

Managing effects of mineral sand mining on birds at Barrytown

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Terrestrial Ecology Team Leader



water



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The Project

- Barrytown Flats – approximately 36km north of Greymouth
- Mining Permit 60785 (northern part of the flats)
- Punakaiki Ecological District
- Parts previously mined (up until 1950s)
- Previously forest and swamp
- Now mostly developed, several remnant SNAs



water



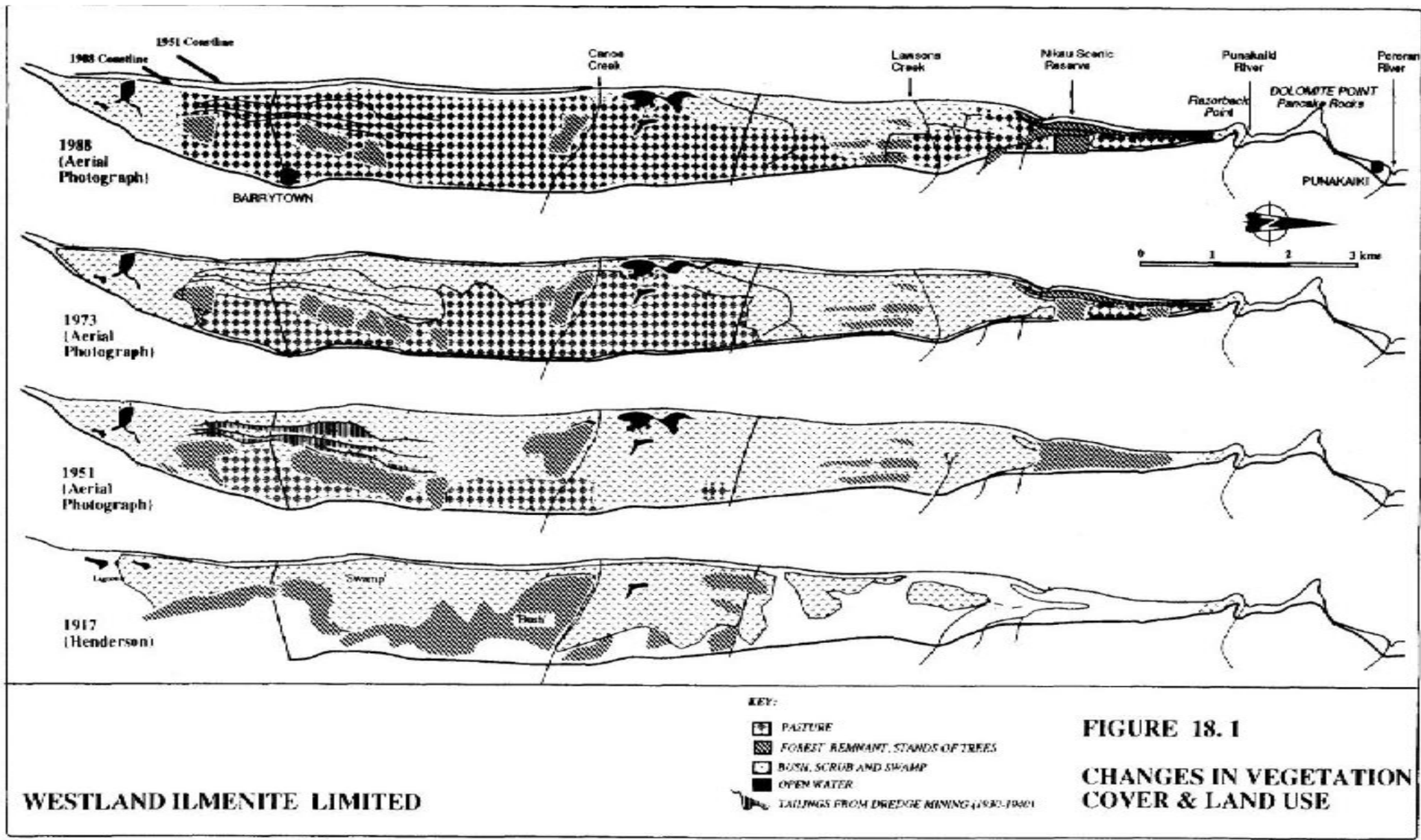
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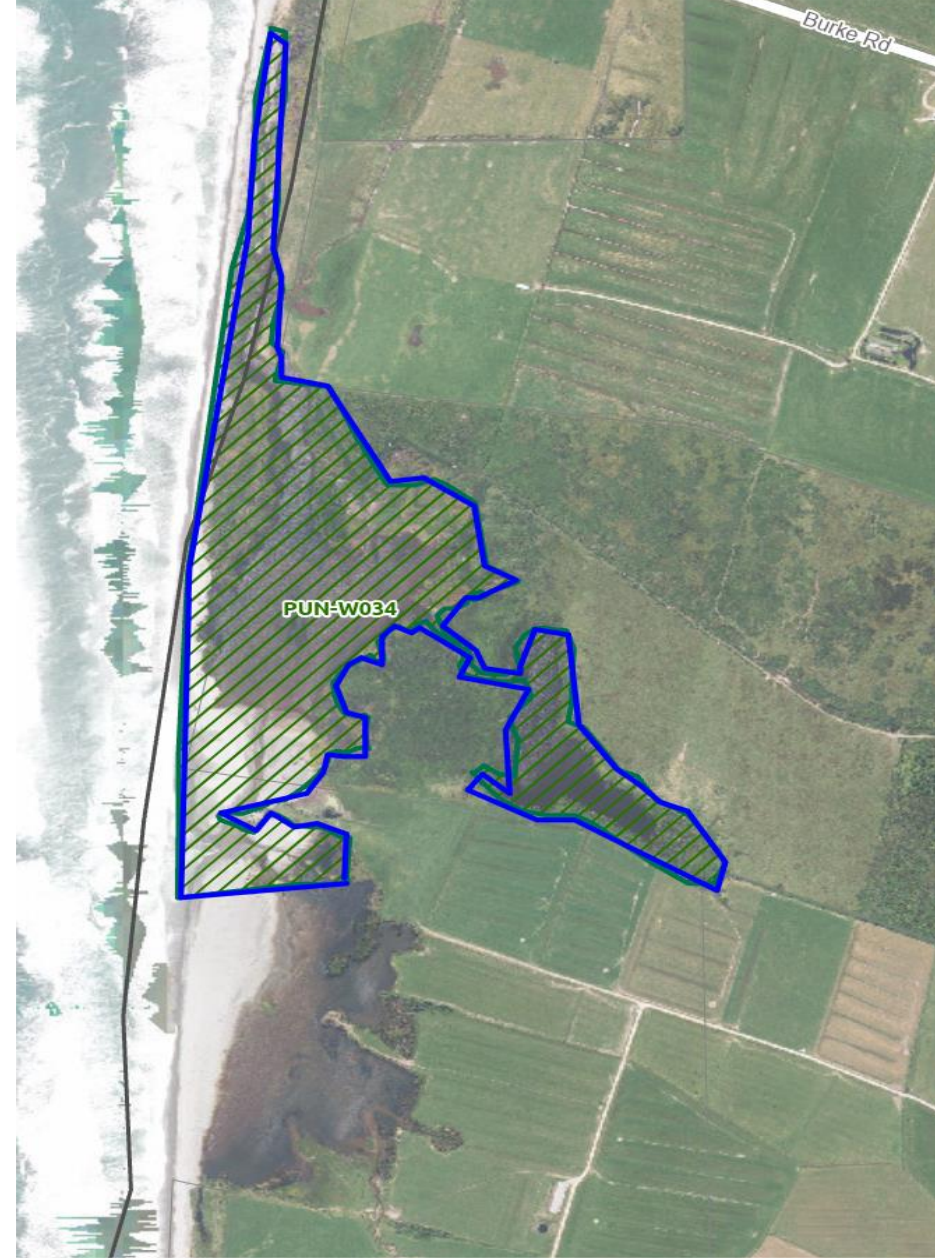


