



Mobile data capture and reporting for Biosecurity at Auckland Airport

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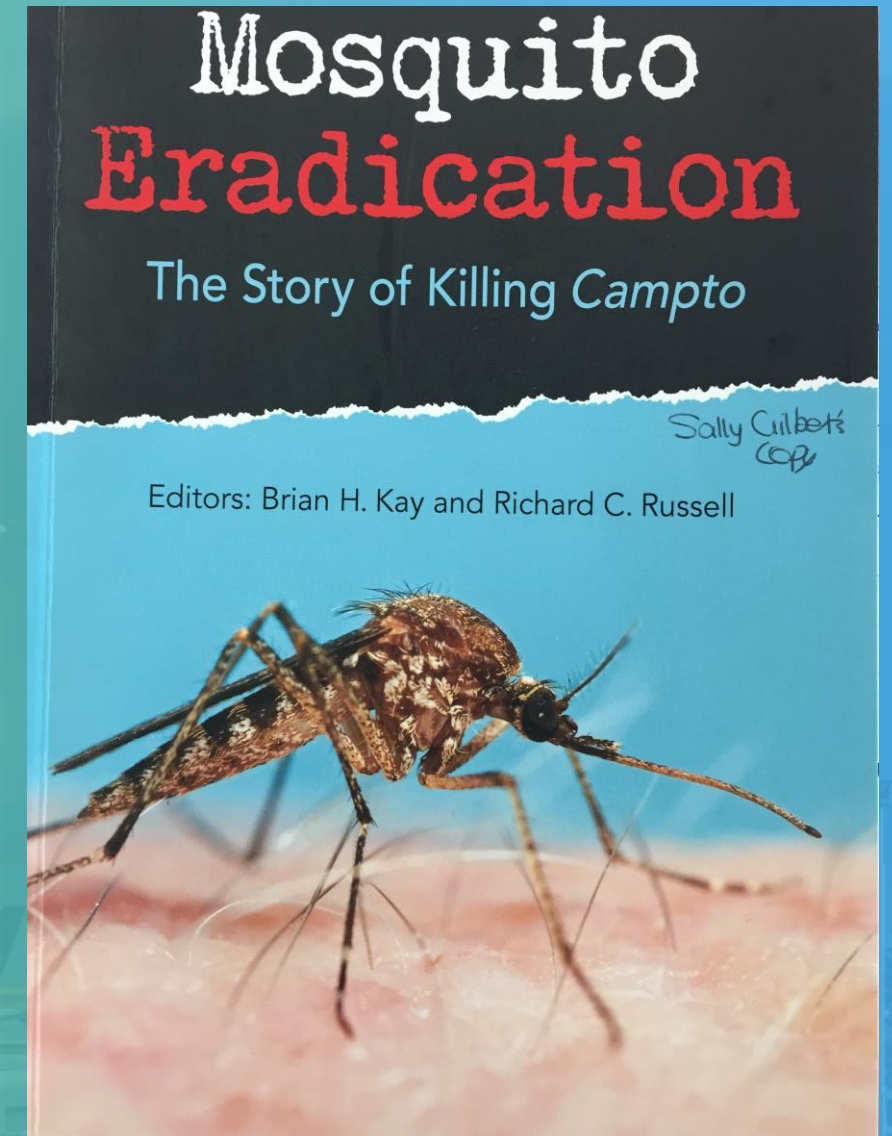
Brian Rae – Asset Information Manager – Auckland Airport

Michael Prior - GIS Lead – Auckland Airport



Mosquitoes in NZ

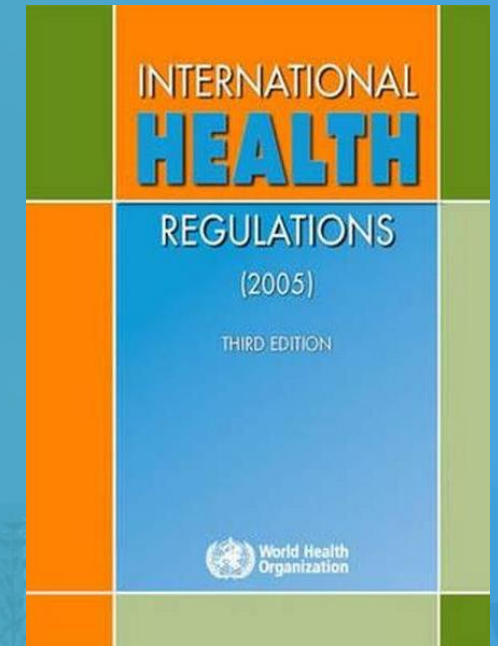
- 15 mosquito species
- None competent disease vectors
- 1998 *Aedes camptorynchus* incursion
- Exotic mosquitoes a recognised risk
AND interceptions increasing



