Threatened Epiphytes of the Hunua Ranges

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Overview

- Background
- Objectives
- Survey design
- Key findings
- Recommendations

Background

- Auckland Council
- Biodiversity Threatened Species Programme
- Hunua Regional Park

Objectives

- Auckland Council aims to:

"ensure no regional extinctions of indigenous species and a reduction in the number of 'threatened' or 'at risk' species from 2010 levels by 50 per cent in 2040." (Auckland Indigenous Biodiversity Strategy & Auckland Plan)

- Improve knowledge of two "At risk" epiphytes species; *Brachyglottis kirkii* var. *kirkii* and *Pittosporum kirkii*

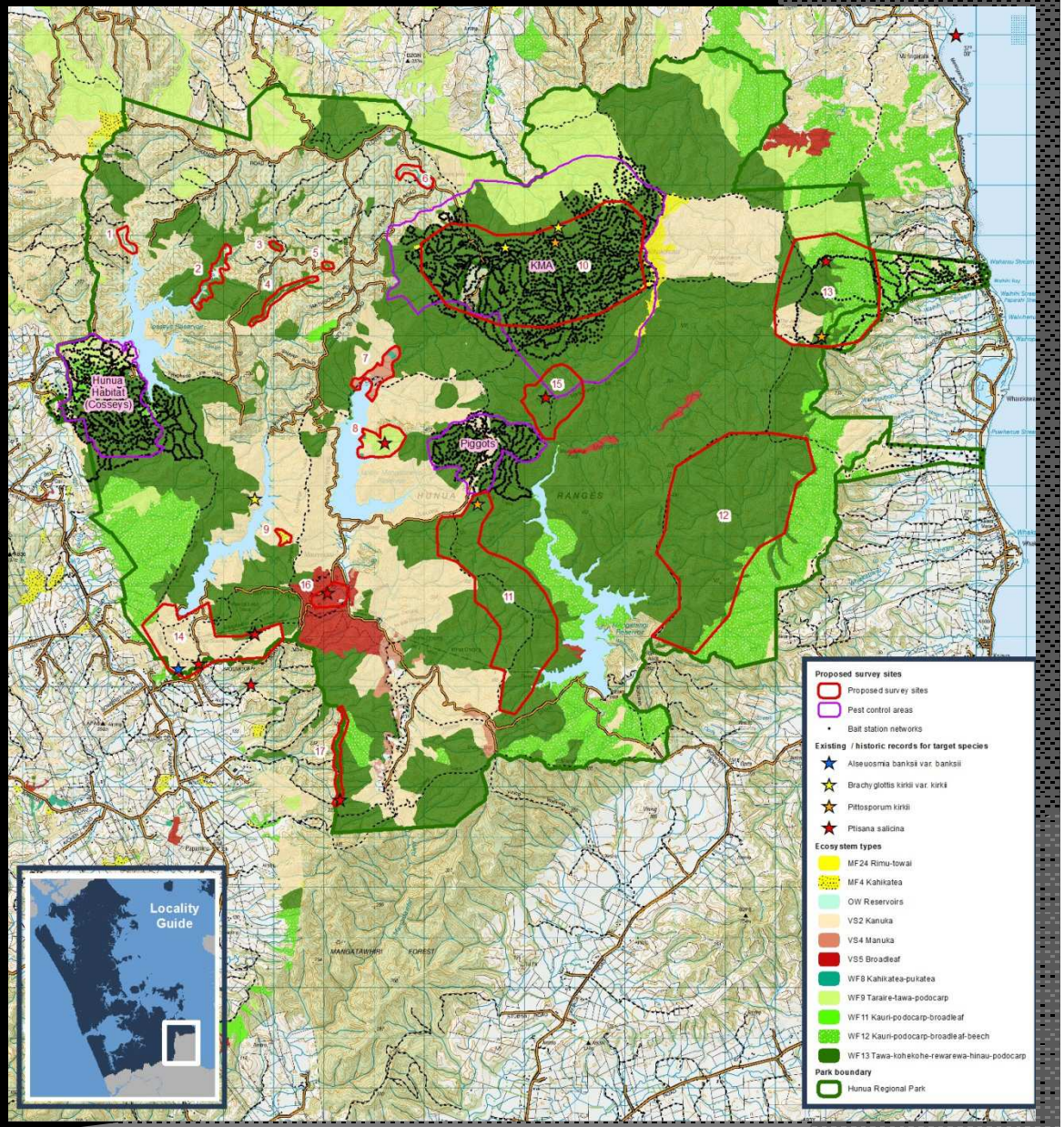
- Monitor response following 1080 possum control of the abundance of threatened plants in Hunua Regional Park

Survey Approach

Site selection

Sites selected based on:

- Historic records
- Ecosystem types
- Data deficiencies
- Information from park rangers



B. Senior, Auckland Council

Survey methods

- 14 areas surveyed
- teams of 2-4 botanists
- 2 months: 630 hours
- both on and off track
- ground-based binocular approach

