Inquiry into Crocodile Control and Conservation Bill 2025

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Crocodile Control and Conservation Bill 2025

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Executive Summary

1. The Crocodile Control and Conservation Bill 2025 is fundamentally flawed in that it does not draw upon current scientific evidence or sound management practices. The Bill should be rejected outright.
2. The Explanatory Notes and 2nd Reading of the proposed Bill contain misleading and inaccurate information. The proponent has failed to draw on scientific evidence and data in a truthful manner when putting forward their claims.
3. Implementation of this legislation will impact significantly upon the population and conservation status of estuarine crocodiles in Queensland. It will fail to adequately protect this important apex predator. The removal of eggs and the killing of large numbers of crocodiles is likely to have widespread ecosystem impacts as a consequence of a trophic cascade.
4. Contrary to one of the overriding objectives of this proposed legislation, that is, ensuring human safety and wellbeing, the proposed Bill has the potential to increase the risk of injury and death. The local population in Queensland and visitors to crocodile country, will feel that it is safe to swim in waters that are the natural habitat of estuarine crocodiles. Promoting the belief that it is ok to go swimming in crocodile country, thereby leading people into a false sense of security, is foolish, misguided and dangerous.
5. The proposed legislation has failed to mention the critical importance of an education and awareness program in keeping people safe, which is regarded as a cornerstone element to reducing wildlife-human conflict. This oversight and neglect render the proposed Bill as defective.

Background

Crocodile Expertise – Professor Craig E Franklin

I am a Professor in Zoology, in the School of the Environment at The University of Queensland (a top 50 globally ranked University and ranked first in Australia by the Australian Financial Times). I have been conducting research on crocodiles for more than 30 years. I have an international reputation, and I am regarded as a world authority on the ecology, physiology and behaviour of estuarine crocodiles. I have published more than 50 scientific papers on crocodiles and according to The Web of Science (with a search on crocodile* 29th March 2025) I am ranked second in the world based on number of publications about crocodiles. Among crocodile researchers, I have one of the highest overall citations for my scientific contributions.

Critically, and in relation to the proposed legislation, I am the scientific lead for an ongoing acoustic and satellite tracking program on estuarine crocodiles in Far North Queensland (in collaboration with Australia Zoo). This is the world's largest and longest active tracking (telemetry) program of its type for any species of crocodilian and it is happening here in Queensland. The aims of this long-term research program are to understand the behaviour, physiology, movement patterns and ecology of estuarine crocodiles, with an emphasis on its conservation and providing scientific evidence to make informed management decisions (see References). It has included a well cited study on human-crocodile conflict (Campbell et al. 2015).

I have held three Australian Research Council Linkage Grants to undertake research on estuarine crocodiles. I have advised the Queensland Government and Ministers on crocodiles, sat on the QLD Crocodile Management Advisory Group and Expert Scientific Panel, and was contracted to write a report for the QLD Government that analysed historic crocodile survey data and methodology. I provided detailed recommendations on how to implement rigorous and comprehensive crocodile surveys in Queensland waterways.

I was not consulted nor approached to provide advice on the proposed Bill despite being research active in Far North Queensland and an internationally recognised, leading crocodile scientific expert in Queensland.

Estuarine Crocodiles

Estuarine crocodiles (*Crocodylus porosus*) can be found in river systems, waterholes, swamps, coastal areas and marine habitats in the northern regions of Australia. *C. porosus* are only occasional visitors to the land and are predominantly aquatic. They can occur in freshwater, brackish/estuarine waters and in seawater. The breeding distribution of the estuarine crocodile in Australia ranges from Boyne River, south of Gladstone in Queensland throughout tidal river systems in the Northern Territory to Broome in Western Australia.

In Queensland, the estuarine crocodile is found from Gladstone northwards to the tip of Cape York Peninsula and Torres Strait and extends west throughout the Gulf of

Carpentaria. Estuarine crocodiles can also be found on coral cays and islands of the northern parts of Great Barrier Reef.

Distribution of Crocodylus porosus *in Queensland, Australia from Crocwise campaign*

Estuarine crocodiles are highly mobile animals and are capable of swimming 60 km in a day (Campbell et al. 2010; Read et al. 2007). Activity and movement of *C. porosus* increases during the breeding season, Sept – February (Baker et al. 2021). They are known to exit river systems and move along the coastline from river system to river system. They can travel to coral cays and islands off the coastline of Queensland.

