

# *a* CORAL REEF *Tale*

By Kate Hruby



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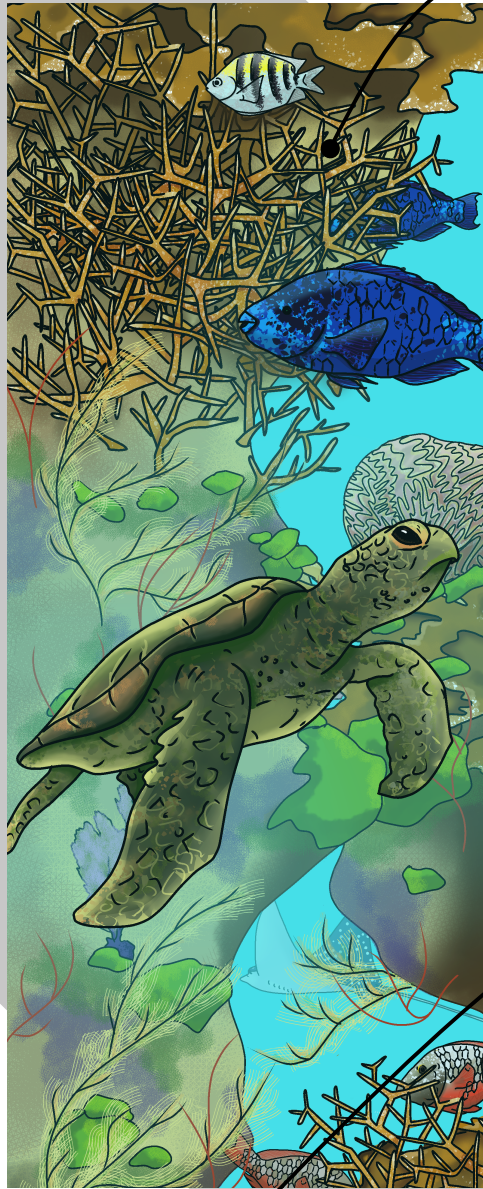


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# 40 YEARS AGO



**Staghorn coral**

Scientific name: *Acropora cervicornis*  
A branching, stony coral



**Elkhorn coral**

Scientific name: *Acropora palmata*  
A shallow water, reef-building coral



**Grooved brain coral**

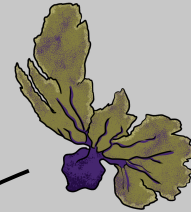
Scientific name: *Diploria labyrinthiformis*  
Can grow up to 10ft in diameter



# TODAY

Water quality  
is bad

Coral is dying



**Sea fans - diseased**

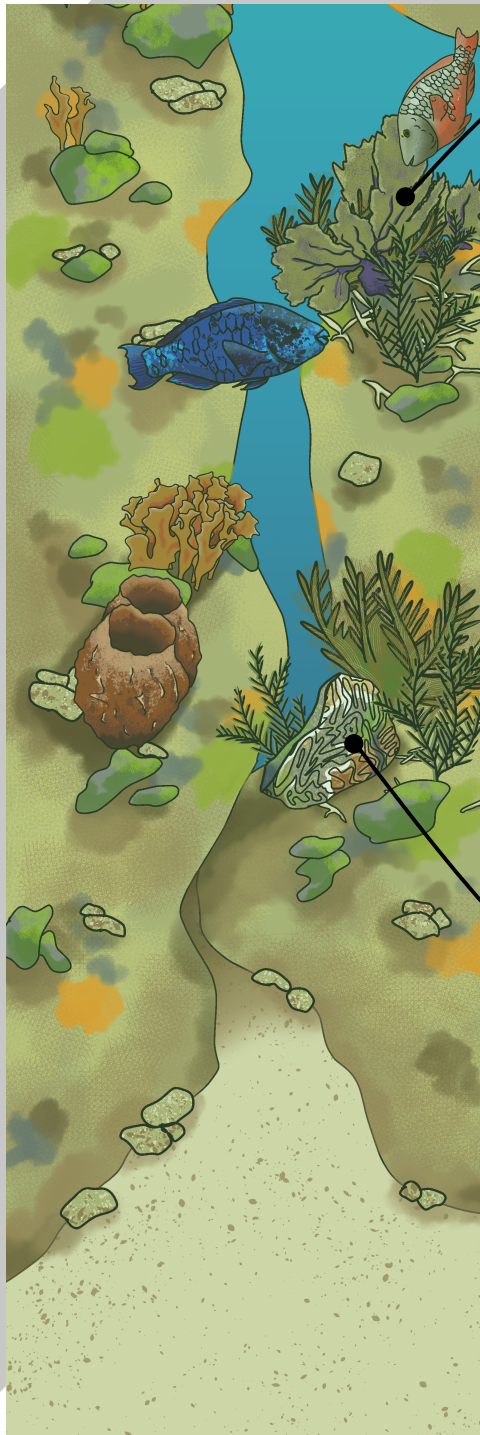
Scientific name: *Gorgonia ventalina*  
Filter feeding flexible animals related  
to coral, healthy sea fans are all purple

Disease is  
spreading



**Fire coral**

Scientific name: *Millepora complanata*  
Not a true coral, venomous, causes a  
burning sensation when touched

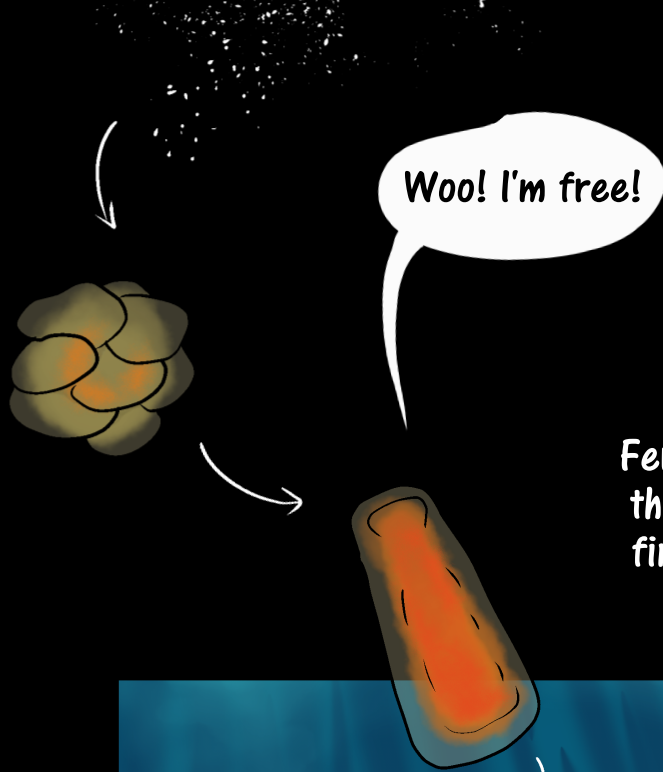




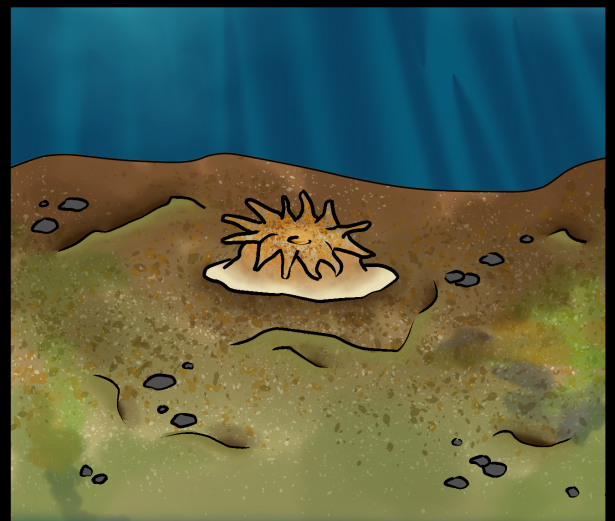
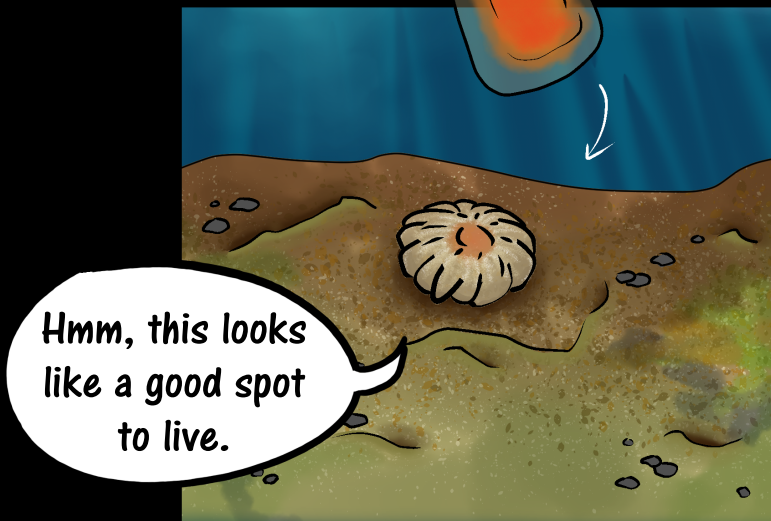
# CORAL SPAWNING

Once a year, by the light of  
the moon, adult coral  
releases its spawn.

