

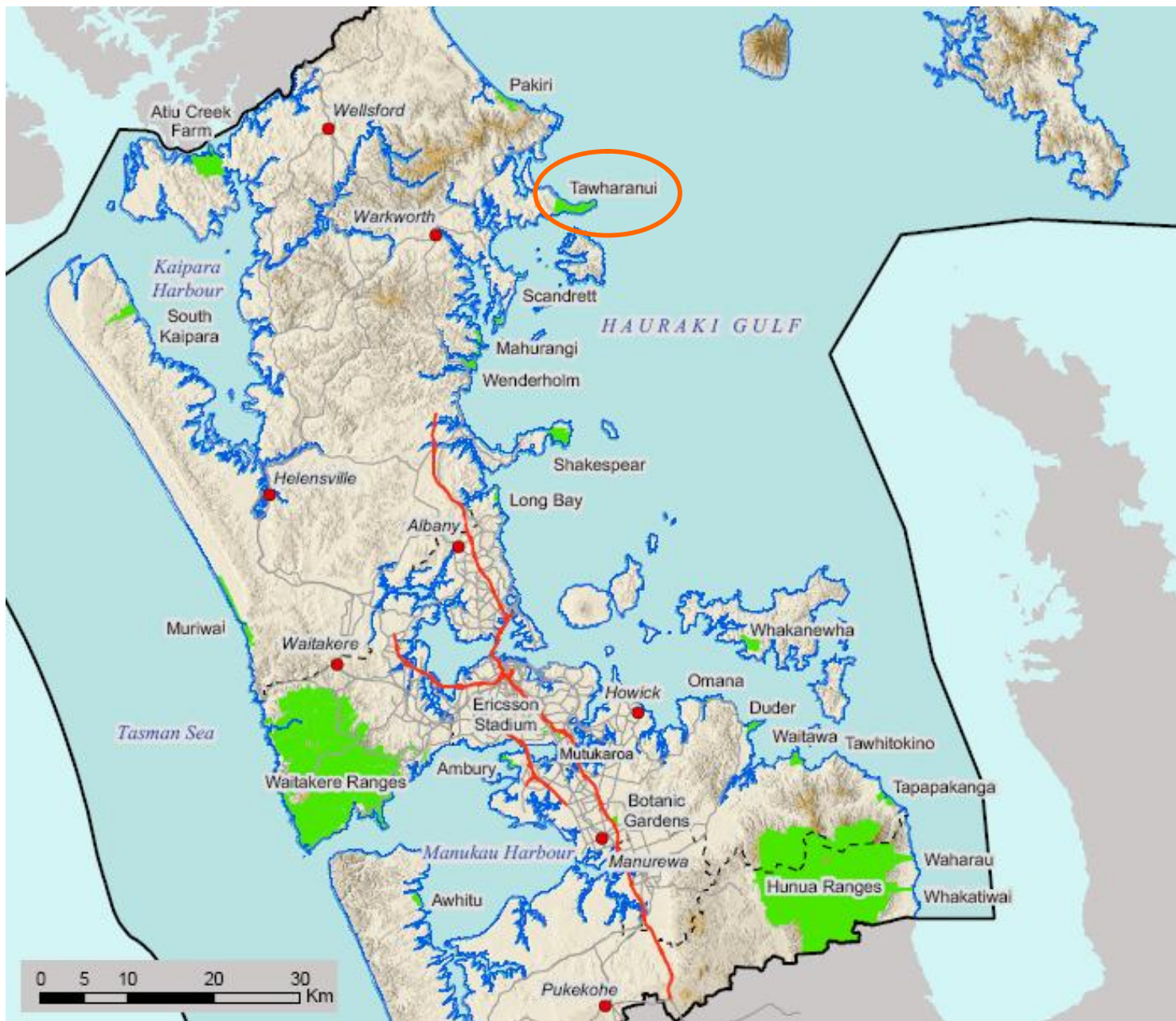
Tawharanui Open Sanctuary Ship Rat Incursion 2008

