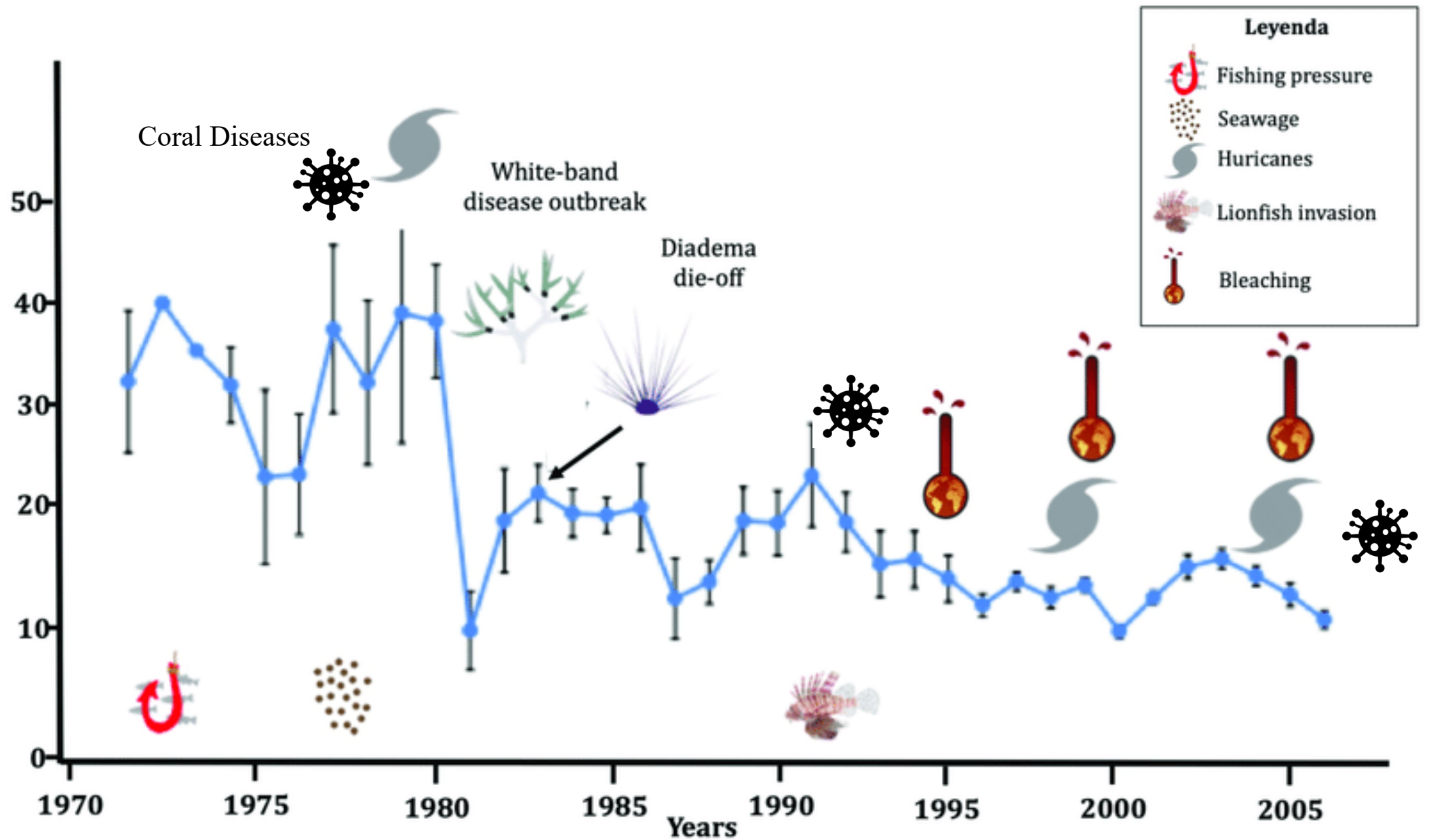


A young child with blonde hair, wearing a white t-shirt with black stars and a rainbow-colored tutu, is pushing a doll in a pink and black stroller. The child is smiling and holding a small gold object. The scene is set against a wooden wall and a carpeted floor. The entire image is framed within a circular vignette on a black background.

Dear Sloane...







Modified from Mumby et al., 2014

A scuba diver in full gear, including a tank and fins, is swimming horizontally in the upper right portion of the frame. Below the diver, a vast school of lionfish is spread across a coral reef. The lionfish have prominent vertical black and white stripes and long, flowing, translucent fins. The reef itself is covered in various types of coral, including branching and table corals, in shades of brown, tan, and grey. The water is a deep, clear blue, and the overall scene is captured from an underwater perspective.

