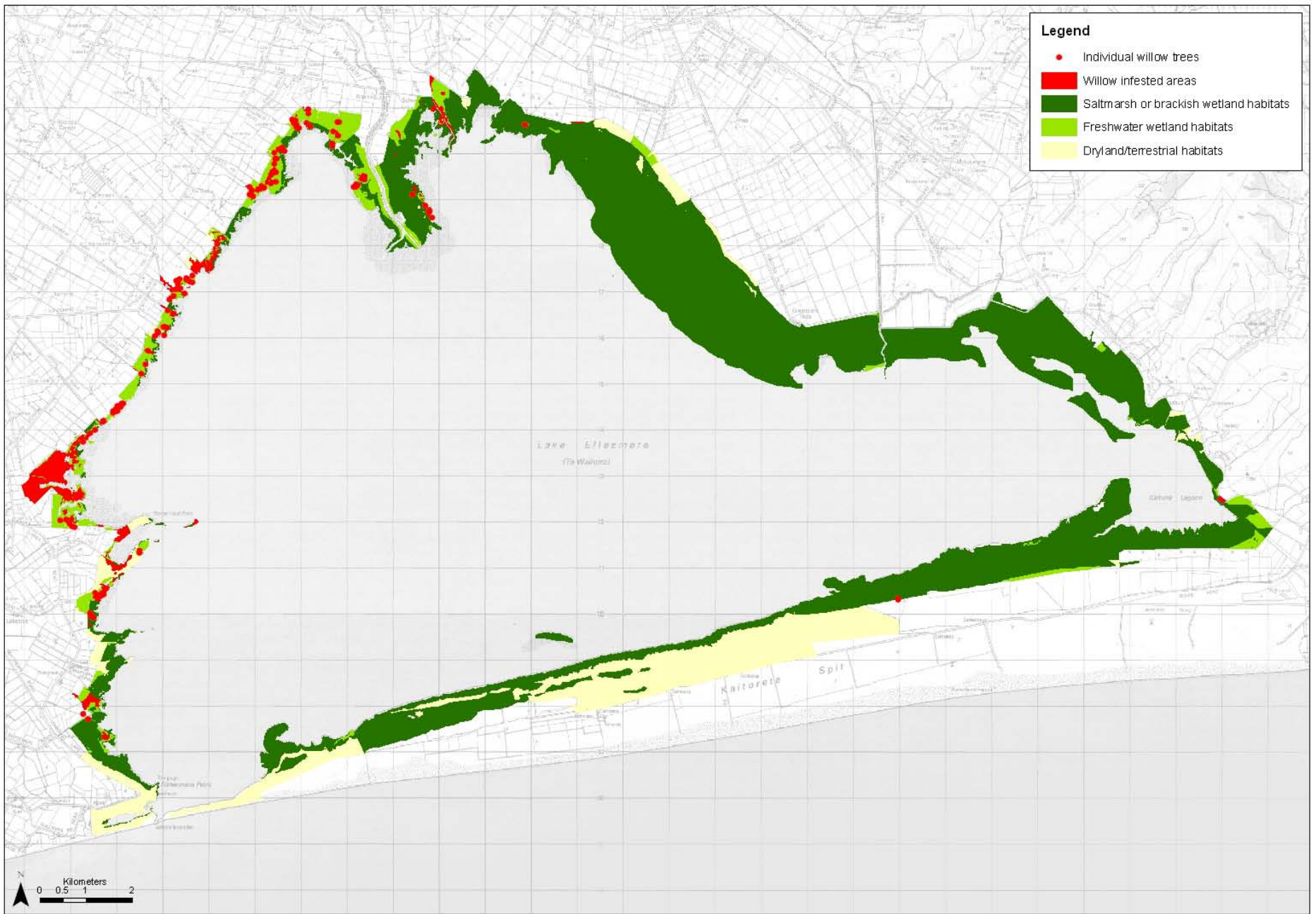


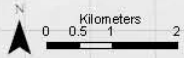
Willow Control Update since 2007

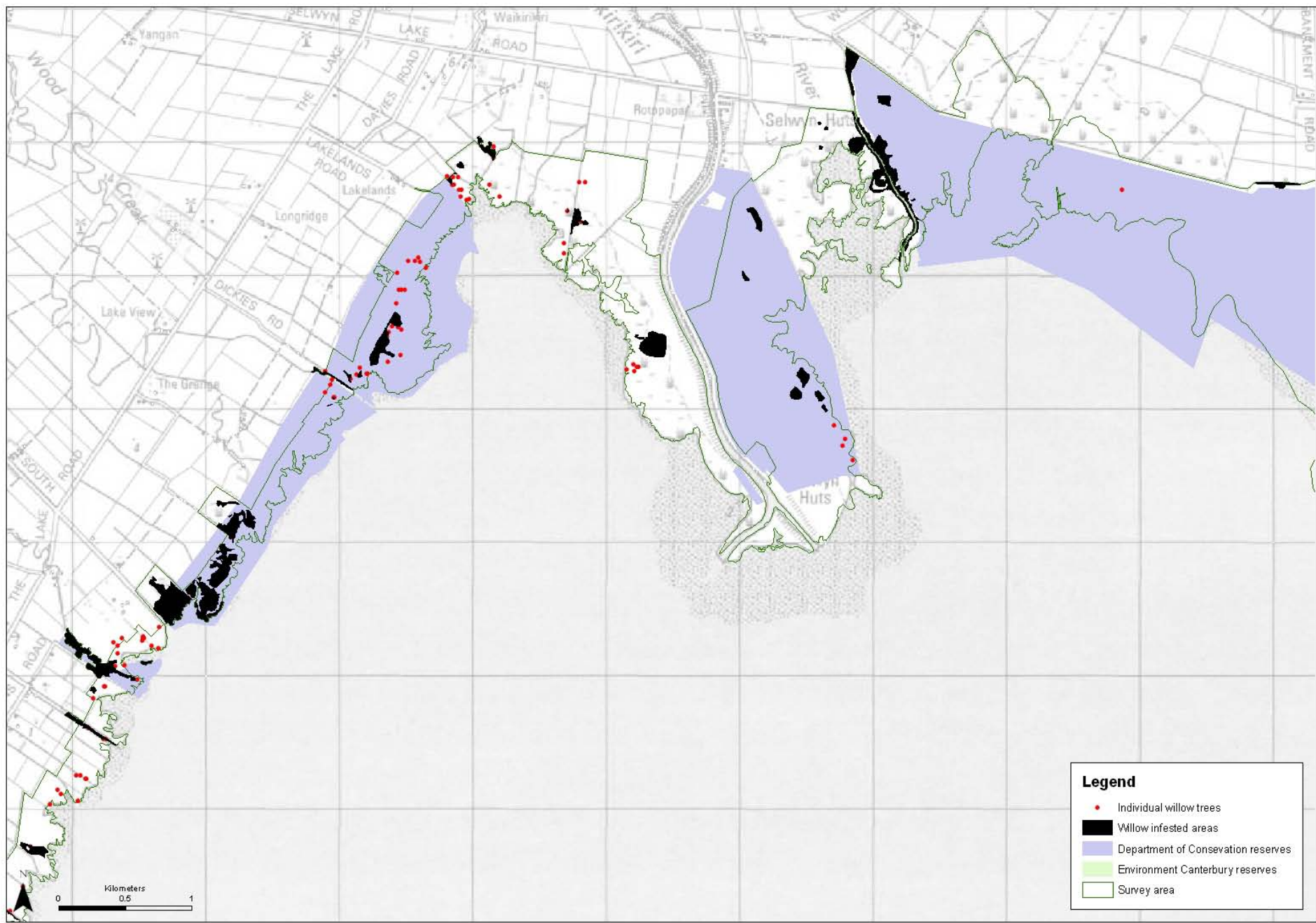
