

# Love That Dirty Water

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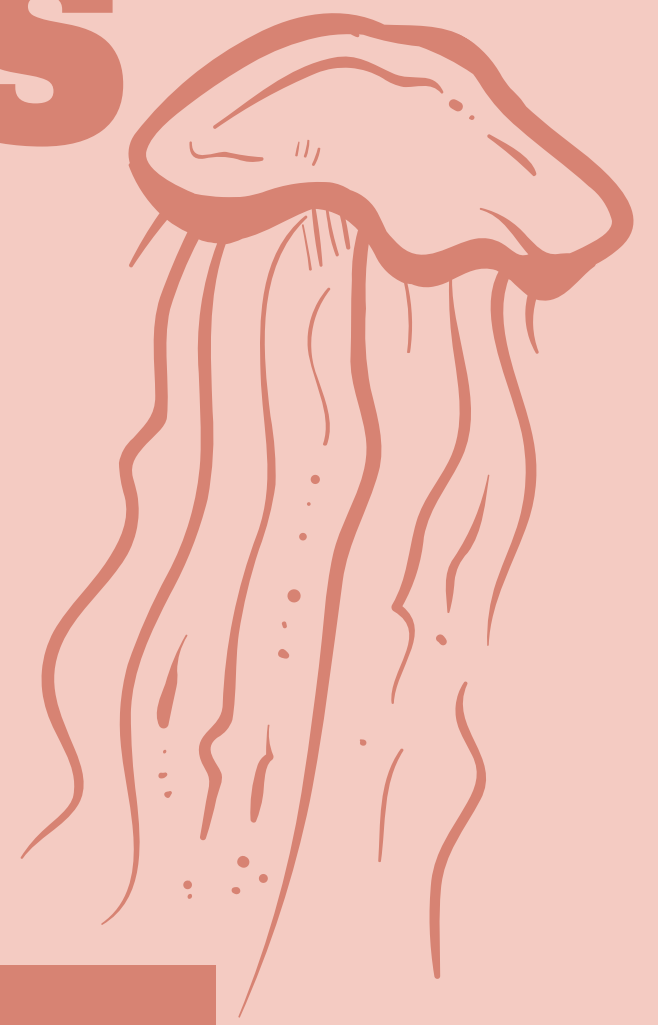


**Dirty water by The Standelles was written as a satire about bostons well known pulluted water making it fitting even now.**



# Microplastics

Pollution of plastics in the ocean is breaking down into what's known as microplastics and leading to endangered marine life.



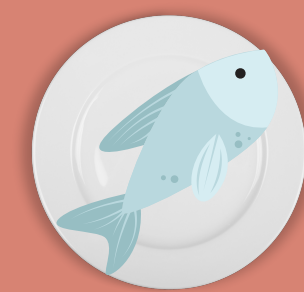
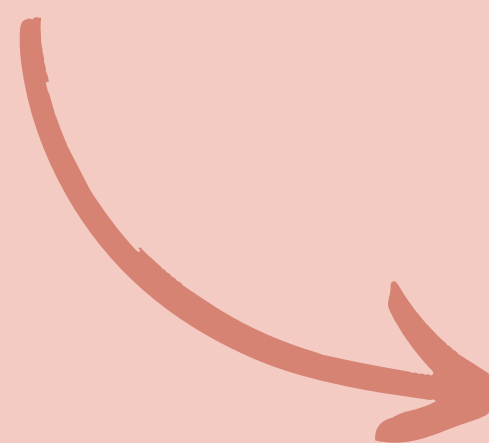
1,346