The estuarine crocodile suffered severe population declines in Australia from hunting before being protected in the 1970s. Recovery has been highly variable across Australia, especially in Queensland and threats remain including illegal hunting, fishing by-catches, loss of habitat, the predation of eggs by feral pigs, and future exploitation. Climate warming and increases in extreme weather events are also predicted to impact upon *C. porosus* in the future (Elsworth et al. 2003; Rodgers and Franklin, 2017; 2019; Barham et al. 2024).

Estuarine crocodiles are a protected species in Queensland and listed as a vulnerable species under the Nature Conservation Act 1992 (Qld). They are also protected nationally under Commonwealth legislation and internationally under the Convention on the International Trade of Endangered Species (CITES).

Long-term Crocodile Research Program in FNQ

A long-term partnership and collaboration between researchers from The University of Queensland and conservationists and crocodile experts from Australia Zoo, Queensland have been focussed on the protection and conservation of *C. porosus*. Public education and awareness of crocodiles has been an important cornerstone of this collaboration.

This research team has pioneered the use of archival tags, acoustic and satellite telemetry to monitor crocodilians (Franklin et al. 2009). In 2008, the research team embarked on an ambitious long-term acoustic and satellite telemetry study to monitor the movements, behaviours and physiology of crocodiles in the face of future climate change (Barham *et al.* 2025). For 17 years, a team of 15-20 personnel has travelled to the Steve Irwin Wildlife

Reserve, Cape York Peninsula, Queensland, Australia to conduct research on the Wenlock River - capturing estuarine crocodiles, measuring them, taking blood and tissue samples, and implanting and attaching transmitters. To date more than 270 animals, ranging in body length from 1 – 4.65 m, have been captured and tracked.

This study represents the largest and longest running tracking study of its kind for any species of crocodilian and there is an on-going commitment to continue for at least the next 10 years (the lifespan of acoustic tags implanted in 2024). This collaboration has generated a significant body of research that has advanced our understanding of the behaviour, movement ecology and physiology of estuarine crocodiles. Research findings have been used to promote awareness of the importance of apex predators in ecological processes, manage problem crocodiles and to prevent human-crocodile conflict.

This research has directly contributed to reducing human-wildlife conflict by developing quantitative methods to assess and communicate crocodile presence probabilities in specific locations and times (Campbell et al. 2014). This data-driven approach enables evidence-based risk assessment that can inform public safety measures while supporting crocodile conservation. The combination of detailed behavioural research and public education has the potential to create more effective strategies for promoting human-crocodile coexistence. It demonstrates how scientific research can directly contribute to conservation outcomes through improved community acceptance and reduced retaliatory killing.

Concerns & Issues with the *Crocodile Control & Conservation Bill 2025*

I have summarised below five key concerns and issues with the proposed Crocodile Control and Conservation Bill 2025.

1. The proposed Bill is not based on sound management practices and scientific evidence.

The overriding objective of The Crocodile Control, Conservation and Safety Bill is "to eliminate from state waterways any crocodiles that pose a threat to human life, while continuing to protect crocodiles from becoming extinct as a species." This is NOT possible.

The "zero-tolerance zone" concept is especially problematic because:

1. It creates an expectation that areas can be permanently cleared of crocodiles, disregarding the highly mobile nature of estuarine crocodiles (Read et al. 2007, Campbell et al. 2010, 2014; Baker 2019, 2021, 2023, 2024; Barham 2023).
2. It is likely to fragment important habitat and populations, disrupting ecosystem services and the important ecological roles crocodiles play in water ways (Campbell et al. 2025).

Culling, as proposed, does not <u>eliminate</u> the risk of attack by crocodiles, only eradication of crocodiles would make this objective possible. However, eradication is incongruent with the conservation of crocodiles and hence the Bill is flawed from the outset. Culling is also problematic as the level of culling required to reduce (but not eliminate) the risk of attack

would result in estuarine crocodiles being listed at a higher level of conservation risk (Endangered or Critically Endangered) than they are currently (Vulnerable). A recent study from the Northern Territory determined that culling estuarine crocodiles would not be an effective solution to reducing crocodile – human conflict (Baker et al. 2024). They found that the NT population of estuarine crocodiles would need to be reduced by 90% to reduce the rate of attacks by just one person per year. They concluded that an education and awareness program is a highly effective strategy in reducing attacks.