International Health Regulations 2005 (IHR)

- Requires POE to be free of source of contamination including vectors and reservoirs
- Details core capacities for designated POE
- Place responsibilities on state parties, competent authorities and POE

NZ has vector surveillance at all IHR POE





MANATŪ HAUORA



Ministry for Primary Industries
Manatū Ahu Matua



Reprint as at 14 July 2017



Health Act 1956

Public Act 1956 No 65
Date of assent 25 October 1956
Commencement see section 1(2)

Reprint as at 28 September 2017



Biosecurity Act 1993

Public Act 1993 No 95
Date of assent 26 August 1993
Commencement see section 1(2)



Billions

Of dollars generated



20,000

Jobs on and around the airport



18 Million

Passenger movements through Auckland Airport in the last year



28

Airlines Fly directly



45

International Destinations



92

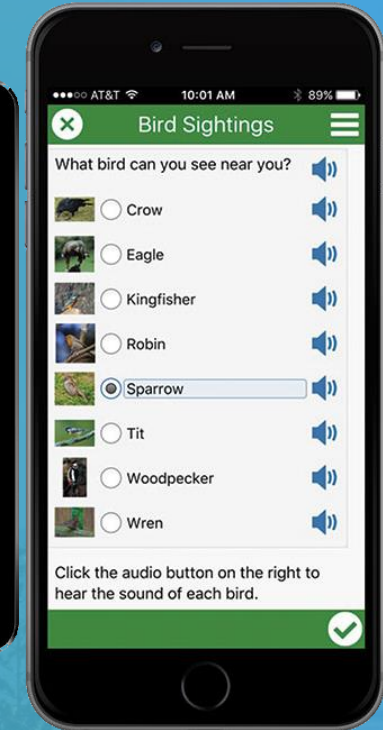
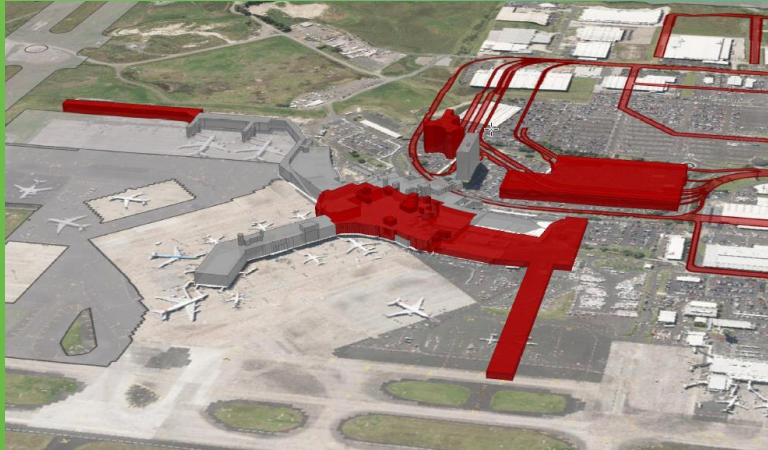
Percent freight trade by weight