Pounds of waste found at Boston Harbors coasweep cleanup

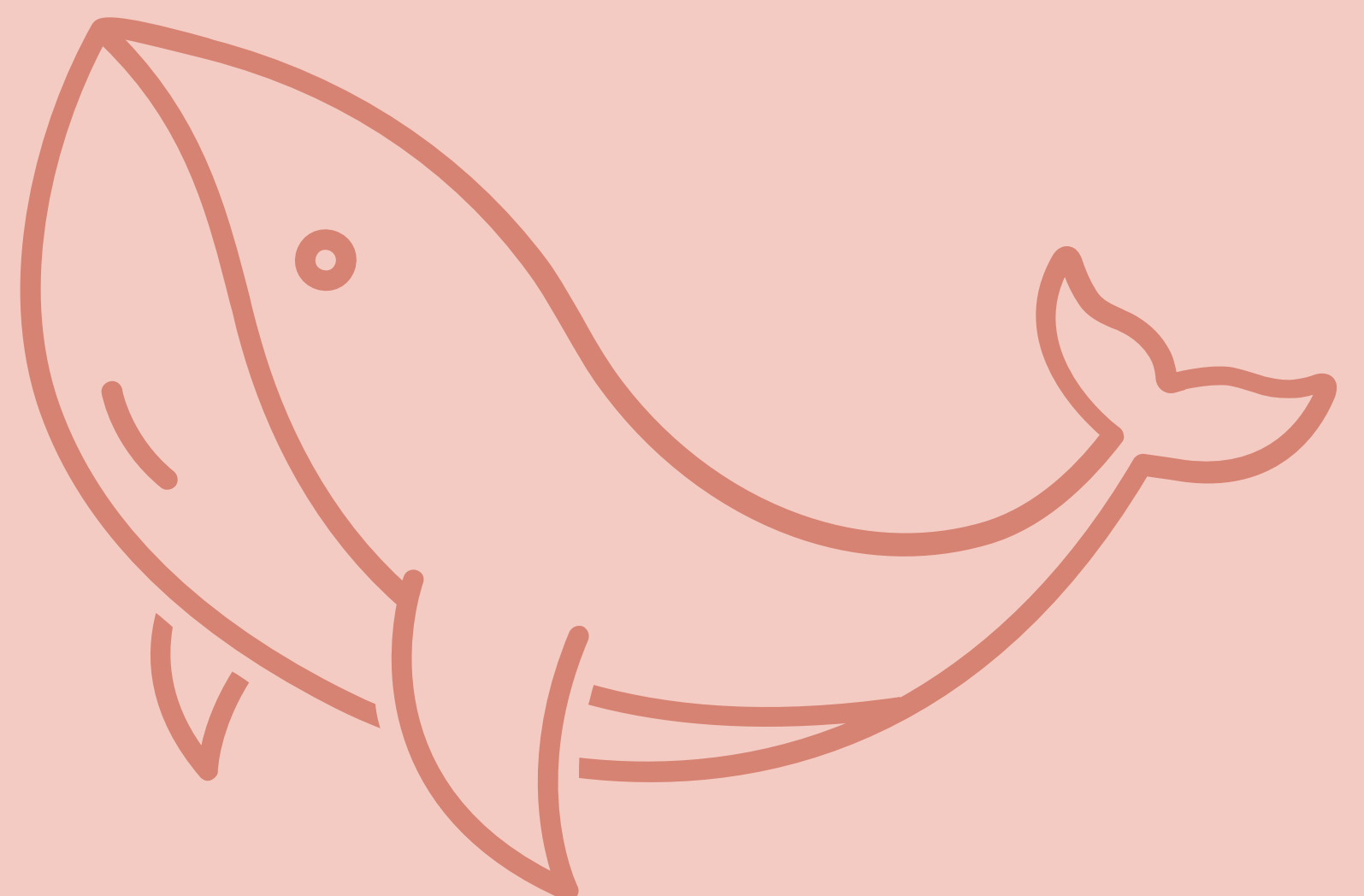


88

Pounds of plastic found inside a whale's stomach as reported by Boston News



Fish eat microplastics and they end up in their stomach thus some of these plastics are ending up on our plates.



