



**Landcare Research**  
**Manaaki Whenua**

# Using less 1080 in aerial baiting: cluster- & strip-sowing update

Graham Nugent, Grant Morriss  
Landcare Research

AHB contracted this Research and provided the operational funds  
for the Hauhungaroa Operation

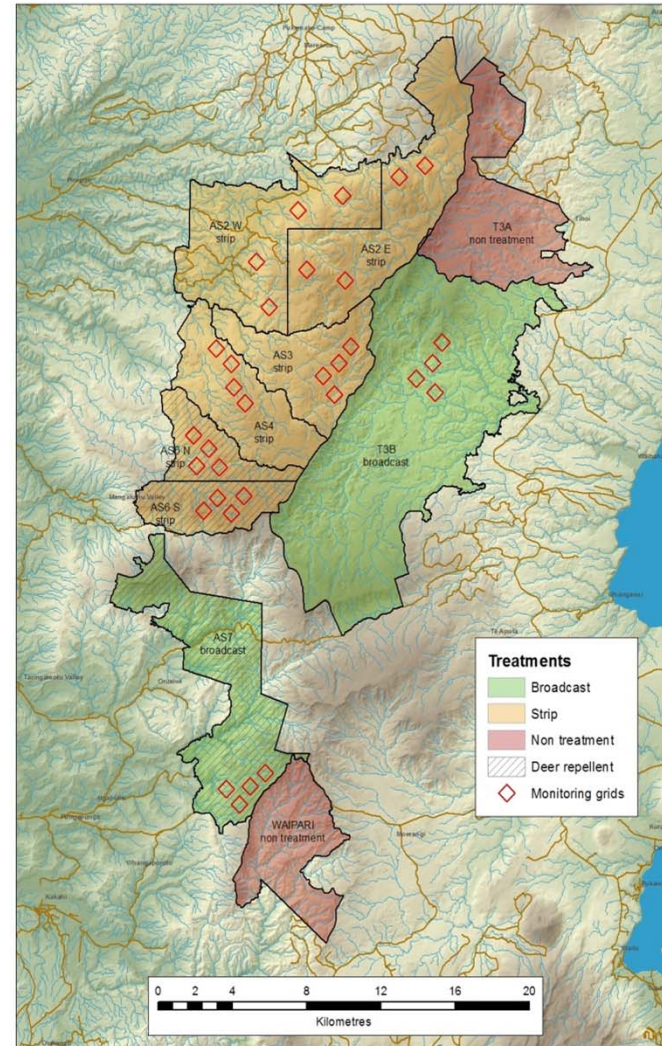


# Overview

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Completed trials 2011:

- Clarence Reserve
- Whanganui NP
- Hauhungaroa Ranges

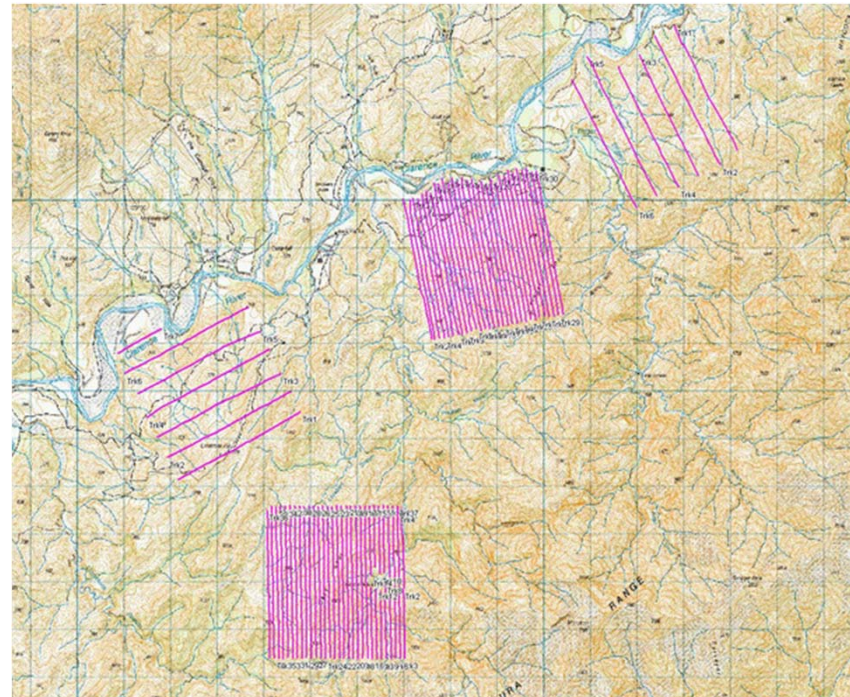


# Clarence Reserve

(MSI possum vaccination study)

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- **Cluster sowing only**
- 2 blocks
  - Prefeed strips 500 g/ha, 1080 clusters 250 g/ha  
100-m FPS
- 2 blocks
  - **No prefeed,**  
1080 clusters 50 g/ha  
500-m FPS
- Efficacy monitored using mortality of radio-collared possums



# Clarence Reserve: Results

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- 94% (17/18) kill in blocks sown at ~250g/ha
- 77% (23/30) kill in blocks sown at ~50g/ha
- Large possum home range size (23 ha)
  - Still can get high possum knockdown even with up to 150 m gaps in baiting strips in this type of habitat