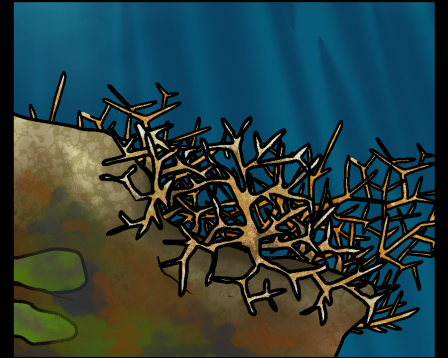
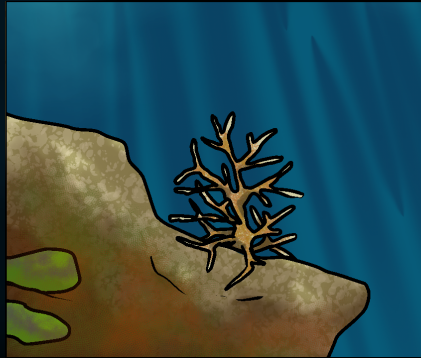




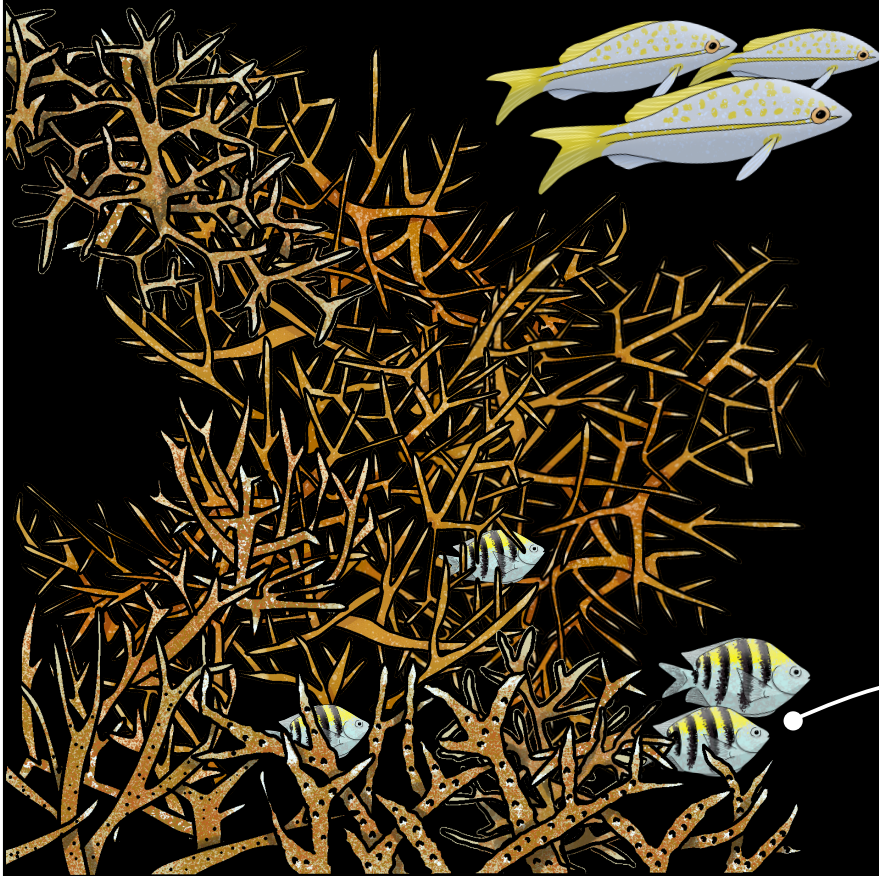
Fertilized coral spawn turns into larvae that floats around in the ocean until it finds a good spot to anchor and grow.



When it's healthy, staghorn coral can grow 8 inches a year, reaching heights of 4 feet.



It can live for hundreds of years, providing centuries of reef habitat.



### Yellowtail snapper

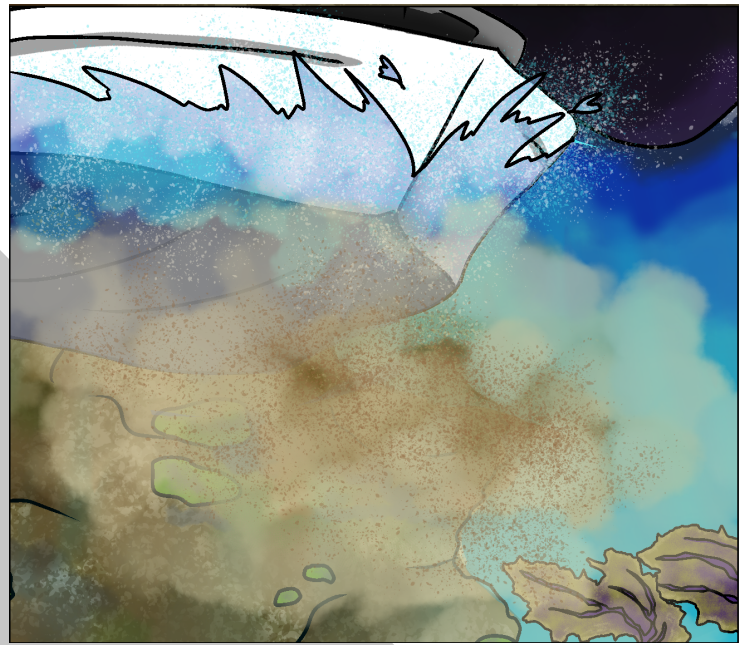
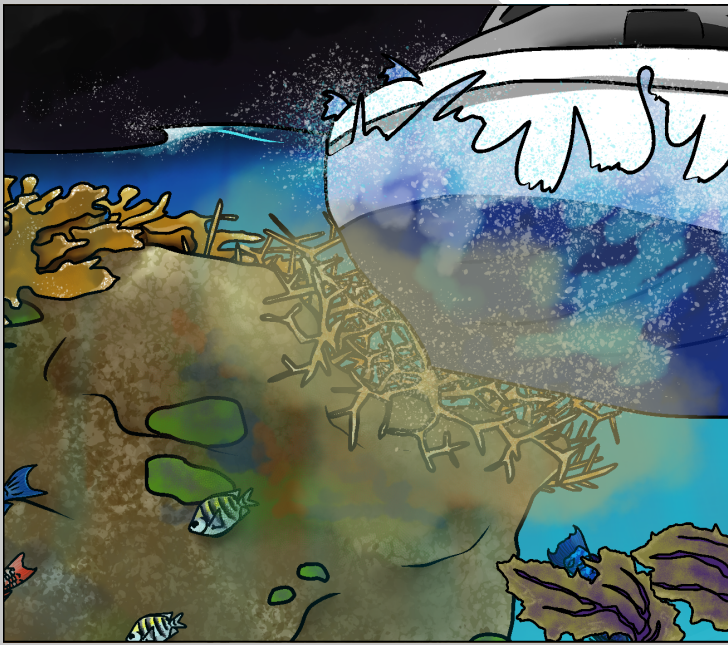
Scientific name: *Ocyurus chrysurus*  
Lives in groups above reefs and hunt at night

