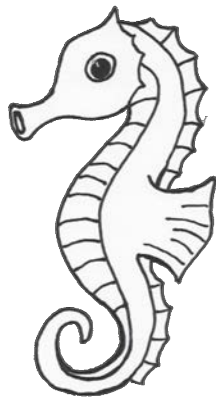




Sea Horse (*Lio kai*)



Inside this packet you will find:



Fun Tail Facts:

- Sea horses have a prehensile (grasping) tail that they can use to hold onto corals and grasses.
- When fighting over things like territory or food, sea horses use their powerful tails to fight with each other.

Created through cooperation with:



NOAA
FISHERIES



PAPAHĀNAUMOKUĀKEA
Marine National Monument

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 - HSPLS Tails and Tales with NOAA Video Playlist:
<https://www.youtube.com/playlist?list=PLwp9id7RKgdUumVhHALrcreguMYTfJPeQ>
 - National Aquarium of NZ: Breakfast Time for Seahorse:
<https://www.youtube.com/watch?v=KKqYJdECEVA>
 - Seahorse Spotlight: [https://www.youtube.com/watch?v= HALABqILjg](https://www.youtube.com/watch?v=HALABqILjg)
 - Patrick Ching on How to Draw a Sea Horse:
<http://www.waikikiaquarium.org/experience/virtual/marine-animal-drawing-lessons/>
- And More!



Sea Horse Coloring Sheet

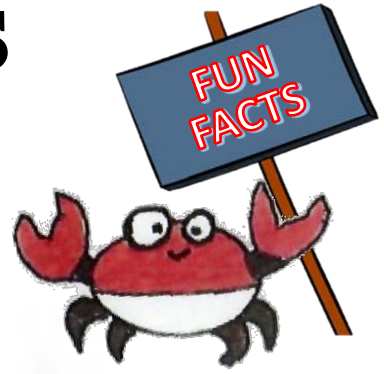


Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

HAWAIIAN ISLANDS HUMPBAC WHALE NATIONAL MARINE SANCTUARY



SEA HORSES



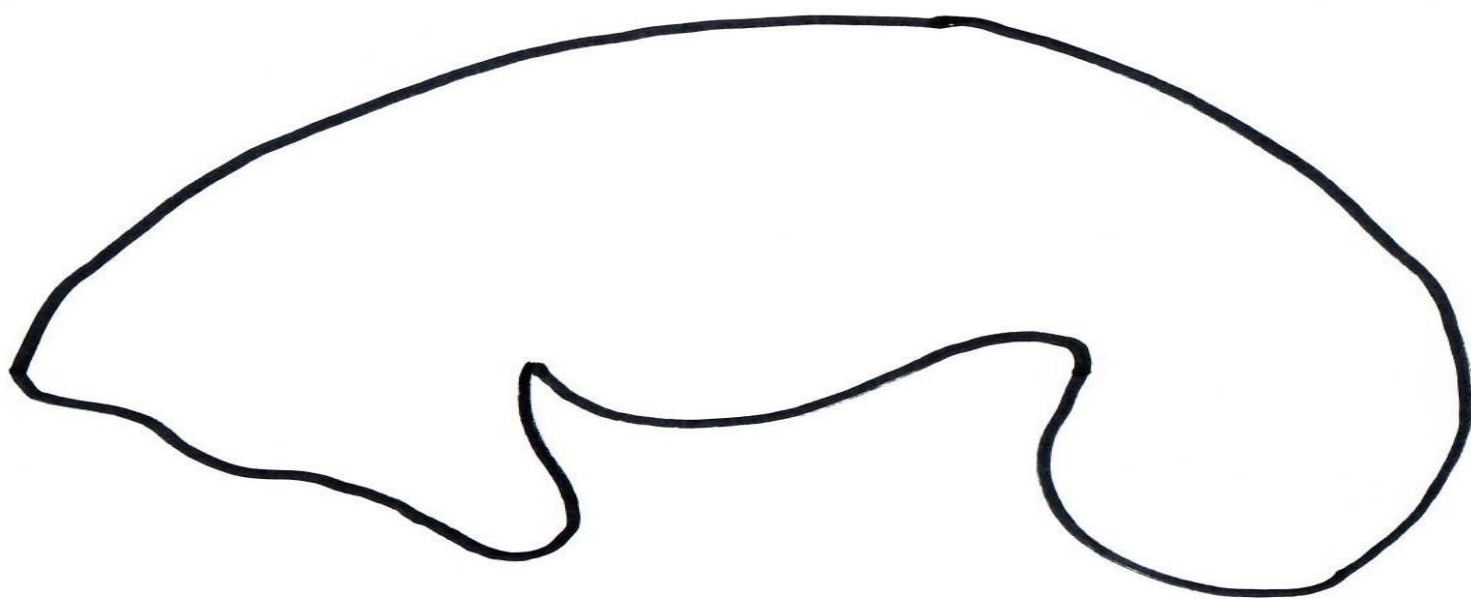
- Sea horses prefer to swim in pairs, where they link their tails together!
- Sea horses can only live up to 5 years in the wild.
- Some sea horses can change the color of their body to avoid predators by blending into the color of underwater plants.
- Sea horses have small pectoral fins located near the back of their head that they use for steering as they swim!
- Sea horses don't have any teeth or even a stomach.
- Up to 1,500 baby sea horses may be born at one time!
- Sea horses are actually fish and have gills that they use to breathe.
- It is the male sea horse, not the female, that takes care of sea horse eggs.
- One sea horse can eat up to 3,000 brine shrimp in one day!
- Sea horses are fish but don't have any scales on their body.
- A sea horse has great eyesight and can even move each eye independently!
- Sea horses are the slowest swimming fish in the ocean.
- When eating, a sea horse sucks up their prey (tiny fish and crustaceans) into the snout like a vacuum cleaner!
- Only 5 out of every 1,000 sea horse babies make it to adulthood! The rest are eaten by other animals like crabs, rays, and even tuna!

