



TWEED
SHIRE COUNCIL

Tackling mosquitoes together

**Preparing to respond to the threat of exotic
mosquitoes in Northern NSW**

How did we even embark on the journey



How do you get to this?



You start with this



...an accidental discussion with Malcolm Robertson

Senior Project Officer Climate Change Impacts and Adaptation

And end with this!



Tackling mosquitoes together; **why we did it**

Zika virus: Battling the disease by repelling the mosquito menace

With the Zika virus declared a **global** public health emergency this week; there is a larger, more aggressive mosquito that is worrying authorities who are desperate to keep disease from reaching Australia.

That mossie is called aedes albopictus, or the Asian tiger mosquito.

Why is the **Tiger Mossie** a worry

- Authorities concerned the *aedes albopictus*, or the Asian tiger mosquito, may reach Australia
- Found on all continents except Australia and Antarctica, the Asian tiger mosquito can pass on multiple viruses to humans
- The mosquito could survive in colder climates in southern Australia
- Nuisance biter



"...Yes we had a wonderful holiday. Although the mosquitoes were a little troublesome."

Keeping Asian tiger mosquito at bay from Australia

- The Asian Tiger Mosquito is already in the **Torres Strait** and has been found in isolated cases at Australia's ports, like Brisbane, Cairns and Sydney.
- This mosquito has been repelled from entering Australia by a monitoring and trapping program at air and sea ports.



NEWS: AFTER A MOSQUITO SCARE IN AUCKLAND, MAF ARE SETTING TRAPS & CHECKING VEHICLES LEAVING PORTS.



Tackling mosquitoes together – why we did it

Aedes
aegypti



Aedes
albopictus



1. Future threats by exotic mosquitoes Aedes aegypti (the Dengue mosquito) and Aedes albopictus (Asian Tiger Mosquito)
2. Tweed Shire and Northern Rivers had little capacity to respond to mosquito threats
3. Tweed Shire Council borders with Gold Coast, International/Domestic Airport just on the border
4. Northern Rivers Region previously didn't have a plan to tackle a new mosquito threat
5. Short term threats included the 'Tiger Mosquito' and already existing mosquito populations
6. Long term threats include a better climate for the Dengue Mosquito (Aedes aegypti)
7. Public Health and adaptive capacity building



