

# MONTEREY BAY AQUARIUM

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# "The Secret Lives of Seahorses" Exhibit Press Kit

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# **NEWS RELEASE**

**FOR IMMEDIATE RELEASE** January 22, 2009

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# DURING ITS SILVER ANNIVERSARY YEAR, AQUARIUM UNVEILS "THE SECRET LIVES OF SEAHORSES"

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New special exhibition offers an intimate look at these fascinating, fragile fishes

Seahorses have been celebrated in art, literature and mythology for centuries, so you'd think we know a lot about them. In "The Secret Lives of Seahorses," the Monterey Bay Aquarium's new special exhibition, you'll discover that nothing could be further from the truth.

Beginning April 6, more than 15 species of seahorses, sea dragons, pipehorses and pipefish will beckon visitors into the elusive world of these charismatic creatures. The Secret Lives of Seahorses highlights the varied habitats in which seahorses and their relatives live, and shares important stories about the threats they face in the wild.

"Seahorses are wonderful ambassadors for ocean conservation because they live in the most endangered habitats in the world – coral reefs, sea grass beds and mangrove forests," said Ava Ferguson, senior exhibit developer for The Secret Lives of Seahorses. "When you save a seahorse, you also save some of Earth's most precious marine habitats."

Through wrought-iron gates, visitors will enter the first gallery, "Seahorses and Kin," and meet the seahorse family: fishes that have fused jaws and bony plates in place of the scales normally associated with fish. Although seahorses and their kin come in many shapes and sizes, all are masters of disguise. Their ability to camouflage and blend with their environment helps them avoid detection by predators.

At first glance, it's easy to see why seahorses are a source of fascination. With a head like a horse, a snout like an aardvark, a belly pouch like a kangaroo, a prehensile tail like a monkey and the ability to change colors like a chameleon, seahorses are anything but ordinary.

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Sadly, the mystique that draws people to seahorses is also the reason they're in jeopardy in the wild.

"So little is known about seahorses that we are at risk of losing these animals before we even know them," said Ferguson. "Until recently, we had no idea that seahorses were being caught and collected at a rate that threatens their survival."

Of the 34 known seahorse species, eight are listed as threatened to some degree on the International Union for Conservation of Nature's (IUCN) "Red List." Several factors are contributing to the decline of seahorse populations worldwide: loss of coral reefs and coastal habitats where they live, harmful fishing practices in which seahorses are accidentally killed as bycatch, and the excessive collecting of seahorses for the curio trade and for use in traditional medicines.

The multimedia galleries in The Secret Lives of Seahorses will connect visitors with conservation stations that provide the tools they need to help save these fascinating animals.

In the second gallery, "Growing Up," visitors learn why seahorses and their relatives are the ocean's kings of camouflage. One live exhibit features sticklike shrimpfish, which usually keep their heads pointed downward between sea urchin spines and colorful corals to blend with the surrounding habitat. Seahorse fry in another live exhibit helps demonstrate how seahorse babies are insanely tiny yet totally self-sufficient.

An interactive display at a Seafood Watch conservation station in The Secret Lives of Seahorses prompts visitors to learn more about how their seafood choices affect seahorses. For more information on the aquarium's Seafood Watch program visit www.seafoodwatch.org.

In the "Getting Together" gallery, visitors learn that birds are not the only animals that woo mates with fancy dancing. Seahorses, sea dragons, pipehorses and pipefish engage in elaborate courtship rituals before they mate – sometimes lasting for three days.

Each morning during the breeding season a seahorse pair greets and signals interest in each other by displaying bright colors, intertwining tails, twirling around and promenading side by side. If the pair finally decides to mate, they'll join together and rise in the water column as the female deposits her eggs into the male's brood pouch where they are fertilized. The "Getting Together" gallery also features an animated film of this courtship ritual.

Competition is fierce among one seahorse species found in this gallery; male potbelly

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seahorses are known to fight over mates. The third smallest seahorse species, the dwarf seahorse, along with the great seahorse, and the vibrantly colored banded pipefish are other animals featured in the "Getting Together" gallery.

In this gallery, visitors can send an electronic postcard to California Gov. Arnold Schwarzenegger to support the creation of marine protected areas in southern California waters, which are home to the Pacific seahorse, as well as five pipefish species.