# Whanganui Trials

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Area divided into 8 blocks (560-700 ha each):

2 blocks with DOC cluster sowing specification

- **Cluster sown** toxic with 0.50kg/ha of 6-8g 1080 baits

2 blocks with AHB cluster sowing specification

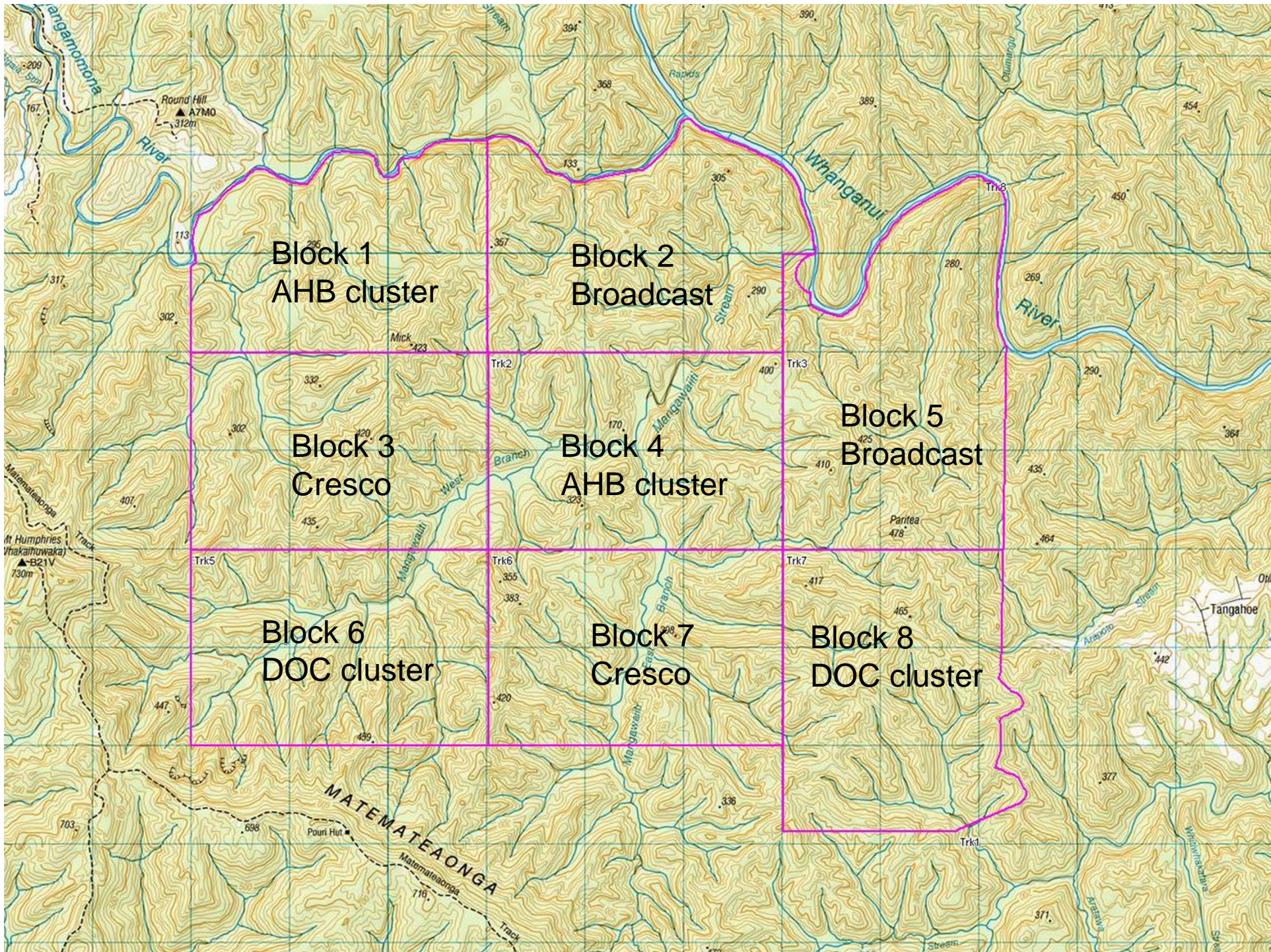
- **Cluster sown** toxic with 0.70kg/ha of 12g 1080 baits