Target species

Brachyglottis kirkii var. *kirkii*

Pittosporum kirkii

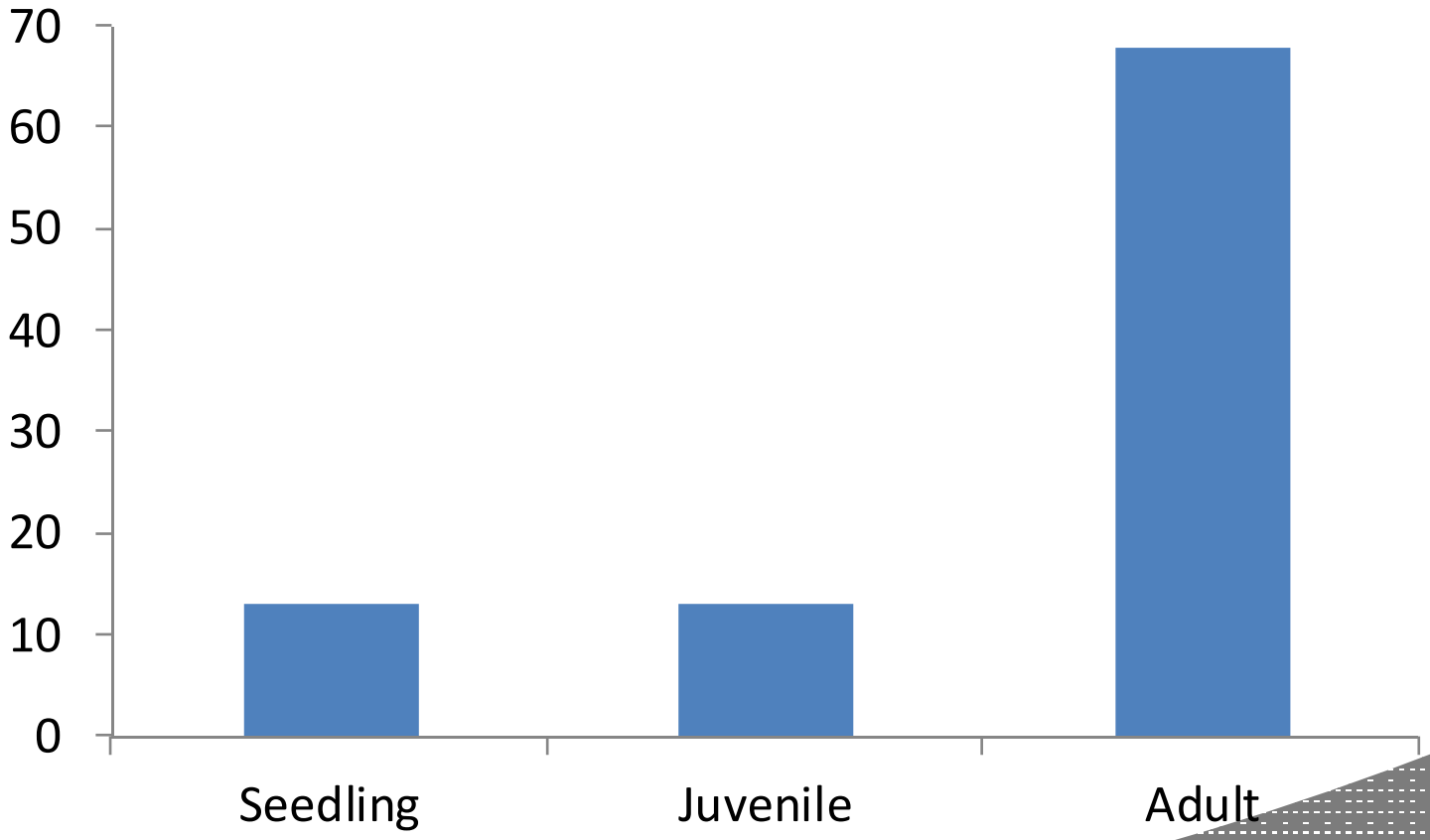

Brachyglottis kirkii
var. *kirkii*
Catherine Kirby

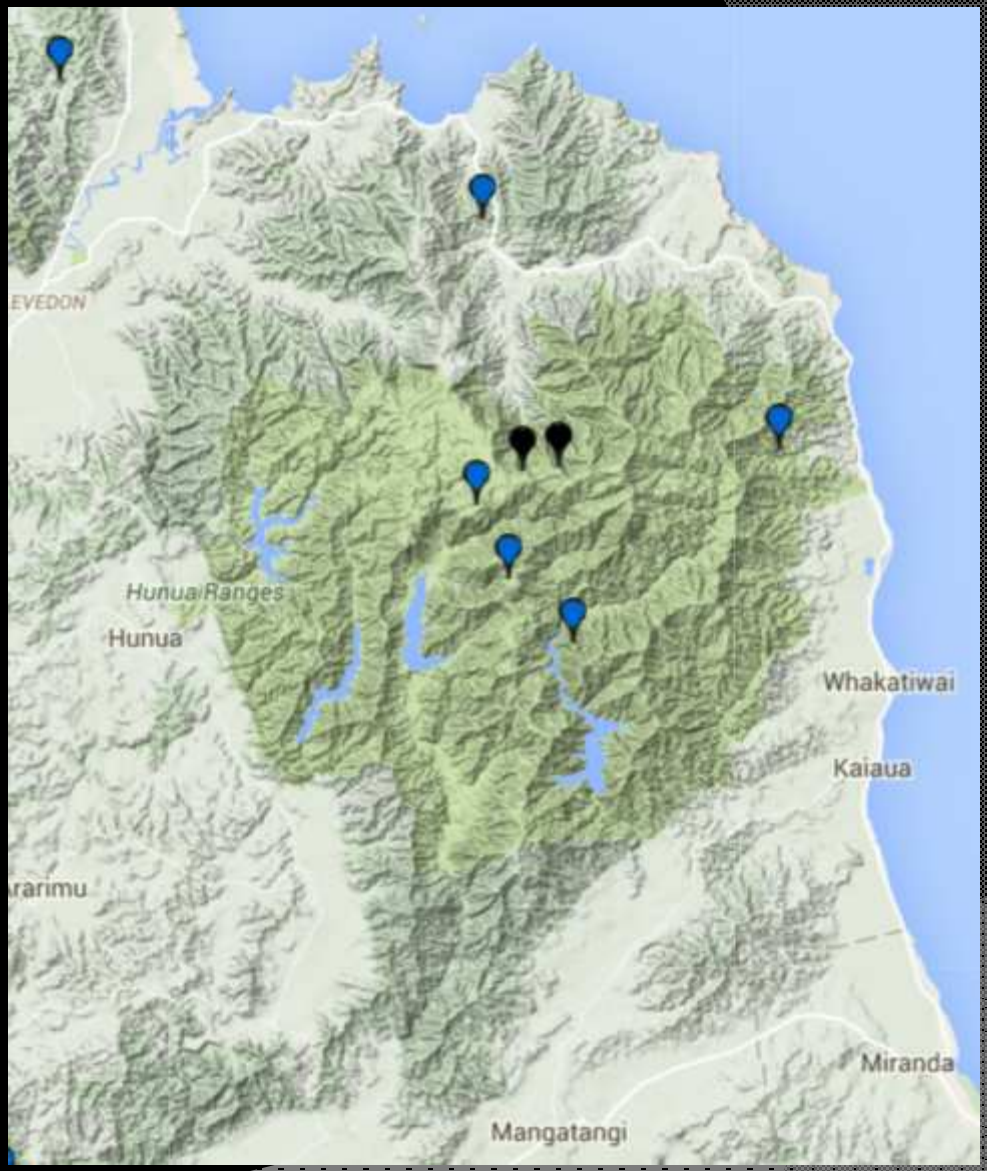
Key findings

Brachyglottis kirkii var. *kirkii:*

- 49 site records (95 individuals)
- 61% of records were in intensively pest controlled sites (Kokako Management Area and Piggots Kokako Recovery Project area)