Philip Grove
Environment Canterbury

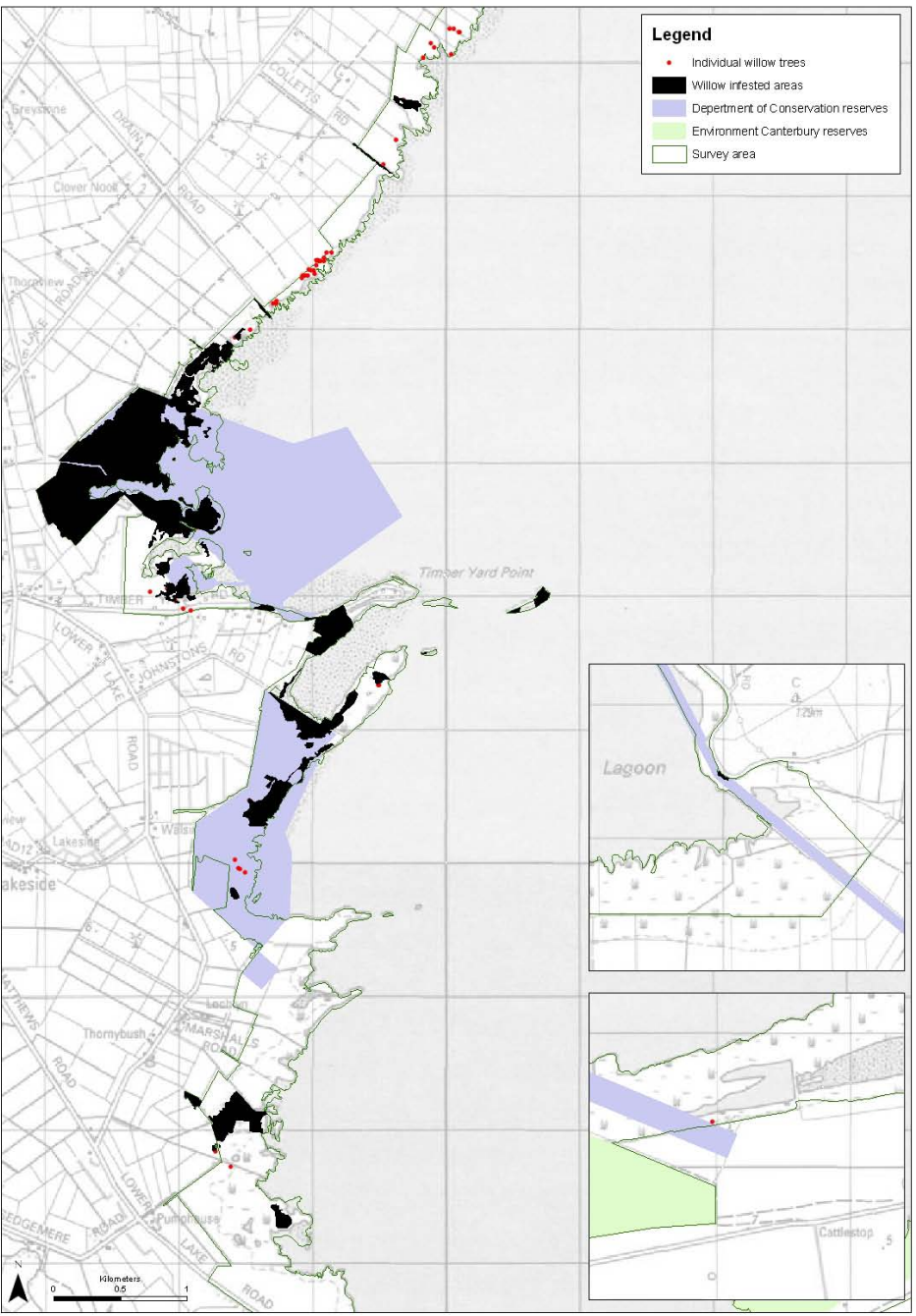


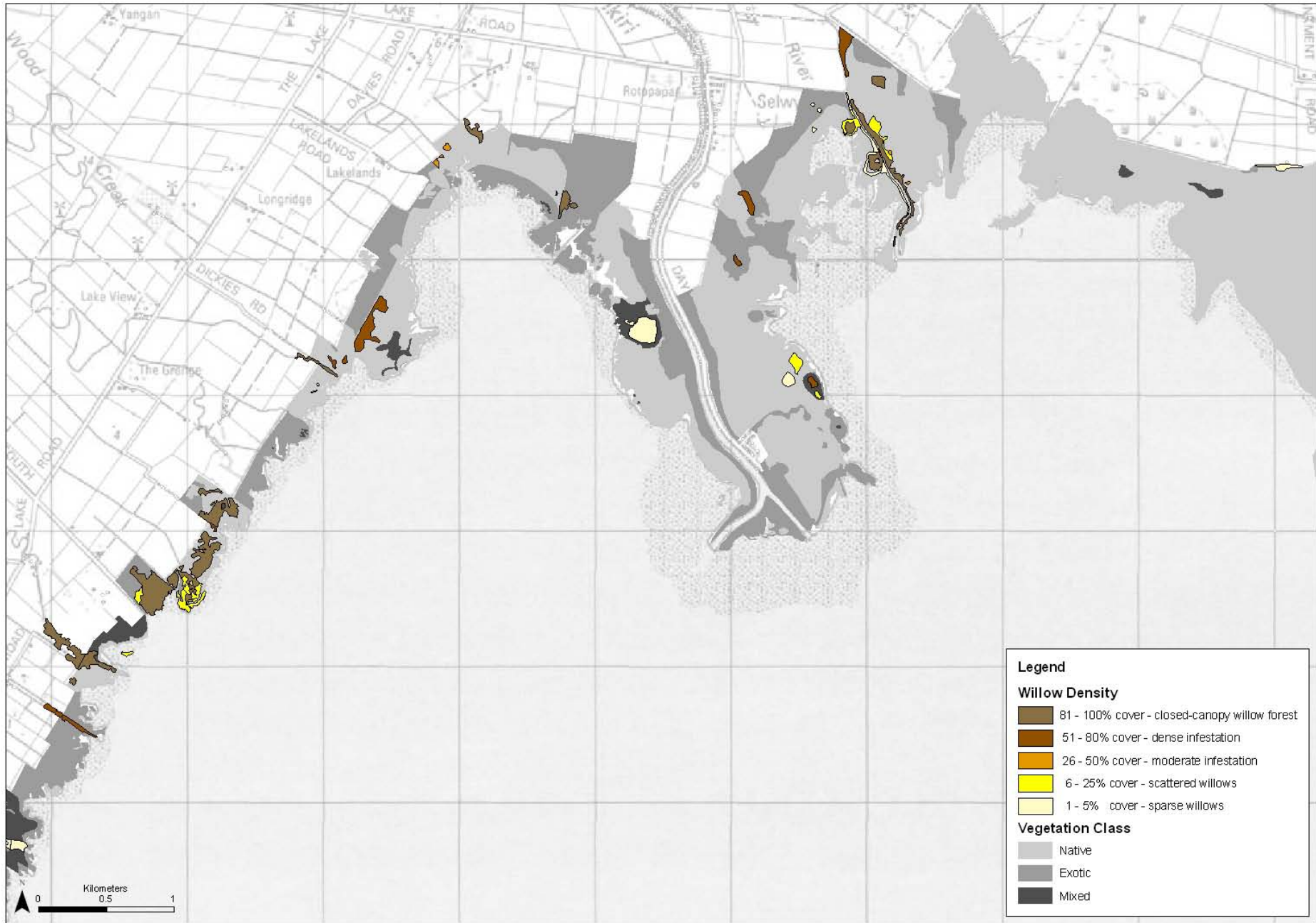
Legend

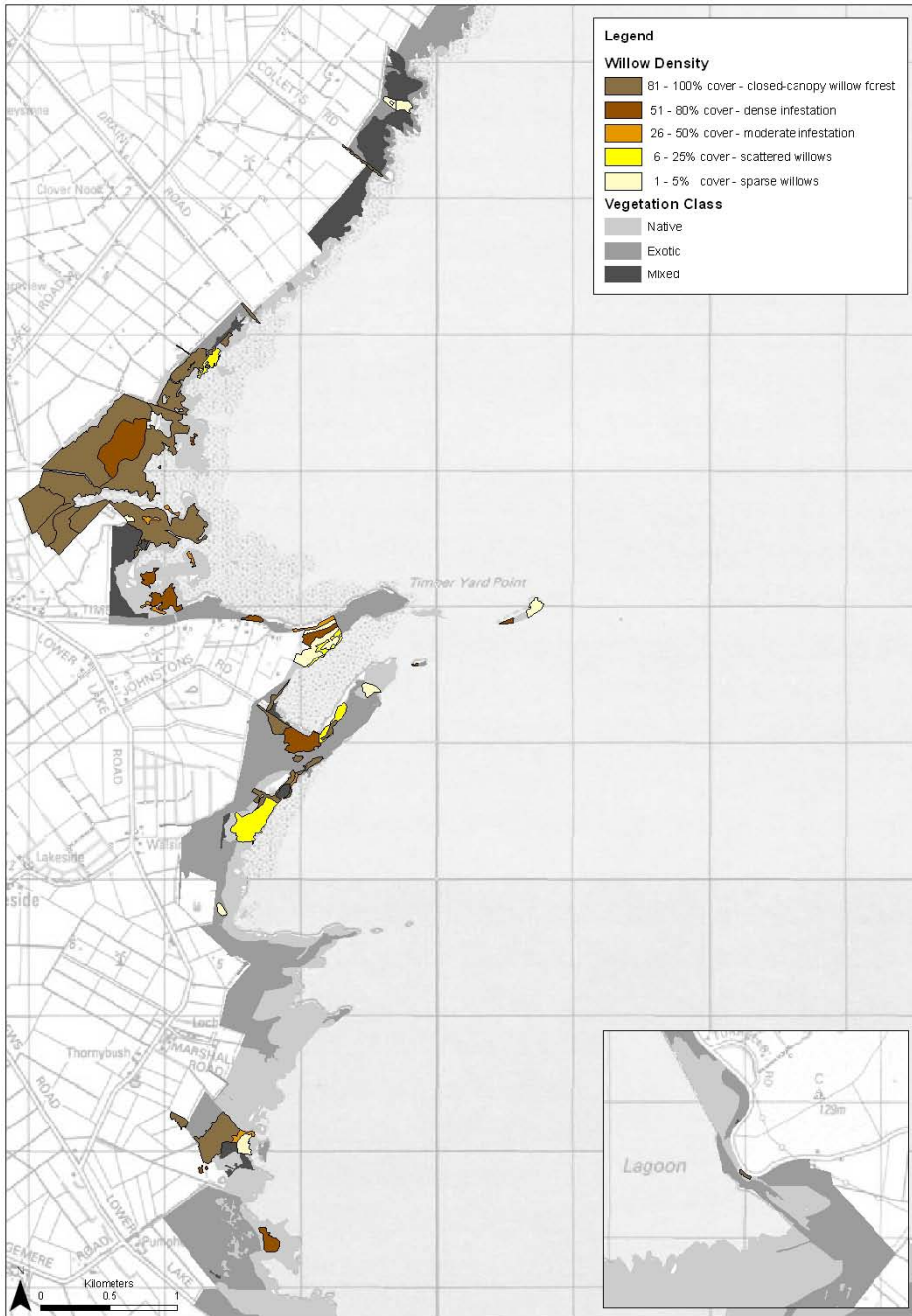
- Individual willow trees
- Willow infested areas
- Saltmarsh or brackish wetland habitats
- Freshwater wetland habitats
- Dryland/terrestrial habitats



