plastic and microplastic pollution consistent with the existing Statewide Microplastics Strategy and California Ocean Litter Strategy, including projects to monitor and prevent pollution, through the California Plastic Pollution Mitigation Fund established under SB 54 (Allen, 2022).

Exhibits:

Exhibit A: Statewide Microplastics Strategy: Report to the Legislature

Executive Summary:

In 2018, California adopted Senate Bill 1263 (Portantino) requiring OPC, in collaboration with specified state agencies, to adopt and implement a Statewide Microplastics Strategy. OPC adopted the Statewide Microplastics Strategy on February 23, 2022, and is required to report to the Legislature on implementation, findings, and recommendations for policy changes or additional research by December 31, 2025. OPC has prepared the Report to the Legislature (Exhibit A) based on completed state-funded research and in coordination with state agencies to provide a progress update on the implementation of the Statewide Microplastics Strategy. This informational report provides background on the Statewide Microplastics Strategy; updates on the state of microplastic science in California; recommendations to reduce microplastic pollution in California's communities and environment, advance action-oriented science, and support multi-benefit solutions; and implementation status of the Statewide Microplastics Strategy over the past four years.

Background:

Pursuant Senate Bill 1263 (Portantino, 2018), the California Legislature directed OPC to develop a Statewide Microplastics Strategy in coordination with specific state agencies[1]. The Legislature recognized that further research on microplastics and their associated risks would support continuing efforts to reduce microplastic pollution, and that early actions to prevent and reduce known impacts of microplastics could be pursued based on the known impacts and prevalence of microplastics pollution.

In February 2022, the Council adopted the Statewide Microplastics Strategy, the first document of its kind in United States. The Strategy was informed by scientific advancements made between 2018-2021, existing state agency planning documents and commitments, numerous discussions with state agency staff, and over 120 public comments following the release of the draft Statewide Microplastics Strategy in December 2021. The Strategy has since served as a model for other states and subnational governments, including the Government of Quebec (proposed strategy for the Reduction and Responsible Management of Plastics in Quebec, 2024-2029), the State of Michigan (MI Senate Bill 505), and the State of Washington (Puget Sound Microplastics Pollution Strategy), which are in the process of developing comprehensive microplastics strategies.

The Statewide Microplastics Strategy details a two-track approach to manage microplastics in California, while simultaneously advancing key research priorities to improve future management of microplastic pollution. The Solutions track described immediate, multi-benefit solutions to prevent and manage microplastic pollution, while the Science to Inform Future Action track outlined a research strategy to augment and complement the scientific foundation for microplastic monitoring, source and pathway identification, risk assessment, and development of additional management solutions.

1 California Department of Resources Recycling and Recovery (CalRecycle), State Water Resources Control Board, California Coastal Commission, State Parks, Department of Toxic Substance Control, California Department of Health's California Tobacco Prevention Program, State Lands Commission, California Department of Fish and Wildlife, Office of Health Hazzard Assessment, California Department of Food and Agriculture, California Air Resources Board, the Department of Transportation (CalTrans), and the Department of Justice.

Report to the Legislature

Senate Bill 1263 requires the Ocean Protection Council to report to the legislature on implementation of the Statewide Microplastics Strategy, scientific findings, and recommendations to the Legislature for how California can continue safeguarding communities, environments, and economies against microplastic pollution. This report was informed by the outcomes and findings of state-funded research and sector-specific workshops, which were completed by April 2026, as well as actions taken by state agencies to advance the 22 recommended early actions and 13 research priorities identified in the 2022 Statewide Microplastics Strategy. Together, these efforts provide an update on Strategy implementation and inform recommendations based on completed research, existing state policies, and ongoing commitments.

The report is organized into three key sections:

- **Recommendations** are provided based on lessons learned from early actions to reduce microplastic pollution, advance action-oriented science, and continue to support multi-benefit solutions.
- **Track 1: Solutions – Implementation Status** describes pollution prevention, pathway intervention, outreach, and education actions that state agencies have accomplished, as well as state legislation enacted to help prevent ongoing plastic pollution.
- **Track 2: Science to Inform Future Action – Implementation Status** describes science conducted or funded by state agencies and other foundational research relevant to California, including efforts to monitor microplastics, identify risk thresholds, assess risk, characterize sources and pathways, and evaluate the efficacy of solutions.

State of the Science:

Microplastic pollution in California is recognized as pervasive and far-reaching, with contamination documented across diverse marine environments, from heavily urbanized coastal regions to remote and protected areas off the coast. Individual studies have shown that microplastic contamination exists everywhere scientists have investigated, including California's coastal and offshore waters. Microplastics have been detected from surface waters to depths of at least 1000 m, in sediment, and in biota. However, the statewide extent of microplastic pollution in the ocean, especially in California's southernmost Counties, and inland aquatic environments remains largely unknown with critical geographic and temporal gaps.

A summary of key findings are provided below, with further details provided in Exhibit A (Report):

- Microplastic pollution is pervasive across both urban and remote coastal environments but is concentrated near cities.

- Stormwater runoff is a major pathway of microplastic pollution from freshwater habitats to the ocean.
- Microplastics impact marine life and California communities, although further study is needed to understand the full extent and to effectively remediate harm.

Recommendations:

Based on lessons learned from early actions to reduce microplastic pollution, OPC staff provide the following recommendations to continue implementing multi-benefit solutions to address microplastic pollution. These recommendations are designed to be complementary with existing state priorities and potentially align with future investments by the state to effectively remediate and address environmental and public health impacts caused by plastics through the Plastic Pollution Mitigation Fund, established by the Plastic Pollution Prevention and Packaging Producer Responsibility Act (SB 54, Allen).

