HEALTH, ENVIRONMENT AND INNOVATION COMMITTEE

Members present:
Mr R Molhoek MP—Chair
Mr JT Barounis MP
Ms SL Bolton MP
Ms K-A Dooley MP
Mr JP Kelly MP
Dr BF O'Shea MP

Staff present:
Dr J Rutherford—Committee Secretary
Miss A Bonenfant—Assistant Committee Secretary

PUBLIC HEARING—INQUIRY INTO THE CROCODILE CONTROL AND CONSERVATION BILL 2025

TRANSCRIPT OF PROCEEDINGS

Wednesday, 11 June 2025

Brisbane

WEDNESDAY, 11 JUNE 2025

The committee met at 9.02 am.

CHAIR: Good morning. I declare open this public hearing for the committee's inquiry into the Crocodile Control and Conservation Bill 2025. My name is Robert Molhoek, member for Southport and chair of the committee. I acknowledge the Aboriginal and Torres Strait Islander people of this state and their elders past, present and emerging. I also acknowledge the former members of this parliament who have participated in and nourished the democratic institutions of this state. Finally, I acknowledge the people of this state, whether they have been born here or chosen to make this state their home, and whom we represent to make laws and conduct other business for the peace, welfare and good governance of this state.

With me here today are: Mr Joe Kelly MP, member for Greenslopes and our deputy chair; Ms Sandy Bolton, member for Noosa; Mr John Barounis MP, member for Maryborough; Ms Kerri-Anne Dooley, member for Redcliffe; and Dr Barbara O'Shea MP, member for South Brisbane.

This hearing is a proceeding of the Queensland parliament and is subject to the parliament's standing rules and orders. Only the committee and invited witnesses may participate in the proceedings. Witnesses are not required to give evidence under oath or affirmation, but I remind witnesses that intentionally misleading the committee is a serious offence. I also remind members of the public that they may be excluded from the hearing at the discretion of the committee.

These proceedings are being recorded and broadcast live on the parliament's website. Media may be present and are subject to the committee's media rules and the chair's direction at all times. You may be filmed or photographed during proceedings, and images may also appear on the parliament's website or social media pages. Members and witnesses, please remember to press your microphones on before you start speaking and off when you are finished, and please turn your mobile phones off or onto silent mode.

HARDY, Mr Scott, Manager, Natural Resource Management and Climate, Whitsunday Regional Council (via videoconference)

WYATT, Ms Lenore, Deputy Mayor, Mareeba Shire Council (via videoconference)

CHAIR: I now welcome representatives from the Whitsunday Regional Council and Mareeba Shire Council who are appearing via videoconference. Good morning. I invite each of you to make a brief opening statement, for a minute or so, before we start our questions.

Mr Hardy: Good morning. The Whitsunday Regional Council made a submission to the bill in March 2025 in support of the crocodile authority establishment. I do have some notes here to read out as well. I start by saying that the Proserpine River has the largest population of saltwater crocodiles along the east coast. In 2018, the council engaged a contractor to conduct a survey of the Proserpine River where it found that, during a night-time survey, 301 non-hatchling individuals were mapped. There were 12 crocodiles over 4.6 metres and four over 4.9 metres. Crocodiles are an important tourist attraction for the Whitsundays. We have two very well-regarded ecotourism businesses in the Whitsundays that have a focus on crocodiles and crocodile education. We recognise that crocodiles are a tourist attraction in the Whitsundays, but they can also be a hazard.

Crocodiles are regularly sighted offshore at Airlie Beach and occasional off the Whitsunday islands. The presence of crocodiles in popular tourist locations and snorkelling areas may pose an increasing hazard and risk into the future. There is concern about the increase of crocodile interaction hazard and risk to residents and tourists. With an increasing and expanding population, more interactions are considered inevitable.

Council operates floating swimming enclosures at Airlie Beach and Cannonvale and, in the near future, the council will need to reconsider having these marine swimming enclosures. There is a growing interest in developing an urban crocodile management policy within council to help manage

the recognised crocodile hazard and risks. There is an interest in making sure that the review of the Queensland crocodile strategy at locations such as Airlie Beach have appropriate state government zoning to enable the management of crocodiles in urban foreshore areas.

In 2020, the council had three instances of fresh water crocodiles dumped in our urban lakes. We had one particular freshwater crocodile dumped in the lake on the Barron golf course. It was an extremely difficult process to get the permits to relocate this crocodile, but we did end up getting the damage mitigation permits and relocating this freshwater crocodile. It did cause a lot of community concern, even though there is a low risk of freshwater crocodiles to humans. Not everyone wants to have a round of golf with a crocodile. In 2020, the council wrote to the Queensland minister to request a review of the management of crocodiles in urban areas.

I would just like to finish by saying that there should be an investment into better signage and the ability for the public to report sightings. For instance, the use of QR codes on signs may help with the report of sightings, but also with the education of the public about crocodiles. Thank you.

Ms Wyatt: Thank you, member for Southport and committee chair, Robert Molhoek, and members of the Health, Environment and Innovation Committee for the opportunity to speak here today. I also want to thank Mr Shane Knuth MP, member for Hill, for introducing this bill and for listening to the voices and concerns of our communities in North Queensland in relation to crocodile management. I am here today representing the Mareeba Shire Council, a large and diverse local government area in Far North Queensland. That includes agricultural lands, river systems and populated townships like Mareeba and Kuranda.

As councillor and deputy mayor for the Mareeba Shire Council, I have been approached by many concerned residents regarding the increased presence of crocodiles in our region, particularly in farm dams and on private agricultural properties located in our zone F precincts. These concerns have included significant delays in the execution of crocodile removal, even after threats have been formally identified and reported, as requested by the department and as part of that crocodile management process.

To give a bit of background, historically, saltwater crocodiles were never part of Mareeba shire's natural ecosystem. Their presence in our eastern waterways is not native. My understanding is that this is as a result of escaped crocodiles from a crocodile farm along the Two Mile Creek area, dating back to the 1990s. The saltwater crocodile situation in Mareeba is a unique one. Nowhere else in Australia is our introduced, feral population on this scale of saltwater crocodiles. Surveys were conducted from 2017 to 2019, and they confirm this unique concern and ever evolving situation. The surveys found 23 saltwater crocodiles in the Two Mile and Lake Mitchell area, and suggested the real number could be 45. It was at that time Mareeba Shire Council successfully lobbied for the need for the recognition of a special zone, now known as zone F, an atypical habitat zone, stinted to areas that are not a typical habitat for saltwater crocodiles. Any saltwater crocodile found in zone F is automatically targeted for removal after a sighting has been confirmed, regardless of size and behaviour. I am told that up to four or five saltwater crocodiles have already been removed over the last seven to eight years. Our biggest concern, though, is that the remaining feral population may now be breeding in these locations. In 2021, Mareeba Shire Council successfully lobbied to have the inclusion of Lake Mitchell, an adjoining tributary, added to zone F mapping.

I would like to share with the committee a particular case that highlights the urgent need for reform. A local farmer contacted the Department of Environment, Tourism, Science and Innovation in January 2025 and reported a large crocodile in his farm dam. It is located in zone F. We are now in June and that crocodile has still not been removed. This delay is unacceptable and it causes real stress impacting the farmer's ability to safely operate on his property and putting his family and livestock at risk.

Saltwater crocodiles in the Mareeba shire pose a significant threat to human safety, productivity and wellbeing of our agricultural community. There is a wider community impact as this river tributary is only 15 kilometres from our Mareeba town centre. The presence of crocodiles in these unexpected areas affect families who no longer feel safe swimming in local creeks, children whose parents will not let them fish or swim in the once safe waterways and, importantly, our agricultural sector which now has to consider crocodile safety when accessing water and infrastructure or moving their livestock. Tourists also feel unsafe to explore and travel in our shire.

I also want to acknowledge our local Indigenous community in Kuranda who have told me they want their children to once again safely swim and fish in the Barron River, as they did when they were young, without the fear of crocodiles. The elders stated that they feel this will directly reduce youth crime.

Our key requests: Mareeba Shire Council strongly requests a review of the current operational framework, delivered under the Crocodile Management Program. We support the bill's recommendation that the advisory body be established and based in Cairns. This makes sense as 80 per cent of the state's crocodile population is located north of Cairns. The LGAQ has also recommended the advisory body includes representation from local government. We also endorse this recommendation. Also, reducing the significant delays in the execution of the removal of saltwater crocodile and additionally for the crocodile management to be effective in our region, we respectfully request the committee's support for the extension of crocodile management zones.

I would like you to refer to a map that I think you may have in front of you. This is the first map. This is the zone F area on the map, the green area. You can see quite a small orange line. That is the Mulligan Highway. We have the Barron River tributary and this is not under zone F. As you can see, it is absolutely in close proximity to zone F where we have recognised saltwater crocodiles. This Barron River tributary runs all the way down to Kuranda to Din Din Falls, and this is where the concern lies with the easy access of a saltwater crocodile, especially in floods like we had with Cyclone Jasper. Where the two waterways meet there is a concern that there are saltwater crocodiles in there. That gives you a bit of an idea.

The other map that you have is just a reference to show you all the waterways that come from the Barron River. We still have zone F there. We have Mareeba, which, as I said before, is only 15 kilometres from where zone F is. You have Biboohra, is a small populated town in our shire. That is the Barron River marked in orange going all the way down to Kuranda and what we call Kuranda falls, Barron Falls. There are a lot of populated areas, a lot of agriculture and a lot of lifestyle blocks along that creek. Hopefully, that makes sense from afar.

We have said here, based on local observations, that residents are reporting an identified risk pathway from Two Mile Creek to the Barron River, especially during the wet season. I have shown you the maps, and expansion of zone F within Mareeba shire to include the Barron River catchment above what I reference there as Din Din Falls, which includes the Kuranda area and the Barron reach.