Perhaps what most distinguishes seahorses from the rest of the animal kingdom is their unique life history – the males become pregnant and give birth. Tiled murals in the "Giving Birth" gallery highlight three different parenting strategies used by seahorses and their relatives. While male sea dragons and pipefish carry their young on a specialized brood patch on the abdomen or the tail, only seahorses have a fully enclosed brood pouch. In this gallery, visitors can find the shortsnout and White's seahorse species, along with a mangrove community that's home to yellow seahorses and alligator pipefish.

Toward the end of the exhibition, visitors can pick up an educational card that details the problems with the curio trade and presents alternatives to buying dried seahorses in souvenir shops. And to commemorate their visit, they can take a photo alongside a five-foot tall sculpture of a pregnant male longsnout seahorse.

To "walk the talk" about seahorse conservation, Monterey Bay Aquarium is either breeding seahorses for the exhibit onsite, or acquiring animals from accredited institutions or licensed dealers who adhere to best conservation practices.

Spanish-speaking visitors will find bilingual signage and video captions throughout The Secret Lives of Seahorses.

The Secret Lives of Seahorses is included with regular aquarium admission of \$29.95 adult; \$27.95 senior (65+) and student (full-time college, with I.D.); and \$17.95 children 3-12 and the disabled (**2009 prices**). Children under 3 are admitted free of charge. Discounted tickets for members of the military and their families can be purchased in advance at many California and Nevada installations.

The aquarium is located on historic Cannery Row in Monterey. It is open daily from 10 a.m. to 6 p.m. and in summer and major holiday periods from 9:30 a.m. to 6 p.m. (closed Christmas Day).

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Summer hours include extended weekend hours, from 9:30 a.m. to 8 p.m. on Saturdays and Sundays.

More information about The Secret Lives of Seahorses and the aquarium in general is available online at www.montereybayaquarium.org; or by calling (831) 648-4888. Advance tickets can be purchased online or by phone from the aquarium at 1-800-756-3737. Seasonal specials, details about special events and programs, family activities and live web cams can all be found online at www.montereybayaquarium.org.

The mission of the Monterey Bay Aquarium is to inspire conservation of the oceans.

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# Editors: Please contact Public Relations for images of animals featured in The Secret Lives of Seahorses.

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## "The Secret Lives of Seahorses" Exhibit Facts

- **What:** A \$3-million special exhibition exploring the strange and secretive world of seahorses and their kin. These fascinating fishes grow up, choose mates and give birth in surprising ways. The multimedia exhibition reveals the private lives of these elusive animals and the stunning habitats they call home.
- Where: Monterey Bay Aquarium, 886 Cannery Row, Monterey, California.
- When: April 6, 2009 through September 3, 2012; 10 a.m. to 6 p.m. daily (closed December 25); 9:30 a.m. to 6 p.m. during summer and on major holidays (Memorial Day to Labor Day); with extended summer weekend hours on Saturdays and Sundays, from 9:30 a.m. to 8 p.m.
- **The exhibit:** A 5,000-square-foot exhibition with exhibits featuring more than 15 species of seahorses, sea dragons, pipehorses and pipefish. The exhibition highlights the fragile habitats in which seahorses and their relatives live. Conservation stations throughout the exhibition provide visitors with tools to help protect these fascinating animals as well as some of Earth's most precious marine habitats—the coral reefs, sea grass beds and mangrove forests that seahorses call home. Visitors meander through multimedia galleries that reveal how these shy animals grow up, attract mates and give birth this is the only family in the animal kingdom in which males become pregnant and give birth. Extraordinary live exhibits showcase yellow seahorses, alligator pipefish, potbelly and zebrasnout seahorses, leafy and weedy sea dragons, shrimpfish, ribbon pipehorses, banded pipefish, dwarf seahorses and other intriguing species. Other highlights include an animated film that portrays a seahorse couple's elegant courtship dance, a five-foot-tall sculpture of a pregnant male seahorse and an interactive video that lets visitors test their skills at camouflaging a seahorse to hide it from a hungry predator.
- What's The number and variety of species featured in the special exhibition. The Secret Lives of Seahorses is one of the largest and most diverse exhibitions of seahorses and their kin in the nation. From their unusual physical appearance to their one-of-a-kind birth cycle, there's nothing ordinary about seahorses. Despite their popularity, relatively little is known about seahorses—mainly because they're so difficult to observe in the wild. Of the 34 known seahorse species, eight are considered vulnerable or endangered on the International Union for Conservation of Nature's Red List. The exhibition brings visitors face to face with these alluring animals and provides tools for people to help protect seahorses in the wild.
- Admission: Included with Aquarium admission: \$29.95 adult; \$27.95 senior (over 65) and student (13–17 or with college ID); \$17.95 child (3–12) and disabled (**2009 rates**). Children under 3 are admitted free. Group rates are available with advance booking for parties of 20 or more.