Matt Maitland

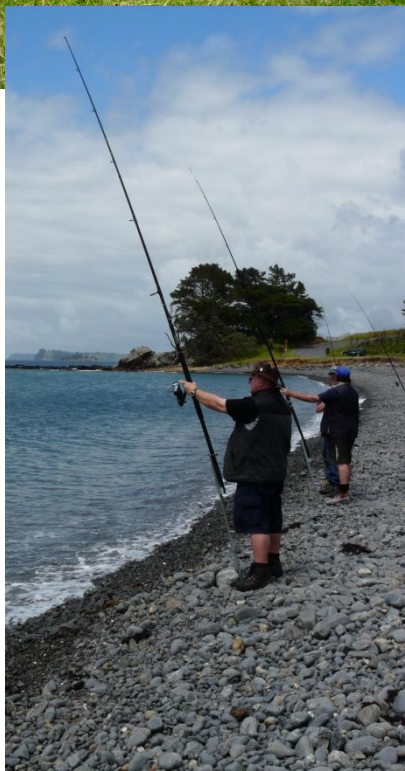


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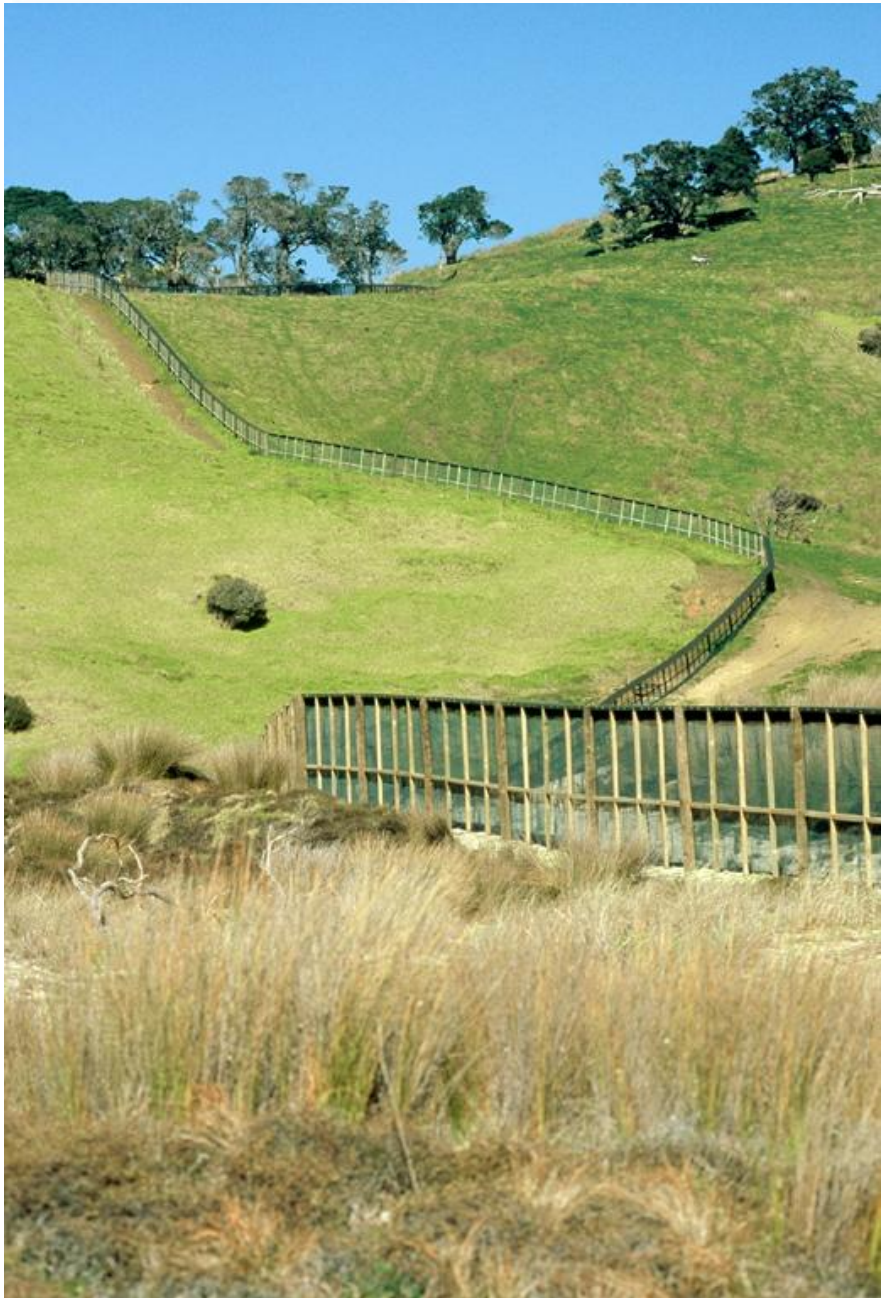
















