



Wallaby surveillance

Detecting small cryptic nocturnal neophobic macropods at low densities

Dale Williams,
Bay of Plenty Regional Council

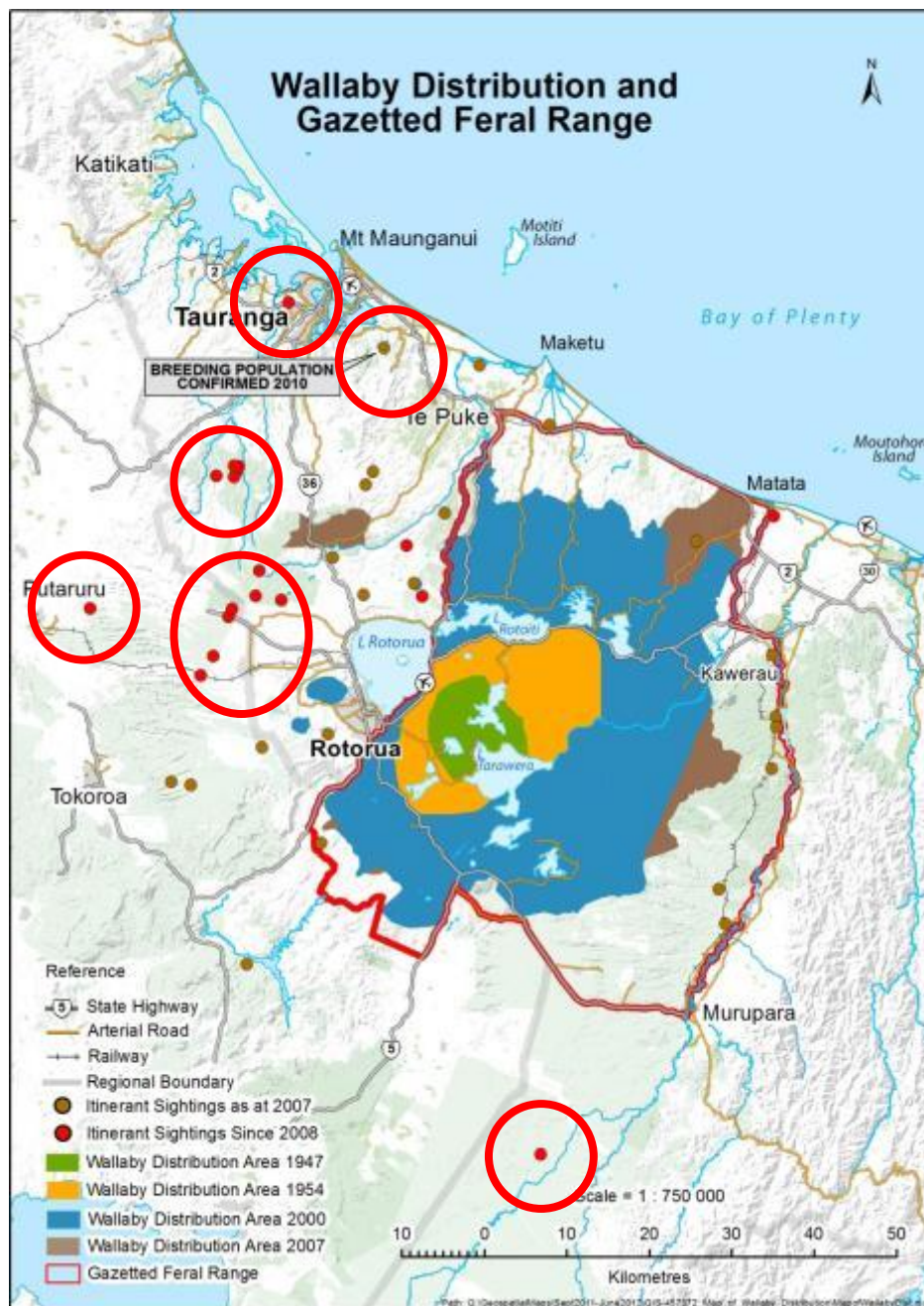
Phillip Commins
54 Rocky Cutting Road
RD5 Tauranga



Dama Wallaby (*Macropus eugenii*)



- Small < 7 kg
- Nocturnal
- Prefer scrubby habitat with access to grass
- Cryptic



**Since 1912
their range
has continued
expanding to
cover
> 180,000ha**

Research Needs - Dispersal

We need to know;

- What drives dispersal?
- Are there obvious invasion corridors?
- At what point do dispersing animals establish a new population?

