Overview of Avifauna Survey Results 2024 - 2025 for Southland Wind Farm

Contract Report No. 7362j

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Contract Report No. 7362j

November 2025

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1.0 Introduction

Contact Energy Ltd (Contact) has engaged Wildland Consultants Ltd to undertake pre-construction avifauna surveys at the proposed Southland Wind Farm site to fulfil proposed consent condition EC30. The objective of the surveys is to collect data on seasonal bird abundance and diversity, flight heights, and flight paths at the Wind Farm Site to inform the management measures that will be implemented during the construction and operation of the Southland Wind Farm. Avifauna surveys have been undertaken in October/November 2024, February 2025, May 2025, and August 2025. This report provides a concise summary of the results of all these surveys.

2.0 Methods

2.1 Overview

Avifauna survey methods included five-minute bird counts (5MBC), flight height surveys, kārearea/ eastern falcon (*Falco novaeseelandiae novaeseelandiae*, Threatened – Nationally Vulnerable) surveys, acoustic surveys, mātātā/South Island fernbird (*Bowdleria punctata punctata*, At Risk – Declining) call playbacks, cryptic species playbacks and incidental observations. Monitoring was undertaken across all seasons, between 29 October – 4 November 2024, 10-16 February, 6-12 May, and 5-14 August 2025. Each survey method was undertaken twice in each location shown in Figure 1 a-c.

2.2 Five-minute bird counts

Five-minute bird counts were undertaken at previously established stations along 12 transect lines within five representative habitat types within the Wind Farm Site (i.e. two transects completed in each habitat type, plus two additional transects within the Matariki Forest). Surveys were made along ten transects during the October – November 2024 survey season, with Transects 11 and 12 being added during the May 2025 survey season and Transects 10-11 having their routes modified during the August 2025 season to ensure field safety. Each transect comprised eight count stations spaced at least 200 metres apart, the locations of which were recorded using hand-held GPS units during each survey. All incidental bird observations were recorded.

2.3 Flight height surveys

Flight height surveys were carried out at 26 flight height monitoring stations throughout the Wind Farm Site, located at proposed turbine sites, with data collection concurrent with 5MBC. The sites were located at, or within 200 metres of, proposed turbine locations. The flight height surveys provide baseline information on bird flight heights and flight paths, through the wind farm area. Flight height surveys were undertaken twice during each monitoring period over ten-minute intervals.

2.4 Transmission line flight height surveys

Flight height surveys were undertaken at six locations along the route of the proposed transmission line during the February, May and August 2025 surveys (Figure 1a-c).

2.5 Kārearea/eastern falcon surveys

Flight height/path surveys for kārearea/eastern falcon monitoring occurred at seven fixed-point stations established during the first survey season throughout the wind farm site. Surveys were undertaken at the kārearea/eastern falcon observation points for at least 10 minutes using binoculars.

contact

LEGEND

Wind Farm

- Wind Turbines
- Transmission Line Route
- Jedburgh Plateau
- Civil Works Design
- Wind Farm Site

Avifauna Surveys

Bird Count Transects (1 to 12)

- Exotic Conifer Plantation Forest
- Southern Rātā-Kamahi Forest
- Pasture
- Mānuka Forest and Scrub
- Wetland and Shrubland Mosaic

MAP SCALE	PRINT DATE
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	VERSION 1.0

Kilometers
0 0.25 0.5 1 1.5 2 2.5

CREDITS:

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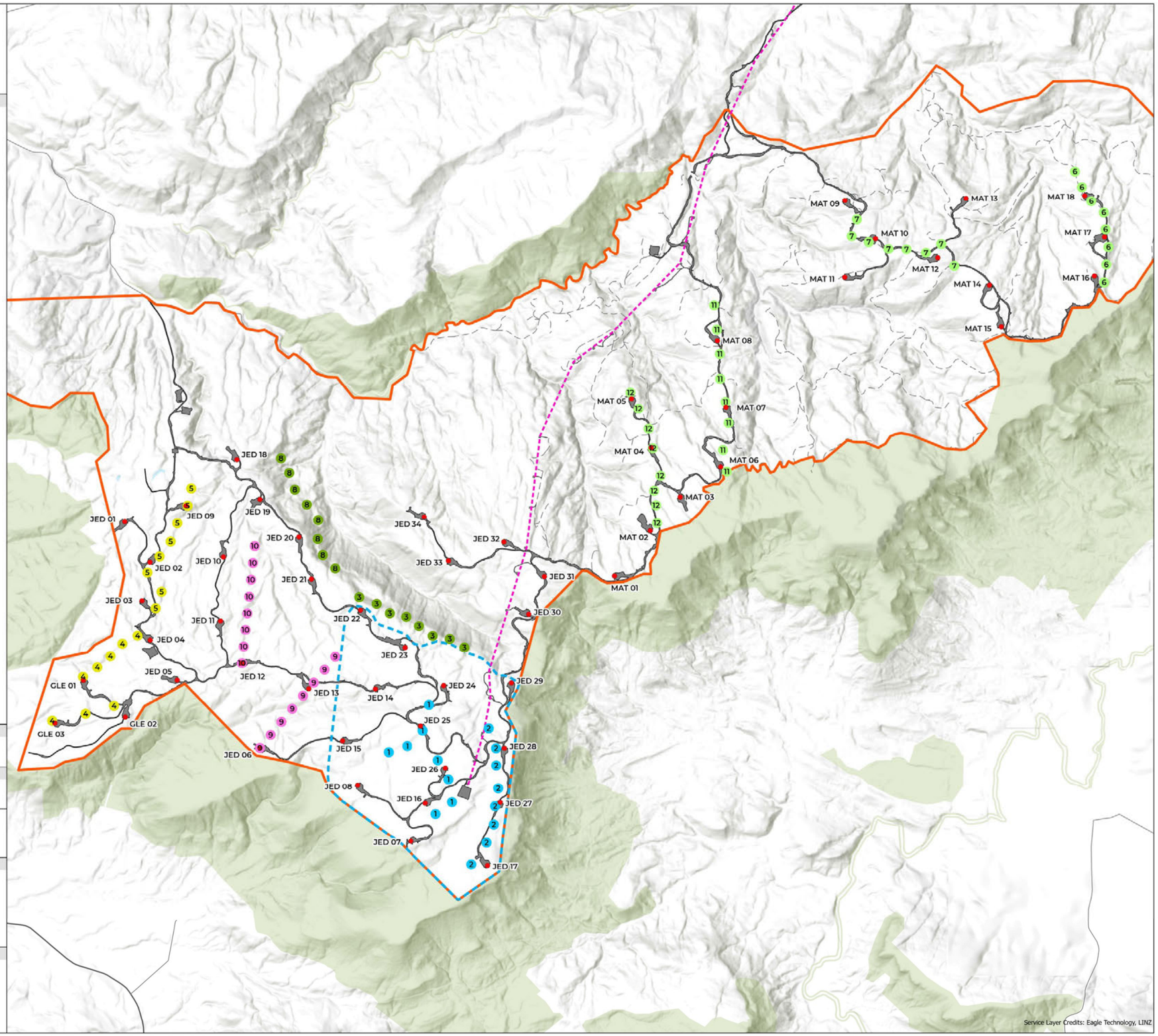
Avifauna data provided by Wildlands Consultants