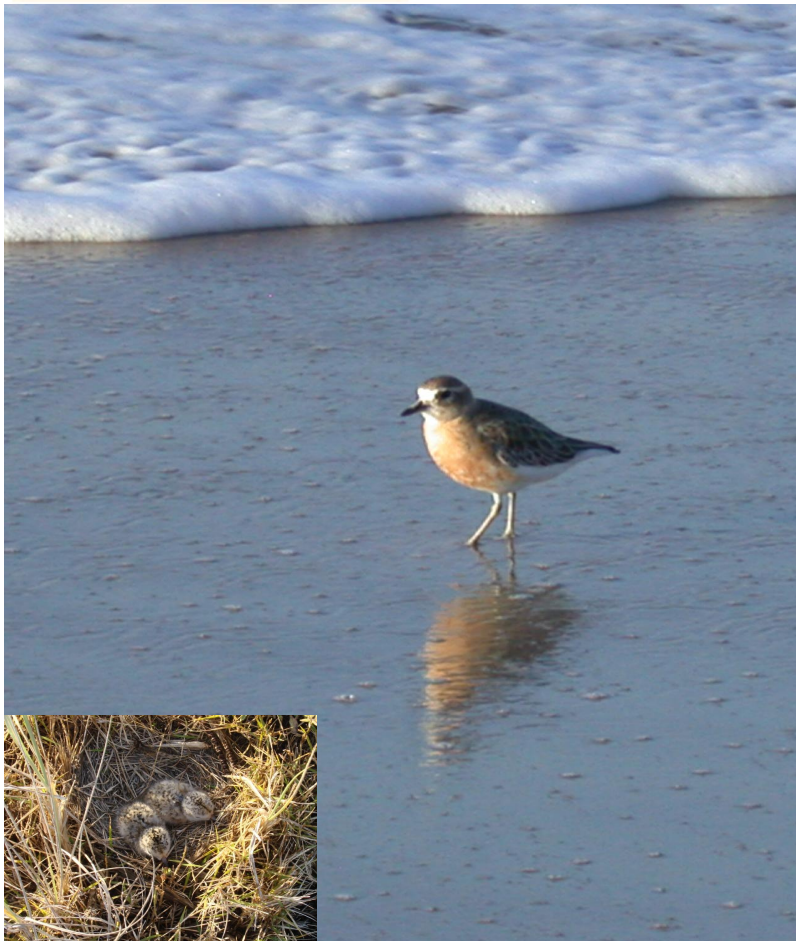














Incursions 2005 - 2008

	n incidents	n individuals
Possum	1	1
Cat	20+	3*
Weasel	4	4
Stoat	2	2
Norway Rat	5	9
Ship Rat	3*	42*
Rat	4	7
* Minimum		

Incursion pathways

- ***No proven vector for any incursion***
- Coastal fence ends
- Visitor self managed biosecurity (160,000+ pax/yr, 270 pax/night campground)
- Automated single gateway
- Coastal landing – swimmers and stowaways
- Fence breach