Tackling mosquitoes together - What we did



Workshop



Field Exercise



Community Survey



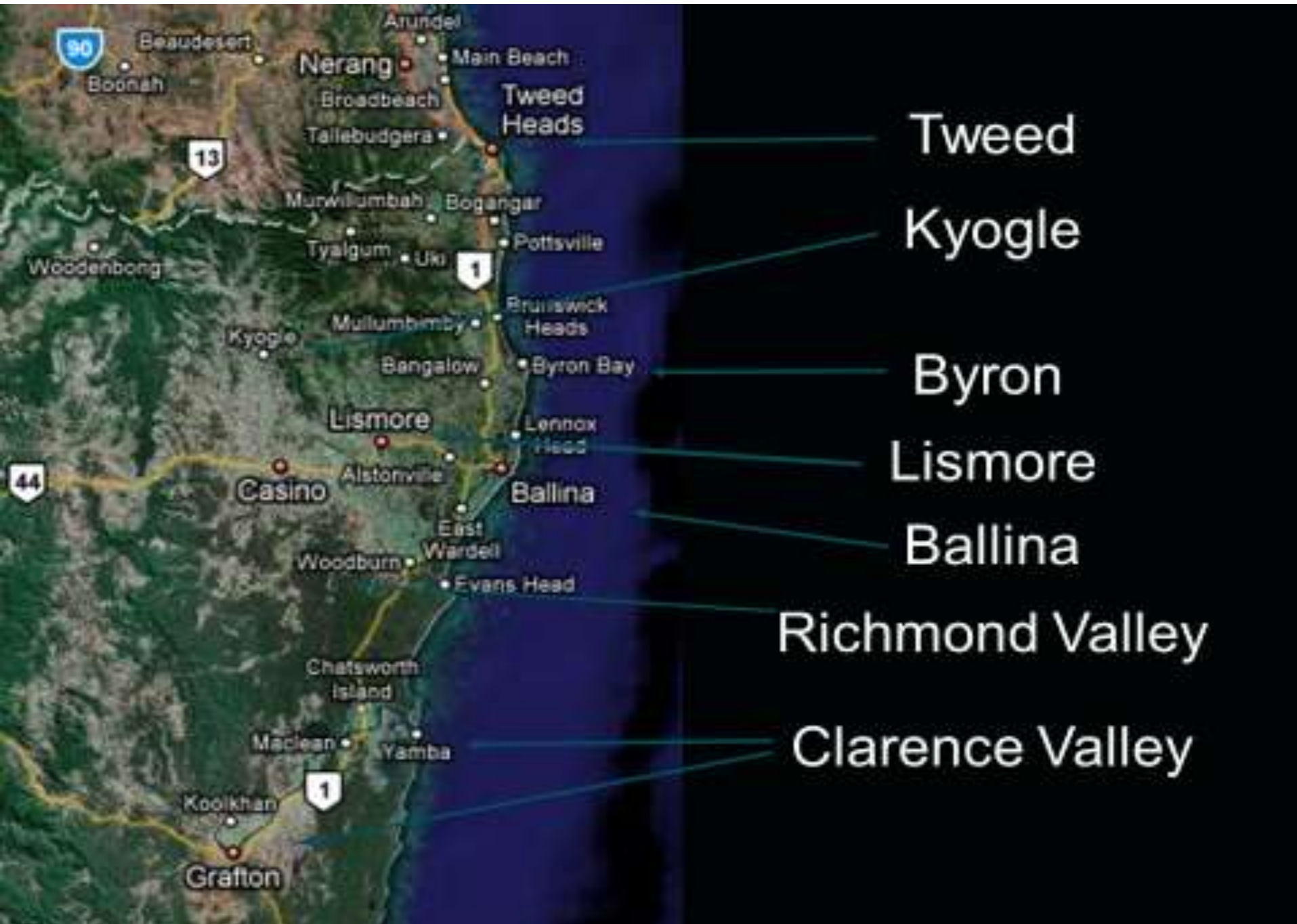
Surveillance Field Exercise



Online Survey



Report



Selecting and managing Consultants

What

- You want the right consultant
- Then you want their best work

How

- Work with someone in your organisation who has managed consultants before.
- It is OK to say no, to correct mistakes or ask for more.
- Build relationships with your consultants

Tackling Mosquitoes Together – Engage consultants



Dr Cameron Webb

- Prominent entomologist in NSW from Medial Entomology
- Development of Northern Rivers Exotic Mosquito Response Plan
- Implementation of mock field exercises
- Surveillance and trialling effectiveness of mosquito traps

