

Broadscale predator control for kiwi recovery



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Two broadscale D.O.C. programmes

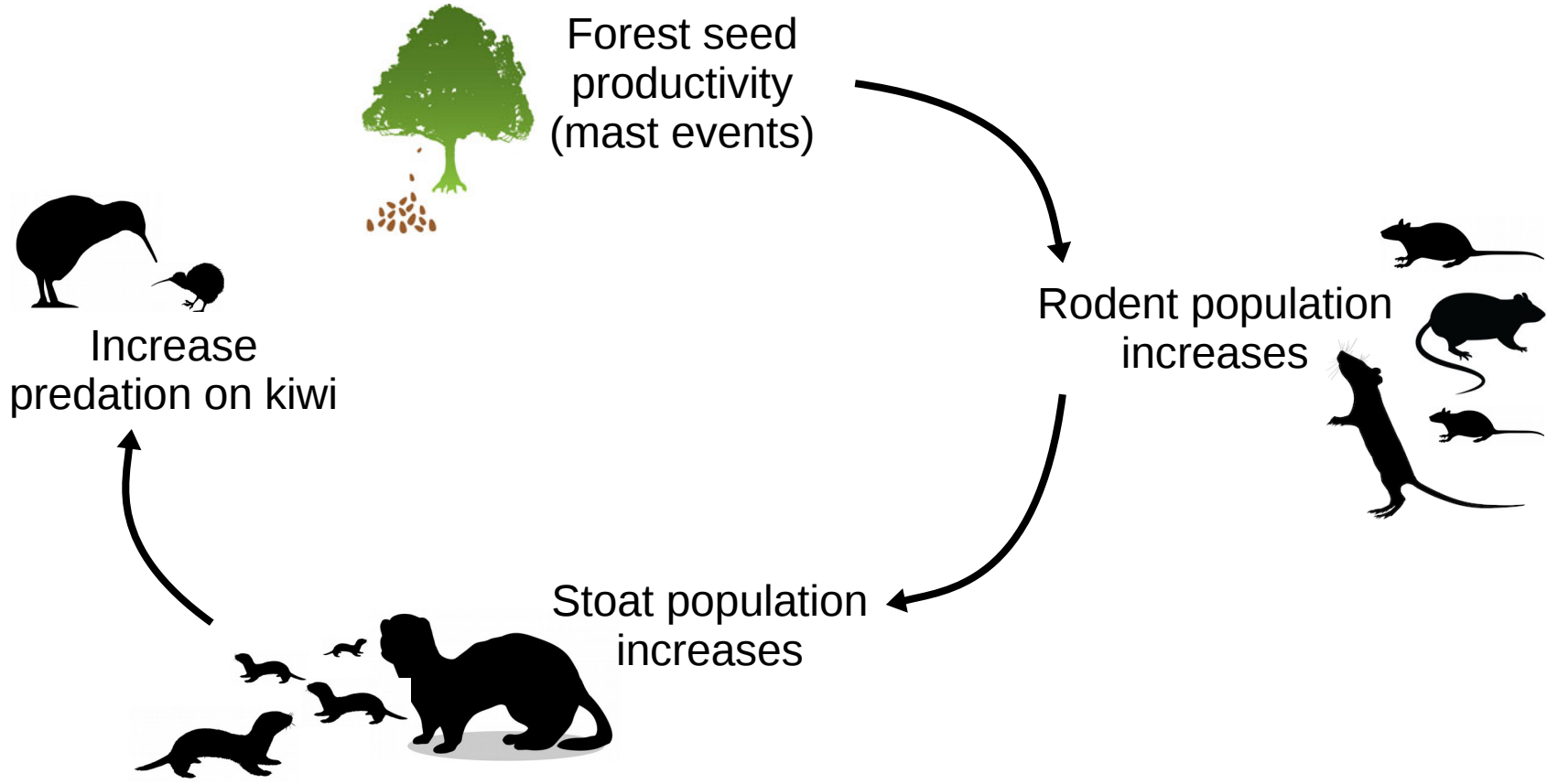
1) **Save our Iconic Kiwi**

- Achieve 2% increase in kiwi populations per annum

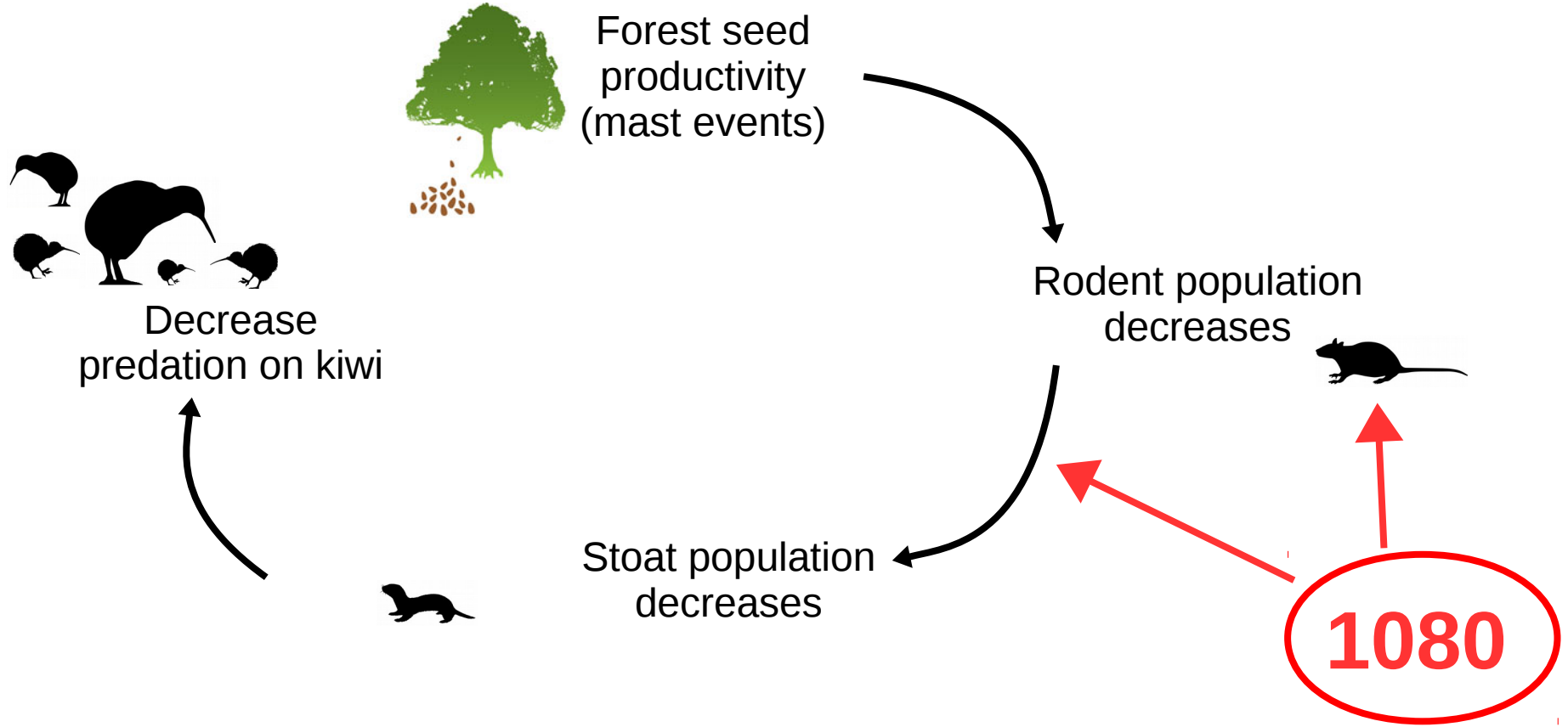
2) **Battle For Our Birds**

- Protect vulnerable bird species
- ~800,000 ha / year

Multi-trophic dynamics



Multi-trophic dynamics

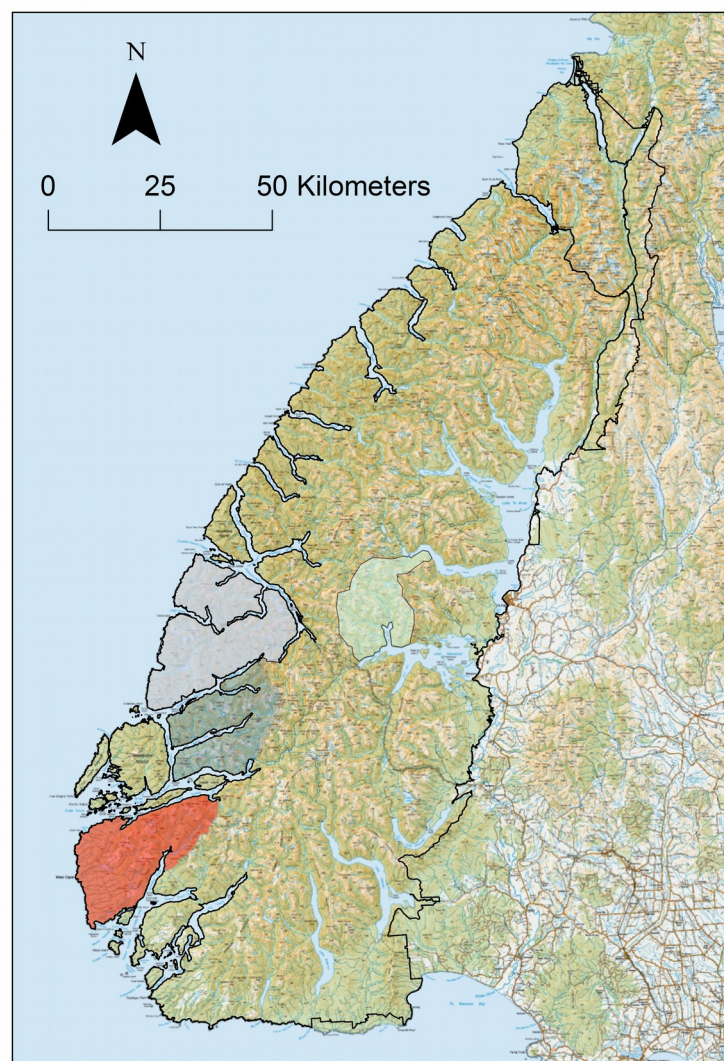




Save Our Iconic Kiwi: Fiordland

Management in 4 zones:

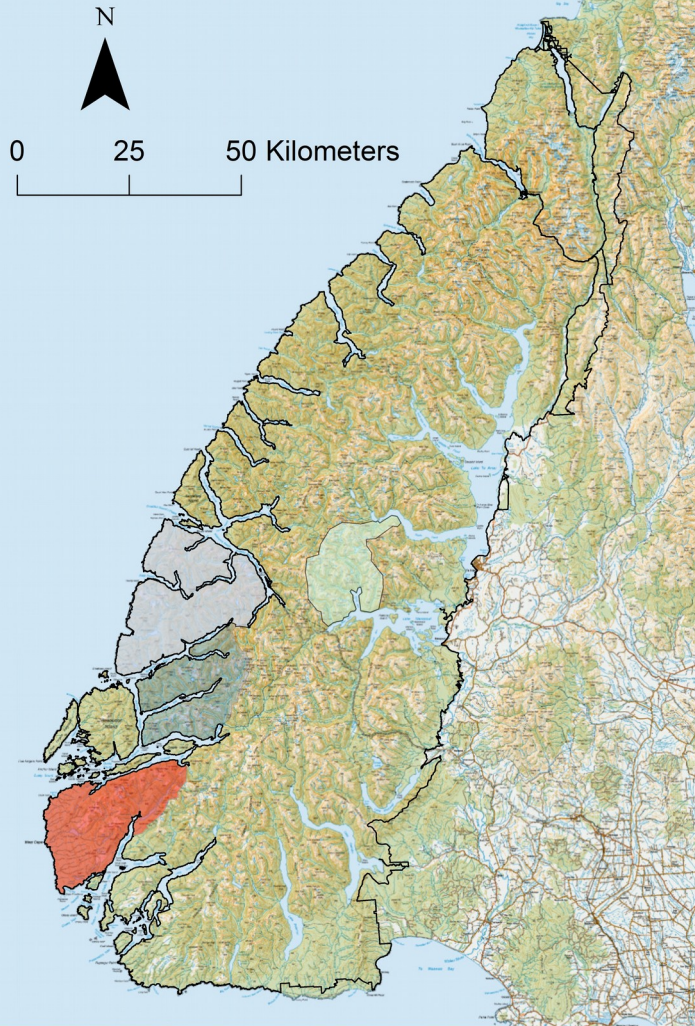
- 1) Freeman Burn
- 2) Mt. Forbes
- 3) Wet Jacket
- 4) West Cape





Question:

How much will a kiwi population grow (or decrease) given a predator management strategy over a 20 year period?