In conclusion, crocodile management in Mareeba shire is not about fear; it is about fairness and safety. We are not asking for crocodile eradication, but we are asking for a more responsive and place-based approach to crocodile control that protects both people and the long-term sustainability of our natural ecosystem and the future of our agricultural industry in these identified areas I have spoken about today. Thank you again for the opportunity to speak today. Like Scott, I welcome any questions.

CHAIR: Thank you. Before we go to questions, I acknowledge the arrival of the member for Hill, Mr Shane Knuth. Thank you for joining us. I would like to start with a question and then I will go to the deputy chair for a question. Just for clarity, you mentioned that the issue in Mareeba is saltwater crocs.

Ms Wyatt: Correct.

CHAIR: That is actually quite unusual because saltwater crocs would normally be further north or in the Northern Territory; is that correct?

Ms Wyatt: The saltwater crocodile situation here in Mareeba, as I said before, is a unique one. We believe those crocodiles are in that area as there was a croc farm on that river tributary. We have had crocodiles removed from dams and we have also had crocodiles removed from our sewage treatment plant and, unfortunately, we also had a saltwater crocodile burnt in a cane fire beside this tributary. A gentleman went to grab it to protect it and it actually bit him. That is when we started this. We have crocodiles in their natural environment in the western parts of our shire. I want to be very clear that in the western parts of our shire we have crocodiles in their natural environment.

CHAIR: Are they saltwater or fresh water crocs?

Ms Wyatt: They are saltwater. Council also did a point-in-time survey in the Barron River tributary. We can confirm that there are freshwater crocodiles in the Barron River tributary.

Mr J KELLY: In relation to the zones that you have referred to in the Mareeba shire, in zone F there is currently an automatic removal of crocodiles; is that right?

Ms Wyatt: Yes, they are definitely targeted for removal. Our concern has been that this reporting has taken six months. I have been told the crocodile is quite elusive. I am also told it has left the dam and has gone back into Two Mile Creek. We do not really know where that 3.5 metre animal is. You can imagine all the farmers in that area are now quite concerned to carry out what they have to do to make a living.

Mr J KELLY: Is that what you are referring to as the western part?

Ms Wyatt: No, not at all. When I say the western part, that is west of Chillagoe. Where we are, that is where the Mitchell River starts. Where I have showed you on that map the Two Mile Creek area, the green, that is where the Mitchell River tributary starts and that heads out to the gulf. We are quite unique here. The Mulligan Highway that I showed you on the map is the road that we drive on. That actually splits the western water and the eastern water which is the Barron River that goes out to the Great Barrier Reef.

Mr J KELLY: You have here a proposed expansion of zone F. Can I clarify who declares these zones; is it DETSI?

Ms Wyatt: The last time we actually asked for the zone to be extended over basically a massive dam that came off the Two Mile Creek we wrote to Leanne Linard. I am not too sure who actually approved it, sorry. I could probably get back to you with that. It would have been DETSI or a parliamentary committee, I am assuming.

Mr J KELLY: It is a designation from the state authority?

Ms Wyatt: Absolutely.

Mr J KELLY: You mentioned that there is quite a delay in reporting a crocodile on a property and DESTI coming to remove that crocodile. Can you give any indication of how long on average that delay is?

Ms Wyatt: What happened was when we first recognised that there were crocodiles in this tributary back in 2017 I had a sign put there. Just to give you the quick background, the farmers used to say, 'Look, we don't care. No-one cares about us up here.' We really asked them to step up and start reporting, and they have. They do what is requested of them. As soon as they report, DETSI come up, but it is the delay in the actual removal—whatever it is; it can be removal to farm, it could be culling. I know for a fact that they tried to harpoon this particular crocodile. They have tried to cull this crocodile, because it is so elusive.

Mr J KELLY: A final question from me, and it is open to either presenter: reading through the Whitsunday submission and its support for the bill, if a waterway in a populated area was declared as complete crocodile removal, would there still be a risk and would people falsely assume that it is safe to swim in these areas where it is perceived that there has been the complete removal of crocodiles?

Mr Hardy: I think there is always going to be a need for signage and community education. One issue we have found in the Whitsundays, particularly around Airlie Beach, is people are very keen to document and publish photographs of crocodiles in Airlie Beach at the marinas and on our beaches. It is probably not fantastic for our tourism to have saltwater crocodiles on our main tourist beaches. There is probably some reasonable support to keep the crocodiles in the Proserpine River in their natural habitat. It is a wonderful ecosystem for them there. The problem is there seems to be an increase in the number of saltwater crocodiles migrating out of the Proserpine River towards populated areas such as Airlie Beach and out to the Whitsunday. I think there needs to be a balance. We need to document the hazard a little bit better. We—being council or the state government—probably need to be doing more crocodile surveys to get a better handle on where the crocodiles are, the population and the population growth over time, and have some mechanisms in place to relocate the crocodiles when they come into urban foreshore areas.

Mr J KELLY: You mentioned reporting. Do you think there is a good awareness or use of the application that is available through the department of environment for reporting crocodile sightings?

Ms Wyatt: I feel that in our unique situation we have really encouraged people to report and we have also had representation from the department up here talking to our farmers, which is wonderful. I think that perhaps there is a little bit of complacency as well. We really need to keep educating people—I think we should never stop educating people—about the reporting processes if they are to remain in place.

Ms DOOLEY: Thank you for your presentation. Do you have data about attacks in your council regions that is different to department data?

Ms Wyatt: No, I have no data on attacks.

Mr Hardy: For Whitsunday, we do not have any data on attacks either.

Ms BOLTON: From what you have said, the main issue appears to be that it is not when it is reported because a team does go out; it is actually finding the crocodile and that is what is taking time. If that is the case, what would the difference be in having a crocodile authority based in Cairns versus what is occurring now?

Ms Wyatt: I am happy to say, as I said to you before, that in terms of the crocodile I talked about before in the farmer's dam, the department has made the decision to try to cull the crocodile. I would like to talk further with whatever advisory group it is in relation to the farmer having some rights as a licensed weapon holder who is there all the time to—with a little bit of red tape, because I know we are trying to reduce red tape in government at the moment—have the opportunity to be able to cull that animal themselves.

Ms BOLTON: In terms of having an authority based in Cairns, I am still trying to understand the difference?

Ms Wyatt: The reason is that the majority, over 80 per cent, of crocodiles are north of Cairns. They are well represented, put it that way.

Ms BOLTON: Yes, but is it not just a phone call for reporting? I am trying to understand the difference.

Ms Wyatt: I feel like you could have local representation in the areas that are most affected. I mentioned before the LGAQ.

Dr O'SHEA: I have a quick question to Scott in the Whitsundays. What zoning in terms of the Crocodile Management Plan is currently in place in the Whitsundays around Airlie Beach?

Mr Hardy: I cannot remember the letter of our zone, but the intent of the zone is not to remove small crocodiles in urban areas unless they pose a threat to humans and to encourage residents to become more crocwise. That is the intent of the zoning. We would like to have that reviewed and have the ability to remove saltwater crocodiles when they come into our urban foreshore areas, particularly the high tourist locations.

With the report of the sightings as well, we get a lot of international tourists who are not aware of crocwise and the process of reporting either, so I think more signage, making it easier to report sightings and croc education is really important for us in the Whitsundays. It is not obvious how to report croc sightings if you are a tourist from interstate or overseas, so I think we need an easier process to get better data. I do think we need more regular surveys of the crocodile population in areas like Pioneer Bay, Airlie Beach and possibly the Whitsunday islands.

CHAIR: I have spoken to the member for Whitsunday, Amanda Camm, quite a bit about this. She had a lot of praise for the operators in the Proserpine River and strongly recommended that we go up and have a look, but we did not have enough time in our schedule to get there. I do have one quick question, Mr Hardy. I understand that crocs are quite territorial. In evidence that we heard in Cairns, one of the witnesses said there is basically one dominant croc every kilometre or so. You mentioned before that in a previous survey of the Proserpine River you found 12 over 3.5 metres. Are they that territorial? Would there be one per kilometre, or would there be hundreds of crocs up the river? What is the sort of scale or the number of crocs that would inhabit that area?

Mr Hardy: The 2018 survey found 301 crocodiles.

CHAIR: They were hatchlings, were they not?

Mr Hardy: Nonhatchlings.

CHAIR: Sorry, I misunderstood.

Mr Hardy: That is juvenile to adult ones. The survey did not count hatchlings. Juvenile to adults: 301 individuals. Four of those were over 4.9 metres. According to the consultants we use, what happens with crocodiles is that they are territorial, and as the population increases the juveniles and the young adults will be pushed out of the territories to find new habitats. From living in the Whitsundays for 30 years and working for the council for 20, my observation is that we are seeing more crocodiles migrating out of the Proserpine River north and south and off onto the island areas. We are getting more crocodile sightings at Airlie Beach and Cannonvale, particularly over the last 10 years. They do not appear to be big individuals. Equally, we do not want them to be big individuals around Airlie Beach.

CHAIR: Thank you. We will now move on to our next group of witnesses. Thank you for joining us today. We appreciate you giving up your time.

FRENCH, Ms Amanda, President, CROC Queensland

GRIGG, Emeritus Professor Gordon, Scientific Advisor, CROC Queensland

IRWIN, Mr Bob, Conservationist, CROC Queensland

LIVINGSTONE, Ms Alix, Founding Director, Defend the Wild

WARD, Ms Kirstiana, Managing Lawyer, Environmental Defenders Office

CHAIR: Good morning and welcome. Please remember to press your microphones on before you start speaking and off when you are finished. Who is going to kick it off with a brief opening statement?