Research Needs - Monitoring and/or Surveillance methods

- “Cleared plot faecal pellet counts” are precise but extremely labour intensive...
- We need monitoring & surveillance tools that work well at low densities
 - “Containing” pests - need to detect new populations as soon as they establish
 - “Eradicating” pests - need to be damn sure that you have got the last one!

Potential monitoring tool?

The potential has been proven



- Trained indicating dogs can detect all kind of things with a high level of confidence

Worth considering!

Wallaby indicating dog and handler



**Wallabies confirmed at locations
west of Rotorua in the Mamaku Ranges**

Research Needs – Indicating dogs

We need to know;

Detection probability? How good is the dog and handler at finding wallabies?

- Claire Veltman’s presentation...
- How often are wallabies missed?
- How frequent are “false positives”?
 - Influenced by; weather, landscape, skill fitness, and mood of the dog & handler

Trail cameras



We've had some success with our Reconyx trail cameras

New wallaby population confirmed west of the Kaituna River

2012-06-25 8:01:58 PM

M 4/5

5°C

Phillip Commins 2012



HC500 HYPERFIRE



Plus an unexpected bonus!

First kiwi recorded in the Rotorua District in the last decade

2012-01-27 3:00:49 AM M 1/3

12°C

Phillip Commins 2012



HC500 HYPERFIRE



Research Needs – Trail cameras

We need to know;

Detection probability?

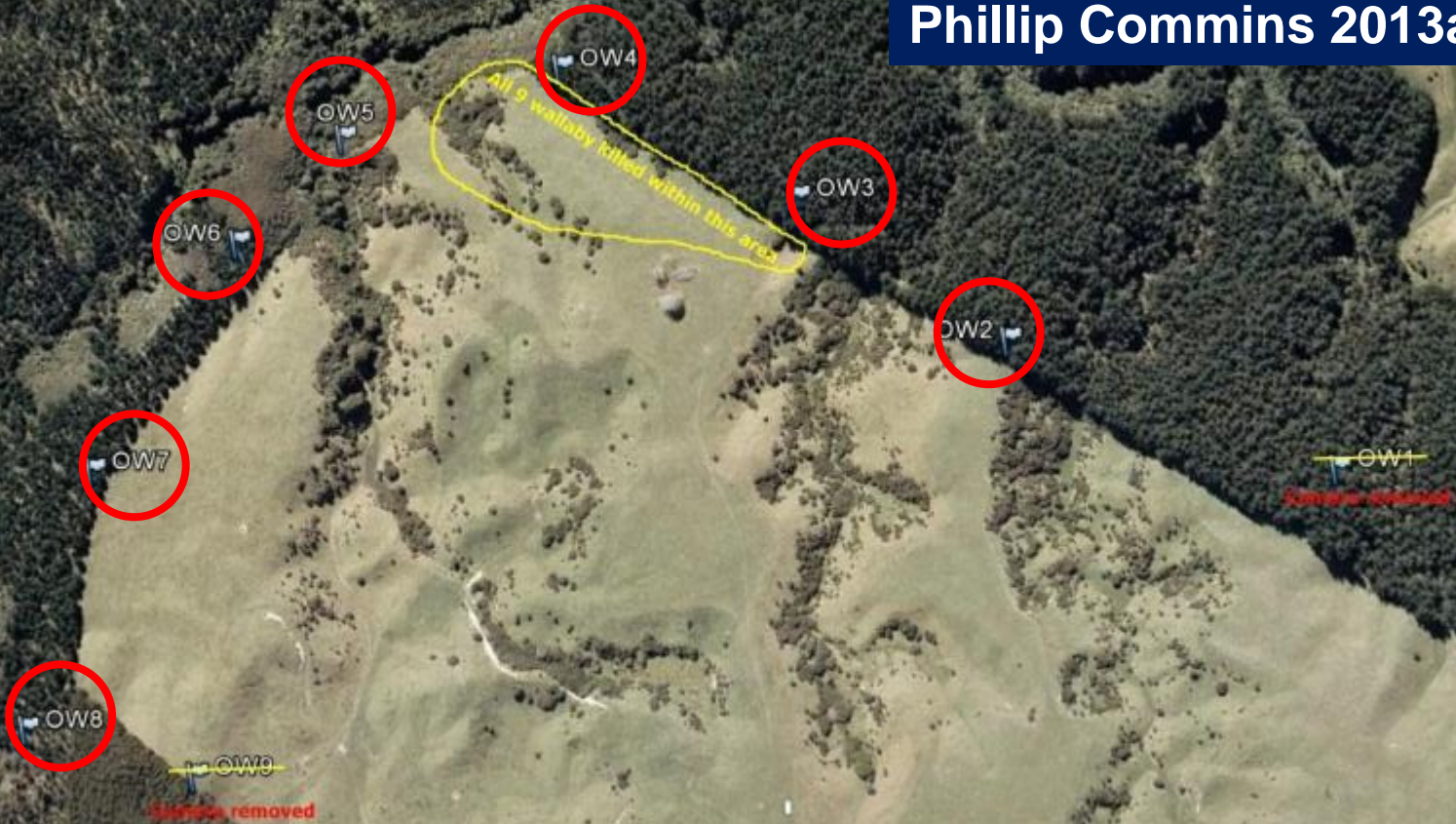
- How many cameras for how long to have a good chance of picking up a wallaby