| Parking:     | Parking in Cannery Row parking garage three blocks away. (Passenger drop-off in front of Aquarium.) Free MST trolley service links the Aquarium with downtown Monterey and waterfront destinations daily during peak summer season (Memorial Day to Labor Day).                                                                                                          |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tickets:     | General information is available at <u>www.montereybayaquarium.org</u> or (831) 648-<br>4888. Advance tickets are available online at <u>www.montereybayaquarium.org</u> . There<br>is no service charge to print tickets at home or to pick them up upon arrival. There is<br>a small fee to receive tickets by mail. Local hotels also sell advance tickets to guests. |
| January 2009 |                                                                                                                                                                                                                                                                                                                                                                          |

## "The Secret Lives of Seahorses" Gallery Tour

"The Secret Lives of Seahorses" explores the mysterious lives of more than 15 species of seahorses and their kin – from leafy and weedy seadragons to alligator pipefish and yellow seahorses – and of the vulnerable habitats these species call home. Visitors travel through four galleries housing one of the largest and most diverse exhibits in the nation of seahorses and their kin. Conservation stations throughout the exhibit equip visitors with the tools they need to help save some of the world's most enchanting and elusive creatures, along with some of Earth's most precious marine habitats –coral reefs, seagrass beds and mangrove forests.

#### Seahorses and Kin

Visitors begin their journey through The Secret Lives of Seahorses by meeting the seahorse family: fishes with fused jaws and bony plates in place of scales normally associated with fish. Entering through wrought-iron gates, visitors explore the "Seahorses and Kin" gallery and meet the zebrasnout seahorse, ribbon pipehorse and dragon pipefish. Though varied in body shapes and sizes, all belong to the same family and each is a master of disguise.

#### **Growing Up Gallery**

The "Growing Up" gallery shows how seahorses and kin grow and develop, and highlights their key survival tactic: camouflage. One exhibit features sticklike shrimpfish, which usually keep their heads pointed downward between sea urchin spines and colorful corals so they can blend with the surrounding habitat. A live exhibit of seahorse babies helps demonstrate how seahorse babies can be tiny yet totally self-sufficient. Across the way, ethereal leafy sea dragons display appendages that mirror the marine plants among which they live. Nearby weedy sea dragons flaunt fewer (and less leaf-like) appendages. Visitors can test their own camouflage skills at an interactive video exhibit as they design a seahorse of their own, choosing its color, size and texture. Be advised: The seahorse that's least well-hidden will be eaten by a passing predator.

#### **Getting Together Gallery**

In this gallery, visitors learn that birds and people aren't the only animals that court mates with fancy dancing. Seahorses, sea dragons, pipehorses and pipefishes also engage in elaborate courtship rituals before they mate – rituals sometimes lasting for three days.

An animated film demonstrates the complex courtship ritual, and live exhibits feature Pacific, dwarf and potbelly seahorses, and the banded pipefish. A nearby kiosk gives visitors the option to send an electronic postcard to California Gov. Arnold Schwarzenegger to support creation of marine protected areas in southern California waters – waters that are home to the Pacific seahorse and five pipefish species.

#### **Giving Birth Gallery**

Here you'll journey into a world where males become pregnant and give birth, and learn about three different parenting strategies used by seahorses and their kin. The longsnout and shortsnout seahorses in this gallery represent the only creatures in the animal kingdom where males have fully enclosed brood pouches to carry and raise their young. The gallery also houses the aptly named yellow seahorse and the alligator pipefish. The pipefish prefers to carry its young on a specialized brood patch on the abdomen or tail. Visitors can take home a fact card detailing the problems with the curio trade, and can also take a souvenir photo alongside a five-foot tall sculpture of a pregnant male longsnout seahorse to commemorate their journey through The Secret Lives of Seahorses.

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## "The Secret Lives of Seahorses" Exhibit animals

Found throughout the world's oceans, especially in tropical waters, seahorses and their relatives come in a wonderful array of colors, shapes and sizes. In the Monterey Bay Aquarium's newest special exhibition, "The Secret Lives of Seahorses," visitors explore these mysterious fishes and learn about threats they face in the wild, and how they can help them survive.

