



**Bridging Knowledge and Action:
Exploring trash and microplastics
through community-based learning**

**Jessica Blickley
Veronica Jaramillo
Richard Lie**



COUNCIL FOR
**WATERSHED
HEALTH**



Los Angeles River Watershed Trash Monitoring Project

Community Partnership

Project Motivation



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Trash Assessment SOP

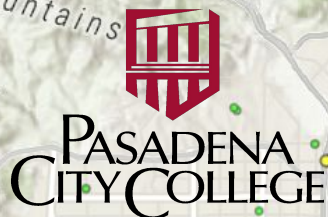
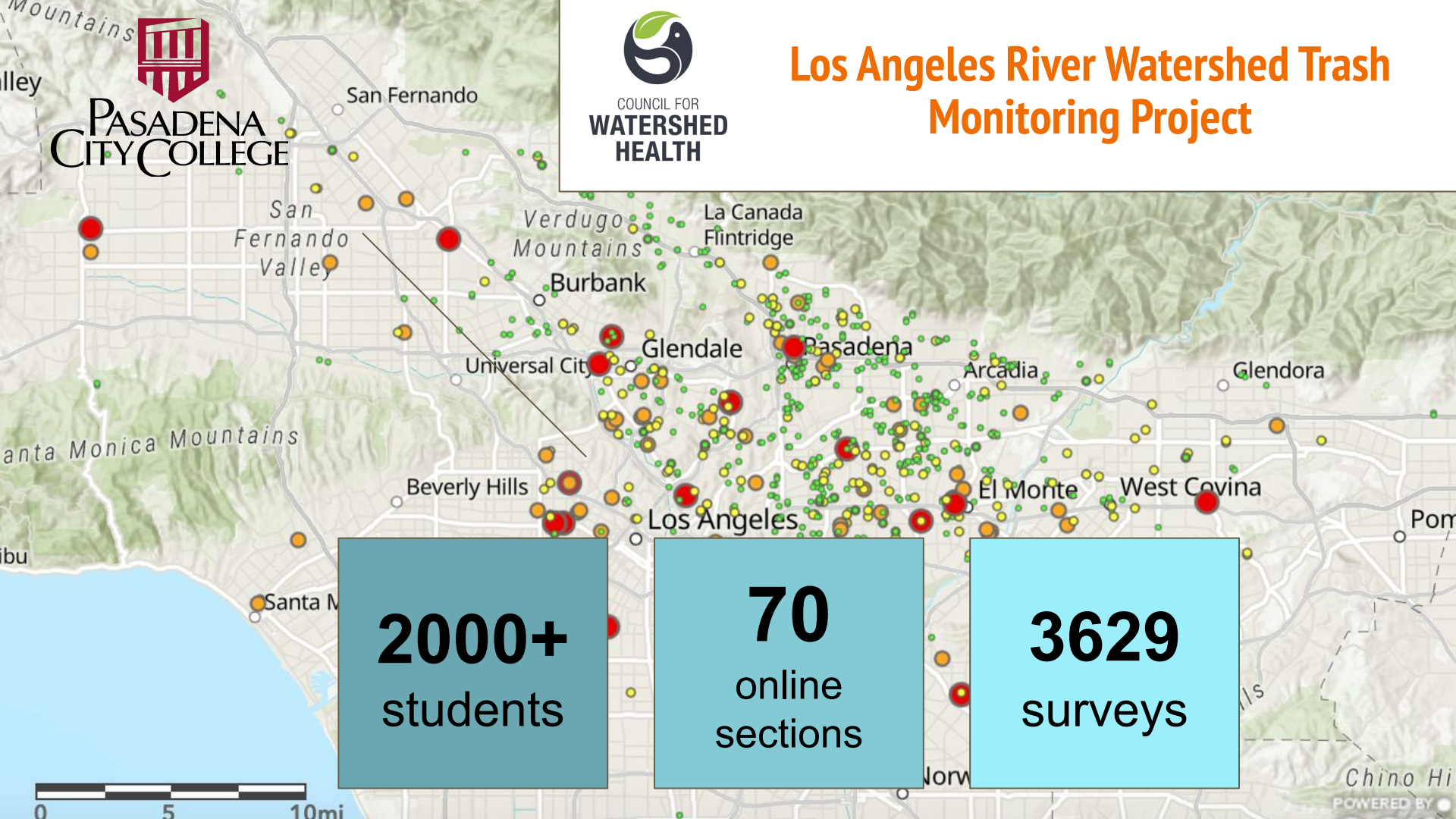
Part 1: Site Information

