

A photograph of a vast blue ocean meeting a bright blue sky filled with fluffy white clouds. The horizon line is straight and divides the image into two equal halves.

ONE ocean







# WHY SHOULD WE CARE?

- ❖ Oceans hold 97% of the planets water
- ❖ Provides more than half of the oxygen we breath
- ❖ Regulates climate
- ❖ Provides seafood that fuels the economy
- ❖ Space for recreational activities

“It’s our life support system”  
-Sylvia Earle





Changes that humans are causing to  
the ocean could affect us forever.

Its important to know HOW we are causing this change, so we can fix it!



# Marine Fisheries



# MARINE FISHERIES

- ❖ Many of the world's fish stocks are being depleted
- ❖ By-catch: the unwanted fish and other marine creatures caught during commercial fishing for a different species.
  - ❖  $\frac{1}{2}$ -  $\frac{2}{3}$  of the species caught aren't being fished for
- ❖ Unreported and unregulated fishing are harming the ecology of the ocean
  - ❖ Affects sea turtles and other mammals





**Pollution**

# POLLUTION

- ❖ It is estimated that 80% of marine pollution originates on land
- ❖ Nutrient run-off from agriculture, sewage and wastewater discharge create “dead zones”
  - ❖ There are over 500 dead zones in the ocean
  - ❖ They add up to the size of Michigan
- ❖ Marine debris is comprised mostly of plastic
- ❖ There is one ton of plastic for every 2 tons of fish in the ocean



# Acidification





# ACIDIFICATION

- ❖ The ocean acts as a carbon sink
  - ❖ Meaning it absorbs carbon dioxide (CO<sub>2</sub>) from the atmosphere
- ❖ When it absorbs more carbon dioxide, it becomes more acidic
- ❖ Marine life are struggling to adapt to this change
- ❖ The ocean is 30% more acidic than it was in the industrial revolution