Ms Ward: Good morning, Chair and committee members. The EDO has significant expertise in crocodile law reform. We appeared as a witness to the Safer Waterways Bill in 2018, we have developed proactive reforms implemented by the state government in September last year and we have been deeply involved in the review of the Queensland Crocodile Management Plan. We also engage directly with communities living in crocodile habitats, providing legal education and outreach to understand key issues around coexistence. I speak today not only as a legal practitioner but also as a long-term resident of Cairns. I raise my children in crocodile country. I understand firsthand the complexities of balancing conservation, safety and community expectations.

We are deeply concerned that this bill risks undermining Queensland's current crocodile management framework and may render the Commonwealth's Wildlife Trade Management Plan inoperable. At the Commonwealth level, saltwater crocodiles are protected both under the EPBC Act and through CITES obligations. The Wildlife Trade Management Plan is a legally binding document and sets out clear conditions such as a capped minimum of 3,000 eggs may be harvested annually, all harvesting, culling and movement must comply with the Australian code of practice in a humane way and all harvesters and people interacting with crocodiles must meet strict competency standards under that code.

Importantly, the Wildlife Trade Management Plan incorporates Queensland's statutory plans by reference. It is a cooperative, bilateral framework that relies on Queensland's regulatory process for implementation. At the state level, the Nature Conservation Act, the conservation plan and the Crocodile Management Plan provide a well-established and balanced framework that supports both public safety and threatened species protection. This bill disrupts that alignment. It introduces a separate regulatory regime that overrides existing laws. For example, section 10 of the bill: empowers the director to determine egg harvesting limits, potentially ignoring the trade management plan cap; lowers competency thresholds for harvesting; and grants unilateral authority to kill crocodiles outside of the current problem crocodile framework. Critically, section 4 of the bill states that this bill will prevail over any other act. It cannot operate harmoniously with Queensland's existing laws. Overriding them jeopardises the validity and enforceability of the Wildlife Trade Management Plan and our Queensland nature laws.

The Environmental Defenders Office submits that the committee should reject this bill. It not only duplicates the law but also creates direct and confusing inconsistencies that undermine the bilateral state and Commonwealth framework. From our experience working with communities, including those recently affected by crocodile incidents, we know that the most effective strategy is education and respectful coexistence. Law reform should support community-led safety measures and culturally appropriate approaches, not deregulate protections in a way that increases the risk to both people and crocodiles. We urge the committee to uphold Queensland's role within the nationally coordinated system and avoid introducing conflicting laws that weaken existing protections and obligations. I welcome the opportunity to answer any questions. Thank you for allowing me to present today.

Ms French: We are a Queensland-based collective of scientists, conservationists, tourism operators and First Nations stakeholders committed to shifting the public conversation about crocodiles from fear to fact. By design, we have become a leading voice for human-croc conflict in the Queensland media. We can already see a massive shift in the public awareness on managing their own risk in crocodile country thanks to delivering evidence-based information. Our mission focuses on promoting personal responsibility, because research consistently shows that crocodile removals do not impact safety. In fact, they create a power vacuum that is often filled by unknown and potentially more dangerous crocodiles. This leads the public into a false sense of security. The

proven solution, as Kirstiana mentioned, is education and behavioural change, not culling. This is an important time to raise conversations such as culling crocodiles in the Fitzroy River to host Brisbane Olympic rowing events. What a liability to say 'it is now safe to get in the water', because it is not.

A key turning point for why we started our campaign was a high-profile conflict incident that occurred in 2023 in the Indigenous community of Wujal Wujal. A man from outside the community, while filming on a GoPro, entered the water in speedos and lured his dog into the river, approaching a 4.1 metre crocodile. His dog was killed instantly. The man walked away with a scratch, but the crocodile, a highly totemic animal to the local community, was destroyed. No penalty was issued to the man and no educational response by the department followed. Instead, the man monetised the footage online—and still does today—while the community mourned the loss of what elders described as a brother or uncle. Six months later, a new, larger male was reported at the boat ramp whose behaviours was not known by that community.

That incident exposed a legal loophole. A listed threatened species was destroyed while reckless human behaviour went unpunished. With legal support from the Environmental Defenders Office, we pushed for law reform. In September 2024, the Queensland government responded, strengthening penalties where intentional behaviour could be proven. That followed the fatality of a tourist in Cooktown, who died at the hands of a crocodile that had been habitually fed for photo opportunities at that location. Since then, one of the most positive shifts we have seen is in language. The media now use the term 'reckless behaviour' instead of 'problem crocodile'. This is crucial in changing the public's understanding because we cannot change a crocodile's behaviour, but we can change our own.

The reality is that most incidents in Queensland are caused by people ignoring safety advice, yet this bill implies crocodiles are the problem, not people. We need to look at the facts. Australia is home to the highest density of saltwater crocodiles across the range of the species yet has the lowest rate of crocodile attack. According to the worldwide crocodile attack database, Australia had just 11 crocodile fatalities over the past decade, seven in Queensland. By contrast, Papua New Guinea and Indonesia, where crocodiles are also abundant, had significantly higher attacks, with Papua New Guinea having 369 fatalities and Indonesia having 556. Importantly, nearly a third of those attacks were in regions where with people use waterways for basic water needs such as washing or collecting water. In Australia, where water use is mostly recreational, zero attacks have occurred under those circumstances. It is really important that we look at the facts. Densities do not relate to crocodile attack frequency and culling destabilises ecosystems. Recent modelling by Cameron Baker from Charles Darwin University shows that, to impact a single crocodile attack statistic, populations would need to be reduced to new extinction levels again.

CHAIR: In the interests of time, would you be happy to table the rest of that statement so we can get on with some questions?

Ms French: Yes. I was just going to introduce Professor Gordon Grigg and Bob Irwin as leading experts in the next phase.

CHAIR: I would like to go to Mr Irwin first if I can, because your experience is well documented and you have quite a reputation. Both the member for Redcliffe and the member for Noosa indicated they want to get selfies with you after the hearing today. Mr Irwin, one of the questions I want to ask is about a quote that has been resonating with me since it was first stated in Cairns by one of the people involved in the management of crocs up north. They suggested we do not actually have a crocodile problem; rather, we have a people problem. I am interested to know your thoughts on that.

Mr Irwin: Certainly. Thank you for the opportunity to be here. I am speaking in a practical sense, not a scientific one. I have been involved with crocodiles now both in captive situations and in the wild for more than 40 years, which is a long time. Both Steve and I learned from the word go that, if you want to be successful with anything you want to do with crocodiles, you have to get inside their head—figuratively speaking—which we did. We spent a lot of time doing nothing else but observing what crocodiles do and what they do not do.

The frustrating thing for me is that we have been in this situation before where somebody has called for the culling of crocodiles. The maddening part about it is that we do not listen to the researchers and scientists such as Professor Grigg and Professor Craig Franklin who have spent their lifetimes working on crocodiles. It would seem sensible to me that we should listen to those people who know what they are talking about.

The thing that I have learned over the years—and I think most people in the industry will back me up—is that crocodiles over three metres generally speaking will have a territory. They will protect that territory vigorously. If any other smaller crocodile comes within that area then they are just as

likely to kill it. If we are going to cull crocodiles and we cull the big ones from three metres to five metres, the so-called problem crocodiles, what we are going to do is take the apex predator out of that area and within a matter of a very short time you are going to have these juvenile delinquent crocodiles move in because there is nobody to stop them. Culling crocodiles is a pointless exercise—absolutely pointless. It is not going to achieve anything. You are never going to be able to say to the general public, 'You can swim in that river now' because you will not ever know, will you, that there are crocodiles still there.

My major point is that the government should listen to what the researchers and the scientists say about what needs to happen. Obviously if you have a crocodile problem within an area, and it might be at a boat ramp or somewhere where people exercise their dogs or whatever they may do, then certainly that crocodile needs to be removed. I am not against that. That has to happen for the safety of people. You will also find if you go through the records that 90 per cent of the people who were taken by crocodiles have done irresponsible, stupid behaviour like swimming in a river with a dog next to a crocodile sign. Who gets the blame for that? The crocodile does. The crocodile pays the ultimate price, which is euthanasia.

To my way of thinking, we need to increase the education of people. That is the only way we are ever going to succeed. Thank you.

CHAIR: Thanks, Mr Irwin. We will go to Defend the Wild for a very brief statement. I am particularly interested in your comments in your submission around the code of practice.

Ms Livingstone: I thank the committee for hearing evidence from us today. Defend the Wild is a not-for-profit organisation dedicated to the protection of Australia's apex predators. Today we speak on behalf of a variety of stakeholders regarding the welfare of crocodiles in farms. One of the key objectives of this bill is to expand Queensland's crocodile farming industry. Whilst the economic lens is often the one that dominates these discussions, we are here to elevate the growing public concern for the animals whose exploitation and death this industry relies on.

In 2021, the global community was horrified as it saw inside five Australian crocodile factory farms—facilities owned by international luxury fashion houses. Rows of crocodiles were confined in isolation pens, with no enrichment, barely larger than their own bodies. These animals are unable to express natural behaviours. They are kept this way to avoid skin blemishes before being sorted at just two to three years of age. At this point, crocodiles are electrocuted, a bolt gun is shot through the top of their head and their spinal cord is severed before a rod is forced into the incision to scramble their brain. Their bodies are turned into fashion accessories for the global elite.

Our short film, *Skin Deep*, shares the story of one former crocodile farm worker, Jaru man Donny Imberlong. His account, particularly his sadness at the plight of large long-term breeding crocodiles, is shared by many others. Over the past four years, we have heard from many former workers who have voiced concerns around the industry's treatment of crocodiles, the routine killing of relocated crocodiles and escapees disrupting wild populations.

