

# 'Game changing' study of turtles and plastics on Great Barrier Reef

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By Johanna Marie

Swimming off Lady Elliot Island on the southern Great Barrier Reef the turtles appear happy and healthy, but it's what's on the inside that has researchers worried.

University of the Sunshine Coast (USC) students are studying how much plastic pollution the turtles have been exposed to, and other chemicals that could be coursing through their bodies.

"This study is new because no-one has looked at using live turtle samples to see how much plastic they've ingested," USC PhD student Caitlin Smith said.

It involves capturing turtles off the coast of Queensland, taking blood, tissue and shell samples before releasing them back into the wild.

USC animal ecology lecturer Kathy Townsend said scientists were previously only able to look at dead turtles.

"It's a complete game changer because now we can look at the population as a whole, not just the sick and dead ones washing up," Dr Townsend said.

A statewide ban on single use plastic items like straws and cutlery came into effect at the start of this month.

The Queensland government hopes that will reduce plastic pollution by about 20 per cent over the next two years.

## Comparing data with the legislation

Dr Townsend said the team would be able to use the data collected from the turtles to determine whether the ban was successful.

"Are we seeing a reduction of those kind of plastics showing up in the guts of sea turtles and are we also seeing a reduction of those types of items in the environment?" Dr Townsend said.

"We have this historical dataset that we can go back and look at what was it like before legislation came into place and now as we're going forward, we can actually compare that."

Necropsies on dead turtles will also paint a picture on whether Queensland's plastic bag ban in 2018 and the container deposit scheme has reduced the amount of plastic entering waterways.

Early indications are positive.

"We haven't found as much plastic as people would assume. Within the 16 that we've done, only two have had plastic in them," USC student Zali Domrow said.

## 'Reusable' plastic bags a bigger risk

There are fears tougher reusable plastic bags offered by retailers as an alternative could be causing more harm.

"That's something we're specifically looking for, because that's an indication that the legislation would not be working," Dr Townsend said.



Dr Kathy Townsend says taking blood samples from turtles in the wild is more representative of the wider population. (ABC News: Johanna Marie)

"If you find these lighter plastic bags are no longer in the environment, but they're being replaced by more heavy-duty plastic bags, that means it's just been swapped out.

"It hasn't fixed the problem, it's just a different problem now."

The surveys are expected to be concluded later this year with the reports to be published in 2022.