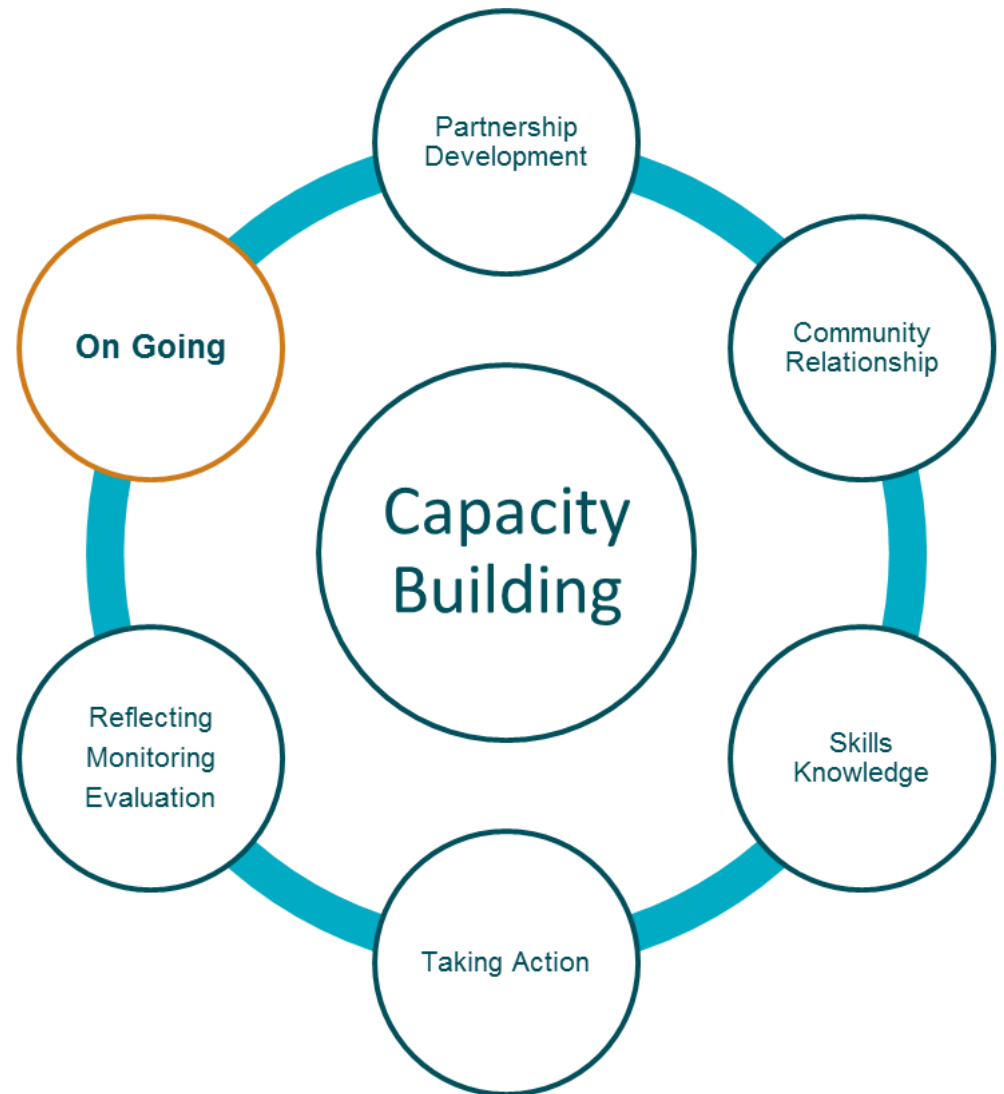


Dr Angela Dean

- Development of an Education Strategy 'Preparing for Behaviour Change Technical Report' with a focus on behaviour change and the key social challenges for mosquito-borne disease programs.

Tackling mosquitoes together - **Workshop**

1. Training and an overview of mosquito information provided to Officers
2. Knowledge sharing with experts in the field 8 councils represented
3. Planning field exercises



Tackling Mosquitoes Together – Field exercise



1. Two day exercise in Pottsville and Tweed Heads West December 2017
2. 11 local stakeholders represented and about 300 properties surveyed
3. Time consuming >15min/house; ~4,000 containers; suburb differences
4. 83% participants increased awareness; 94% participants acknowledge more work needed
5. No “short cuts” to identifying high risk properties; community assistance critical in real campaigns in future

Help Tweed Shire Council identify mosquito habitats in our backyards



Field Exercise: Mosquito survey, Koala Beach

Clear community information that answered the likely questions was essential!

Why we need help

Tweed Shire Council is asking for the support of Koala Beach residents by allowing staff access into your backyard to look for potential mosquito breeding habitats and record results in a survey.

This exercise is a key to building Council's capacity should we ever need to respond to exotic pest mosquitoes.

It will also assist in the development of a Northern Rivers exotic mosquito control plan for the region as part of the Building Resilience to Climate Change (BRCC) Grant received by Tweed Shire Council.

Koala Beach is one of only two sites in Tweed Shire selected for this survey.

The survey of your backyard will help identify the local conditions and environments that could be receptive to the establishment of invasive exotic mosquitoes in the future.

Don't be alarmed

There are currently no Dengue mosquitoes in NSW.

There is potential that they could arrive as adults, larvae or eggs from overseas or far north QLD (where they spread Dengue and other serious diseases).

This is why this survey is so important!

When we need your help?

Council's from across the Northern Rivers are joining to conduct a survey of local container inhabiting mosquitoes in the Koala Beach area on **Monday 11 December 2017** between 9am and 3pm.

Backyards hold amazing data

Backyards hold valuable information on mosquitoes that could be collected to help plan for the future.

We want to see your backyard as it normally is.

We also have mosquito traps to be set up in some backyards and are looking for willing participants.

Mosquito traps collect information on the types of species and numbers present in the area. Please contact Council if you would be happy to have a mosquito trap set up on your property when we visit.

Your Privacy Protected

Please note that data collected at your property will not be retained and the data will be averaged to protect your privacy.

How the survey works

Backyards will be inspected for potential mosquito habitat. If you are not home, a visual inspection from the street side of front yards will be done.

If you are willing to have a survey of your backyard completed even if not home please tie the enclosed ribbon on or around your letterbox

The surveys will be used to train staff from across the region. There will be no insecticides used during this exercise.