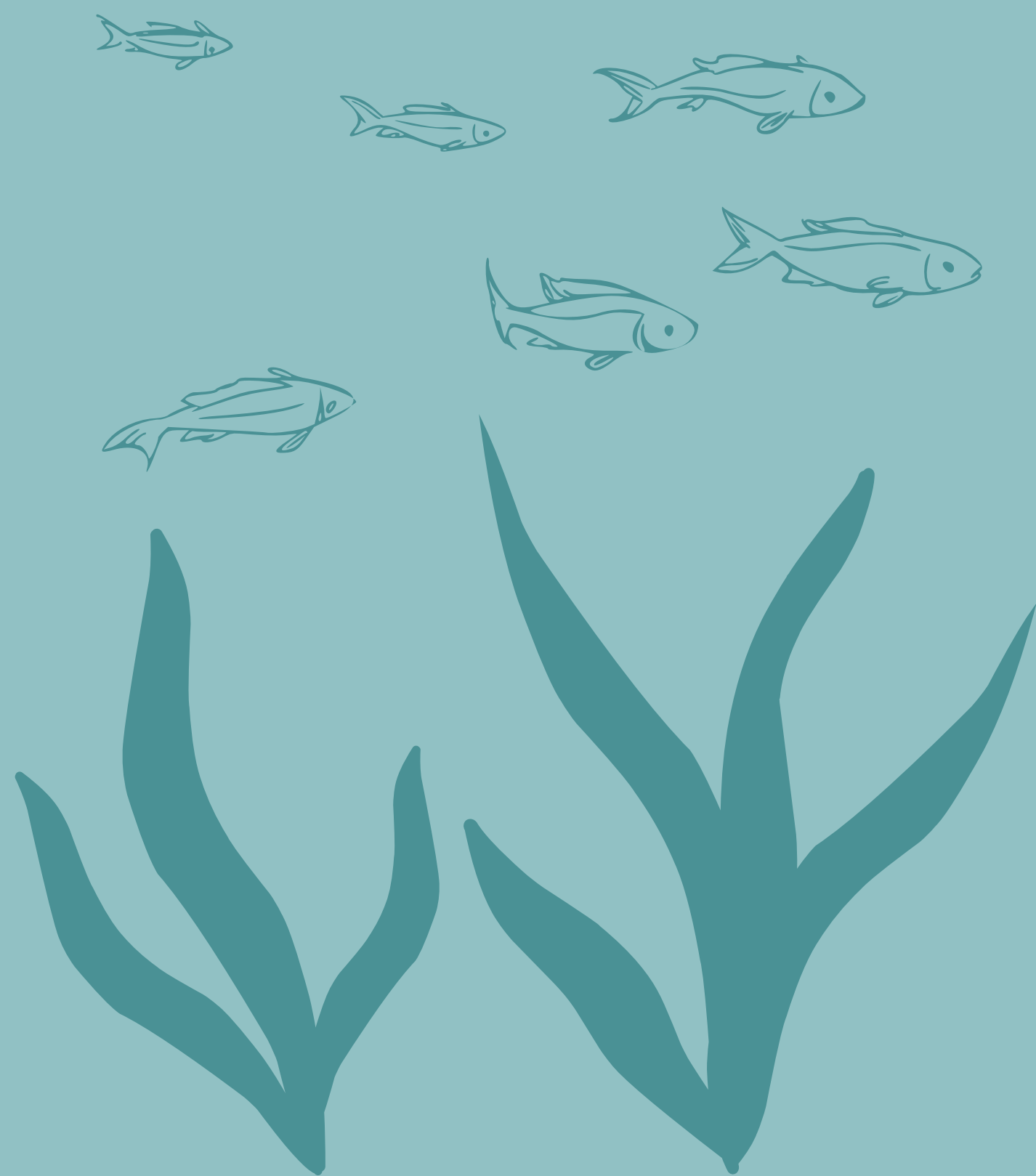
# STORMWATER DRAINAGE INTO BOSTON'S WATERWAYS

Phosphorus enters the river by a number of routes, some of which are already controlled by permits issued by EPA and MassDEP:

- combined sewer overflows, or CSOs
- illicit connections through which sanitary sewage seeps into storm drains, and
- outflows from wastewater treatment plants
- stormwater discharges through the stormwater systems of municipalities

Excessive levels of phosphorus, a key nutrient for plant life, can lead to “algae blooms” (EPA) in the river which generate too much oxygen in the water, while also blocking sunlight, which prevents other marine plants from growing.