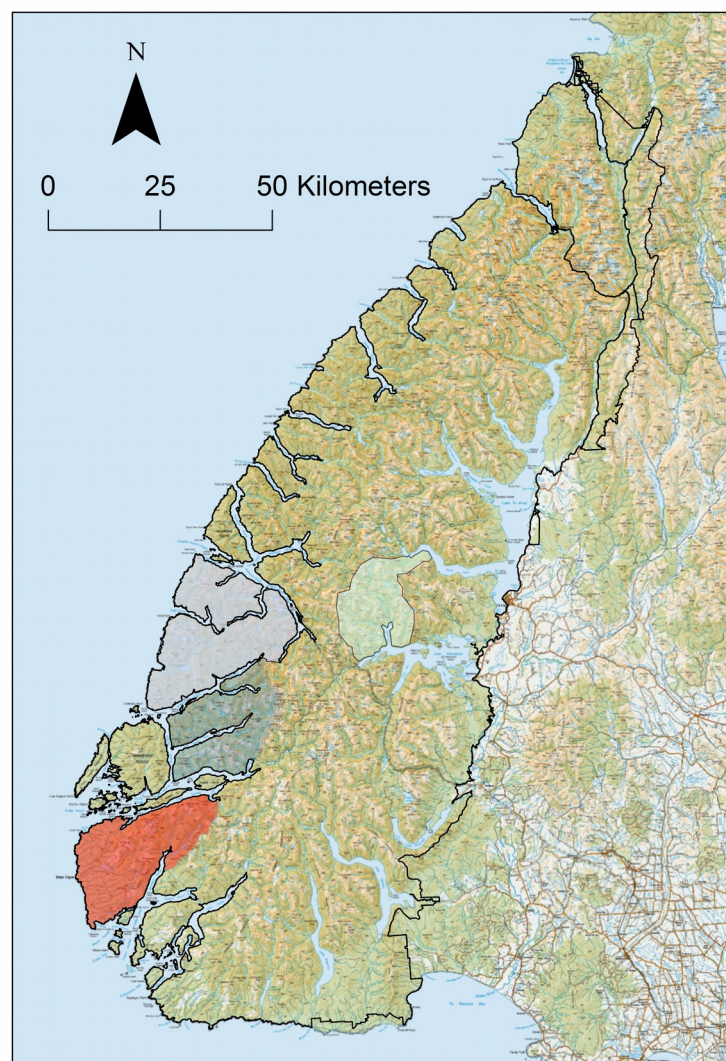




Predator management strategies

1) Prescriptive

- Rotate 1080 operations
- 4 years
- 3 years





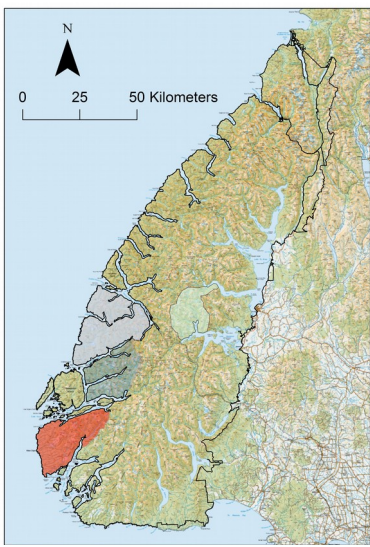
Predator management strategy

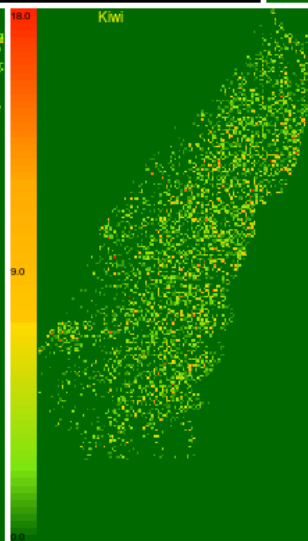
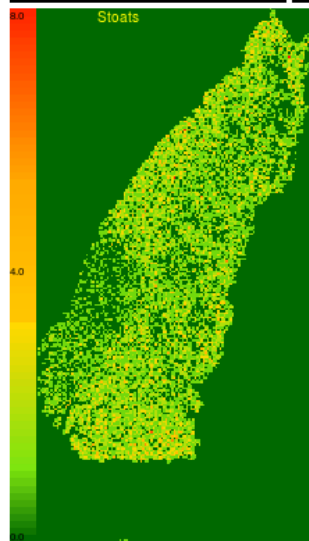
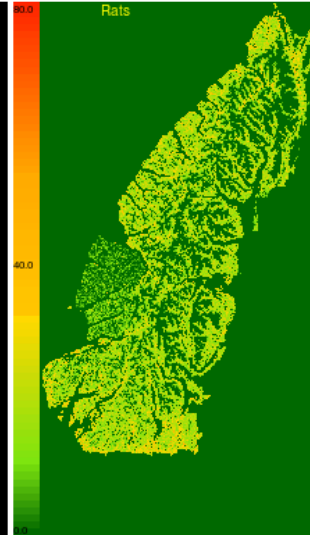
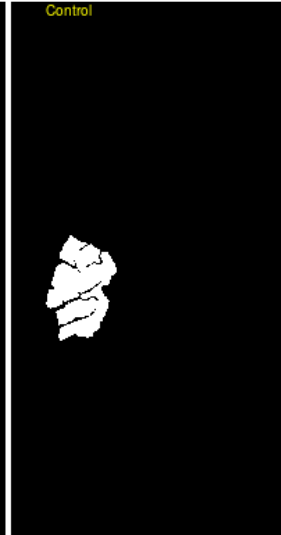