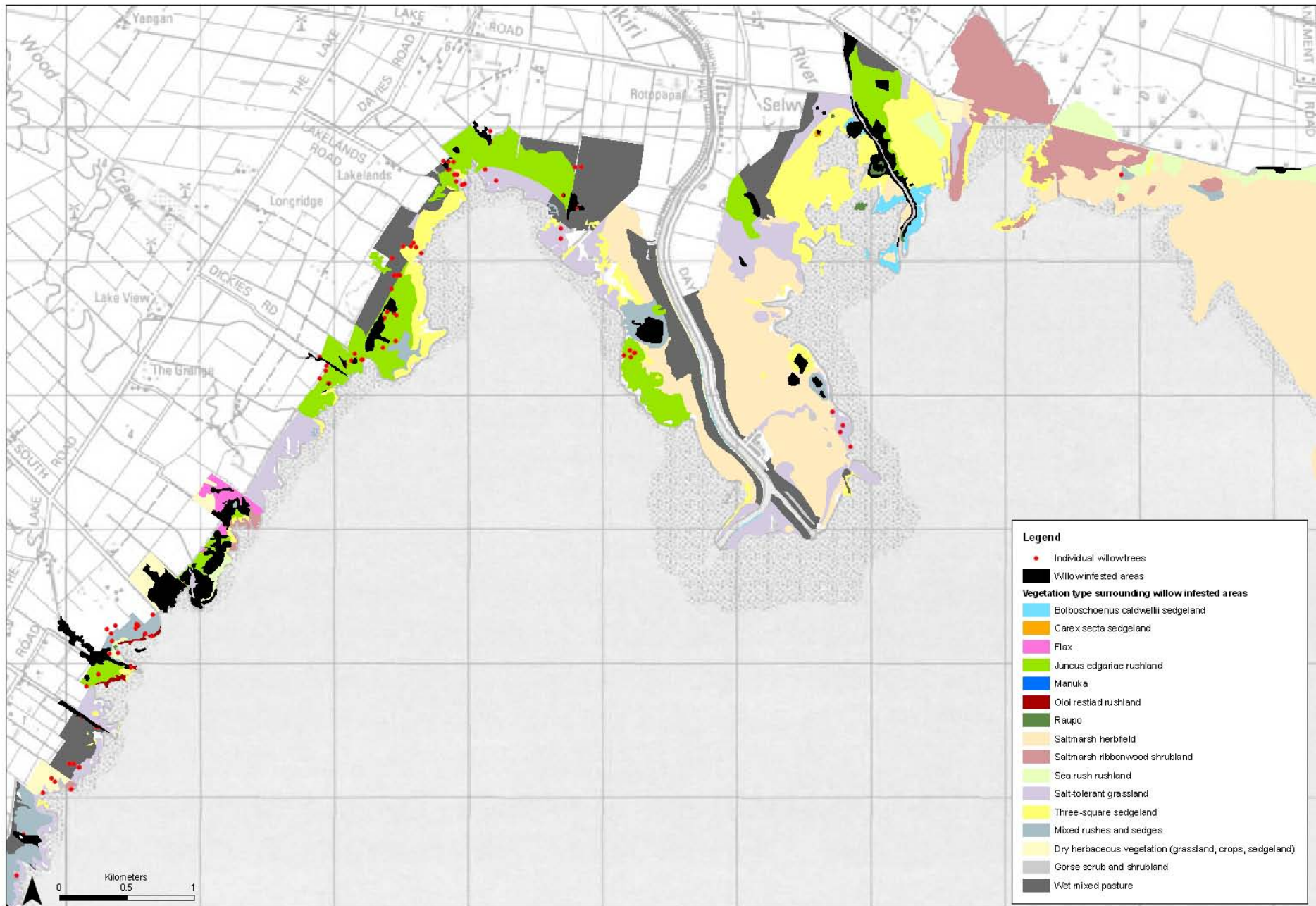


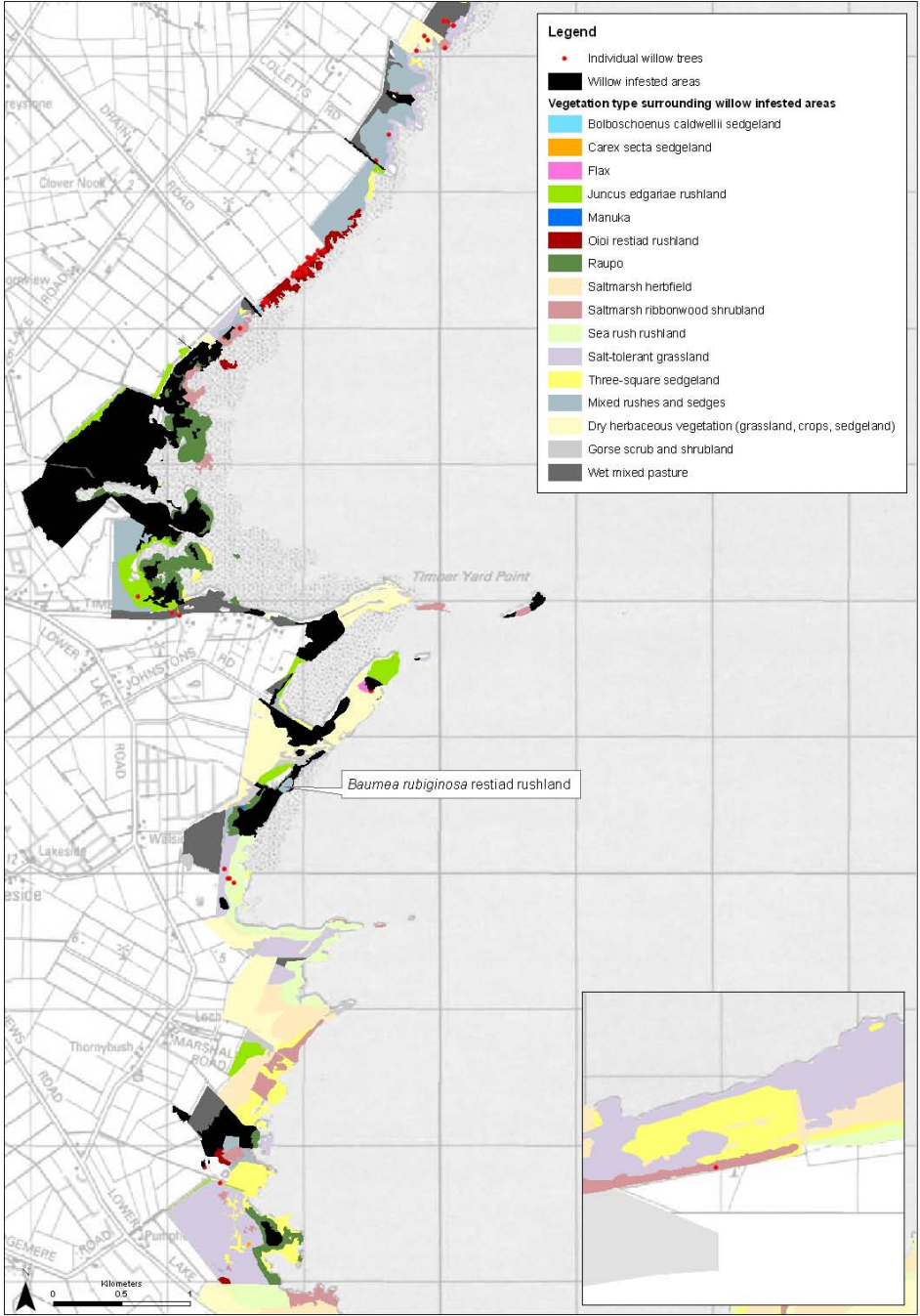


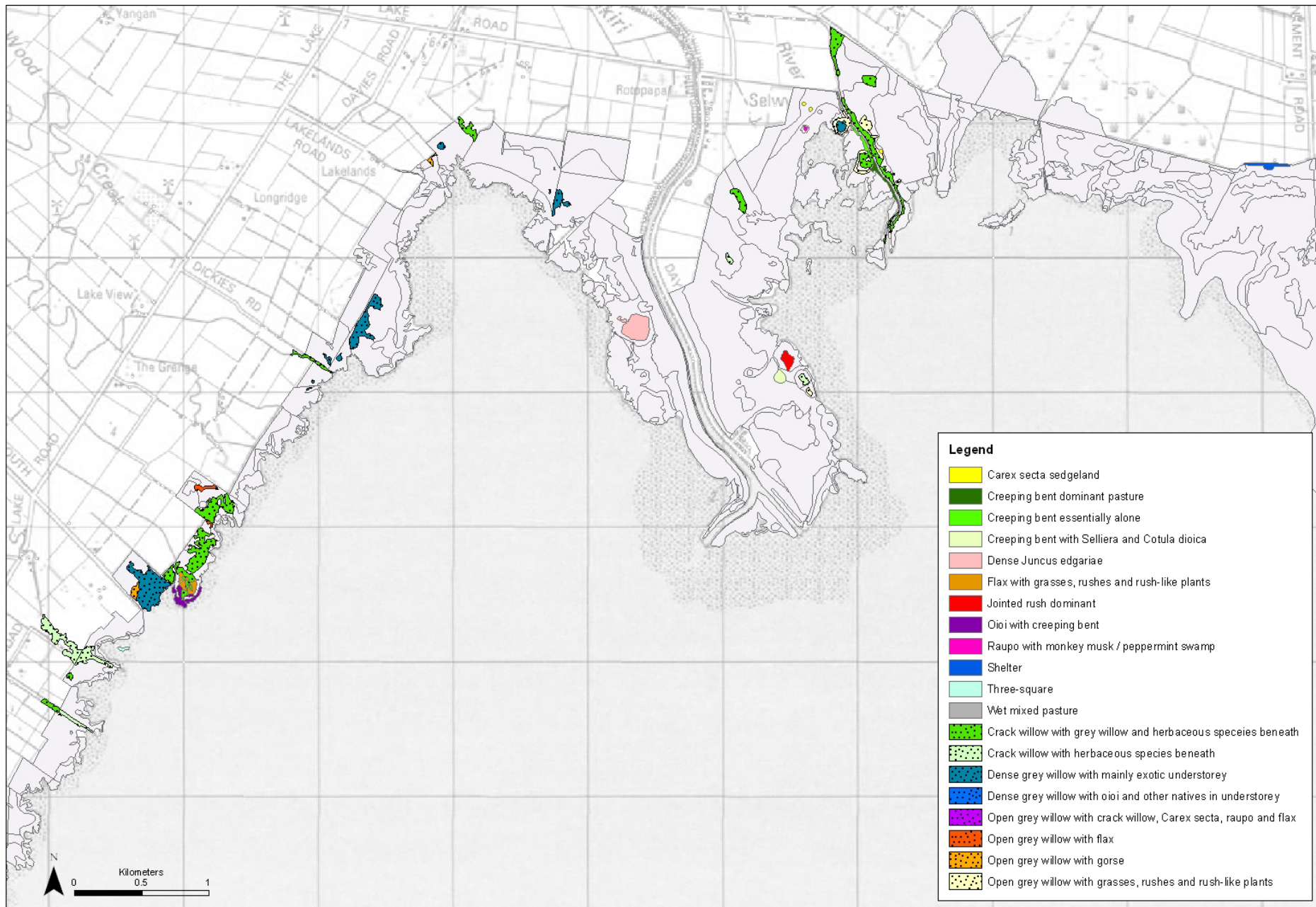




Sparse willows	1 – 5% cover	15.5 ha
Scattered willows	6 – 25% cover	15.1 ha
Moderate infestation	26-50% cover	3.2 ha
Dense infestation	51-80% cover	27.8 ha
Close-canopy willow forest	81-100% cover	108.8 ha
Total willow infested area		170.4 ha