Part 2: Visual Assessment

Part 3: Record Trash Data



["Storm drain curb inlet San Diego"](#) by [Mds08011](#) is licensed under [CC BY 4.0](#)



Los Angeles River Watershed Trash Monitoring Project

2000+
students

70
online
sections

3629
surveys

CBL benefits students from diverse backgrounds



Pre/post quasi-experimental design

- Student attitudes/learning gains (SALG) instrument
- Community-Based Learning Impact Scale (CBLIS)

Positive gains in science attitudes & knowledge

- 1st-Gen associated with stronger gains

3 populations associated with stronger civic engagement & critical thinking

- Latino/a/x
- 1st-Gen College
- Female

Student Reflections

“

I felt empowered by doing this assignment... I knew I was working towards improving the environment, as I made a tangible, albeit tiny, impact.

“

It made me realize the responsibility that everyone has to their community.

“

We can each become leaders for our community, guiding others to lead in the same way.

“

By showing the impact of globalization on something at home ..., it inspires direct action. It instills a sense of ownership in the community..... I am very glad to take such a positive sense of responsibility away from this course.

Analysis of microplastics in the LA River



Upper Arroyo Seco

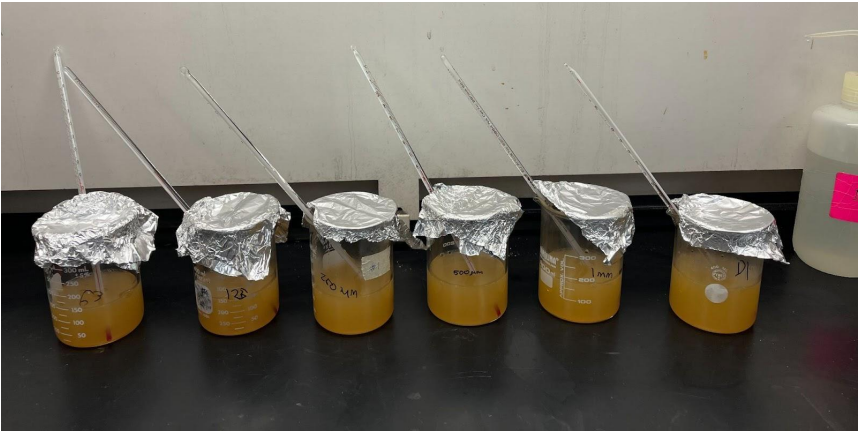
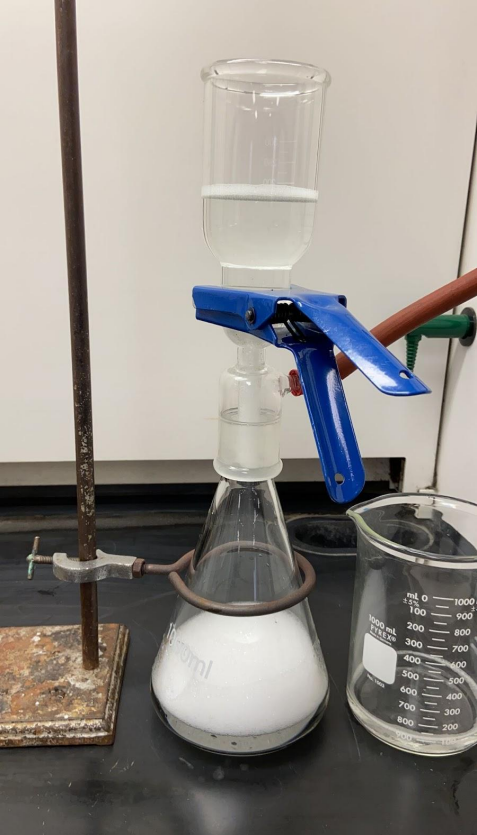