TITLE

FIGURE - 1a

BIRD COUNT TRANSECTS
WITHIN THE WIND FARM SITE



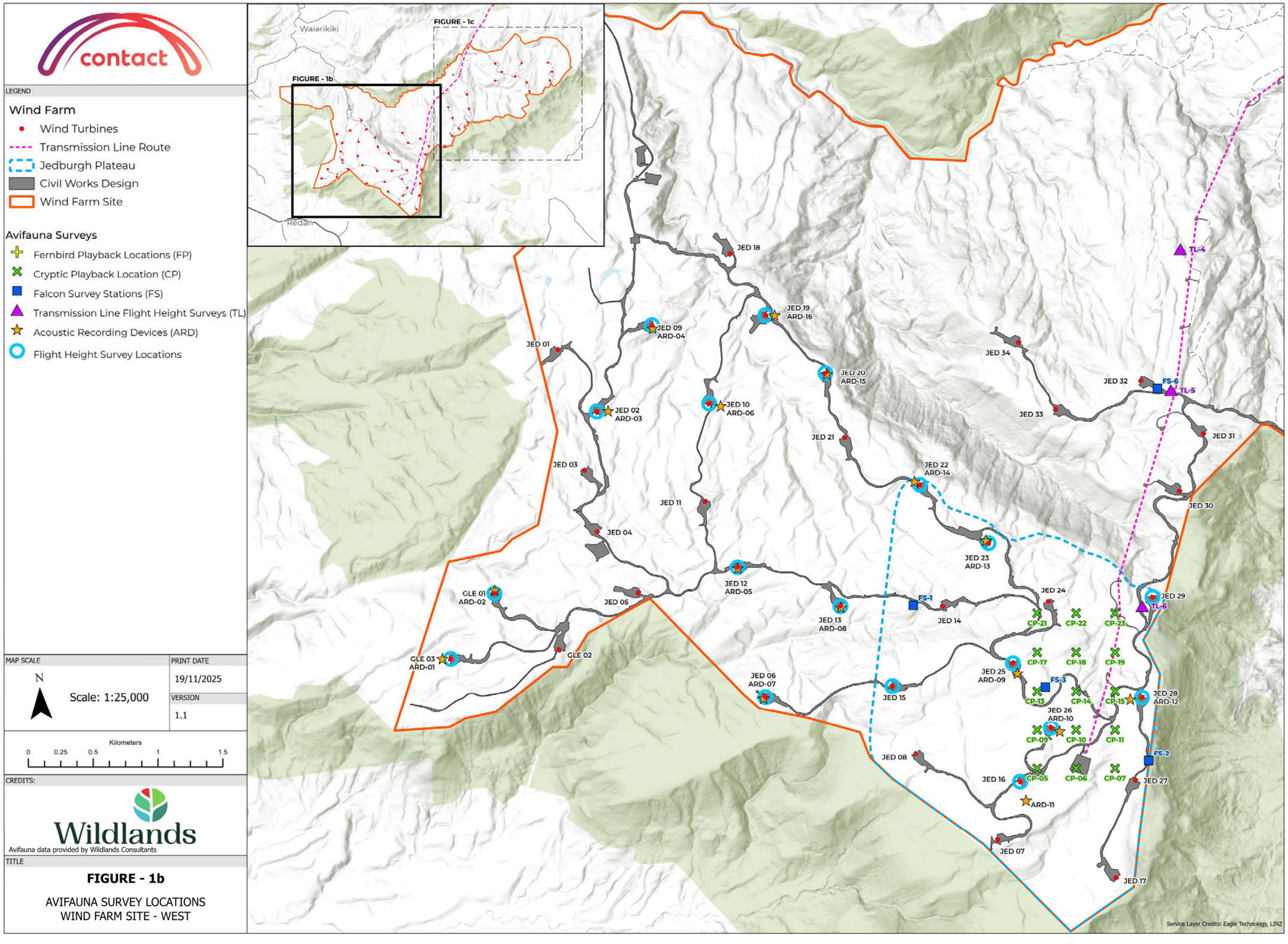

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FIGURE - 1b
JED 18
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JED 09 ARD-04
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JED 20 ARD-15
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JED 10 ARD-06
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JED 22 ARD-14
JED 11
JED 04
JED 23 ARD-13
JED 12 ARD-05
GLE 01 ARD-02
JED 05
FS-1
JED 24
JED 29
TL-6
JED 13 ARD-08
JED 14
CP-21
CP-22
CP-23
GLE 03 ARD-01
GLE 02
CP-17
CP-18
CP-19
JED 06 ARD-07
JED 25 ARD-09
FS-3
JED 15
CP-13
CP-14
CP-15
JED 28 ARD-12
JED 26 ARD-10
CP-09
CP-10
CP-11
JED 08
FS-2
JED 16
CP-05
CP-06
CP-07
JED 27
ARD-11
JED 07
JED 17
JED 34
JED 32
FS-6
TL-4
TL-5
JED 33
JED 31
JED 30
Service Layer Credits: Eagle Technology, LINZ
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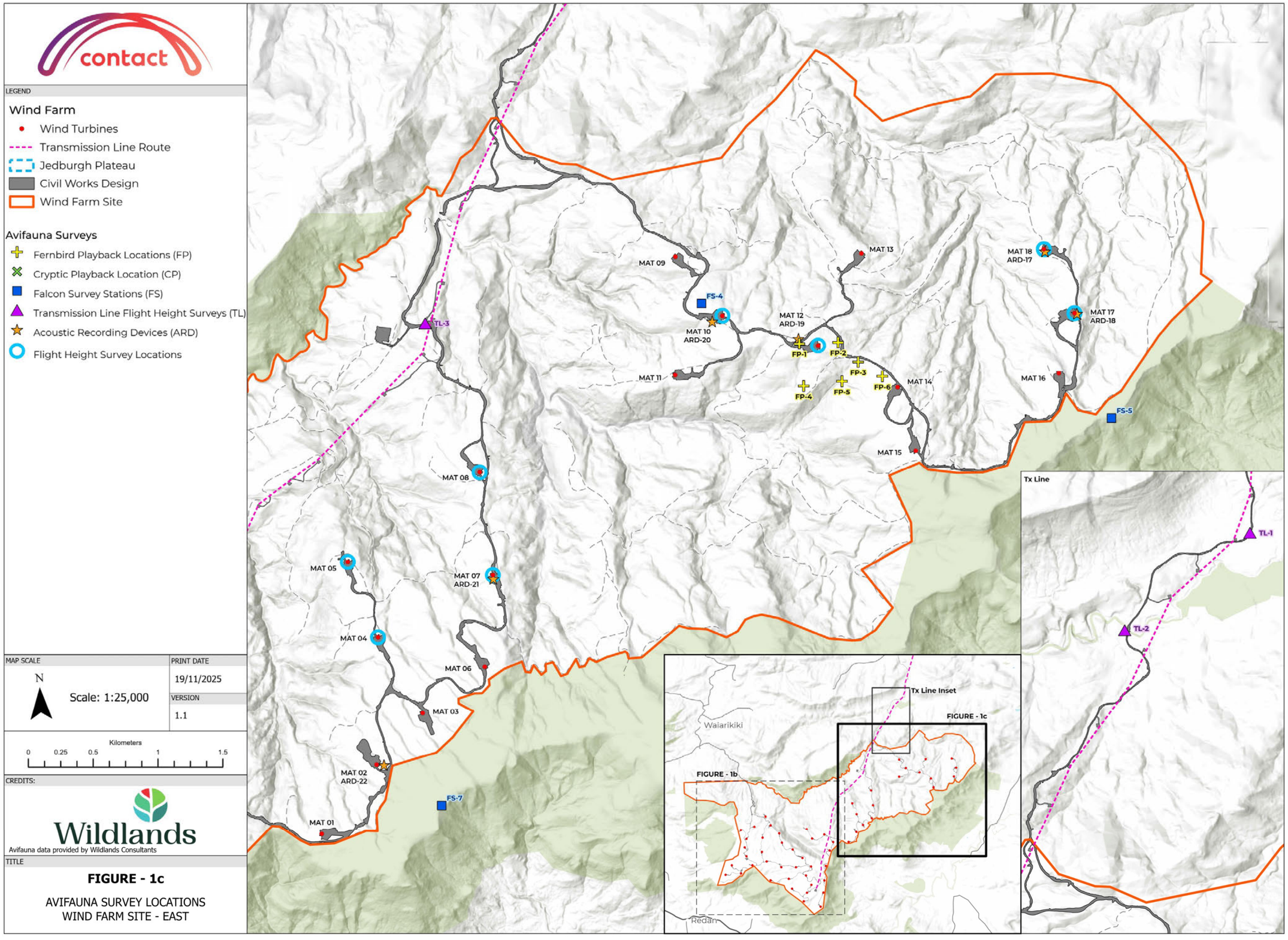
FIGURE - 1b
AVIFAUNA SURVEY LOCATIONS
WIND FARM SITE - WEST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TITLE
FIGURE - 1c
AVIFAUNA SURVEY LOCATIONS
WIND FARM SITE - EAST
MAT 09
MAT 13
MAT 18
ARD-17
FS-4
TL-3
MAT 10
ARD-20
MAT 12
ARD-19
MAT 17
ARD-18
FP-1
FP-2
FP-3
FP-6
MAT 11
FP-4
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MAT 14
MAT 16
FS-5
MAT 15
MAT 08
Tx Line
TL-1
TL-2
MAT 05
MAT 07
ARD-21
MAT 04
MAT 06
MAT 03
MAT 02
ARD-22
FS-7
MAT 01
Tx Line Inset
FIGURE - 1c
Waiarikiki
FIGURE - 1b
Redan

Kārearea/eastern falcon surveys were undertaken twice during each monitoring period. Observation stations have been selected based on previous sighting records and the presence of preferred habitat types, e.g. rocky outcrops, scarps, and ledges. Data collected during five-minute bird counts, incidentally, and in non-targeted flight height surveys also recorded any kārearea/eastern falcon observations, and their flight paths were also noted. Habitat features were recorded, including vegetation type, slope, aspect, elevation, terrain, and distance to water. Where possible, surveys were undertaken in fine weather with good visibility. Flight data of other large bird species (e.g. kākā, kererū, tūī) observed were also recorded during these surveys.

2.6 Call playback surveys

Taped playbacks of mātātā/South Island fernbird calls were played at each fernbird survey station (Figure 1c), with each call played for 15 seconds, followed by a 30 second listening period, during which bird observations were recorded. This was repeated twice at each station during each survey.