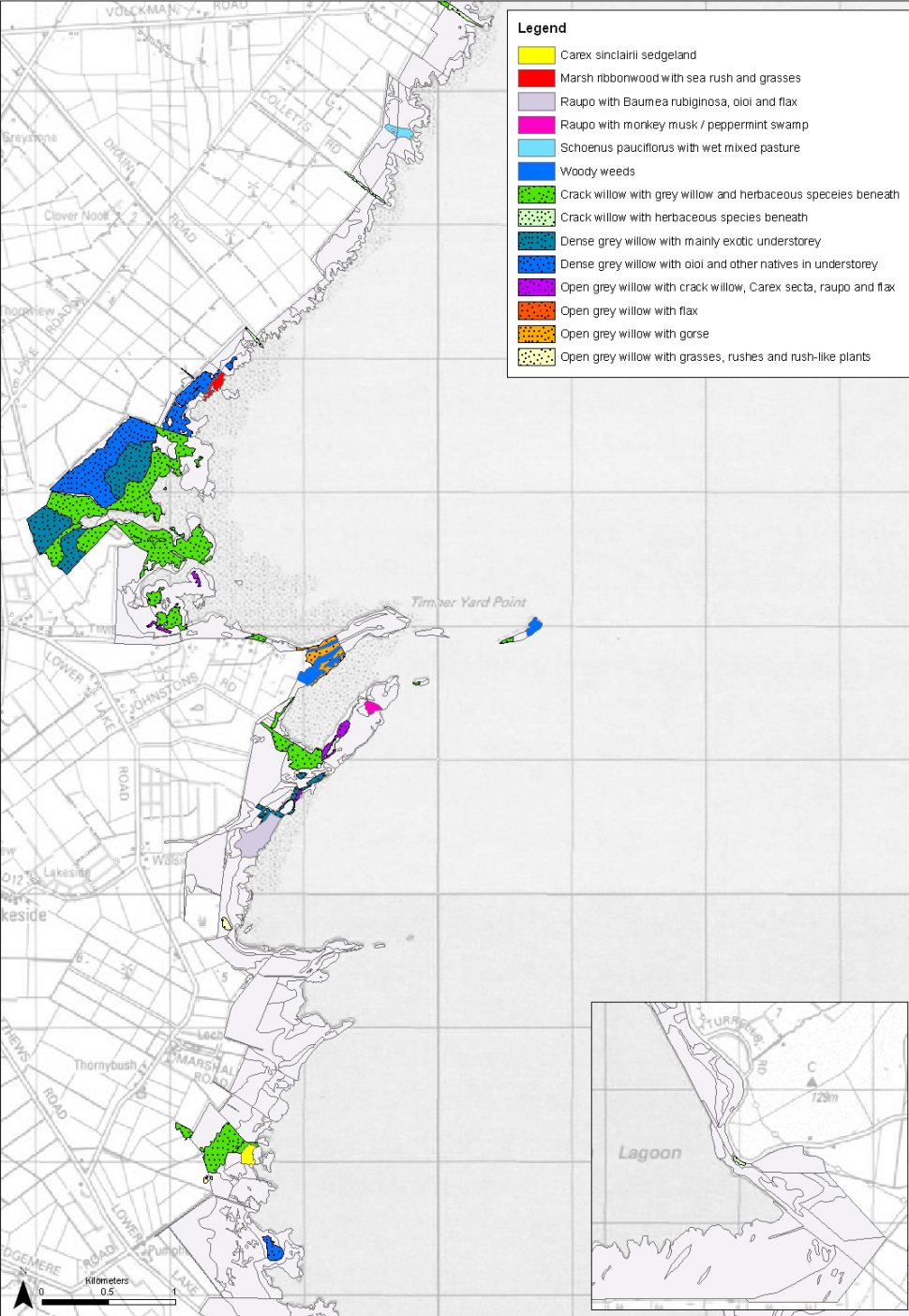


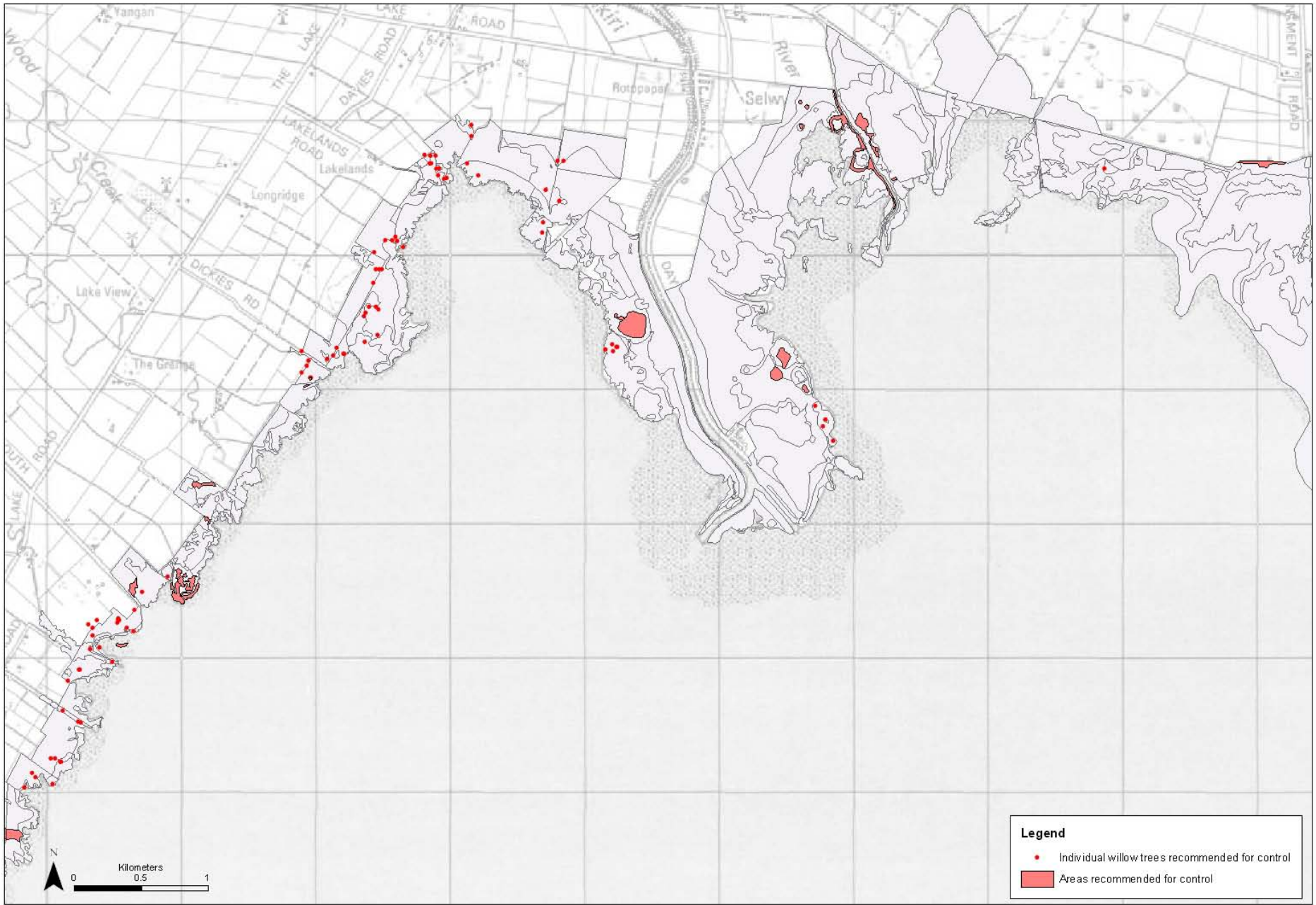




Legend

- Carex sinclairii sedgeland
- Marsh ribbonwood with sea rush and grasses
- Raupo with Baumea rubiginosa, oi oi and flax
- Raupo with monkey musk / peppermint swamp
- Schoenus pauciflorus with wet mixed pasture
- Woody weeds
- Crack willow with grey willow and herbaceous species beneath
- Crack willow with herbaceous species beneath
- Dense grey willow with mainly exotic understorey
- Dense grey willow with oi oi and other natives in understorey
- Open grey willow with crack willow, Carex secta, raupo and flax
- Open grey willow with flax
- Open grey willow with gorse
- Open grey willow with grasses, rushes and rush-like plants