Further questions and to book a mosquito trap, please contact:

Kelly Piazza
Environmental Health Officer
Tweed Shire Council
(02) 6670 2699

Pink ribbons



Tackling Mosquitoes Together – Community Survey



1. ~90 residents surveyed “face-to-face” during field exercise
2. >90% aware of mosquito-borne disease but only ~30% considered it a problem in Northern NSW; inc RRV and DENV
3. >90% used personal protection measures to reduce mosquito bites; less than 50% aware of “breeding sites” around backyard
4. ~100% supported property surveys;
5. 83% supported insecticide use to control exotic mosquitoes;
6. 92% support insecticide if public health risk
7. Local newspapers main source information
8. Social media very effective in some areas

Tackling Mosquitoes Together – Online Survey

1. >700 respondents across stakeholder regions in northern NSW (~40% from Tweed Shire)
2. 60% already “knew what to do” to stop mosquitoes in backyard but 16% “didn’t know what to do” and 20% unlikely to “check backyard for mosquitoes”
3. 73% supported property surveys but 6% “not at all willing” to allow access and surveys
4. 53% supported backyard insecticide use but 14% “not at all willing” to allow mosquito control
5. Differences across region; less support for mosquito control outside Tweed Shire
6. Public health messages linking “family health” to “mosquito management” reminders stronger engagement

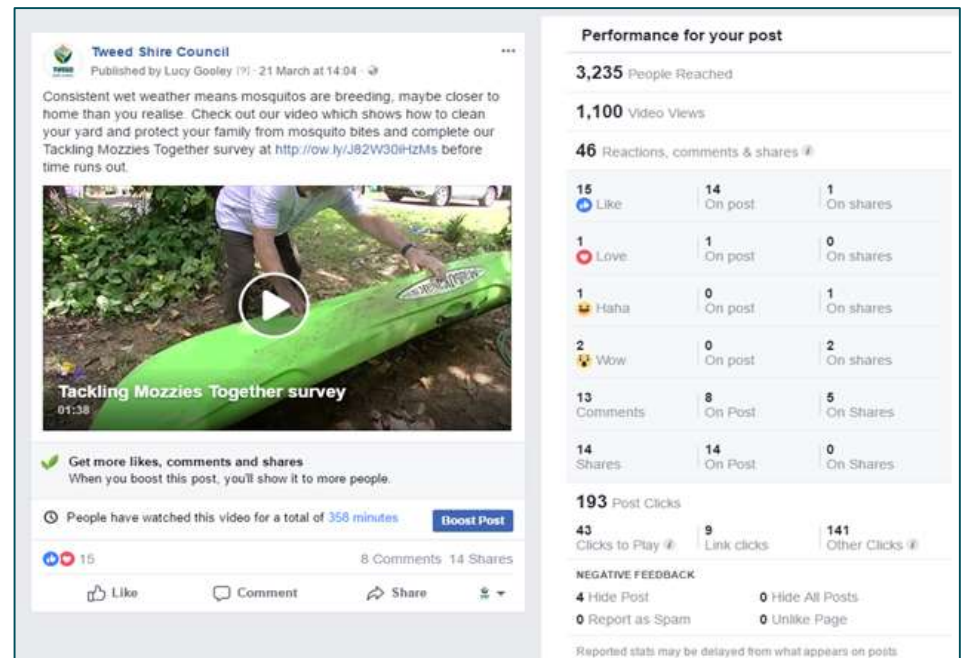


The power of social media



Boosted Facebook Video Post

- 52 likes, 42 shares, 24086 3 second video views, 1310 viewed whole video, 35 comments, 758 link clicks



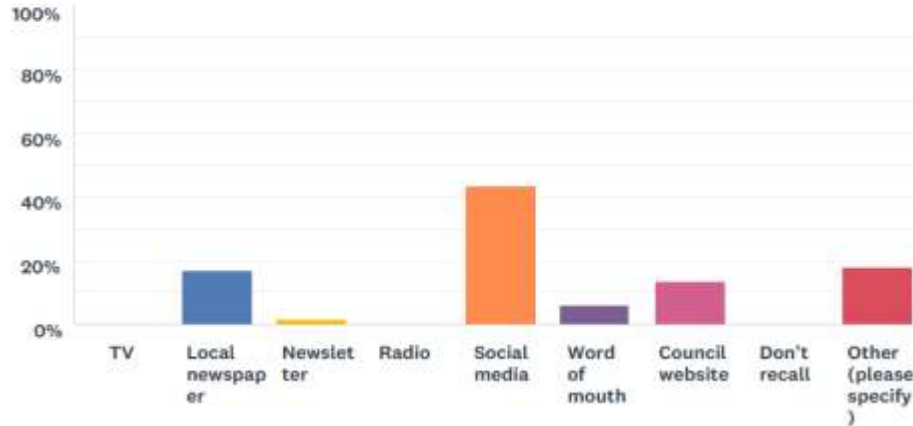
Normal Facebook Video Post

- 15 likes, 14 shares, 1000 views, 8 comments

Best way to share information

Q4 How did you find out about this survey?