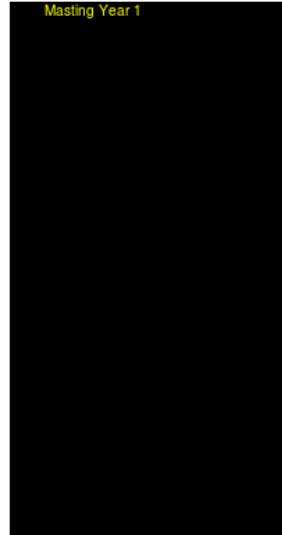
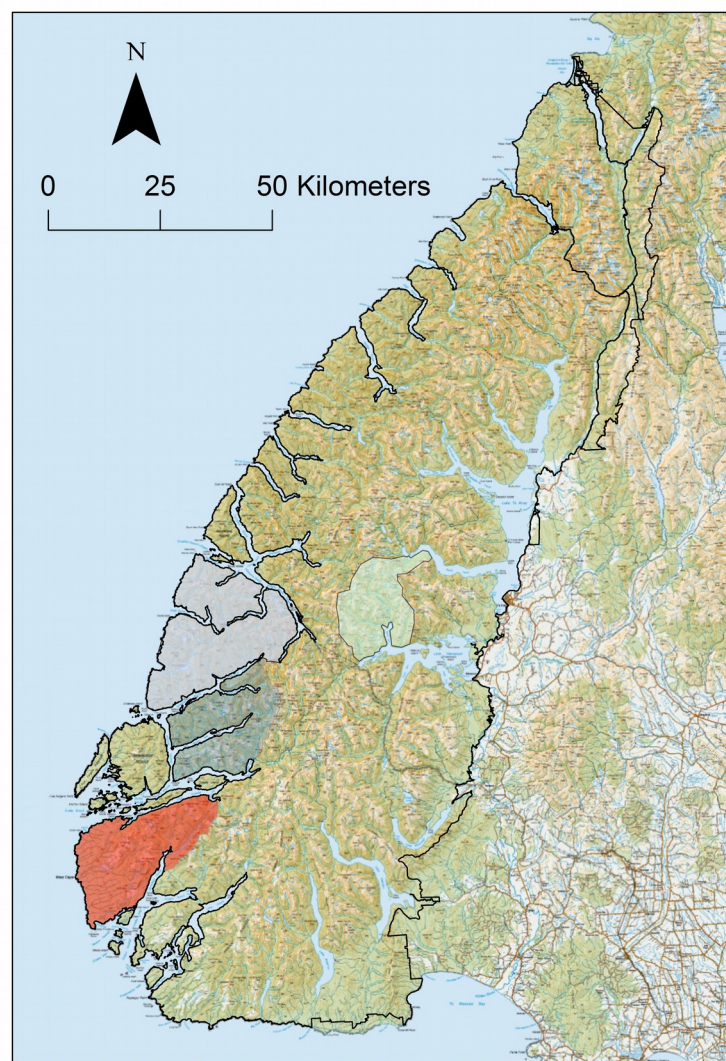
1) Prescriptive

- Rotate 1080 operations
- 4 years
- 3 years

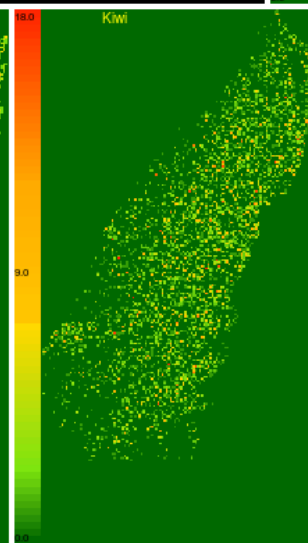
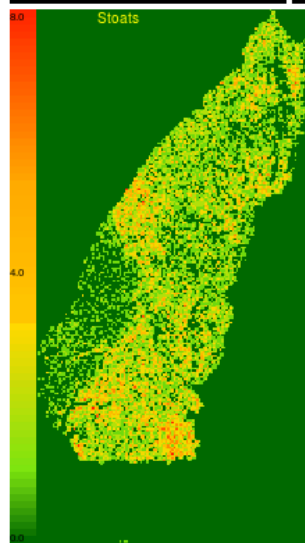
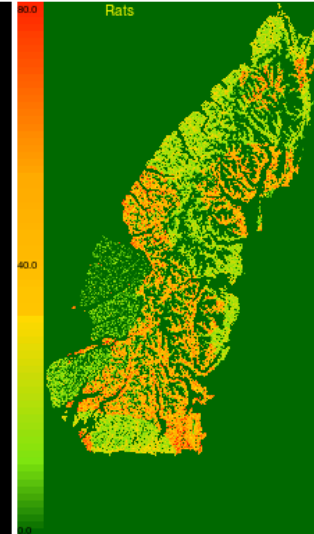
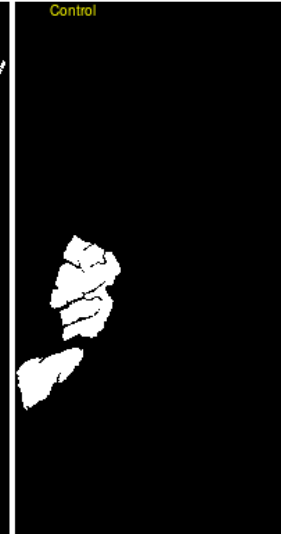
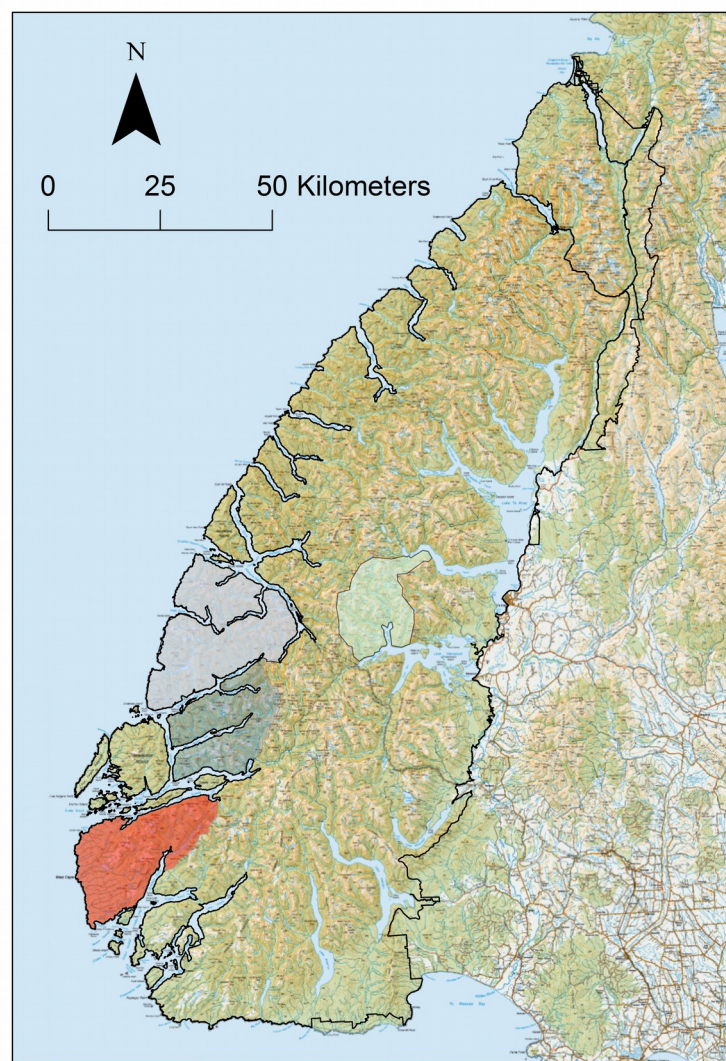
2) Reactive 1080