CRAFT PROJECT

Sea Horse Art

Make a garden of Sea Horse Puppets.

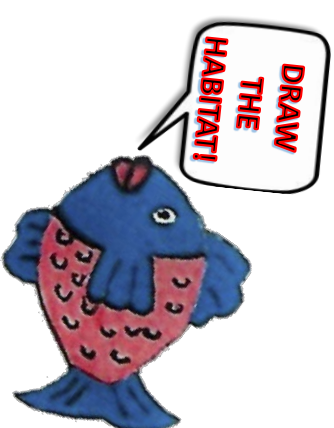
- Fold a paper plate in half.
- Note that the curved back is on the outside edge of the plate.
- Trace the pattern below onto the paper plate, lining up the back of the sea horse on the outside edge of the plate.
- Because you folded the paper plate in half, you will have 2 sea horse cut-outs. Tape a chop stick between them and staple or tape them together and decorate it.





Where does a sea horse live?

Draw in and color its habitat below!



Office of National Marine Sanctuaries
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HAWAIIAN ISLANDS HUMPBACK WHALE NATIONAL MARINE SANCTUARY



Sea Horse Word Search

Circle the words in the puzzle below!

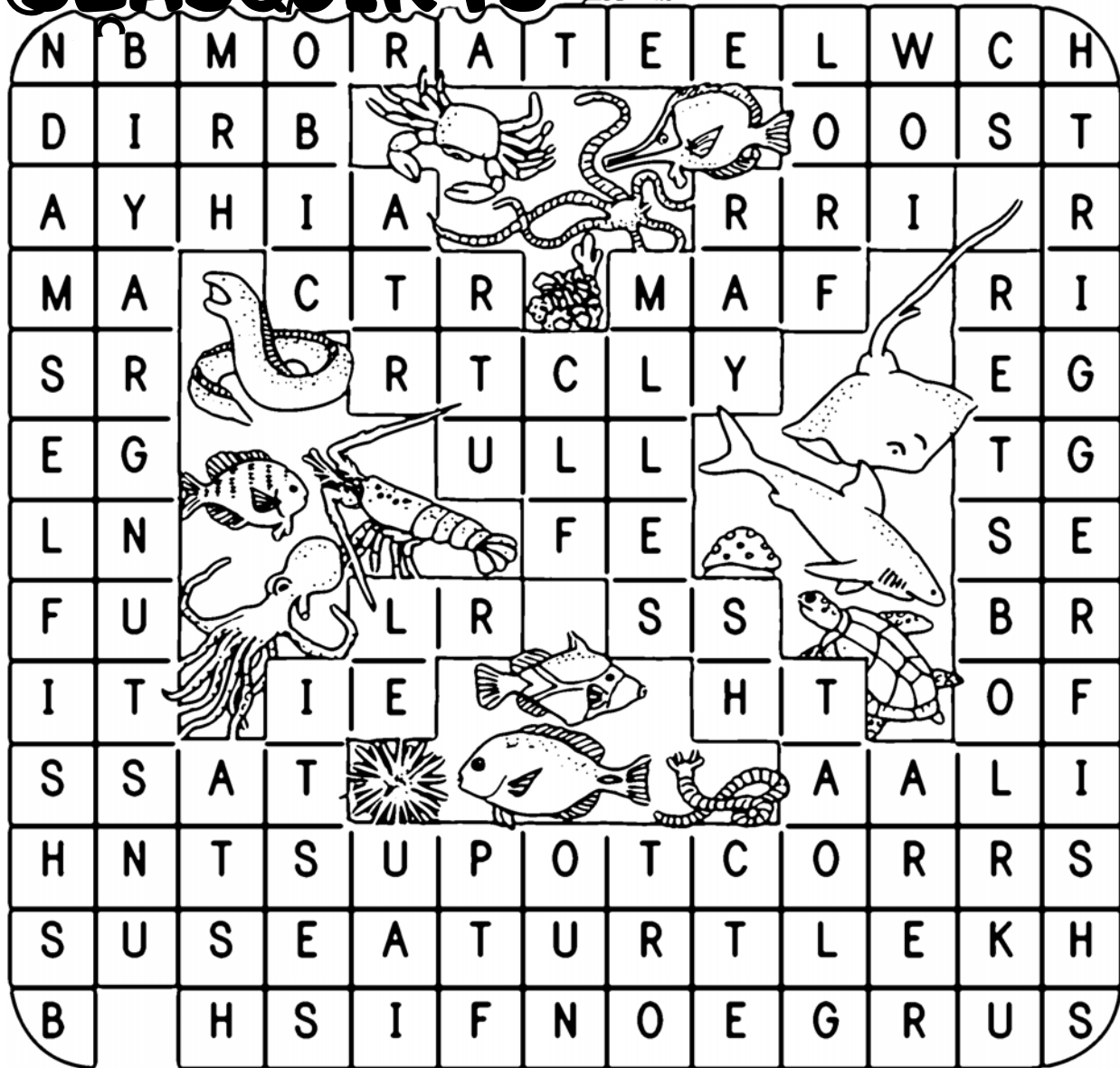
**WORD
SEARCH!**



E	S	S	G	T	S	A	N	C	T	U	A	R	Y
F	H	T	C	A	M	O	U	F	L	A	G	E	O
I	R	N	M	I	E	I	A	I	U	D	A	D	E
N	L	A	G	R	A	G	R	E	I	O	N	H	Y
Y	G	L	S	G	I	L	L	S	T	A	H	R	E
S	E	P	T	G	H	C	L	C	E	T	E	E	S
E	D	G	S	L	H	U	R	C	A	L	A	N	I
S	S	E	G	O	S	R	O	R	C	G	I	S	G
L	A	S	T	S	R	O	T	A	D	E	R	P	H
I	A	P	M	I	R	H	S	E	N	I	R	B	T
A	S	S	E	A	H	O	R	S	E	A	F	Y	C
T	R	E	T	A	W	R	E	D	N	U	I	E	F
R	E	A	S	S	G	A	G	R	A	E	S	R	H
E	D	G	L	A	R	O	T	C	E	P	H	E	Y

OCEAN
EGGS
UNDERWATER
CAMOUFLAGE
PREDATOR
FISH
EYESIGHT
SEA HORSE
BRINE SHRIMP
SANCTUARY
FIN
PECTORAL
GILLS
PLANTS
TAILS

SEASQUIRTS! FIND THE WORDS!



