



**City of Santa Barbara**  
Parks and Recreation Department

**Memorandum**

**DATE:** February 17, 2021

**TO:** Creeks Restoration/Water Quality Improvement Program  
Citizen Advisory Committee

**FROM:** Jill Murray, Water Quality Research Coordinator

**SUBJECT:** Research on Microplastics in Storm Water

COMMITTEE DIRECTION – FOR DISCUSSION

That the Committee receive a summary of a new research project investigating microplastics in stormwater.

DISCUSSION

The Creeks Division recently initiated a collaboration with Dr. Patricia Holden (UCSB) to begin studying microplastics (plastic fragments that range from 1 nm to <5 mm in size) in stormwater. In October 2020, Creeks staff and Dr. Holden applied for a grant from UCSB's Associated Students Coastal Fund (ASCF) to fund the project, "Keeping Microplastics Out of Santa Barbara's Ocean." In December 2020, ASCF awarded Dr. Holden's research group \$18,751 to fund the research, which will be carried out by graduate students Timnit Kefela and Becca Reynolds. Measure B will fund \$3,108 for additional supplies. The abstract for the grant application is provided here:

Research in California identifies stormwater as a major path of microplastic conveyance from large urban areas into aquatic systems, yet information for the Santa Barbara coast is nonexistent. The proposed project, sponsored by the City of Santa Barbara, will support student researchers in quantifying and characterizing microplastics discharging into the ocean from urban creeks. The City also seeks to determine how mitigation measures, including street sweeping and catch basin screens, may reduce the transport of microplastics to the storm drain network, creeks, and the coastal ocean via urban runoff. This project will result in the quantification and characterization of microplastics in: stormwater, street sweeper debris and wash water, road dust pre- and post- street sweeping, and material collected from catch basins. This information will inform the City's trash reduction strategy to reduce microplastic pollution entering the Santa Barbara coastal ocean.

At this time, the Committee will receive a presentation from Ms. Kefela and Ms. Reynolds

that was prepared for the ASCF application process.

During two storms in January 2021, samples were collected from Laguna Channel by Creeks Staff for UCSB to analyze. Preliminary results suggest that numerous microplastic particles, fragments, fibers, and film are present in stormwater discharge.

#### Budget

The Creeks Division will purchase \$3,108 in supplies for use by UCSB. Sufficient funds exist in the Water Quality Lab Sampling account to complete the purchases.

#### Next Steps

Due to Covid-19 restrictions, samples will be collected entirely by Creeks Division staff. Sample collection will be completed in February and March 2021. Laboratory work, data analysis, and report writing will be completed at UCSB by June 30, 2021. The Committee will receive a presentation about project results in June 2021.

cc: Cameron Benson, Creeks Division Manager  
Jill E. Zachary, Parks and Recreation Director