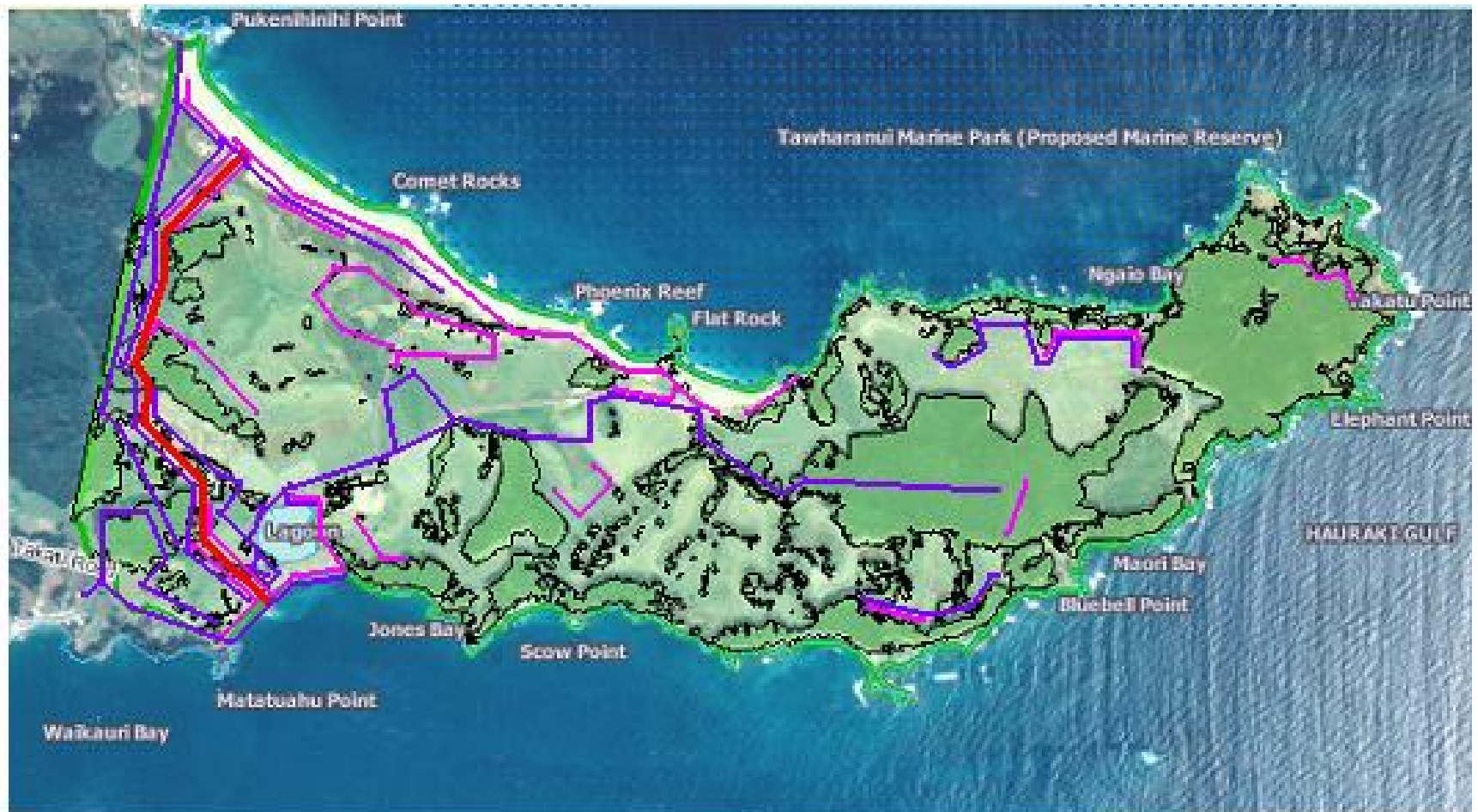


Incursion response plan

- To 2008 a high confidence in detecting and removing incursions
- ‘Point’ incursions c.f. ‘populations’
- Localised response
- Multiple tools
- Stand down at 1 month post last activity
- Absence of evidence vs. evidence of absence