Answered: 704 Skipped: 0



Tackling mozzies together

Complete the survey for a chance to win an iPad

Hate mozzies buzzing around your home? Become a citizen scientist and learn about their breeding habitat and how to remove it while gathering important data in your backyard, courtyard or balcony!

It's as simple as checking out and counting the water holding containers, such as buckets, bromeliads, kids toys and pet plant bases in your backyard and recording what you find in a survey - and there's a fantastic iPad to be won for participating!

The survey is a great way to learn, or refresh your knowledge on how to get rid of breeding habitat and protect yourself and your family from mozzies and is open to residents in the following local government areas: Tweed, Byron, Ballina, Richmond Valley, Clarence Valley, Lismore and Kyogle.



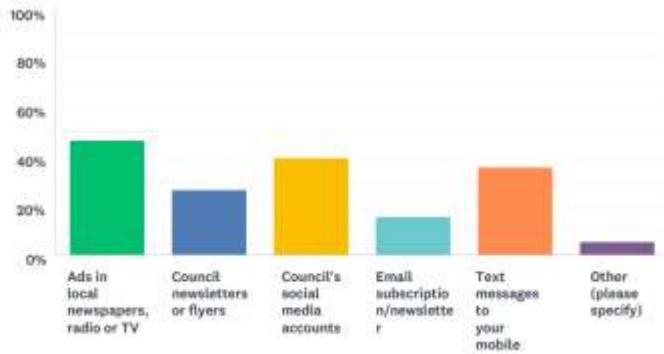
Visit www.yourshireland.com.au/tackling-mozzies-together to find out how you can make mosquitos harmless around your home - or complete the survey at www.yourshireland.com.au/tackling-mozzies

This project has been assisted by the New South Wales Government and supported by Local Government NSW.



Q12 What would be the best way for Council to remind you to check for mosquito breeding in your backyard?

Answered: 704 Skipped: 0



Regional Survey distribution



Ballina Shire Council
21 Mar at 11:41am

... COMPLETE MOZZIE SURVEY AND WIN ...
Do mozzies bug you? We've joined forces with local Northern Rivers Councils to help tackle mozzies and we need your help! We are now asking you to become Citizens of Science by completing this short survey. Plus you could win an iPad! For more information about the project visit: <http://bit.ly/2lDaxwN>



2 1 Comment • 1 Share

Kyogle Council
20 Mar at 11:12am

Kyogle Council residents are being invited to become citizen scientists as part of the Tackling Mozzies Together project led by Tweed Shire Council.

The project is aimed at building a framework for responding to threats of exotic mosquitoes in the region.

As part of the program residents in the Local Government Areas of Kyogle, Tweed, Byron, Ballina, Richmond Valley, Clarence Valley, Lismore and Kyogle are invited to participate in a short survey.



7

Byron Shire Council
20 Mar at 11:12am

This may have nothing to do with the survey, but mozzies are everywhere at the moment.

Guess what? They will soon feature in your email options as well!

Check out this fascinating article by mozzie guru Dr Cameron Webb, who lives in the Northern Rivers area recently helping to research our local mozzies.

If you live in the Northern Rivers, you can help by filling out a quick survey and be in the running to win an iPad!

<https://www.surveymonkey.com/r/tacklingmossies>

And a big thank you to **Tweed Shire Council** for leading this important campaign for our region!



9 Shares

Richmond Valley Council
20 Mar at 2:48pm

*** HOW MANY MOZZIES COULD BE BREEDING IN YOUR BACKYARD, COURTYARD OR BALCONY? ***

The 'Tackling Mozzies Together' Building Resilience to Climate Change project led by Tweed Shire Council is underway in the Northern Rivers and is currently building a framework for responding to threats of exotic mosquitoes in the region.

As part of this program residents in the Richmond Valley are invited to participate in a short survey and you could win an iPad! The survey closes on the 23 March 2018.



Byron Shire Council
20 Feb at 12:52pm

WANT TO HELP TACKLE MOZZIES? Take the survey

A project is currently underway in the Northern Rivers to develop a strategic plan to respond to the threat of exotic mosquitoes and their potential invasion of Australian backyards.