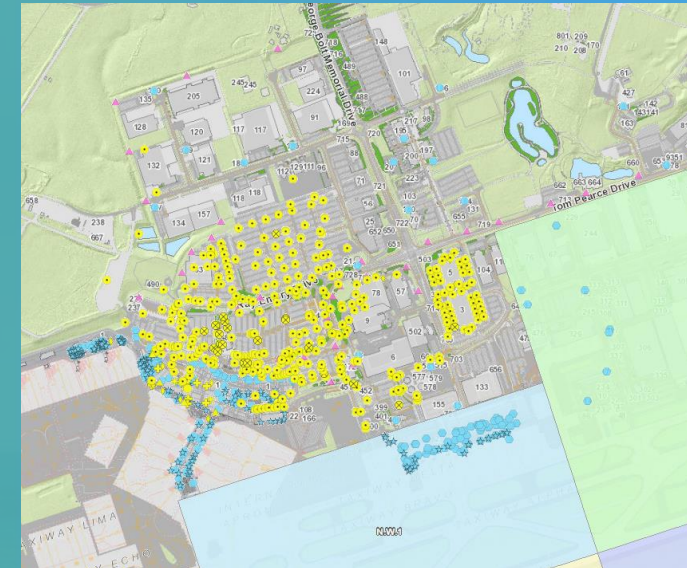
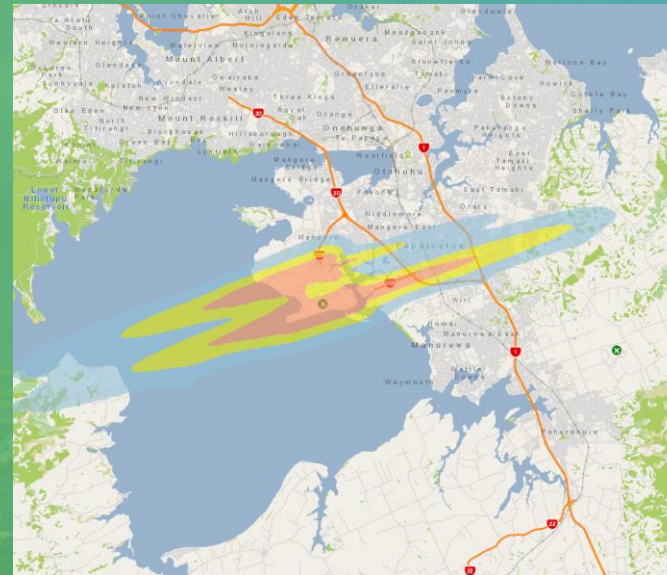
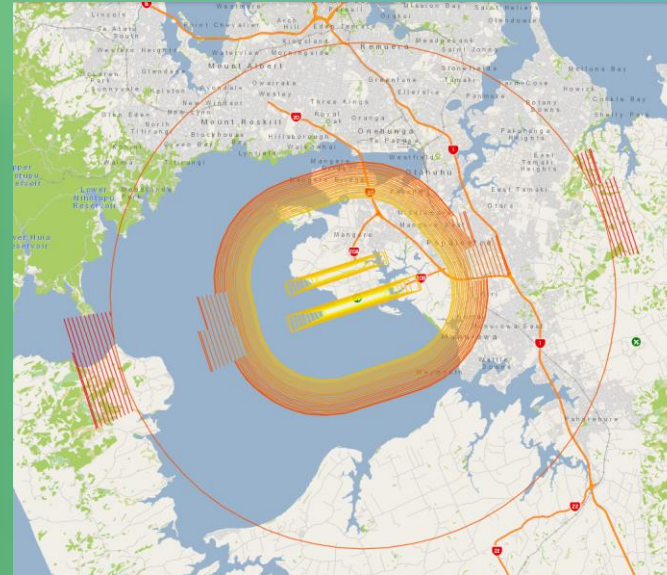
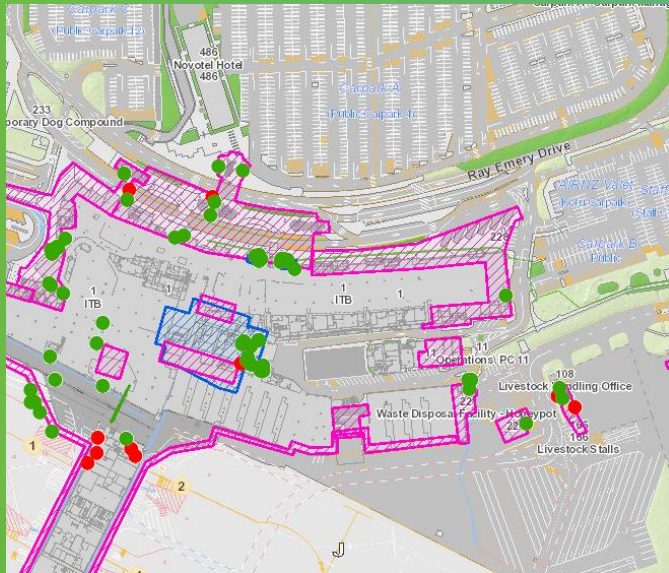
Auckland International Airport Ltd

- Highest vector risk for NZ POE
 - Aircraft/passenger numbers, climate
- AIAL exotic mosquito interceptions increasing
 - 2015 – 3 (4 nationally)
 - 2016 – 4 (6 nationally)
 - 2017 – 9 (11 nationally)
 - 2018 – 0 (2 nationally)