GOOD REEF VISITOR WORD FIND

THE REEF PROVIDES LIVING SPACE FOR MARINE LIFE OF ALL KINDS

BRITTLE STAR

MORAY EEL

SURGEONFISH

BUTTERFLYFISH

OCTOPUS

TRIGGERFISH

SEA TURTLE

DAMSELFISH

STING RAY

LOBSTER

SNAIL

WORM

CORAL

URCHIN

SHARK

Artwork by A. Tsukamoto



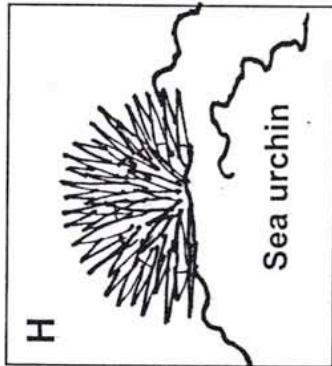
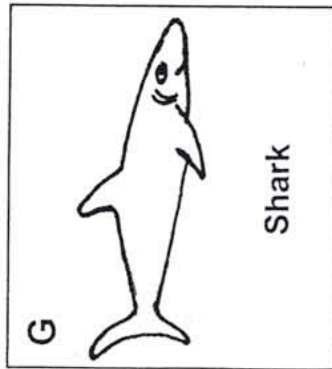
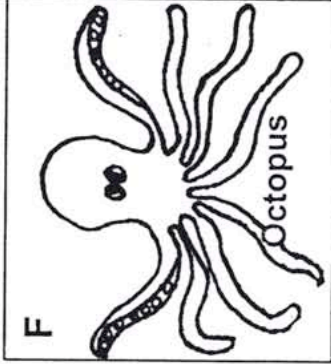
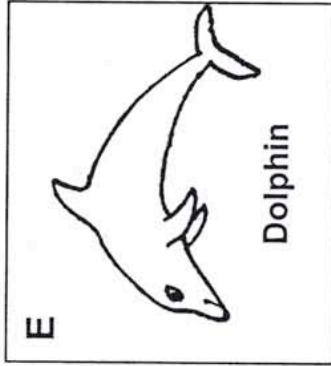
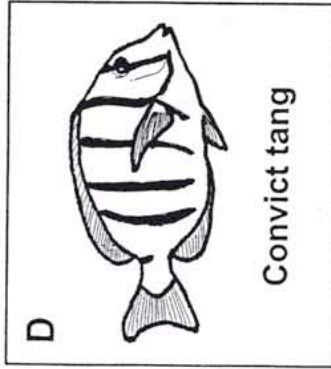
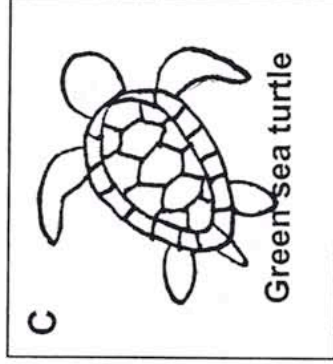
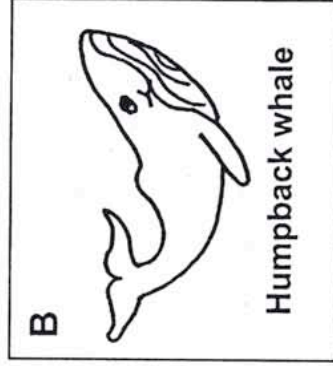
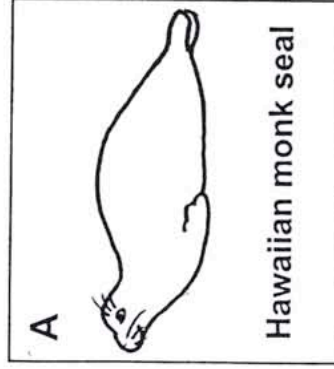


NATIONAL MARINE
SANCTUARIES™

HAWAIIAN ISLANDS
HUMPBACK WHALE

Sea Creatures in Hawai'i

Can you match the sea creature on the left with its Hawaiian name on the right?



___ **'ina**: Common rock-boring sea creatures found on Hawaiian reefs.

___ **nai'a**: Part of the same family as whales and porpoises, this marine mammal is often seen in waters off our islands.

___ **'ilio-holo-i-ka-uaua**: An endangered, endemic marine mammal found mainly in our northwestern Hawaiian islands.

___ **he'e**: Noted as the most "intelligent" invertebrate, this animal has the ability to change their skin color to match their surroundings.

___ **koholā**: This endangered species migrates to Hawai'i each year during the winter and has a national marine sanctuary that protects it.

