

Urban lizard responses to habitat enhancement and predator control

Kat McGee

MSc - Victoria University of Wellington

Supervisor: Nicky Nelson



Introduced mammalian predator control

- Offshore islands
 - Eradication of all species
 - Local recovery of lizards
- Urban mainland
 - Wider range of introduced mammals
 - Eradication or suppression
 - Outcomes for lizards?
 - Additional pressures

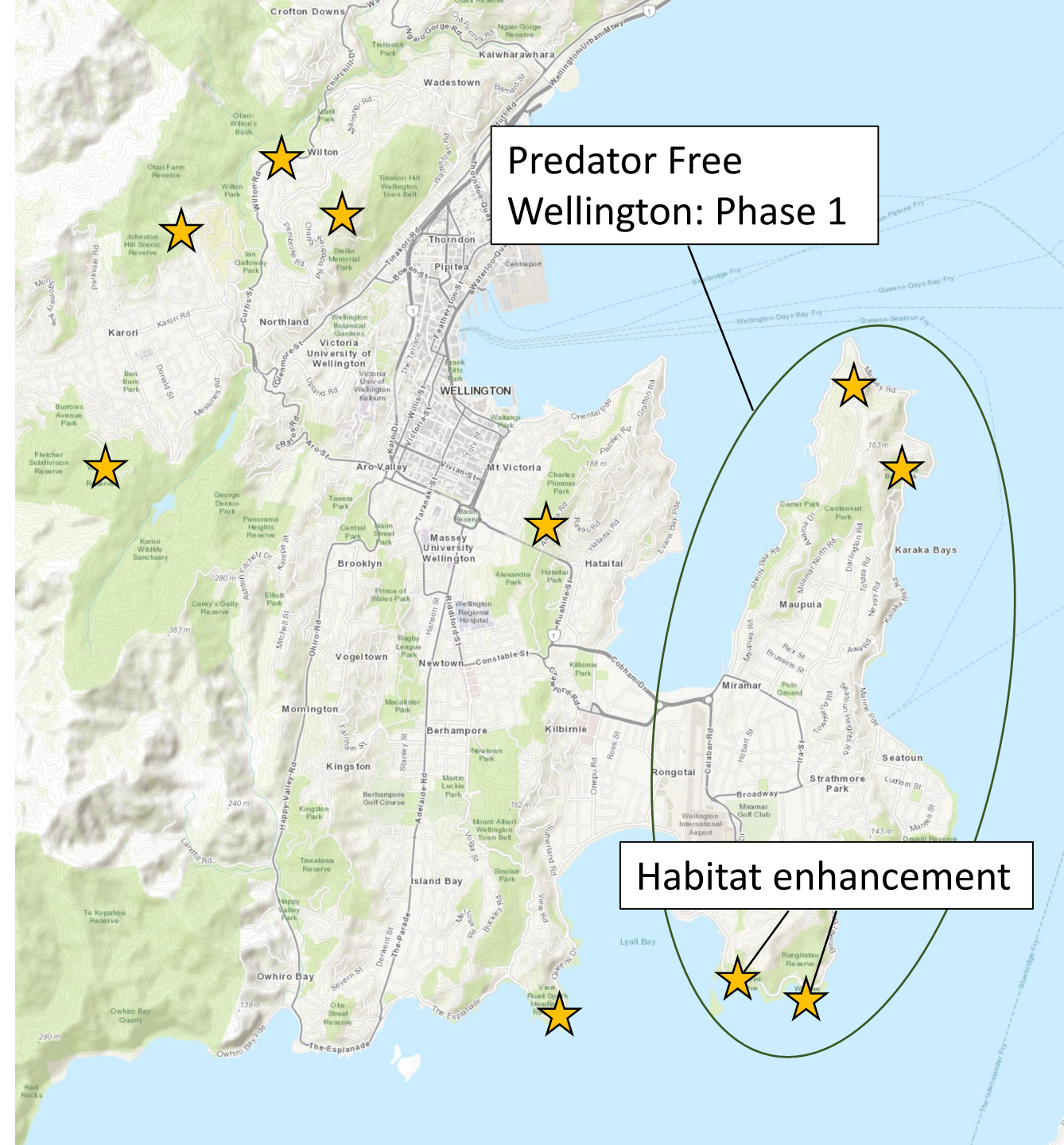


Habitat enhancement

- Services: predator avoidance, thermoregulation, food
- Rock piles, plantings, log piles
- Recent strategy
 - Benefit to lizards?
 - Preference for enhancement techniques?
- Interaction - combine predator control and habitat enhancement

Effects of predator control and habitat enhancement

- Long-term lizard monitoring
- Predator Free Miramar (2019)
 - Eradicated: Norway rats, weasels, stoats
 - Reduced: ship rats
- Habitat enhancement (2018-19)





Pitfall trapping

- Summer 2022-2023
- Data on individual lizards + temporary ID
- Combine with existing data: 2017-2022

Northern grass skink
(*Oligosoma polychroma*)



Copper skink (*Oligosoma aeneum*)



Raukawa gecko
(*Woodworthia maculata*)



Glossy brown skink (*Oligosoma zelandicum*)



What next?