Australians and the global community are increasingly unwilling to accept the exploitation of wild animals for profit, especially when those animals are capable of suffering and have a cultural, ecological and intrinsic value. There is a growing movement towards next-generation, more ethical and sustainable materials. The RSPCA, which is considered a leading authority on animal welfare, has outlined strongly the incompatibility—

Mr J KELLY: Excuse me, Chair. All of this is contained in the submission. I would really like to get to questions. I am sorry to interrupt.

CHAIR: I am happy for you to table the statement. I was particularly interested in your comments around the code of practice.

Ms Livingstone: The federal code of practice?

CHAIR: Yes.

Ms Livingstone: The federal code of practice was nine years overdue, on being reviewed. That was reviewed last year. We are waiting for that to be shared publicly. Essentially, crocodiles were not afforded space the length of their own bodies in factory farms. This bill is directly seeking to increase factory farming of crocodiles. We want to highlight the issues around crocodile farming if there was to be an increase. We just heard from the Mareeba Shire Council that there were escapees and a population in that area. I think that should be taken into consideration when we are thinking about a bill that is going to have a direct impact on that.

Mr J KELLY: This question is to Emeritus Professor Grigg and Bob Irwin. One of the criticisms that has been put forward by several people who have made submissions to the bill and the member who presented the bill is that people who do not live in areas with crocodiles in their waterways cannot have an opinion on these matters. How would you respond to that?

Prof. Grigg: I did not quite hear the question. Would you mind repeating it?

Mr J KELLY: There is a statement often proffered that people like yourself, and I assume you do not live in a crocodile area, who live outside of an area where there are crocodiles naturally occurring cannot have an opinion or proffer any advice or opinions around how to manage crocodiles. How do you respond to that?

Prof. Grigg: I can speak on my own behalf. I live in Brisbane. I started working on crocodiles 50 years ago with Harry Messel. I also lived in Sydney. I spent a hell of a lot of time in the Northern Territory when I was working with him and then when I moved to the University of Queensland I spent time at Pormpuraaw and elsewhere in Queensland. I feel I have been having close-up familiarity with crocodiles for many years. Because I happen to have lived in Sydney and Brisbane and, therefore, somehow am disqualified from having an opinion about crocodiles—

Mr J KELLY: And presumably the title 'emeritus professor' suggests you have a PhD and you have done extensive study that has been validated in the way that other PhDs are validated?

Prof. Grigg: I have a PhD and a DSc. I have written a book about that thick and a lot of crocodile biologists refer to it as 'the bible'. It took seven years to write, while living in Brisbane.

Mr J KELLY: It would probably take me longer to read, I have to be honest.

CHAIR: For the benefit of Hansard, it was about three inches thick, I think.

Mr J KELLY: Kirstiana Ward, in your submission and in your opening statement you mentioned that the bill, as put forward, would contain provisions that are in conflict with federal legislation. Would that render this bill challengeable in a higher jurisdiction?

Ms Ward: Potentially. On the face of it, there is insufficient information contained in the bill to say how it will comply. It must comply but, procedurally, will it be able to ensure that there is no inconsistency that would create an invalidity under the Constitution, section 109? We would not know until it was operational. However, because the Wildlife Trade Management Plan does incorporate state-based statutory instruments, it also needs to align with those. Because section 4 of the bill overrides any other state-based legislation it is inconsistent with, I cannot see a way clearly, and that is the concern, how this crocodile authority would be qualified and capable enough to make sure that every operator they are saying should be able to implement any type of culling and removal is consistent with what is set down in the Australian code, is consistent with what sits in the Wildlife Trade Management Plan and is consistent with our obligations under CITES, which have been adopted into our state-Commonwealth legislation, the EPBC Act. We just do not know. Because we do not know, we do need to apply the precautionary principle and acknowledge we have state-based provisions, bilaterally agreed, that allow us to work in compliance with those obligations and we are moving forward with proactive law reform to make things better, both safer for the crocodiles and safer for people.

Mr J KELLY: Given the recent funding cuts by the state government to the Environmental Defenders Office, how would this impact on the capacity of the Environmental Defenders Office to prepare and assist in cases of that nature?

Ms Ward: We do not spend a lot of money doing what we do. We went out on the road and did outreach together, collectively sharing rooms, so we can do this work. While we can operate on very little, without anything from the state government I do not know who is going to be positioned and able to provide through community legal centres free legal advice for vulnerable communities on animals and protected species moving forward. We engage with government, as you would know, on many levels as stakeholders and advisers. If we are not able to sit at tables such as this, giving valid real-time experience and lived experience—I am in crocodile country with a son who is 14 and an avid fisherman—I do not know who will sit at this table and help groups such as these advance holistic, collective community responses with scientists, conservationists, lawyers and First Nations communities sitting at the table, coming together with government for solutions that we need moving forward.

Ms DOOLEY: My question is directed to each of you and it requires a simple yes or no answer. Were you consulted at all in the drafting of this bill or any versions of previous bills?

Ms Livingstone: No.

Mr Irwin: No.

Prof. Grigg: no.

Ms French: No.

Ms Ward: No.

Ms BOLTON: Bob, you said you have spent many years trying to get into their heads and obviously, Professor Grigg, you have as well. Given that you do support removals and that we have heard that it can be difficult and take a long time to actually find the crocodile to remove it, have you found any way in which to do so that would alleviate a lot of concerns?

Mr Irwin: No. While we were working in the wild to remove so-called problem crocodiles that were being a little bit naughty, this took many years. We worked in conjunction with the national parks and wildlife department in what we were doing. To my way of thinking, if you have experienced people then finding the problem crocodile is not a worry. It is fairly easy and in some cases it is extremely easy because the crocodiles that are classed as a problem are generally only a problem because of people—either people cleaning fish at boat ramps or some young idiot trying to make a name for himself or prove himself to his girlfriend, which has happened fairly recently. You will find that those crocodiles that have to be removed are quite bold so they are easy to find and they are easy to capture if you have experienced people. National parks and wildlife in North Queensland do have very experienced people working on that problem.

To my way of thinking, the problem that we are faced with is that if we have to remove a large crocodile in excess of 3½ metres, or whatever it might be, then what do we do with it. Both Steve and I and all the other experienced crocodile people have realised that relocating large crocodiles does not work. Because they have a territory, they will always try to go back to that territory no matter where you release them. The alternative is zoos, which are full, crocodiles farms, which are full, or euthanasia. Those are the options. It is not a problem to catch that crocodile. It is quite simple.

Ms BOLTON: Professor, do you have anything you would like to add to that?

Prof. Grigg: I have a three-minute statement here that I would absolutely love to give to the committee. It deals with something completely different but very important.

Ms BOLTON: I will have to hand over to the chair. He makes those decisions.

CHAIR: We are out of time. Is it written? It can be tabled.

Prof. Grigg: I should table it.

CHAIR: Are you happy to table it and we can take it as read? You are welcome to make a brief comment about the statement, but we are out of time.

Prof. Grigg: This is pretty brief. Essentially, the thrust of this statement is about the impossibility of the task that the bill proposes. I systematically go through the reasons why.

CHAIR: If you are happy to table it, we will seek leave from the committee to publish it. We will make that available for the record. We do need to keep moving on. I am sorry but we have so many people who want to appear today. I would like to thank you for your time.

BENSTED, Mr Rosco, Private capacity (via teleconference)

YANNER, Mr Murrandoo, Community and Stakeholder Officer, Carpentaria Land Council Aboriginal Corporation (via videoconference)

CHAIR: I now welcome the representative from the Carpentaria Land Council Aboriginal Corporation and Mr Rosco Bensted. Rosco is on the phone and the land council is on video. Mr Bensted, would you like to make a very brief statement before we go to questions?

Mr Bensted: I will give a brief overview of my submission. I think this bill presents a great opportunity to properly manage Far North Queensland's burgeoning estuarine crocodile population which has had an effect on the everyday life of those living between Cairns and the Torres Strait. Crocodiles have also had an adverse impact on tourists who travel into this area. Overseas and interstate visitors often lament their inability to go for a swim in a creek or a river which they say tarnishes their once-in-a-lifetime visit to the Tropical North. This situation has not always been the case though. Not so long ago anyone could swim in the freshwater rivers and creeks between Cairns and the tip, but today you would be risking your life and would almost certainly be attacked by a croc.

Local community lifestyles throughout Cape York have been affected by large numbers of crocs, so much so that they are unable to swim in any water around their communities. Fishing is a long-held necessity of life for these communities and that has now become a dangerous task. The Wenlock River fronts Australia Zoo's nature reserve and, according to Weipa sources a couple of years ago, had 140 tagged crocodiles living in a one-kilometre stretch of the river at Stones Crossing. How many untagged crocs were present is unknown. I recommend to the committee that this bill should be passed by parliament as soon as possible. Thank you.

CHAIR: Thank you. Now to the land council and Murrandoo Yanner.

Mr Yanner: Firstly, thank you for the opportunity to speak today. You have our submission, but I would like to offer the gulf as a pilot project in the near future. I have grown up here. I was born and bred here. I eat from here. I have lived here my whole life. It is obviously the crocodile capital. We manage to fish and hunt amongst prolific numbers of them, but we have also hunted them our whole lives.

To the Greens, I do not think they bring a holistic argument. You do not get any more green than we do. We have a very healthy population here. I believe there is an opportunity for culling because across the state they are in magnificent numbers. That cull obviously can only be done after we have proper scientific data. I think the best people to do that are your TOs and your Aboriginal ranger groups.

What we are arguing for is almost insignificant in the sense that under native title federal laws we can hunt crocodiles today without any permit authority. We could be doing a culling program now with tourists commercially etc. I think the state needs to get on board so it can be managed better. Otherwise we will be doing it anyway. There is no greater group to do it because, as I said, we hunt and eat them. We are not in the camp that just wants to totally cull them. They are of great cultural significance and they are in good numbers here. We manage them very well.