Pest management review - 2007

- Element of complacency
- Too few tools checked too often
 - Trade temporal coverage for increased spatial coverage & encounter rate
- Insufficient buffer
 - Trade temporal coverage for increased spatial coverage & encounter rate
 - Escalation triggers
- Brodifacoum withdrawal
 - Wildlife impacts
 - Flawed rationale
 - Reserve for 'emergencies'



- Pest proof fence
- Tracking tunnel lines
- Trap lines





Tactics

- Detect
- Delimit
- Contain
- Eradicate
- Withdraw

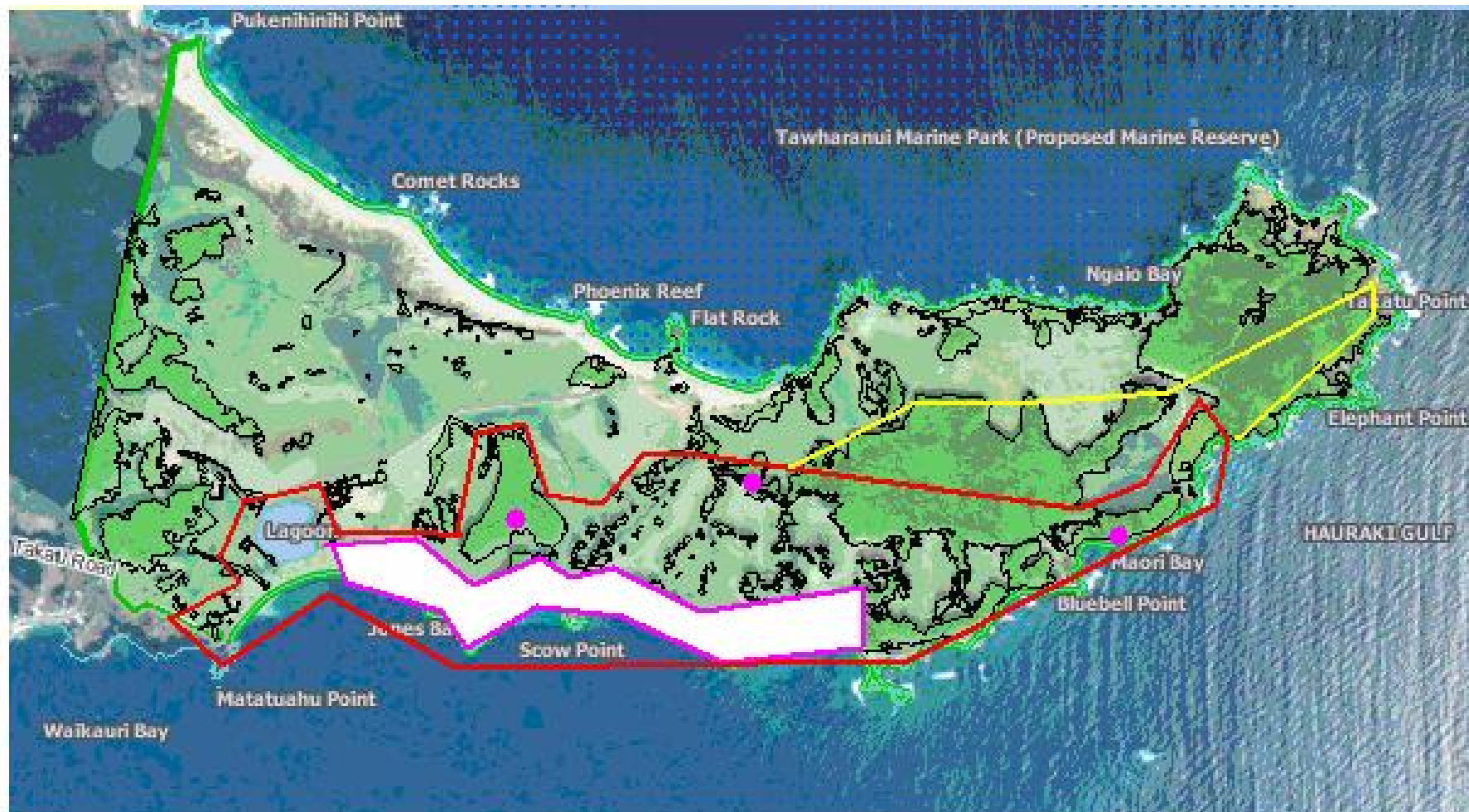




Area of additional resources to contain incursion



Area of ship rat captures 17/1/08 to 4/3/08



- Area of additional resources to contain incursion
- Additional resources added 12/3/08
- Area of ship rat captures 17/1/08 to 4/3/08
- Outlying rat sign locations