Auckland Airport Asset Information Team







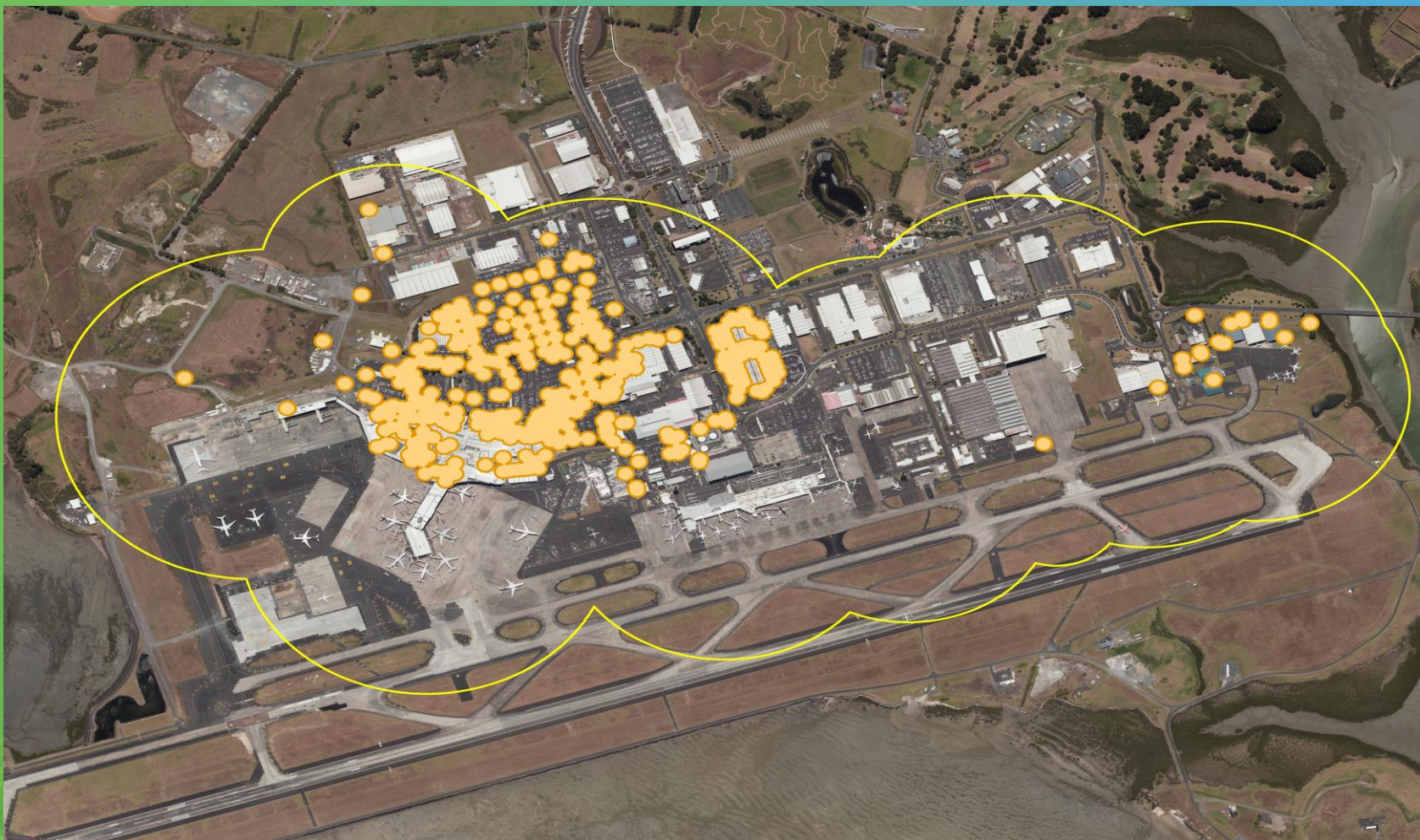




How to capture a Mosquito

The size of the task

12





