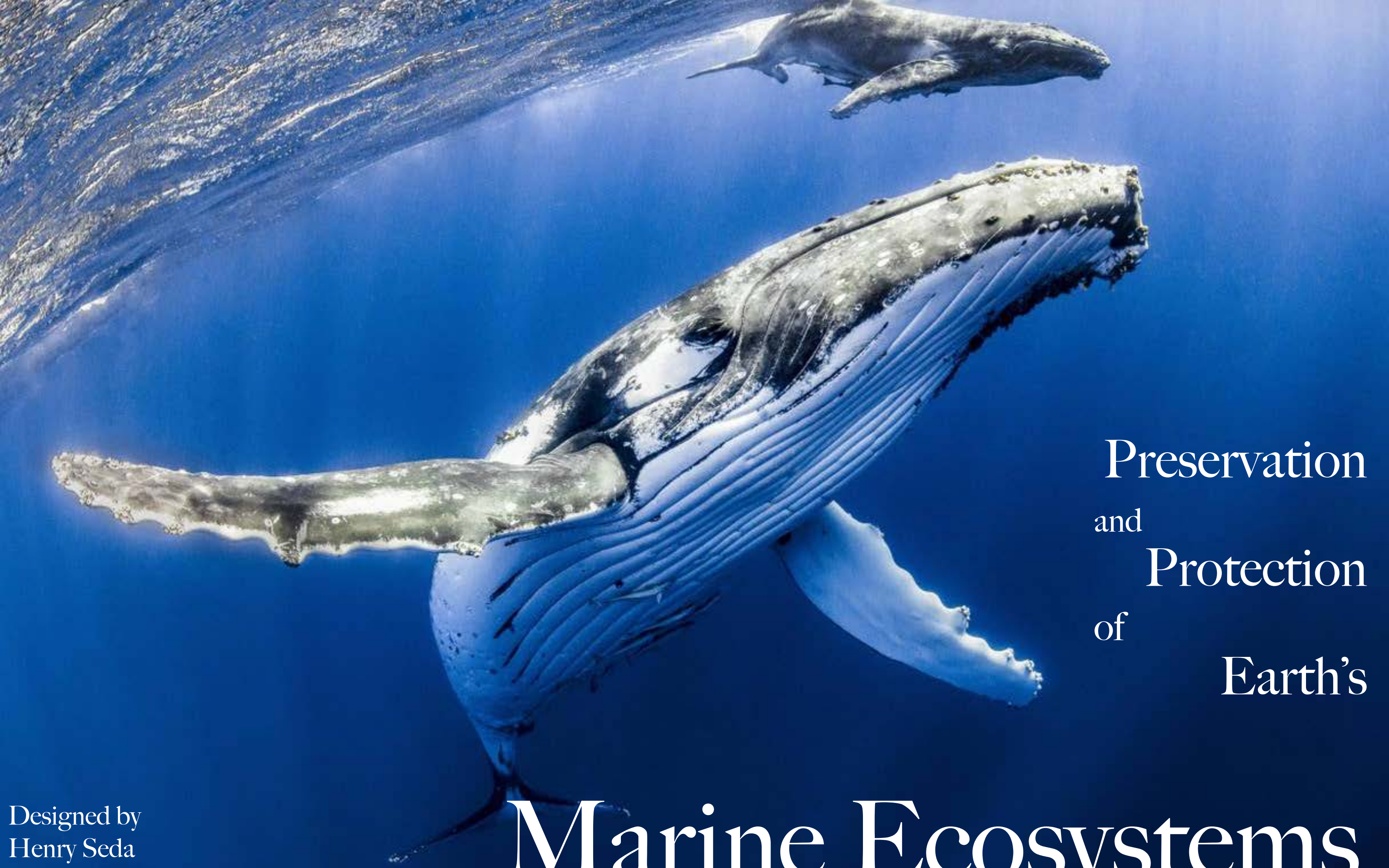


Preservation and Protection of Marine Earth's Ecosystems



Preservation
and
Protection
of
Earth's

Designed by
Henry Seda

Marine Ecosystems

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What

is

Marine

Biodiversity?



Belize
Barrier
Reef
Reserve
System

Great Blue Hole of Belize

What is Marine Biodiversity?