It is a big one for the state. I would like to offer my country, the lower Gulf of Carpentaria, around Burketown to the Territory border, as a pilot project. If it is going to take too long for the state to sort it out, let's do it under the existing federal native title laws. Let's do it properly. We will have CSIRO, or whoever, come in. Our rangers have been doing a lot of baseline data on crocodiles here in the region for many years. We would have the scientists come in and work with us. You would look at a river and work out what a sustainable population of males and females is. You would get those details and from there you would allocate the cull.

There is no need to even kill them. I came up with a concept called 'green cull'. When you have big problem crocs, your method in the mainstream world today is to haze them—to shoot them with rubber bullets, which pisses them off, if anything. It is like shooting a wounded bull or something. A 'green cull' is when you capture a big fella alive with a harpoon and a rope and then secure him. Then you would find out their sex, but to do that you have to fist them. After that, no crocodile is going to want to come near a human again for another few years! It is like aliens who kidnap people and do weird things to them.

I think we manage crocs here pretty well. You have deaths in Cape York and you have deaths in Arnhem Land on both sides of the gulf, but here in the lower gulf where I live there has never been a death by crocodile, yet we are as much amongst them daily as anyone else. The one deciding factor

I think is that we do have a level of native hunting here, and that has been a great deterrent. I would like to offer up our region and our organisation to work with you to see if we can actually do something practical, realistic and scientific that tries to answer the problem.

CHAIR: We might just go to some questions because we are under a bit of time pressure.

Dr O'SHEA: We have been hearing this morning that if large crocodiles are removed then younger, possibly more aggressive, crocodiles come into their territory. Have you found that with the hunting that you have been doing?

Mr Yanner: I think what happens is a bit like the mafia movies. When the head of the mafia gets knocked over, rather than a smooth succession you have 10 young capos all battling it out, so the water becomes a bit bloody for a while there. That has been known to happen. There are plenty of them here. Worse than that is, if you do remove them—Steve Irwin proved this. He removed one from the gulf side and took it to the east coast above Cairns and released it. It took a few weeks, but it came back to exactly where it was released. Not only is it not successful to remove a problem croc, but it is very cruel because, if you release him somewhere else, he has to swim a long way back home and go through the territories of a lot of other big male bulls that will try maul and kill him.

Ms BOLTON: You said a couple of times that where you are you manage them very well. Besides your other points—that there needs to be more data collected et cetera—was there anything else? If you are already managing it well, there is obviously no need for change; is that correct?

Mr Yanner: They are increasing. What I am saying is that there is no need for legislative change to hunt or cull them. We could organise that under the native title legislation. Today, where there has been successful determination, we currently have the right. That was my point on that.

Ms BOLTON: If you already hunt them and there has been an increase, why has there been an increase or why are there concerns around the increase?

Mr Yanner: I think the reason there is an increase is that, while some of us still hunt them—more than anywhere else in Australia—there has been an impact from colonisation. It is not a standard practice across the gulf as it used to be and as it is, say, for dugong, turtle and goannas. That is very common. For crocodiles it is not so common. More importantly, we used to harvest the eggs a lot, too. Today we are mostly eating juvenile young or a large problem croc. If it starts stalking people, we will kill it and eat it or we are eating smaller crocs. We used to harvest eggs a lot more, too, as did people in general. Now there is very little of that. That also increases the numbers. If you remove the human from the ecosystem—we predated on them but we also harvested a lot of eggs, so that was a natural cull, if you could call it that. We trimmed the numbers a fair bit through harvesting the eggs. There is a lot less of that going on in the Aboriginal communities in the gulf where it was once far more prevalent.

Ms DOOLEY: Thank you for your presentation this morning. We do get a lot of diverse views, so it is refreshing to hear your view as well. We do get conflicting reports about numbers of crocodiles. DETSI would report there are around 10,000; others report there are 100,000. That is a great diversity. Could you speak to that and how you measure numbers in the gulf country? You say there are magnificent numbers. Is it closer to the 10,000 or closer to the 100,000?

Mr Yanner: I would say it is closer to the 100,000. That could even be a fiscally conservative number. To be really conservative, you would say between 10,000 and 100,000. There are probably a good 3,000 to 5,000 just between Normanton and the Territory border alone, just in the lower gulf here. I would find it amazing that there would be anywhere less than 100,000 if you took up the whole of the cape and back down to the Queensland border. That is just from me physically being on the river here and by chopper doing council work. One river alone here which is only 30 kilometres long has probably 30 to 40 large males and each of them has 10 large females. Then you have all the juveniles. You are talking 500 plus in one river alone.

Ms DOOLEY: That is anecdotal evidence.

Mr Yanner: Yes, anecdotal.

CHAIR: I think we might wrap things up. Did you have a question, Deputy Chair?

Mr J KELLY: I am well aware of your famous crocodile case that you pursued and won the right under your native title rights to harvest and to continue traditional hunting practices including crocodiles. I note from your submission and the other gentleman's submission that desire to do hunting of crocodiles in a version of ecotourism. From a practical perspective, how do you determine in your group who has those rights to go and hunt as a traditional owner? What is the mechanism of determining that? Then how would you extend that to tourists coming in?

Mr Yanner: That is why the native title, PBC—prescribed body corporate—so when a claim is determined in Australia as successful, the court demands that a group be established by the successful group—a tribal corporation, a tribal council—and that is based on the claim and the customs and the culture. People have to have the customary right. The young uninitiated men in my clan or tribe probably would not have the right, and even then, amongst say a particular area or beach, there will be a senior person—there will be 100 TOs or other young blokes, but he will have the say. We call it a mayutju, like a clan leader. There are several clans in a tribe, so that is why you have to tie it in with native title. You have to use the words 'customary law' and 'authority', otherwise you will have these young punks, black, white or brindle, even in our own culture, running it. They do not have the years of experience. With that authority comes responsibility, not just rights—responsibility and experience. So that is why you definitely want a sensible hand at the wheel, so our elders and customary authority, for sure.

CHAIR: Sounds like you are in good hands. I have one final question. In some of the submissions, there is reference made to underreporting of injury or deaths amongst Aboriginal and Torres Strait Islander children. Is there any evidence of that or if you are aware of any evidence of injuries or fatalities which have not been reported correctly amongst Aboriginal and Torres Strait Islander communities, and if it is a bigger issue than we believe it could be?

Mr Yanner: I find that hard to believe. There is an old saying at home: the three fastest ways of communication—telephone, telegram, tell-a-black fella. Word gets around pretty bloody quick in our community. I mean, we have all been bitten by crocs. I have been mauled a few times. We have had them since kids, as little fellas.

CHAIR: Do you still have all your fingers?

Mr Yanner: Yes, I still have all my fingers; that is how good I am! I find it very hard to believe. Any crocodile attack today, even if a crocodile jumps up and looks at you the wrong way, it is usually leading on the ABC Radio an hour later, so I think that is probably unsubstantiated.

CHAIR: We are going to break now for 15 minutes. Thank you also to Mr Bensted. Thank you for your submission. It was quite an interesting read, as were both submissions. Thank you for your time that you put into making them and for being with us today.

Proceedings suspended from 10.17 am to 10.37 am.

FREEMAN, Mr Peter, Director, Hartley's Crocodile Farm (via videoconference)

MANOLIS, Mr Charlie, Private capacity

CHAIR: Good morning. I invite you to make a brief opening statement for a minute or so before we start questions. In the interests of time, if you are just repeating in your opening statement what is already in your submission, could you perhaps rather just go to a few key points?

Mr Manolis: Thank you for the opportunity to speak at this committee hearing. My name is Charlie Manolis. I have been working as a researcher with crocodiles for 45 years, primarily in the Northern Territory, with Professor Grahame Webb. We were the architects of the first Northern Territory management program for both species of crocodile. I have been involved with management, research, production, farming and codes of practice, and I am currently a co-chair of the IUCN's Crocodile Specialist Group comprising about 785 or so people working with crocodilians in different capacities all around the world, so I have a very good understanding of how other countries are dealing with similar sort of issues such as human-crocodile conflict and living with crocodiles. I do not have a submission, but I am more than happy to take questions.

I just wanted to give a brief overview. With regard to the bill and hearing some of the evidence that has been put forward today and also some of the submissions that I have looked at online, most of the issues that have been put forward can be dealt with under the current agency and government system that is in place, so I do not feel that setting up an independent group, regardless of the composition of that group, is going to advance management in Queensland any differently than government could do in its current make-up.

One of the big issues is, of course: are some of the management options that have been touted going to make waterways safe? I should mention that I do not think culling has been used anywhere in the world as a management option to make things safe—certainly removal, but not culling, which implies removal of a significant portion of the population.

If you want to make waterways safe in Queensland, it is simple: you have to make crocodiles extinct entirely—remove every single one of them—and then put up a fence between the Northern Territory and Queensland to stop them swimming across, put up another fence between Papua New Guinea and us to stop them coming down, and then you will be able to guarantee safety.

The population dynamics of saltwater crocodiles can be complex. Yes, they are territorial, and, yes, they can defend those territories, but they can also move even though they are territorial. To give you just one example, we monitored the movements of a large 4.9 metre saltwater crocodile who stayed in his waterhole for close to 18 months and then suddenly swam downstream into two other rivers and then came back to the exact same waterhole—a total trip of 800 kilometres. That animal was considered, before that, to be very territorial and a home body. Again, there are no guarantees that even if animals are in one place now that they will not move. I certainly sympathise with places like Mareeba, or the part of Mareeba where the crocs are a feral population. They may justify being totally removed, given it is outside their normal range.

CHAIR: That is the zone F?

Mr Manolis: Yes, exactly. That is a fairly unique situation. There is a lot of experience with management, even within Australia through the Northern Territory. We have gone through all of this. I do stress the same as Bob, public education is key here. Government must see the importance of that—whether it starts in schools, on sign boards et cetera. Again, the Northern Territory went through this in the eighties where the tourism department was worried that crocodiles would impact tourism. In the end, the next ad that came out featured crocodiles because they realised that crocodiles also made up part of that adventure that people wanted.

