

# INTRODUCTION

The Marine Biology Club is composed of Animo Leadership Charter High School students from Lennox, California. Our goal and challenge is to inform the public about plastic pollution and to involve them in solutions such as recycling to reduce, recycle and prevent environmental degradation by plastics. The club has six teams, each with its own objective, tasks and goals but all involving microplastic research, data collection or community education. Some teams conduct research while others focus on keeping our community educated on the activities, projects and results of the other teams.

We participate in community outreach efforts at local aquaria, Earth Day, science and health fairs, teacher education, other schools' activities, educating on the effects and human impacts of plastic pollution. We advocate solutions people can participate in to help reduce ocean plastic contamination. As high schoolers conducting research and advocating, we collaborate with students in Japan, Chile, Thailand, Singapore, Norway and several US states. We routinely Skype with collaborators, scientists and student groups who want to begin similar projects.

## WHY WE DO IT

One focus is analysis of the molecular composition of plastics retrieved from local beaches, harbors, and sea. Through the use of mass spectrometry, we hope to determine possible origin and structure of the plastics we discover. Plastics break down into small polymers (molecules) that mimic animal and human hormones produced by the endocrine system. Ingested, they become hormone disruptors especially for pregnant women, infants and adolescents.

So far, we have seen some progress in environmental reduction of plastic. Every small advance is a step forward in helping humanity internationally, making the world less plastic-filled and protecting marine creatures. It is a challenge to understand how exactly microplastics impact marine and human life, affect ecosystems, and to find solutions.

### What We Are Fighting for:

- **Reduce plastic use in our life! {food packs}**
- **Re-cycle existing plastic, the science exists**
- **Substitute biodegradable items for plastic {Paper, bamboo, cornstarch}**
- **Make corporations clean up their pollutants**
- **New, stronger & enforced government EPA regulations while creating jobs, new inventions**

# GROUP DESCRIPTIONS

- **Group 1:** Microplastics in the ocean and harbors
- **Group 2:** Plastic eating worms (solution)
- **Group 3:** Beach sand microplastics
- **Group 4:** Microplastics within marine organisms
- **Group 5:** Bilingual resource development, website
- **Group 6:** Gyre booms, physical plastic collection and innovations



# OUR COLLABORATORS

We are working in close collaboration with USC Sea Grant, Algalita, 5Gyres, Heal the Bay, Cabrillo Marine Aquarium, Reef Check, USC Wrigley Marine Science Center, LA Maritime Institute, Plastic Ocean, Last Plastic Straw, City2Sea, etc. to ascertain the most accurate data and analysis to be made public while we integrate this into plastic collection studies taking place locally, nationally and internationally.



Our club is affiliated with the LA Maritime Institute

# JOIN US IN THIS EFFORT

There are many scientific studies available on our website. We invite YOU to join with our Marine Biology/environmental club and add your project to our website, as we all look to a reduced plastic environment for our families and worldwide.

**To learn more, here are a few excellent videos:**

[orbmedia.org/stories/Invisibles\\_plastic](http://orbmedia.org/stories/Invisibles_plastic)  
[www.aljazeera.com/news/2017/12/seattle-battles-plastic-straws-save-oceans-171226122739459.html](http://www.aljazeera.com/news/2017/12/seattle-battles-plastic-straws-save-oceans-171226122739459.html)

# CONTACT US

**Club website administrator:**

Jasmin Velazco

[VelazcoJasmin0@gmail.com](mailto:VelazcoJasmin0@gmail.com)

**International collaboration:** Briceida

Montes [briceidamontes@gmail.com](mailto:briceidamontes@gmail.com)

**National collaboration:**

Melissa Zepeda

[zepeda.melissa6@gmail.com](mailto:zepeda.melissa6@gmail.com)

**Club mentor:**

Mark L. Friedman

[Marklewisfriedman@gmail.com](mailto:Marklewisfriedman@gmail.com)

+1 310.350.7515

**Visit our Website:**

[animomarinebio.weebly.com](http://animomarinebio.weebly.com)

MICROPLASTICS  
POLLUTION ISSUES

# MARINE BIOLOGY & ENVIRONMENTAL CLUB



Club at AltaSea in San Pedro, California. In front of 5Gyres boat, made of plastic junk that navigated to explore the Pacific Gyre (a.k.a. great pacific garbage patch.)