- 20% rat tracking tunnel rate
- 50% of zone in mast

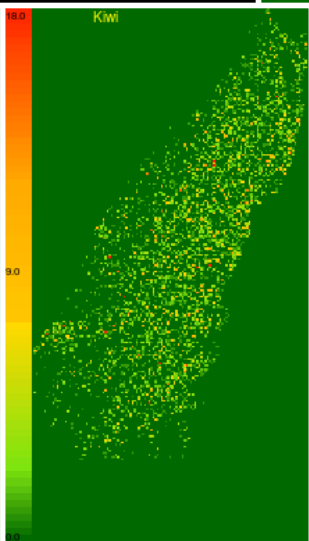
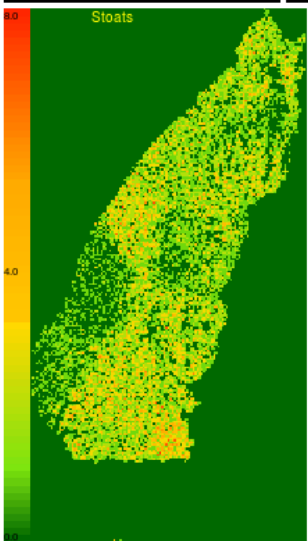
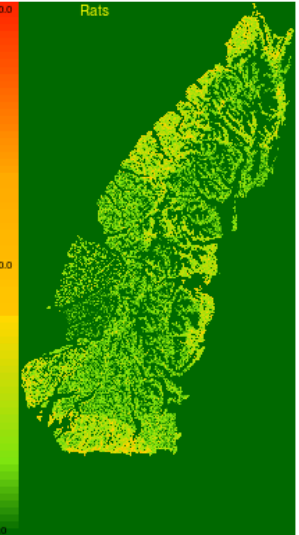
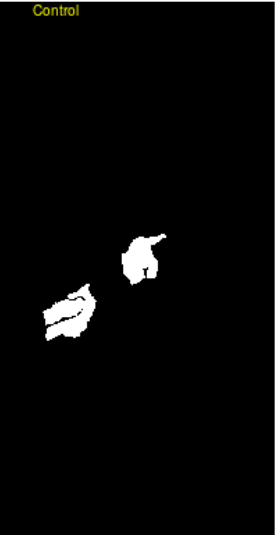
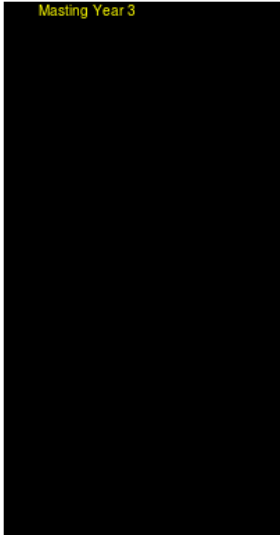
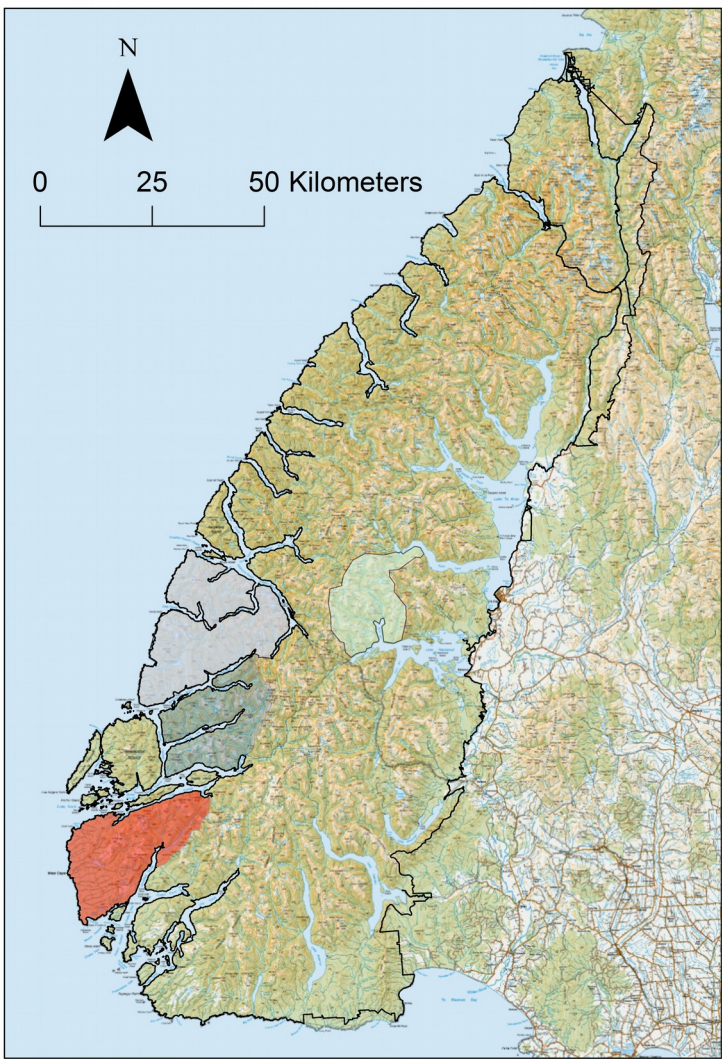