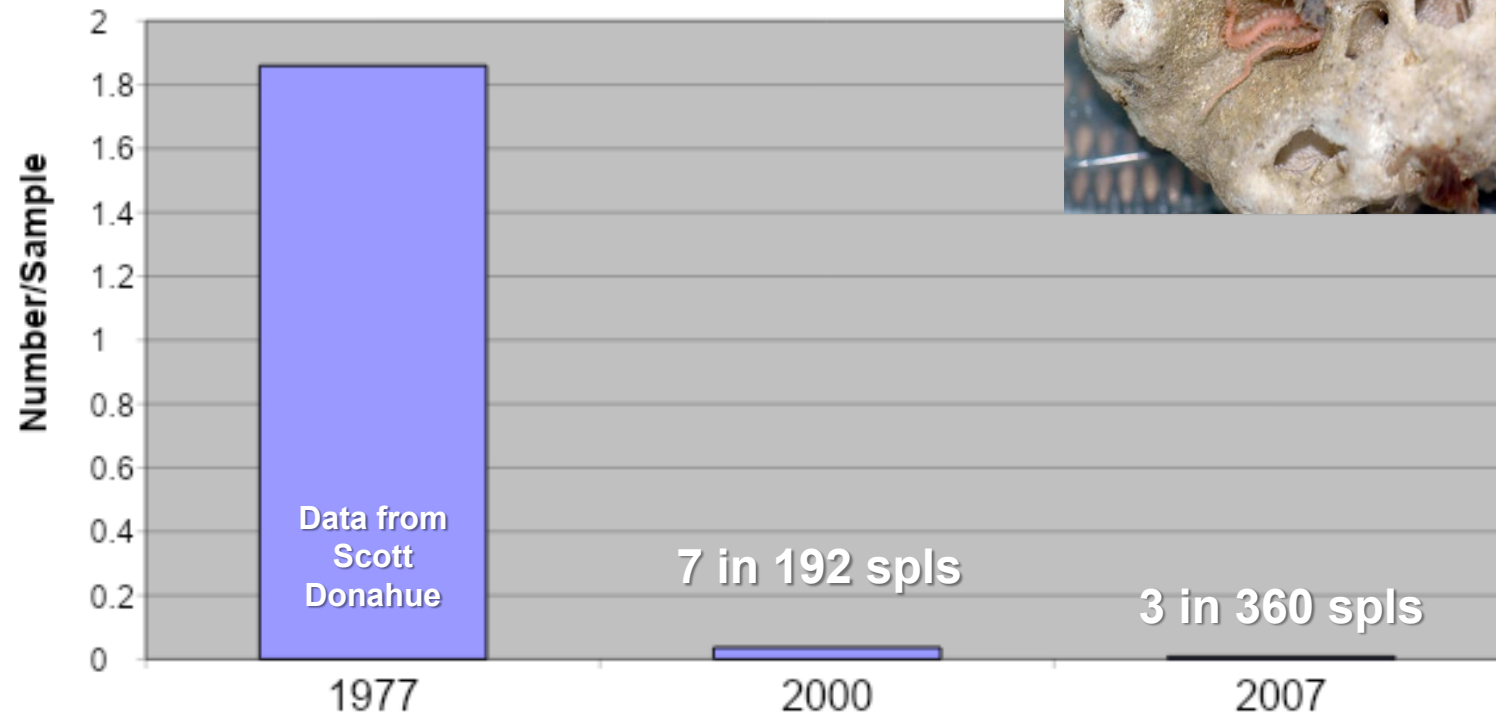
Bahamas

Nature Take the Wheel





Brittle Star Abundance Florida Keys

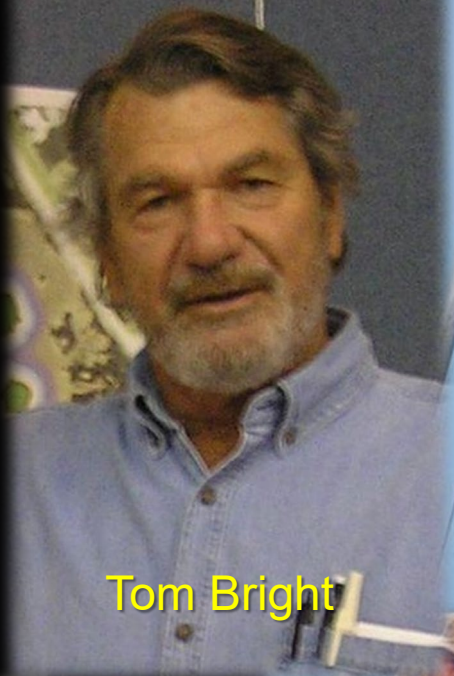




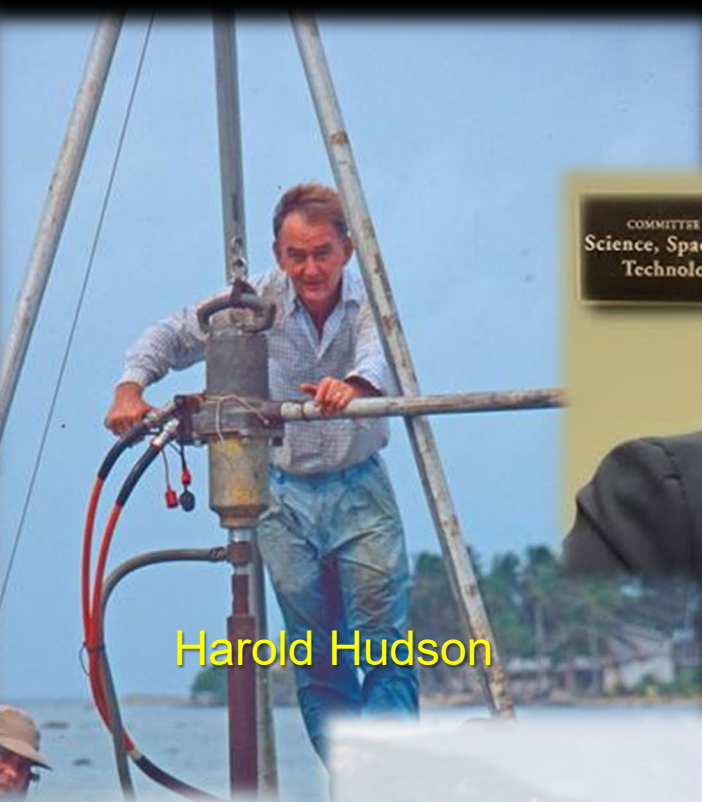
Jackson et al., 2012



John Ogden



Tom Bright



Harold Hudson