### Sergeant major

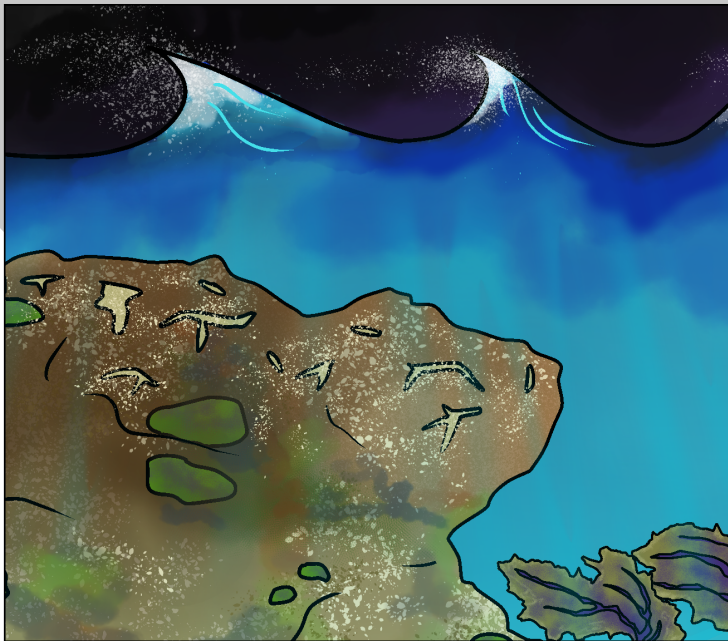
Scientific name: *Abudefduf saxatilis*  
Hides in the reef to avoid predators at night

An illustration depicting a storm over a coral reef. The upper half of the image shows a dark, stormy sky with large, dark purple clouds and bright white lightning bolts. The word "STORMS" is written in large, white, outlined capital letters across the middle of the sky. Below the clouds, a large, dark blue wave is breaking, with white foam and spray. The lower half of the image shows a coral reef. The reef is composed of various types of coral, including branching corals and some green, rounded corals. Several fish are visible: a blue fish on the left, a red and white striped fish near the center, and a yellow and black striped fish near the bottom right. The water is a deep blue color.

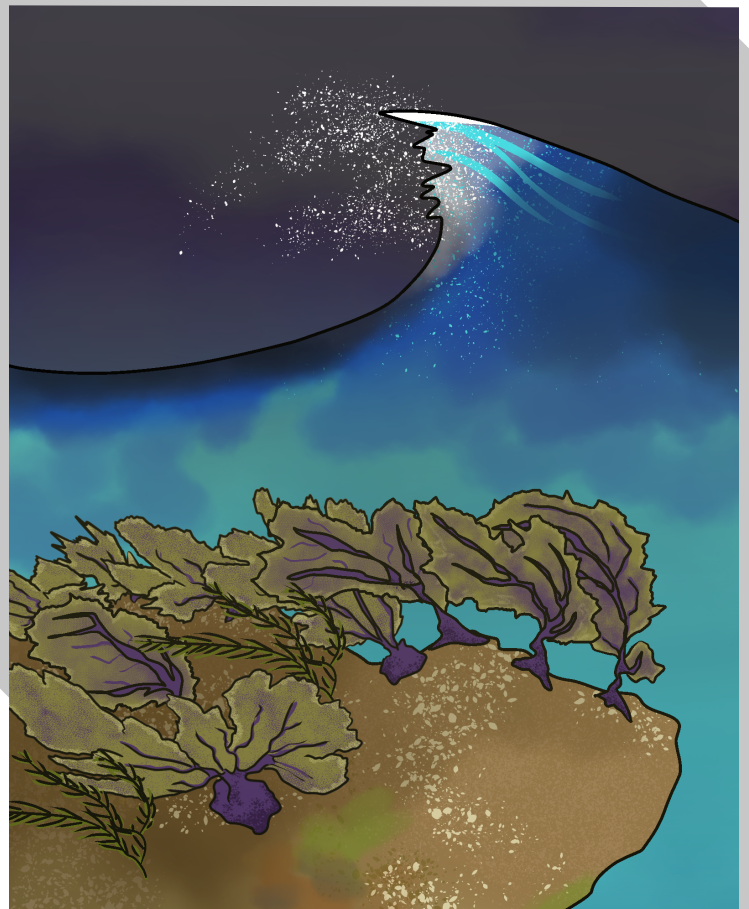
# STORMS



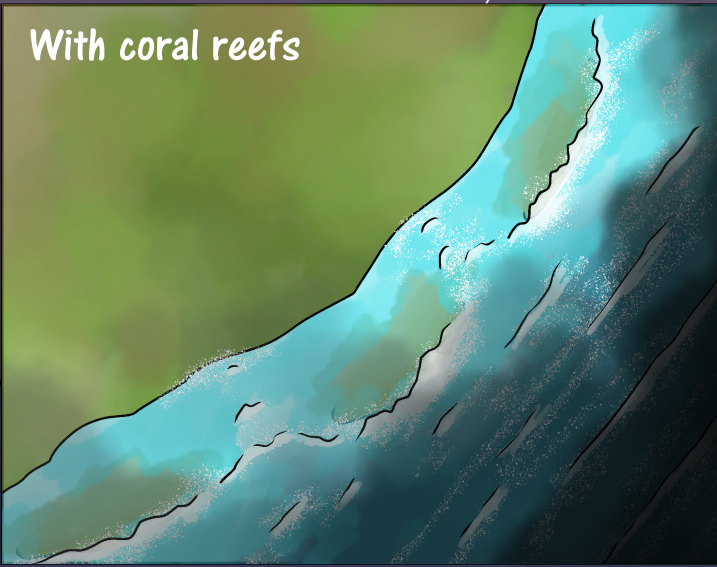
In just a few seconds, a century-old reef can be destroyed.



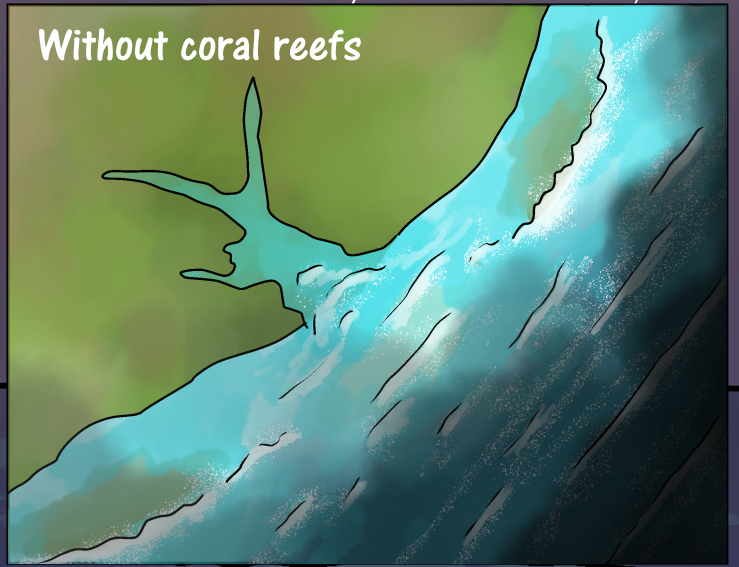
With coral barriers gone, waves have fewer hard structures in their path as they make their way to shore.



