

MEDIA RELEASE

NEWS FROM THE INSTITUTE FOR MARINE AND ANTARCTIC STUDIES

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ATTENTION: Chiefs of Staff, News Directors

Planning for disease outbreaks is a priority for the world's fastest-growing food production industry

Without strategic management, disease potentially threatens the global aquaculture industry and hence food security, especially in tropical regions. This is the warning from two leading marine ecologists in an article selected as the Editor's Choice in this year's first edition of the prestigious *Journal of Applied Ecology*.

Aquaculture is currently the fastest-growing food production industry in the world, rivalling wild capture fisheries in supplying the world's population with fish and shellfish. However, infectious diseases continue to pose major threats to aquaculture where outbreaks of deadly pathogens can wipe out entire stocks and halt food production.

Dr Amanda Bates, a research fellow at the Institute for Marine and Antarctic Studies (IMAS), University of Tasmania, and Dr Tommy Leung, a lecturer in parasitology and evolutionary biology at the University of New England, have analysed patterns of disease outbreaks in fish and shellfish farms around the world.

They found that disease outbreaks on farms in tropical regions tend to have more devastating impacts than those in temperate regions. Not only do diseases in tropical regions result in greater losses of stock, they also progress more rapidly, leaving less time to take actions to either control or contain outbreaks.

They also found that juvenile fish and shellfish are more vulnerable to pathogens than adult fish, and disease outbreaks in shellfish generally progress more rapidly than in fish populations.

When warming occurs, such as in El Niño cycles or from climate change, increases in the incidence of pathogen outbreaks have the potential to exacerbate the progression and intensity of disease outbreaks.

"Tasmania is the largest aquaculture producer in Australia," Dr Bates said. "And while we can take some comfort from being in a temperate region, our research emphasises the importance of taking disease vulnerability into account as a key consideration when designing and managing aquaculture."

“Strategies for adapting aquaculture for future climate change must involve infrastructure for disease monitoring and control,” she said.

Information released by:

The Media Office, University of Tasmania

Phone: +61 3 6226 6683 or +61 (0)418 299 470 (Sam East, IMAS Communications, Outreach & Marketing Manager)

Email: Media.Office@utas.edu.au