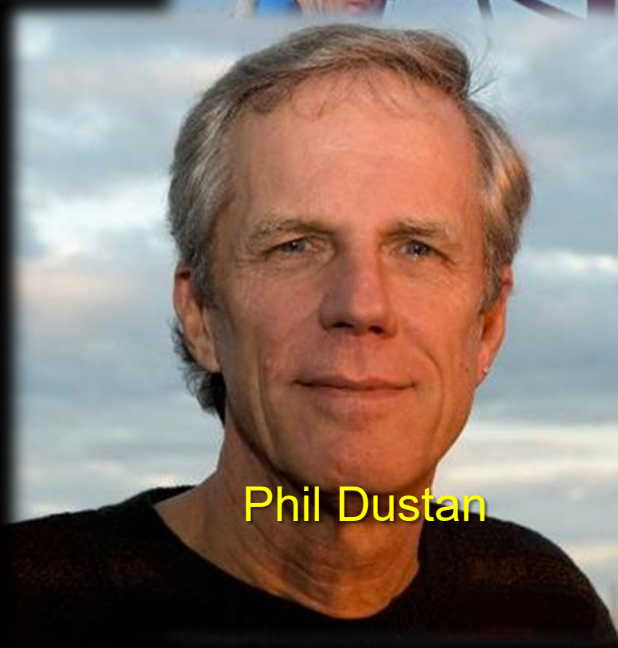


Jim Porter



Billy Causey

Bill Precht



Phil Dustan



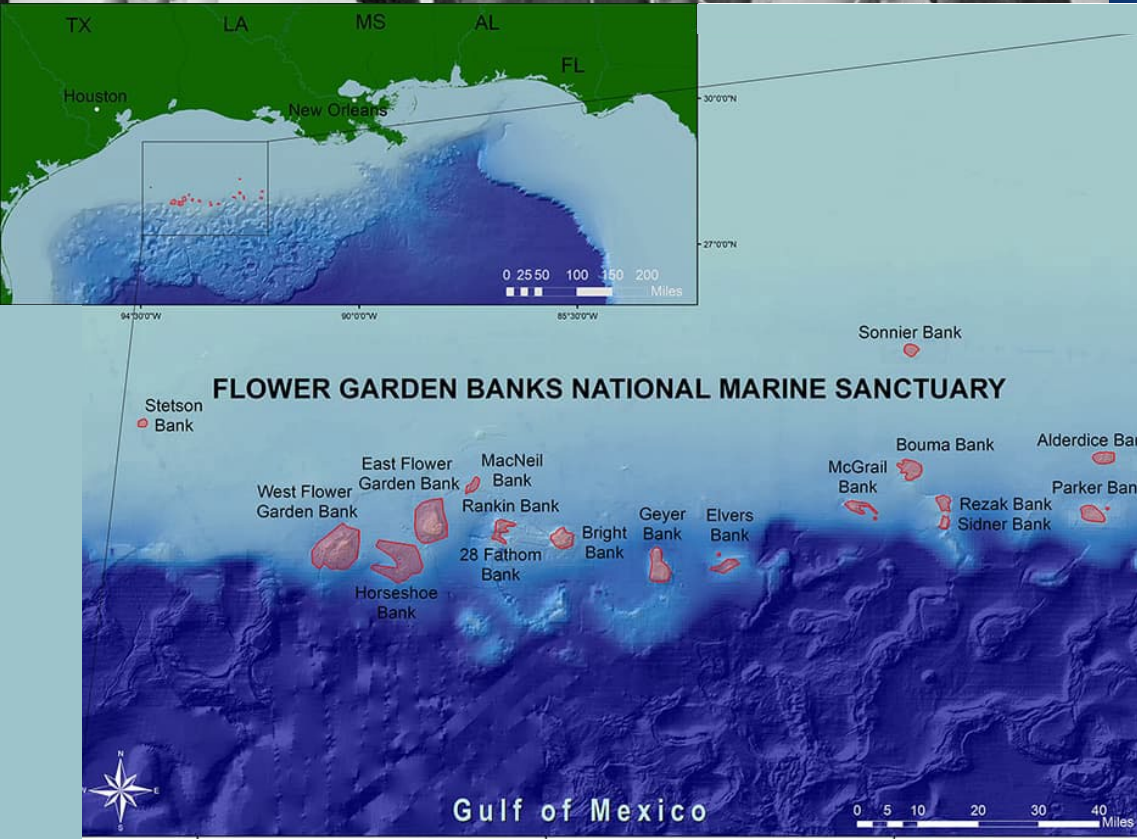
Nancy Knowlton



Jeremy Jackson



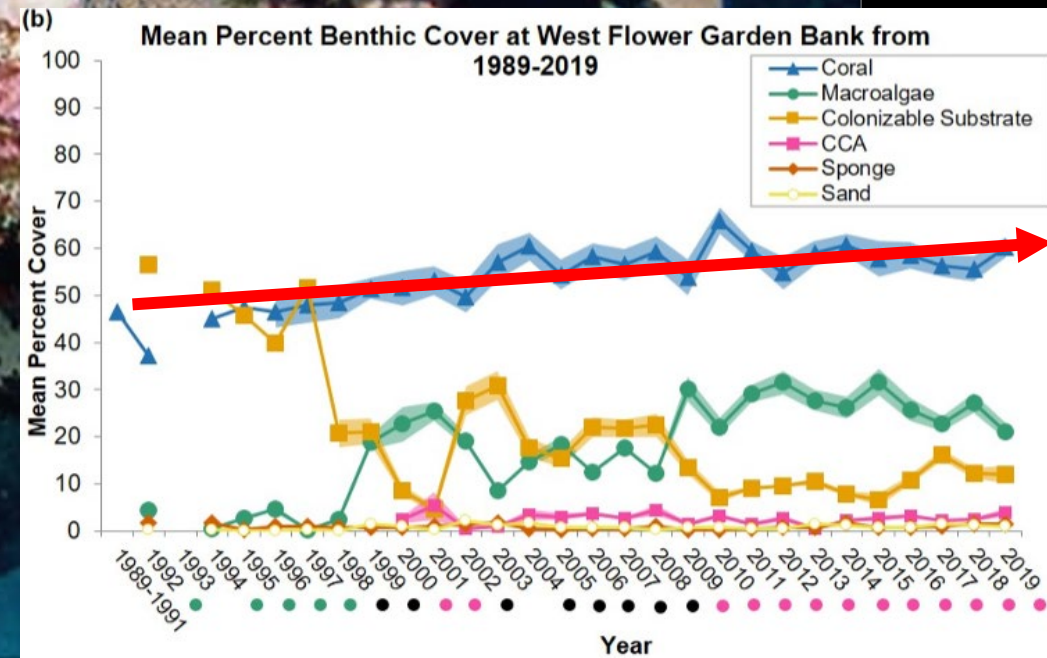




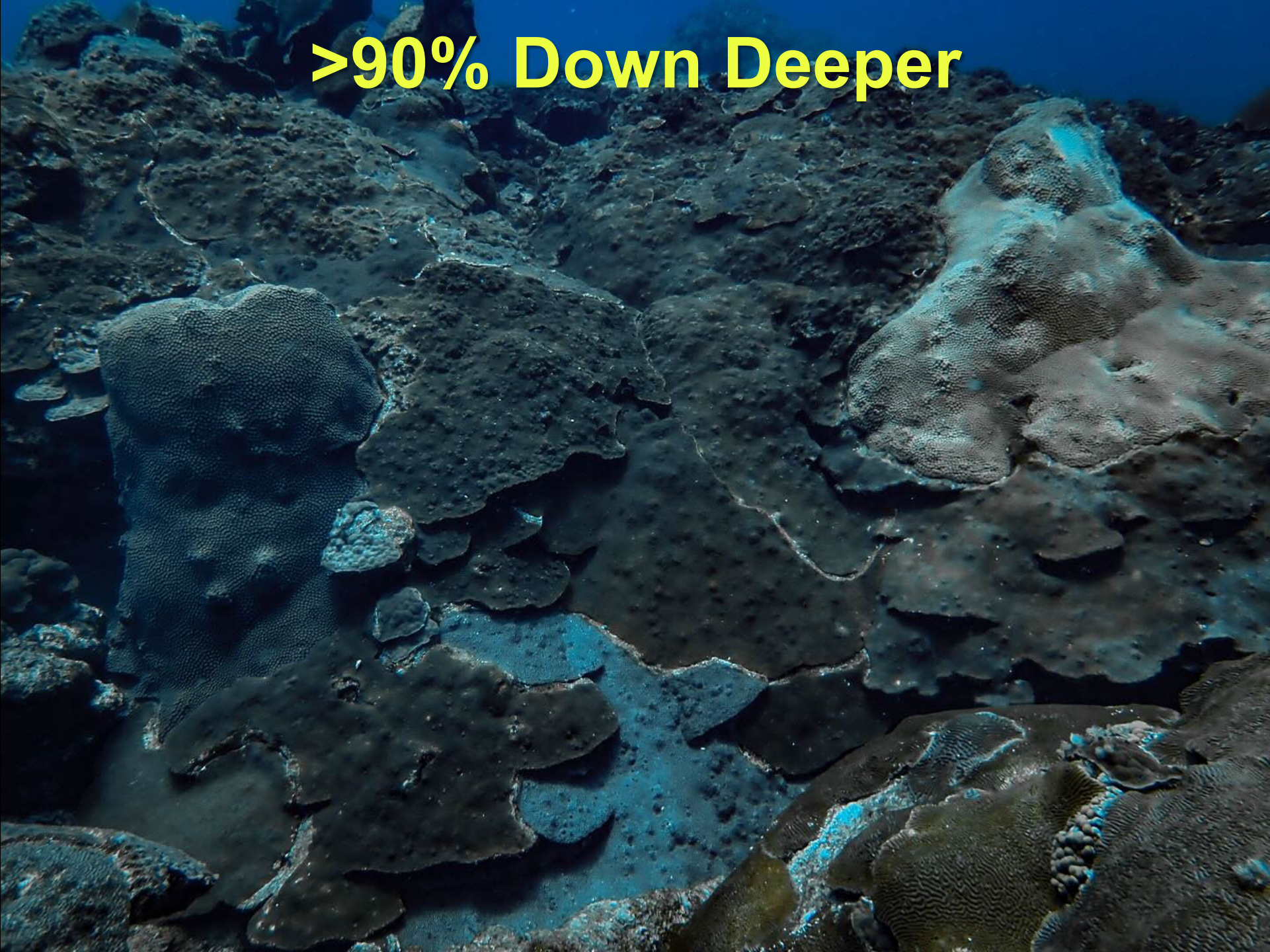
