

Crabs in Lake Macquarie contaminated with 'unhealthy' levels of cadmium

ABC Newcastle / By Ben Millington

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Lake Macquarie mud crabs' high levels of cadmium have "not been communicated to the public". (ABC News: Jesse Thompson)

Concerning levels of the heavy metal cadmium has been found in crabs dwelling in Lake Macquarie, north of Sydney, a report obtained under freedom of information from the NSW Environment Protection Authority has revealed.

"The bottom-dwelling organisms are absorbing the cadmium in the sediment to such an extent that it's becoming unhealthy to eat," said Paul Winn from the Hunter Community Environment Centre.

"And this has not been communicated to the public.

"The EPA have glossed over it, they didn't reveal the detail, the report hasn't been released yet."

Key points:

- Lake Macquarie has been contaminated by metals due to its proximity to power stations
- Crabs in the lake were found to have absorbed "unhealthy" levels of cadmium
- High levels of cadmium can contribute to renal failure, experts say

Lake Macquarie is Australia's largest coastal salt water lagoon, covering more than 100 square kilometres.

Report revealed mud crabs from the lake should not be consumed on a weekly basis. (ABC News)

The southern end of the lake is also home to two ageing coal-fired power stations — Vales Point and Eraring — which have contributed to contamination of the lake with heavy metals.

The power stations use vast quantities of water from the lake to cool their plants, and the outlets where the water is later pumped out are popular fishing spots.

"There's warm water coming out of that outlet and it attracts the fish, especially during winter time," said local resident Neil Wynn.

"It's a very popular area for fishing and crabbing, especially crabbing — people come here just to target the crabs, especially the mud crabs."

For nearly two decades, the EPA has warned people not to eat more than two to three servings of fish from the lake a week due to high levels of selenium.

Last year, the EPA undertook a large scale study of seafood in the lake, testing for PFAS chemicals and heavy metals.

Point power station is one of two coal-fired power plants near Lake Macquarie.
(News: Ben Millington)

PFAS was found not to be a concern, but the results from the testing were not released.

The Hunter Community Environment Centre obtained the testing reports under freedom of information and shared them with the ABC.

The raw data showed that selenium levels in fish had not decreased, remaining high across the lake.

It also revealed cadmium levels in crabs was high across the north of the lake, where the past Pasmenco lead and zinc smelter operated, and in the south-west of the lake, where the power stations are located.

The EPA risk assessment said the safe number of giant mud crab servings a week is zero. And for blue swimmer crabs, the number is zero for children and one 150-gram serving for adults per week.

water outflows of Eraring and Vales Point power stations attract marine life. (ABC
: Ben Millington)

It is understood by the ABC that crab could still be consumed safely on a monthly basis.

But the information in the report significantly differs from what was publicly shared at the very bottom of a media release in January.

"Dietary advice for cadmium remains consistent and people can safely consume six servings per month of crab-meat (one serving equates to 150 grams of edible crab meat)," the EPA media release said.

"A child under six years old can safely consume three servings a month (one child's serving equates to 75 grams of edible crab meat)."

Mr Winn said the EPA has failed in its duty to inform the public.

"I find it astounding that the EPA can basically brush over such an important public health issue," he said.

About 250 tonnes of sea life is caught by recreational fishermen in Lake Macquarie, so it is a significant public health issue.

"When the original health advisory came out in 2003 warning people of selenium content in fish, the authorities put up posters in tackle shops and had conferences with recreational fishing groups to warn them and that hasn't been the case in this instance," Mr Winn said.

In a statement, the EPA said: "The results and advice were also provided to councils, community groups and via Department of Primary Industries Fisheries channels."

The dangers of cadmium

Professor Melissa Haswell from the School of Public Health at the Queensland University of Technology commended the EPA for carrying out the testing, but said they had missed an opportunity to better communicate with the public.

"There does seem to be a bit of a disjoint between the risk assessment and the recommendation," she said.

"In communicating to the population I think it's really important to be clear when we have results like this.

"I would be very cautious about eating these crabs. I wouldn't be terrified, but I would certainly want to know more if I were someone who does regularly consume food from the lake."

Professor Haswell said her area of expertise is studying cadmium, particularly in seafood.

"The concern about cadmium is the fact that our bodies can't really get rid of it, so it accumulates," she said.

"And a lot of the cadmium ends up in the kidneys and our kidneys can't excrete it, or it excretes it very, very slowly.

Coal ash has become one of Australia's biggest waste problems – and a solution is being ignored

Every year, Australian coal-fired power stations produce 12 million tonnes of ash from burning coal.

mium accumulates in the body and can cause the kidneys to malfunction.

hael Cavanagh)

"People can tolerate a certain amount of cadmium in their kidneys without having disease or health effects, however, if that builds up, then that is concerning because it can contribute to renal failure."

She said people with kidney problems, chronic diseases like diabetes, and the elderly, are vulnerable and should treat food containing cadmium with more caution.

"And because cadmium builds up, people who have eaten a lot of these animals in the past may already be at levels that could be concerning," she said.

"So it's not just today, it's what you've eaten in the last 20 years, because it's released from the body so slowly."

Professor Haswell said the EPA also only tested crab claw meat, which generally has lower levels of cadmium.

She said more conclusive testing should be done and the results better communicated to fishermen.

Table 7. Number of safe serves per week of Lake Macquarie seafood, based on calculations for exposure to cadmium and selenium. NR = advice not required, as 7 or greater serves per week indicated as safe. Blank cells = risk assessment not required based on preliminary screening assessment.

Species	Cadmium		Selenium	
	Child	Adult	Child	Adult
fish				
sky flathead			6	NR
lowfin Bream			3	NR
derick			NR	NR
uary Perch			5	NR
a Mullet			NR	NR
ilor			5	NR
ver Trevally			6	NR
nd Whiting			4	NR
staceans				
stern king prawn	2	5	NR	NR
ant Mud crab	0	0	4	NR
ie Swimmer Crab	0	1	NR	NR