



Landcare Research
Manaaki Whenua

How far will weta walk?

Dispersal behaviour of Cook Strait giant weta after translocation

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Cook Strait giant weta

- *Deinacrida rugosa*
- Medium sized, bulky body
- Ground-dwelling, mostly solitary
- Historical range – forests of lower NI
- Now restricted to islands in Cook Strait area



Translocation history

- First weta species to be transferred

Transferred to	Source location	Date	No. weta	Status
Maud Island	Mana Island	1977	43	Successful
Matiu-Somes Island	Mana Island	1996	62	Successful
Titi Island	Maud Island	2001	92	Unknown
Wakaterepapanui, Rongitoto Island	Captive	2003 2004	42 13	Unknown

Translocation into Karori Wildlife Sanctuary

- Restoring KWS ecosystem due to pest-proof fence
- Re-introduce CSGW back to mainland after extinction there a century ago
 - Individuals collected from Matiu-Somes Island

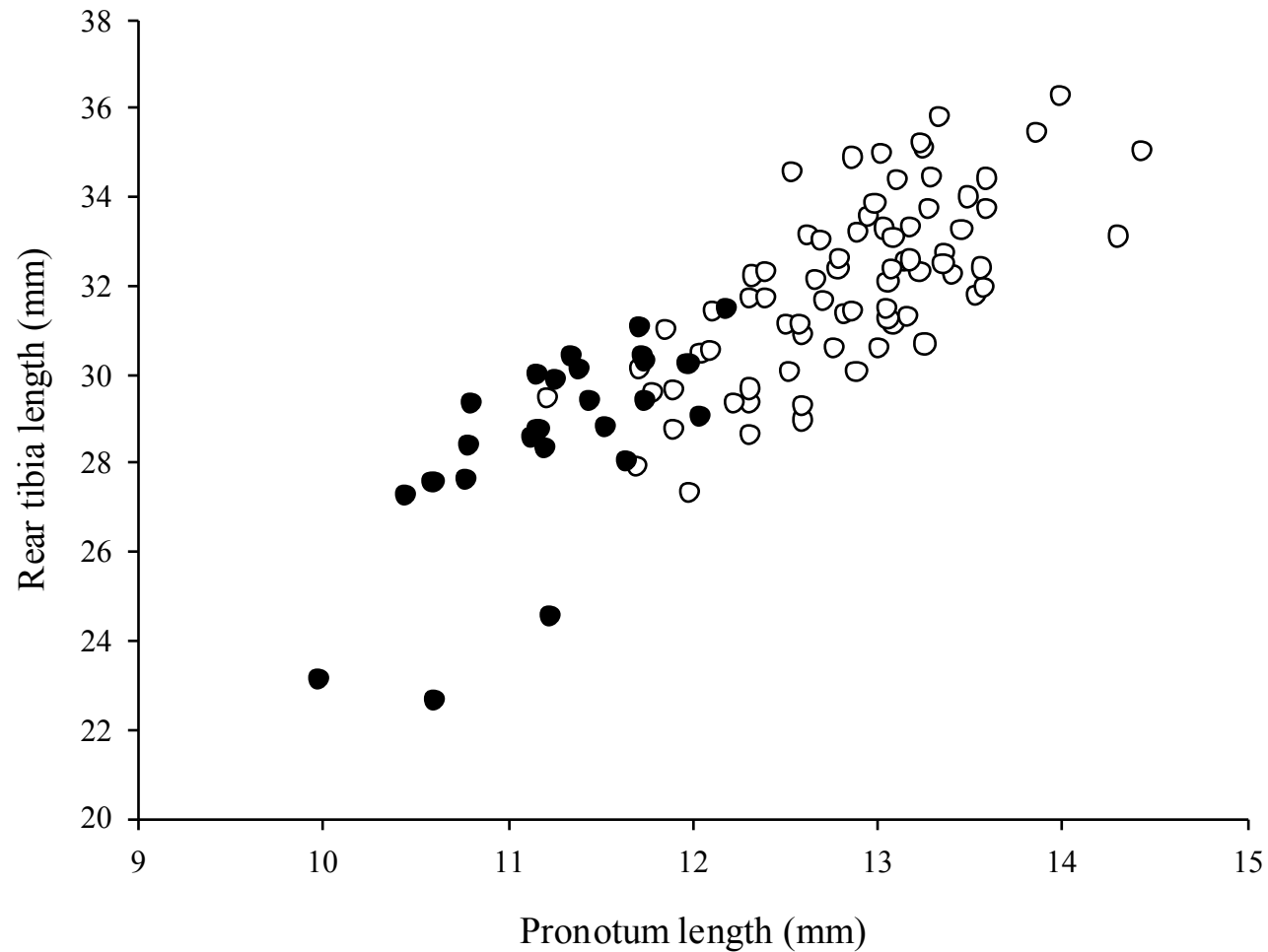


Collection from Mitiu-Somes Island

- Feb 2007
- 100 adult CSGW – 75 females & 25 males
- Day & night searching to collect weta
- Each weta caught was
 - Measured – weight, morphology
 - Individually numbered with tag



Size of weta translocated



Attaching radio transmitters

- 20 weta = 10 females & 10 males
- Saddle attached to weta pronotum
- Transmitter attached to foil saddle



Transfer to KWS

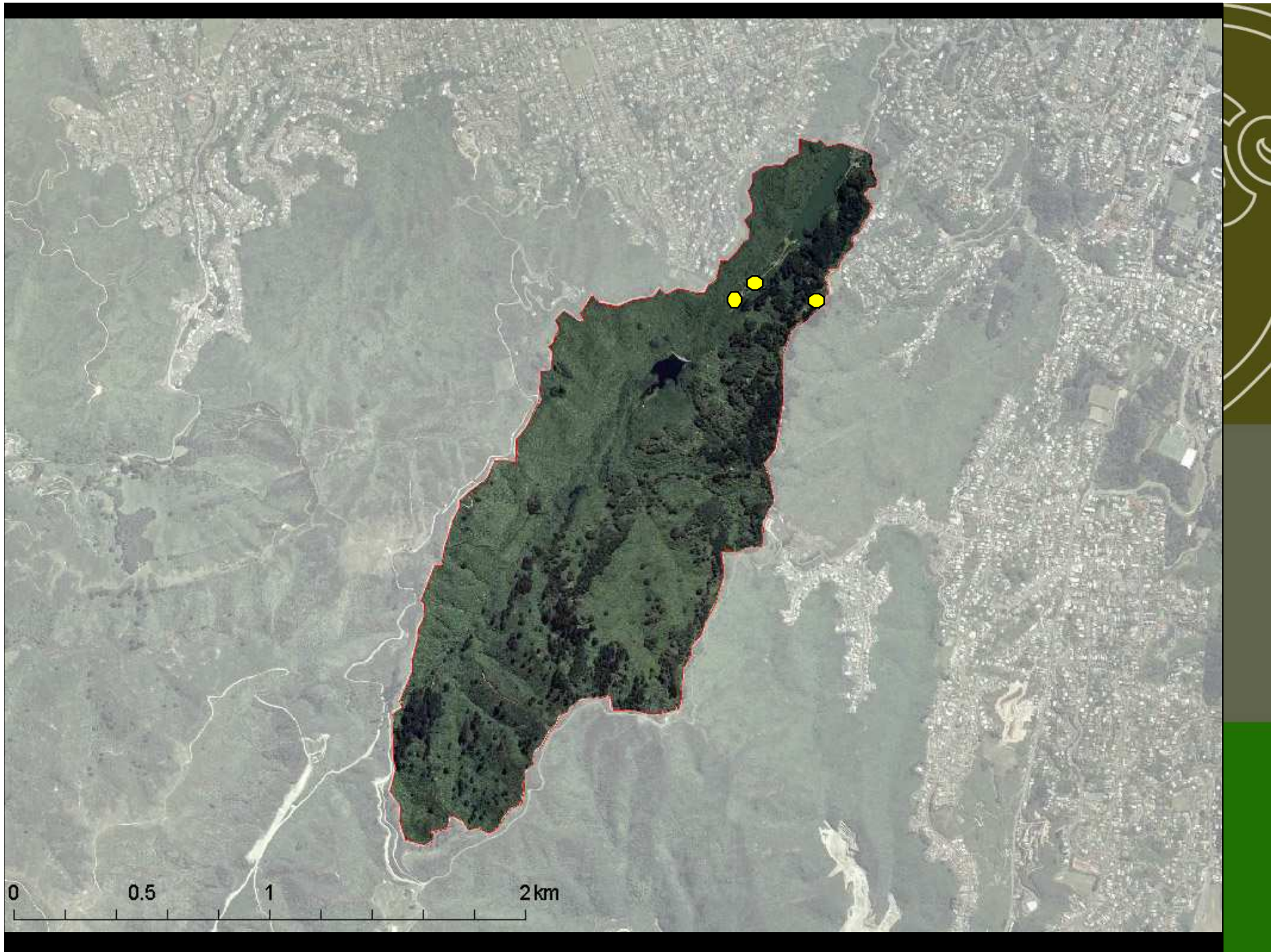
- Each weta = individual containers – food & moisture
- Welcoming ceremony !