©Jesse Cancelmo

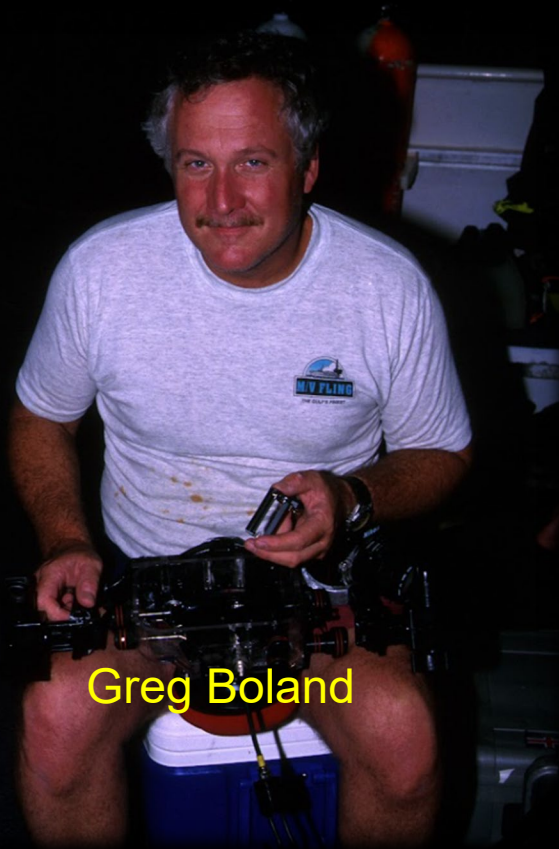


Flower Garden Banks National Marine Sanctuary



>90% Down Deeper

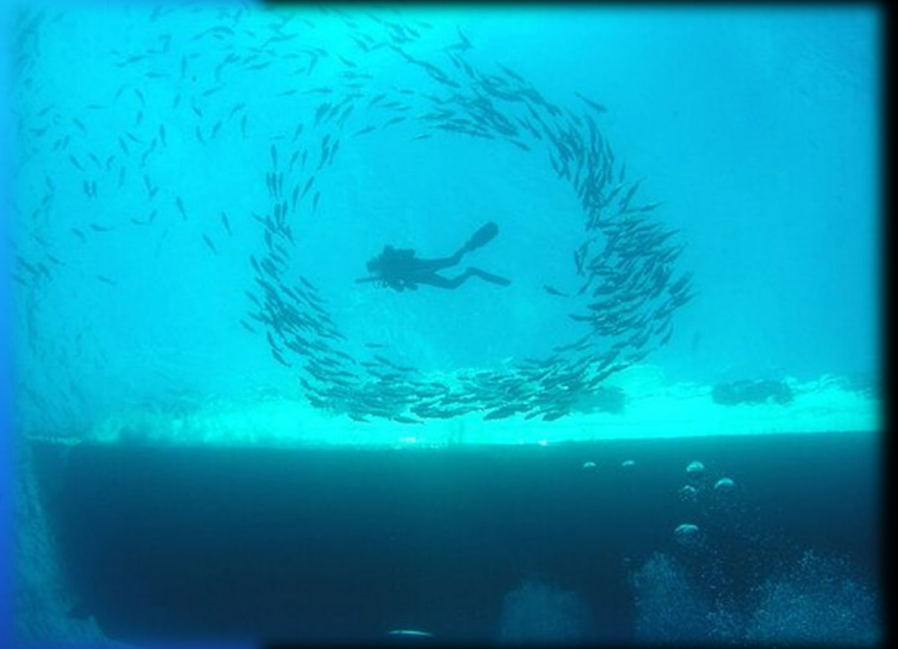
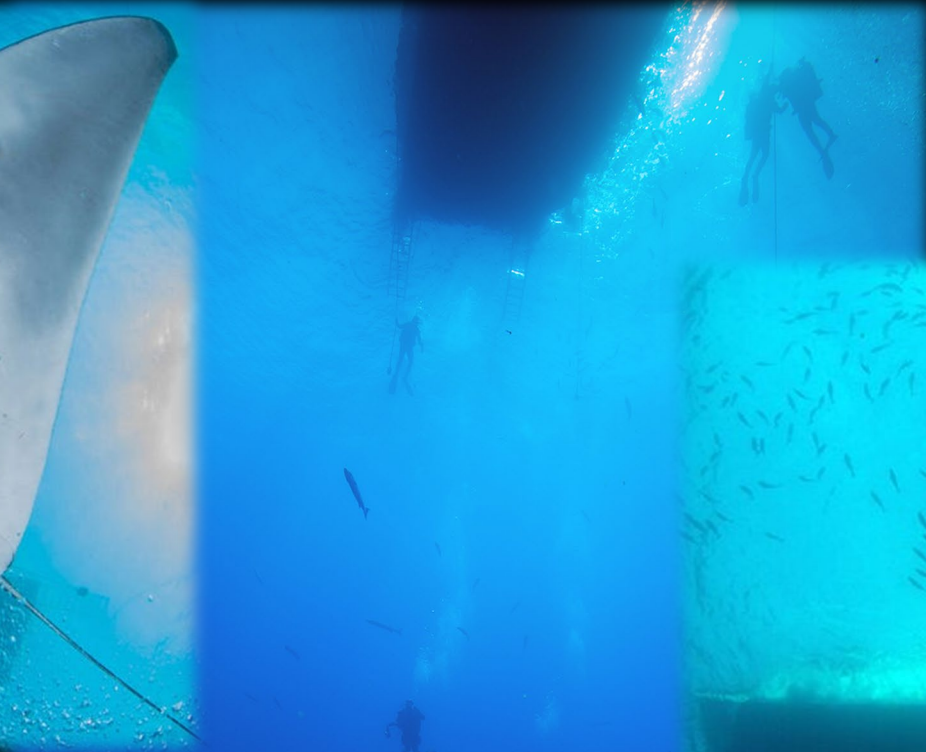
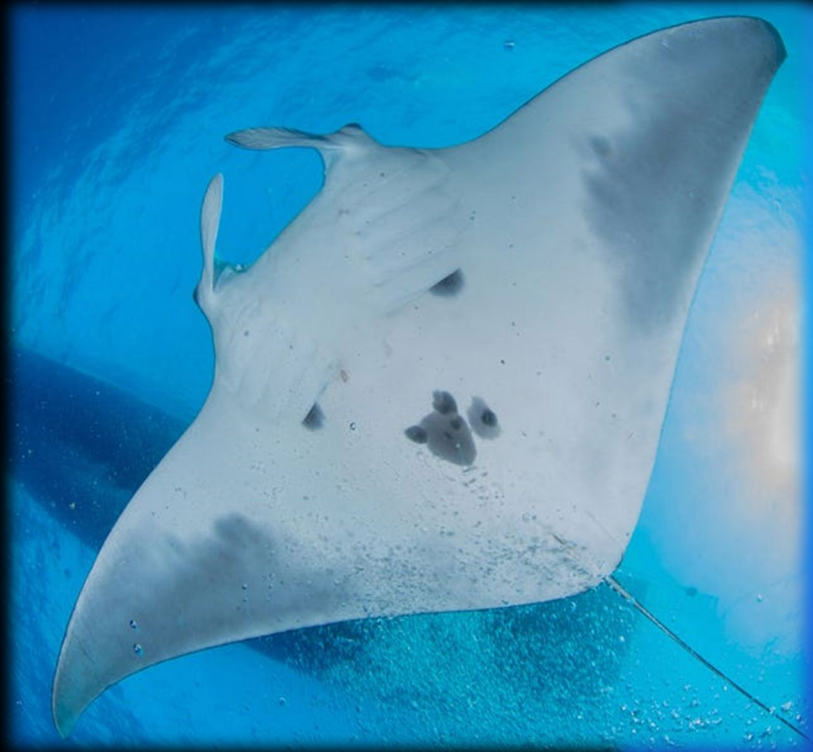