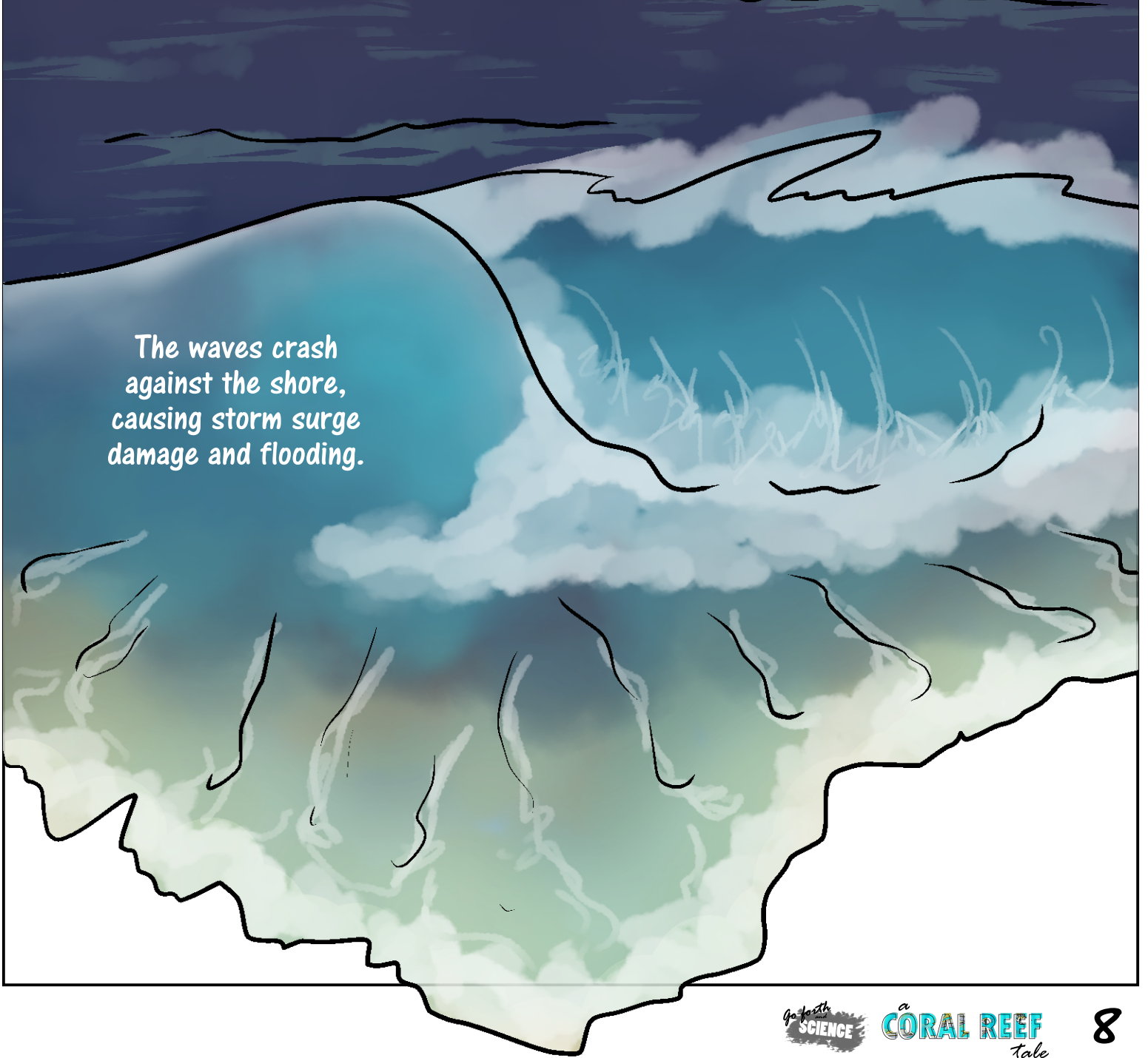
With coral reefs



Without coral reefs



The waves crash against the shore, causing storm surge damage and flooding.



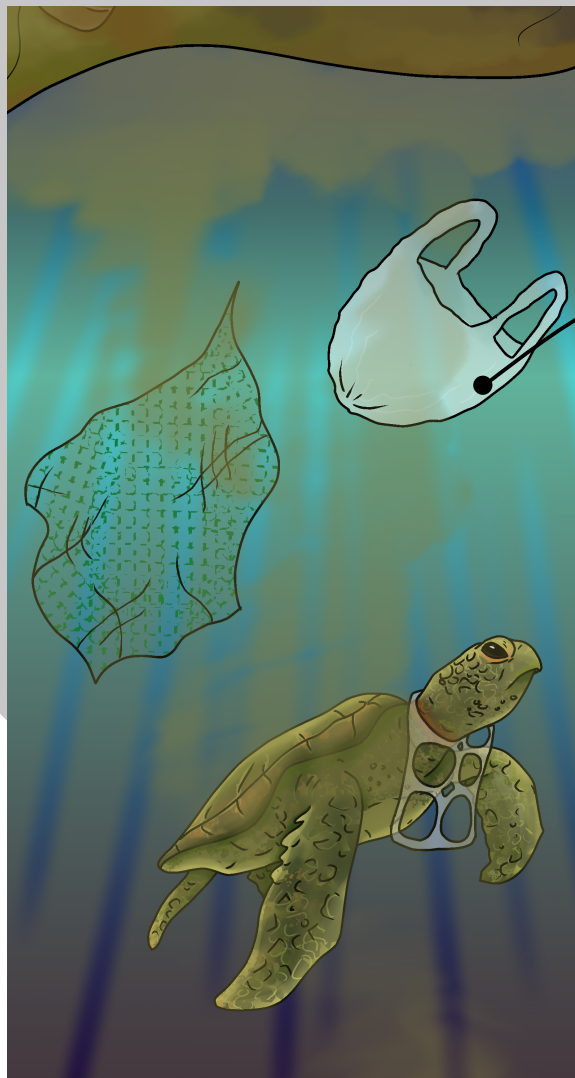
# POLLUTION

Storm runoff brings  
waste and pollution into  
the ocean.

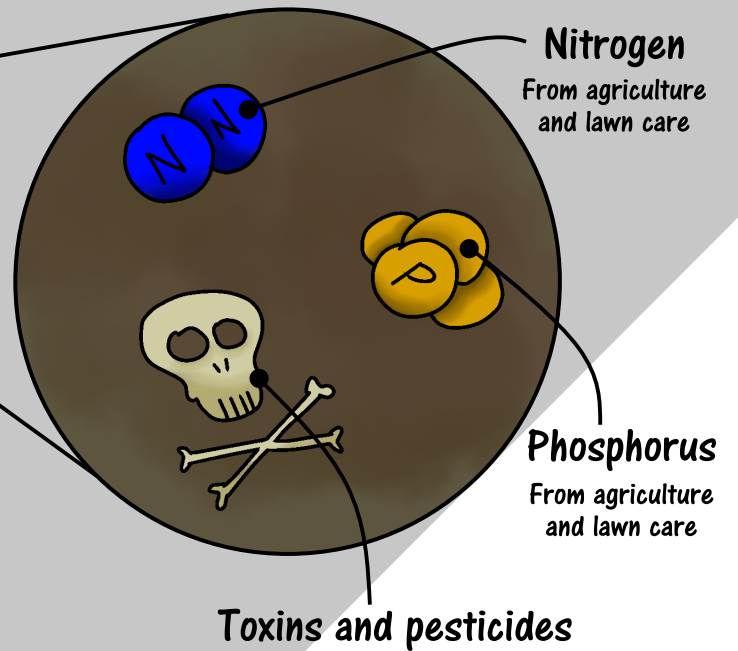
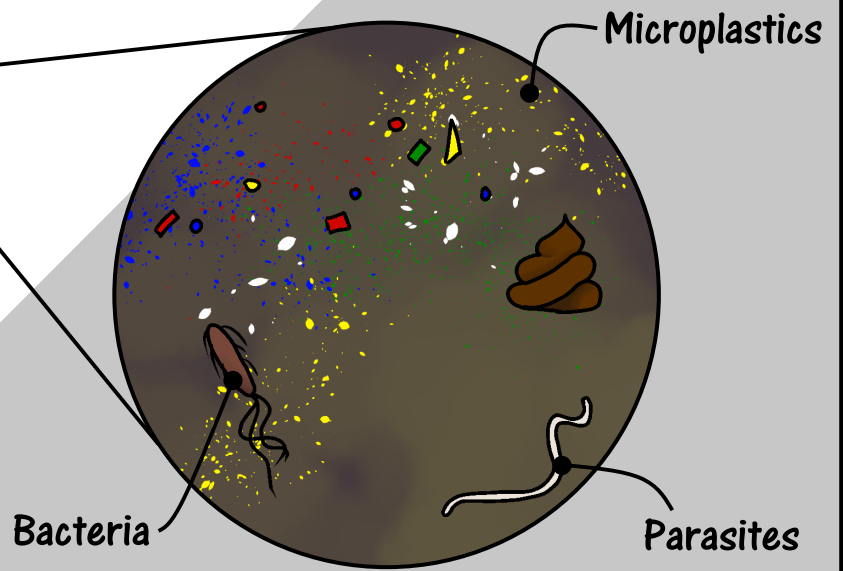
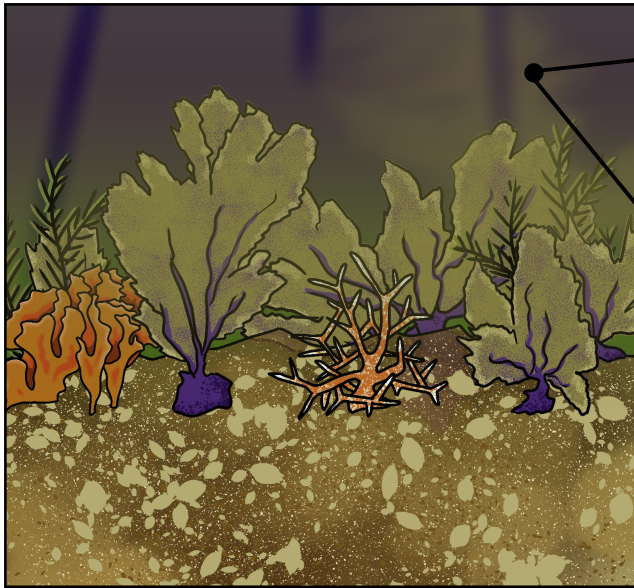


Oil

Chemicals



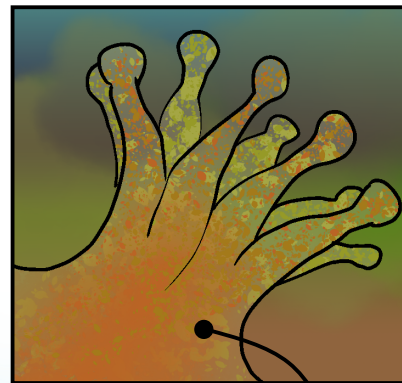
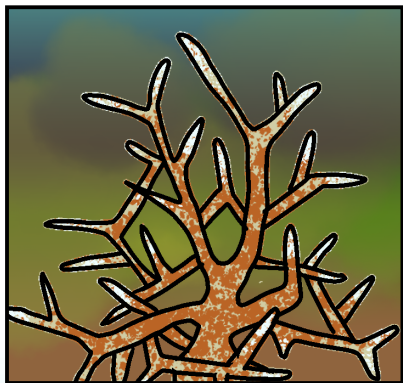
Plastics



Pollution can make the coral sick, and puts stress on its systems.

