

Pesticide management is failing Australian and Great Barrier Reef waterways

November 7 2019



Chemicals that are banned in other countries are still used as pesticides in Australia. This damages marine plant and animal life in QLD and Great Barrier Reef waterways. Credit: Tom Bridge

Scientists say a failure of national management means excessive amounts

of harmful chemicals—many now banned in other countries such as the EU, U.S. and Canada—are damaging the nation's waterways and the Great Barrier Reef.

The new study was led by Dr. Jon Brodie from the ARC Centre of Excellence for Coral Reef Studies at James Cook University (Coral CoE at JCU).

Dr. Brodie says pesticides found at concentrations exceeding the nation's own water quality guidelines have the potential to seriously damage aquatic plants and animals. Insecticides affect prawns in freshwater streams, and herbicides affect marine species such as seagrass.

"The notorious insecticide imidacloprid—now banned for its effects on bees across Europe, the U.S. and soon to be banned in Canada—is found in many freshwater streams and estuaries in the Great Barrier Reef and also Queensland more broadly," Dr. Brodie said.

"This can have a serious effect on aquatic life."

The regulation and management of pesticides in Australia is a joint responsibility of the Australian and State governments.

"There is no evidence at the moment that imidacloprid may be banned or regulated more closely in Australia," Dr. Brodie said.

"The processes of the Australian Government regulator, the Australian Pesticide and Veterinary Medicine Authority (APVMA), have serious deficiencies and in many cases are seriously flawed," he said.

However, Dr. Brodie notes that the Queensland Government is taking action to reduce [pesticide pollution](#) through research, monitoring, risk assessments and application of better pesticide application methods.

Yet, only so much can be done at a local level.

"The APVMA are very slow to act on the copious evidence surrounding, for example, the continued use of a pesticide like imidacloprid."

The highest concentrations of [pesticides](#), often found above Australian guidelines, are found in freshwater bodies adjacent to, and downstream of, areas of intensive cropping. This is mainly sugarcane cultivation and horticulture.

Dr. Brodie says Australia has the expertise and knowledge of pesticide management to take action and regulate.

"Though pesticide regulation and management in the Great Barrier Reef region has been unsuccessful, there is some hope that pesticide levels and risks to species and ecosystems can be reduced," he said.

More information: Jon Brodie et al, Pesticides in Queensland and Great Barrier Reef waterways - potential impacts on aquatic ecosystems and the failure of national management, *Estuarine, Coastal and Shelf Science* (2019). [DOI: 10.1016/j.ecss.2019.106447](https://doi.org/10.1016/j.ecss.2019.106447)

Provided by ARC Centre of Excellence for Coral Reef Studies

Citation: Pesticide management is failing Australian and Great Barrier Reef waterways (2019, November 7) retrieved 26 April 2024 from <https://phys.org/news/2019-11-pesticide-australian-great-barrier-reef.html>

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