Release of weta

- 3 areas within KWS
 - Area 1: Grass-forest edge
 - Area 2: Flaxland-forest edge
 - Area 3: Long grass-native replantings





Performance of transmitters

- No transmitters fell off !
- No weta with transmitters were eaten !
- All transmitters recovered in working order !
- No correlation between average distance travelled per night & % transmitter weight to weta weight



Radio-tracking results

	Area	Average distance travelled per night (m)	Average distance from release point at end (m)
Female	1	9.4	180.1
	2	11.5	125.6
	3	4.4	39.8
Male	1	14.4	106.2
	2	40.9	430.2
	3	8.3	49.9









Summary

- Males travelled almost twice the distance of females
- Both females & males in Area 1 & 2 travelled further than Area 3
- WHY?
 - Males searching for females
 - Area 1 & 2 unfavourable habitat – prefer long grass with native plants



Behaviour observations

- During day:
 - Roost sites – in grass, under leaves or logs
 - Some returned repeatedly to same roost
 - Mating & females laying eggs
- At night:
 - Active just after dusk
 - Females = feeding – mown grass & dandelions, 2.5 m up *Coprosma*
 - Males = walking – searching for females ?

So what?

- Successful development of translocation and tx techniques
- Translocated weta move further than expected based on a limited study of resident CSGW
- Pest-free status of habitat is critical



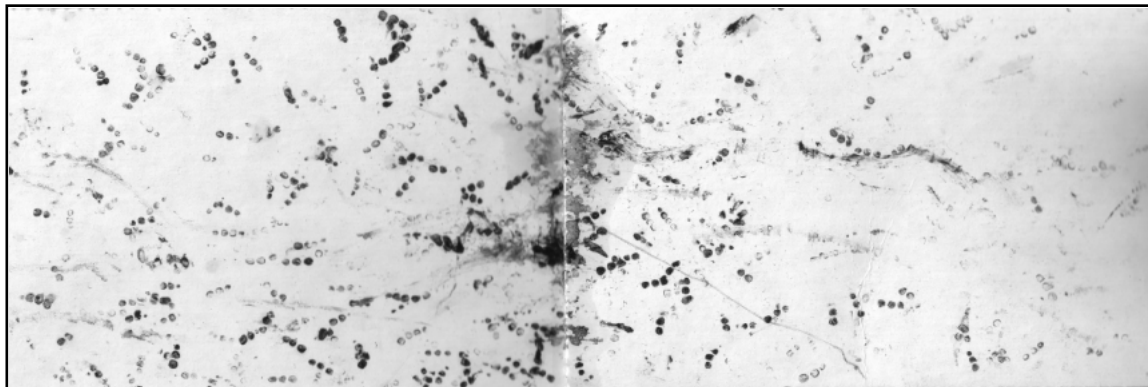
Non-radio tracked weta

- Occasionally seen – nights tours & kiwi counting
- Seen mating with radio-tracked weta



Other monitoring tools

- Tracking tunnels – footprints of giant weta
 - Black Trakka tunnels
 - Detected after 1 night in 33% of tunnels
 - 42% tunnels tracked after 1 month
- Part of larger study – wetapunga & MGW



Future Research

We will:

- Monitor establishment of CSGW in KWS
- Investigate whether other giant weta species can be detected using tracking tunnels eg MITW
- Distinguish different weta species from footprints



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