Many seahorse species are considered "vulnerable," according to the International Union for Conservation of Nature's (IUCN). Several factors have contributed to the decline of seahorse populations worldwide: destruction of the coral reefs and sea grass beds where seahorses live, invasive fishing techniques which mistakenly take seahorses as bycatch, and the collection of seahorses for the curio trade or for use in traditional medicines. The seahorses at the Monterey Bay Aquarium are either bred onsite, or obtained from partner zoos and aquariums or permitted dealers.

Four exhibit galleries in The Secret Lives of Seahorses show visitors how seahorses and their kin grow up, find mates and reproduce: "Seahorses and Kin" introduces visitors to the seahorse family; "Growing Up" highlights juvenile seahorses; "Getting Together" showcases intricate courtship rituals; and "Giving Birth" tells the story of male seahorse pregnancy, unique in the animal kingdom.

Here's a look at some of the species featured in The Secret Lives of Seahorses.

#### Seahorses and Kin

#### Zebrasnout seahorse

#### Hippocampus barbouri

This seahorse species is found in the Indo-Pacific near Indonesia, Malaysia and the Philippines, in shallow sea grass beds and attached to corals. Adults grow to be about 6 inches long. Their colors range from white or pale yellow to pale brown, with distinct stripes around the eyes and snout. Populations of zebrasnout seahorses are in decline as they are one of the most commonly collected species for use in traditional medicine and by the curio and aquaria trades; they are currently listed as "vulnerable" by IUCN.

#### **Ribbon pipehorse**

#### Haliichthys taeniophorus

The ribbon pipehorse lives in tropical waters of the Indo-Pacific, including the waters off northern Australia; it's found at depths up to 52.5 feet and grows to 12 inches long. It's often referred to as a sea dragon, since appendages on its body resemble seaweed, similar to those on the leafy and weedy sea dragons. Although pencil-thin like a pipefish, the pipehorse is a distinct species and may represent its own branch on the seahorse family tree.

#### **Dragon pipefish**

#### Corythoichthys haematopterus

Pipefish resemble skinny seahorses, stretched out straight. The dragon pipefish lives in the Indo-Pacific, from East Africa and north up to Japan. It lives mainly in tropical reefs in shallow, protected areas of rubble and sand, but can be found in waters as deep as 69 feet. Long and narrow, adults grow to 8 inches long. This pipefish's tail is more prehensile than those of most pipefish species, allowing it to anchor itself to coral and other structures, especially when feeding.

## Growing Up

#### Young seahorses

Variety of species

#### Shrimpfish

#### Aeoliscus sp.

Shrimpfish are more distant relatives of seahorses. They live in the Indo-Pacific's shallow tropical waters and grow to about 6 inches long. A shrimpfish gets its name from the thin bony plates on its body that resemble the outer shell of a shrimp. They often live in groups among sea urchins, and are usually seen tucked head down into sea urchins' spines. This may help them hide from predators and feed on bottom-dwelling crustaceans.

#### Leafy sea dragon

#### Phycodurus eques

The waters of southern and western Australia are home to the only two species of sea dragons in the world – rare and beautiful members of the seahorse family. The leafy sea dragons' green and yellow leaf-like fins and appendages provide perfect camouflage amid the seaweeds and sea grasses where they live. Like the seahorse, the male sea dragon carries the eggs (but on a "brood patch" located on the tail instead of in a stomach pouch) until they hatch. "Leafies" can grow up to 13 inches long.

#### Weedy sea dragon

#### Phyllopteryx taeniolatus

Weedy sea dragons resemble their leafy sea dragon cousins and share the same habitat, but have smaller and fewer leaf-like appendages, and can get slightly larger. They also tend to be darker, with reddish yellow and purple tones. "Weedies" feed on mysid shrimp and other small crustaceans, as do "leafies." Both types of sea dragons are threatened by habitat destruction, and potentially by the aquaria trade. Currently, sea dragons are protected under Australian fisheries legislation, and it is illegal to take or export them without a permit.

#### Lined seahorse

#### Hippocampus erectus

A mid-sized species, lined seahorses can grow to 7.5 inches and are found along a wide range of the Atlantic coast, from the coast of Nova Scotia to the Caribbean Sea and coastal waters of Central America. The IUCN lists lined seahorses as "vulnerable." Colors can vary from gray, black or brown to yellow, red and orange, often with white lines or blotches. Their coloring can change depending on their surroundings or on their diet, mood or other stimuli. Males give birth to an average of 250 to 300 young per brood.