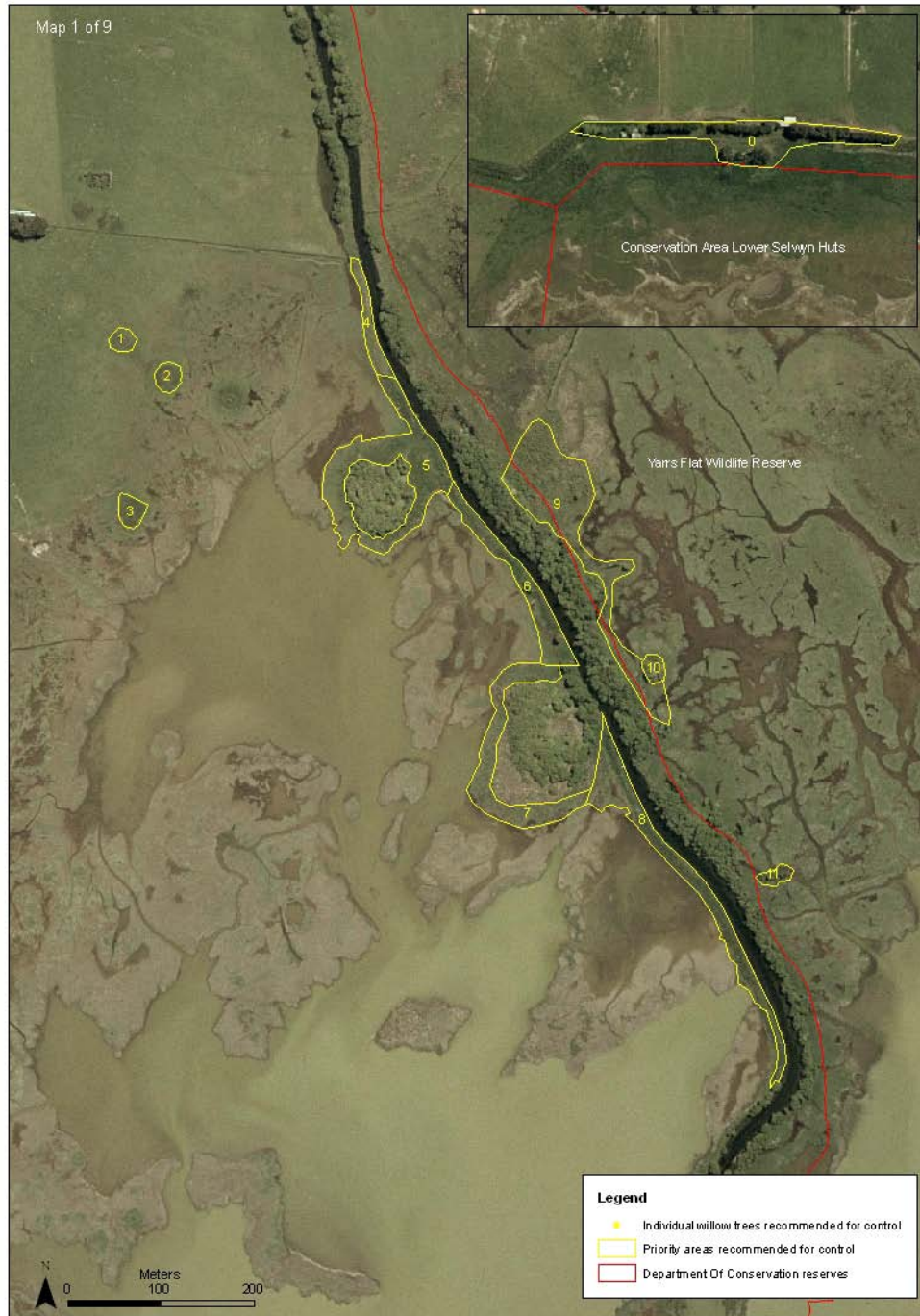




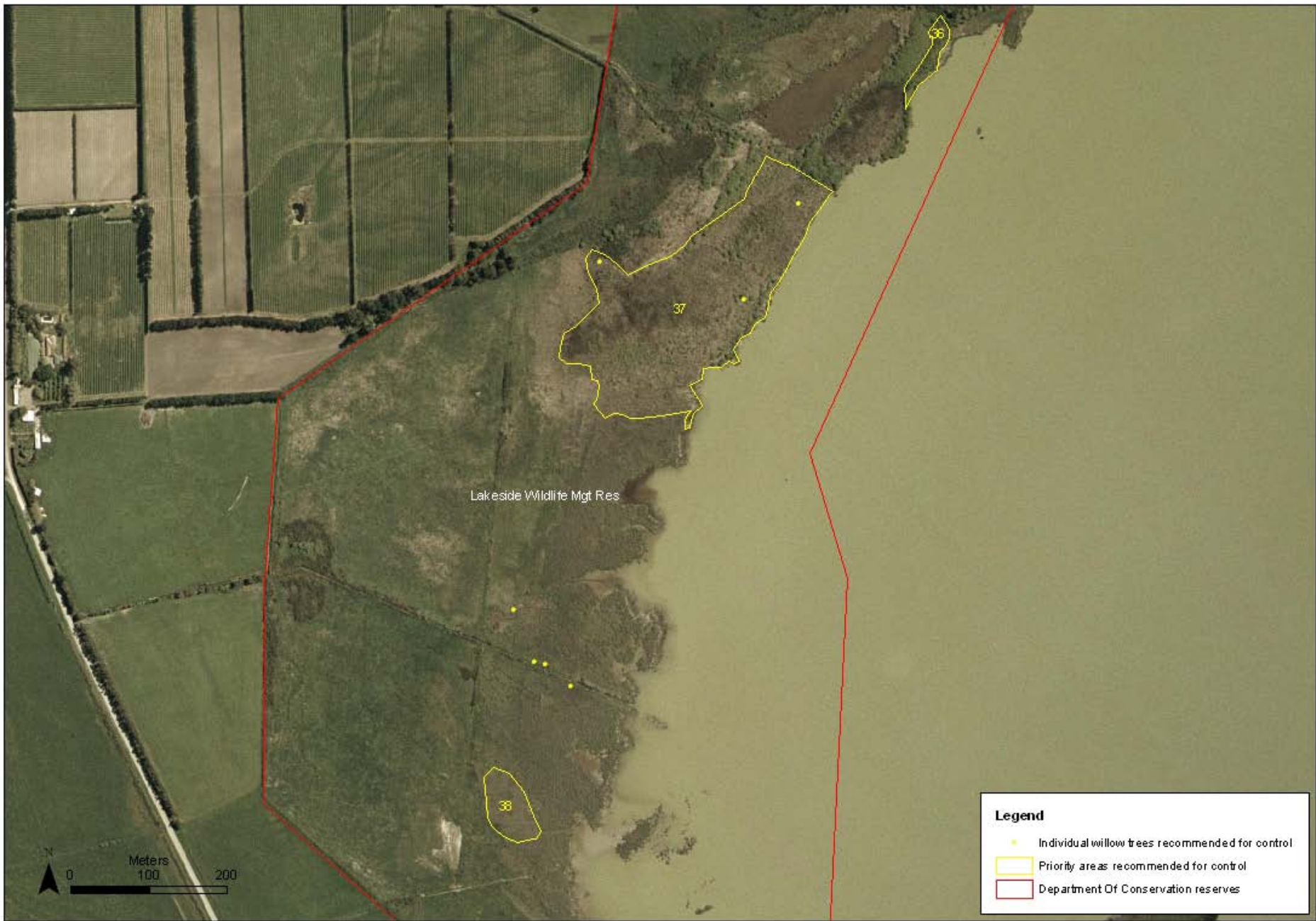
Legend

- Individual willow trees recommended for control
- Areas recommended for control





ID	AREA SQ M	VEGETATION CATEGORY	NATIVE/ EXOTIC	WILLOW DENSITY	WILLOW DENSITY %	WILLOW SPECIES	VEGETATION DESCRIPTION
1	559	Freshwater Wetland vegetation	Native	Sparse willows	1 - 5%	Salix fragilis	Carex secta sedgeland
4	1607	Freshwater Wetland vegetation	Exotic	Sparse willows	1 - 5%	Salix cinerea, Salix fragilis	Wet mixed pasture. Scattered crack, grey willow also present
5	8844	Freshwater Wetland vegetation	Exotic	Scattered willows	6 - 25%	Salix cinerea	Open grey willow with grasses, rushes and rush like plants
6	4137	Saltmarsh or salt-tolerant vegetation	Exotic	Sparse willows	1 - 5%	Salix cinerea	Creeping bent essentially alone
7	5836	Freshwater Wetland vegetation	Exotic	Sparse willows	1 - 5%	Salix cinerea	Open grey willow with grasses, rushes and rush like plants
8	7171	Saltmarsh or salt-tolerant vegetation	Exotic	Sparse willows	1 - 5%	Salix cinerea	Creeping bent dominant pasture
9	1146	Freshwater Wetland vegetation	Exotic	Scattered willows	6 - 25%	Salix cinerea	Open grey willow spreading amongst rushes and sedges