# BLEACHING





Coral polyp

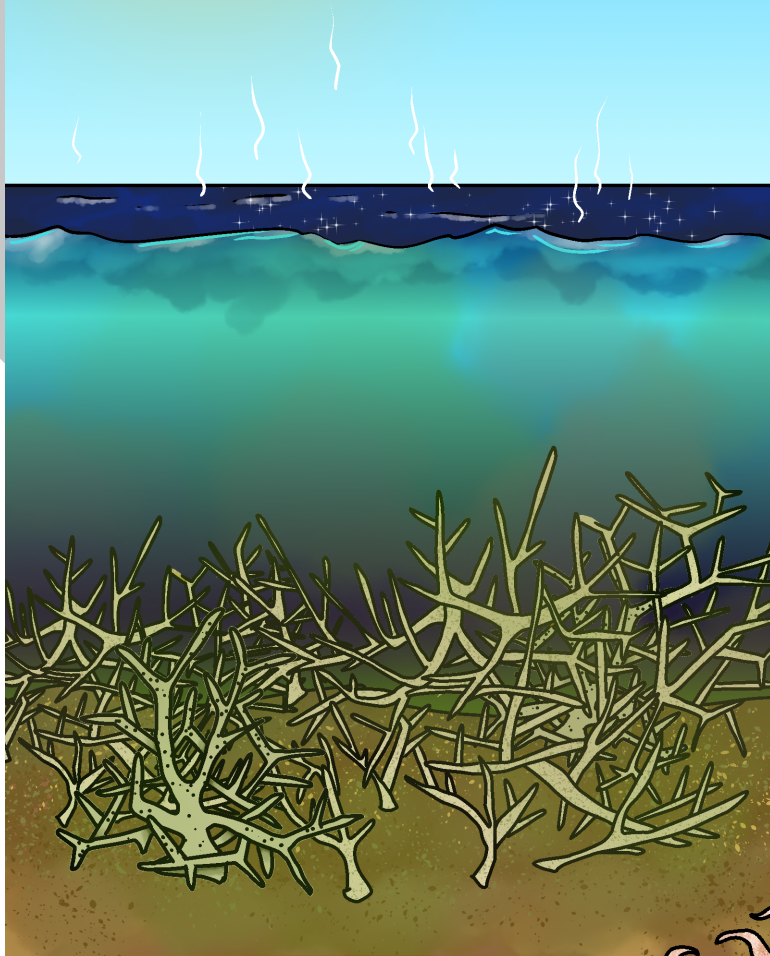
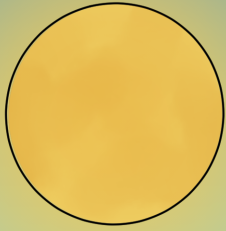
When the coral is stressed, it pushes out its algae, leaving the coral “bleached.”

Oh no, I'm so stressed!

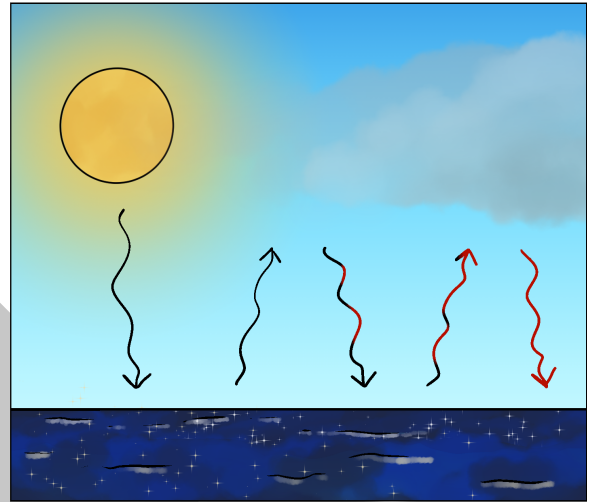
We provide food for the coral and the coral protects us.

But it is no longer healthy here, and the coral kicks us out.

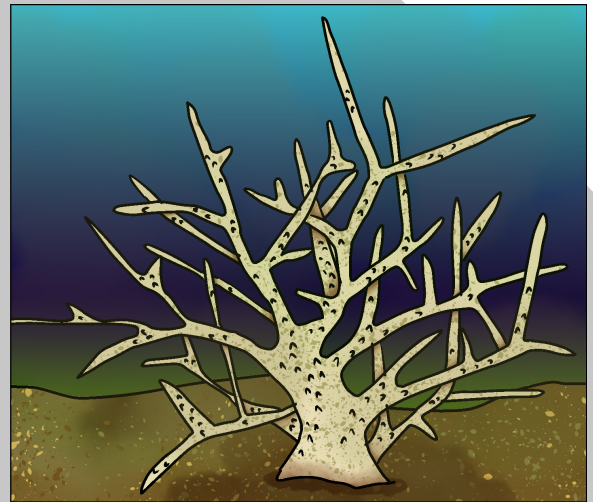
Aside from pollution in our oceans, pollution in our skies are warming up the planet.



The coral can recover from bleaching, but the thing that was stressing it has to go away first.



Warming water is also a stress on coral, causing it to bleach.

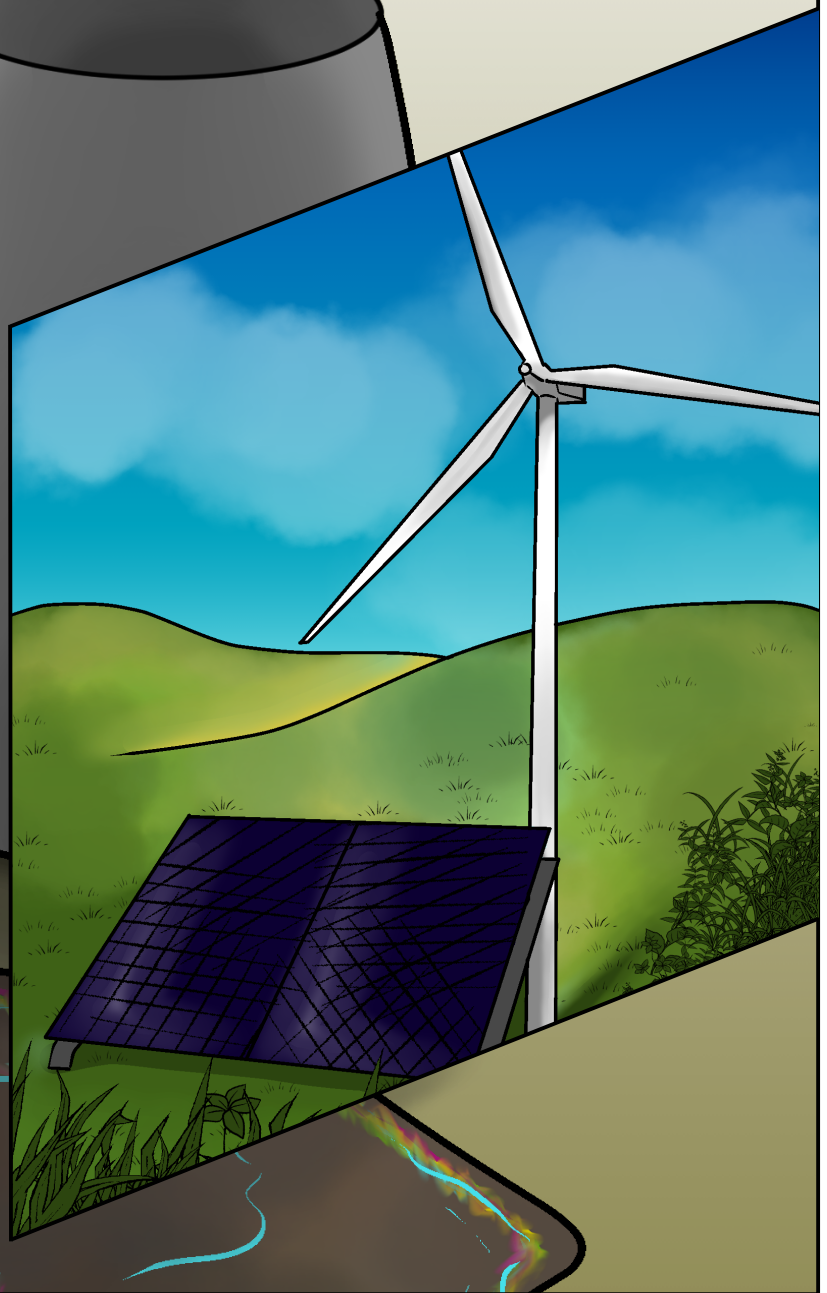


Here, it's imported.