- Illicit discharges are discharge from a storm drain system that is not composed entirely of stormwater
- CSOs occur when wastewater containing human and industrial waste is carried through the stormwater pipes and discharged into the River.





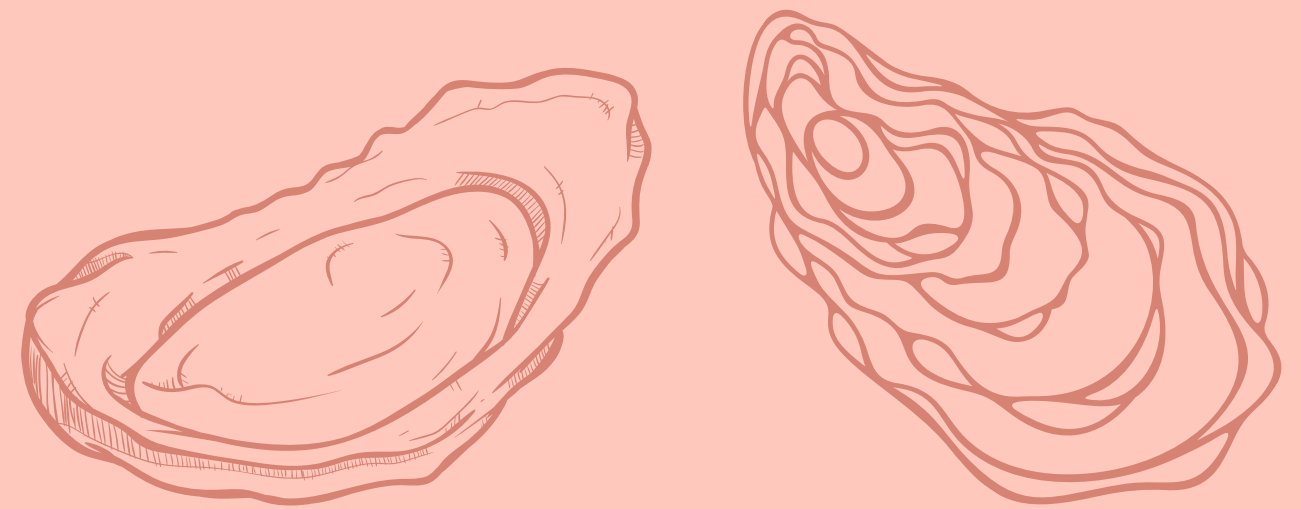
Scan & Watch  
the oysters  
work!

# OYSTERS: THEIR EFFECTS ON BOSTON AND WHAT'S HAPPENING TO THEM

Oysters are considered the kidneys of the ocean because they can clean the water, like a natural filtration system