At different survey stations, recorded audio playbacks of cryptic kotoreke/marsh crake (*Zapornia pusilla affinis,* At Risk – Declining) and matuku-hūrepo/Australasian bittern (*Botaurus poiciloptilus*, Threatened – Nationally Critical) calls were played at each survey station twice during each survey period. The same methodology for these cryptic surveys was applied as in the fernbird surveys, and the locations of the cryptic survey stations are presented on Figure 1b.

2.7 Acoustic surveys

Twenty-two acoustic recorders were deployed within the five survey areas (four per survey area) and in locations close to as many turbines as possible (Figure 1a-c). This was to record the calls of nocturnal and any cryptic species that may be present, including mātātā/South Island fernbird, kotoreke/marsh crake, matuku-hūrepo/Australasian bittern, ruru/morepork (*Ninox novaeseelandiae novaeseelandiae,* Not Threatened) and migrating seabirds in flight. The deployment period was a minimum of two weeks. All acoustic recorders had one battery change and one SD card change.

AV files of audio recordings were analysed by DigiLabs, who applied a shifted window vision transformer model with a five-second lambda length and 0-8000 Hz frequency range. Data were analysed using Lamda Labs's purpose-built AI software. This software listened for ten target species:

- Kotoreke/marsh crake
- Mātātā/South Island fernbird
- Matuku-hūrepo/Australasian bittern
- Ruru/morepork
- Kuaka/eastern bar-tailed godwit (*Limosa lapponica baueri*, At Risk – Declining)
- Tara/white-fronted tern (*Sterna striata striata*, At Risk – Declining)
- Taranui/Caspian tern (*Hydroprogne caspia*, Threatened – Nationally Vulnerable)
- Tarapirohe/black-fronted tern (*Chlidonias albostriatus*, Threatened – Nationally Endangered)
- Tītī/sooty shearwater (*Ardenna griseus*, At Risk – Declining)
- Tōrea/South Island pied oystercatcher (*Haematopus finschi*, At Risk – Declining)

3.0 Results

3.1 Overview

Twenty-two indigenous and 14 exotic species were observed across the 2024 – 2025 avifauna surveys at the proposed Southland Wind Farm site, comprising a total of 15,067 individual bird observations (Appendix 1, plus section 3.7). It is noted that these results may sometimes include repeat observations of the same bird. Observations were made using a combination of methods, including five-minute bird counts, flight height surveys, kārearea/eastern falcon surveys, acoustic surveys, cryptic playback surveys, and incidental observations. The most frequently observed indigenous species were tauhou/silvereye (*Zosterops lateralis lateralis*, Not Threatened; 1,338 observations) and korimako/bellbird (*Anthornis melanura melanura*, Not Threatened; 722 observations).

3.2 Five-minute bird counts

Fifteen indigenous and nine exotic bird species were observed during five-minute bird counts completed across all surveys, including four Threatened or At Risk species:

- Kārearea/Eastern falcon (*Falco novaeseelandiae novaeseelandiae*), Threatened – Nationally Vulnerable.
- Pīhoihoi/New Zealand pipit (*Anthus novaeseelandiae novaeseelandiae*, At Risk – Declining).
- Mātātā/South Island fernbird (*Poodytes punctata punctata*, At Risk – Declining).
- Tōrea/South Island pied oystercatcher (*Haematopus finschi*, At Risk – Declining).

Kārearea/eastern falcons were observed three times in the February 2025 five-minute bird count season, and then three times during the May 2025 surveys. Other survey methods also observed these birds in all survey seasons. Pīhoihoi/New Zealand pipits were observed most frequently during the February 2025 survey, with 35 birds observed, and least frequently during the August survey, where only six were observed. Twenty-four pipits were observed in the October/November 2024 survey season, and 17 during the May 2025 surveys. The notably more frequent observations of pipits during the summer months may relate to seasonality in their habitat use or foraging habits.

Mātātā/South Island fernbirds were consistently observed in low numbers (4-7 birds) in wetland, grassland, and scrub habitats during each survey season.

Tōrea/South Island pied oystercatchers were observed 15 times during the October/November 2024 survey and 23 times in the August 2025 survey but not seen during the February or May surveys. This likely relates to seasonal variation in habitat use, as tōrea/South Island pied oystercatchers are known to prefer inland habitats during breeding season (August – January inclusive) and estuarine habitats outside of breeding season. The October/November and August surveys were both conducted during the oystercatcher breeding season, while the February and May surveys were conducted outside of the breeding season (NZ Birds Online 2025). Oystercatchers were consistently observed only in the west of the site both in the areas of pasture grassland, and in their margins with the pine forest habitat.

The most frequently observed indigenous birds across all 5MBC surveys were tauhou/silvereye, with a total of 1,136 observations. However, as displayed in Figure 2, these were not consistently the most frequently observed species across all seasons. This indicates a degree of seasonal variation in their usage of the habitat, with this species observed much more frequently in summer-autumn (523 observations in February, 372 in May) than in winter or spring (91 observations in August, 150 observations in October/November). This is likely due to seasonal variation in food availability (fruit, nectar, and invertebrates) resulting in seasonal migration of this species into and out of the site, or seasonal variation in foraging behaviours.

Table 1 – List of indigenous and exotic bird species seen or heard during the October/November 2024 – August 2025 five-minute bird counts at the Southland Wind Farm.