If you look carefully at the statistics of crocodile attacks within Australia—and our records are very exact in Australia and in the US; I do not think there are any that we miss—the vast majority, more than, I would say, probably 90 per cent, are locals. They are not the tourists that come in. They have all read the books, gone online, worked out that there are jellyfish, there are sharks and there are crocodiles. It is the locals who tend to be a bit more complacent. If you dig even deeper into the facts surrounding those cases, often alcohol is involved where caution is thrown to the four winds, and people have known that it is dangerous but have still done silly things. It is very hard to legislate that. I will leave it at that and leave it to your questions, if you have any of me.

CHAIR: Thank you. Peter Freeman, welcome. Thank you for your hospitality in Cairns the other week. It was a very interesting time we had with you. Did you want to make an opening statement?

Mr Freeman: It was a pleasure to host you. It was a fantastic opportunity to explain how the crocodile industry works and why it is absolutely necessary, to protect that export industry, that we do have a properly managed crocodile plan for Queensland that ensures that the population in the wild remains sustainable so that our species remains on appendix II of CITES and we can continue to trade. I have been involved with crocodiles since the mid-eighties. In my opinion, where we are now with crocodile management in Australia is probably one of the best situations over that time with the way of monitoring and the science and research that has gone into the populations in Queensland.

My feeling is that, at the moment, the department needs more resources to do a better job when it comes to public education. A lot of work needs to be done with public education, through primary schools and also targeting tourists as they come into Queensland. Also, more work needs to be put into looking at what to do with problem crocodiles. As mentioned during our time onsite at Hartley's, we have the space and the expertise to house problem crocodiles, but we would like some assistance with the cost of building that housing because crocodile housing is expensive.

Going forward, the department needs more resources to allow it to develop a commercial sonar drone. I think that the way forward when it comes to crocodile management is the use of technology. From what I have seen of the trials done at Hartley's Lagoon and also Lakefield, I believe the technology is there so that we can create a sonar buoy that can detect crocodiles on beaches or in rivers and that buoy can then send out a siren or alert or maybe use some sort of deterrent through subsonic sound. Technology is the way to go here. We need to invest money in advancing that technology and also we need to help with public education. As Charlie said, North Queensland is the same as the Northern Territory in that we are famous for our crocodiles. People come here to see our crocodiles but we have to educate them that they can come and see and enjoy crocodiles but do it in a safe way. Do you have any other questions for me?

CHAIR: I am sure we will have some questions.

Mr J KELLY: My first question is to Mr Manolis. I appreciate what you are saying about the unique situation in Mareeba. Given the impacts we are starting to see with climate change and bigger, more intense and extensive weather events with a lot more water ending up in a lot more places, if there are crocodiles in the Barron River would it not have been inevitable that they will move during weather events into those areas anyway?

Mr Manolis: I am not familiar with the geography, but certainly there are opportunities for crocodiles during those flooding events, which probably occurred historically but maybe not as frequently. Only with time and monitoring and actually getting the scientific evidence can we really make a decision on whether—saying, 'if' the Barron River floods and 'if' a crocodile goes over then we have to remove it I do not think is very scientifically based. We have to get information as time goes on. There is no quick answer to that one. I do not think active removal just in case is the right way to go.

Mr J KELLY: Peter, when we were visiting your farm you took us through the impacts of this bill on the viability of the crocodile farming industry going forward because of the impacts on the CITES process. Can you take us through that?

Mr Freeman: Charlie is probably a better expert than I am so, Charlie, you can interrupt and correct me. Australia is a signatory to CITES, which stands for the Convention on International Trade in Endangered Species of Wild Fauna and Flora. The federal department of environment and climate change oversees that obligation. The states submit crocodile management plans to the federal department for assessment against the CITES requirements. The federal department is the authority that issues CITES export tags. For any crocodile skin to be exported or imported around the globe it must have a CITES export tag on that skin. It is a unique number and it allows that skin to be traced through the system.

My concern is that the feds, under their Environment Protection and Biodiversity Conservation Act, part 13A, have obligations about how they assess Queensland managing its crocodiles. If we cannot satisfy that section of the act then they may not issue export tags in Queensland. If we cannot get export tags then we cannot export our skins and, therefore, we cannot sell our skins and the farm becomes unviable.

CHAIR: Peter, in the 2018 committee report on the Safer Waterways Bill, you were quoted as saying that you understand the community emotion behind the principles of the bill and that management practices of the preceding 30 years had been mishandled. Do you still hold that view? Do you believe management practices have improved sufficiently since the introduction of the new bill?

Mr Freeman: No, they have improved since the introduction of the previous Crocodile Management Plan in Queensland, which was implemented by Matt Brien. I think that was a big step forward for Queensland, having a sensible crocodile management plan. In the past six years, the department has really stepped up in terms of how to manage crocodiles in Queensland. I think they could still do a better job in relation to public education, but I also appreciate they need more resources so they can spend the money on developing sonar buoys and also putting money into the capture of problem crocodiles because that takes time and resources. You have to have trained crews, you have to have boats and vehicles, you have to have places to put the crocodiles. To operate a good crocodile management plan in Queensland does take resources. Hopefully, out of this exercise, if we can see more resources going into the pending management plan then I feel we should be able to satisfy most of the needs of farmers, the community and those who are concerned about crocodile attacks.

Mr Manolis: Mr Chairman, I can add something on CITES, which Peter did not mention. One of the cornerstones of CITES is that an appendix II species is recognised as being on that appendix because trade may be detrimental to its survival in the wild. What you have to show under CITES is a non-detriment finding, an NDF. You cannot just go and blast away and take 80 per cent of the population as a wild harvest; you have to show sustainability. Each state and territory in Australia has to submit an annual report to the management authority in Canberra and that is then passed on to CITES. At any time, if something is shown that it is not going to be sustainable or is impacting on the wild population detrimentally, the federal government has the right to stop and not approve your management plan, which means you cannot export any crocodile product out of that state.

Ms BOLTON: Peter, you mentioned that resources are needed for capturing. We have heard that it is often the delays that are causing the issues. I asked Bob Irwin about this and he said it just comes down to if you have an experienced person doing the capturing then it is a lot quicker. How do we find those experienced people? Is it in the training of land and sea rangers? How does this occur?

Mr Freeman: Yes, training. As we have done in the past with DETSI, we have offered our farm and our crocodiles for training. They have actually brought rangers out and captured crocodiles. Hands-on experience is still the best way of training so it is just having experienced trainers teaching people how to do it. I agree with him: to catch crocodiles quickly you need experienced people. The farms can offer, and it has been done before, the ability to train people.

Ms DOOLEY: Peter, we had a presentation this morning from Mareeba council. They mentioned that salties are coming there and they anecdotally believe that they are escaped crocodiles from crocodile farms. Do you want to comment on that? I know that you have had crocodiles relocated to your farm. Have you had any crocodiles escape? If so, what were the circumstances around that?

Mr Freeman: I cannot really comment on the situation in Mareeba because I am not really up-to-date on where those crocodiles are coming from, but I do know that the Mitchell River flows into Southedge Dam and that is from the gulf so maybe the crocodiles are coming from the gulf up. I cannot comment on whether there have been escaped crocodiles. That is a question for the department.

All farms are obligated to report any escapes. If there is an escape from a farm, we do need to notify the department of that escape and also work with them on how to recapture that animal. I am outside of it. No, we do not have issues with escapes. We have pretty good fencing. We have enclosure fencing and also a perimeter fence. Our perimeter fences are 2.4 metres high and there is a concrete wrap wall of about five millimetres deep into the ground so the crocodile cannot even dig out. We do not have issues with escapes on our site.

Ms DOOLEY: Charlie, you mentioned education. If there is one common theme that we are hearing across every industry, and they might have opposing views, it is education. Could you comment on Crocwise as the existing education program and how effective it is? Do you think there should be any additions to that?

Mr Manolis: I cannot speak for Queensland's version of Crocwise or how that is being done. Certainly in my experience in the territory, we started in 1980 with rangers going around to schools. Even now I get adults coming up to me and saying, 'I remember you. I was in grade 2 and you brought in a crocodile.' It leaves a lasting memory with the information that you give them. In the NT's case the program was very successful and they then thought, 'We don't need it anymore' and they stopped it. Guess what? The increase of human-crocodile conflict came along and they implemented it again in a bigger way. Sometimes success can lead to a bit of complacency, even in government, that may be we have done enough.

It has shown us that you really need this program to keep going because new generations come through and new people enter. We have a very mobile population often. I think it has to start at all levels, whether it is adults, it is signage, it is videos. The NT even made a culturally appropriate video with Aboriginal people, with regard to attacks, in animation, which was very successful. It is really horses for courses. Pick your targets and do the appropriate public education accordingly, whether it is little kids at school or, for example, the crocodile farms in Australia. The ones associated with tourism play a very important role because hundreds of thousands of people come through and get that message: be careful, be crocwise. They walk away educated, hopefully.

Dr O'SHEA: Peter, I noted in your submission you talked about the current problems with relocating crocodiles now with sanctuaries and crocodile farms being full. Where is the department putting crocodiles that they are relocating at the moment?

Mr Freeman: From what I understand, the national parks have reached saturation point with relocated crocodiles. That creates other issues with campers. At the moment the farms are taking crocodiles. We take crocodiles as best we can. Sometimes we cannot take a particular crocodile due to its size because you have to have enclosures. Your enclosures are built to a particular size category. Where we can, we do take crocodiles. We would like to take more crocodiles. As I said earlier, crocodile housing is expensive. It involves a lot of steel and concrete. You could probably spend about $20,000 per enclosure. As I said in the submission or during our discussions, if there were grants available through the state government we would be happy to put more enclosures in on our farm because we would rather see the animals relocated than euthanised.