## **Getting** Together

#### **Pacific seahorse**

#### Hippocampus ingens

One of the largest of the 34 known species of seahorses, Pacific seahorses can grow to 12 inches long. The Pacific seahorse is the only seahorse species found along the California coast, ranging from San Diego Bay to Peru, and is usually found in shallow beds of soft corals and gorgonians. This nocturnal species comes in a variety of colors, including gray, brown, red and yellow, which often match its surroundings. By supporting marine protected areas in southern California, visitors to and residents of California can help preserve the habitat of the western United States' only seahorse species, which is "vulnerable" according to the IUCN.

#### **Dwarf seahorse**

#### Hippocampus zosterae

This species is one of the smallest seahorse species, reaching a maximum size of just under 1 inch long. They are commonly found in sea grass beds off the Florida Keys, the Bahamas, Bermuda and the Gulf of Mexico. Dwarf seahorse pairs take their time getting to know each other before they mate. As part of their mating ritual, a female will swim into the male's territory, and the pair performs elaborate courtship dances each morning for several days until they eventually hook tails and swim up in the water column to mate.

#### **Potbelly seahorse**

#### Hippocampus abdominalis

Potbelly seahorses are named for their distinctive abdomens; mature males inflate their prominent pouches with water to attract females. One of the larger seahorse species, "potbellies" average 10 to 12 inches long. They come in mottled colors ranging from white to deep browns or yellows and olive greens; males usually have striped tails. This species is found in the waters of New Zealand, Australia and Tasmania in sea grass beds and rocky reefs, or attached to jetties and man-made objects along the coast.

#### **Banded** pipefish

#### Doryrhamphus spp.

Banded pipefish live in shallow, tropical waters, including tide pools, lagoons and outer reefs, as well as in caves and crevices. Their wide range spans from the Indian Ocean to the western Pacific. Banded pipefish grow up to 7.5 inches long, and all banded pipefish have distinctive dark and light bands and a flag-like tail. These pipefish behave more like seahorses – males and females form bonded pairs and engage in daily morning greetings just before sunrise.

## Giving Birth

#### Longsnout seahorse

#### Hippocampus reidi

This slender seahorse grows to about 7 inches long. Males are often bright orange and the females yellow; both may be covered in brown or white spots, and may turn pink or white during courtship. They are found in coral reefs and sea grass beds and occasionally in the midwater of the Atlantic from North Carolina to Florida, the Caribbean and down to Brazil. Males can carry broods of up to 1,000 young in their pouches, with larger males carrying even more young.

#### Shortsnout seahorse

#### Hippocampus breviceps

One of the smaller seahorse species, mature shortsnout seahorses vary from 2 to 4 inches long and, true to their name, have short snouts. They are dark colored and display purplish browns, reds and yellows, with many white spots. Native to the waters of Australia, they are found in sea grass beds and among algae covered rocky reefs. Unlike other seahorses, they are often found in large groups. Mature males have a prominent brood pouch that inflates when the male is courting a female.

#### Yellow seahorse

#### Hippocampus kuda

The yellow seahorse lives in the shallow coastal waters of flooded mangrove forests, sea grass beds and estuaries from the Red Sea to the Indo-Pacific and Hawaii. This species is also found in open water attached to floating seaweed. Adults can grow to 7 inches and although often yellow, colors can range from orange to brown or black. The yellow seahorse is another species in the aquarium's exhibition that is listed as "vulnerable" by the IUCN.

#### Alligator pipefish

#### Syngnathoides biaculeatus

The alligator pipefish lives throughout the Indo-Pacific and the western Pacific. It frequents sheltered coastal shallows, where it lives among algae, sea grasses or floating weeds. Alligator pipefish are often mottled green or yellow in color so they easily blend in with their surroundings. Adults can grow to 11.5 inches long.

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# NEW EXHIBIT BRINGS AWARENESS TO SEAHORSE CONSERVATION RESEARCH

In a small room behind the scenes at the Monterey Bay Aquarium, rectangular tanks of various sizes gurgle as seawater filters through. In one tank, baby seahorses swim energetically with their tails hooked together; in another, juvenile leafy sea dragons drift slowly along.