Brachyglottis kirkii var. *kirkii* life stages





NZ Plant Conservation Network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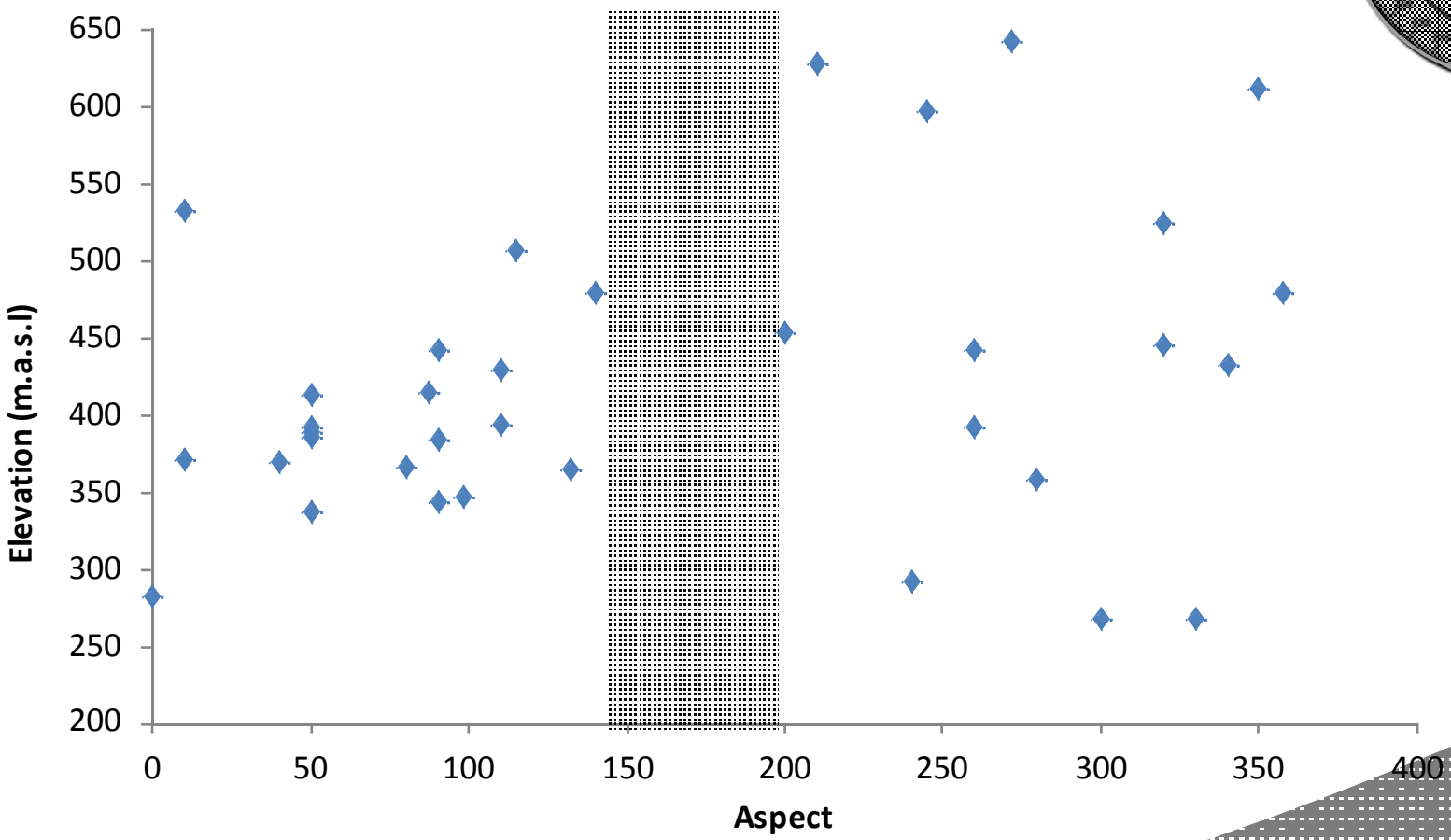
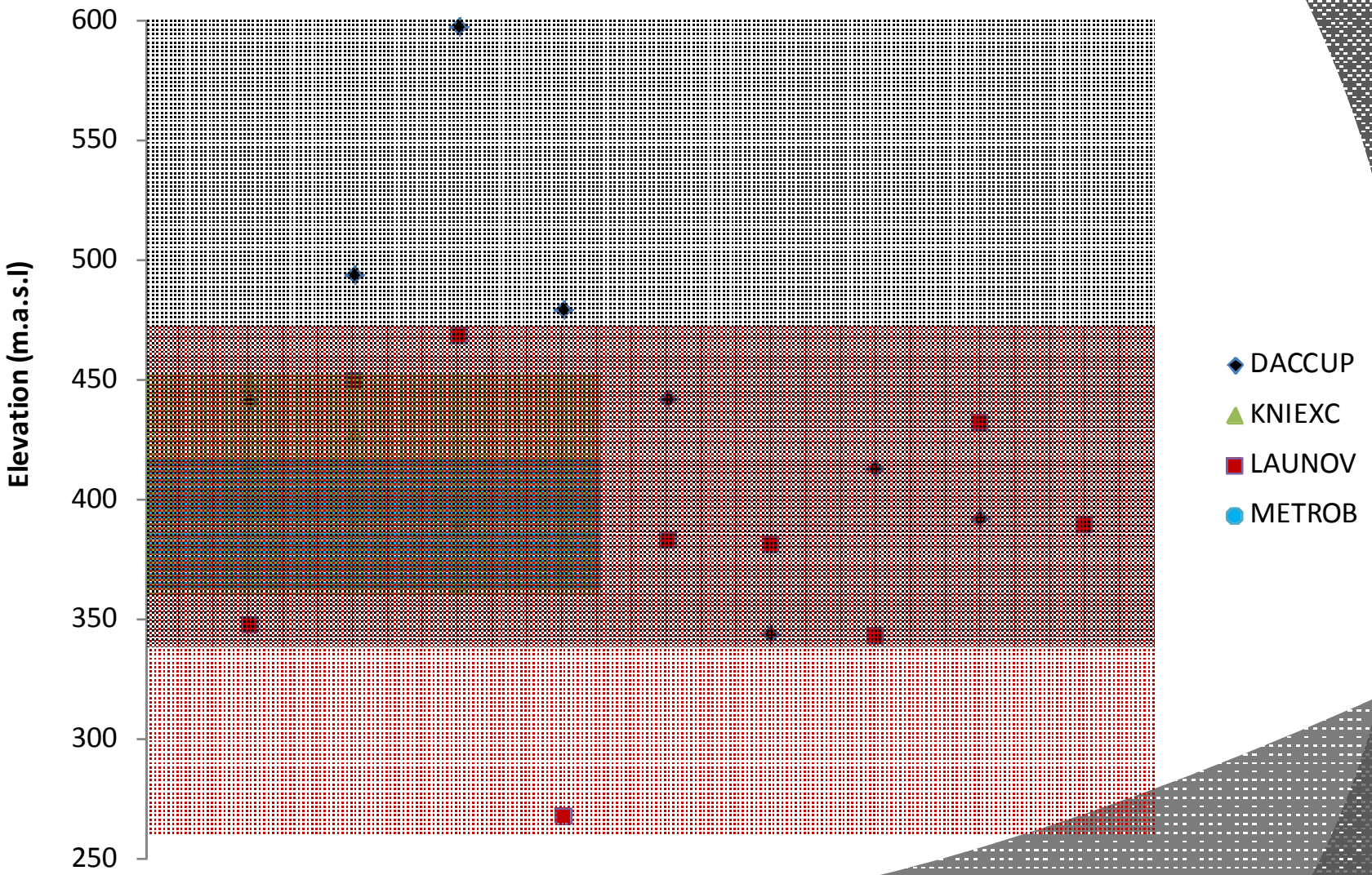
Brachyglottis aspect vs. elevation