Species	Scientific Name	Threat Status	Total Count (October/ November 2024)	Total Count (February 2025)	Total Count (May 2025)	Total Count (August 2025)	Total Count
Indigenous Species							
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*	Threatened – Nationally Vulnerable	0	3	3	0	6
Mātātā/South Island fernbird	*Poodytes punctata punctata*	At Risk – Declining	4	4	7	7	22
Pīhoihoi/New Zealand pipit	*Anthus novaeseelandiae novaeseelandiae*	At Risk – Declining	24	35	17	6	82
Tōrea/South Island pied oystercatcher	*Haematopus finschi*	At Risk – Declining	15	0	0	23	38
Kāhu/swamp harrier	*Circus approximans*	Not Threatened	3	18	13	3	37
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*	Not Threatened	8	13	0	3	24
Kereru/New Zealand pigeon	*Hemiphaga novaeseelandiae*	Not Threatened	6	5	2	2	15
Korimako/bellbird	*Anthornis melanura melanura*	Not Threatened	90	136	262	59	547
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*	Not Threatened	129	138	102	133	502
Pīpipi/brown creeper	*Mohoua novaeseelandiae*	Not Threatened	181	93	96	188	558
Pīwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*	Not Threatened	50	82	41	47	220
Pīpīwharauroa/shining cuckoo	*Chrysococcyx lucidus lucidus*	Not Threatened	5	2	0	0	7
Pūtangitangi/paradise shelduck	*Tadorna variegata*	Not Threatened	5	0	14	26	45
Riroriro/grey warbler	*Gerygone igata*	Not Threatened	157	59	39	92	347
Spur-winged plover	*Vanellus miles novaehollandiae*	Not Threatened	20	6	19	15	60
Tauhou/silvereye	*Zosterops lateralis lateralis*	Not Threatened	150	523	372	91	1,136
Tititipounamu/South Island rifleman	*Acanthisitta chloris chloris*	Not Threatened	18	14	23	3	58
Tūī	*Prosthemadera novaeseelandiae*	Not Threatened	3	3	5	0	11
Warou/welcome swallow	*Hirundo neoxena neoxena*	Not Threatened	0	2	2	0	4
Exotic Species							
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised	19	75	63	53	210
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised	323	218	117	27	685
Dunnock	*Prunella modularis*	Introduced and Naturalised	89	25	20	6	140
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised	280	65	65	42	452
Eurasian skylark	*Alauda arvensis*	Introduced and Naturalised	35	2	24	7	68
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised	9	83	20	3	115
European greenfinch	*Carduelis chloris*	Introduced and Naturalised	6	3	1	0	10
House sparrow	*Passer domesticus*	Introduced and Naturalised	0	1	12	0	13
Mallard	*Anas platyrhynchos*	Introduced and Naturalised	3	0	0	0	3
Redpoll	*Acanthis flammea*	Introduced and Naturalised	435	781	179	115	1,510
Song thrush	*Turdus philomelos*	Introduced and Naturalised	102	14	1	98	215
Common starling	*Sturnus vulgaris vulgaris*	Introduced and Naturalised	16	0	0	0	16
Yellowhammer	*Emberiza citrinella*	Introduced and Naturalised	0	0	0	1	1

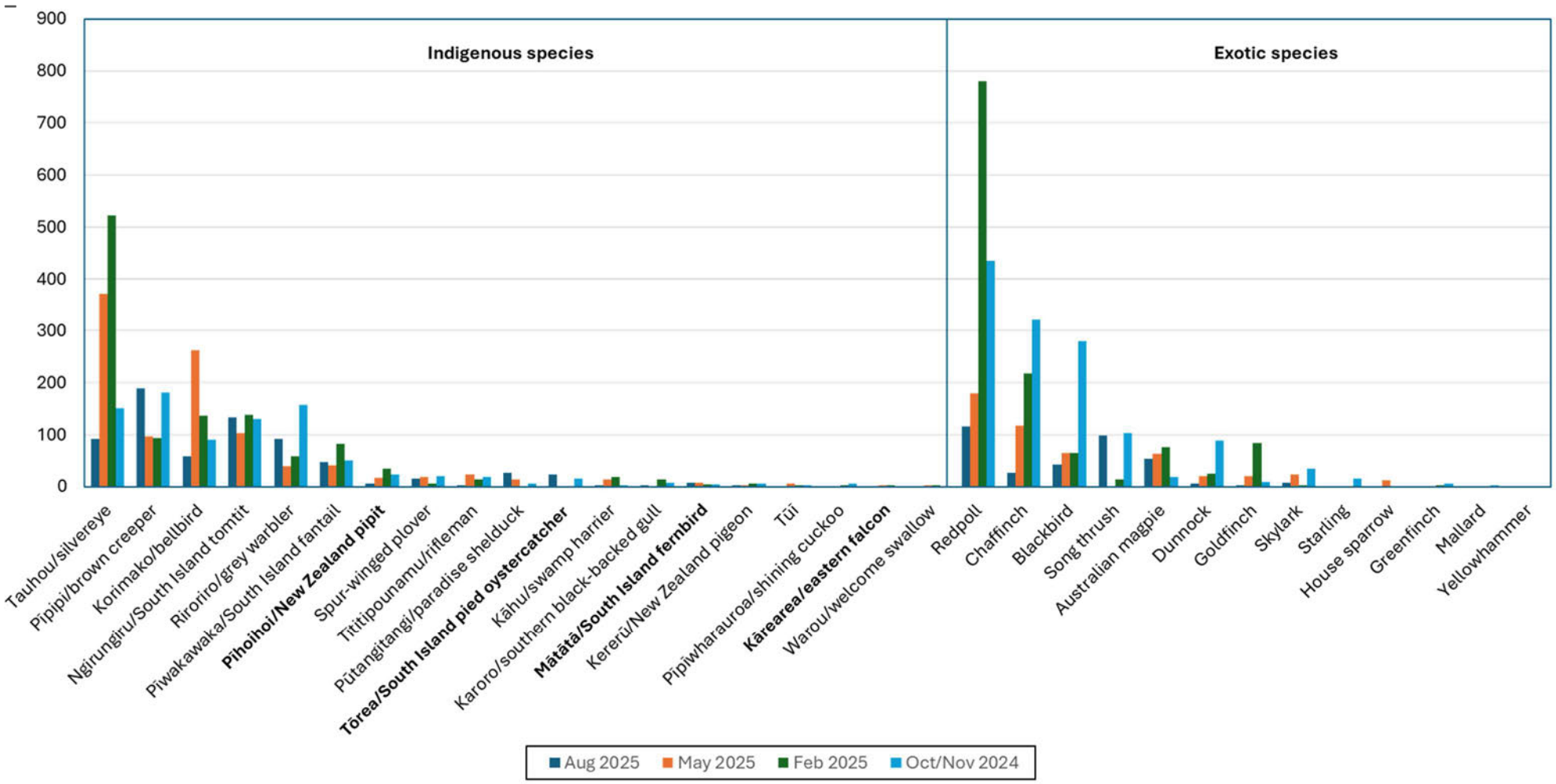

Figure 2 – Five-minute bird count frequency of indigenous and exotic bird species observed at the proposed wind farm during the 2024-2025 surveys, separated by survey period. Indigenous species are presented to the left, exotic species to the right. Threatened or At Risk species are annotated in **bold**.