10	616	Freshwater Wetland vegetation	Native	Moderate infestation	26 - 50%	Salix cinerea	Grey willows spreading amongst C. secta
11	583	Freshwater Wetland vegetation	Exotic	Moderate infestation	26 - 50%	Salix cinerea	Grey willow with grasses, rushes and rush like plants



ID	AREA SQ M	VEGETATION CATEGORY	NATIVE / EXOTIC	WILLOW DENSITY	WILLOW DENSITY %	WILLOW SPECIES	VEGETATION TYPE DESCRIPTION
36	1965	Freshwater wetland vegetation	Mixed	Moderate infestation	26 - 50%	Salix cinerea	Open grey willow with crack willow, Carex secta, raupo and flax
37	53378	Freshwater wetland vegetation	Native	Scattered willows	6 - 25%	Salix cinerea, Salix fragilis	Raupo with Baumea rubiginosa, oioi and flax
38	4396	Freshwater wetland vegetation	Exotic	Sparse willows	1 - 5%	Salix cinerea	Open grey willow with grasses, rushes and rush-like plants

Conclusion

- Not all willows need to be controlled.
- 45 priority willow control sites identified.
- Total area of priority sites - 32 ha (out of 170 ha overall willow-infestation around lake).

Acknowledgments

- Alice Shanks
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