Defined as “the variety of all forms of life, from genes to species, through to the broad scale of ecosystems” by the Stanford Encyclopedia of Philosophy.

Ecosystem Diversity

The variety and frequency of different habitats or ecosystems and the processes that shape them.

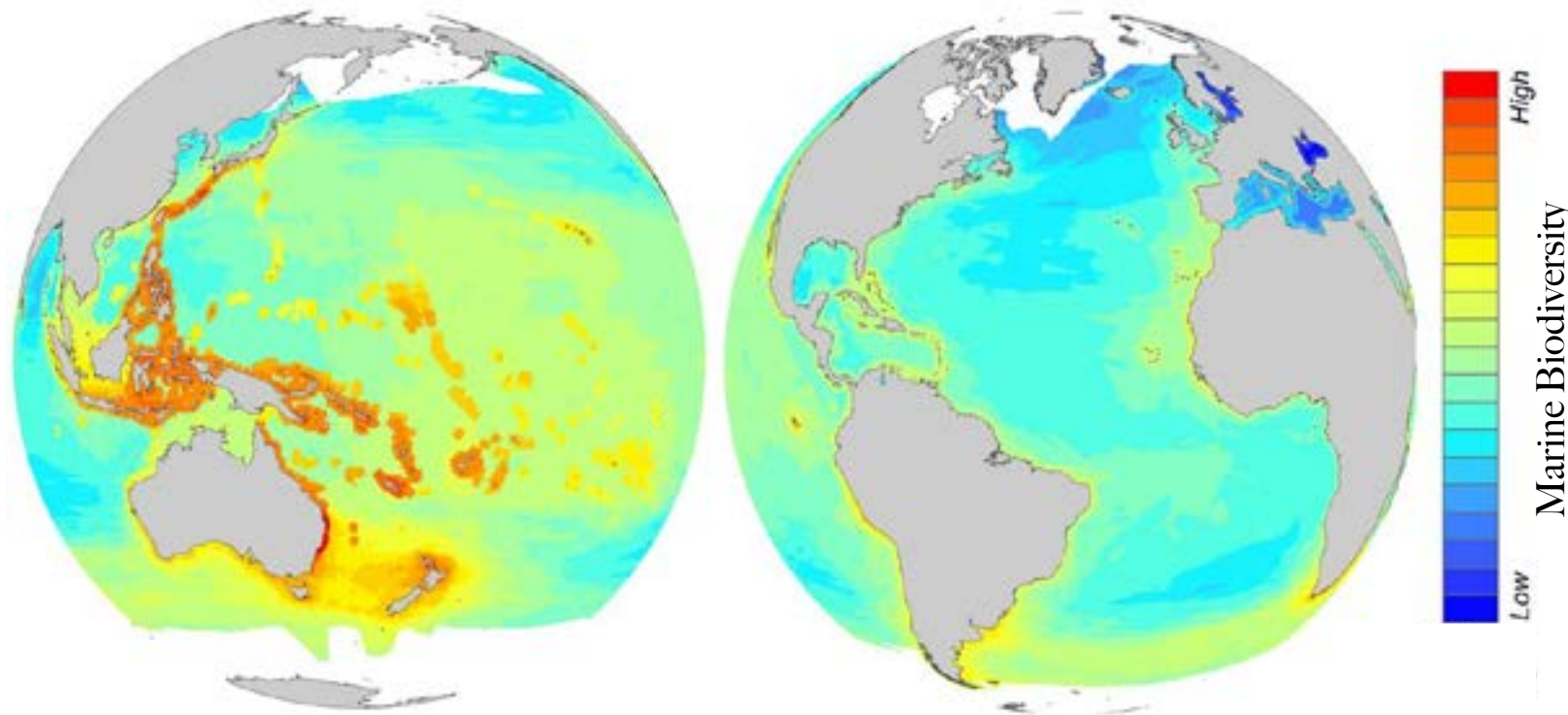
Species Diversity

The variety and frequency of different species. It identifies and characterizes the biological community of a habitat and ecosystem.

Genetic Diversity

The variety and frequency of different genes or genomes within each species.

