



Rodent surveillance

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Detection and surveillance research workshop
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What species are present?

Essential information for management
Mice can be undetectable in presence of rats



I know mice are there, has anything else turned up?

e.g. Tawharanui
Possibly future for all of NZ
– Predator Free NZ

New species?

RODENT SURVEILLANCE – WHY?

Has my eradication been successful?

Post eradication monitoring or wait 2 years and see?



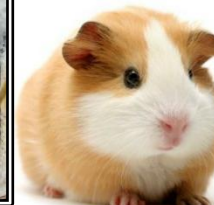
Food industry

Rat in jar of marmite = national catastrophe
Can ecologists learn from other industries?





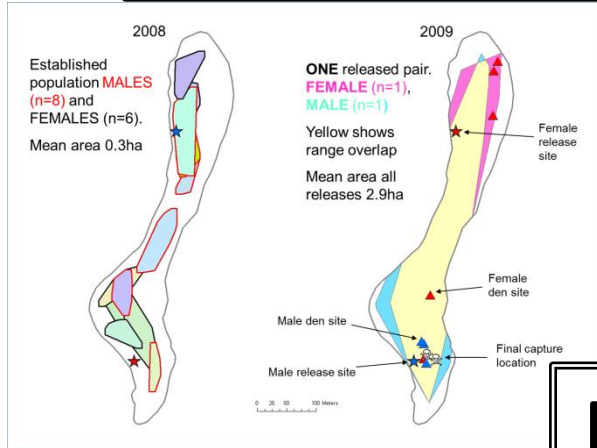
RODENT SURVEILLANCE – HOW?





Detectability
 Varied and possibly unpredictable?
 Worth discussion?

Invasion behaviour
 Broadly similar in three main species
 All eventually range widely



RODENT BEHAVIOUR



Lures
 What works? Sex? Food?
 Combination?
 Does this change with density? Age? Gender?

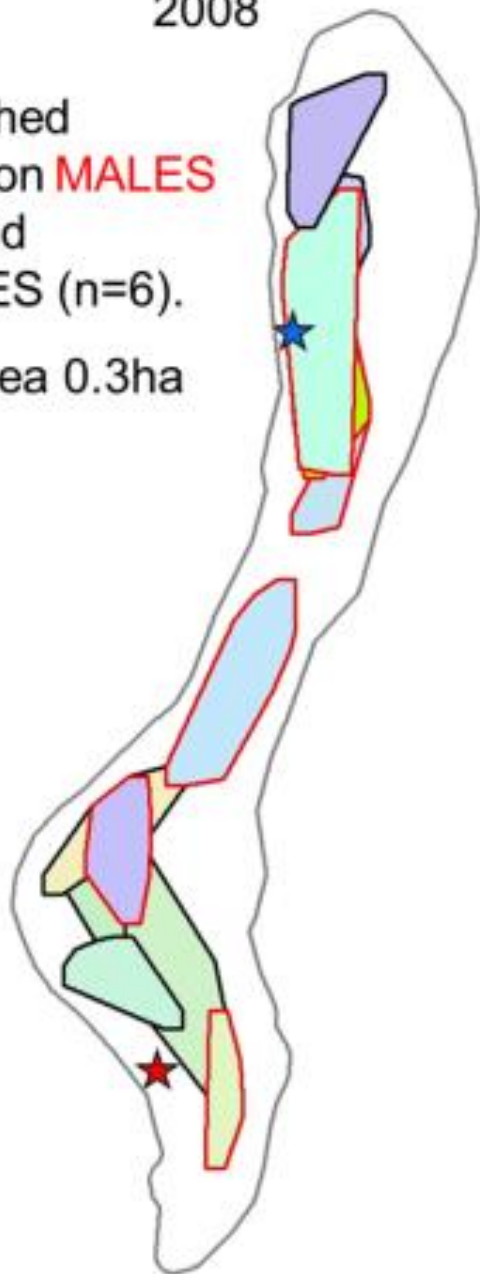
Survivor behaviour
 Crucial for eradications
 Is it different to invasion behaviour?
 Induced neophobia?



2008

Established
population **MALES**
(n=8) and
FEMALES (n=6).