Brachyglottis host trees vs. elevation

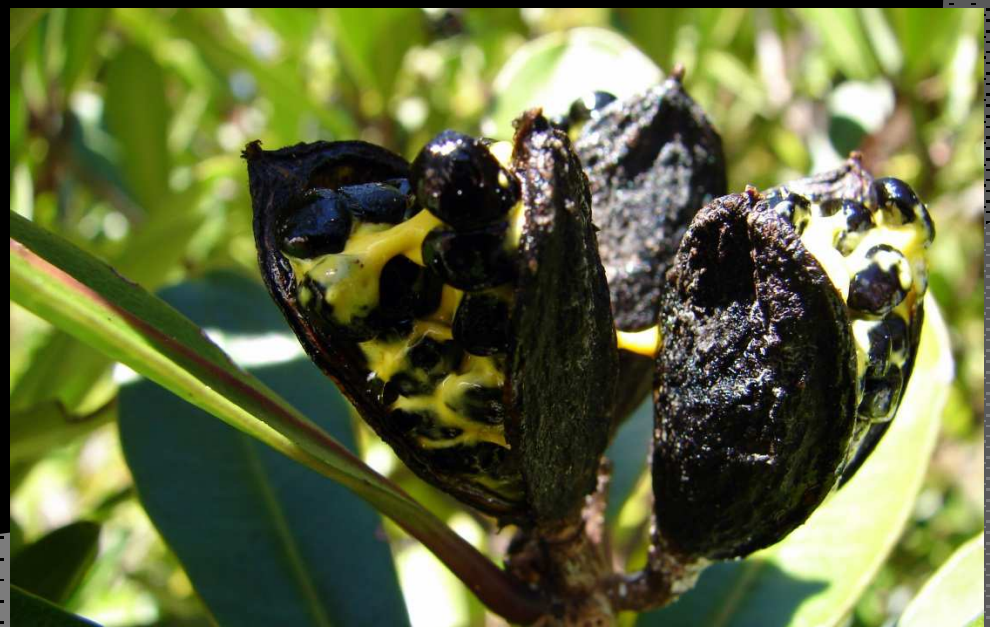



Pittosporum kirkii
Amy Hawcroft

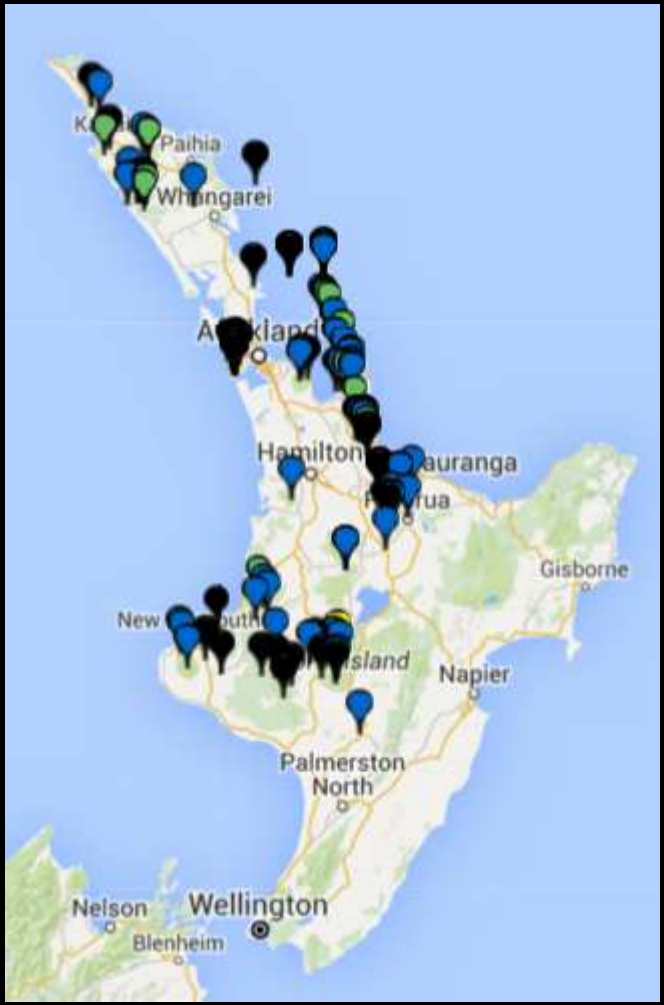
Key findings