**MOORE
INSTITUTE**
for Plastic Pollution Research

Los Angeles River



Analysis of microplastics in LA River



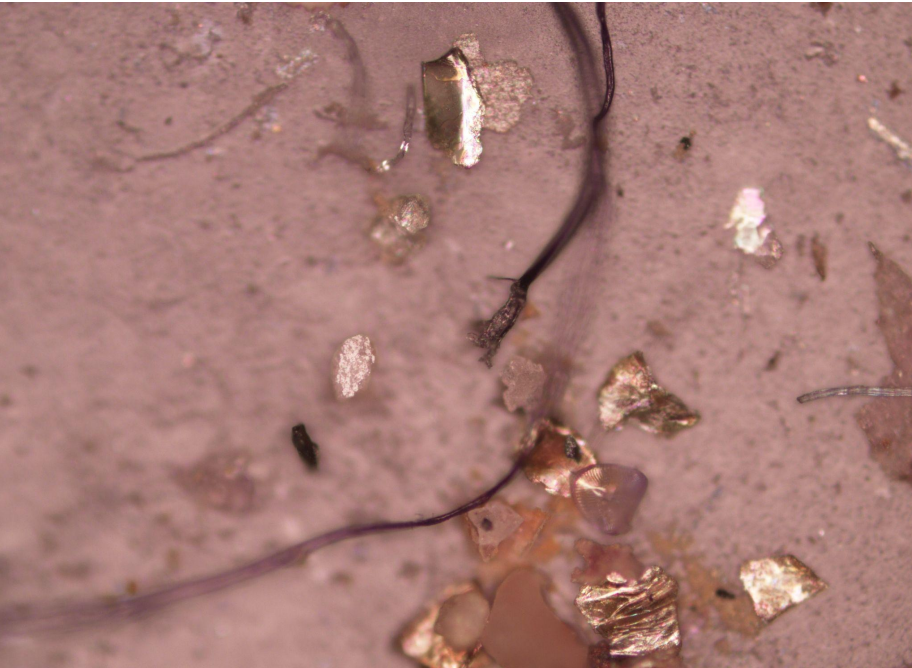


Image of microplastic sample under Bright Field light microscope (10x magnification)