Need a clear protocol – consistent set-up and data interpretation

Can we use trail cameras as a monitoring tool like RTCI for possums?

CAMERA LOCATIONS OKERE JAN 2013

Phillip Commins 2013a



337 m

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Image Bay of Plenty TAs

37° 59' 26.60" S 178° 15' 17.83" E elev. 331 m

Google

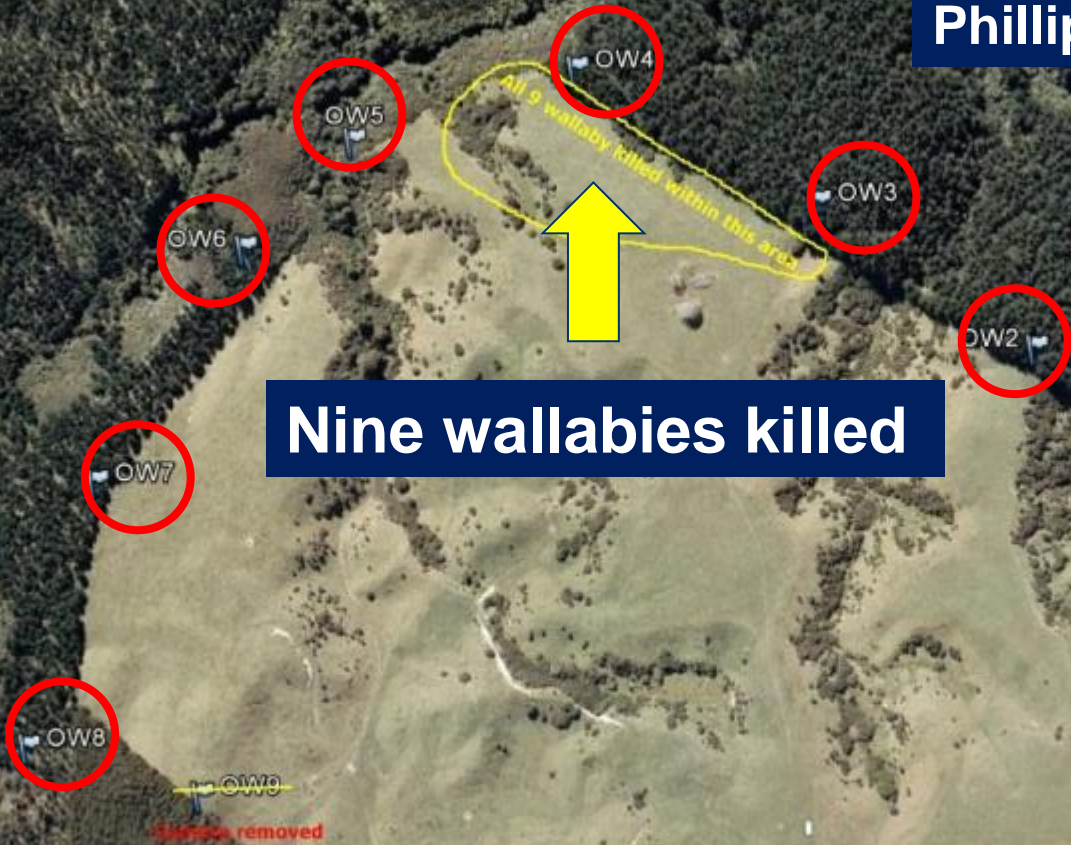
Interpretation of trail camera results

Photos of wallabies defined as separate “Camera Events” if;

- gap of 5 minutes between photos
 - Unless animals clearly identified due to individual markings or difference in size
- If more than one wallaby present in a photo each individual is counted as an “event”.