___ **humuhumu-nukunuku-ā-pua'a**: The unofficial state fish of Hawai'i that is known to grunt like a pig.

___ **manini**: A commonly seen sea creature around Hawaiian reefs.

___ **manō**: In native Hawaiian culture, this animal is used as an 'aumakua, or family guardian spirit.

___ **honu**: One of three common species of reptile seen in Hawaiian waters, this species is listed as threatened.

Marine National Monument



These are some of the unique creatures that make Papahānaumokuākea so special. Find the animals and other objects hidden in the picture. Note: there may be more than one hiding!

Yours Obedient

Learn about some of the unique creatures that inhabit Papahānaumokuākea Marine National Monument, the largest permanent fully-protected conservation area on the planet!

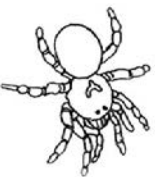
PAPAĤĀNAUMOKUĀKEA Marine National Monument

www.papahanaumokuakea.gov



Hawaiian Monk Seal • 'Ilio-holo-i-Ka-uaua • *Neomonachus schauinslandi*

The Hawaiian monk seal is Hawaii's official state mammal and is endemic to the Hawaiian Islands. Hawaiian monk seals are one of the most endangered animal species in the world. Only about 1,400 seals are left in the wild – about 1,100 seals in the Northwestern Hawaiian Islands and 300 in the main Hawaiian Islands. 2017 has been declared the "Year of the Monk Seal" to celebrate a new, positive trend for the species: an increase in numbers by 3% after more than six decades of decline.



Nihoa trapdoor spider • *Nihoa mahina*

The Nihoa trapdoor spider, or *Nihoa mahina*, is endemic to the island of Nihoa in the Northwestern Hawaiian Islands. These spiders are hunters that dig a hole near rocks and then cover it with a concealed "trapdoor." The spider excavates these burrows completely with its jaw! When prey approaches or falls in, the spider pounces on it. Then it uses its abnormally large pedipalps (appendages kind of like pinchers) to take food into its mouth.



Nihoa fan palm • Loulu • *Pritchardia remota*

The Nihoa fan palm, or Loulu, is a species of palm endemic to the island of Nihoa in the Northwestern Hawaiian Islands, and later transplanted to Laysan Island. It is smaller than most other species of *Pritchardia*, typically reaching only 13–16 feet tall and with a trunk diameter of less than 6 inches. The only type of tree on the island, the Loulu used to be abundant until 1885, when a wildfire ravaged the island, destroying most of the palms. Only about 700 of these endangered trees remain. However, numbers are slowly increasing. There are 19 endemic Loulu species found throughout the Hawaiian Archipelago. Each of the main Hawaiian Islands has at least one distinct species and some islands have distinct forms limited to individual valleys or mountains.



'Casper' Octopus

Discovered in 2016 during the first dive of the *Okeanos Explorer* deep-sea expedition to the Northwestern Hawaiian Islands, this octopus confused scientists who had never seen anything like it. This ghostlike octopus is almost certainly an undescribed species and may not belong to any yet-described genus. Affectionately nicknamed 'Casper' after the friendly cartoon character, the octopus was found haunting the seafloor near Mokumanamana as scientists explored at over 4,000 meters deep – that's about half as tall as Mount Everest.



Pete Basabe's Butterflyfish • *Prognathodes basabeii*

This species was first observed in video taken from manned submersibles more than 20 years ago, at depths as great as 600 feet. More recently, the new butterflyfish has been encountered regularly on deep exploratory dives up to 330 feet on NOAA expeditions within Papahānaumokuākea. The butterflyfish, *Prognathodes basabeii*, is named after Pete Basabe, a veteran local diver from Kona who over the years has assisted with the collection of reef fishes for numerous scientific studies and educational displays. Basabe, an experienced deep diver himself, was instrumental in providing support for the dives that produced the first specimen of the fish that now bears his name. The fish are now on display at Bishop Museum in Honolulu and at the Mokuapapa Discovery Center in Hilo. An additional specimen is on display in the Deep Reef exhibit at the Waikiki Aquarium.