2 blocks with strip sowing by Cresco fixed-wing plane

- **Strip-sown** toxic with 0.50kg/ha of 6-8g 1080 baits

2 blocks with broadcast sowing

- **Broadcast** toxic with 1.00kg/ha of 6-8g 1080 baits



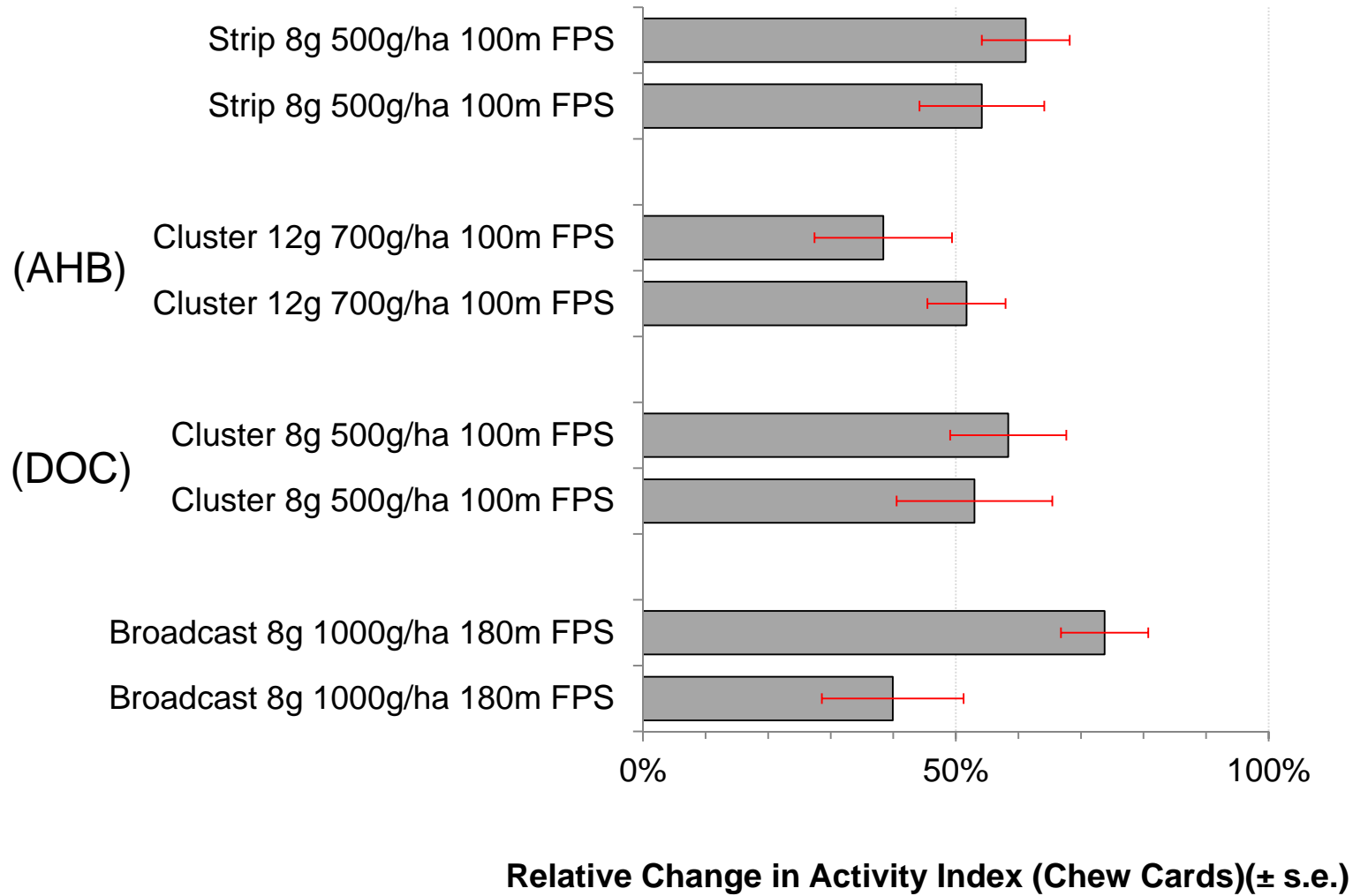
# Whanganui Monitoring

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- Immediate pre- and post -monitoring of possum and rat activity using Tracking Tunnels and Chew Cards
  - Each line comprising 10 tracking tunnels and 10 chewcards
  - 100 of each device per block