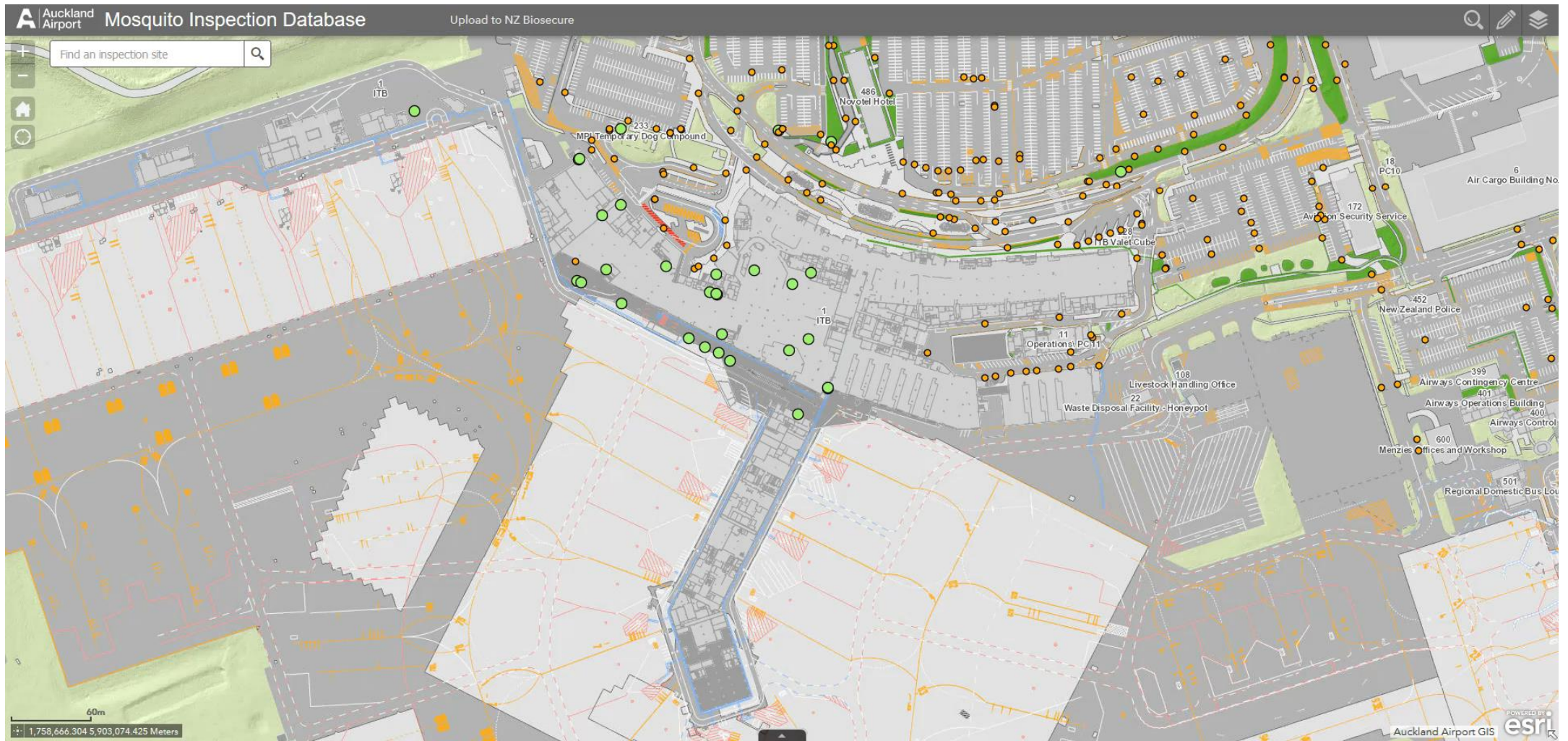
Requirements:

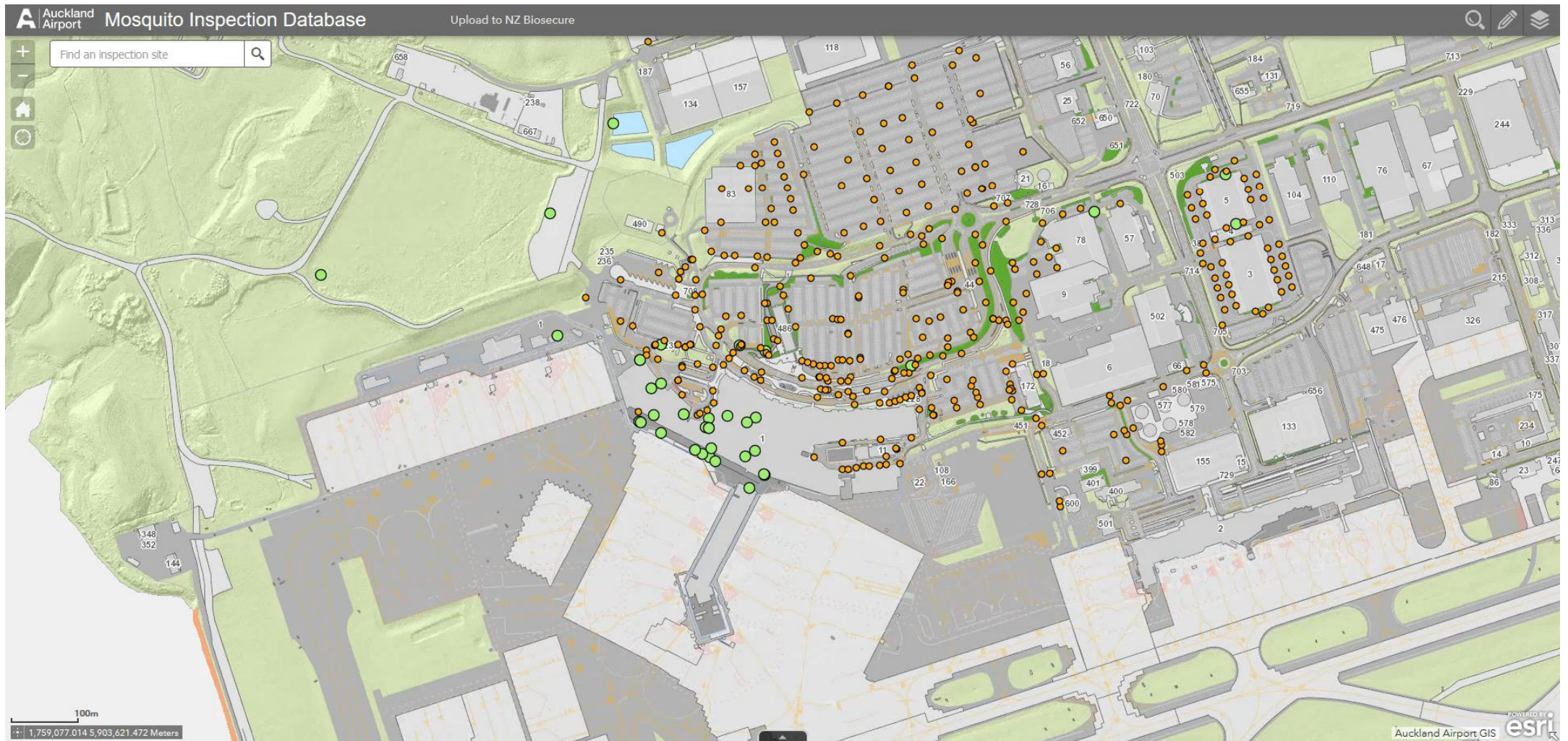
- ❖ Mobile
- ❖ Quick
- ❖ Easy
- ❖ Exportable
- ❖ Findable
- ❖ Reportable