Dr O'SHEA: How many crocodiles could be in one enclosure that costs $20,000?

Mr Freeman: It would depend on what it is. If is under two metres you could get quite a few but if it is a sub-adult male, especially around that three-metre size category, they like to be by themselves because they are quite aggressive. Once they get older and become sexually mature then you can pair them up with a female and then you have two crocodiles in a breeding enclosure.

Dr O'SHEA: One of the issues you raised with the bill was people's access to possibly fertile eggs, hatching them at home and then the crocodiles getting into the waterways. Do you think that is an issue with the bill?

Mr Freeman: There are lots of issues with the bill. It is just very poorly drafted. You could drive a truck through the side of it. You read it and you think how can this be interpreted? I was taking the widest possible interpretation of it, that the director can licence anyone—without qualification, skills or experience—to collect eggs. It was more just a comment about the drafting of the bill that is so loose and it does not require people to demonstrate skills, knowledge, financial resources or facilities to handle crocodiles. You can read it that way: they do not need a licence to go catch crocodiles. Then they basically bring them home and then they have a pet crocodile. Then it grows up, becomes a pest and what do they do? They release it. Even worse, they go out and get a licence to catch crocodiles and put the crocodile in their backyard. The comment I made was that there are going to be more fatalities, but the fatalities will be in their backyard. After a few beers, they will say, 'Let's go and feed the crocs,' and alcohol and crocodiles do not mix.

Mr BAROUNIS: Peter, would you be able to let us know how many crocodile farms are operating in Queensland? As a commercial interest, are they viable? Are you able to give us some numbers about the supply of crocodile products to the local and international market?

Mr Freeman: Queensland is small compared to the Northern Territory because the Northern Territory has fantastic habitat for crocodiles and that facilitates a large ranching program. There were some recent figures that came through. With AgriFutures coming up, the industry is currently looking at a levy to put more research and development into farming. Nationwide I think it is around 50,000 skins a year and they are probably worth, as an estimate, $75 million to $100 million in export dollars a year for Australia. There are about five farms in Queensland, I believe. There are two large farms south of Cairns, ourselves at Hartley's, one in Rockhampton, a small farm in Townsville, another farm up in Cooktown. That takes it up to about six or so farms.

Mr BAROUNIS: Sorry, do you mind repeating the return on the investment from the farms to the national market?

Mr Freeman: I believe it is around $75 million to $100 million in export dollars. That is national figures.

Mr BAROUNIS: Are we exporting these products to any other markets?

Mr Freeman: Yes, those skins are exported mainly to Europe and Japan.

CHAIR: We are pretty much out of time. I do not think we have any other questions. Did you have a final comment you wanted to make, Peter or Charlie?

Mr Manolis: Just to reiterate that any type of management needs to be based on science and scientific evidence. Issues like uncontrolled or untrained egg collectors are just opening the door for trouble, I think, and incidents. I think the current management of crocodiles in Queensland has advanced greatly since the 1980s. Particularly in the last five to 10 years, there have been significant improvements with probably some key staff coming in and management really catching up to what has been happening in other parts of the country and internationally.

Just to let the committee know, I was born in North Queensland and still spend a lot of my time there. There was a question about people outside the region. I agree that people outside the region should have a say, but I grew up in crocodile country. I still go back there and still have friends there. I am well aware of the issues that have arisen over recent years. Government can improve the way it is going a little bit, but it has been going in a very good direction, and government is to be commended for the advances that it has made.

CHAIR: With the egg collection policies and procedures, could you explain the difference between the Northern Territory and Queensland?

Mr Manolis: The key difference is that we started our egg harvesting back in the early 1980s while our population was still increasing. Egg collection is known for I do not know how many species around the world and tends not to have an impact because most of those eggs would have disappeared from flooding, from overheating, from predation. It is considered a safe form of harvest. We began it quite early in the piece. We have involved landowners—Aboriginal and non-Aboriginal. It is quite extensive, but we started slowly and built it up. We got the science right and it has been good.

Queensland has only more recently began an egg harvest program in parts of northern Queensland. My understanding is that as time progresses that may increase, depending on whether they can do so, whether landowners are involved. It is not the sort of thing that even we did not leap into. We began the program undertaking the egg harvest through one agency—that was ourselves—working with government. Then slowly as training has come in we have extended it to landowners now. We find that Indigenous groups are now doing their own collections. They are doing their own satellite farming. We did it cautiously. We did not want it to fail. Leaping into these sorts of things without appropriate science and training can be fraught with peril. I think Queensland has potential.

You also have to remember that the Northern Territory has a lot more habitat, so our egg harvest will always be much larger than Queensland's. Nonetheless, there are opportunities there for landowners to be involved. Again, do it cautiously and properly. I think that is probably the best word to use.

Ms BOLTON: Were those satellite farms set up with government funding?

Mr Manolis: They had some government funding, I believe, and also some of the farms contributed. They are now totally run by the landowners themselves. Extension services and advice are still coming in in these early years. The plan is to extend these to other parts as other groups want to become more involved. The sustainable use program, not just in the Northern Territory but in many parts of the world for many crocodilians, creates positive incentives for people to want to live with crocs. Otherwise they are just considered a pest. I think that is an important message to get across. We would not have been able to bring our crocodiles back to pristine levels—100,000 or so nonhatchlings now—without having those incentives for conservation through putting value on the resource. That has been through farming, through tourism, through many mechanisms, but that has been the secret to our success and in many other places.

CHAIR: Thanks. If you are happy, we might write to you and get a bit more information on the Northern Territory.

Mr Manolis: By all means—happy to do so.

FERGUSON, Mr Bill, Chief Government Relations Officer, Australia Zoo

FRANKLIN, Professor Craig, School of Environment, University of Queensland (via videoconference)

CHAIR: I now welcome Professor Craig Franklin and representatives from Australia Zoo. Perhaps while we are waiting for Craig to come online, Bill, would you like to make an opening statement?

Mr Ferguson: Certainly. I can make an opening statement, but it covers a lot of what was in our submission. I will just make a few key points, if that is okay. I would like to thank the committee for this opportunity. I also pass on the apologies of Australia Zoo Director Terri Irwin, who could not be here due to travel commitments. She would have liked to address the committee if she had the chance.

Many of the points made today our submission agrees with—the main point being that, if the legislation were enacted, it would make our waterways less safe and cause long-term damage to the health of our environment and the quality of our waterways as well. It comes down to the level of risk and how confident authorities are, with crocodiles being removed, our waterways will be safe. The point has been made that the crocodiles do not respect lines drawn on the map, so they will be continually coming into areas where large crocodiles have been removed.

The authors of this bill keep talking about reaching a level of acceptable risk, but what is that? Is it one death every year or every two years or every five years? You cannot guarantee that attacks will be stopped by just removing crocodiles. In fact—and the term has been used—it creates a false sense of security. They will be called croc exclusion zones, so people will think that it must be safe to swim when, in fact, that will not be the situation at all.

The other issue that has not been spoken about a lot is bringing in people from overseas to carry out safaris. That will have a huge impact as well because it cannot be properly monitored. That point has been made too. Also, we support improving public education and resources for the department to do that, which has been mentioned. As Bob Irwin has said before, we encourage the committee to engage with the science around it. Thankfully, Craig has been able to dial in. He is our expert who conducts our research on the Wenlock River and has many years of experience in not only capturing crocodiles but also doing research about their behaviour.

CHAIR: I acknowledge that Craig is online now. Do you want to make a brief opening statement, Craig?

Prof. Franklin: Good morning, panel. Thank you for the opportunity to speak. Chair, I heard you say that you are short on time and you want to ask questions. I have a three-minute spiel, but I am going to put that to one side and instead just draw on a couple of things. I have listened with interest this morning. I am hearing a lot of stories about crocodiles. There are always a lot of stories about crocodiles. Much of that is based on anecdotal information, but it was pleasing to hear that some of it was actually based on data that we collected. All of my stories, my narrative, is based on scientific data. I have to say I am astonished that this proposal has been progressed to this stage given that the natural habitat of Australian crocodiles is here in Queensland, and it is good to be 'zoomed in' from Townsville, crocodile country.

The point I want to make is that I have always thought one of the major roles of government was to safeguard its constituents, build in awareness and not endanger them through complacency and creating a false sense of security. It is not safe to swim or to fish in crocodile country. Would it not be a more sensible approach to provide a comprehensive and effective educational program? This has been talked about again and again. The main elements of this are already developed. It does need to be expanded. I think the department is doing a great job in that area, but they need to be better resourced. Importantly, it will cost far less for the Queensland taxpayer to promote education than to go down the very ineffective path of culling. It will not work. It will not keep people safe. It is foolish; it is dangerous; it is misguided. I welcome any questions and to talk about the data we have been collecting.

I should say that I have been studying crocodiles for more than 30 years, initially with Professor Gordon Grigg, but in 2003 I teamed up with Steve, Terri and Bob Irwin and have been conducting field research up on the cape. I have spent more than a year of my life living under canvas on the banks of the Wenlock River studying crocodiles. Somebody mentioned that we are tracking 140 animals. Actually, it is now 278 animals. We have over 10 million individual data points of their movements and behaviours. It is comprehensive. I can give you the data to say why this bill is flawed.

CHAIR: Thank you, Professor Franklin. You mentioned spending a year under canvas. That movie *The Gods Must Be Crazy* came to mind. I wondered if you were running around in a broken-down Land Rover chasing crocodiles, but I digress.

Prof. Franklin: It is a privilege.