Obama Fish • *Tosanoides obama*

This small pink and yellow fish is a kind of flasslet and is the only known species of coral reef fish endemic to the Monument. All other reef fish species found within Papahānaumokuākea also occur either in the main Hawaiian Islands or Japan. The new fish was first seen and collected on a dive to 300 feet at Kure Atoll, 1200 miles northwest of Honolulu. Kure Atoll is the northernmost emergent land mass of the Hawaiian Islands, and is the highest latitude coral atoll in the world. Deep coral reefs at depths of 150 to 500 feet, also known as mesophotic coral ecosystems or the "coral reef twilight zone," are among the most poorly explored of all marine ecosystems. Deeper than divers using conventional scuba gear can safely venture, these reefs represent a new frontier for coral-reef research.



Laysan Duck • *Anas laysanensis*

Laysan ducks once occurred across the entire Hawaiian Archipelago, but disappeared from the main Hawaiian Islands with the arrival of invasive Polynesian rats around 800 years ago. They were restricted to Laysan Island in the Northwestern Hawaiian Islands for about 150 years until they were successfully reintroduced to Midway Atoll in 2004 and to Kure Atoll in 2015. The endangered Laysan duck is the rarest duck in the Northern Hemisphere and has the smallest geographic range of any duck species in the world. The species continues to be threatened by avian disease, severe storms and sea level rise.



World's Largest Sponge

A sponge the size of a minivan was found during the summer of 2016 during a deep-sea expedition in Papahānaumokuākea Marine National Monument. Scientists aboard NOAA ship *Okeanos Explorer* used remotely operated vehicles to explore some of the deepest areas of the monument and came across the sponge during a dive at a depth of 7,000 feet. The massive sponge was captured on high-definition video and is close to 12 feet long and seven feet wide. It is the largest sponge in the world known to date. Based on a microscopic examination of the sponge's spicules, that specimen was identified as belonging to the hexactinellid family Rossellidae and subfamily Lanuginellinae.



World's Tallest Gorgonian • *Iridogorgia bella*

The largest known gorgonian coral in the world, this *Iridogorgia bella* (a type of octocoral) was discovered at a depth of 4,482 feet in 2015 near Mokumanamana in Papahānaumokuākea Marine National Monument. Nearly 20 feet in height, this gorgonian is the size of an adult giraffe.



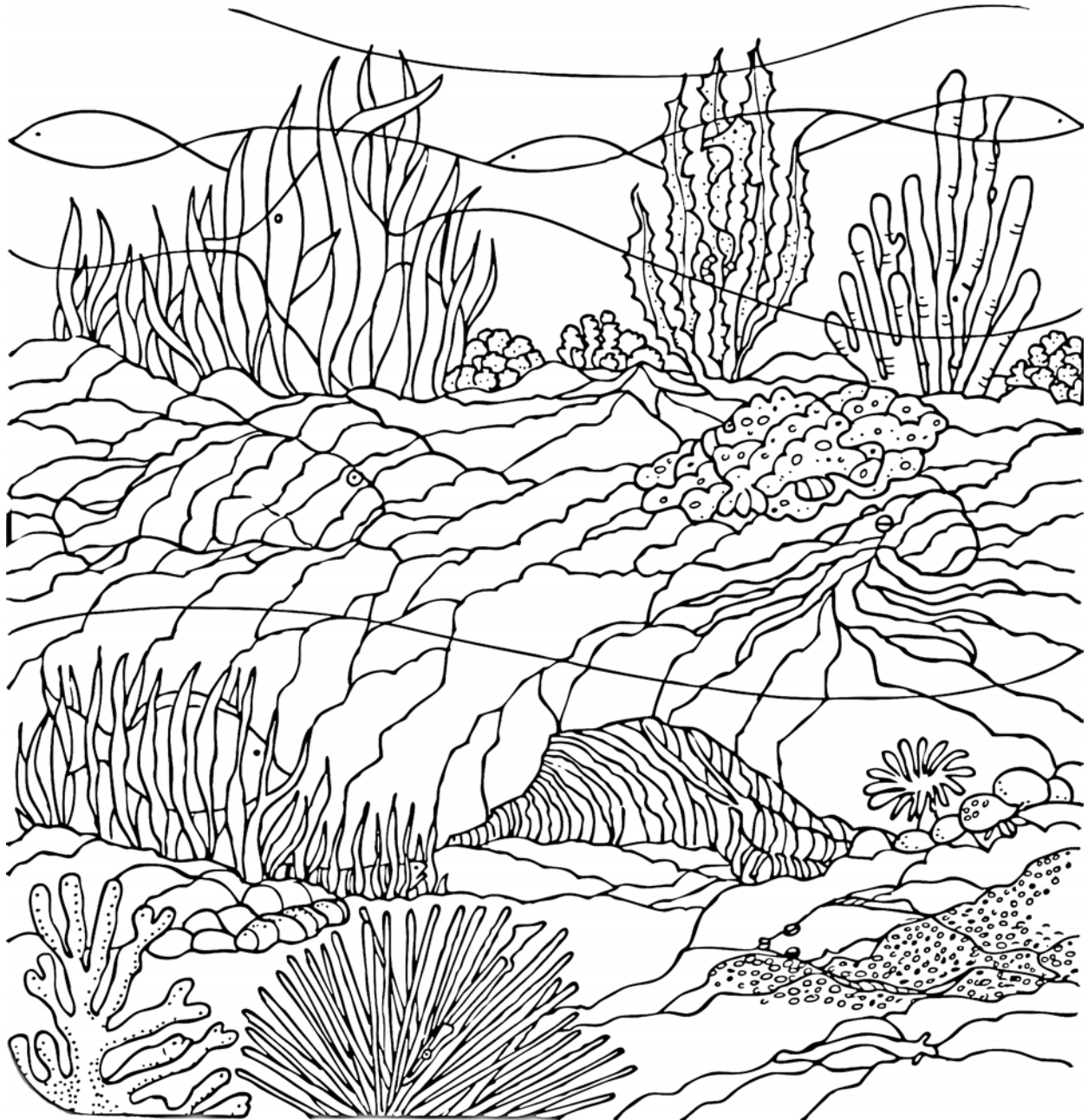
World's Oldest Marine Animal • *Leiopathes armosa*

