

Explore the Ecosystem - Seahorses

Read the case study of one of our most famous SEA LIFE creatures – the seahorse. Use the text to gather key information (highlighting and note taking) about what the seahorse eats and what eats them. To create an effective food chain, you will also need to consider what the prey of the sea horse consumes as its own food source.

Seahorses

In all of our SEA LIFE aquariums, visitors can observe the mesmerising creatures that are seahorses – that is, if you can spot them as they camouflage themselves! There are 46 recognised species of seahorses in the world, but it can be hard to tell the difference between some of them, due to their similar appearance and camouflage behaviours. Many people are surprised to hear that seahorses are actually fish! The origin of their name is from the similarity of their head to a horse's head, but also from their Latin name, "Hippocampus", which translates to "horse sea monster" or "horse caterpillar". The seahorse is found in coastal waters all over the world. Seahorses are not very good swimmers, so they often live in areas where they can seek shelter from strong currents, such as mangrove roots, seagrasses, seaweeds, and coral reefs.

Although seahorses are terrible swimmers, they are great predators! They use their long snouts to rapidly slurp in water and food, allowing them to catch their prey. Seahorses need to eat continuously in order to stay alive. Luckily, the seahorse can eat any live animal that's small enough to fit through their jaws, ensuring they can feed continuously. They suck their food through their snouts, similar to a vacuum cleaner when they are eating. If the prey is large, their snouts expand as they are not able to chew and have to disintegrate food while they eat.

As seahorses do not have stomachs, they have to follow a diet of very small creatures such as tiny fish, shrimp and plankton. These tiny creatures, which are consumers of seaweed, are preyed on by the seahorses. Within their food chain, seahorses are also consumed by larger fish (like tuna and rays) and crabs, which in turn are consumed by sharks, whales, and of course, humans.

Humans have a significant impact on seahorse populations across the world. Their habitats are affected through damage to the coral reef and the volume of waste in the ocean, both causing seahorse habitat loss. Furthermore, in the process of fishing, many seahorses are caught by accident – this is known as 'bycatch'. Some countries have also been known for catching seahorses on purpose, for tourism gift purposes. Several conservation groups, including The Seahorse Trust and Project Seahorse, are working together to protect the species, but there is a lot we can also be doing at home, including more recycling and reducing our usage of single-use plastic.

You can find out more about our Seahorses by visiting:

<https://www.visitsealife.com/sydney/conservation/local-conservation-projects/seahorse-breeding-program/>

NOTE TAKING AREA

Drawing on the information gathered, use the space below to create the **food chain or food web** that the seahorse is part of in their ecosystem. Remember to identify and label the parts of the food web that are the **producers** and **consumers**!

Now respond to the questions, and where appropriate, add further detail to your food chain/web.

Questions and prompts:

Is the seahorse a predator, prey or both? Why?

Is the seahorse a herbivore, carnivore or omnivore? How do you know?

Which part of the food chain/web is the producer? What makes it the producer?

Which parts of the food chain are the primary consumers? Which are secondary consumers? Which are the tertiary consumers? Add these details to your food web or chain.

The fourth layer of a food chain or web is called the quaternary consumer – which ones are these on your food chain or web?

Extension/Challenge activity

What happens if there is a change in the ecosystem of the seahorse?
Different parts of the food chain rely on each other to keep the ecosystem an effective habitat.

Seahorses are at risk of becoming **extinct** due to human impact on their natural habitat. What would happen to the ecosystem if...
...there were fewer seahorses to eat the sea plankton, shrimp and tiny fish? How would it affect the amount of sea plankton, shrimp and tiny fish in the ocean?

How would this scenario affect the amount of seaweed in the ocean?

If there were fewer seahorses in the sea, how might this affect the amount of larger fish in the ocean, such as tuna or rays? Use the words **more/increase** and **fewer/decrease** to support you with your explanation.