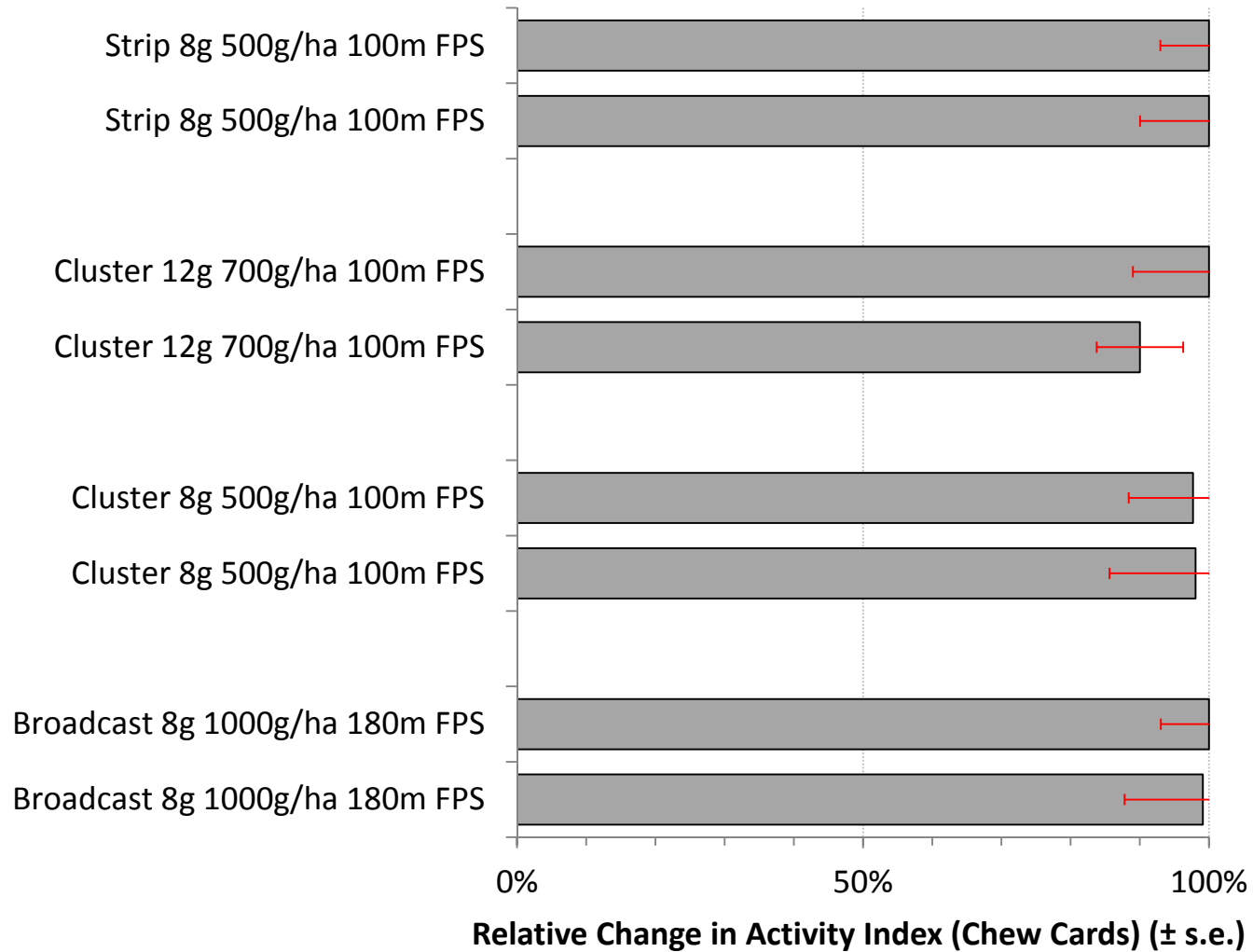


# Whanganui Results: Possums





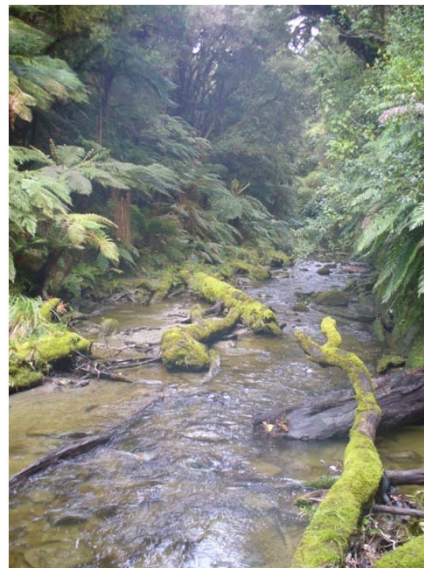
# Whanganui Results: Rats



# Whanganui Summary

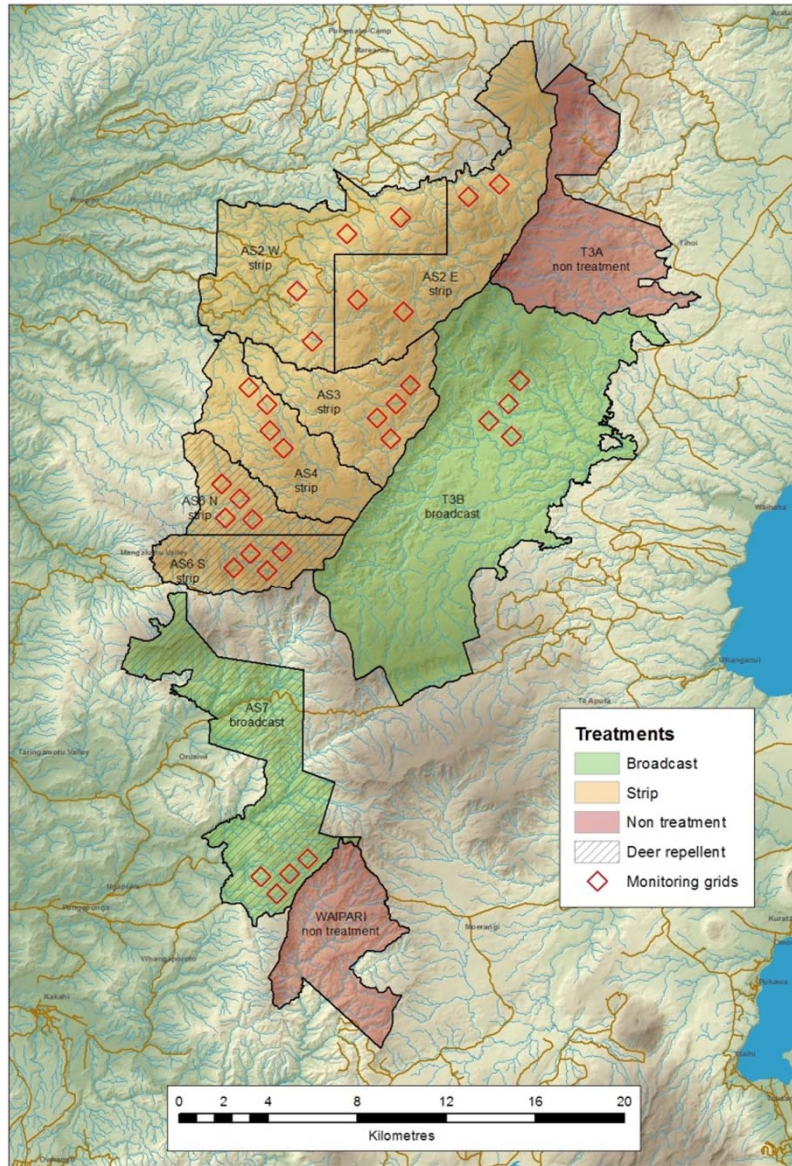
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- Modest possum kills with all treatments
  - No obvious reason – seasonal effect, bait shyness, other factors???
- Good rat kills with all treatments
  - No statistical difference but fixed-wing strip sow best result