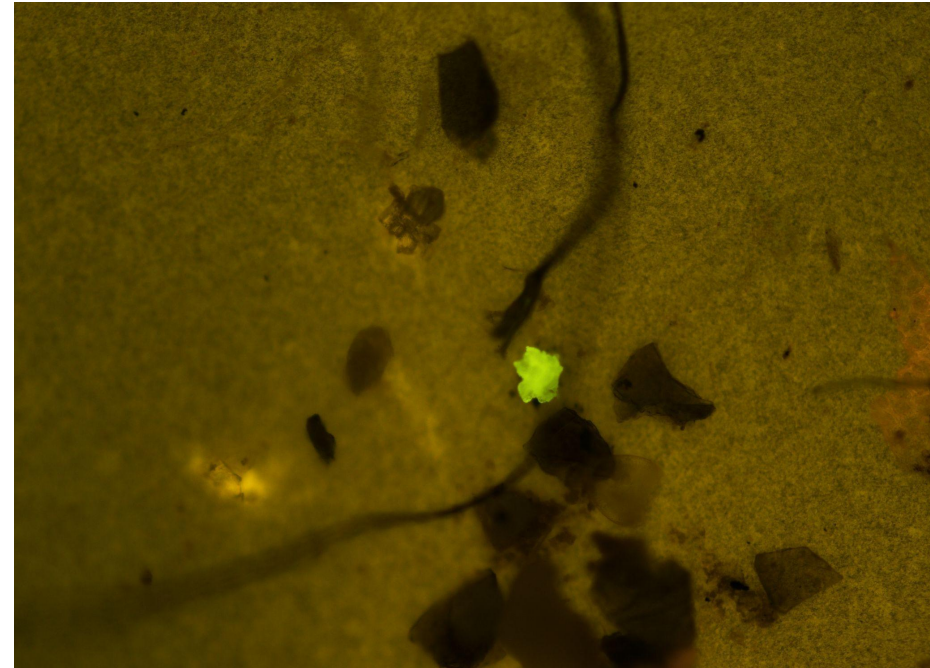
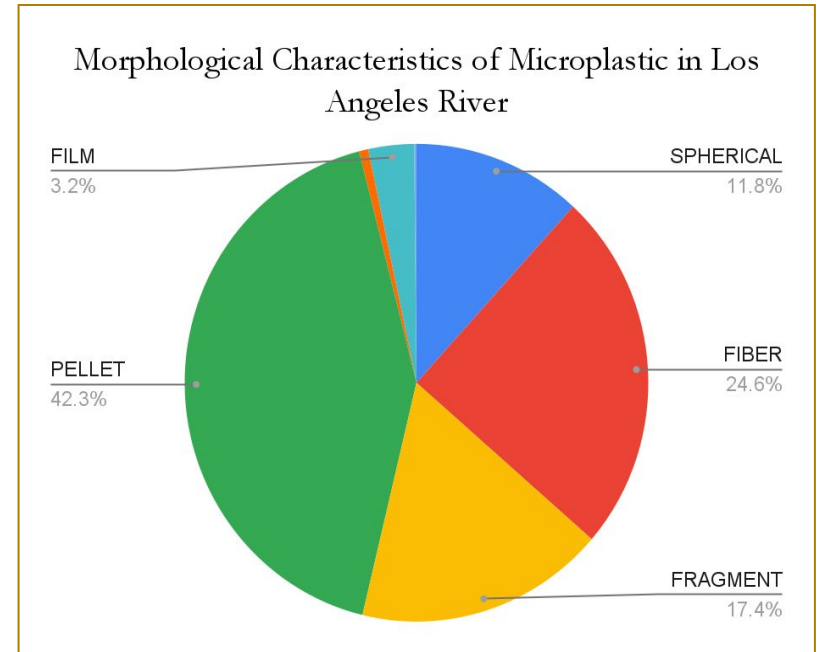
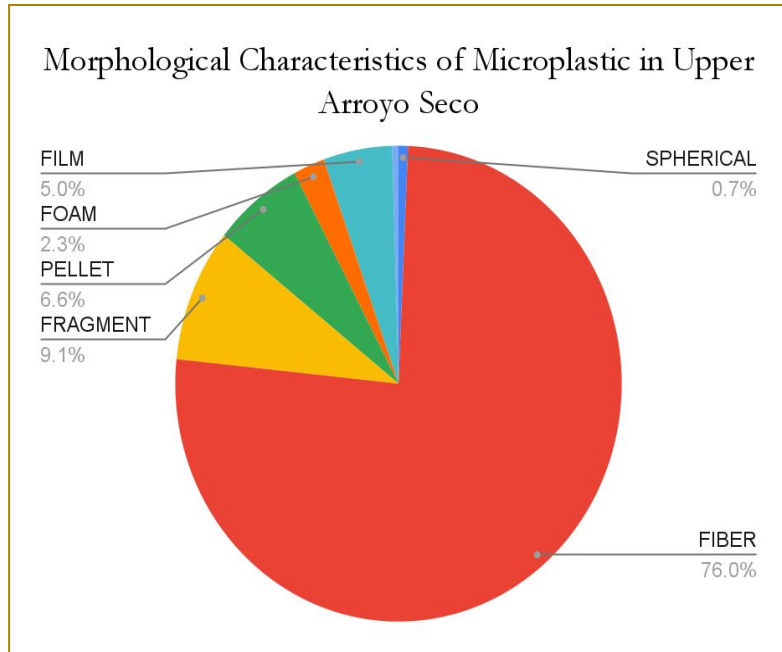


Image of Nile Red-dyed microplastic sample under fluorescent microscope (10x magnification)

Analysis of microplastics in LA River

More microplastics detected in the Upper Arroyo Seco sample than Los Angeles River sample despite being less urbanized



Designing Student Labs





Questions?

Jessica Blickley
jblickley@pasadena.edu

Veronica Jaramillo
vijaramillo@pasadena.edu

Richard Lie
rlie@pasadena.edu