

What is a Weedy Seadragon?

The Weedy Seadragon *Phyllopteryx taeniolatus* was selected as the State's Marine Faunal Emblem in 2002. It represents the delicate and beautiful underwater world.



Features and adaptations

- 1 Camouflage**
A long patterned body with leaf-like fins helps them to blend in amongst seaweed.
- 2 Long snout**
Their snout, shaped like a straw, is perfect for slurping up food in the ocean.
- 3 Defense**
A collection of short spines up their back act like a shield to protect them from predators.
- 4 Nonprehensile tail**
Unable to anchor themselves to seaweed, Weedy Seadragons instead use their tail as a rudder.
- 5 Egg incubation**
Rather than using a pouch, the males carry and incubate the eggs on a spongy patch under their tail.

How many are there?

Scientists have gaps in their knowledge when it comes to the Weedy Seadragon population size. This is likely related to their dispersed marine distribution. No range-wide population estimates have been made, however several local population studies have occurred in Sydney and along the Victorian coastline. While scientists are uncertain if Weedy Seadragons are experiencing a decline in total population size, they do know that significant habitat destruction across their range has occurred.

Where are they found?

Weedy Seadragons are endemic to the southern waters of Australia. They can be found tumbling and drifting along in the shallow waters of Victoria's coastline. Preferring depths of up to 50m, Weedy Seadragons spend their time in kelp forests, on rocky reefs, and floating through seaweed and seagrass meadows.



What threats do they face?

Weedy Seadragons are threatened by human activity both on land and in the ocean.



Land-based pollutants, such as litter, waste water, oils and fertiliser drift into the ocean and cause contamination of coastal and marine habitats.



As climate change warms ocean temperatures in southern Australia, survival rates for important seaweed and seagrass meadows decline.

Why are STEM and citizen science important?

When scientists are tasked with collecting large amounts of data across a wide geographical range, they often turn to the public for help. Citizen science relies on public participation and collaboration in scientific research to increase knowledge. Citizen science data collection and monitoring programs are particularly important for understanding the Weedy Seadragon population size.

Instead of catching and tagging each individual creature, researchers rely on citizen scientists to snap photos of Weedy Seadragons while diving. Researchers have used STEM to develop software that can identify each seadragon's unique markings – sort of like facial recognition or fingerprinting.

Using these unique markings, scientists track individual seadragons through the years and have more confidence in their local population counts. With the help of citizen scientists, we may one day have a total population estimate for these masters of disguise!

How can you put science into action?



There are many types of citizen science programs that are not only useful for Weedy Seadragons but also for students. By participating in clean-up and sorting programs

such as Tangaroa Blue, you can help to reduce the amount of debris making its way into the ocean and polluting habitats, while improving your data collection and scientific inquiry skills.

Tangaroa Blue Foundation is an Australia-wide not-for-profit organisation dedicated to the removal and prevention of marine debris. Schools can get involved by adopting a local beach, regularly undertaking beach clean-ups and analysing their findings.

Once collected, rubbish can be sorted into categories and then counted. Understanding the types and amounts of debris found on beaches allows students to use science communication skills to advocate for changes in waste generation and disposal. Less waste generated means fewer marine debris and healthier Weedy Seadragon habitats in the long term.

What has been found on Victorian beaches?



Top 10 pollutants between 2005 and 2020.

	275,953	Foam insulation and packaging (whole and remnants)
	238,611	Plastic bits and pieces, hard and solid
	212,516	Cigarette butts and filters
	88,656	Plastic packaging food (wrap, packets, containers)
	88,192	Plastic film remnants (bits of plastic bag, wrap, etc)
	40,606	Lids and tops, pump spray, flow restrictor and similar
	33,593	Plastic drink bottles (water, juice, milk, soft drink)
	30,113	Straws, confection sticks, cups, plates and cutlery
	25,889	Sanitary (tissues, nappies, cotton buds)
	23,926	Paper and cardboard packaging

Data sourced from the Tangaroa Blue Foundation and Australian Marine Debris Initiative Database, <https://www.tangaroablue.org/database/>, Aug 2020



Victoria's network of parks and reserves are an integral part of Aboriginal cultural landscapes. Parks Victoria respects the deep and continuing connection that Traditional Owners have to these landscapes and recognises their ongoing role in caring for Country.



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