Korimako/bellbirds were the second most frequently observed indigenous species at the proposed wind farm site across all surveys, with a notable increase in observation frequency from spring to autumn, with 90 birds observed in October/November 2024, 136 observed in February 2025, and 262 observed in May 2025, though a notable decline in observations occurred in winter, with only 59 birds observed in August. This is likely due to a seasonal decline in available food on the site.

In both October/November 2024 and August 2025, pīpipi/brown creeper was the most frequently observed indigenous species in the Wind Farm Site and was observed almost twice as frequently as in summer-autumn months. It was most observed in exotic conifer forest, mānuka forest and scrub, and indigenous broadleaved forest. Given the relative rarity of this species in Southland, it is unclear if the large population of brown creepers on the proposed wind farm site is supplemented by seasonal migration into the site during winter or if the variation in frequency of observations is affected by changes in foraging behaviour over the seasons within an unchanging resident population.

The most frequently observed species overall is the common redpoll (*Acanthis flammea*, Introduced and Naturalised), an exotic songbird that was observed 1,510 times across all surveys. Almost half of these observations were made in February 2025, and their observations sharply declined after the February season to 179 in May 2025 and 115 in August 2025. This likely reflects the movement of flocks of redpolls into the site during summer to make use of newly available food.

3.3 Flight height surveys

Flight height surveys were undertaken across the Wind Farm Site to determine the frequency of birds flying within the rotor-sweep zone. The rotor-sweep zone (where birds are at greatest risk of collision) has been assessed as 30-220 metres above ground level. A total of 747 birds, representing 18 indigenous and nine exotic species, were recorded across 273 flight paths during the 2024-2025 survey period. The results of these surveys are displayed in Table 2 and show that for the most part, birds observed were flying below the rotor sweep zone.

Three Threatened or At Risk bird species were observed across all the flight height surveys completed (kārearea/eastern falcon, pīhoihoi/New Zealand pipit, tōrea/South Island pied oystercatcher). Of these three species, both kārearea/eastern falcon and pīhoihoi/New Zealand pipit consistently flew below the risk zone, and just five of the fourteen tōrea/South Island pied oystercatchers were observed within the risk zone of one turbine - JED-02, where they were observed flying at an average height of 40 metres.

The most frequently observed indigenous bird species within the rotor-sweep zone were kāhu/swamp harriers (*Circus approximans*, Not Threatened). Twenty-four kāhu/swamp harriers were observed in the rotor-sweep zone across all surveys completed in the vicinity of nine proposed turbine locations (JED-10, MAT-07, MAT-17, MAT-18, JED-09, JED-19, JED-20, JED-02, JED-28), with 11 birds observed flying below 30 metres.

Several other indigenous species showed a tendency to fly in the risk zone. For example, all nine tūī observed across all surveys were flying at elevations between 30 and 220 metres. In addition, nine of the 14 karoro/southern black-backed gulls (*Larus dominicanus dominicanus*, Not Threatened) observed were seen flying within the rotor-sweep zone, while five were observed flying below the risk zone. Pūtangitangi/paradise shelducks (*Tadorna variegata*, Not Threatened) were also frequently observed flying in the risk zone, with 18 of this bird species observed flying in the risk zone of turbines GLE-03, JED-01, JED-03, and JED-10, while 14 birds were observed flying below the risk zone. Pūtangitangi/paradise shelducks are also notable for being the only bird species seen flying above the top of the rotor sweep zone, with two birds seen flying at 300 metres elevation near the proposed location of turbine JED-19 during the August 2025 survey.

Table 2 – Number of flight paths and number of birds per species seen during flight path monitoring at Southland Wind Farm across all seasons. Species in **bold** indicate species observed flying within the risk zone (30-220 m).