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TTPP

Site PUN-W034
Punakaiki Lagoon and
coastal wetland sequence

In the Coastal Marine Area
(CMA)



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Baseline

- 72 different bird taxa recorded on eBird (29 of conservation concern)
- 40 recorded during baseline surveys (10 of conservation concern)
 - Shags (Black shag)
 - Gulls (black-billed gull, red-billed gull)
 - Terns (WF tern, Caspian tern)
 - Oystercatchers (SIPO and VOC)
 - Grey duck
 - Pacific reef heron
 - Tāiko



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Following Seasonal Surveys

- 50 recorded during baseline surveys (15 of conservation concern)
 - Shags (Black shag, little shag)
 - Gulls (black-billed gull, red-billed gull)
 - Terns (WF tern, Caspian tern)
 - Oystercatchers (SIPO and VOC)
 - Grey duck
 - Herons (Pacific Reef heron, white heron, royal spoonbill)
 - Tāiko
 - Mātātā (SI fernbird)
 - Banded dotterel
 - Long-tailed cuckoo and rōroa



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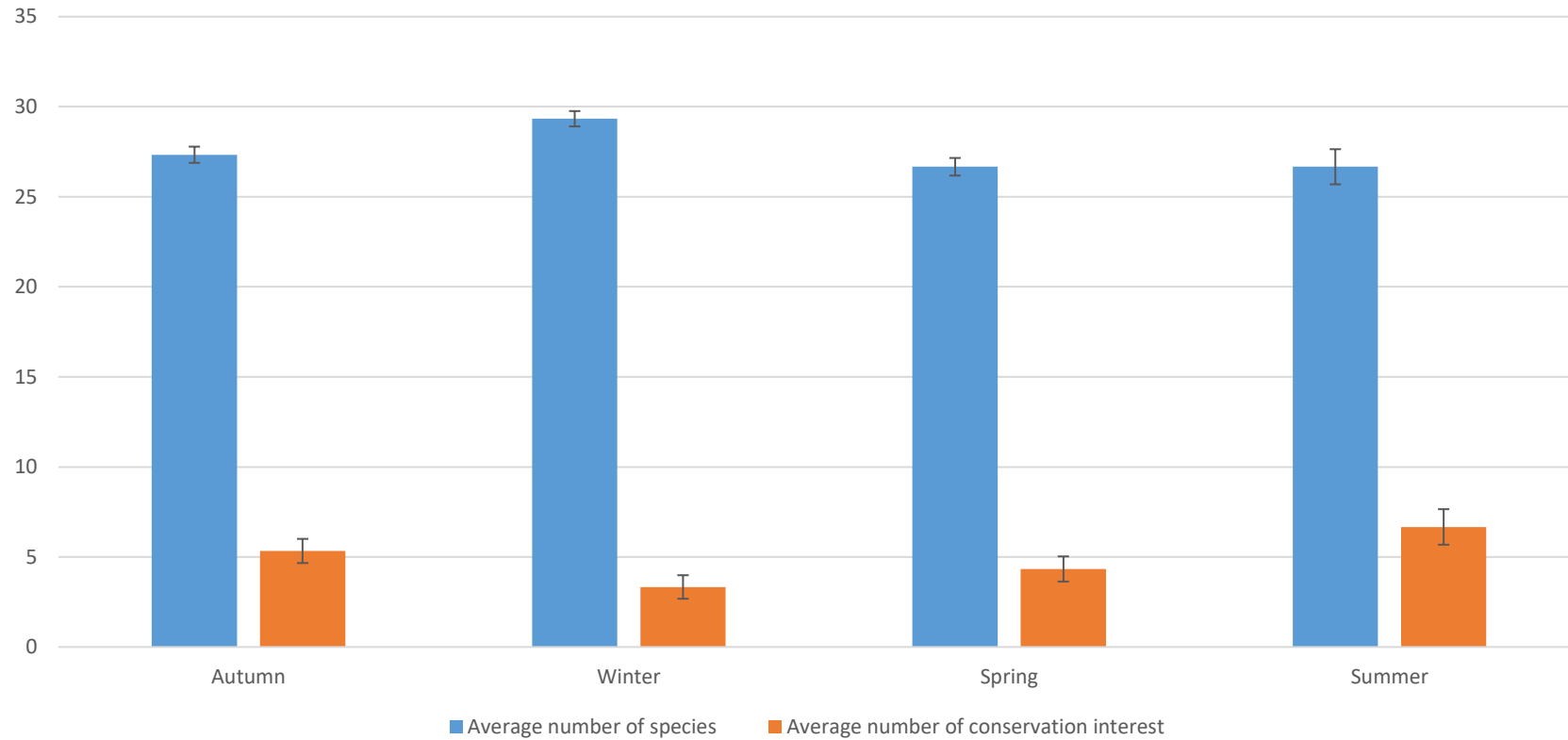