# Hauhungaroa

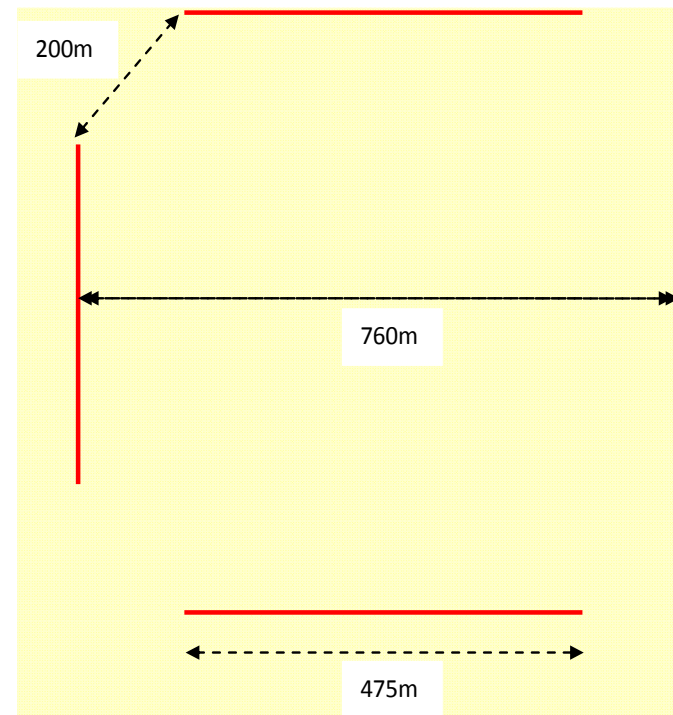
- Eight trial areas  
six strip, two broadcast
- Monitoring
  - Chewcards
  - Tracking tunnels
  - RTCI 6-8 months after



# Hauhungaroa Monitoring

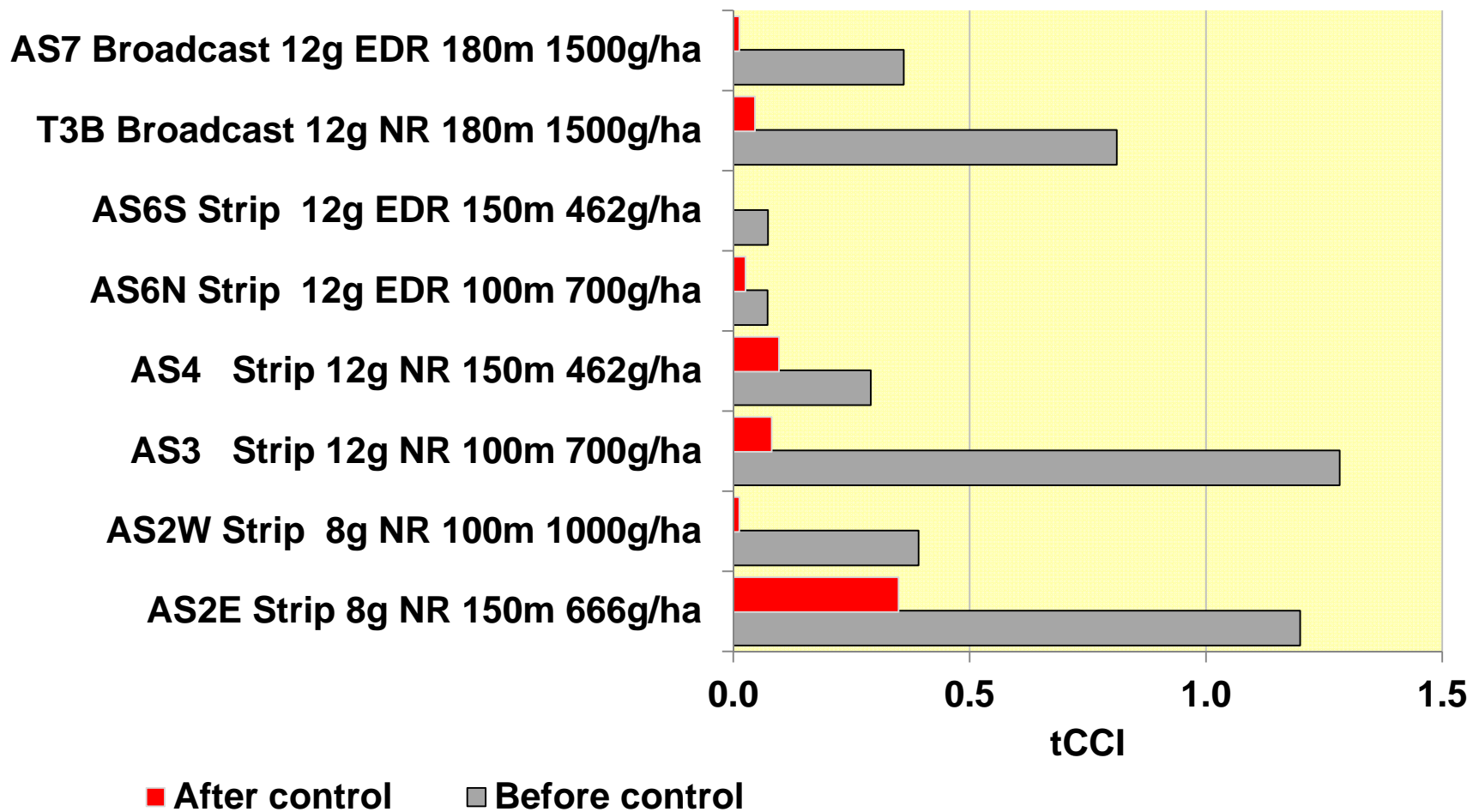
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- Immediate pre- and post - monitoring of possum and rat activity using Tracking Tunnels and Chew Cards
  - Each line comprising 10 tracking tunnels and 10 chewcards
  - 160 of each device per block