Includes genetic traits in marine plants or animals that are valuable for human use, such as resistance to a pest or disease, or medicinal significance.

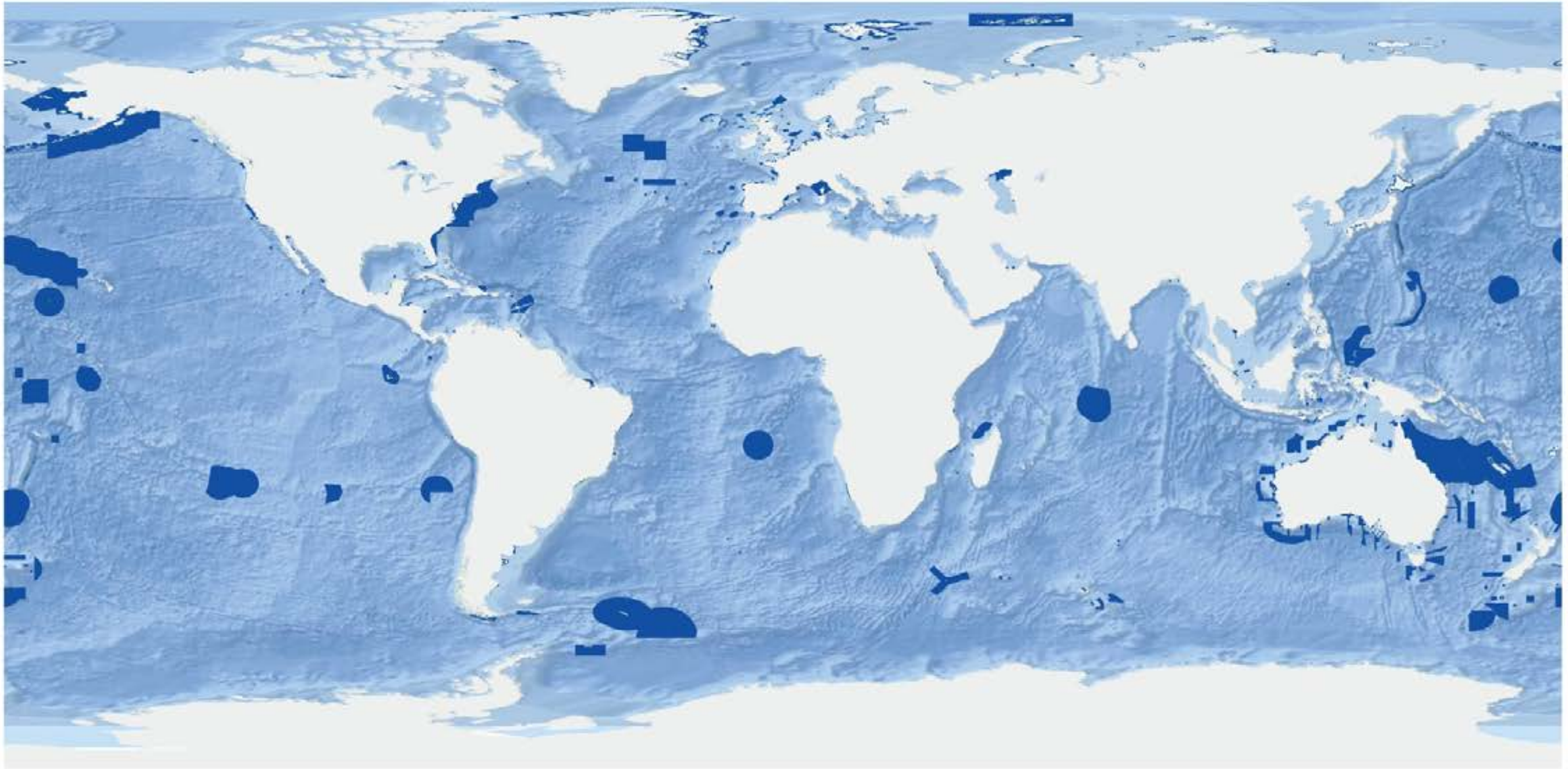


“Some change to coastal and marine ecosystems happens on a time-scale that makes it hard to realize its nature, extent or magnitude. All too often the significance of biological diversity and ecosystem processes is only appreciated after they have been lost or damaged.”