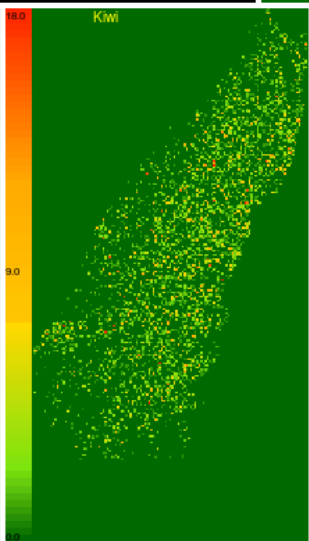
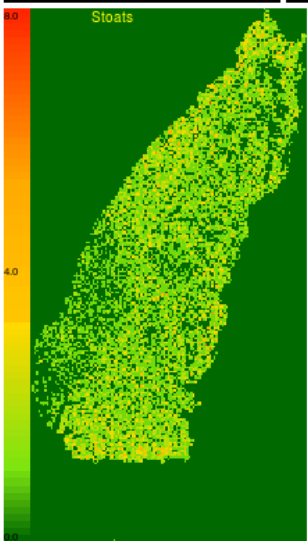
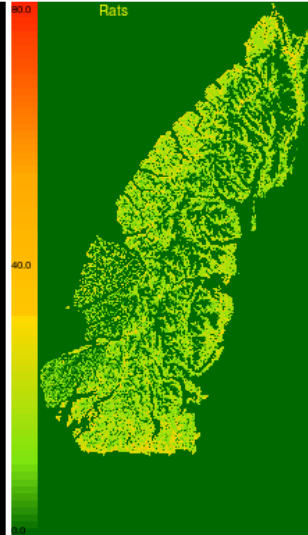
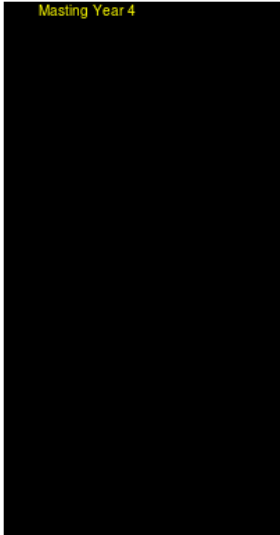
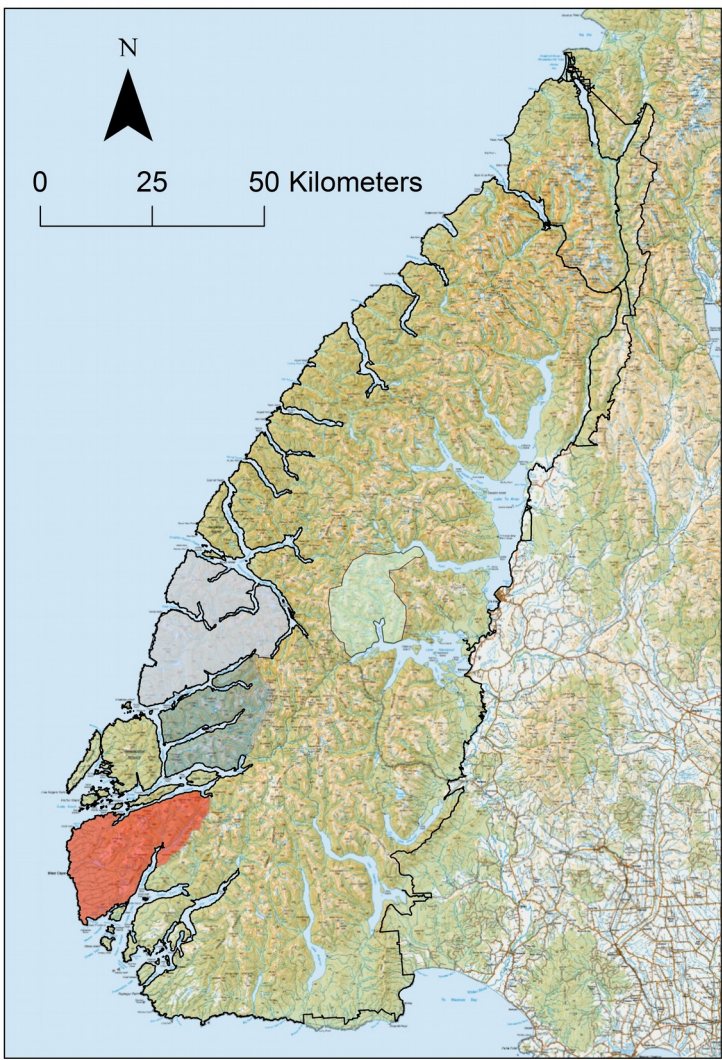
Reactive



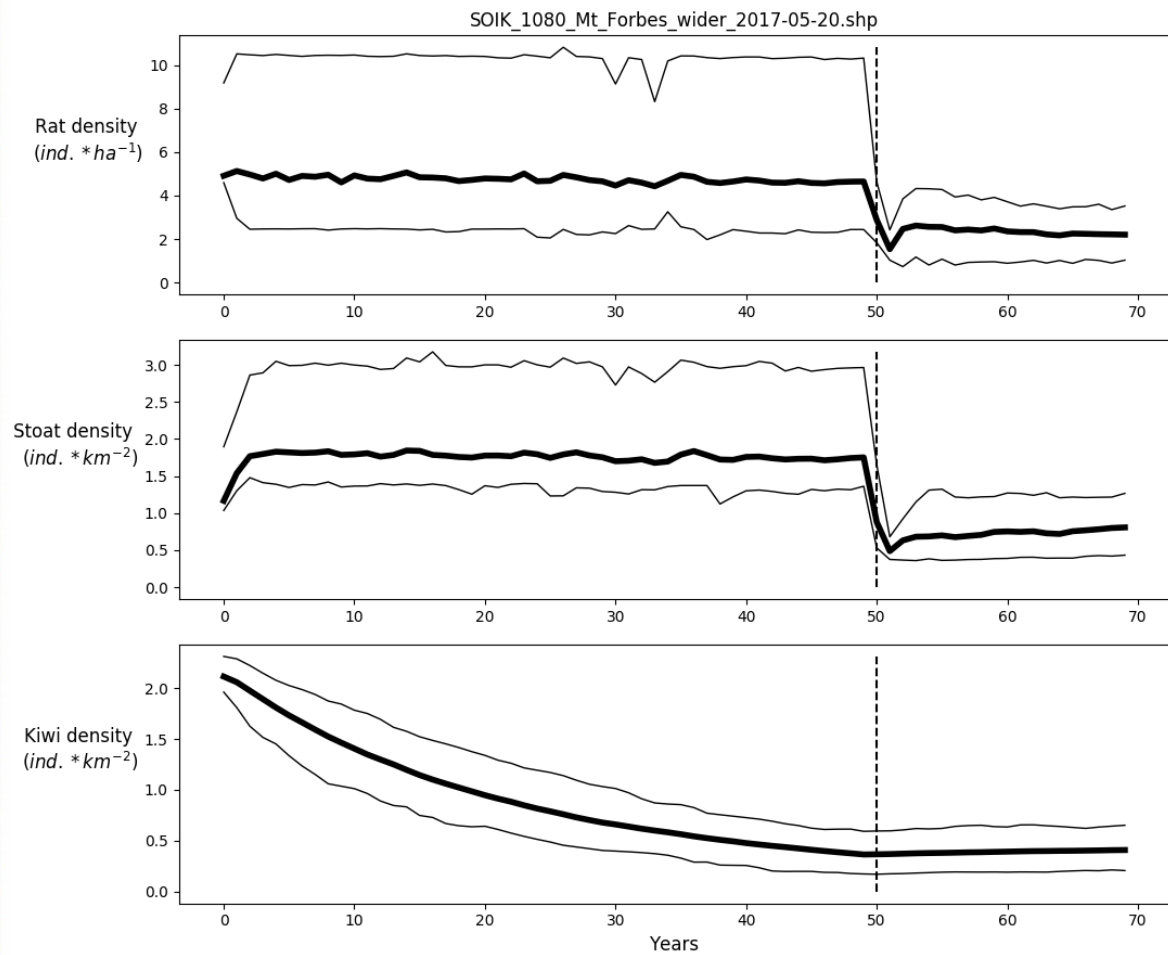
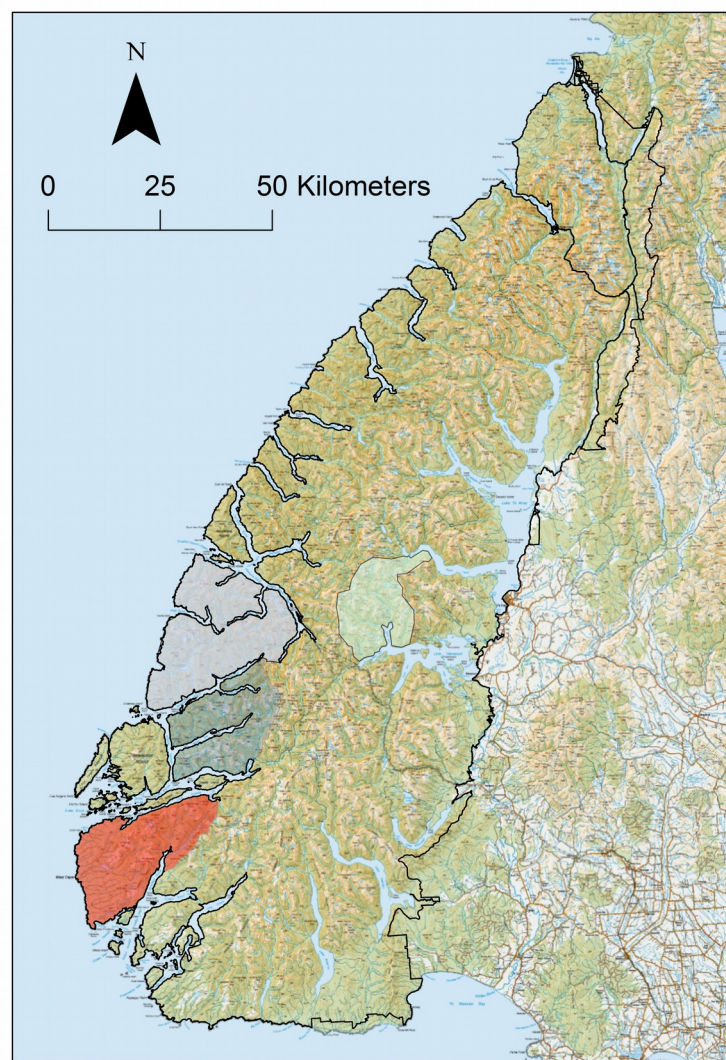
Reactive