# ACTIONS

Industries are a big part of this problem.

We can put pressure on those industries to reduce their pollution and control their waste, converting to alternative energy instead of fossil fuels.





Please don't eat me.

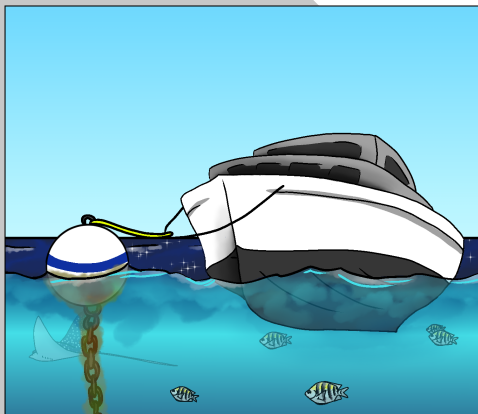
### Black grouper

Scientific name: *Mycteroperca bonaci*  
Begin life as female and then some change to males as they grow

We can choose what seafood we eat and where it comes from, avoiding animals that are already overfished.



See you later dude.



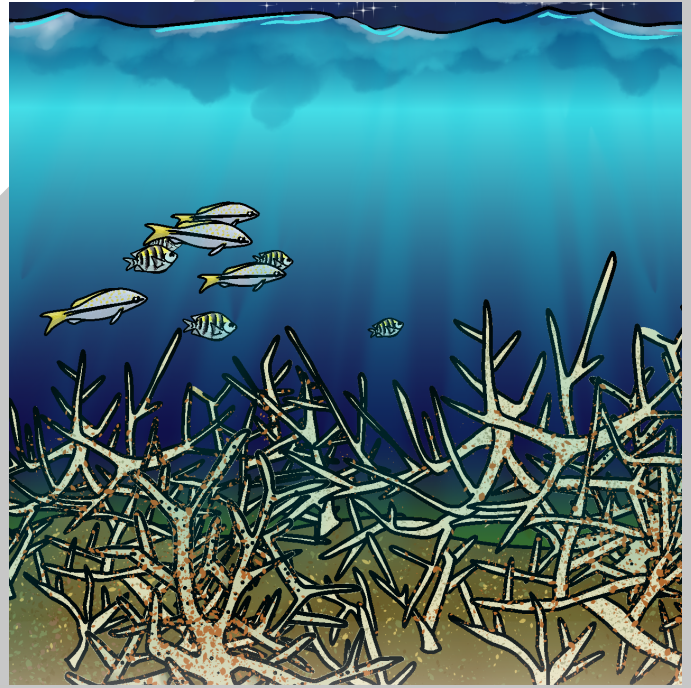
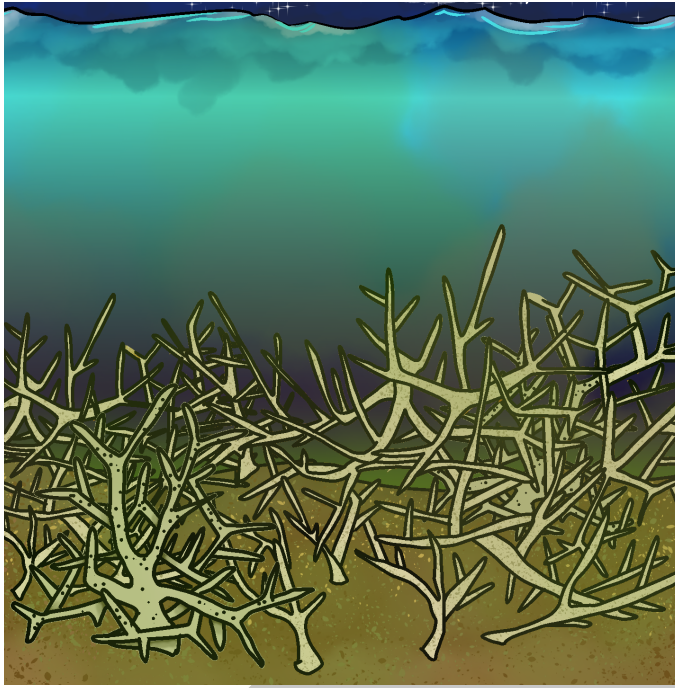
We can choose safe boating practices.

We can choose reef safe sunscreen.

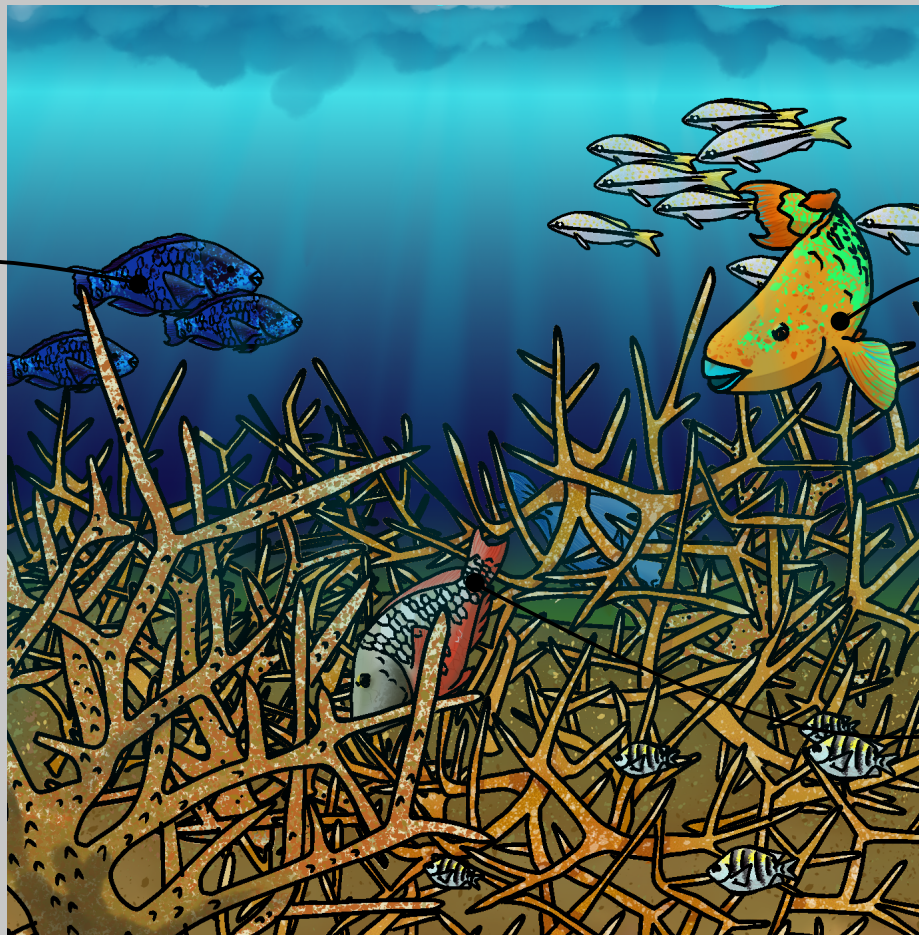


We can convert our lawns to native species, avoid pesticides, and be cautious with our nutrient use.





If we reduce the stresses on coral,  
they can bounce back.