Australian Wildlife Conservancy

What is a Marine Protected Area?

Official MPA Map



Source: IUCN and UNEP-WCMC (2016). The World Database on Protected Areas (WDPA) [On-line], December 2016, Cambridge, UK: UNEP-WCMC. Available at www.protectedplanet.net



5.1% of the Global Ocean covered by marine protected areas
Exclusively No Take = 1.23%




A “protected area”

refers to a place that is recognized for its exhibition of biodiversity as well as its frequency of sitings of endangered or at-risk species of marine life. They are managed through the implementation of restricted activities. The International Union for the Conservation of Nature (IUCN) offers an extensive classification

system to determine the baseline level of protection as well as the predetermined role of a protected area. The Marine Conservation Institute, a US nonprofit, suggests strong protection for at least 20% of all marine ecosystems through its proposed Global Ocean Refuge System (GLORES).

Why Protect Marine Areas?



Great
Barrier
Reef
Marine
Park
via NASA

Australia's Seventh Wonder

From the frozen seas to the sunlit tropics, coastal and oceanic ecosystems are home to millions of marine species.

Unfortunately, far reaching impacts from human activities are significantly straining the ocean's capacity to sustain us. Now, we risk mass extinction in the seas and severe reductions in the important benefits we get from the oceans, such as fresh seafood, breathable air and a livable climate. Protecting marine life in their ecosystems is the best way to maintain biological

diversity, abundance and resilience. Because ocean ecosystems contain diverse species, protecting a large area is the most effective method for safeguarding marine life. Protecting marine ecosystems allows animals to grow larger and their populations to increase in size. Beyond the protected boundaries, healthy populations can spread out into adjacent

areas improving the biomass surrounding those protected areas. This strengthens ecosystems by keeping environmental processes intact and improving resiliency for the animals that live there. Creating networks of marine protected areas can help our oceans survive the uncertainty of global climate change.

“It is immensely important to protect ocean life, even if only for the most selfish of reasons. The oceans make up over 95% of the living space on this planet. That means they are overwhelmingly important in keeping our world habitable. We ignore this simple fact at our peril.”

Callum Roberts, PhD
Professor, Environment Department,
University of York Pew Fellow in
Marine Conservation

An Introduction to the *Marine Conservation Institute*

Founded in 1996,

Marine Conservation Institute is a US-based nonprofit organization with offices in Seattle, San Francisco and in Washington DC. It consists a team of marine scientists and environmental policy advocates who are dedicated to saving ocean life. The

organization's goal is to help create a worldwide system of strongly protected areas, known as the Global Ocean Refuge System (GLORES), which demonstrates a strategic and inexpensive to ensure the future diversity and recovery of at-risk marine life.

<https://marine-conservation.org>



MARINE
CONSERVATION
INSTITUTE

“Marine Conservation Institute is dedicated to securing permanent, strong protection for the oceans’ most important places – for us and future generations.”

Marine
Conservation
Institute

The Role of MPAs in Protecting Marine Habitats and Biodiversity



Fiji
Shark
Reef
Marine
Reserve

Pacific Islands Shark Sanctuary

Conserve and Protect

Protects critical sites for reproduction and growth of species

Protects sites with minimal direct human impact to help them recover from other stresses such as increased ocean temperature

Conserves representative samples of biological diversity and associated ecosystems

Protects settlement and growth areas for marine species so as to provide spill-over addition in adjacent areas