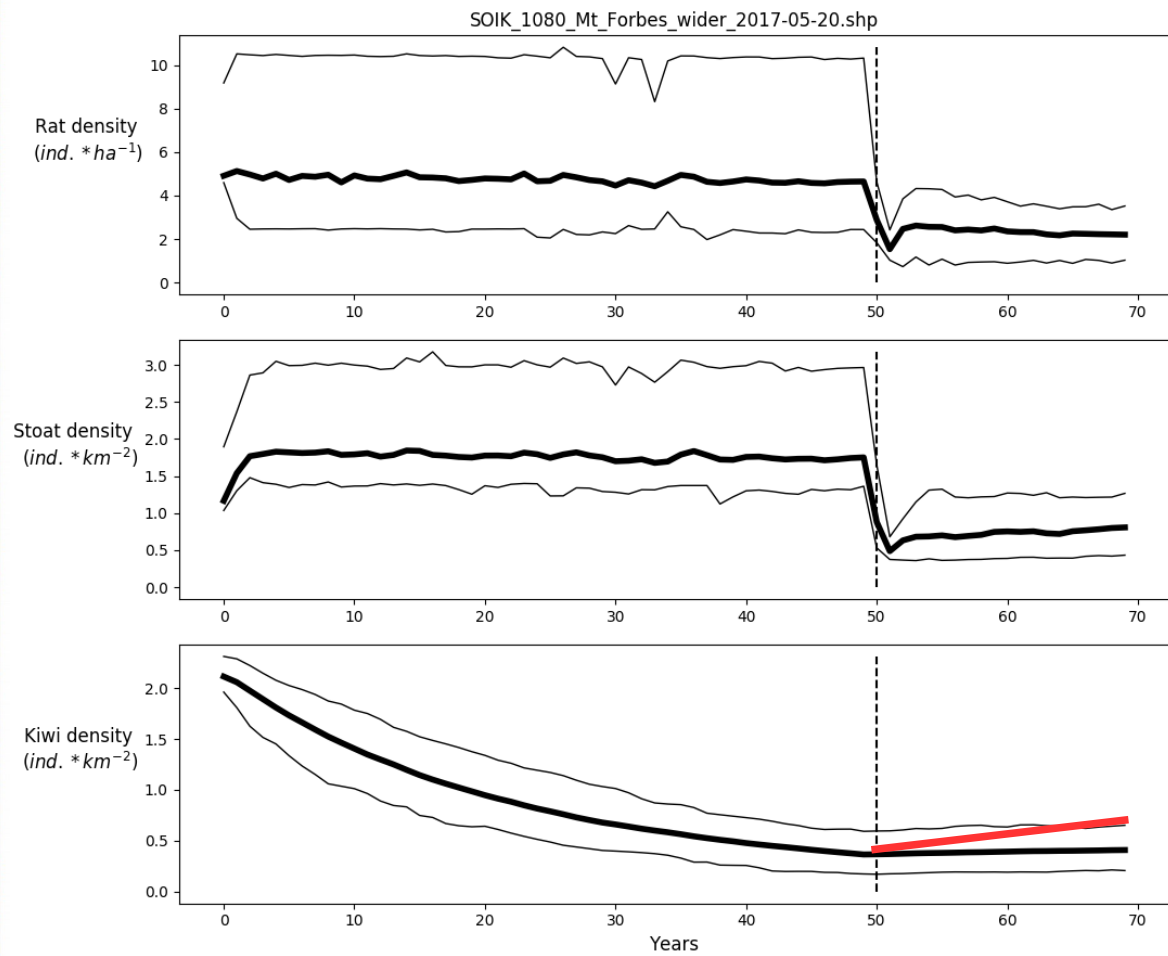
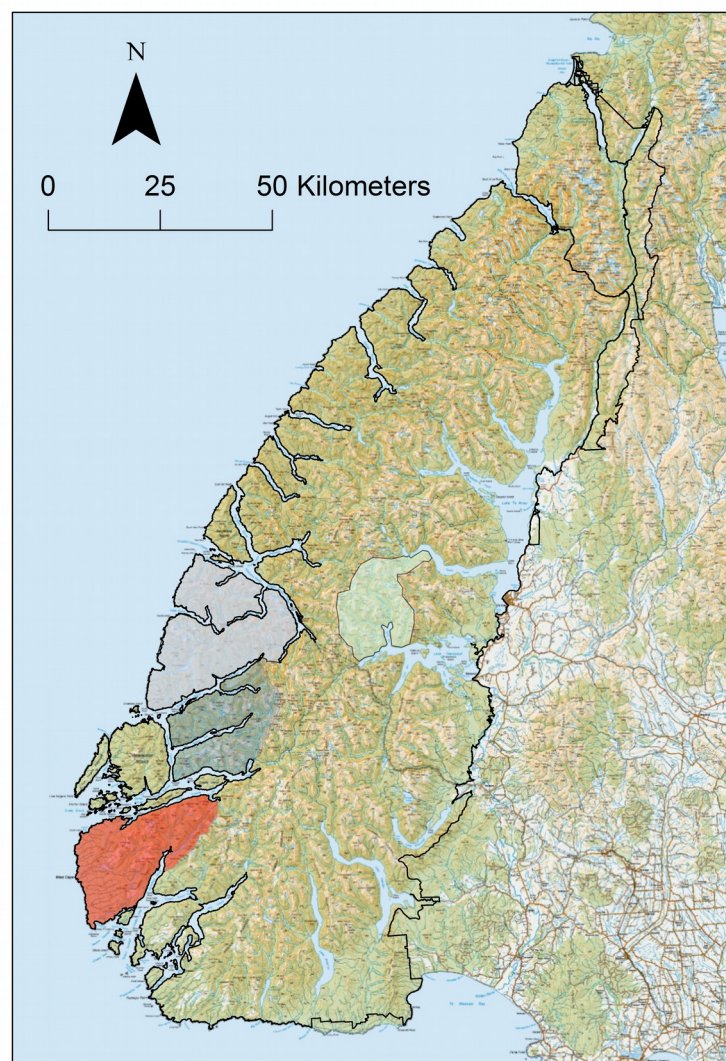


