

Join the
**Algalita Marine Research
Foundation**

If you want to help preserve the marine environment, please become a member. We are a 501 c(3) organization and contributions are tax deductible. An annual membership donation of as little as \$25 will help support our research and education programs.

Membership Levels:

Basic membership	\$25
Friend of Algalita	\$50
Good Friend of Algalita.....	\$100
Great Friend of Algalita.....	\$250

A membership donation of \$500 or more will receive an AMRF T-shirt and "Synthetic Sea Story" video.

Member Information:

Name _____

Address _____

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Email _____

Sign up by mail or fax:

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Sign-up online :

www.algalita.org

www.plasticdebris.org



What is the
**Algalita Marine Research
Foundation?**

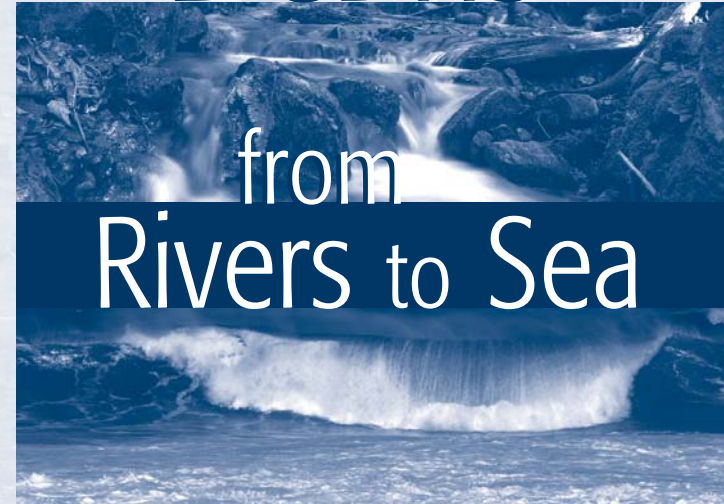
The Algalita Marine Research Foundation (AMRF) is a Long Beach, California based non-profit environmental organization. Our mission is to restore and preserve coastal, near-shore and off-shore marine environments through ecological stewardship.

With the help of its chartered research vessel, The Oceanographic Research Vessel (ORV) Algalita, AMRF is committed to:

- Gather, publish and present quality scientific information.
- Engage in local and global marine projects, and assist others in the same.
- Produce quality marine awareness educational programming.
- Positively influence public policy for marine protection.

Plastic Debris

from
Rivers to Sea



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Why care about plastic debris?

Plastic debris is proliferating in the environment, especially in the marine environment, and is causing numerous problems for humans and wildlife. Plastic is not biodegradable and very little of it (less than 4%) is recycled. (The triangle of arrows around a number doesn't mean that a plastic product is recyclable.) Because it is durable and light-weight, plastic debris travels over vast distances and accumulates on beaches and in the ocean. The majority of marine debris is plastic.



In the Central North Pacific Gyre, pieces of plastic outweigh surface zooplankton by a factor of 6 to 1. Ninety percent of Laysan Albatross chick carcasses and regurgitated stomach contents contain plastics. Fish and seabirds mistake plastic for food. Plastic debris release chemical additives and plasticizers into the ocean. Plastic also adsorbs hydrophobic pollutants, like PCBs, and pesticides like DDT. These pollutants bioaccumulate in the tissues of marine organisms, biomagnify up the food chain, and find their way into the foods we eat.

Although plastic products benefit our lives in the medical industry, safety equipment and other technologies, it is imperative that we eliminate the flood of post-consumer plastic waste into the environment. For the sake of a healthy biosphere, including ourselves, the plastic plague must no longer be ignored.



How did the plastic get there?

Estimates of plastic in the world's oceans exceed 100 million tons. Though 20% comes from ocean sources like derelict fishing gear, 80% comes from land, from our watersheds. A large segment of what ends up as marine debris is single use disposable consumer items. A bottle cap or plastic bag that falls to the grounds will be blown or washed into a storm drain, where it will flow to the ocean. Beachgoers also contribute to the problem, as does the plastics industry – roughly 10% of the debris found on beaches is preproduction plastic pellets lost during industrial processing.



What is a watershed?

Every human lives in a watershed – an area that is drained by rivers and streams and includes geographical structures like mountains, valleys, and man-made structures like buildings, parking lots and highways. It also includes a rich biodiversity that is supported by the ecosystems within it.

There are many strategies to keep plastic out of our watersheds and out of the ocean. Structural controls, like screens over storm drains and nets across rivers are marginally successful and expensive. Beach and reef clean-ups are infrequent. Solutions are most effective at the source. Best management practices by plastic manufacturers work when enforced. Some communities have banned certain plastics from retail use. Bio-plastics, polymers made from plants, are excellent alternatives that will help end the plastic plague.



10 things you can do to conserve your watershed.

- 1. HOUSEHOLD CHALLENGE:** create a 100% recyclable and compostable grocery list. Imagine all of your household waste going into the compost pile or recycle bin!
- 2.** If you must buy consumable products, choose paper, glass or bio-plastic.
- 3.** Sweep sidewalks, don't hose them.
- 4.** Use natural pest killers in your garden, such as ladybugs, decollate snails, or praying mantis eggs. Use pesticides sparingly.
- 5.** Dispose of used oil, antifreeze, paints, and other household chemicals at a hazardous waste facility, not in storm drains.
- 6.** Keep vehicles well maintained. Clean up spilled brake fluid, oil, grease, and antifreeze with a rag or absorbent compound.
- 7.** Wash your car on the lawn so that the water sinks in the ground. Use environmentally friendly cleaners.
- 8.** Purchase household detergents and cleaners that are low in phosphorous to reduce the amount of nutrients discharged into our lakes, streams and coastal waters.
- 9.** Ask your community to install screens over storm drains, and help keep them free of litter, leaves, and debris.
- 10.** Buy in bulk, and bring your own cloth or recycled grocery bags to the store.