Greg Boland



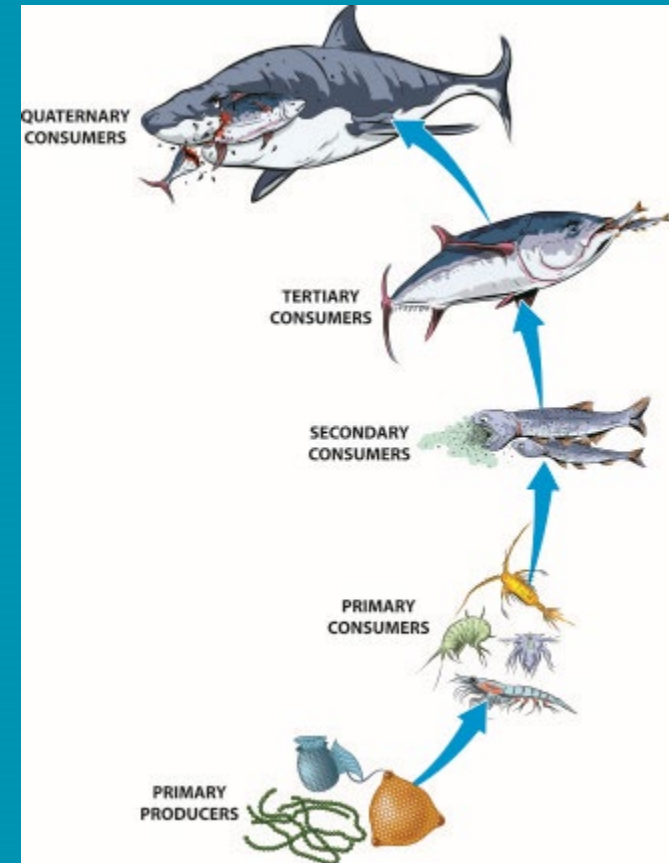
Jim Kendall, Ann Bull, David Bull



What We've Learned

Science Says...

- Fish as ecosystem drivers
- Natural sounds enhance recruitment
- Reduce runoff and pollution
- Natural shorelines as barriers

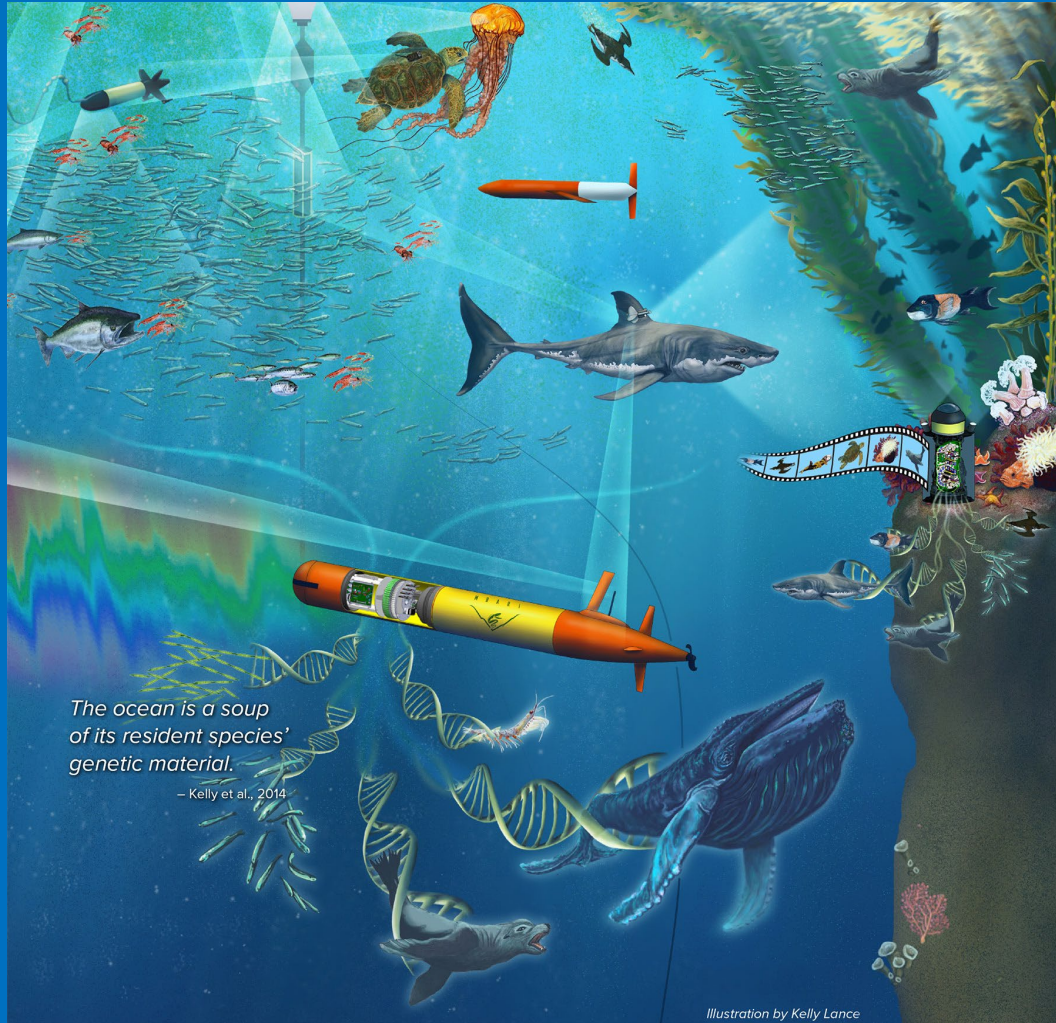


Experience

- ✓ Visionaries, management, MPAs, restoration, legal tools
- ✓ Silence won't save us
- ✓ Division fuels conflict (climate, vaccines, restoration)



Technologies



Genomics, satellites, autonomous platforms,
AI, modeling, citizen surveillance



Renewables and Fusion

Resilience & Efficiency

The ocean can recover faster
than we had ever imagined if
the world responds.