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Seasonal presence



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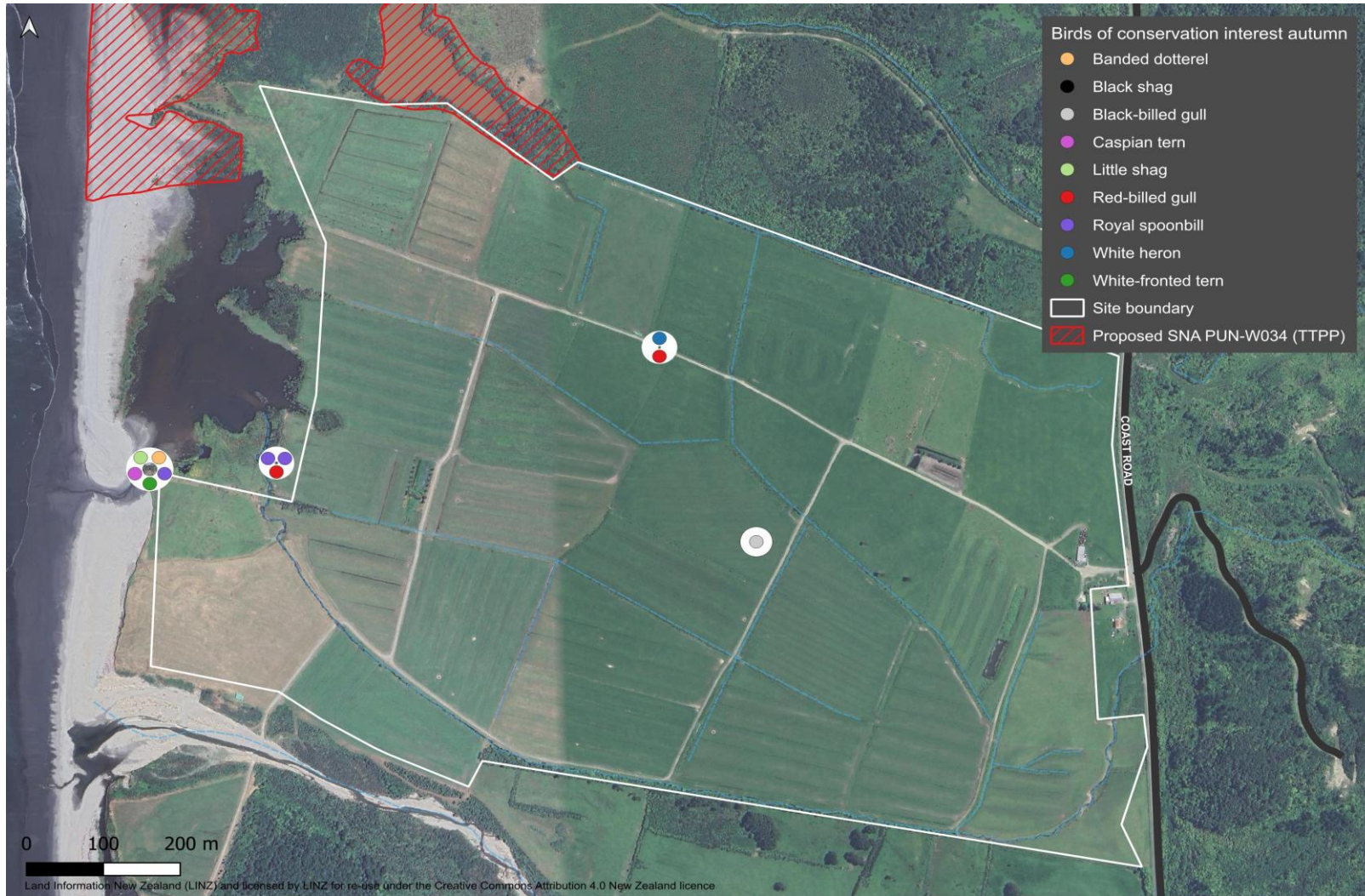