### Midnight parrotfish

Scientific name:  
*Scarus coelestinus*  
Eats algae off rocks  
and coral

### Rainbow parrotfish

Scientific name:  
*Scarus guacamaia*  
Uses both coral and  
mangrove habitats  
during its life

### Stoplight parrotfish

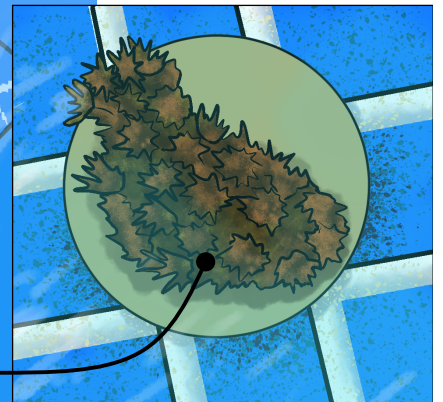
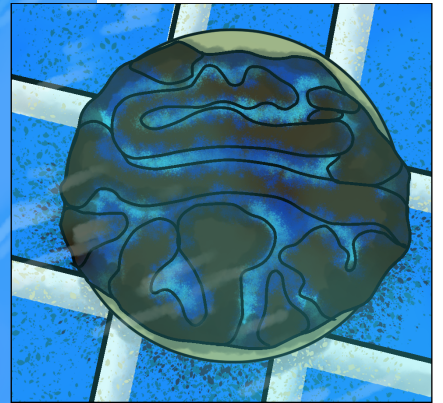
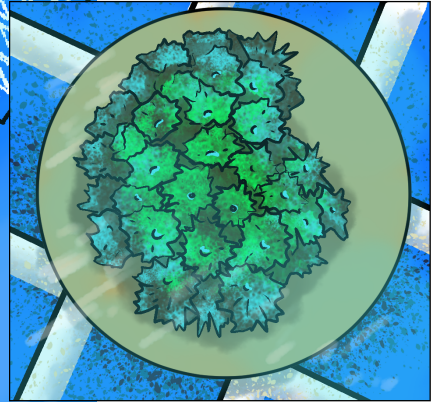
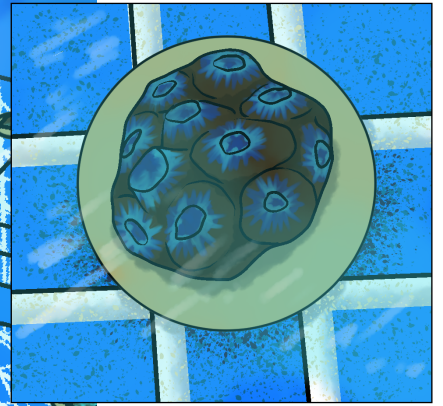
Scientific name:  
*Sparisoma viride*  
Changes between red  
and green coloring in  
their lifetimes

# SCIENCE

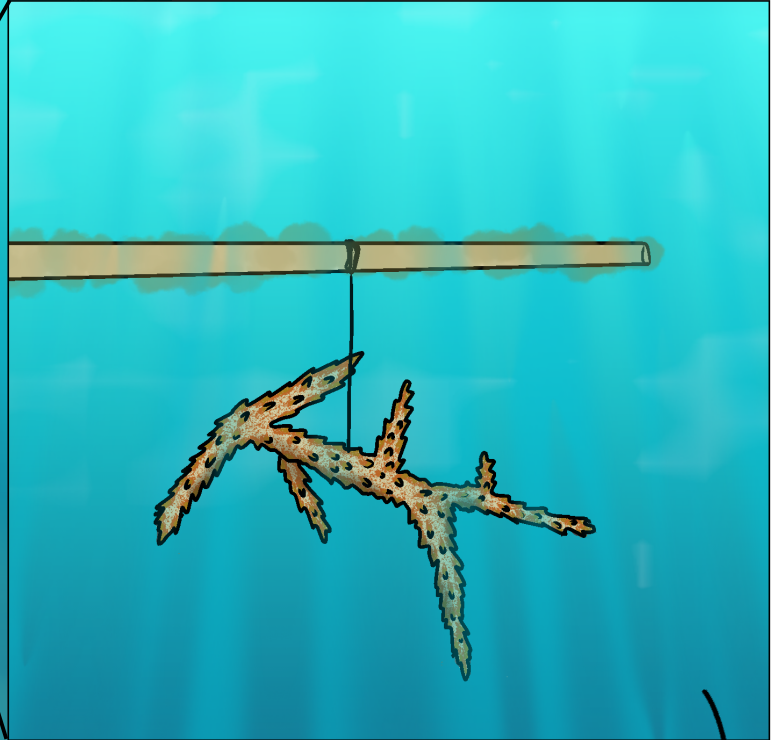
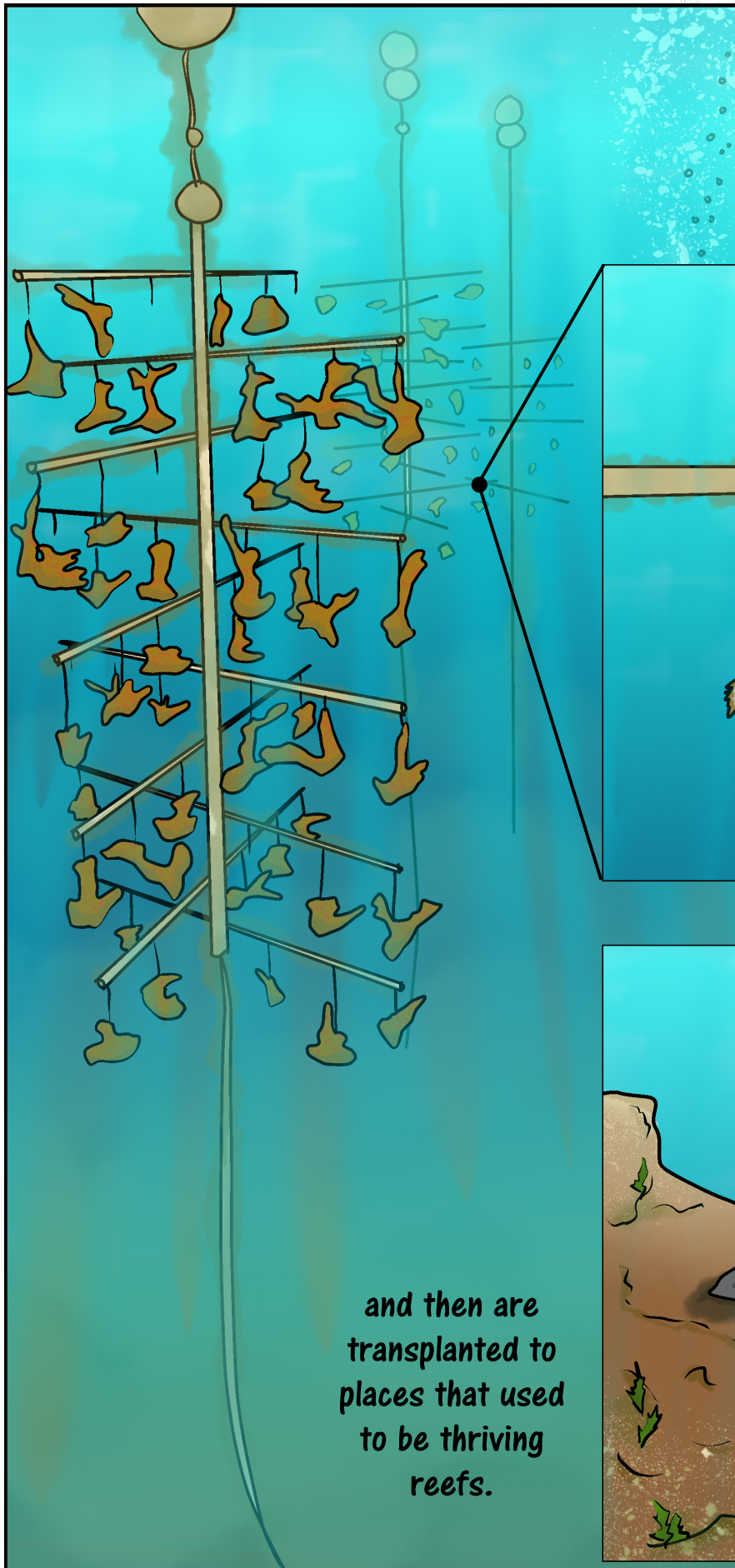
Scientists are growing corals in their labs.

They're figuring out how to keep reefs diverse, healthy and resilient.