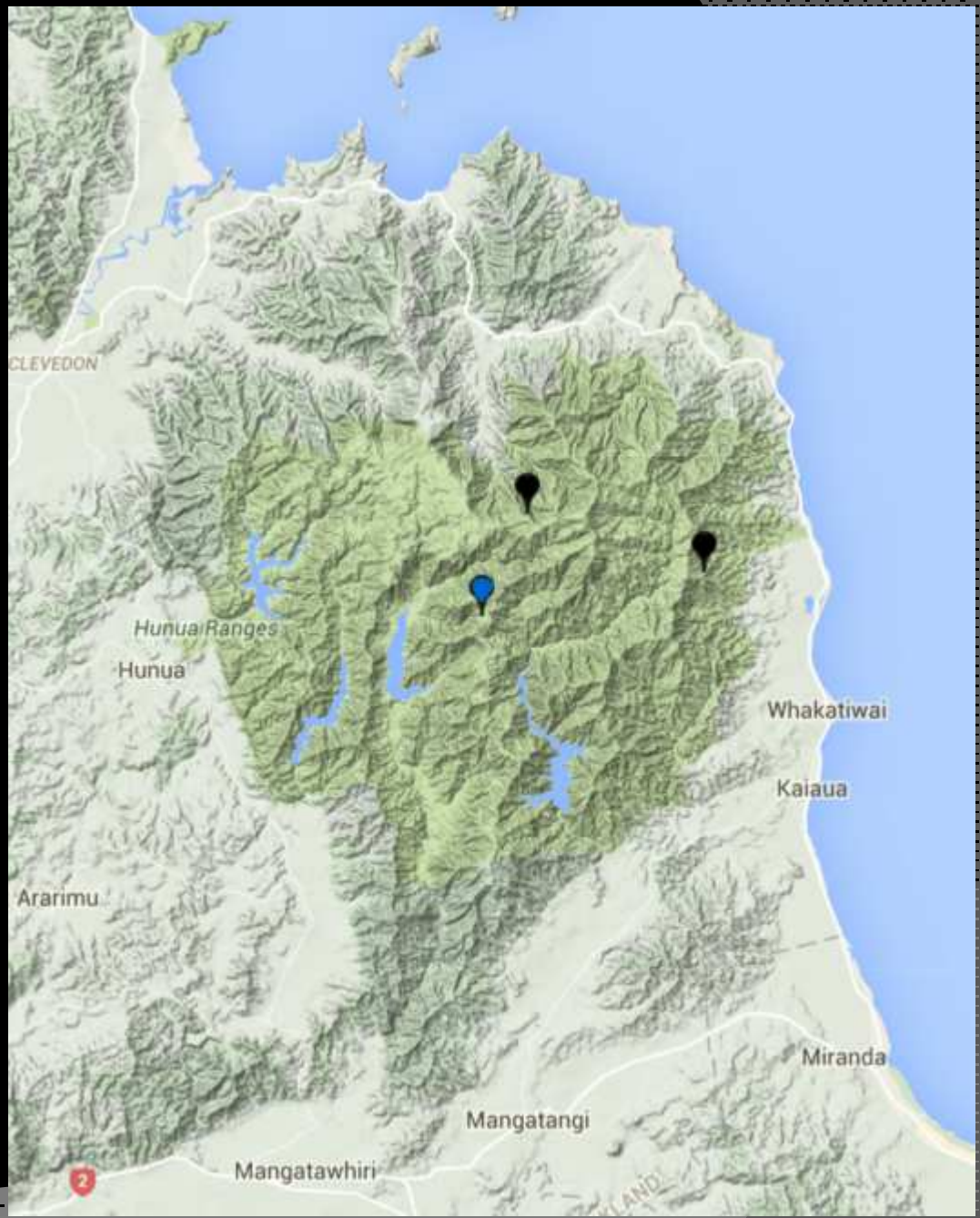
Pittosporum kirkii

- Five site records (eight individuals)
- 100% of records were in intensively pest managed sites (KMA and Piggots)
- No seed capsules



