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Crocodiles test the limits of a city in nature

Concerns over wildlife are commendable, but understanding the limitations of the environment helps guide the conversation

Shawn Lum



On Oct 10, a saltwater crocodile nearly 3m long did what crocodiles typically do – it swam ashore to bask. PHOTO: CK LEE/FACEBOOK

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On Oct 10, a saltwater crocodile nearly 3m long did what crocodiles typically do – it swam ashore to bask.

The stretch of beach it selected was in Marina East, not far from spots along the East Coast popular with beachgoers.

The crocodile's beach visit was its last, as it was captured not long after being spotted. It was then humanely sedated and euthanised in the interest of public safety.

The episode drew strong reactions, including from experienced wildlife biologists and animal rescue experts. Some did not agree with the decision and actions taken, while others said the incident was unfortunate but unavoidable.

The incident transcends the fate of the magnificent animal. It forces us to consider what a City in Nature looks like, and what this vision means for us and for the wild nature that we share our island home with.

Crocodiles return

In the 1990s, my colleagues and I routinely visited and worked in Singapore's mangroves. We never imagined crocodiles lurking nearby. They hadn't been part of our mangrove ecosystem for decades.

Saltwater crocodiles in Singapore declined and disappeared, as they did elsewhere, because of sharp reductions of suitable habitat, the transformation of coastlines and waterways, and systematic hunting. As recently as 1988, the International Union for Conservation of Nature's Red List, the gold standard for assigning extinction risk status for the world's flora and fauna, listed the species as endangered.

Protection from hunting led to the stunning recovery of the saltwater crocodile, especially in Australia, New Guinea and parts of Indonesia. It remains rare across much of its historical range, such as in mainland South-east Asia.

The local nature community was ecstatic when the first crocodile sightings were reported from the Sungei Buloh Wetland Reserve in the early 2000s. Its comeback was cause for celebration and a testament to conservation efforts by the National Parks Board (NParks). Today, there is a breeding population at Sungei Buloh, a conservation and ecological victory scarcely imaginable just 20 years ago.

The resident crocodile population numbers about 20 animals. In conservation terms, such a population is too small and occurs in too limited an area to be considered secure; the species is thus deemed critically endangered nationally. Given the saltwater crocodile's endangered status in Singapore, why was the Marina East crocodile captured and euthanised?

Putting down a rare animal

Most wildlife experts interviewed following the removal felt other solutions should have been tried before the crocodile was captured and put down. Relocating or rehoming the animal were among the options mentioned.

There was also a chance that the crocodile was simply passing through; beach users could have been kept away from the crocodile before it moved on.

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NParks managers explained that relocation, normally the first management option, was not advisable because the large crocodile could simply return. Though an attack would have been unlikely given how closely the animal was being watched and how many people became aware of it, the unpredictability of a crocodile's movements, together with the potential threat posed by its large size, sealed its fate.

Some asked if capture-euthanasiation will be the go-to management option any time a large crocodile strays onto our crowded shores. If existing habitats cannot support more crocodiles than are already there because of limited space and food (Sungei Buloh's "carrying capacity"), individuals will periodically leave in search of new territory and places to feed.

When crocodile arrivals on our beaches recur, anything other than a repeat of what happened to the Marina East crocodile is difficult to imagine.

Could there be a lesson in this for not only living with crocodiles, but also more generally in sharing space with the wild residents of our City in Nature?

System and culture

We navigate life-threatening risks every day when we drive a car, ride a bicycle, take public transport, cross the street, or even go for a walk or run. An average car weighs two tonnes. Road vehicles travelling even at modest speeds can be deadly if they regularly hurtle out of control or if road users do silly things. However, most of us do not fear fast-moving vehicles. We have systems and behaviour – a culture – to manage road risk.

They include traffic lights, lane markings, zebra crossings and speed cameras. We need to pass theory and practical tests (or eye tests when one reaches my age). There are rules for drivers, cyclists and pedestrians, which we generally follow. We even do things there are no rules for, like looking before crossing.

Everyone shares responsibility, and together we instinctively act in a way that ensures public safety and collective good.

There will always be the odd distracted, errant or rage-filled road user or pedestrian, but there are rules for dealing with them. The number of truly dangerous drivers is thankfully low enough, and the penalties for violating public safety heavy enough, to make taking to the roads a viable, at times even pleasant, proposition.

But there will always be some unpredictability on the roads, for example, people drink and drive. We can outlaw drink-driving, but the inebriated can't always be trusted to make the rational decision to stay off the road.

Expecting NParks officers alone to keep us safe from wild animals is like asking a handful of Traffic Police officers to keep us from harm when there is no system or culture of responsible road use.

We're not ready

We already have a system to deal with potentially dangerous animals, but the Marina East crocodile was euthanised because we lack a culture of coexisting safely with such wildlife. Collectively, we are not yet ready to deal, non-lethally, with large crocodiles that visit our beaches.

We need both a system and a culture for dealing with the joys and risks that come with having beautiful and majestic wild neighbours. We have a wildlife response system that works to keep people safe. Citizens can call a hotline if they see what they feel are dangerous or nuisance wildlife. NParks officers then respond. In the case of the Marina East crocodile, the response system and the perceived risk of the animal led to its capture and euthanasia.

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The flip side of dealing with wildlife depends on how receptive and comfortable we are with wild animals in our midst, and the extent to which we are willing to modify our routines and make concessions to have them as neighbours. I consider this the culture of coexistence.

We can happily share our environment with otters or macaques, especially if we minimise conflict with them. However, large apex predators are a different story. Wherever apex predators and people live together, there are attacks and, sadly, deaths.

In Florida, between 1948 and 2021, there were about 400 unprovoked alligator bites and two dozen fatalities. With an estimated 1.25 million alligators in a state of 20 million people, attacks inevitably occur. The 3,200 deaths from car accidents in Florida in 2021 put alligator attacks into perspective, but nonetheless, an unlucky person will be killed by an alligator every so often.

A responsive and well-supported wildlife response system, and a culture of coexistence with wildlife, will further reduce, but will not eliminate, the risk of attacks. (Though I still think the odds of avoiding danger from one of Singapore's 20 crocodiles look pretty good compared with the aggressive drivers on the road.)

If we are not ready to share our home with "challenging" nature, I fear that the Marina East crocodile won't be the last one we put down for making the mistake of resting at the wrong place.

At the same time, if as a society we wish to share our shores with crocodiles, we need to acknowledge that there could one day be an attack. We need to ask ourselves if we are willing to live with that risk.

Protecting rare species, nurturing healthy ecosystems, and enjoying the existence of wild animals are signs, many say, of a mature and empathetic society. A society we can be proud of. But with this outlook comes the reality that trees and animals, as enriching, beautiful and wondrous as they are, are not risk-free, especially when there are so many of us in such a compact home.

Habits and values, and our concept of what makes a better home for all, evolve. Values and habits change because of societal shifts, nudges and initiatives, as well as communitywide support.

We can transition to a society that is enriched by living in a flourishing City in Nature. But we need to give people time to develop and share such a vision, and ensure we have space for all to share.

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