– *David Attenborough*



We're All In This Together

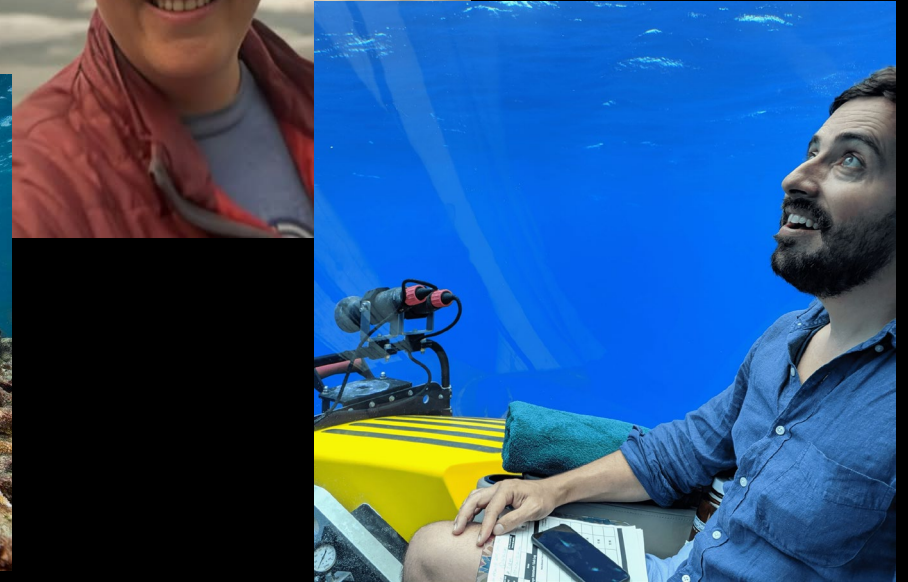
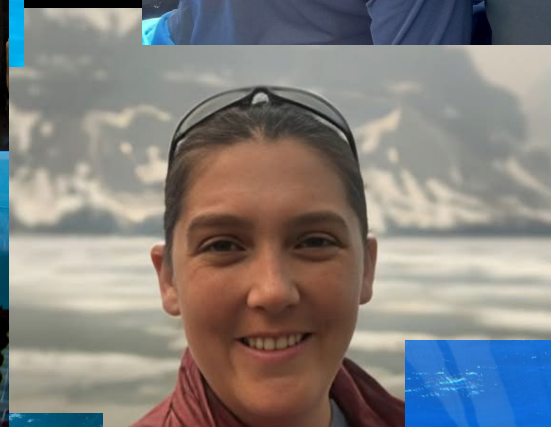
No ocean, no life. No blue, no green.

Sylvia Earle



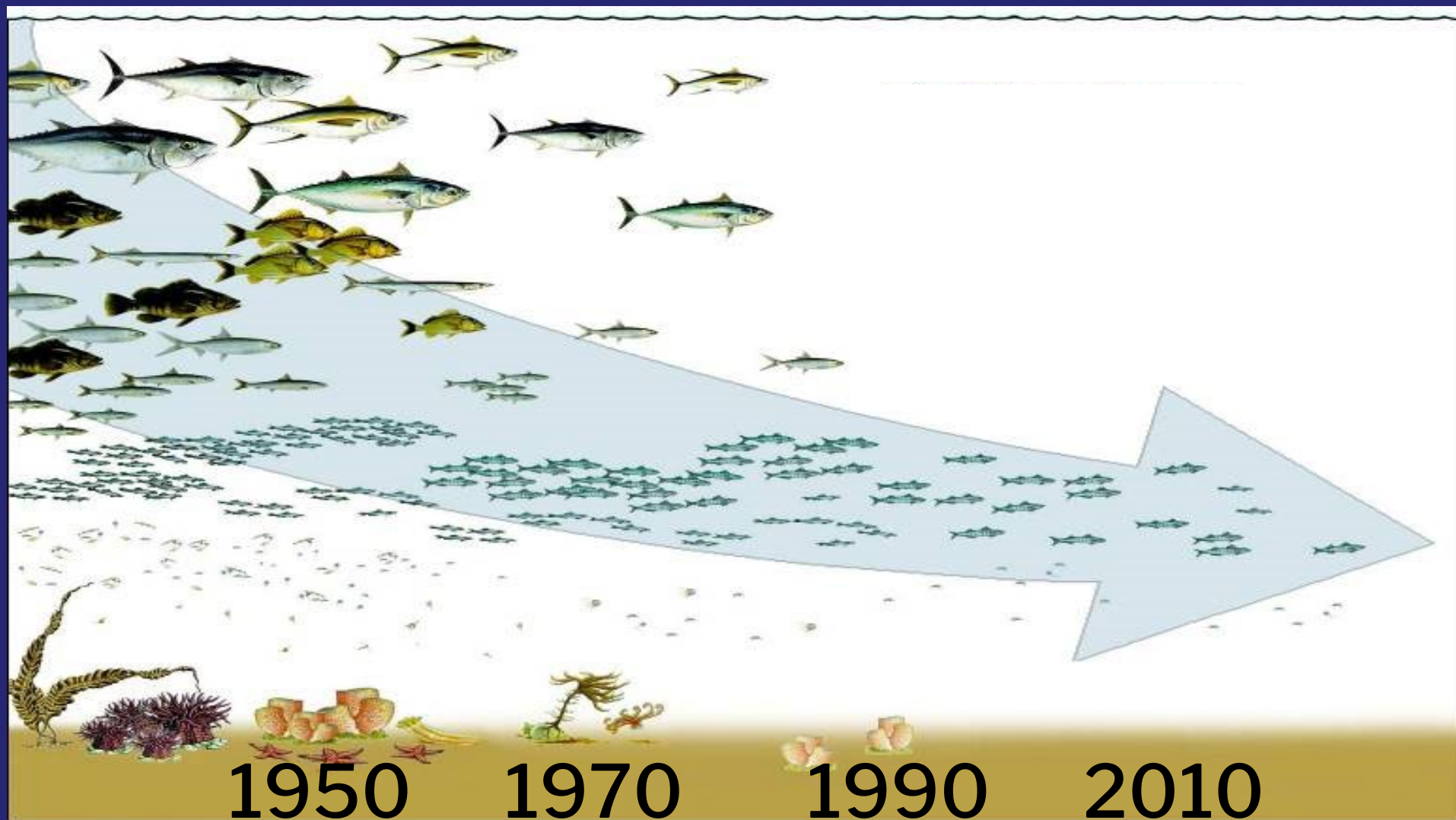
Now, as I approach the end of my life [...] after **living for nearly a hundred years** on this planet, I now understand that the most important place on Earth is not on land, but at sea.