Solution



[Read akairport.maps.arcgis.com](http://Read%20akairport.maps.arcgis.com)







What happens with the Information?

Download Process

20

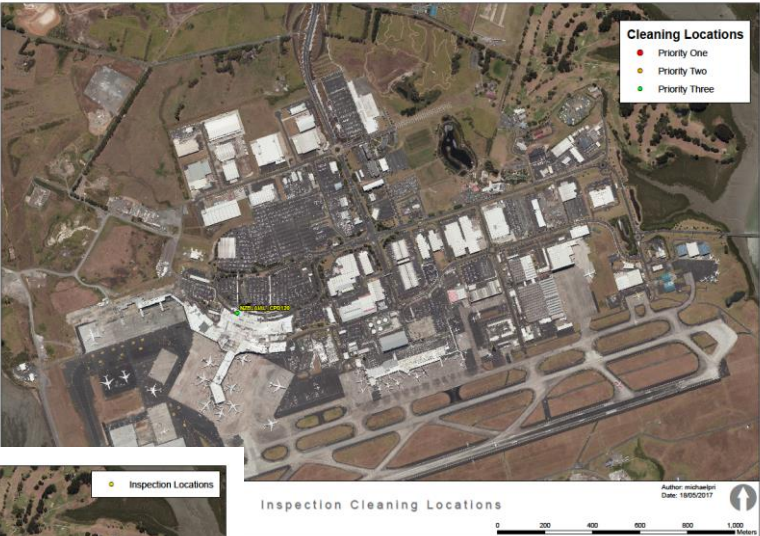


- ❖ Overnight downloads
- ❖ Processed with FME
- ❖ Emails results
- ❖ Stores information Into SDE



Results

Location					
A	B	C	D	E	F
1	Location	TrapType	SampleResults	TrapNights	AdditionalComments
2	NZB_AIALPond_4	Not a Trap	positive		
3	NZB_AIALPond_3	Not a Trap	positive		
4	NZB_AIALPond_2	Not a Trap	negative		
5	NZB_AIAL_Tyre 16	Ovitrap - Tyre	negative		
6	NZB_AIAL_BG2	BG Trap - Adult	negative	3	
7	NZB_AIAL_BG1	BG Trap - Adult	negative	3	
8	NZB_AIAL_Dom1	Dominator	positive	3	
9	NZB_AIAL_BG3	BG Trap - Adult	negative	3	
10	NZB_AIAL_Tyre 19	Ovitrap - Tyre	negative		
11	NZB_AIAL_Tyre 20	Ovitrap - Tyre	negative		
12	NZB_AIAL_BG6	BG Trap - Adult	negative	3	
13	NZB_AIAL_Tyre 21	Ovitrap - Tyre	negative		
14	NZB_AIAL_BG4	BG Trap - Adult	negative	3	
15	NZB_AIAL_Tyre 22	Ovitrap - Tyre	negative		
16	NZB_AIAL_Tyre 1	Ovitrap - Tyre	negative		
17	NZB_AIAL_Tyre 17	Ovitrap - Tyre	negative		
18	NZB_AIAL_Dom2	Dominator	positive	3	
19	NZB_AIAL_Dom3	Dominator	positive	3	
20	NZB_AIAL_Tyre 18	Ovitrap - Tyre	negative		
21	NZB_AIAL_BG5	BG Trap - Adult	negative	3	
22	NZB_AIAL_BG7	BG Trap - Adult	negative	3	
23	NZB_AIAL_Tyre 23	Ovitrap - Tyre	negative		
24	NZB_AIAL_Tyre 24	Ovitrap - Tyre	negative		
25	NZB_AIAL_Tyre 7	Ovitrap - Tyre	negative		
26	NZB_AIAL_CPD173	Not a Trap	positive		
27	NZB_AIAL_CPD120	Not a Trap	negative		
28	NZB_AIAL_CPD290A	Not a Trap	positive		
29	NZB_AIAL_CPD289	Not a Trap	negative		
30	NZB_AIAL_CPD118A	Not a Trap	negative		