Mean area 0.3ha

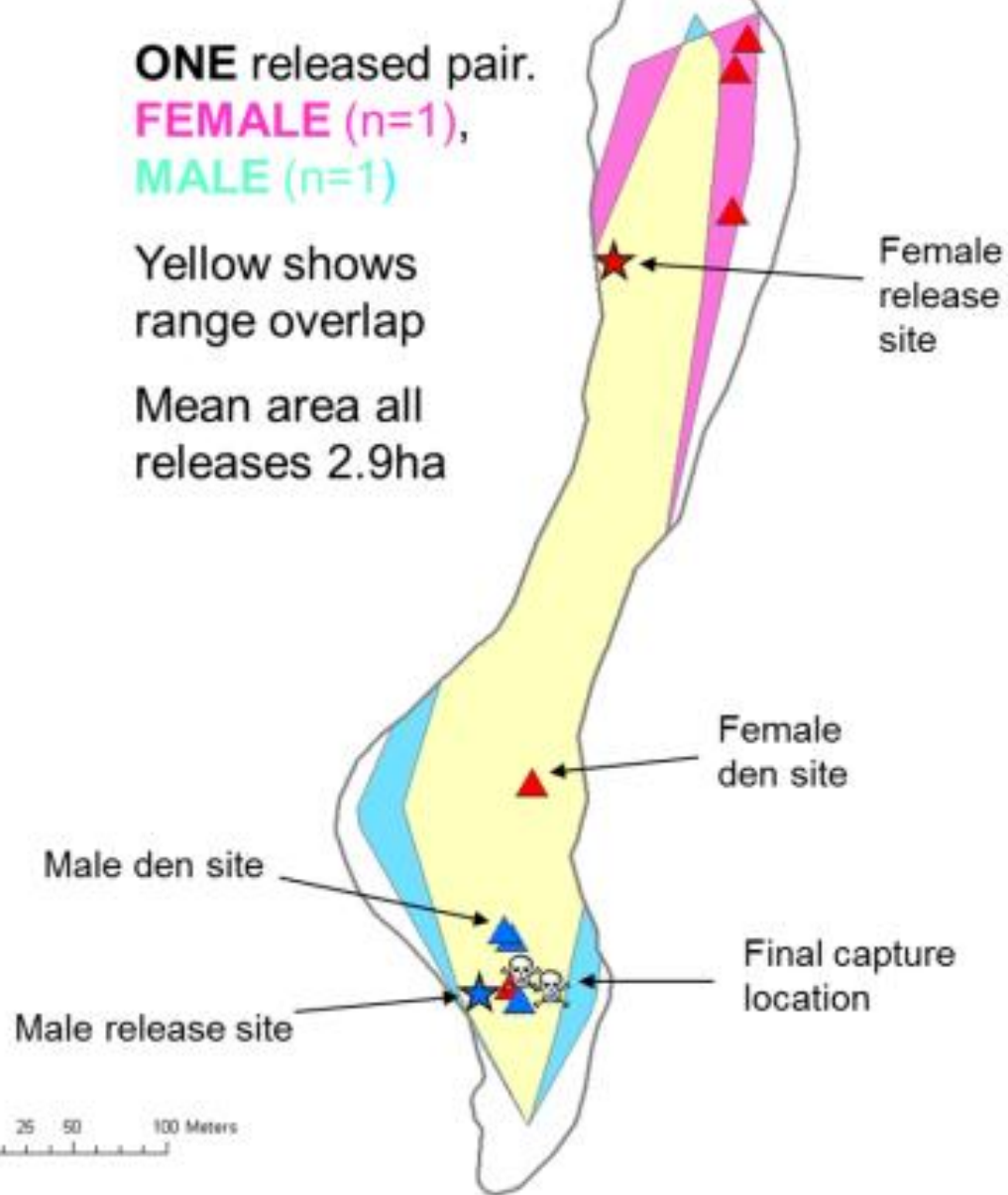


2009

ONE released pair.
FEMALE (n=1),
MALE (n=1)

Yellow shows
range overlap

Mean area all
releases 2.9ha



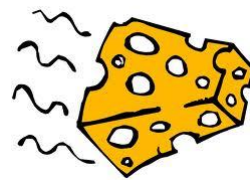
Pest free islands

Permanent monitoring needed
Detection device with incursion alarm?
Smart tools that recognise species and respond accordingly?

Predator-free New Zealand

Mice not specifically targeted
How to detect other species when mouse numbers high?

RODENT SURVEILLANCE – WHERE TO NEXT?



Long-life lures
Important for surveillance devices in pest free areas



Behaviour

Invasion well studied, what about eradication survivors?
Are current surveillance tools behaviourally robust?