CAMERA LOCATIONS OKERE JAN 2013

Phillip Commins 2013a



Nine wallabies killed

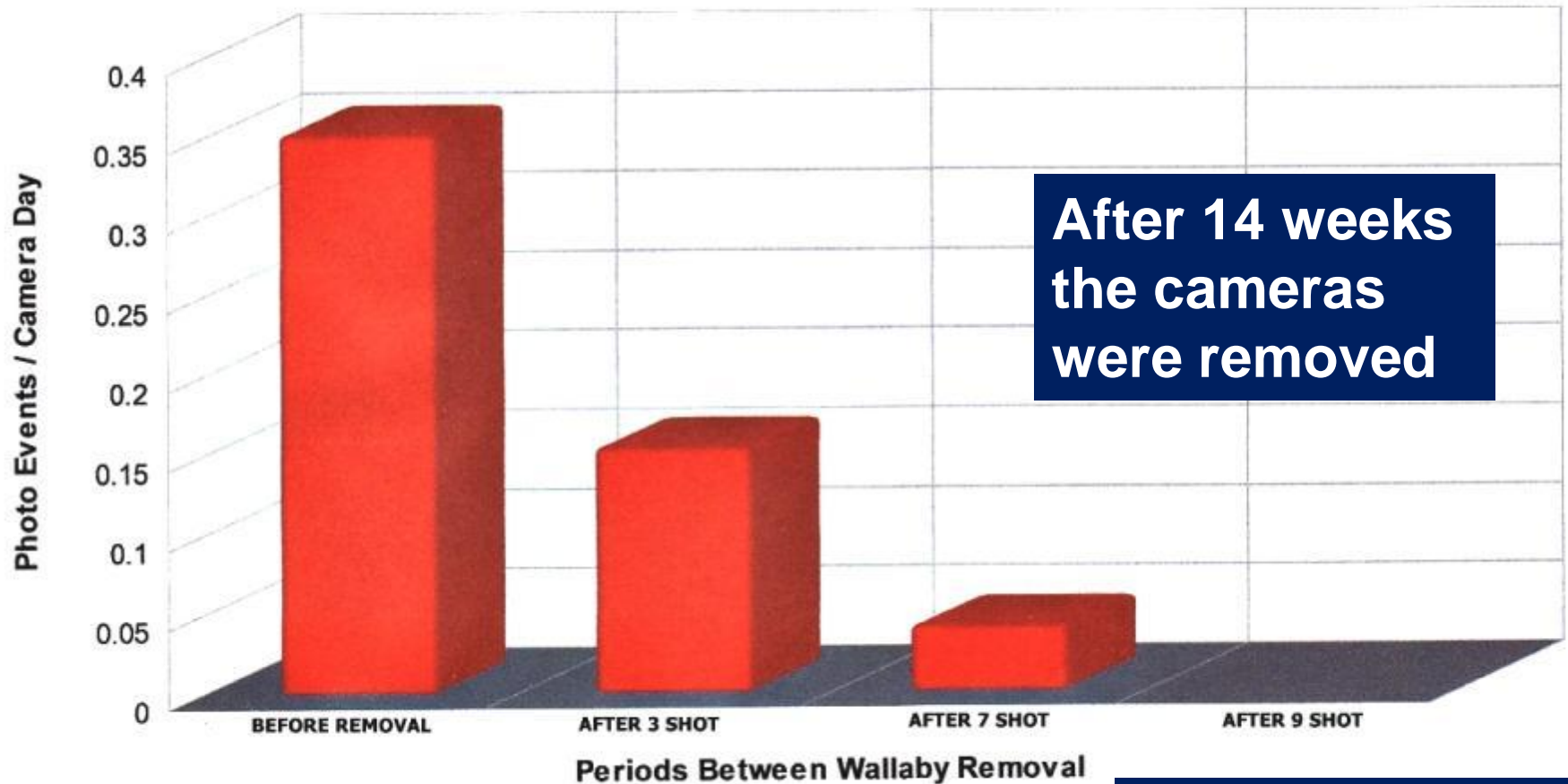
After 5 ½ weeks a spot-lighting operations was initiated