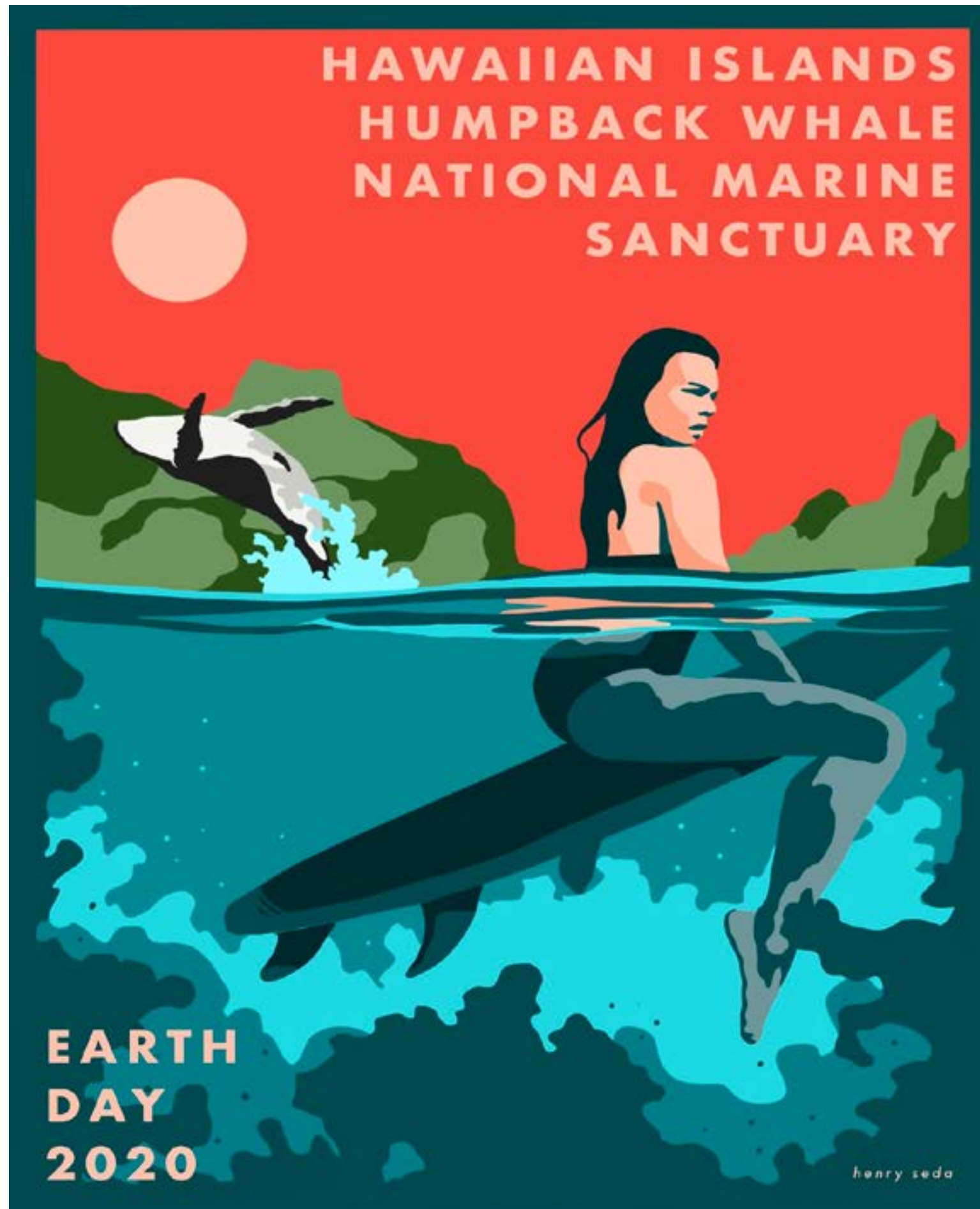
Promoting Marine Conservation through Art