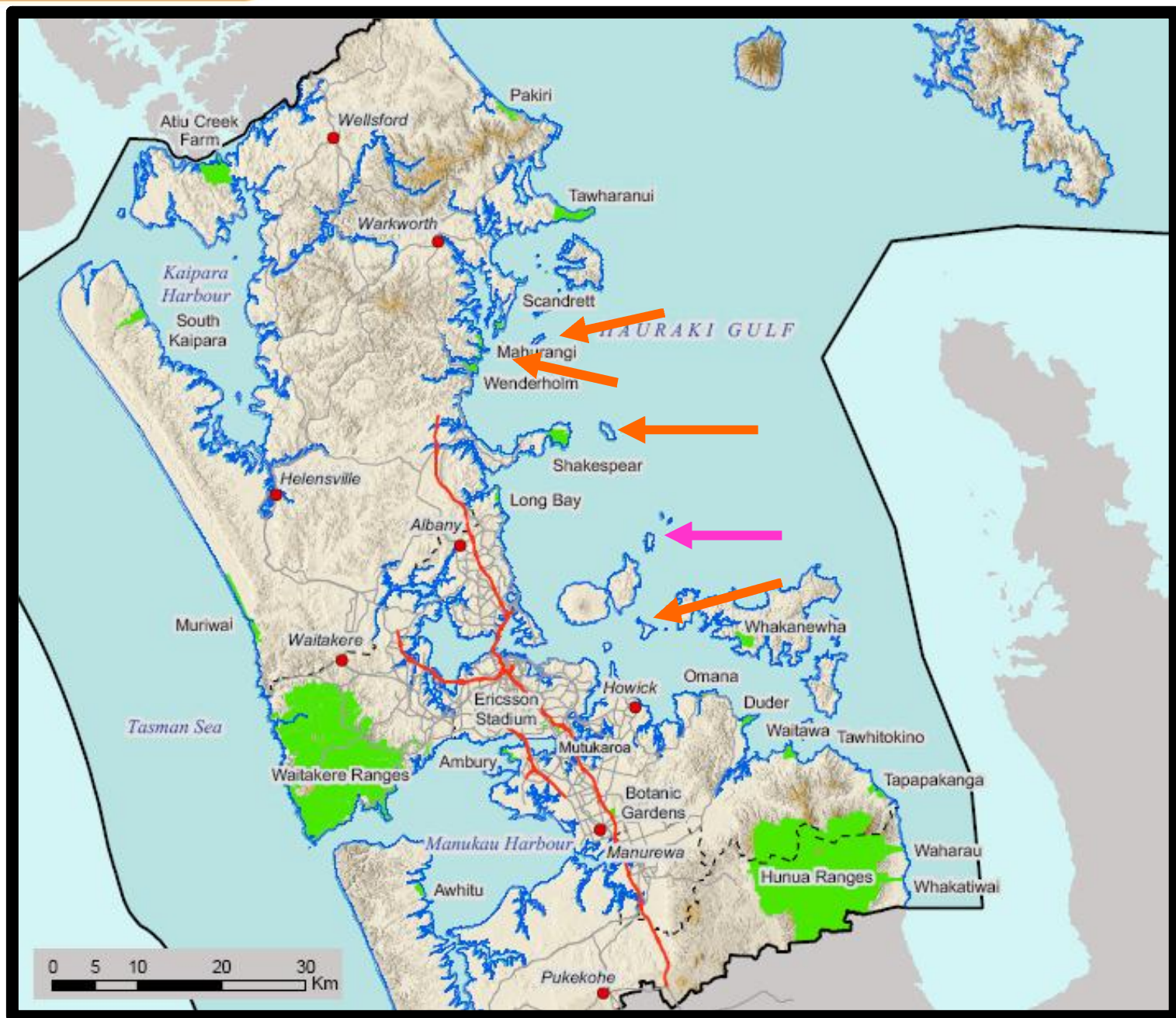
- Area of additional resources to contain incursion
- Area of ship rat captures 17/1/08 to 4/3/08