Common Name	Scientific Name	Threat Status	Number of Flight Paths	Number of Birds Seen	Mean Flight Height (metres)	Number of Birds Recorded in Flight Zones			Vicinity Turbines Within Risk Zone Flight Paths
						Below 30 metres	Risk Zone (30 - 220 m)	Above 220 m	
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*	Threatened – Nationally Vulnerable	3	3	20 (Oct-Nov), 5 (Feb)	3	-	-	
Pīhoihoi/New Zealand pipit	*Anthus novaeseelandiae novaeseelandiae*	At Risk – Declining	7	7	5 (Feb), 3.8 (May)	7	-	-	
Tōrea/South Island pied oystercatcher	*Haematopus finschi*	At Risk – Declining	6	14	40 (Oct-Nov), 2 (Aug)	9	5	-	JED-02 (Oct/Nov)
Kāhu/swamp harrier	*Circus approximans*	Not Threatened	27	29	17.5 (Oct-Nov), 32.9 (Feb), 48 (May), 35 (Aug)	11	18	-	GLE-01, JED-26 (Feb), JED-09 (Feb, May), JED-10 (Oct/Nov), MAT-07, MAT-17, MAT-18, JED-19, JED-20 (May), JED-02 (May, Aug), JED-28 (Aug)
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*	Not Threatened	9	14	35.6 (Oct-Nov), 43.3 (Feb), 40 (Aug)	5	9	-	JED-10, JED-16, MAT-17 (Oct/Nov), JED-05 (Aug)
Kererū/New Zealand pigeon	*Hemiphaga novaeseelandiae*	Not Threatened	2	2	30 (Feb), 10 (May)	1	1	-	JED-09 (Feb)
Korimako/bellbird	*Anthornis melanura melanura*	Not Threatened	8	11	12.5 (Oct-Nov), 46.7 (Feb), 9.8 (May), 6 (Aug)	8	3	-	JED-22, MAT-04 (Feb), JED-10, station not listed (May)
Matuku moana/white-faced heron	*Egretta novaehollandiae*	Not Threatened	1	1	10 (Feb)	1	-	-	
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*	Not Threatened	5	6	2.3 (May), 5.7 (Aug)	6	-	-	
Pīpipi/brown creeper	*Mohoua novaeseelandiae*	Not Threatened	8	18	5.7 (Oct-Nov), 5 (Feb), 3.5 (May), 11.3 (Aug)	11	-	-	
Pīwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*	Not Threatened	1	2	15 (Oct-Nov), 10 (Aug)	2	-	-	
Pūtangitangi/ paradise shelduck	*Tadorna variegata*	Not Threatened	11	34	20 (Oct-Nov), 5 (Feb), 26.5 (May), 77 (Aug)	14	18	2	JED-10 (Oct/Nov, May), GLE-03, JED-03 (Feb), JED-01 (Aug)
Riroriro/grey warbler	*Gerygone igata*	Not Threatened	1	1	20 (Aug)	1	-	-	
Spur-winged plover	*Vanellus miles novaehollandiae*	Not Threatened	12	22	10 (Oct-Nov), 5 (Feb), 34.4 (May), 0 (Aug)	14	8	-	JED-09, JED-10, station not noted (May)
Tauhou/silvereye	*Zosterops lateralis lateralis*	Not Threatened	18	133	9.2 (May), 10 (Aug)	123	-	-	
Tītitipounamu/South Island rifleman		Not Threatened	1	2	6 (Aug)	2	-	-	
Tūī/tui	*Prosthemadera novaeseelandiae novaeseelandiae*	Not Threatened	8	9	32.2 (May)		9	-	MAT-07 (Oct/Nov), JED-12, JED-20 (May)
Warou/welcome swallow	*Hirundo neoxena neoxena*	Not Threatened	1	2	20 (Aug)	2	-	-	
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised	12	30	5 (Oct-Nov), 13.8 (Feb), 19.2 (May), 150 (Aug)	14	16	-	GLE-03, (Oct/Nov, Feb), JED-02, GLE-01 (May), JED-05 (Aug)
Canada goose	*Branta canadensis*	Introduced and Naturalised	1	2	6 (Oct-Nov), 13.8 (Feb), 19.2 (May)	2	-	-	
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised	13	18	7 (Oct-Nov), 13.8 (Feb), 19.2 (May), 15 (Aug)	18	-	-	
Common redpoll	*Acanthis flammea*	Introduced and Naturalised	74	342	8 (Oct-Nov), 13.8 (Feb), 19.2 (May), 13.67 (Aug)	336	6	-	MAT-10, MAT-17 (Oct-Nov), JED-12 (May)
Common starling	*Sturnus vulgaris*	Introduced and Naturalised	1	1	9 (Oct-Nov), 13.8 (Feb), 19.2 (May)	1	-	-	
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised	5	5	10 (Oct-Nov), 13.8 (Feb), 19.2 (May)	5	-	-	
Eurasian skylark	*Alauda arvensis*	Introduced and Naturalised	4	16	11 (Oct-Nov), 13.8 (Feb), 19.2 (May)	8	8	-	JED-09, JED-16, JED-26, JED-28 (Oct/Nov)
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised	2	14	12 (Oct-Nov), 13.8 (Feb), 19.2 (May)	14	-	-	
Mallard	*Anas platyrhynchos*	Introduced and Naturalised	2	2	13 (Oct-Nov), 13.8 (Feb), 19.2 (May)	1	1	-	GLE-03 (Oct-Nov)
Unidentified	Unidentified	Unknown	1	1		1	-	-	
Total			**273**	**747**		**620**	**108**		

The exotic species Australian magpie (*Gymnorhina tibicen*, Introduced and Naturalised) was also observed to preferentially fly in the rotor-sweep zone, with 18 birds of this species observed flying in the risk zone at up to 150 metres elevation, near turbines GLE-01, GLE-03, JED-02, and JED-05, while 13 magpies were seen flying below it.

The percentage of indigenous and exotic species with observable flight paths within flight height zones are illustrated in Figure 3.

3.4 Transmission line flight height surveys

The transmission line for the Southland Wind Farm will be approximately 16km long and will be supported by towers or poles typically 40m in height, but up to 55m in height where necessary.

Across all the transmission line flight height surveys completed, 231 observations of 14 bird species were observed (Table 3). One Threatened species was observed during these surveys (kārearea/eastern falcon), of which a single bird was observed sitting on the forest floor and calling at Station TL5. Other observed species include common, non-threatened indigenous species such as pīwakawaka/South Island fantail (*Rhipidura fuliginosa fuliginosa*), tauhou/silvereye, karoro/southern black-backed gull, kāhu/swamp harrier, ngirungiru/South Island tomtit (*Petroica macrocephala macrocephala*), riroriro/grey warbler (*Gerygone igata*), and warou/welcome swallow (*Hirundo neonexa neonexa*).

The exotic species Australian magpie, Eurasian blackbird (*Turdus merula,* Introduced and Naturalised) chaffinch (*Fringilla coelebs,* Introduced and Naturalised), European goldfinch (*Carduelis carduelis Britannica,* Introduced and Naturalised), mallard (*Anas platyrhynchos,* Introduced and Naturalised), and common redpoll were also observed.

Kāhu/swamp harriers were the most frequently observed species across the entire transmission line, with birds seen at almost all transmission line survey stations over the surveys completed, except there were no observations at TL3 in August 2025, or stations TL5 or TL6 during any survey. Birds were seen flying at elevations between 20 and 600 metres.

Redpolls were the most abundant bird species observed along the transmission line route, with a total of 68 observations across all surveys. Redpolls were consistently observed flying at heights below 30 metres, except for a single bird seen at station TL1 in May, which was flying at 50 metres elevation.