Swimming With Giants

March 2020
Digital Illustration

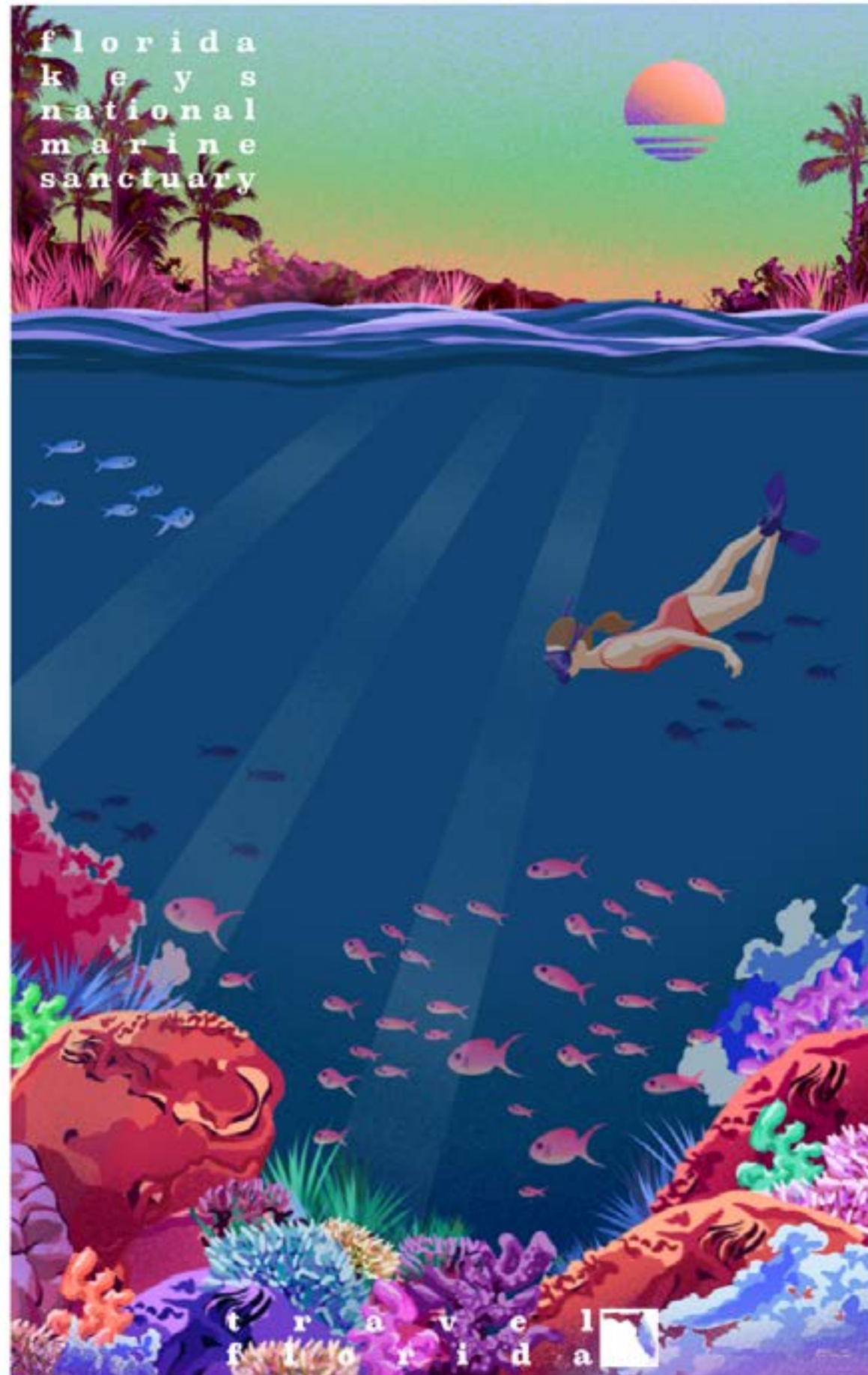
Inspired by my personal bucket list item to swim with Whale sharks. The Gladden Spit and Silk Cayes Marine Reserve in Belize is popular for this particular type of activity.



Land and Sea

April 2020
Digital Illustration

In commemoration of Earth Day, this work illustrates the relationship we as human can have with the environment; both the land and sea.



Florida Keys Travel Poster

December 2019
Digital Illustration

This is the first in a six part poster series I illustrated as part of a project which concerned the rebranding of my home state: Florida. In this project I targeted the state's national and state parks as the focal point for Florida's new "tourism campaign"

This image is a representation of the Florida Keys National Marine Sanctuary.



Ocean Plastic

September 2019
Digital Illustration

This two part series I illustrated in response to the growing concern of plastic and other waste being dumped into our oceans. I aimed to showcase just how much ocean plastic actually impacts us as well as some of the fish we eat consume this man-made waste. In turn, I visualized the modern food chain.



“It is a curious situation that the sea, from which life first arose, should now be threatened by the activities of one form of that life. But the sea, though changed in a sinister way, will continue to exist: the threat is rather to life itself.”

Rachel Carson;
Marine
Biologist and
Conservationist