Bill Clarkson





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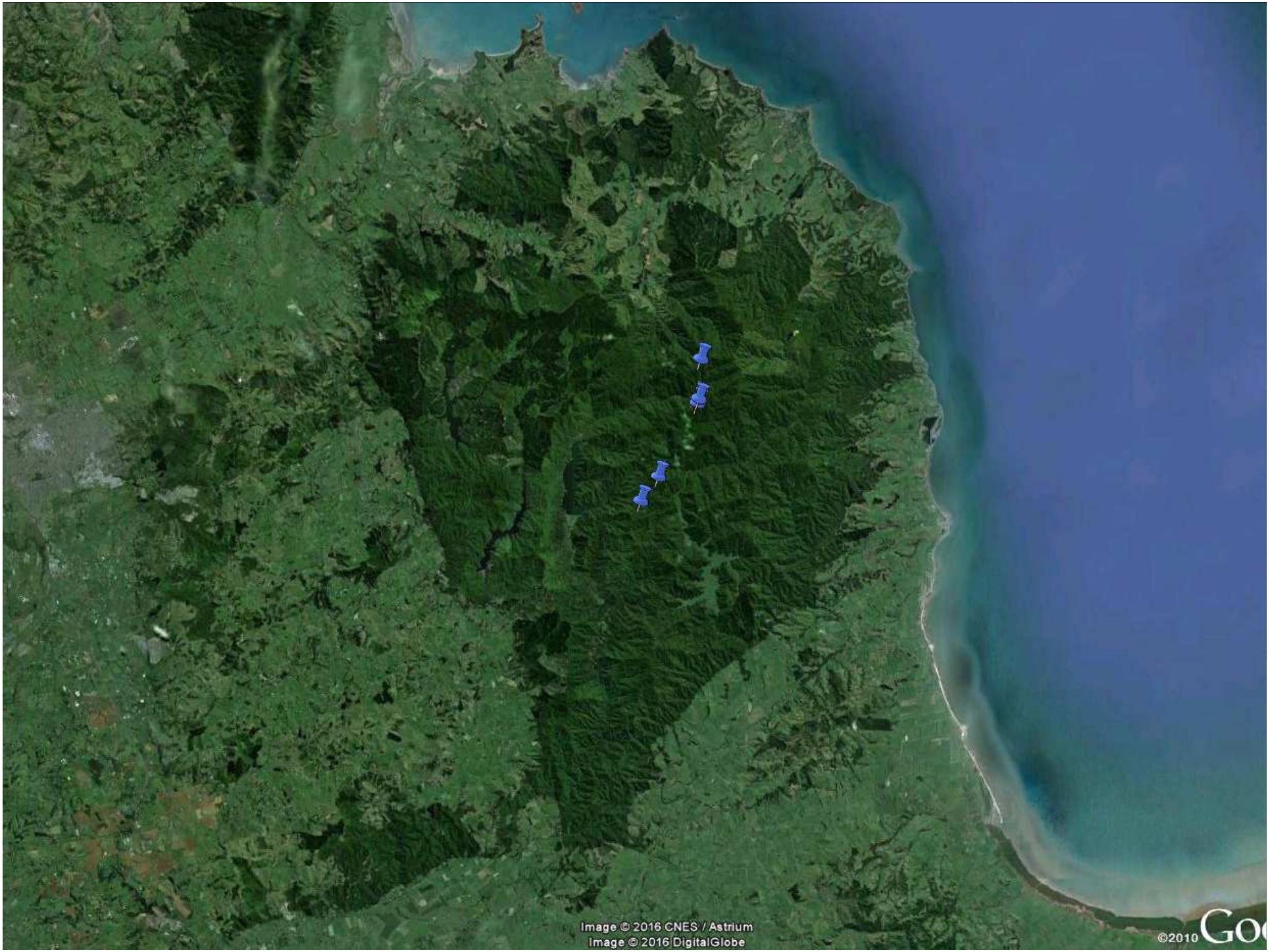
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Host tree relationships

Survey Limitations

Recommendations

- Future monitoring (plant health, reproduction)
- Continue pest control and monitoring
- Population enhancement (seed availability?)

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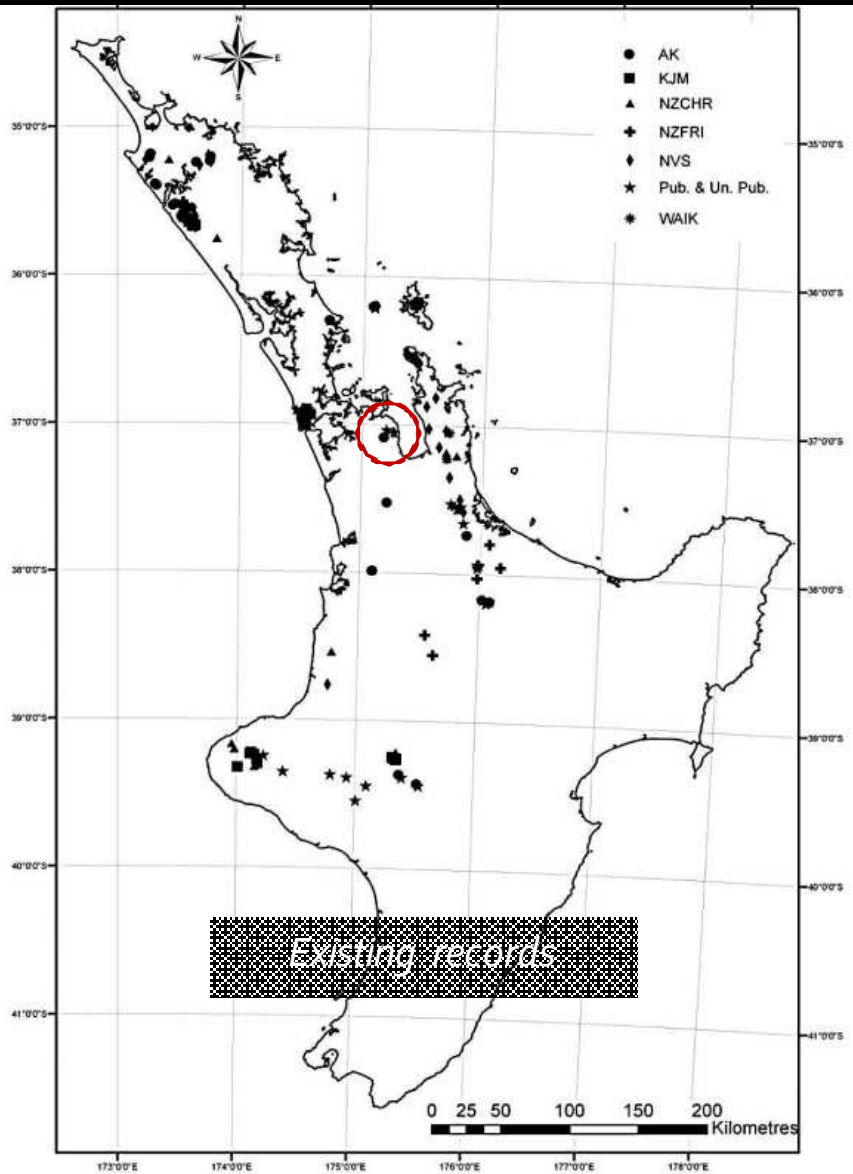