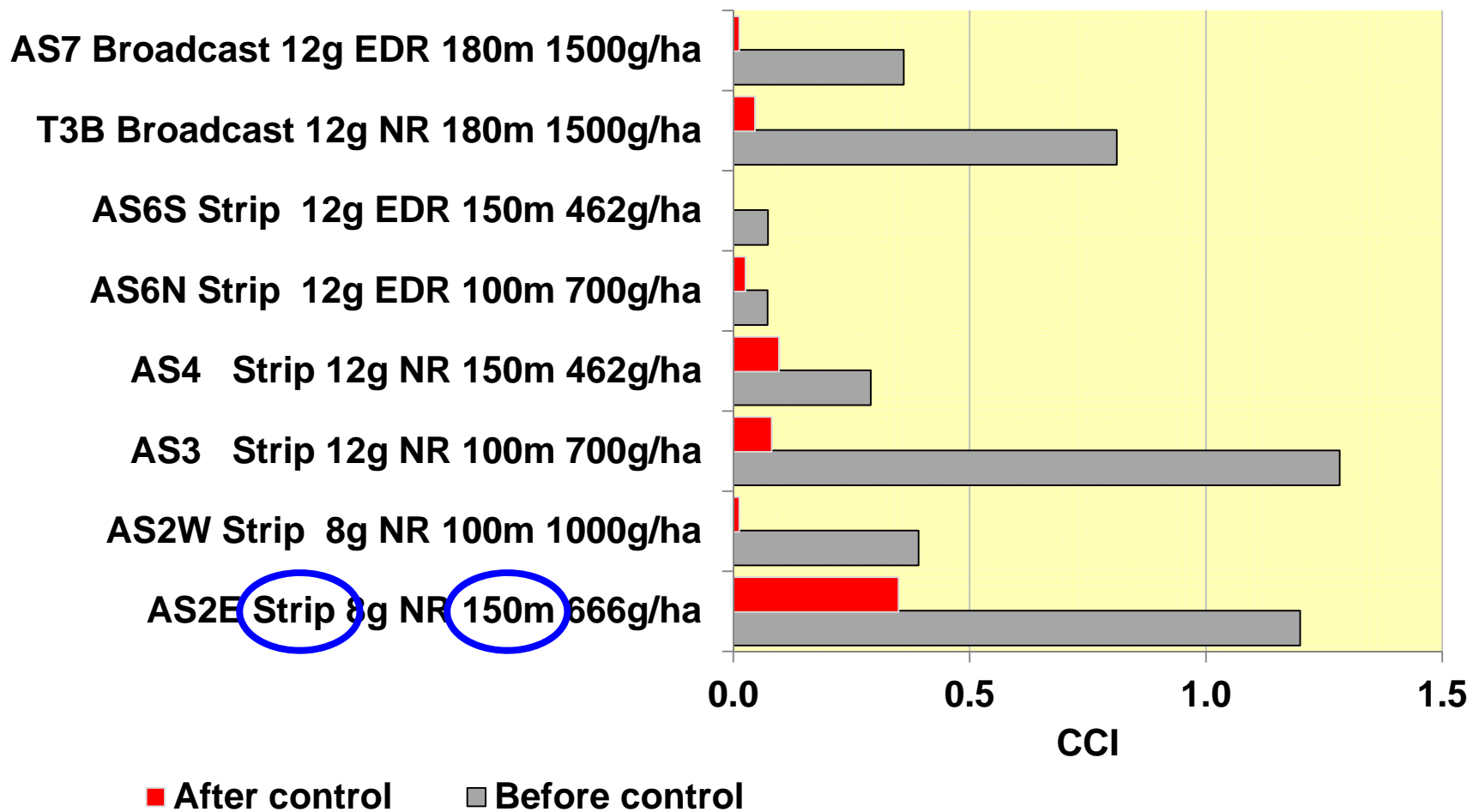
# Hauhungaroa Monitoring

## Possums



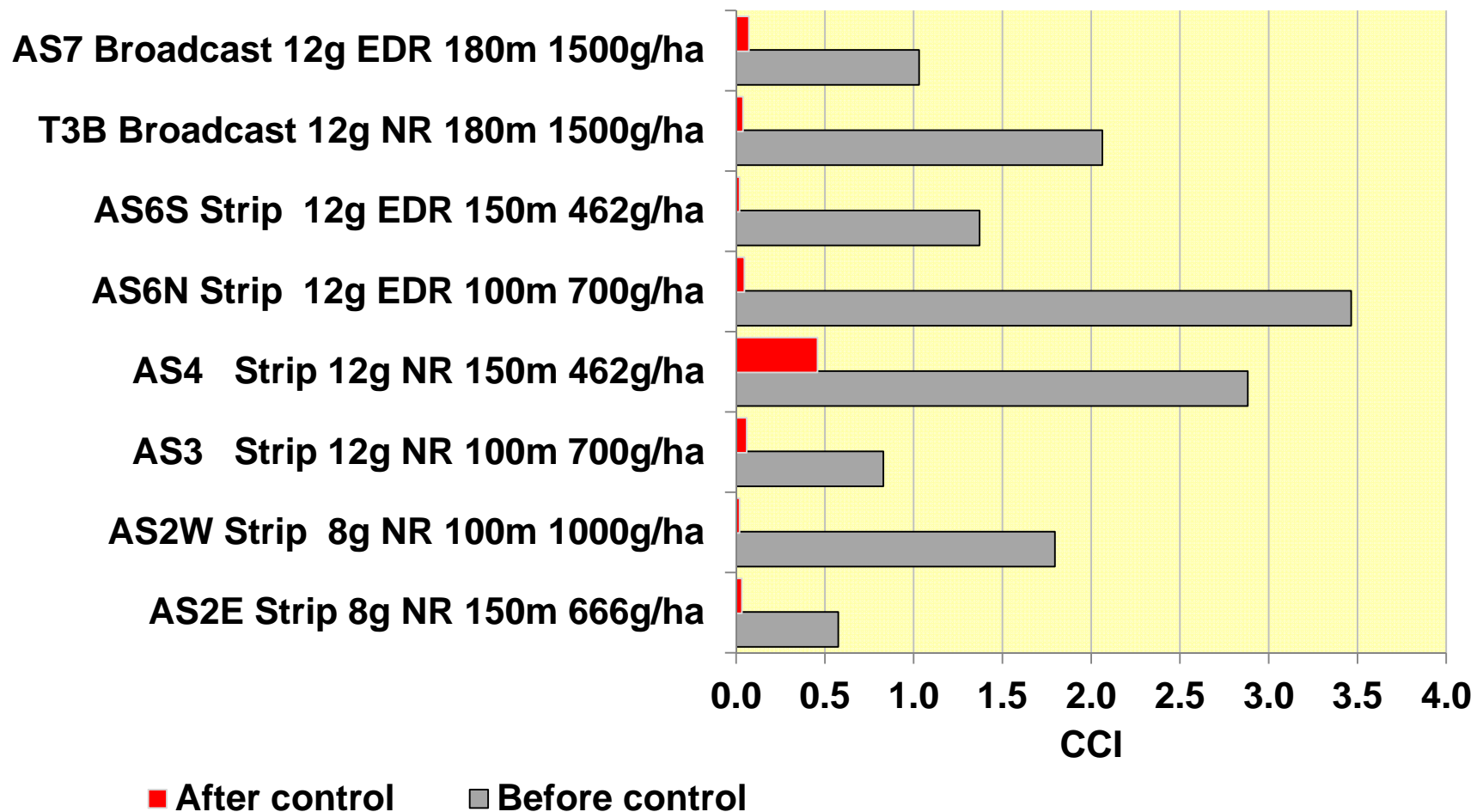
# Hauhungaroa Monitoring

## Possums



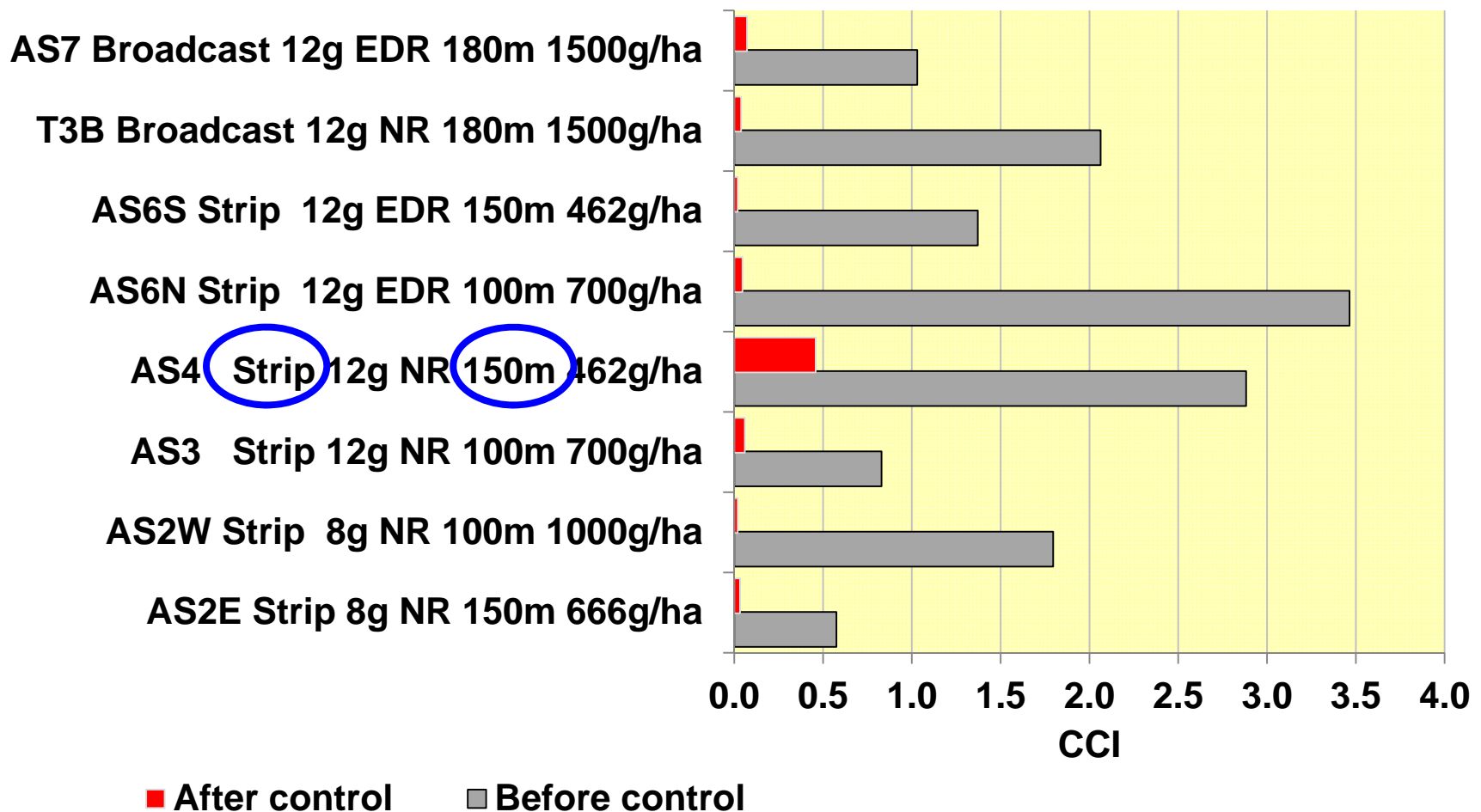
# Hauhungaroa Monitoring

## Rats



# Hauhungaroa Monitoring

## Rats





# Hauhungaroa Monitoring

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## Possums

Block and treatment	6–8 m post 7dCCI	6–8 m post RTCI
AS2 E Strip NR, 150 m, 666 g/ha	22%	2.5% ( $\pm$ 1.4%)
AS2 W Strip NR, 100 m, 1000 g/ha	0%	1.3% ( $\pm$ 1.1%)
AS3 Strip NR, 100 m, 700 g/ha	8%	1.7% ( $\pm$ 1.2%)
AS4 Strip NR, 150 m, 462 g/ha	1%	0.00%