David Attenborough

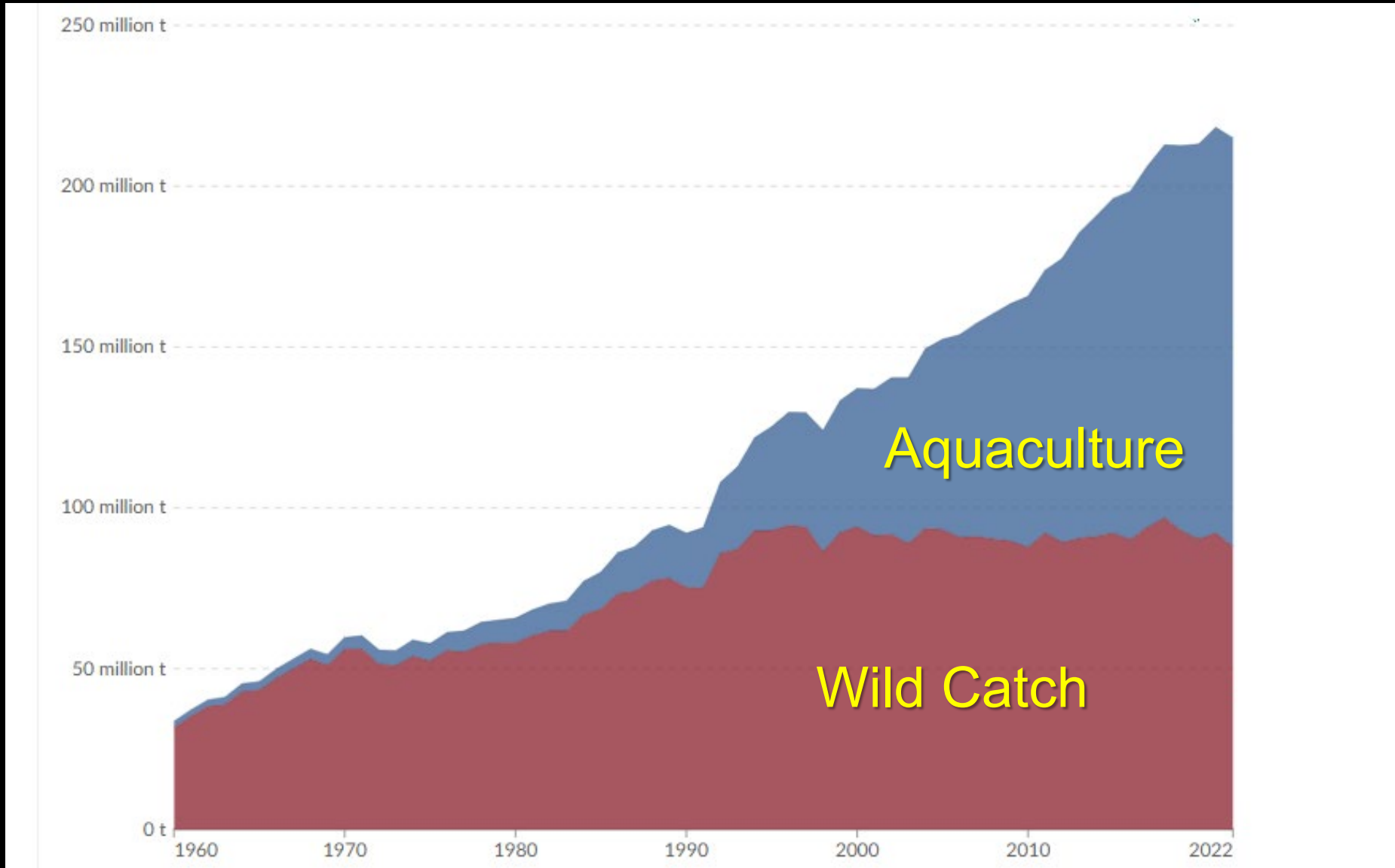




Fishing Down the Food Web



The Growth of Aquaculture

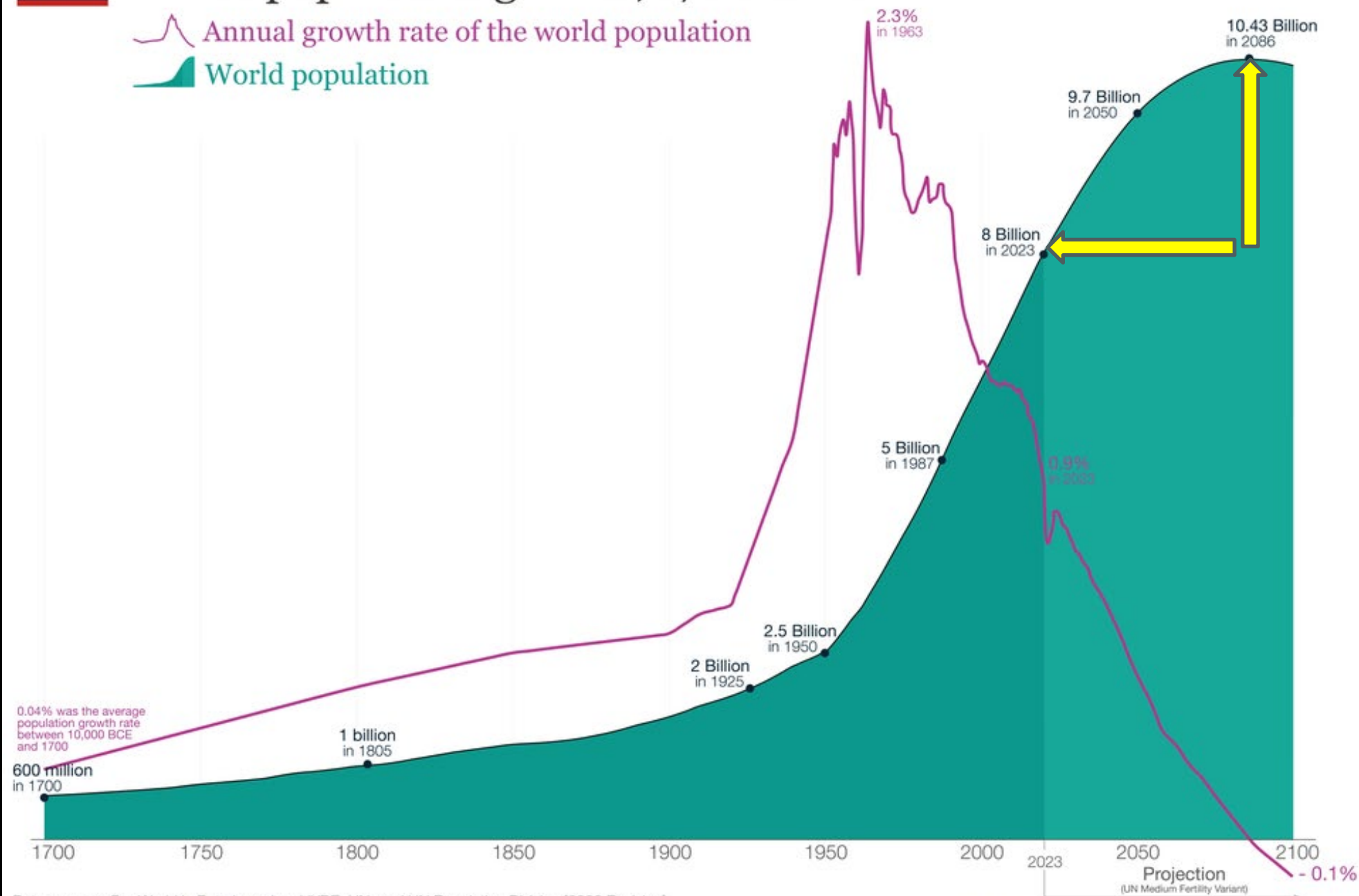


Source: Food and Agriculture Organization of the United Nations (FAO), via World Bank (2025)

