



Monitoring and detection



Why?

- Know what you've got
- Know if what you're doing is working
- Exciting - useful for morale and funding!

START NOW!

Types of monitoring

- Operational



- Outcome



Detection



General forest condition



Monitoring Tools

Your eyes

Chew cards

Wax tags

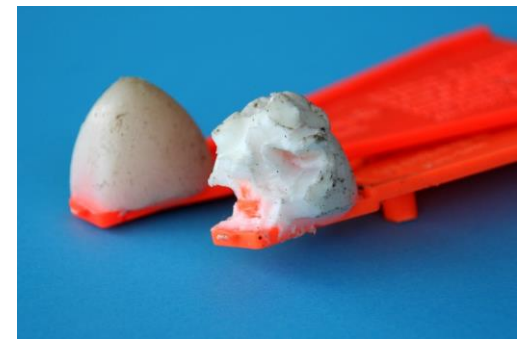
Tracking tunnels

Cameras

Sand trap

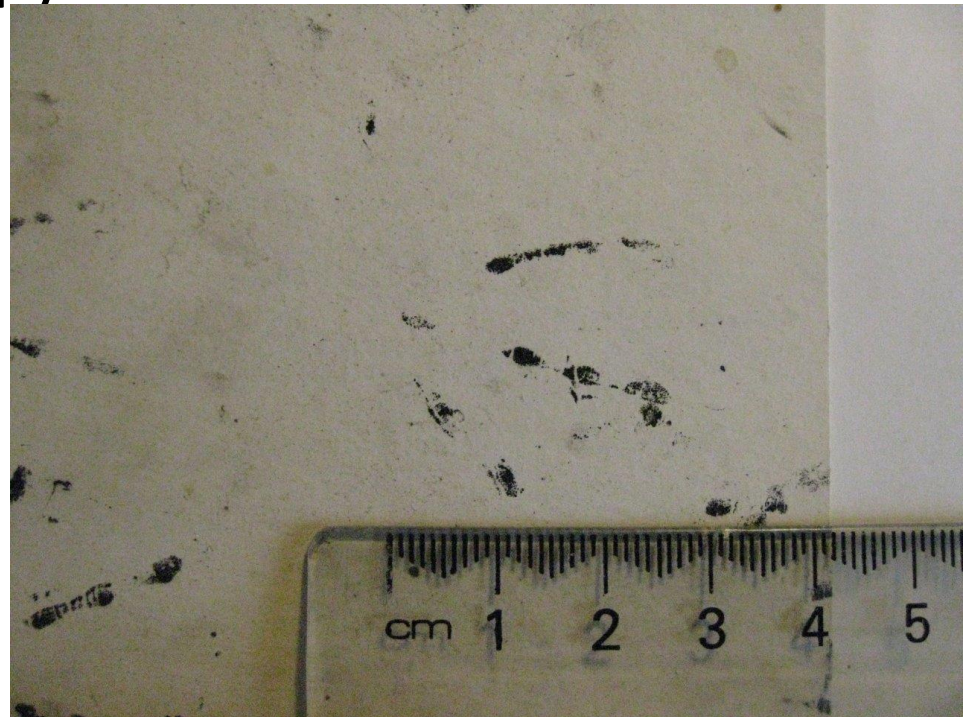
Audio recorders

Traps



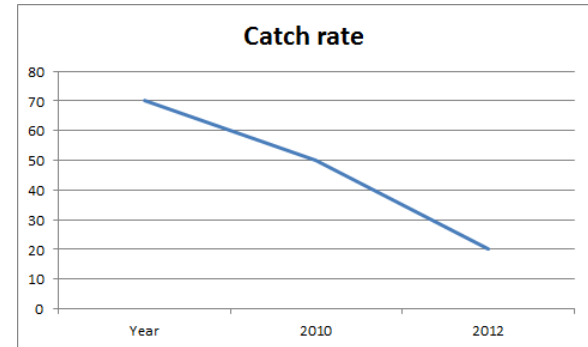
- Outcome

- Bird counts – 5mbc, call back surveys, audio recorders
- Seedling/sapling counts
- Foliar browse/canopy cover
- Photopoints
- Tracking cards

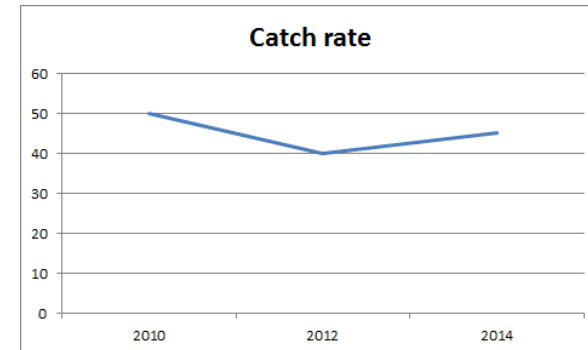


Are you making a difference?

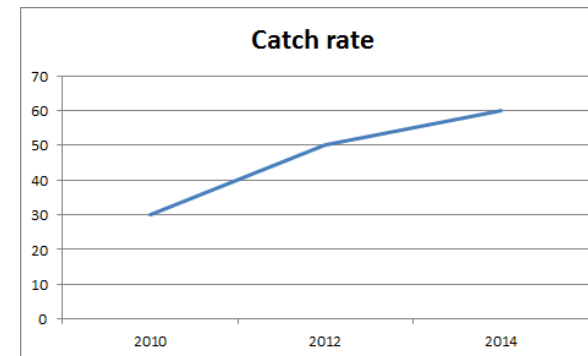
- Decreasing



- Same



- Increasing



Resources

- Nature watch (<http://naturewatch.org.nz/projects/whose-poo-new-zealand>)
- Nature Space (<http://www.naturespace.org.nz/about-us>)
- DOC (www.doc.govt.nz)
- National Pest Control Agency (<http://www.npca.org.nz>)
- Predator Free NZ (<http://predatorfreenz.org/>)
- NZ Landcare Trust (<http://www.landcare.org.nz>)
- Landcare Research (<http://www.landcareresearch.co.nz>)
- FORMAK (www.formak.co.nz)
- Pest detective (<http://www.pestdetective.org.nz/clues/footprints-and-tracks/>)

Rodents





Know your rodents

- 4 species in NZ
 - Ship rat (black rat, *Rattus rattus*)
 - Norway rat (brown rat, water rat, *Rattus norvegicus*)
 - Kiore (Pacific rat, *Rattus exulans*)
 - House mouse (*Mus musculus*)

<http://www.arkive.org/henderson-petrel/pterodroma-atrata/video-14.html>



Key points

- Always assume you have rodents
- Impact on several levels of an ecosystem
- Rats are often afraid of new things
- Be patient and persistent



Tools for control

- Kill traps
- Live traps
- Bait stations
- Aerial control





Methods

- Trap/bait station density – dependant on what you want to achieve
- Standard 50m x 100m grid (more around outside of the area 25m apart)
- Timing
- Check regularly especially at the beginning of an operation
- Get creative



Is it working?

- Trap catch – number caught per 100 trap nights
- Amount of bait take
- Relative Abundance Index
 - Tracking tunnels
 - Chew cards
 - Wax tags
- Detection dog
- Outcome monitoring



Useful resources

- Traps
- Monitoring

Rat Island