©2013 Where's Santa Pty Ltd
Image Bay of Plenty 11/13

37° 59' 26.60" S 178° 15' 17.83" E elev. 331 m

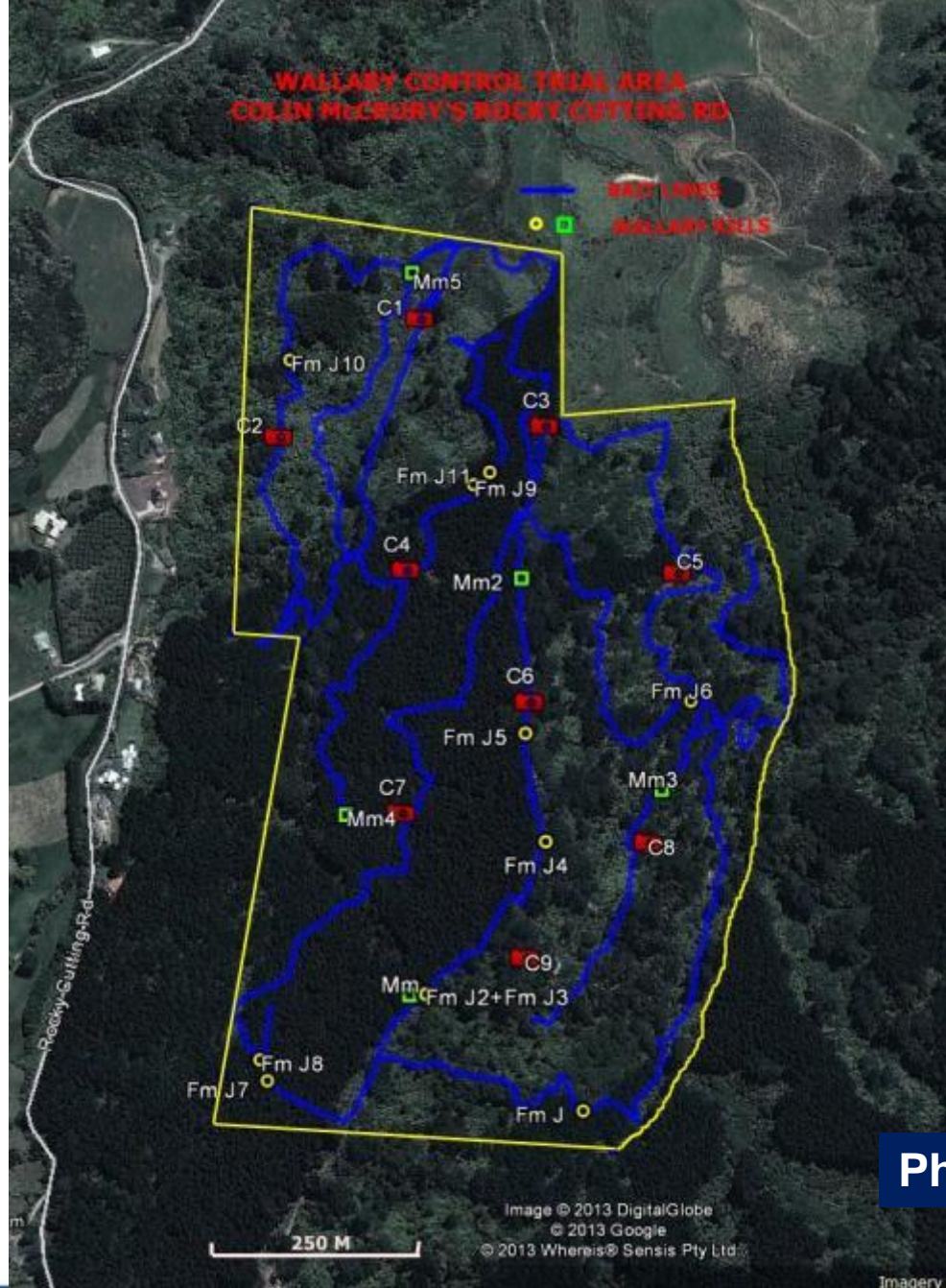
Have we reached “zero density”?

CAMERA MONITORING RESULTS



Phillip Commins 2013a

WALLABY CONTROL TRIAL AREA
COLIN McCRORY'S ROCKY CUTTING RD



Phillip Commins 2013b

Monitoring a poisoning operation with trail cameras

Rocky Cutting Road – Welcome Bay

Camera Index – Results

- First pulse: 15 wallaby 71 possum killed
 - wallaby 77.3 % (\pm 13.4% 95% CI)
 - possum 70.9 % (\pm 23.4% 95% CI)
- Second pulse: 1 wallaby 6 possum killed
 - total reduction wallaby 86.4 % (\pm 14.6% 95% CI)
 - total reduction possum 83.7 % (\pm 16.8% 95% CI)

Phillip Commins 2013b

Where to from here?

Wallaby Management Team needs to prepare and agree upon a research prospectus and allocate resources

- wallaby dispersal
- assess detection probability of dogs and cameras (and develop protocols)
- continue work on bait (Feratox for monitoring & surveillance????)
- Implement “Containment Plan”



The pressure is on to make some visible progress or risk losing support of our key stakeholders

Interested in researching?

- Dispersal behaviour
- Monitoring / Surveillance
- Control tools
- Community engagement

Contact us:

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0508 WALLABY