Location Maps

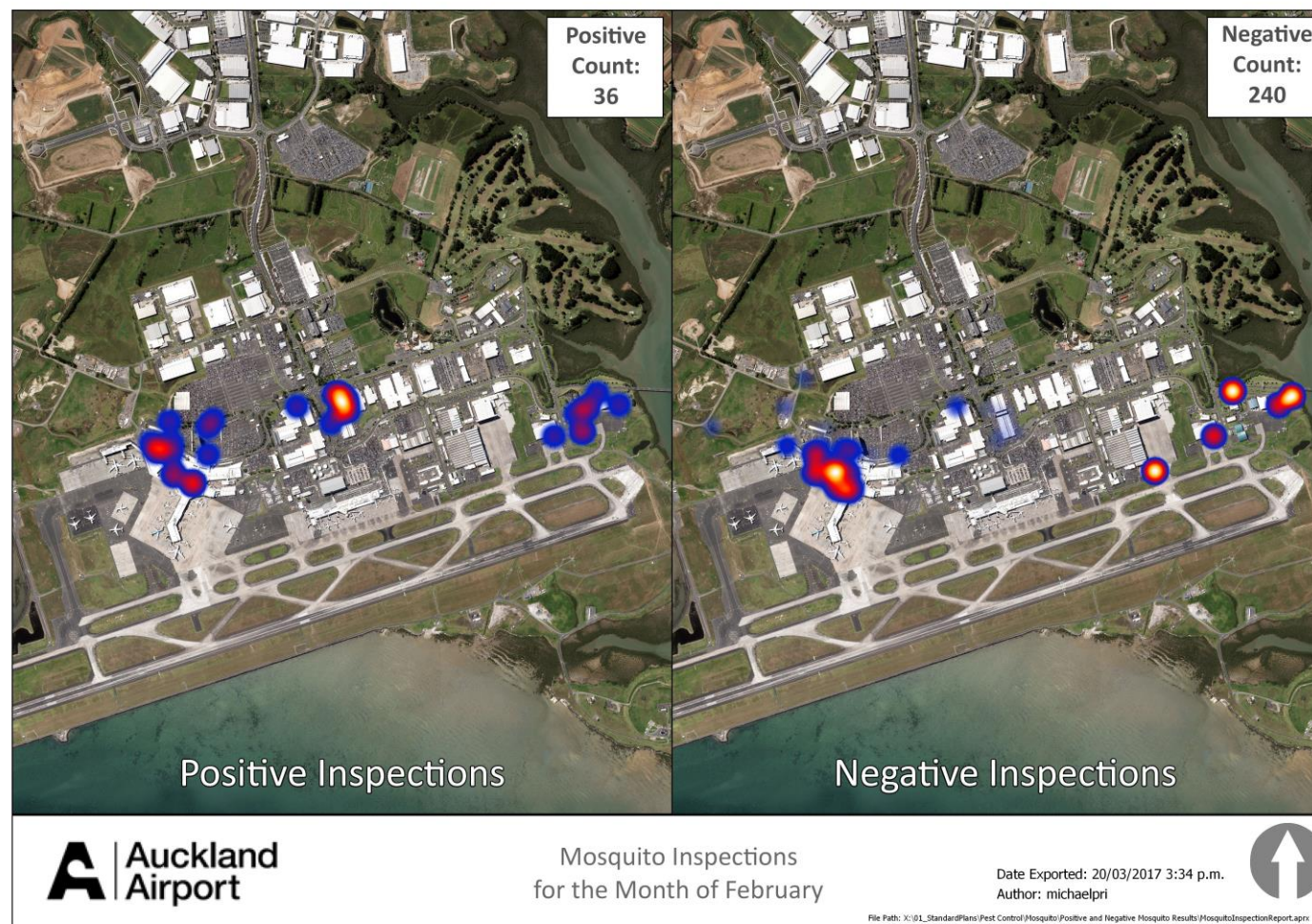
22





Monthly Reporting

23





Yearly Reporting

DETAILED DISCUSSION OF 2016/17 ACTIVITIES.