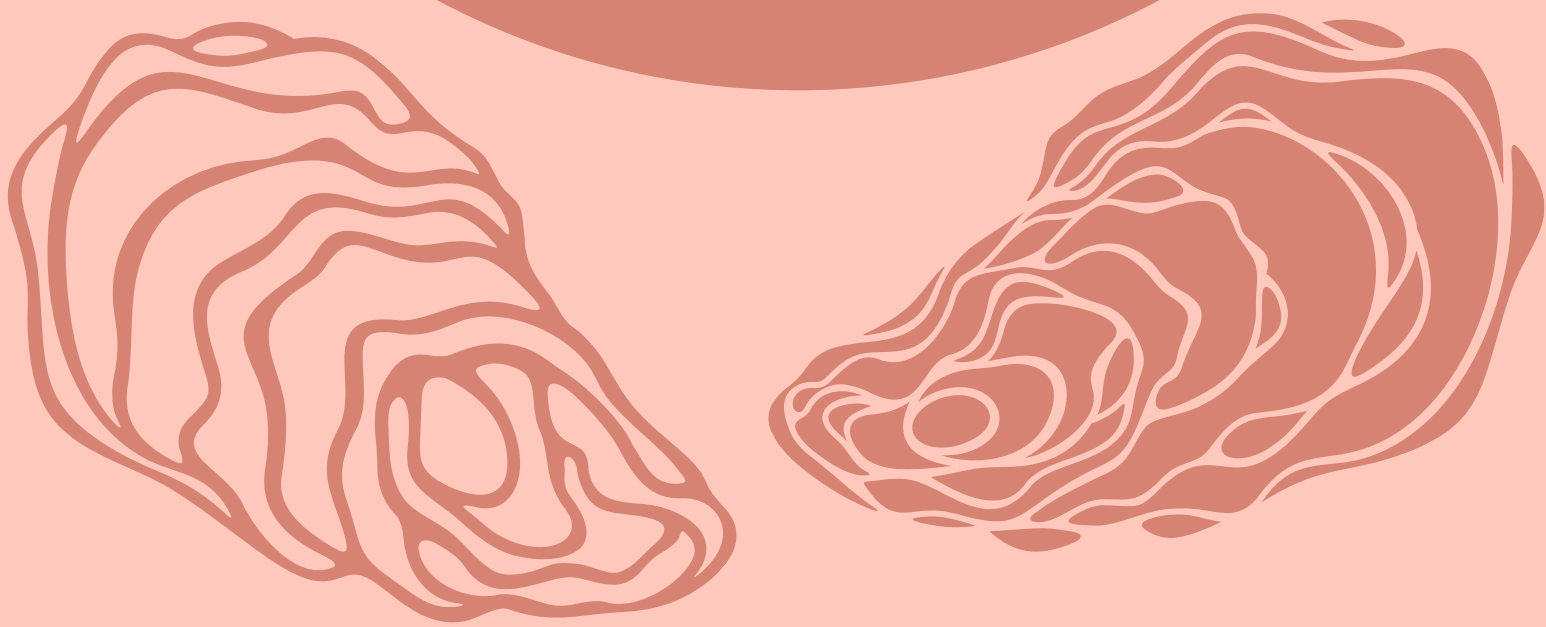
Oyster Reefs have three main benefits that are:

1. breaking severe waves from storms farther out from the shore causing less damage.
2. they help reduce ocean acidification from excess nutrients and climate change.
3. oyster reefs also provide support for sea life creating a lush biosphere that reduces erosion



what's happening to the oysters?

- Outdated harvesting and fishing practices in oyster reefs, because of the habitat they provide for many species, has had a devastating effect on oyster populations.
- Erosion from construction, wetland loss, and excess nutrients from storm water have also diminished oyster reefs.
- Disease caused by pollutants like CSOs has had an egregious impact on oysters as well.



"The flow of the Charles River is about 300 million gallons per day. Ten small 225 square foot oyster beds could cleanse this volume on a daily basis." (MOP)

In a study done in 2011 it was estimated that 85% of oyster reef had been loss globally.

# SOLUTIONS: FOR BOSTON'S WATER POLLUTION PROBLEMS

## Storm Water Pollution:

- EPA and MassDEP established a "Total Maximum Daily Load" (TMDL) for discharges of phosphorus into the lower Charles River. A TMDL determines how much of a pollutant can be put into a body of water before it has harmful effects.
- EPA reached a settlement with Massachusetts Water Resources Authority (MWRA). This was the final step to reducing CSO discharges to the Charles River from 1.7 billion gallons per year (1988) to just 6.88 million gallons per year.

## Helping Oyster Populations:

Organizations, like the Massachusetts Oyster Project, are helping restore native oyster populations. Here's some things they are doing:

- They restore oyster populations by growing them in upwellers
- They work with local restaurants to recycle shells that have already been used.
- They also work to educate the people of Massachusetts on native shellfish populations
- Lastly they advocate to change antiquated laws that are holding back their efforts.

## Plastic Pollution:

- Using more eco-friendly alternatives such as metal straws and reusable water bottles
- Microbead face washes are a huge problem so alternatives such as peach pits give the same form of exfoliation
- RECYCLE (including your gum its also plastic)
- Use reusable shopping bags to cut down plastic use

Educate others!!