- Habitat data – canopy cover, ground cover...
- Mammal data – tracking tunnels, chew cards
- Estimate lizard abundance
- Effects of predator control and habitat enhancement on lizards
 - Inside vs outside of Miramar Peninsula
 - Enhanced vs non-enhanced
 - Before vs after start of predator control

Habitat
enhancement
preference:
rock or plant?





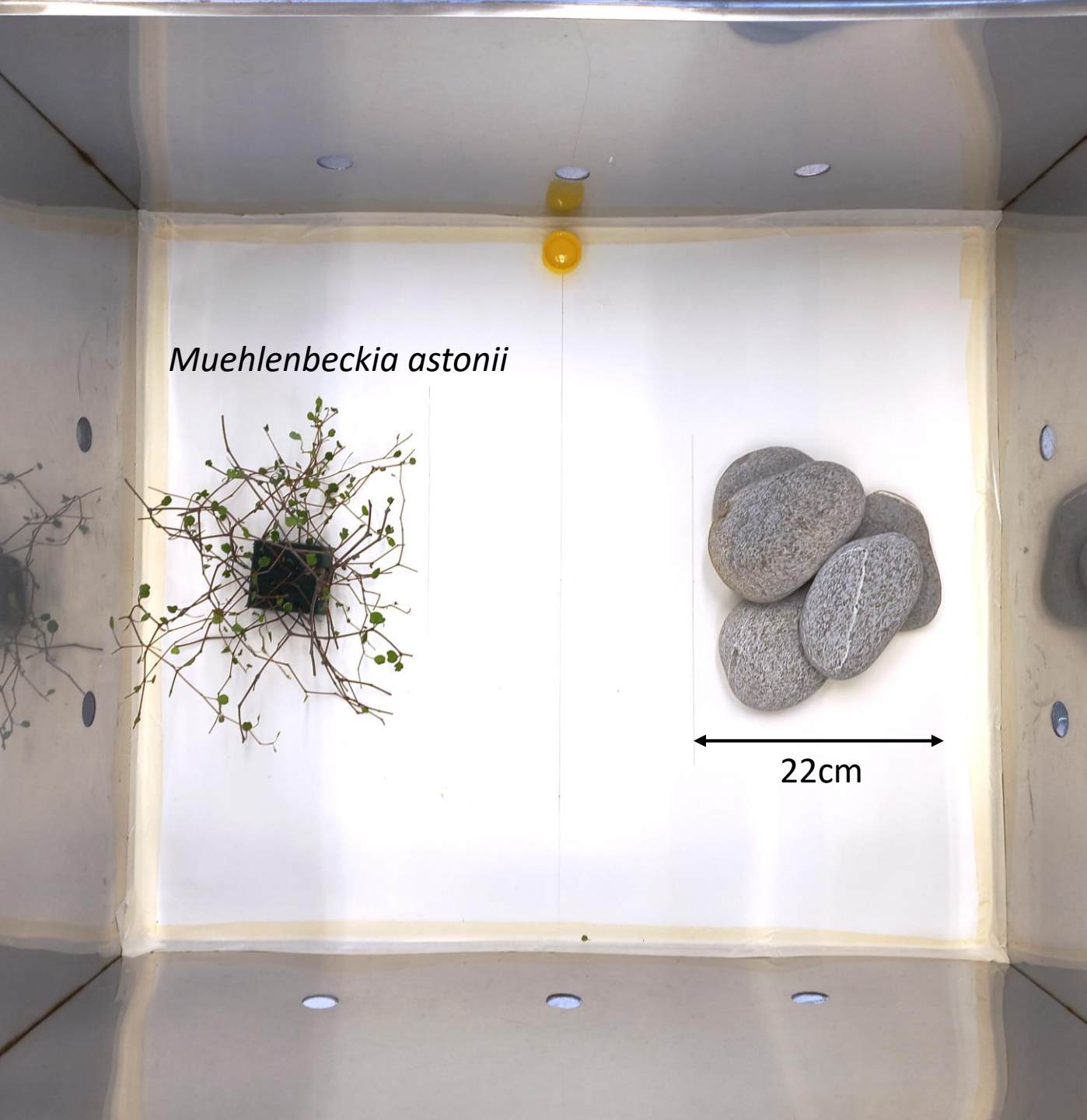
Copper skink



Northern grass skink



Raukawa gecko



Choice experiment

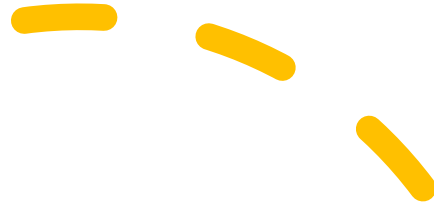
- Rock pile
- Plant cuttings in oasis block
- Day 0
 - Release lizard in center of arena
 - Observe activity for 2-min
- Days 1 + 2
 - Check location



Outcomes for sanctuaries

- Guidance for future management of native lizards
- Effectiveness of predator control and habitat enhancement strategies in supporting urban lizard populations
- Understanding of lizard habitat use
- Recommendations of habitat enhancement techniques for common lizard species

Acknowledgements



- People, Cities & Nature (PCaN) / Restoring Urban Nature
- Predator Free Wellington
- Nicky Nelson
- Sue Keall
- Chris Woolley
- Sarah Herbert
- Sydney Dean
- VUW mammal monitoring team
- Fiona Balfour
- Mare Leenders
- MenzShed Kapiti
- FixIt (VUW lab group)