Jonelle Verdugo, associate curator at the Monterey Bay Aquarium tends to these strange and beautiful fishes. In preparation for "The Secret Lives of Seahorses," the new special exhibition opening April 6, Verdugo has taken many new species under her care.

"They are sensitive, but they aren't fragile," she explains. "They can live in habitats with strong ocean currents and tides. But changes in their food, environment or water quality can quickly have an impact on their health."

Verdugo and a team of aquarists are learning all they can about these remarkable animals. In order to populate the new exhibit with animals, the aquarium hopes to breed many of the seahorses—some with which it's had success in the past, others that have never bred in Monterey.

Some seahorse species can be bred fairly easily, Verdugo says.

"We can basically put the males and females together and we'll start to see breeding behavior," she says. Others require more coaxing – leafy and weedy sea dragons require a deeper water column for their mating rituals, so one large exhibit in the new gallery is specially designed to "set the mood" for sea dragons.

Seahorses remain a mysterious group of fishes, and Verdugo acknowledges that some of the husbandry techniques used by her team come from hobbyists who have documented their efforts.

"Some hobbyists are very skilled and educated, and we've learned from them," she notes. "But anyone raising seahorses at home will need to put a lot of time and money into becoming a seahorse specialist."

Seahorses are more complex than the tropical fishes that home aquarists are used to raising.

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They need specific types of food at different stages in their development. Seahorses also need to be fed often, ideally two or three times per day, and their tanks need to be cleaned frequently. Uneaten food and excess waste can affect water quality, which must be closely monitored. Seahorses are also passive eaters – they wait for a tasty meal to drift by before making their move, so they can easily miss their chance if more aggressive fishes are nearby.

Despite the challenges, if aquarium staff can successfully breed and raise seahorses, they will not only have a variety of animals to populate the new exhibition, but they will also contribute to captive breeding programs, and share knowledge and animals with partner aquariums, says Verdugo. Whenever possible, zoos and aquariums prefer to exhibit captive-raised animals because it reduces the need to collect from the wild.

Aquarium husbandry Curator Paul Clarkson hopes the seahorse breeding program is as successful as the groundbreaking efforts that kept its award-winning special exhibition, "Jellies: Living Art," full of amazing jellies for more than six years. That exhibit was sustained with "a collection of jellies that we constantly had to raise and rear. Using that model, we plan to have seahorses in all stages of the life cycle behind the scenes," says Clarkson.

Seahorses face many threats – they are taken in large numbers from the wild for the curio and medicinal trade, and as bycatch from the trawl-fishing industry. Their habitats – reefs and waters close to shore – are also under pressure from coastal development and pollution. The Secret Lives of Seahorses aims to educate visitors about these issues and offer actions that individuals can take to help protect seahorses.

Because seahorse populations are at risk worldwide, they are protected by the Convention on International Trade in Endangered Species (CITES). If a country chooses to participate in the international CITES treaty, as do the United States and 172 other nations, it agrees to monitor the export and trade of the species, like seahorses, that are in its database.

Researchers studying seahorses in the wild are curious about the behaviors Verdugo and her team observe. Project Seahorse is an international conservation organization working primarily in the Indo-Pacific region, and other waters where seahorses are found. It works with local fishermen and governments to establish marine protected areas that safeguard seahorse habitat. Project Seahorse uses the iconic image of the seahorse as an ambassador for the health of coral reefs and

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coastal mangrove forests where seahorses live.

Verdugo says Project Seahorse scientists are interested in learning more about several species the aquarium plans to exhibit.

"The researchers are especially interested in life history, so as we observe different species' gestation periods, the size of babies and size of the brood, we can share that information," she says.

Leafy sea dragons will be among the most unusual species featured in The Secret Lives of Seahorses. But they are difficult to obtain, says Clarkson, who explains the tightly-regulated process of acquiring these beautiful, endangered animals that live in Australian waters.

"There is one person in all of Australia who has a permit to collect leafy sea dragons," Clarkson says. "Each year, he takes one pregnant male from the wild, raises the brood that hatches and then distributes those young."

The Monterey Bay Aquarium hopes for a breakthrough in breeding and raising leafy sea dragons, thereby reducing the need to take individuals from the wild.

"If we can unlock some of the mysteries about raising these seahorse species," says Clarkson, "the information we've learned from rearing them through their entire life cycle will be valuable to other aquariums, and to researchers studying in the wild."

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