

Case study: Tackling mosquitoes together

COUNCIL NAME

Tweed Shire Council

WEB ADDRESS

tweed.nsw.gov.au

SIZE

1,321 square
kilometres

POPULATION

91,371

Overview

Tackling Mosquitoes Together is an important public health and adaptive capacity building initiative that has improved regional resilience to the climate change driven threat of increased mosquito-borne disease in the Northern Rivers region of NSW.

Northern Rivers comprises seven councils who all successfully collaborated to implement a range of learning and adaptation actions, including the establishment of an effective rapid response network, two-day mock exercise and citizen science survey.

Background

A potential incursion by the Asian Tiger Mosquito is of concern as the species can carry dengue fever, has been located in the Torres Strait, and can adapt to the moderate climates in NSW and Victoria. Australia's existing dengue mosquitoes prefer a tropical climate.

'Tackling Mosquitoes Together' was developed to equip the Northern Rivers to deal with a sudden and serious mosquito incursion and the slow march southward of existing dengue species as a result of a changing climate.

Increased temperatures, tidal and rain events resulting from climate change will increase vector numbers and the likelihood of disease exposure including from existing mosquito diseases of Ross River and Barmah Forest Fever. The Northern Rivers are highly vulnerable.

Implementation

The project had the following key project elements:

- Development of a comprehensive Northern Rivers Emerging Vector Response Plan to mitigate current and emerging vector risks. The plan has built a regional rapid response network and can be called upon to effectively respond to any future vector risks and other public health risks enhanced by the effects of climate change.
- Development of an education strategy with a focus on behaviour change and the key social challenges for mosquito-borne disease programs.
- Implementation of a mock outbreak scenario over 2 days with the assistance of 20 team members from local government and NSW Health. Over 300 backyards were surveyed in the 2 day mock trial.
- Trialling the effectiveness of mosquito traps for surveillance strategies.
- Development and implementation of a Citizen Scientist Survey. This successful community engagement activity had residents in the region collecting valuable information about the type of mosquito breeding containers in their own backyards and at the same time educating the community to get rid of these breeding habitats. There were 710 surveys completed providing valuable data for this project.

councils – and the Northern NSW Local Health District. The project was supported by Dr Cameron Webb from the University of Sydney and Dr Angela Dean, University of Queensland.

Outcomes

Tackling Mosquitoes Together created the following outcomes:

- improving the effectiveness of community education to emerging vectors to reduce the spread of disease via channels such as an online survey, social media and advertising and editorial coverage in local newspapers
- finding almost 4000 water holding containers, most commonly roof gutters, pot plants, bromeliads and buckets. The citizen science survey found 11.6 per cent of properties were positive for mosquito larvae.
- improving management of emerging vector threats by delivering regional capacity through the development of a rapid response network, adaptive incursion strategies and a community education program
- determining the likely extent of further increased risks of mosquito-borne disease in the region as a result of information captured by the two-day exercise, which also provided valuable insights into the operational aspects of the trial response, potential habitats for exotic container-inhabiting mosquitoes, and informed the development of the regional response plan.

Key Learnings

This project provided ample learning opportunities:

- Utilisation of industry experts allowed for successful leverage of expertise.
- The mock outbreak exercise was a valuable training session for regional councils. This also provided valuable insights into the management of time. The training provided strengthened regional council partnerships.
- When dealing with the public for mock outbreak exercise, the key to success of gaining entry was good communication. A fact sheet was posted about the mock exercise and the opportunity to take part. A pink ribbon was enclosed so that the household could tie it to the front door giving permission to gain access to the yard if the resident was not home. A total of 299 properties were inspected.
- The power of social media is a valuable tool in the distribution of education material.
- The citizen science component provided additional valuable information about backyard mosquito breeding and a gauge on community support for the management of mosquito risks in the region. 697 households conducted their own assessment of their yard.

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This project was the 2019 winner of the Environmental Health Management Award at the LGNSW Excellence in the Environment Awards