- Additional resources added
- 12/3/08 & 18/03/08
- Outlying rat sign locations

[illegible]

What did it take?

- Inter and intra organisational response
- \$80 000
- 6 months
- 240ha
- c.1000 tools (track tunnels; bait stations; snap Fenn & DOC traps; predator dogs)
- 10km tracks



Forensics

- DNA analysis *all* captures
- Examine familiarity between captures
- 1x♀ ←————→ 36 incursions

Beginning of the end, or the end of the beginning?

Key issues

- Acknowledge risk
- Clear plans and protocols
- Detection capability
 - Confidence vs. Logistics
- Control tools
 - Transparency
- Resources
 - Sustainability
 - Contingent capability
 - Escalation
 - Protect the investment
- Stop Rules

Risks

- Credibility & Reputation
 - Organisation
 - Industry
- Future options
 - Pest management
 - Translocations
- Sustainability



Mice

- Present at very high densities
- Impede incursion management
 - ‘False positives’
 - Saturate track tunnels
 - Consume toxic baits
 - ‘Spring off’ traps
 - Confuse rodent dogs

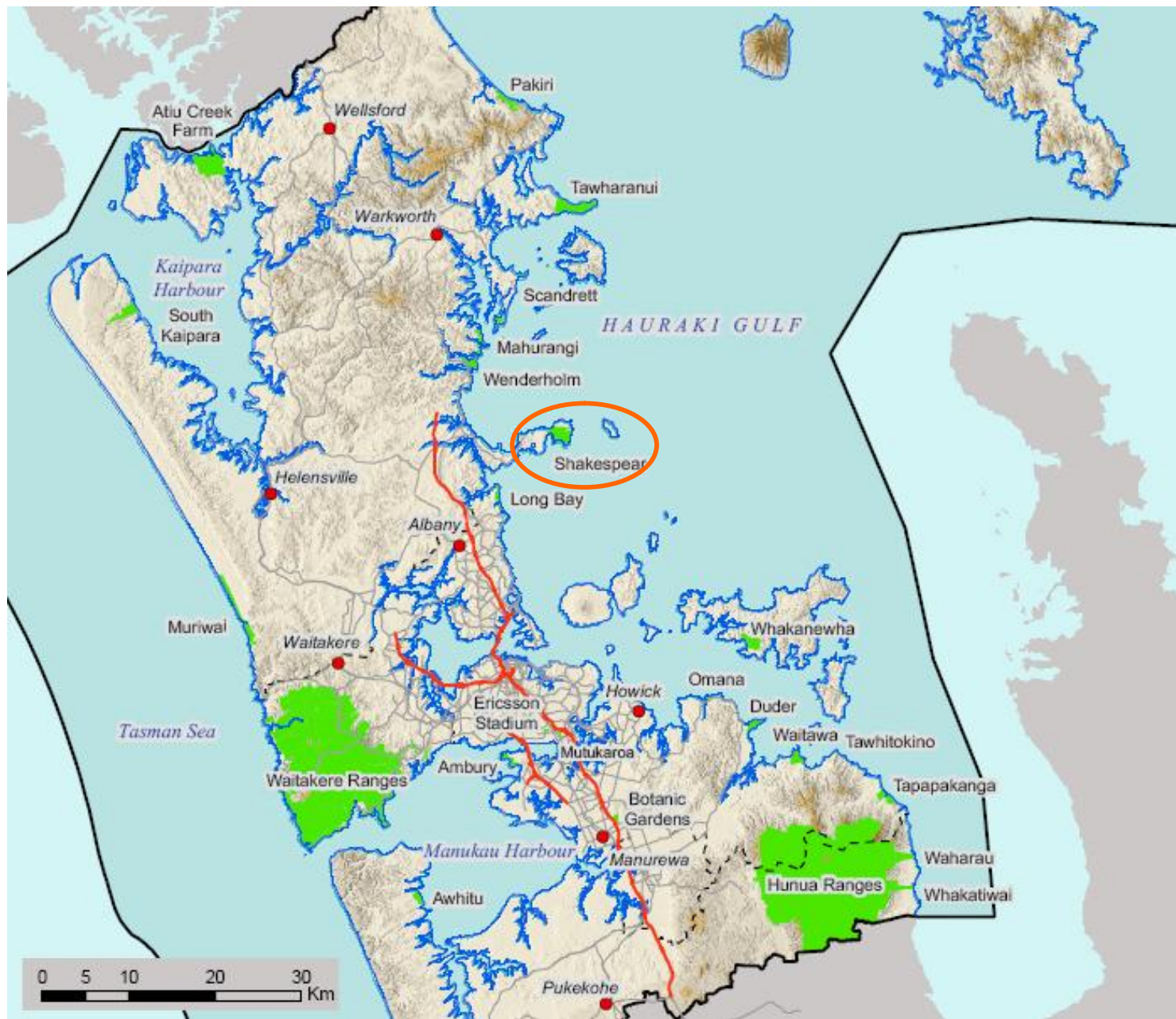
Aftermath

- One off 700ha buffer rat knockdown
- Enhanced buffer and internal surveillance network
- Augmented coastal fence ends
- Revised pest incursion response plan
- External audit

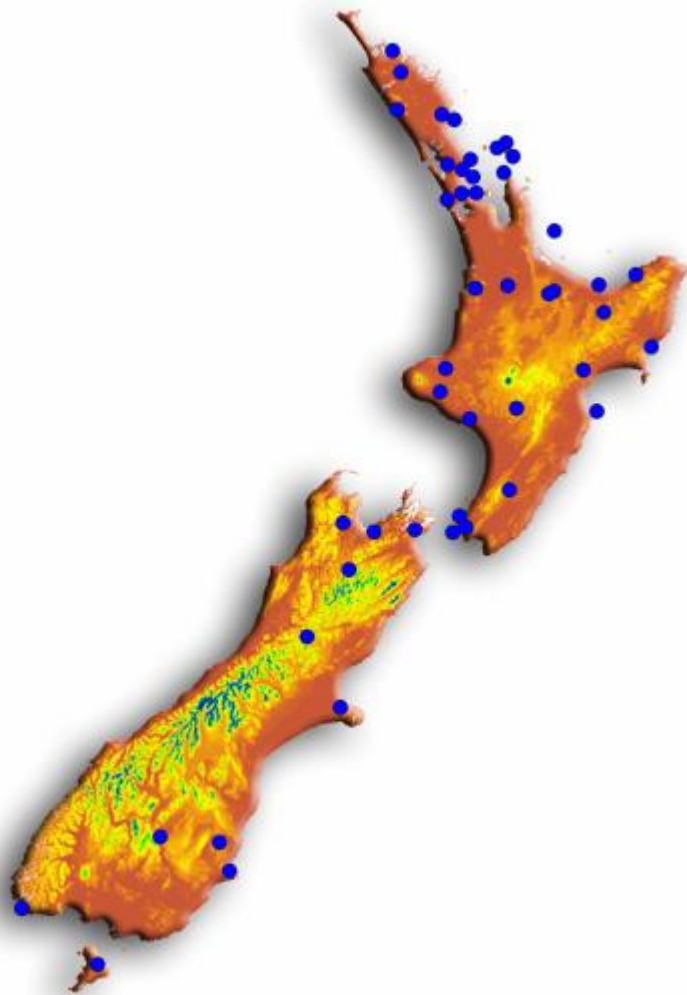


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