Biodiversity is Important

The Federal Government has announced September as Biodiversity Month and 7 September is National Threatened Species Day. There is a Tasmanian connection. It's the date in 1936 when "Benjamin" died of exposure in a Hobart zoo. Benjamin was the last Tasmanian Tiger or thylacine. Habitat loss and hunting wiped out the Tasmanian tiger only 150 years after the arrival of Europeans.

At the time there was hardly a remark about his death. People were in denial, still wishfully saying that the thylacine was "fairly well distributed" along the West Coast. Despite their hopes, a big reward for the capture of a live example was never collected.

Robert Stevenson was one of the people glad to see the end of the Tasmanian tiger. In 1937 he wrote to the Examiner stating "…if ever I had a chance to pop a rifle bullet into a tiger he would get it, as the saying goes, right in the neck."

Mr Stevenson wasn't a bad man, there was a rational economic reason for his concern. In the early days of the pastoral industry, everyone agreed that burning out and shooting tigers was necessary to keep a flock of sheep safe at night. He didn't realise at the time that a decision made about his short-term needs, without a full view of all the facts, forever deprived all Tasmanians of a natural wonder. Recent studies show that thylacines had such weak jaws that they were incapable of attacking anything bigger than a possum.

We are still battling with that attitude. Its not just a few extremists, but some academics, leaders of industry and politically influential people. We seem to have tired of hearing about handfish, dotterels, or some other obscure-sounding and apparently useless species. Instead of celebrating them as evidence of the richness and diversity of our own lifestyle, it is claimed that their existence is being misused to try and stop development. The argument is that threatened species concerns are 'getting in the way' of jobs and prosperity.

Many of us value a species-rich planet as something worth having for its own sake. Those of us that do not share this view are making decisions of great importance for our children and grandchildren.

The harm or inconvenience caused by threatened species is often overstated. Critics are also giving little value to other practical reasons for protecting biodiversity.

Species have productive uses that we are still to discover. The majority of today's medicines were derived from extracts of rare plants and animals. According to the CSIRO, deep sea bacteria is currently used in prostrate cancer treatment, scorpion venom is used in pain management and fish skin for burns treatment. We can also study elephant sharks to better understand immune responses in humans. Studies of "unimportant" species have also suggested uses for sea squirt proteins in supercomputers. None of these uses were dreamed about even 10 years ago. Once an animal becomes extinct, that is the end of those opportunities.

You can go to places that have let their biodiversity fall to ruin. In Asian megacities like Seoul people live in a different kind of poverty, spending their entire lives inside a crowded maze of concrete. They have money, but are disconnected from other living things. The parks have only one kind of bird, some cockroaches and a few trees. Tales about farm animals, deer hunting and bears live on only in books. All wild animals now seem like mythical beasts,

part of a shared national culture that has been lost. That's why South Korea has just reintroduced Moon bears, foxes and mountain goats back into the wild.

The Tasmanian coat of arms already sports some 'mythical' beasts, two thylacines. When it was adopted in 1917 the coat of arms was already a symbol for more than just the conquest of nature. It showed our capacity to go the extra step and wilfully annihilate it.

Today, so many species are becoming extinct that we now talk about the Holocene extinction, a man-made mass extinction event. This event is different from a crashing asteroid, the damage is often preventable with a little knowledge and effort.

There are many reasons why animals are becoming extinct, so there are many things that we could do to limit the damage. There is no excuse for doing nothing.

Creating more sanctuaries for rare animals is an important thing we can do that is quick and relatively inexpensive. We have done a pretty good job of this on land where 40% of our State is protected in reserves, and we have some world-class national parks that protect the best of our wilderness areas on land. We are doing a poor job in the ocean, where only 1.1% of our mainland Tasmanian coastline is protected in sanctuary zones.

This is particularly important as Tasmania has some very special marine creatures you might not have heard about, and they are under threat from a variety of man-made pressures. They are colourful, diverse, rare, and often very different from the marine animals in other areas.