AS6 N Strip EDR, 100 m, 700 g/ha	1%	0.2% ( $\pm$ 0.5%)
AS6 S Strip EDR, 150 m, 462 g/ha	0%	0.00%
AS7 W Broadcast EDR, 180 m, 1500 g/ha	7%	0.9% ( $\pm$ 1.1%)
T3B Broadcast NR, 180 m, 1500 g/ha	2%	0.3% ( $\pm$ 0.5%)

# Hauhungaroa Summary

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- Overall possum abundance reduced to below 2.5% RTC & mostly below 1%
  - Broadcast reduced possum densities by 90%
  - Strip sowing at 100-m matched broadcast
  - Strip sowing at 150-m not as reliable?
- Possum densities still at a level which will continue decline of TB if it still exists
- Rats
  - Broadcast resulted in high rat reductions
  - Strip sowing at 100-m matched broadcast in 2 of 3 blocks
  - Strip sowing at 150-m matched broadcast in 1 of 3 blocks

# Overall Summary

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- Clarence cluster trial (500m FPS, ~8 baits/ha) shows only a few baits may be required in dryland habitats
- Whanganui trial suggests strip & cluster sowing matched broadcast (possums & rats)
- Hauhungaroa trial suggests strip sowing possibly less consistent
- Nonetheless potential savings from strip and cluster sowing warrant continuing evaluation of these tools