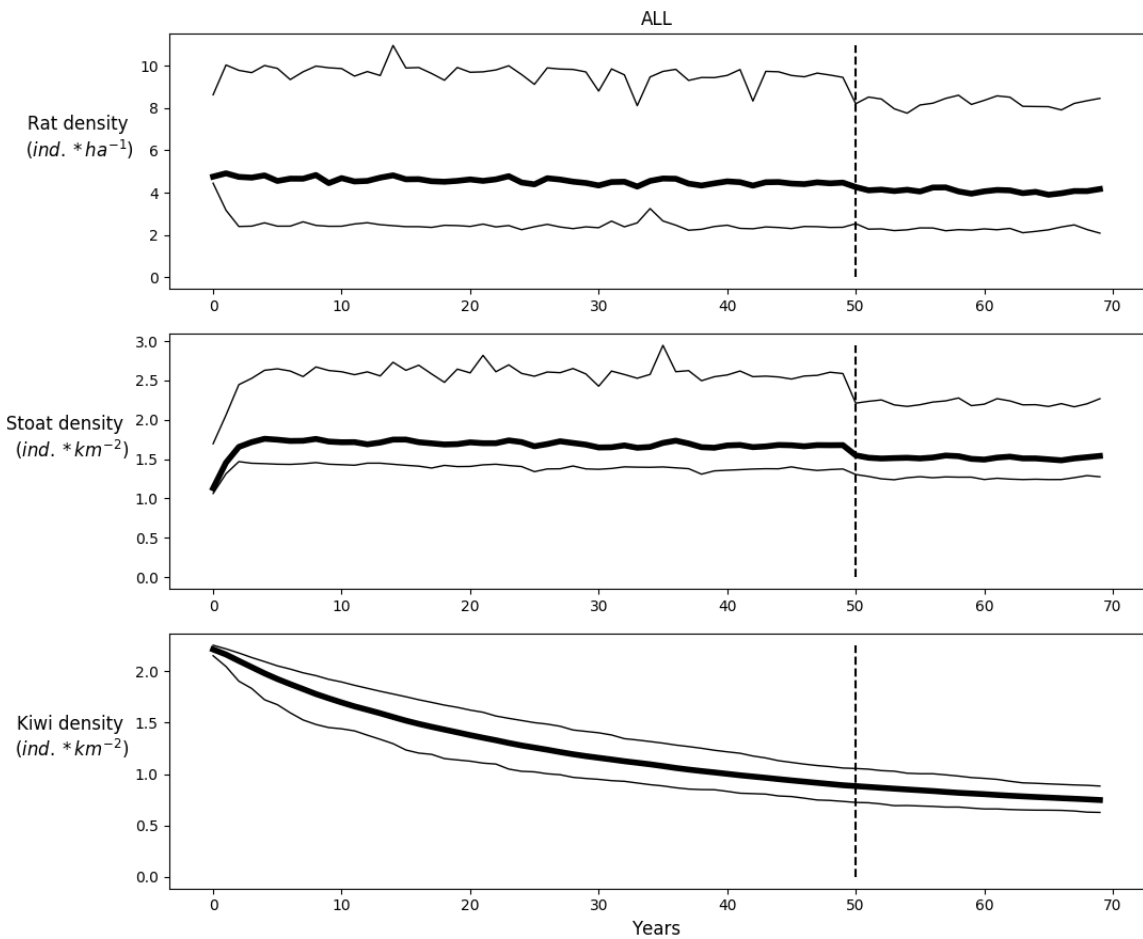
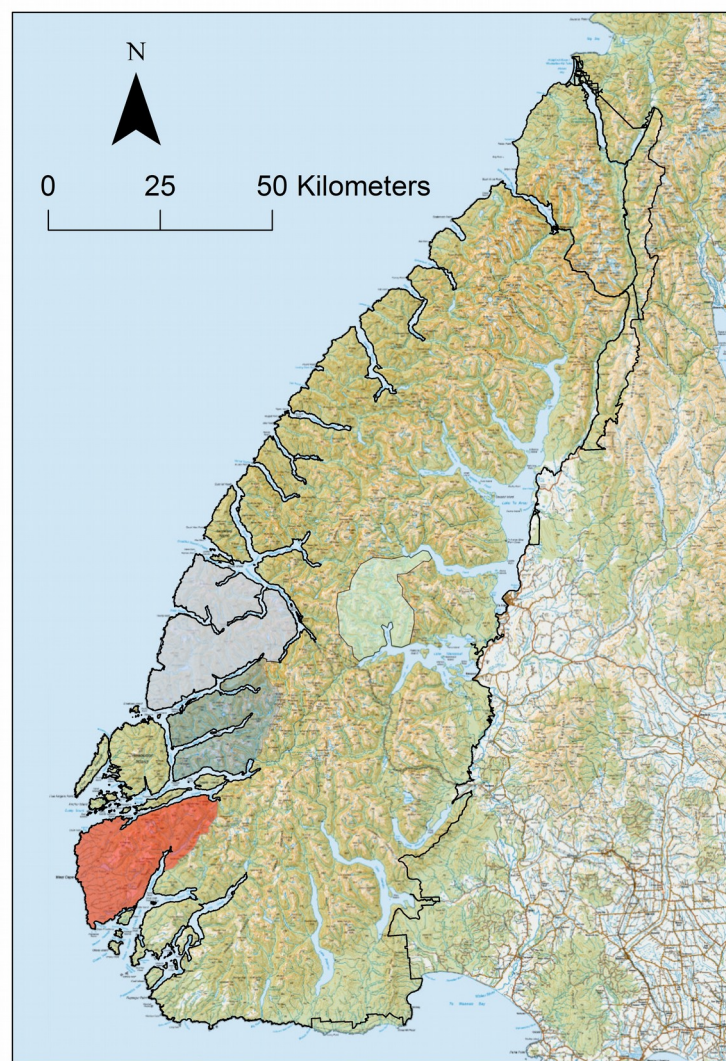
Reactive



Reactive







Proportional change in kiwi population over 20 years

| Zone | Reactive |
|---------------------|-----------------|
| Freeman Burn | 0.02 |
| Mt. Forbes | 0.12 |
| West Cape | 0.12 |
| Wet Jacket | 0.10 |
| All Fiordland | -0.15 |
| No. 1080 operations | 29.36 |

Proportional change in kiwi population over 20 years

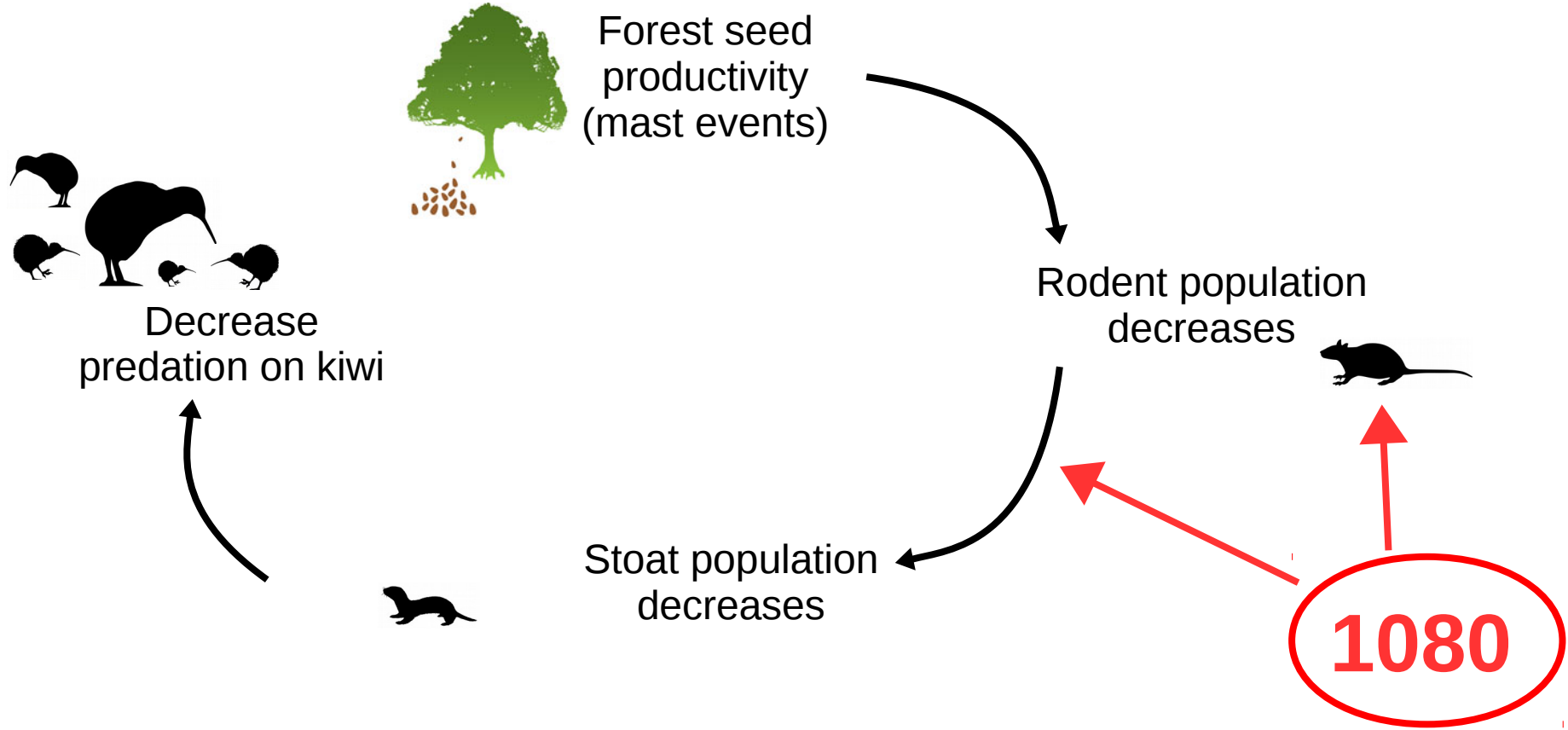
| Zone | Reactive | Prescriptive 4 year |
|---------------------|-----------------|--------------------------------|
| Freeman Burn | 0.02 | -0.01 |
| Mt. Forbes | 0.12 | 0.01 |
| West Cape | 0.12 | -0.04 |
| Wet Jacket | 0.10 | -0.04 |
| All Fiordland | -0.15 | -0.16 |
| No. 1080 operations | 29.36 | 20.00 |