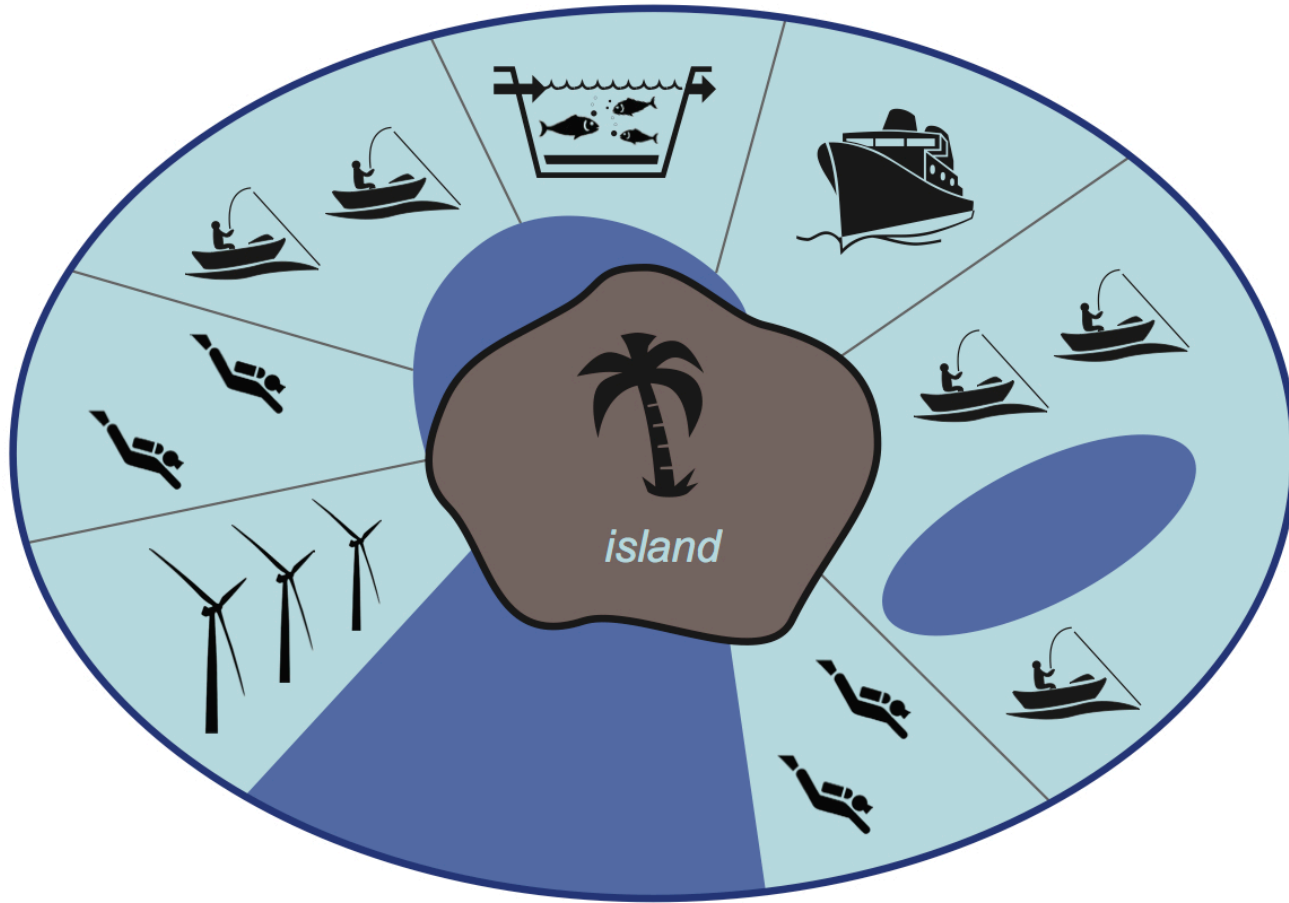


# **SUCCESS STORIES**



# Barbuda Blue Halo Initiative

comprehensive ocean zoning + sustainable management of fisheries



Radius = 1 league (3.45 miles)

**Island-wide Ocean Zoning:** could include zones for fishing, tourism, SCUBA diving, offshore energy, aquaculture, shipping lanes, boat moorings, etc.

**Fish Sanctuaries:** no-take zones where all species (and their habitats) are completely protected, so they can grow, reproduce, and replenish the fishery.

[Note: This is a mockup, not a proposal for zoning Barbuda's water.]

# California Academy of Sciences Marine Expedition Highlights Marine Protected Areas





# Health of Salish Sea Ecosystem



- ❖ Initiative launched under EPA and Environmental Canada Pacific Yukon
- ❖ Trans-boundary cooperation between US and Canada on West Coast
- ❖ Studying trends to get a better picture of environmental conditions

# NOAA: “Sustainable Fisheries – A U.S. Success Story”

- ❖ NOAA along with the US government is coming up with ways to manage fisheries sustainably
- ❖ Since 2000, more than 30 fish stocks have been rebuilt
- ❖ Improving fisheries has shown real economic benefits
  - ❖ In 2012, commercial fishermen caught 9.6 billion pounds of seafood equal to \$5.1 billion





# Project Catalyst

- ❖ Partnership between governments, non-profit and over 70 sugar-cane growers in Queensland, Australia
- ❖ Pioneering innovative farming practices to improve water quality by reducing pollution
- ❖ Reduced nutrient pollution in Great Barrier Reef by 60%



# Continuing Initiatives

- Guanabara Bay - Chesapeake Bay Partnership
- Glacier Bay National Park in Alaska and Francisco Coloane Marine Protected Area in Chile
- El Salvador and Turtle Excluder Device (TED) Sea Turtle Protection
- Coiba Island Marine Reserve and National Park in Panama



# IT'S UP TO YOU

- ❖ Mind your carbon footprint
- ❖ Use fewer plastic products
- ❖ Eat sustainably
- ❖ Beach cleanup
- ❖ Support protection of the ocean
- ❖ Influence change in your community
- ❖ Practice responsible boating
- ❖ LEARN, LEARN & LEARN