The government's response to marine habitat protection is to have a moratorium on the creation of these kinds of marine reserves. That is worse than doing nothing and is a return to our dark past. We shouldn't need to go to story books and museums to enjoy a natural heritage that belongs to all of us.

Our Unique and threatened Marine Species

The ocean tends to be especially out of sight out of mind, and we often see it as an unlimited resource, “there are plenty more fish in the sea”. In fact, we don’t spend too much time researching marine animals compared to species on land, so we aren’t really sure how many marine species are threatened. There is a bewildering array of marine species doing it tough.

Tasmania has some of the rarest marine species in the world, including the dubious honour of having the first fish in the world to be proclaimed extinct. Research has so far identified fifty four threatened Tasmanian marine species, 28 seabirds, five fish, five whales, four turtles, four seals/sea lions, three starfish, two estuarine grasses, one shorebird, one mollusc and one seaweed species. There are sure to be more that we haven’t discovered yet, or lack the funds to assess.

Only one shellfish species is so far listed as Threatened in Tasmania, the Gunn’s screw shell. From drilling through seabed sediment we can identify many old shellfish species that haven’t been collected live for decades. It seems like much of our shellfish diversity may have already passed to extinction without us even noticing.

Tasmania has been cut off from the rest of Australia biologically for long enough to have some really unique animals and communities. Macquarie Harbour boast the world’s rarest skate, the only Australian fish recorded from just one estuary. A number of Tasmania fish, invertebrates and algae are limited to only one or two estuaries or ocean sites. Through ignorance we sometimes place potentially damaging developments at these sites, when there are other suitable options nearby.

The recently described pink handfish is only found in south-east Tasmania. It was recently added to the threatened species list but it hasn’t been seen for years. Handfish species are pretty much a Tasmanian family of fish. They are really unique and ‘walk’ using modified hand-like fins.

Smaller and less colourful marine species have an even harder time getting some attention and love. Tasmanian seaweed communities are among the most diverse in the world. A recent study identified 35 macroalgal species in Tasmania that are rare, including seven species never recorded outside Tasmania.

Apart from having plenty of our own threatened species, Tasmania is also a stronghold for global populations of other threatened species. Tasmanian beaches support significant numbers of species like the hooded plover, fairy tern, little tern, and the pied oystercatcher.

There are 44 wetlands in Tasmania that are listed on the Directory of Important Wetlands of Australia, while eight of these are also listed as internationally significant ‘Ramsar’ wetlands. These important wetlands support populations of rare and threatened plants and animals.

Tasmania’s offshore islands are home to some amazing seabirds. Most are very small islands only a hectare in size. For example, the Shy Albatross only breeds on three Tasmanian islands, Albatross Island off Tasmania’s north west, Mewstone and Pedra Branca off the Tasmanian south coast. These islands and their adjacent marine feeding grounds need protection if they are to survive.

Tasmanian species are under a lot of pressure. Declines of up to 65% have been recorded among shorebird species since the 1950s. Seagrass beds have declined by an estimated

25%. East Coast giant kelp beds have virtually disappeared. Inshore mollusc biodiversity has decreased by nearly 70% over the last 100 years.

There are many reasons why more animals are becoming threatened or extinct, so there are many things that we could do to limit the damage.

More sanctuaries for rare animals is an important thing we can do that is quick and relatively inexpensive. We have done a pretty good job of this on land where 40% of our State is protected in reserves, and we have some world-class national parks that protect the best of our wilderness areas on land. We are doing a poor job in the ocean, where only 1.1% of our mainland coastline is protected in sanctuary zones.

The government's response is to have a moratorium on the creation of these kinds of marine reserves. That is worse than doing nothing. We can ask for more.

Beautiful but overlooked

Tasmania's marine environments support rich and colourful ocean communities. In particular, the south-east of the state, is a hotspot for small marine invertebrates (animals without backbones) that crawl over, or are stuck to, the seabed.

They don't get the media attention we give to tropical corals, but Tasmanian reef animals, like sea stars, sponges, sea squirts, and sea moss are more colourful than tropical corals.