Figure 2.2 Observed distribution of *Pittosporum kirkii* based on GPS plot locations (n = 268) obtained from field survey results (KJM), Auckland herbarium (AK), Christchurch herbarium (NZCHR), New Zealand Forest Research Institute (NZFRI), published and unpublished records (Pub. & Un. Pub.) and Waikato herbarium (WAIK).

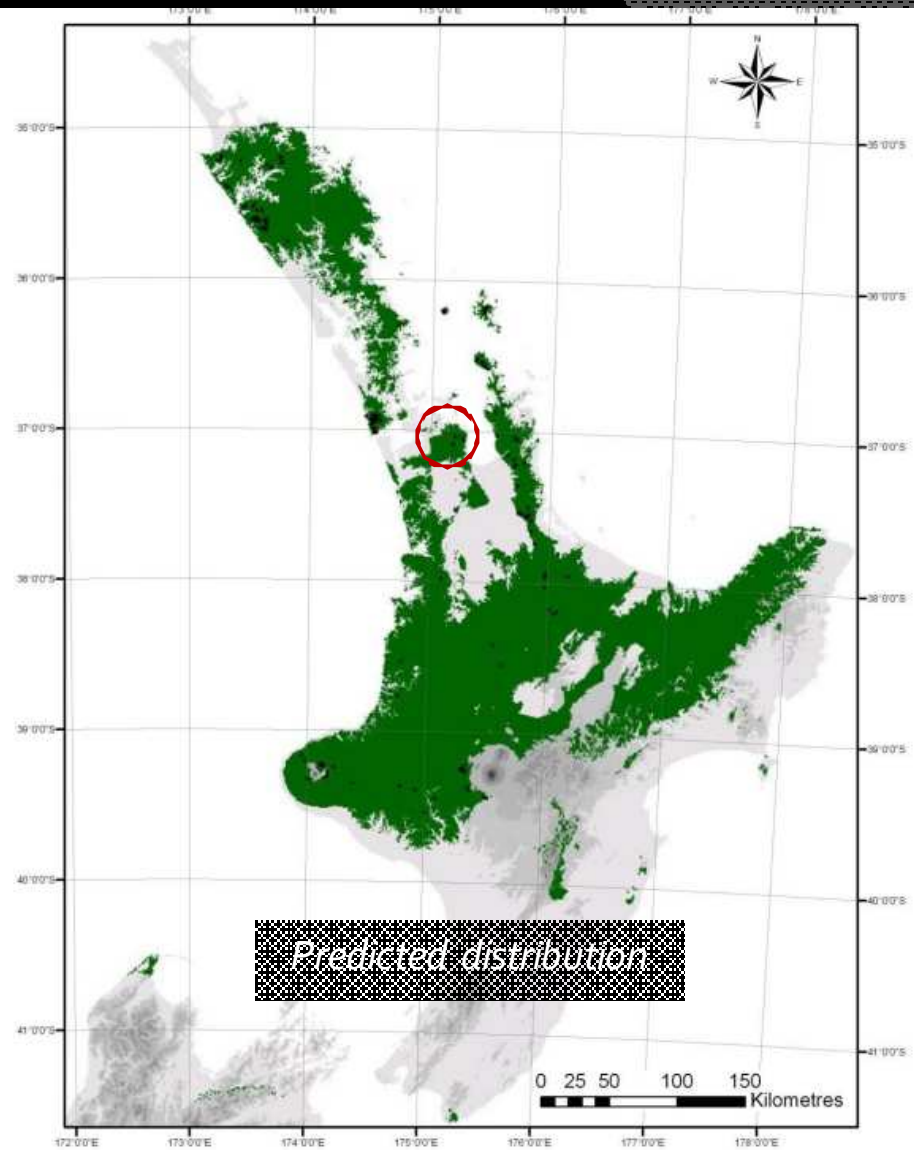

Figure 2.3 Predicted distribution map (environmental envelope) of *Pittosporum kirkii* produced from an ArcView and ArcGIS™ extrapolation of selected environmental variables for sites with *P. kirkii* (n = 268). Environmental variables chosen were: elevation; mean annual solar radiation (mas); mean annual temperature (mat); mean minimum daily solar radiation in June (Junes); mean minimum daily temperature of the coldest month (tmin); mean October vapour pressure deficits at 0900 hours (vpd); total annual rainfall (rain). Black points represent current records (on Figure 2.2), and the shaded green areas represent the predicted distribution.

	BRAKVK	PITKIR		MYRON.PK
Count	48	4		181
Mean	421.6	470.8		519.2
Standard Deviation	87.1	46.8		137.5
Range	375	105		482
Minimum	267	420		306
Maximum	642	525		788