World population growth, 1700-2100

Annual growth rate of the world population

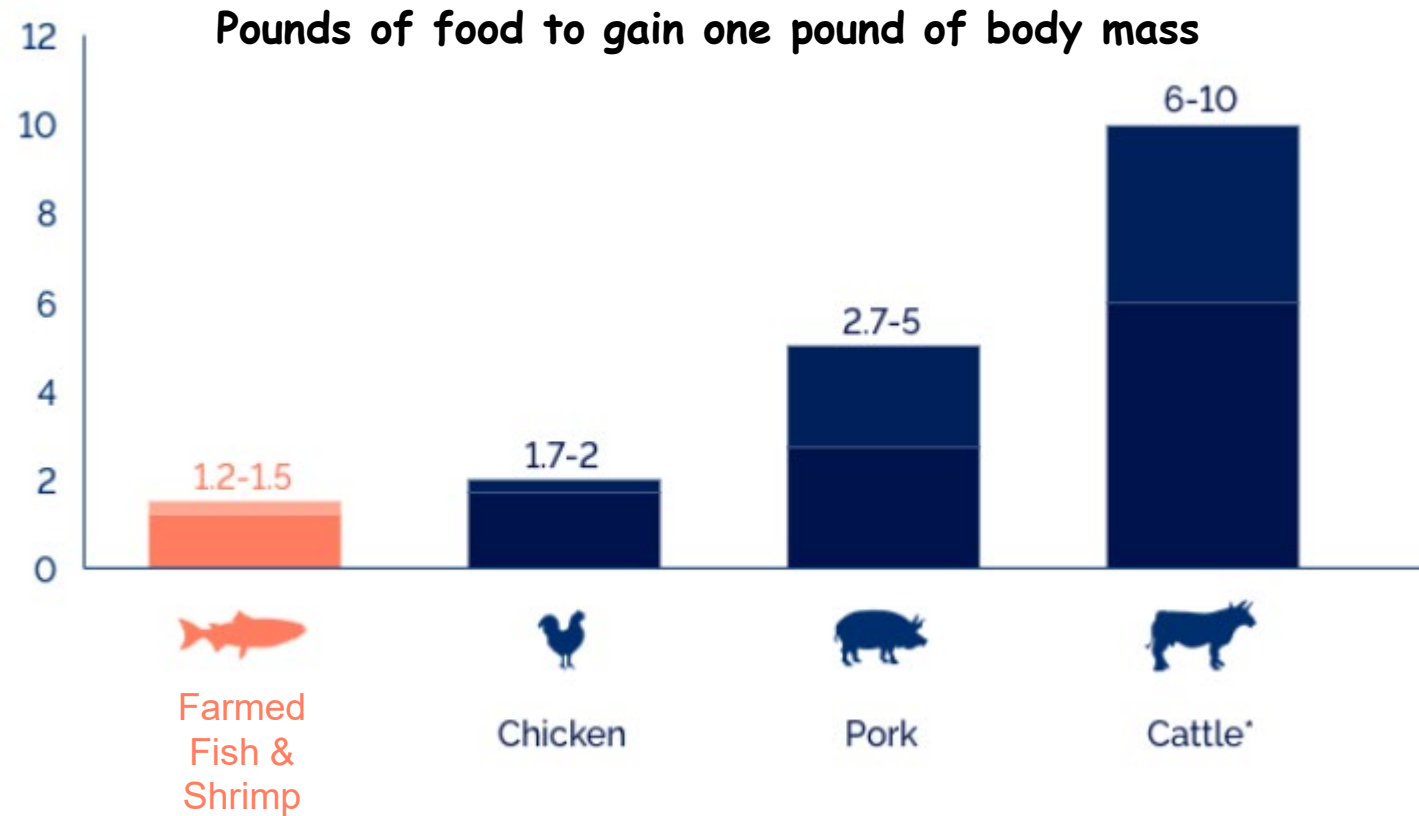
World population



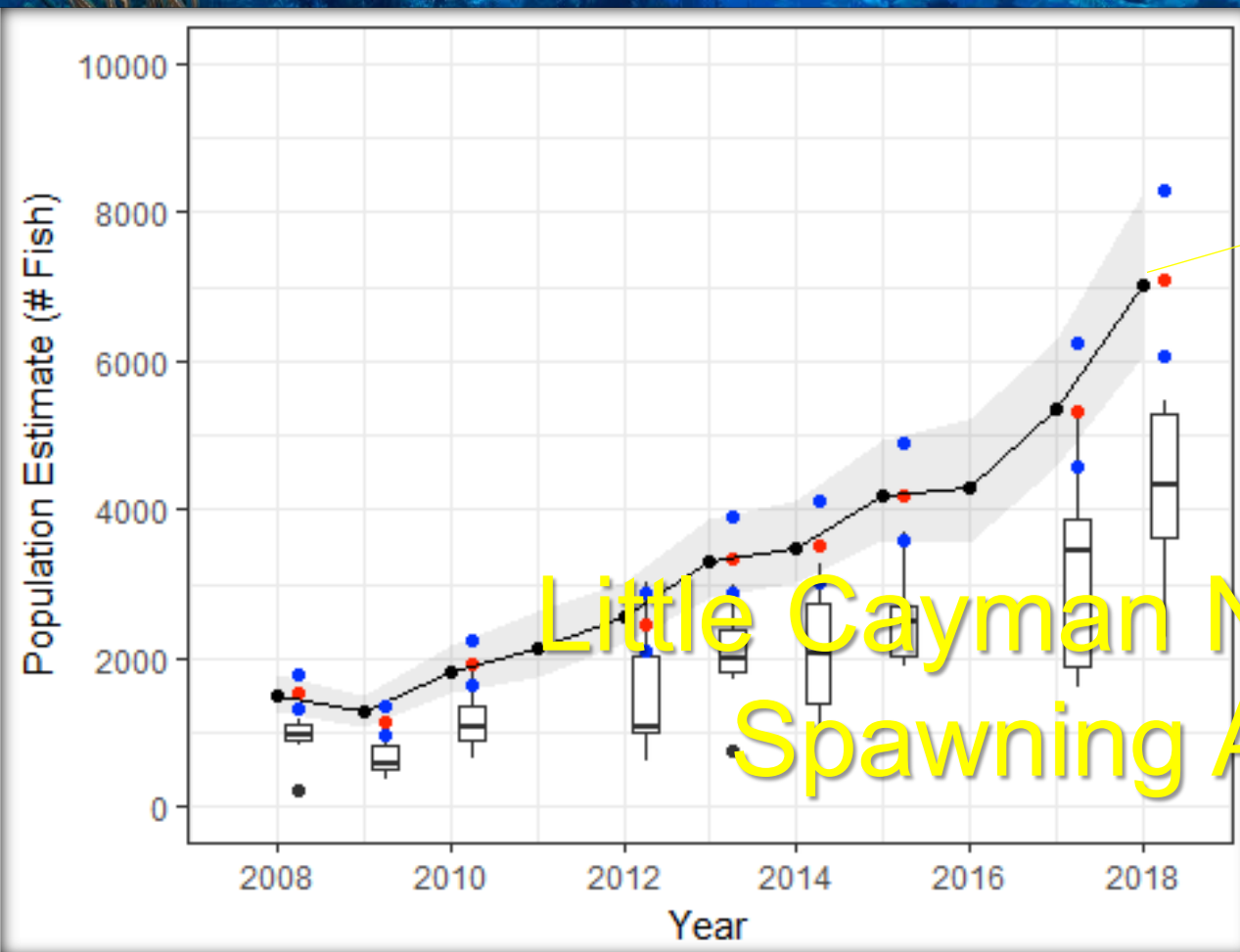
Data sources: Our World in Data based on HYDE, UN, and UN Population Division [2022 Revision]
This is a visualization from OurWorldinData.org, where you find data and research on how the world is changing.

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Why Aquaculture?



[Modified from: Sustainable Feed - Global Salmon Initiative | Global Salmon Initiative](#)



Little Cayman Nassau Groupers Spawning Aggregation



Jim Hellemn
2012 Jim Hellemn, Grouper Moon Project



GROUPEL MOON PROJECT
Saving Endangered Species

Presentation by Dr. Brice Semmens
Wednesday February 23, 2022, 5:30PM
Beach Nuts Bar

DEPARTMENT OF ENVIRONMENT
CAYMAN ISLANDS GOVERNMENT

20 YEARS

REEF
www.REEF.org

Photo by: Tiago Peixoto
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CHANGING SEAS
GROUPEL MOON

SOUTH FLORIDA
PBS

FULL EPISODE

Project / Reef Environmental Education Foundation