Proportional change in kiwi population over 20 years

| Zone | Reactive | Prescriptive 4 year | Prescriptive 3 year |
|---------------------|-----------------|--------------------------------|--------------------------------|
| Freeman Burn | 0.02 | -0.01 | 0.02 |
| Mt. Forbes | 0.12 | 0.01 | 0.11 |
| West Cape | 0.12 | -0.04 | 0.06 |
| Wet Jacket | 0.10 | -0.04 | 0.04 |
| All Fiordland | -0.15 | -0.16 | -0.15 |
| No. 1080 operations | 29.36 | 20.00 | 26.00 |



Summary





Summary

- Reactive strategy give marginally better kiwi outcomes than 3-year prescriptive
 - Reactive requires ~30 operations
 - Prescriptive requires ~26 operations
 - Reactive requires intensive monitoring!!!



Summary

- 4-year prescriptive fails
 - More than 2 years without a 1080 operation may result in declining kiwi population



Summary

- Save Our Iconic Kiwi goal of 2% growth per annum
 - Perhaps unrealistic

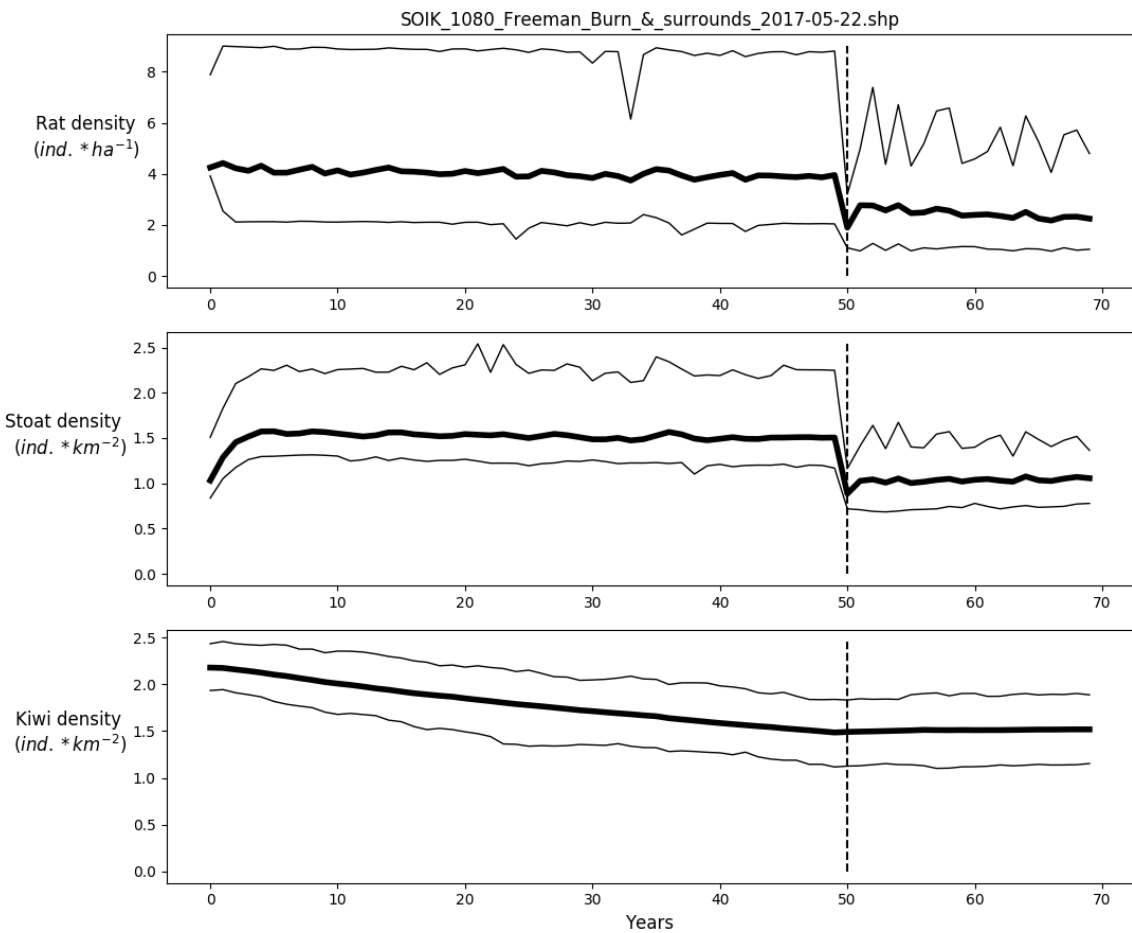
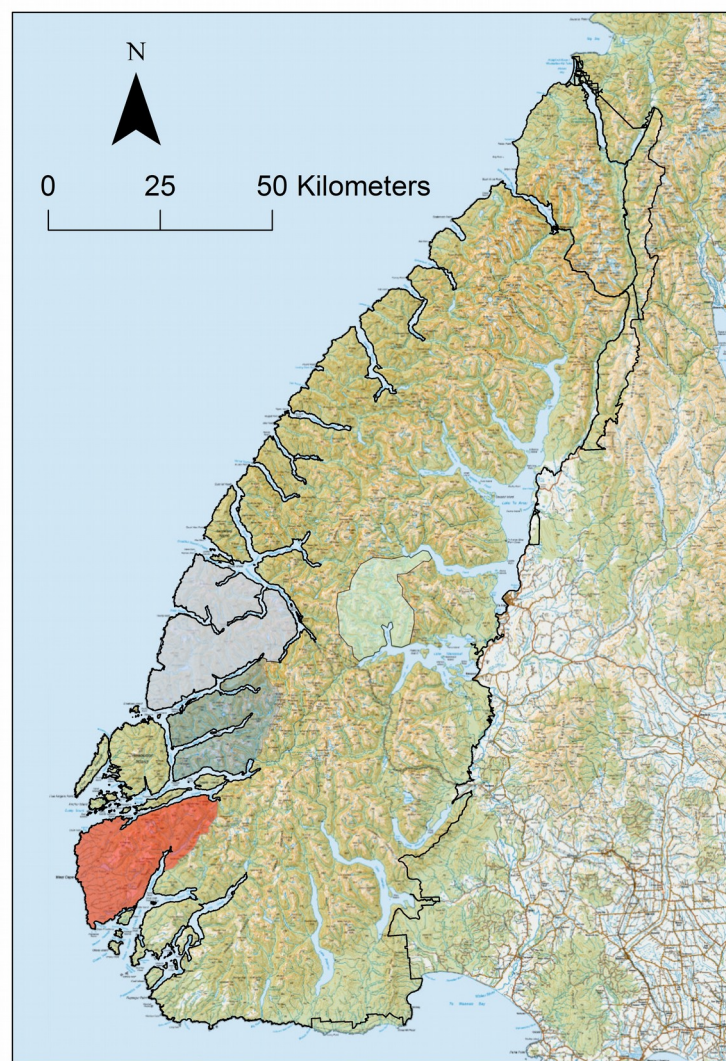


Acknowledgements

Contributors: John Innes, Hugh Robertson, Rogan Colburne, Megan Willans, Jo Ledington, Paul Jensen, Em Oyston, Graeme Elliott, Christine Hunter

Funding: MBIE

- “Security for iconic species: kiwi rescue”





Predator management strategy

1) Prescriptive

- Rotate 1080 operations
- 4 years

2) Reactive

- 20% rat tracking tunnel rate
- 50% of zone in mast

3) Both prescriptive and reactive

- Max. 3 years between 1080

