

Treading carefully with cadmium

In the shifting sands of indigenous health and policy, one tenet seems cast in stone: in dietary terms, traditional tucker far outshines the sugars, liquors and lipids that Western culture has off-loaded.

Earlier this year, however, Queensland Health plastered posters along the Cape York coast and on Torres Strait islands to warn that eating the livers and kidneys of dugong and turtle could cause cadmium poisoning and lead to 'kidney sickness'.

Like many of his people, Wilfred Gordon, who chairs the Apunipima Cape York Health Council, was initially incredulous. He saw the official warning as a ploy to discourage hunting in the Great Barrier Reef Marine Park. Others suspected that authorities had been covering up the extent of heavy metal pollution in reef waters from mines in Papua New Guinea.

'We've been eating these animals for thousands of years,' says Gordon, who hails from Hopevale, north of Cooktown, where dugong and turtle are often eaten. 'Telling us it was unhealthy didn't go down well at all.'

The warning came after the Great Barrier Reef Marine Park Authority (GBRMPA) confirmed that cadmium levels in dugong and turtle offal (but not meat) were higher than expected.

In accordance with guidelines set by the National Health and Medical Research Council, authorities estimate that adults risk damaging their health if they eat more than 50 grams (an egg-sized amount) of dugong offal a week. Turtle offal is even more toxic.

According to a recent CSIRO study (see main story) some island communities eat more than a kilogram of dugong a week per person. The amount of offal consumed is not known, but for some it may well exceed the recommended maximum.

But Dr Denis Mackey of CSIRO's Division of Oceanography at Hobart believes that guidelines are not always applicable in absolute terms. Mackey says a whole range of factors is taken into account to allow for a worst-case scenario when prescribing maximum levels of heavy metals in food.

Cadmium toxicity in humans, for example, remains ill-defined. In addition, the permissible load is proportional to the person's bodyweight and may vary depending on his or her age and physiology.

Mackey says that cadmium occurs at naturally high levels in some waters, and GBRMPA's Torres Strait Baseline Study has recently confirmed that cadmium's presence is not linked to mineral discharge from Papua New Guinea's Fly River.

'Cadmium is probably absorbed by seagrasses and so accumulates over time in the kidneys and livers of long-lived grazers such as dugongs and turtles,' GBRMPA scientist Dr Bill Gladstone says.

Queensland Health is currently determining what, if any, health effect cadmium intake may be having on indigenous health. Doctors know that a build-up of cadmium in human kidneys can eventually cause kidney failure. Alternatively, cadmium toxicity may exacerbate kidney failure caused by diabetes, which already afflicts indigenous people disproportionately.

According to the director of the Darwin-based Aboriginal and Torres Strait Islander Statistics Unit, Tony Barnes, kidney failure is one of the fastest growing health problems in indigenous populations.

'The deaths that we are getting today are caused by lifestyle diseases in middle age, which we wouldn't have seen more than 100 years ago,' Barnes says.

This may explain why cadmium poses a threat, in spite of indigenous people having partaken of dugong and turtle offal with apparent impunity for at least 20 000 years.

But a more controversial explanation is also possible. Some marine scientists consider that people are consuming more dugongs and turtles than in the past, thanks to the use of outboard motors in the hunt.

While Gordon fears that this notion will be exploited by opponents of traditional hunting to recharge their campaign, he now concedes that Queensland's health concern about cadmium toxicity is genuine.

'I think we are going to have to tread very carefully,' he says. 'This cadmium business has already upset enough people.'