In 2015, scientists described and named a new species of deep-water black coral found at depths of 1,000–1,600 feet throughout the Hawaiian Islands. Much like terrestrial trees, deep-water corals form growth rings that can be used to determine their age. Scientists use high-resolution radiocarbon measurements on such growth rings to determine a coral's age. This coral can live up to 4,500 years, making it the longest-lived marine organism known to date. The name *Leiopathes armosa* is derived from the Latin name *annosa* meaning long-lived.



THE REEF IS ALIVE

FIND THE 12 MARINE ANIMALS HIDDEN IN THE REEF



3 WRASSES, MOORISH IDOL, SEASTAR, SEAHORSE, TRUMPET FISH, SCORPION FISH, ANGER FISH, OCTOPUS, SURGE FISH, LIZARD FISH, SPINY LOBSTER, FEATHER DUSTER WORM, HERMIT CRAB, CORAL GOBY, SHRIMP FISH, FLOUNDER, SEA SLUG, AND MORE



HAWAIIAN ISLANDS HUMPBACK WHALE

Office of National Marine Sanctuaries
National Oceanic and Atmospheric Administration

HAWAIIAN ISLANDS HUMPBACK WHALE NATIONAL MARINE SANCTUARY

A SPECIAL PLACE

Hawaiian Islands Humpback Whale National Marine Sanctuary protects one of the world's most important humpback whale habitats. Between November and April, more than half of the North Pacific humpback whale population returns here to mate, give birth, and nurse their young. The sanctuary is co-managed by NOAA's Office of National Marine Sanctuaries and the State of Hawaii's Department of Land and Natural Resources.



The sanctuary protects humpback whales and their habitat by working with the community to reduce harmful impacts and monitor their health.



Sanctuary programs focus on educating the public about humpback whales in Hawai'i and other ocean life.



The sanctuary enhances awareness of Native Hawaiian culture and its values to protect humpback whales and the marine life of Hawai'i.



Research is conducted by the sanctuary and its partners to broaden the understanding and protection of humpback whales.

Background photo: Jason Moore/NOAA, under NOAA Permit #15340



TO LEARN MORE

Stop by our visitor centers to learn more about Hawai'i and its unique marine environment, its cultural significance, and how your national marine sanctuary and marine national monument are protecting these extremely important areas.

Sanctuary Visitor Center

The scenic beachfront visitor center in Kihei on Maui provides a unique setting to learn about the sanctuary. Volunteer docents share knowledge about the marine environment.

Kalepolepo Fishpond

One of Maui's last remaining Native Hawaiian fishponds is located in front of the sanctuary visitor center. Tours are offered by reservation.