Mr J KELLY: Thanks, Bill and Craig. The last time I worked on a similar version of this bill I did go to Australia Zoo and Bill hosted us there. My question comes down to a data question for Craig, but Bill is also welcome to comment. The last time I worked on this bill we had a look at the deaths that have occurred in Queensland since the 1970s, I think it was. All bar one at that stage seemed to involve people swimming at night, people drinking or people doing both of those activities. Is that fairly accurate in terms of factors—I will not say contributed to—in relation to crocodile attacks?

Prof. Franklin: I think it is simplistic to say that. I would say the vast majority of crocodile attacks were avoidable and that it came down to the behaviour of the humans, recognising that crocodiles are opportunistic predators. They do not target humans; they are opportunistic. If we place ourselves in harm's way then that is a problem, and it is a human problem, not a crocodile problem.

Mr J KELLY: I also recall that the last time we worked on this—and I have also done a little bit of research this time around—we had a look at other types of animals that cause human deaths. Are you able to comment in either a Queensland or Australian context as to other types of animals and their involvement in human deaths—for example, dogs, horses, snakes?

Prof. Franklin: I do not have data in front of me, but I think it is well recognised that bees, mosquitos—insects in general—cause more deaths or more harm than crocodiles do. The number of incidents of crocodile attacks and deaths is exceedingly small.

Mr Ferguson: I would support that as well.

Prof. Franklin: But regrettable. I do believe in the sanctity of life. Every death is regrettable. There are families and friends who suffer as a consequence.

Mr Ferguson: The number of people affected by crocodile attacks is similar to those who are killed by jellyfish in the same sort of regions that we are talking about in Far North Queensland. There is no move to cull jellyfish, if that was even possible. They certainly set up enclosures, warn people they have to be safe in those areas, wear stinger suits et cetera. We are just saying the same thing. A very good education program, signage that is clear and educating people in those areas when they are young, and doing it constantly, will have a dramatic effect on the number of these incidents occurring. It is the best way forward.

Ms DOOLEY: You have just answered my question, which was around the Crocwise program. In previous submissions you indicated that you felt the program was not as effective as it could be. You just mentioned some inclusions there. Is there anything else you would like to add?

Mr Ferguson: No. It is true there can always be improvements in public education, but it has to be a constant thing. As Charlie mentioned, people come in and out of those regions all the time, so it has to be very clear to people what happens when they enter croc territory. Terri has a longstanding offer to the state government. If they want her or the family to do videos around croc safety to be played on screens for people flying in on planes, then she is available to do that as well. To answer your previous questions to the panels that have been here: no, we have not been consulted and I do not think Craig has been consulted on this bill either. In the explanatory notes they say they have consulted the federal environment minister. I have been in contact with their office and no, they have not been consulted on that either.

Mr BAROUNIS: Could you please let us know a little bit more about the population monitoring program for crocodiles in Queensland since 2018 and if there is any coordinated program with everyone involved.

Prof. Franklin: The department is the best place to ask this question. We did a review a few years back, about 10 years ago, of the crocodile monitoring program and put forward some recommendations. I believe that a number of those recommendations were instigated. They had quite a comprehensive monitoring program looking at population trends, looking at the size and distribution of crocodiles in waterways. Of course it could be resourced more, but I feel confident that within the resources they are operating with they have undertaken a very robust program of monitoring. Indeed, the Chief Scientist, Professor Hugh Possingham, did a review a few years back and said it was a world-class monitoring program.

Mr BAROUNIS: What do you think the population of crocodiles would be compared to 2018?

Prof. Franklin: I do not have those figures in front of me. It is estimated there are between 20,000 and 30,000 crocodiles in all waterways in Queensland.

Mr Ferguson: That is my understanding of the recent reports done by the department. I support the move towards a constant and better resourced review of the populations. We have an understanding that some of the populations are starting to stabilise in their numbers in the more remote areas, where problem crocs are not being removed or large crocodiles are not being removed. This enables the population to stabilise a bit more quickly because there is not that constant removal of large crocodiles that have to be replaced.

Ms BOLTON: I have three quick questions. First, are you aware of any research on a combined culling and relocation strategy to reduce the risk of crocodile attacks against humans?

Prof. Franklin: No.

Mr Ferguson: It is a quick no from me as well.

Ms BOLTON: Secondly, Peter earlier mentioned innovations in terms of sonar identification or repellents. Have there been any further trials or research on that since it was at Hartley's?

Prof. Franklin: Not that I am aware of where it is developed and the information has been communicated to a scientific audience. Let me just detail the issue here. From data, we know that some crocodiles can move 60 kilometres in a day. They can hold their breath for more than eight hours. They can go from river system to river system and use the coastline as a highway to migrate from one system to another. It is an impossibility to say or give a guarantee that we have removed all crocodiles to make it safe to go swimming in crocodile country. You would have to monitor 120 kilometres of coastline and river to achieve that. Plus, if they are spending eight hours underwater, or even four hours underwater, the likelihood of actually seeing every crocodile is again another impossibility. This is the real data that has not been considered.

Ms BOLTON: My apologies, I thought there had been discussions regarding, for example, a personal alert that you could wear so that when you go swimming it could alert you if there was a crocodile in the vicinity.

Prof. Franklin: I know of no scientific study. There may be, but I know of no scientific study that has promoted that as a safe option to go swimming in crocodile country.

Ms BOLTON: This is my last question. We have heard a lot about the health of waterways and that removing crocodiles has a negative impact. In simple terms, what does the removal of crocodiles actually do to our waterways?

Prof. Franklin: We know that crocodiles are apex predators. As I once explained to Terri Irwin, think about an ecosystem like a house. If you remove the roof of the house—that is, you remove the apex predator—then everything in the house down to its foundations will be impacted. There is some very nice research coming out of the Northern Territory. A former post doc of mine Hamish Campbell and former student of mine Cameron Baker are showing there are these trophic cascades, that crocodiles are important for the health of the ecosystem.

Mr Ferguson: As are most apex predators. There is plenty of research on wolves over in Yellowstone National Park and also great whites over in South Africa having effects on the health of the environment and fisheries as well. We have anecdotal evidence of how the waterways that have healthy populations of crocodiles also have healthy fish populations. They clean up the waterways by attacking the weakest and sick individuals as well as keeping a cap on other predators in those waterways.

Dr O'SHEA: I want to ask about a comprehensive education program. Obviously going through people living in the area and repeatedly going back into schools is great. In relation to international visitors coming to the country, wouldn't it be absolutely marvellous if the Irwin family were able to do a video and that would be played. Of course, we also have interstate visitors coming up to hotels and camping grounds. What would your suggestions be for the department about trying to get into all of these places?

Prof. Franklin: That is a great question. I just flew up to Townsville this morning. Wouldn't it be great to have a little clip on the flight as I flew in saying, 'Welcome to crocodile country. It's home to this remarkable animal that inhibits these waterways. These are the simple things to do to keep safe: stay five metres away from the water's edge; if you are camping, place your tent 50 metres away; don't dangle your arms and legs outs of boats.' I am in my hotel room and there is not a single pamphlet here. How simple would it be that, upon arrival at a hotel, motel or camping ground, you are just handed a little flyer with those simple rules of engagement to enjoy your time and appreciate the incredible biodiversity we have in this country, which we should be protecting.

Mr Ferguson: Yes, having more resources towards public education cannot be a dollar more or less well spent. It is just a simple message, as Craig has said, and they are simple precautions: if you stay on land well away from the water's edge, they cannot get you.

Mr J KELLY: This question is for Bill. Obviously the folks who own and run Australia Zoo have a high media profile. Particularly the late Steve Irwin came to attention via an almost reality TV show. There has been a lot of public commentary lately about the capacity of Terri Irwin in particular to have insight into these matters. Would you outline how many resources Australia Zoo as an organisation puts into research not just around crocodile management but around a whole range of conservation and wildlife matters?

Mr Ferguson: Certainly. On the crocodile front, we have the research that we do on the Wenlock River. That happens every August. It goes for a month. Craig and his team are involved with that. We have a team of about 20 to 25 people. The Irwins are actively involved in that. They do the trapping and they do the testing. They jump on the crocodiles, so they have hands-on experience every year doing that sort of work. It is not just crocodiles. We have major research projects and support research projects into lots of animals within Queensland and overseas and lots of endangered species, including elephants, Sumatran tigers, rhinoceros and cheetahs, just to name a few, as well as whale sharks here and grey nurse sharks. We have a wide variety of conservation and research that we do. I see that Craig wants to add to that as well.

Prof. Franklin: Just very briefly, we have had three Australian Research Council linkage grants with Australia Zoo as the industry partner putting in hundreds of thousands of dollars in cash, including in kind support worth millions of dollars. Terri Irwin was honoured by the University of Queensland with an honorary doctorate for her research into crocodiles and conservation. She has published over a dozen scientific papers and peer reviewed international journals. They are heavily involved in the research. They live on the banks of the Wenlock River for the entire month of August and have done so for 20-odd years.

Mr Ferguson: Yes. In relation to crocodile research, we have estimated that it costs the zoo about $300,000 a year just to do that research for that one month.

Mr J KELLY: It is probably fair to say that this is not just, 'I've read something somewhere and I'm reacting to this.' This is a deep, lifelong passion that has been backed with significant resources.

Mr Ferguson: It is not a flight of fancy. It is something that they are heavily invested in and have been for 20 years.

Prof. Franklin: It is the reason we have the world's largest and longest running tracking program of crocodiles anywhere in the world.

Mr Ferguson: Yes.

CHAIR: Thank you. That is a good note to finish on. That concludes our hearing for today. Thanks to everyone who has participated. Thank you to our Hansard reporters. A transcript of these proceedings will be available on the committee's webpage in due course. The public briefing on this bill will start at 12.20 pm. I do not think there have been any questions on notice. That concludes this morning's hearing.

The committee adjourned at 11.37 am.