1. **Restrict Harmful Materials at the Source.** This could be achieved by restricting or banning the most harmful and/or commonly littered plastic materials before these items enter circulation and/or leak into the environment. Encourage the use of non-plastic and reusable materials, such as aluminum or glass containers. Simultaneously, establish labeling requirements that prevent false advertisement of materials marketed as biodegradable.

2. **Advance Sector-Specific Reduction Strategies.** Continue to identify and advance sector-specific plastic reduction strategies and incentivize a broad range of industry stakeholders to co-develop less toxic, less persistent materials in specific products and sectors. Further details are provided under the “Sector-Specific Workshop Recommendations” in Exhibit A (Report).

3. **Promote Extended Producer Responsibility.** Expand extended producer responsibility and funding mechanisms for materials not covered by existing extended producer responsibility programs to shift more of the burden onto plastic polymer and product producers for a broad range of plastic products and materials not covered by existing programs, while simultaneously engaging manufacturers early in product design to prevent harmful substitutions.

4. **Identify and Prioritize Sources and Pathways.** Map the relative contributions of microplastics from different land uses, watersheds, and industries to build a clearer picture of where microplastics originate and how these particles move through the environment. Use that data to model contamination hotspots and direct prevention and mitigation efforts in locations where they will have the greatest impact.

5. **Control Pollution Pathways into Waterbodies.** Enhance safeguards across major pathways through which microplastics enter the environment to prevent microplastics from reaching waterways, including stormwater permits and best management practices, wastewater treatment upgrades, and improved biosolids management. Expand research and modeling, consistent with the recommendation above, to identify priority locations, such as high-trafficked roadways, industrial sites, or other dense urban areas with impermeable pavements, to inform the most effective infrastructure interventions for construction and deployment.

6. **Implement Standardized/Consistent Measurement and Monitoring Methodology.** Continue to promote and implement standardized sampling and analysis methods that allow consistent, comparable monitoring across the state. Reduce cost and technical barriers for detection, particularly for smaller particle sizes, to meet regulatory requirements and enable broader data collection, and greater understanding of microplastic impacts.

7. **Establish a Central Information Hub for Microplastics Monitoring Data.** Consolidate monitoring data into a public data visualization platform and data repository, similar to **CalEnviroScreen**, to visualize plastic pollution and microplastic exposure burdens on California communities and the environment.

8. **Establish Human Health and Ecological Thresholds.** Pursue dose-response data and multi-variable toxicity studies needed to establish improved human health and ecological thresholds. Translate that science into actionable guidance, including seafood consumption advisories and bioindicators, to support risk management decisions.

9. **Translate Knowledge into Effective Policy and Management Action.** Translate research findings on microplastics into concrete policy decisions, including to inform local assistance funding, and regulatory frameworks to take impactful and effective action to prevent and remediate ongoing microplastic pollution.

10. **Build Public Awareness and Coordinate Governmental Action.** Build public awareness through shared agency outreach and education toolkits. Conduct targeted engagement with California Native American tribes and priority populations, including those disproportionately impacted, to ensure cohesive and equitable action to reduce plastic use and exposure across the state. Strengthen knowledge sharing through intergovernmental and interstate coordination.

Implementation Status: Highlights

Since adoption of the Strategy in 2022, OPC has invested over $3.5 million in foundational microplastics research and standardized monitoring methods to advance the research needs and recommendations to better understand and prevent microplastic pollution in California's waters.

These foundational investments include: (1) evaluation and standardization of microplastics collection methods, to allow the state to collect consistent and comparable microplastics data from the aquatic environment; (2) the development of the Statewide Plastics Monitoring Strategy and Planning Framework (Item 6c, Exhibit A) to inform a future state program to track and evaluate the extent of both large plastic and microplastic pollution in the aquatic environment statewide; (3) investigating specific sources and pathways of microplastic pollution, including microfiber pollution from clothing dryers; and (4) research to inform the location and design of green infrastructure to effectively intervene and prevent microplastics from washing into California waterways from our cities and roadways.

OPC additionally held a series of sector-specific workshops between 2025 and 2026, targeting microplastic emission and plastic use reductions across the textile, vehicle tire, fishing, and aquaculture industries. These workshops specifically aimed to share information regarding industry-led research and development, as well as identify immediate voluntary and long-term policy solutions to elevate best practices to reduce microplastic pollution caused by these industries.

Finally, the Report to the Legislature summarizes actions taken by multiple state agencies to implement 22 recommended early actions and 13 research priorities identified in the 2022 Statewide Microplastics Strategy. This includes the enactment of the Plastic Pollution Prevention and Packaging Producer Responsibility Act (Senate Bill 54, Allen, 2022) and the subsequent adoption of regulations in 2026, ongoing outreach and education, inclusion of microplastics by the State Water Resources Control Board in the 2024 California Integrated Report for the first time, and ongoing work by multiple agencies to better identify risk thresholds and analysis related to microplastics.

Conclusion and Next Steps

Significant progress has been made across the state to implement the two-track Statewide Microplastics Strategy since 2022. California has served as a model to inform and drive similar efforts to reduce plastic and microplastic pollution nationally and globally, informed by landmark legislation and advancements in microplastics monitoring and analysis methods developed in California, including efforts by the Government of Quebec, Washington State, the State of Michigan, and the State of New York.

While significant progress has been made, the work undertaken by agencies across the state to better understand and address microplastic pollution is ongoing. OPC is committed to supporting local, community-led efforts to reduce plastic and microplastic pollution at the source, and advancing foundational monitoring to track trends in plastic contamination across state waters; evaluate impacts on human health, ecosystem health, and water quality; inform management

actions to reduce those impacts; and track the State's progress in mitigating plastic pollution. See Item 6c for further action recommended by OPC to advance foundational monitoring to inform effective management and mitigation of microplastic pollution across the state.