Mokupāpapa Discovery Center

Housed in Hilo's historic, century-old Koehnen Building, Mokupāpapa features the unique geography, resources, and cultural connections of Papahānaumokuākea Marine National Monument. The center features a 3,500-gallon saltwater aquarium, interactive educational exhibits, life-size models of wildlife found in the Northwestern and main Hawaiian Islands, and artwork inspired by those islands and Hawaiian culture.

THINGS TO DO



Wildlife Viewing

Hawai'i marine environments nurture many marine species beyond humpback whales. In addition to large animals, Hawaiian waters are also home to important coral reefs, which sustain thousands of marine plants and animals. Extensive coral reef colonies are also found in the remote Papahānaumokuākea Marine National Monument. This vast area supports a dynamic habitat containing an incredible diversity of coral, fish, birds, marine mammals, and other flora and fauna, many of which are unique to the Hawaiian Island chain. Hawaiian marine wildlife remains fragile and vulnerable. Care should be taken when viewing.

Whales & Dolphins*

- Over 20 species in Hawaiian waters
- Look for spouts and breaching
- Give them space, do not approach
- Best seen from boats



Hawaiian Monk Seals*

- Only about 1,400 remain
- Haul out on beaches to rest
- Feed both during day and night
- Endemic - found nowhere else



Sea Turtles*

- Green sea turtles are most common
- Rest on shore during the day
- Require air to breathe
- Swim close to shore



Seabirds & Shorebirds*

- More than 30 species
- Foraging, breeding, nesting habitats
- Endemic, resident, migratory species
- Nest in coastal and upland areas



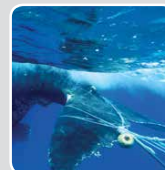
Ocean Etiquette

- Keep your distance and watch quietly
- Don't feed wildlife
- Keep pets on leash
- Dispose of trash properly



Threats

- Human disturbance
- Marine debris
- Changing ocean conditions
- Feral and invasive animals



*These animals are protected under federal and state law. Photos (left to right): NOAA, under NOAA Permit #14037; Paul Wong/NOAA; Ed Lyman/NOAA; Paul Wong/NOAA; HBS/NOAA, under NOAA Permit #14037; Ed Lyman/NOAA, under NOAA Permit #022-1965



Whale Watching

During the winter and spring, humpback whales are easily seen from shore. Many companies offer whale watching tours to observe whales on the water.



Snorkeling and Diving

Coral reefs in sanctuary waters are some of the best places to be immersed among sea life. You may even hear humpback whales sing.



Surfing

Hawai'i is a year-round surfing destination for beginners and veteran surfers. While surfing, always be cautious of submerged rocks and powerful waves.



Paddle Sports

Canoes, kayaks, and stand-up paddleboards provide unique on-water experiences. Businesses provide rentals, lessons, and tours for paddlers of all skill levels.



Fishing

Whether from shore or charter fishing boat, there are many places to fish in the sanctuary. Please follow all regulations so that future anglers can enjoy this activity.



Boating

Whether by motor or sail, while deep-sea fishing, wildlife or whale watching, you are almost guaranteed to have a wonderful time in the sanctuary.



Cultural Experiences

Learn more about Native Hawaiian culture. Participate in cultural canoe tours, Hawaiian fishpond restoration, and Hawaiian dance and music classes.



Volunteer

The sanctuary needs you! Be a volunteer and participate in wildlife monitoring, beach cleanups, and more. Contact us to learn about great opportunities.

Protecting Humpback Whales

Federal and state regulations prohibit approaching humpback whales by any means within 100 yards or within 1,000 feet when operating an aircraft. Interception or "leapfrogging" into the path of a humpback whale is also prohibited.

All whales, dolphins, and seals are protected under the Marine Mammal Protection Act. Humpback whales are additionally protected by Hawaiian Islands Humpback Whale National Marine Sanctuary regulations and Hawai'i state law. See NOAA regulations: 50 CFR Sections 216.11, 216.19, and 15 CFR 922.184.

For more information:

Hawaiian Islands Humpback Whale National Marine Sanctuary
725 South Kihei Road
Kihei, Hawai'i 96753
Phone: (808) 831-4888
Email: hihumpbackwhale@noaa.gov