The egg harvesting and culling provisions in the Bill are concerning because there are no specific limits or quotas mention (e.g. as a proportion of the population). There appears to be no requirement for population monitoring before setting quotas and hence there would be no understanding of the level of impact. This could lead to overexploitation in some areas leading to impacts upon population recruitment and recovery.

Management Concerns

The centralised management authority structure will remove authority from experienced wildlife managers and has the potential to reduce flexibility at a local response level and result in bureaucratic delays in urgent situations.

The 48-hour response requirement is an unrealistic and unwise target that could:

- Create unrealistic public expectations about crocodile removal
- Lead to rushed operations that endanger both wildlife officers and the public
- Give a false sense of security in crocodile habitat

2. Misleading and Inaccurate information in Explanatory Notes & Second Reading

Details and data provided in the Explanatory Notes and Second Reading of the Bill (19th Feb 2025) are selective and misleading. Survey data of crocodiles in Queensland waterways indicate that the population of crocodiles in Queensland is not exploding and out of control. There has only been a modest increase in overall crocodile numbers in Queensland with some river systems showing no increase in the numbers of crocodiles. The authors of this proposed Bill also misleadingly draw on recent crocodile attacks in the NT to help justify a proposed management strategy for Queensland.

3. Implementation of this Bill will result in substantial impacts on crocodile populations and will likely have negative effects on ecosystem health.

As noted above, the level of culling required, essentially eradication of crocodiles from Queensland waterways to ensure public safety, will have a significant impact on their conservation status. It is also probable that culling will impact upon the social network and structure of the population through the removal of alpha males (Baker et al. 2021, 2023 & 2024; Barham et al. 2023). Moreover, removal of crocodiles will likely result in a top and bottom down impact at the ecosystem level as a consequence of a trophic cascade. In a recent study, Campbell et al. (2025) found that as apex predators, estuarine crocodiles influence the health of their ecosystem through both top-down (as apex predators) and bottom-up processes (via nutrient loading). It is reasonable therefore to assume that removal of crocodiles will impact upon ecosystem functioning through a trophic cascade,

as has been found in other ecosystems when apex predators have been killed and eradicated.

4. The Proposed Bill will potentially increase the likelihood of attacks by crocodiles

Implementation of the Crocodile Control and Conservation Bill 2025 will increase the likelihood and probability of attacks by estuarine crocodile as a consequence of promoting the premise that it is ok to swim in crocodile country. It is impossible to ensure human safety in crocodile country through crocodile culling, whilst still maintaining a healthy estuarine crocodile population (meeting the EPBC requirements).

Eradication of crocodile from an identified river system (crocodile free zone) is also problematic given that crocodiles are highly mobile. They can use the coastline to travel from one river system to the next and are able to travel upwards of 60 km in a day and hundreds of kilometres in a few weeks (Campbell et al. 2010). We have tracked crocodiles travelling 1000's of kilometres which renders a local eradication objective implausible. Therefore, it is irresponsible to claim that bodies of water in croc country are safe for humans to interact with, even with crocodile removal measures in place. Crocodile attacks still can and do occur in crocodile exclusion zones, which may create a false sense of security for locals and visitors.

5. Failure to incorporate an education and awareness program into the Bill

An education and awareness program is the cornerstone of reducing human-crocodile conflict yet the proponents of the Bill have failed to incorporate any such program. The emphasis on removal (culling and harvesting) rather than prevent through education and awareness will:

- reduce focus on essential public education and risk mitigation
- create an expectation that coexistence isn't necessary or possible
- lead to increased risky behaviour in crocodile habitat

Baker et al. (2024) reported that crocodile attacks on humans in the NT have reached a plateau over the last 15 years despite the population of crocodiles continuing to grow. This stabilisation of attacks aligned with the launch of the *Be Crocwise* public education program which has proven as effective as culling 15,000 crocodiles, but at a fraction of the cost.

The success of Queensland's *Crocwise* has had similar impact. The Queensland Estuarine Crocodile Monitoring Program (Department of Environment and Science 2020) demonstrated how the modest recovery of crocodile populations in a few localities in QLD has been achieved without compromising public safety. An independent review in 2021 (Possingham 2021) praised the success of the *Crocwise* education program for its pivotal role in reducing human-crocodile conflicts.

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