There are tens of thousands of unstudied species of crustaceans, sponges, anemones, seasquirts, tubeworms, lace bryozoans, hydroids, sea fans, gorgonians, seawhips and seapens. We know that 90-95% of Tasmania's studied shellfish, sea snails, seastars and sea urchins are unique to southern temperate Australia.

Most marine invertebrates are so primitive they are usually mistaken for plants. These basic designs have been around for a long time and many haven't changed their design much for 500 million years.

Some are listed as Threatened, such as the Live-bearing Seastar, Gunn's Screw Shell and the Bruny Island seastar. The Derwent River seastar is also listed as threatened, but is now most certainly extinct. Tasmania's listed threatened species are sure to be under recorded as we don't spend a lot of time studying little creatures you can't eat or sell.

The tiny live-bearing seastar is one of only two seastars in the world that give birth to live young. They hatch by bursting out of their mother's skin. As starfish have a very diverse nervous system is might not hurt much, we hope. The introduction of feral New Zealand sea stars has driven them into the shallows and isolated them into a few pockets in south east Tasmania. If you live in southern Tasmania you probably drive past a small colony every day.

As with all species, it is important to understand where threatened species are living and deal with their survival needs. Often this involves protecting the habitat they need to survive.

When we learn about threatened species and care about them, we can do simple things to ensure their survival. In a recent example, a diver was sent down to relocate live-bearing seastars from a bridge that was about to be demolished. It didn't cost much or delay the project.

Creating sanctuaries for rare animals is another important thing we can do that is quick and relatively inexpensive. We have lots of reserves on land, but we are doing a poor job in the ocean, where only 1.1% of our mainland coastline is protected in sanctuary zones. We need more marine parks if these unique animals and communities are to survive.

Save our Seabirds

Tasmania is a global hotspot for seabird activity, with more than 60 species foraging or breeding around Tasmania and Macquarie Island, including over half of the world's albatross species. Twenty-eight species are listed as Threatened in Tasmania, including 14 albatrosses, seven petrels, four terns, two cormorants and one prion.

Tasmania's seabird community is unique because of the mixing of subantarctic species, as well as temperate and migratory species.

These seabirds rely entirely on the ocean for food like krill, squid and small fish. Many species like our sheltered inlets and estuaries, others ride the updrafts created by our stormy open oceans.

At least 15 species of seabirds breed here and an additional 20 at Macquarie Island, on dunes, tussocky headlands and offshore rocks. Breeding colonies include two Endangered species and three Vulnerable species, the Little Tern, Soft-plumaged Petrel, Shy Albatross, Fairy Tern and White-fronted Tern.

Tasmanian shores are also particularly important for Black-faced Cormorants, Pacific Gulls Little Penguins, Australasian Gannets, White-faced Storm-Petrels, and Fairy Prions.

Despite covering vast distances when feeding, Shy Albatross breeding is limited to three Tasmanian offshore islands, while the Royal Penguin only breeds on Macquarie Island.

Tasmania is also the last stop on some of the world's great migration journeys. The Caspian Tern circumnavigates the Pacific Ocean. Eighteen million Short-tailed Shearwaters migrate 15,000 kilometres to Tasmania in just six weeks.

Tasmania has 43 shorebird species of, representing 64% of the shorebird species recorded in Australia. Several species are included on Threatened species lists, including the Eastern Curlew, Red Knot, Hooded Plover, Black-tailed Godwit and Asian Dowitcher. The conservation status of shorebirds appears to be underestimated with many more species waiting for further assessment.

Seabirds are facing special threats that are hitting them especially hard. Land reclamation has destroyed a lot of the tidal land needed by migrating shorebirds. The quiet beaches needed for birds like hooded plovers are getting rare. Ocean roamers are being drowned by fishing gear, or are consuming so much plastic waste that many are starving the death with blocked stomachs.

As with all species, it is important to understand where threatened species are living, feeding and breeding in order to deal with their survival needs. A big part of the task is to protect key habitat.

Sanctuaries for rare animals is an important thing we can do that is quick and relatively inexpensive. We are doing a poor job in the ocean, where only 1.1% of our mainland coastline is protected in sanctuary zones. We need more marine parks if these unique animals are to survive.