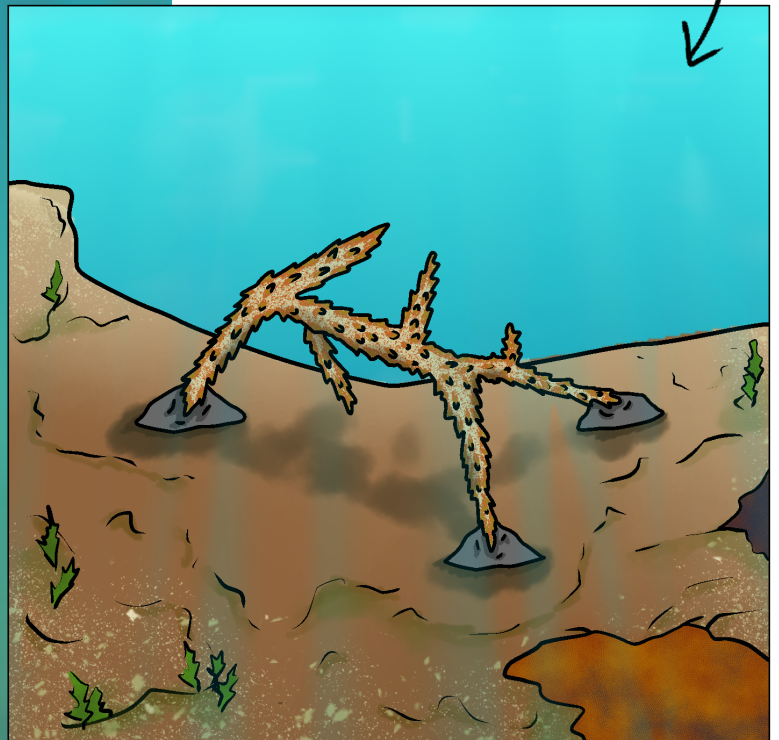
Young coral



Corals are also grown in  
underwater nurseries,

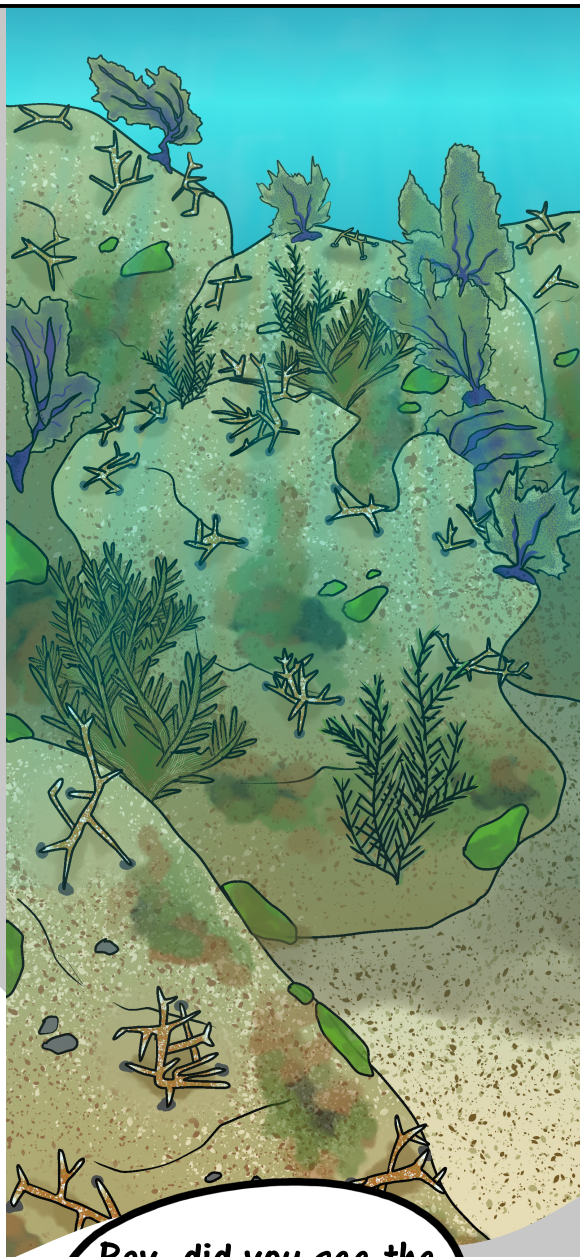


and then are  
transplanted to  
places that used  
to be thriving  
reefs.

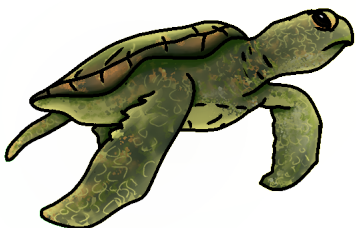


Reef systems around the world are struggling to survive, and scientists are working around the clock to find a solution to disease and extinction.

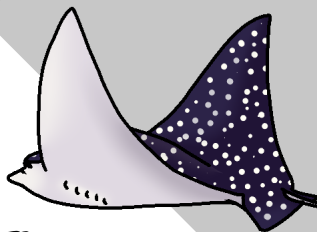
By combating climate change, pollution, overfishing, and destructive impacts, we can help ensure a future for these incredible ecosystems.



Ray, did you see the reef is back again?

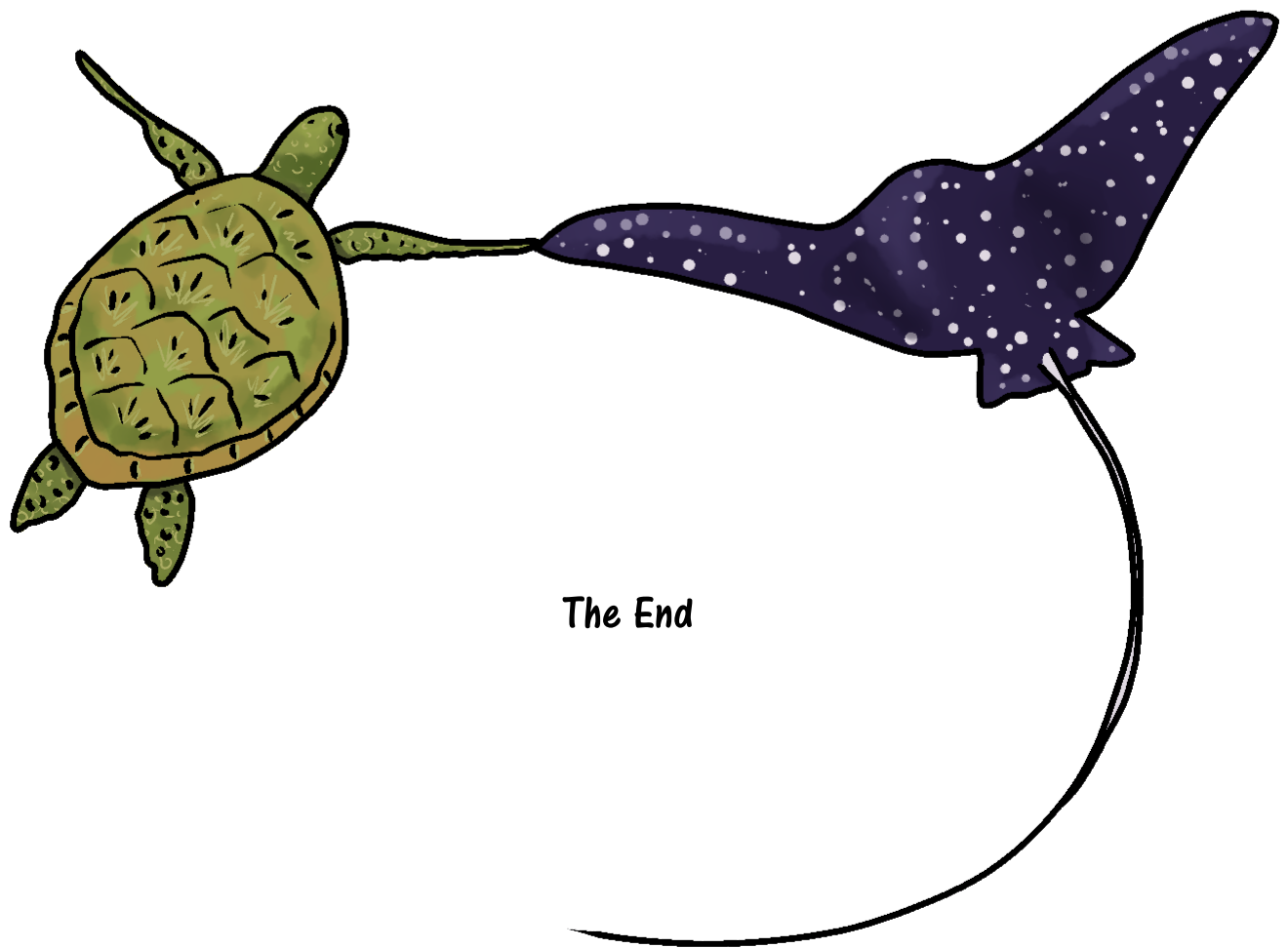


No way!  
Let's go  
check it  
out!



10 years after planting





The End