To better understand community awareness and attitudes to mosquitoes, residents in the local government areas of Tweed, Byron, Ballina, Richmond Valley, Clarence Valley, Lismore and Kyogle are invited to participate in a short survey.

<https://www.surveymonkey.com/r/tacklingmossies>

This project is supported by the New South Wales Government and Local Government NSW in collaboration with the University of Sydney.



Ballina Shire Council
18 Mar at 11:58am

Have you completed the Citizen Scientist Survey for your chance to win an iPad? Head to <https://www.yoursaytweed.com.au/tackling-mosquitoes-together> for more info.

Byron Shire Council Lismore City Council Richmond Valley Council Kyogle Council Dr Cameron Webb Clarence Valley Council

Dr Cameron Webb
24 Feb at 4:40pm

We need your help to better understand the backyard mosquitoes of the Northern Rivers region of NSW. Do you live in the local government areas of Tweed, Byron, Ballina, Richmond Valley, Clarence Valley, Lismore or Kyogle? Please take a few minutes to look around your backyard and fill out this quick online survey (you could even win an iPad!) <https://www.surveymonkey.com/r/tacklingmossies>



Lismore City Council
19 Mar at 6:12pm

Help us with the 'Tackling Mozzies Together' Building Resilience to Climate Change project and complete this survey. The project is all about developing methods to respond to threats of exotic mosquitoes in the region. We want you to become a 'citizen scientist' by counting the number of water-holding containers in your backyard, courtyard or balcony to provide valuable information on breeding habitat in our region. And you could win an iPad just for taking part. Survey closes 23 March, so hurry!



Tackling Mosquitoes Together – Surveillance Field Exercise



1. Traps trialled throughout 2 areas in February 2018
 - 160 Ovitrap, 20 at Koala Beach, 20 at Tweed Heads West
 - 11 EVS throughout both areas
 - 10 BG traps
 - 12 Gat Traps
2. Data on the prevalence of endemic mosquitoes - no exotic mosquitoes
3. Trial demonstrated importance of Ovitrap to an integrated approach to future incursion responses
4. Experiences gained contributed to the action plan
 - Location
 - Costs
 - Time, timing

Tidy vs Untidy Yards and the impact to Mosquito Breeding



Vs



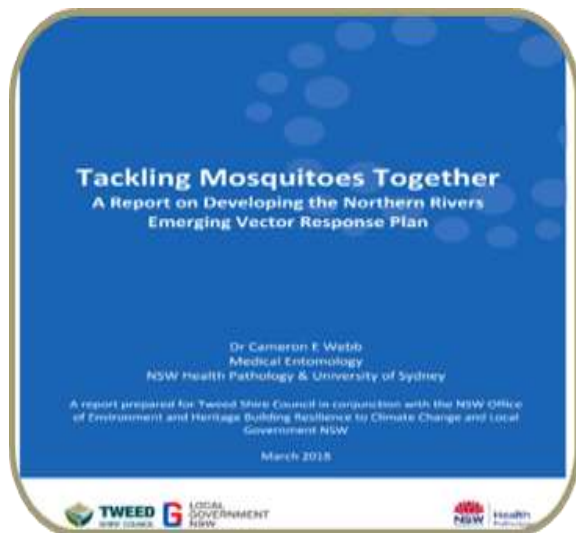
Tackling Mosquitoes Together – Outcomes



1. Strengthened regional capacity through the implementation of workshop and field exercises and the development of rapid response network
2. Officers involved in region were provided with valuable learning experience and strengthening relationships
3. Mock exercise and results provided valuable insights in to the operation aspects of a response
4. Valuable data was obtained through the use of Citizen Science about was in the backyard across the region
5. Improved effectiveness of community education to emerging vectors to reduce the spread of disease
6. Short term effects of community education about container breeding mosquitoes in the Region



Tackling Mosquitoes Together – where to from here?



1. Formalise arrangements among local stakeholders regarding response capacity (inc. training, equipment, surveillance, control, and coordination)
2. Develop regionally specific community education and engagement program (i.e, citizen science)
3. Establish multi-agency Northern Rivers Exotic Mosquito Advisory Group (expert response advisory panel)
4. Other 'Mock outbreak' training days hosted by other Council's in the Northern Rivers region (Bi-annual)
5. 'Tackling Mosquitoes Together' will form the framework for broader strategic response across Northern NSW
6. The Environmental Health Profession has been strengthened



Mavis the mossie...making an impact



Questions?