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Autumn



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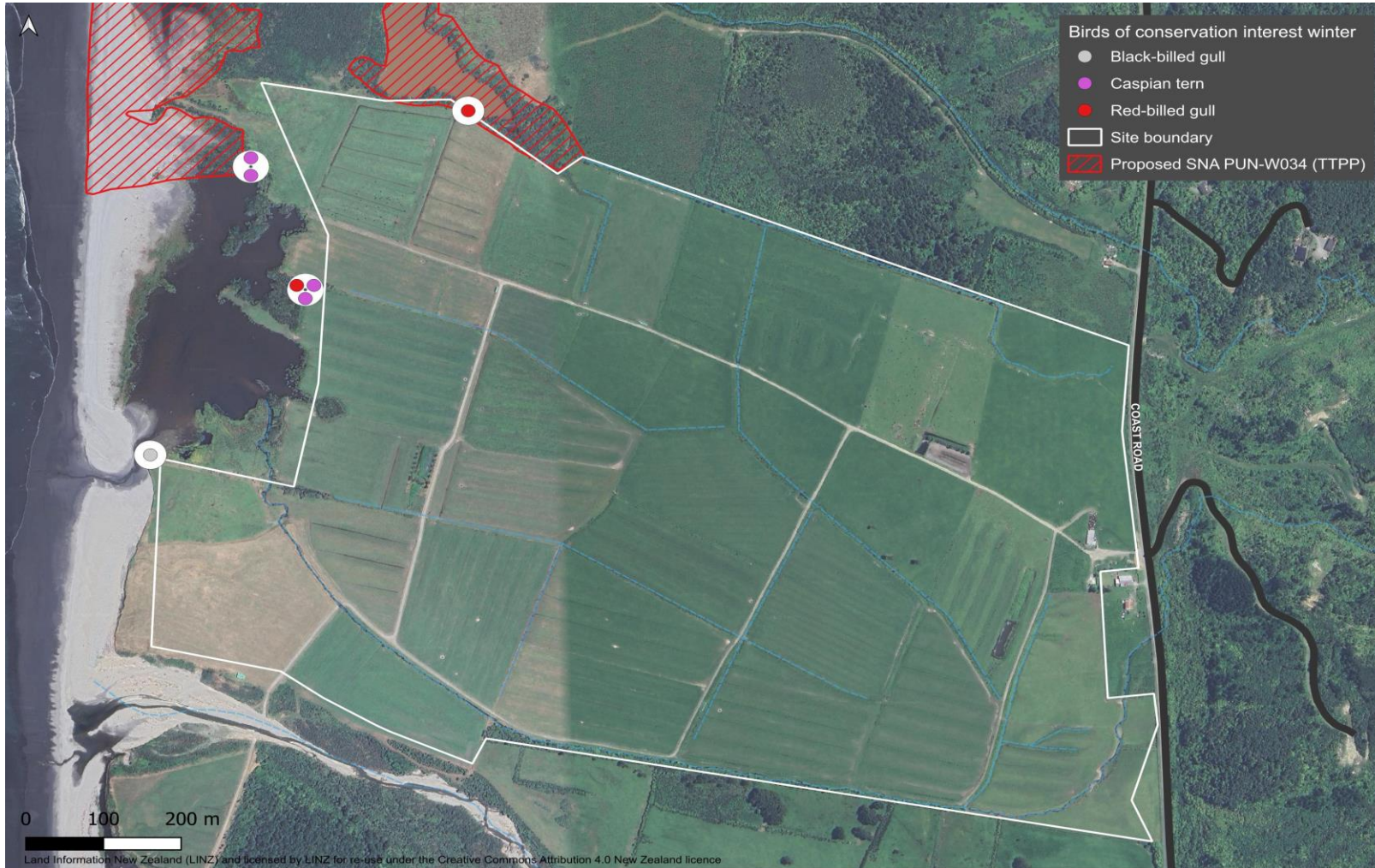


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Winter



Spring



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Summer



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Three issues

- Birds that want to nest on the site or like bare ground for feeding or roosting:
 - Gulls, dotterels, oystercatchers
- Birds that are outside the site but are affected by activity/noise:
 - Fernbird (site attached, won't move far)
 - Grey duck (will move if disturbed)
- Birds that are outside the site, but are affected by lighting:
 - Tāiko



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Management Approaches

- Monitoring and deterrence of birds attempting to nest
 - Walk through, flags, noise, dog on a leash, machinery, implement setback
 - Needs reliable mine planning
- Timing and location of mining – avoid the breeding season, setback from the SNA
- Lighting Management – manage lighting and vehicle movements (spectrum, direction, shielding, timing, intensity)
- Monitoring – to confirm species present and location, to detect groundings and deal with them promptly
- Feedback loops to alter site management if birds affected



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Has it worked?

- Seasonal monitoring now taken place for three years. The issues are the same ones.
- Had varying success elsewhere, but generally effective at protecting adults.
- Tāiko remain a bit of an unknown, but lighting management is expected to be effective.



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Thanks



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