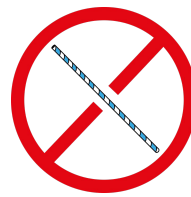


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Clean-Up the Beaches or Clean-Up our Act?

THE PROBLEM

Plastic pollution in the ocean is a human-induced harm that negatively impacts marine ecosystems. It is estimated that the annual input of plastic into the ocean is above 5 million tonnes. Combining that number with a slow rate of degradability means the ocean is heavily polluted with plastic. The plastic debris tends to accumulate along the coastlines as the next tide rolls in. One of the proposed solutions to deal with this problem are coastal clean-ups. The general process of a beach clean-up is highlighted in Figure 1. It follows a cyclical pattern, as clean-ups will need to be re-organized once trash accumulates in the future.



Figure 1: Typical Outline of Coastal Plastic Clean-Up

What are the implications of beach clean-ups?

Ecological

- ✓ Prevents future entanglement and ingestion from marine organisms
- ✓ Prevents plastic from degrading further into microplastics
- ✗ Certain organisms may be using plastic for habitat
- ✗ Removing visible debris does not address microplastics already in ocean

Economic

- ✓ Clearing the beaches of debris can increase tourism revenue
- ✓ Volunteer clean-ups relatively cheap source of labor
- ✗ Can cost coastal governments ~ \$422,000 annually
- ✗ Continuously organized, transaction will be recurring

Social

- ✓ Can promote marine stewardship
- ✓ Can raise intention to do pro-environmental acts in future
- ✗ Potential distraction away from other critical marine issues
- ✗ Positive change in environmental mindset could be short-lived (~1 week)







Despite these efforts, plastic continues to accumulate along the shore...



What else can be done to address this issue?

While plastic clean-ups can **temporarily** reduce the amount of litter on coastlines, they do not provide us with an adequate solution to the issue of marine plastic pollution on their own. Focusing our efforts on the **sources and inputs** of plastic pollution would address this problem more directly. Moreover, holding major producers accountable could systematically decrease single-use plastic production. Also, policy implementation could be achieved if citizens take an educated, collective stance on this issue.

RECOMMENDATIONS

-  Use data from clean-ups to identify major plastic contributors
-  Increase pressure on corporations to use biodegradable materials and less harmful packaging by enforcing a 'plastic' tax
-  Educate clean-up participants about simple lifestyle changes to decrease their environmental footprint
-  Implement policy measures to reduce plastic inputs, such as banning single-use plastics or improving waste management

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