A. Insects/Mosquitoes.

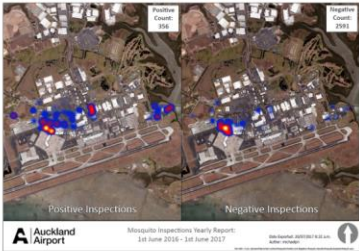
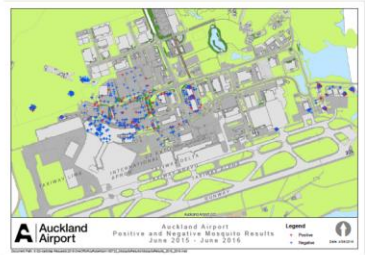
SMS New Zealand BioSecure undertakes a surveillance programme on behalf of Auckland Airport. This programme includes surveillance of traps, ponds and cess-pits for evidence of mosquito activity – both adult species and larvae.

Climatic Conditions Overview

This summer has seen a significant increase in humidity and wet conditions highly suitable for mosquito breeding reflected in a higher number of local species related interceptions.

Southern Monitoring Surveillance Activities:

Southern Monitoring Services have provided the Vector Control services at Auckland Airport in the last 12 months. We are now receiving consistent data over time so as to better review and map at-risk areas. A copy of the surveillance results for the last and previous 12 months results is set out below:

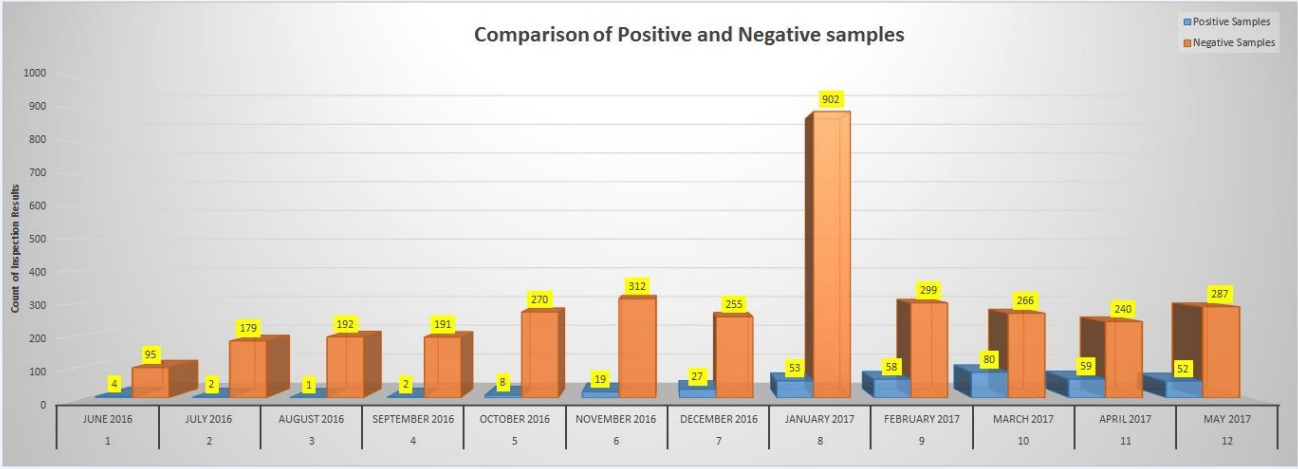


Zone Surveillance:

SMS New Zealand BioSecure surveillance programme has divided the Airport into eleven zones which are monitored according to their risk profile vs frequency so as to provide for a more robust control programme. Weekly surveillance reports and bi-monthly summary reports provide detail of any recommendations and specific surveillance activities carried out. All specimens collected have been identified by the New Zealand BioSecure Entomology Laboratory.

Even though there was an increase in the number of cesspits surveyed and with conditions being more favourable for mosquito breeding during the 2016/2017 season than in 2015/2016, the number of larvae found was less. It is believed that is due to the combination of both 'wet events / flushing of drains' and the cleaning of cesspits by City Parks.

Trap Surveillance – Adult:





An aerial photograph of the Auckland Airport terminal and surrounding infrastructure. The terminal is a large, modern building with a white roof and multiple wings. Several aircraft are parked at the gates. In the background, there are runways and taxiways, and the airport is situated near a body of water.

Thank you from the Auckland
Airport
Asset Information Team.

An aerial architectural rendering of the Auckland Airport International Terminal. The terminal is a large, modern building with a white, curved roof and multiple levels. It is surrounded by parking areas, roads, and green spaces. In the background, the airport's runways and taxiways are visible, along with several aircraft parked at gates. The entire scene is set against a backdrop of a body of water and a clear sky.

Questions?