European goldfinch (*Carduelis carduelis britannica,* Introduced and Naturalised) was the second most abundant species observed during the transmission line surveys, with a total of 46 observations. However, it is noted that goldfinches were not frequently observed throughout the surveys undertaken on a spatial or temporal scale, as all these observations comprise a single flock which flew at five metres elevation at station TL1 during the February 2025 survey.

Tauhou/silvereye were the most abundant indigenous bird species observed during transmission line surveys, with 30 sightings at stations TL1, TL4, and TL6. These birds were consistently observed flying at heights between five and 15 metres, and most often at the lower end of this elevation range.

These results show that for the most part, the birds observed were flying below the height of the proposed transmission line, and as such, the risk of bird collision with the transmission line is low.

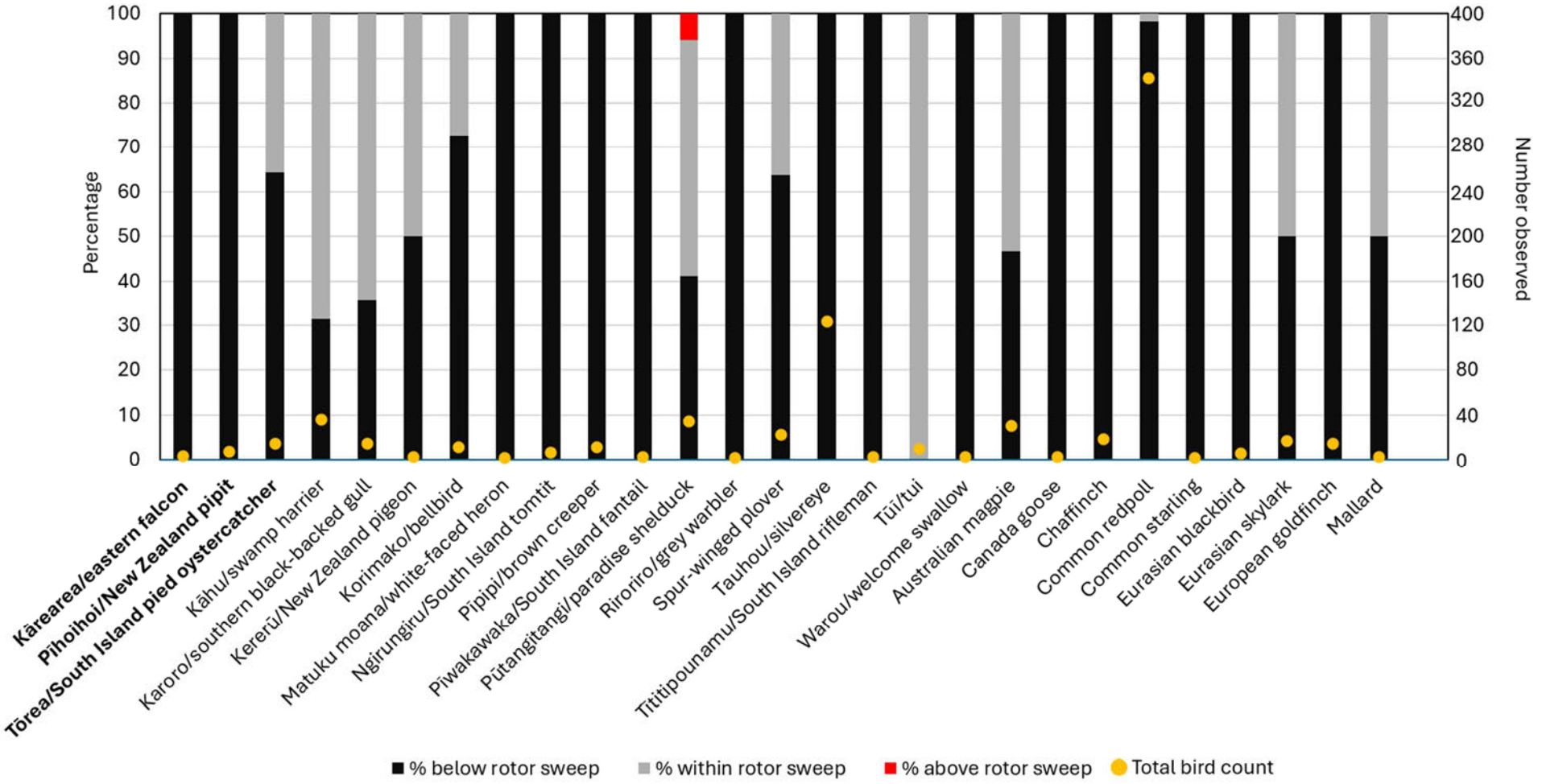

Figure 3 – Percentage of indigenous and exotic species with observable flight paths within flight height zones: below rotor-sweep zone (0-29 metres), rotor sweep/risk zone (30-220 m), and above rotor-sweep zone (201 m+), at flight path sites at the proposed Southland Wind Farm in all 2024-2025 surveys. Total numbers of birds observed for each species are also presented. Threatened or At Risk species are annotated in **bold**.

Table 3 – Results of the transmission line flight height surveys undertaken from February to August 2025. Flight heights are in metres and reflect the maximum heights for each observation of each species.

TL1 – TL2

Common Name	Scientific Name	Threat Status	TL1									TL2								
			Count (Feb)	Flight Heights (Feb)	Behaviours (Feb)	Count (May)	Flight Heights (May)	Behaviours (May)	Count (Aug)	Flight Heights (Aug)	Behaviours (Aug)	Count (Feb)	Flight Heights (Feb)	Behaviours (Feb)	Count (May)	Flight Heights (May)	Behaviours (May)	Count (Aug)	Flight Heights (Aug)	Behaviours (Aug)
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised													1	10 - 20	Direct flight			
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised				2	5-10	Direct flight						Direct flight						
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised																		
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised	46	5	Direct flights															
Kāhu/swamp harrier	*Circus approximans*	Not Threatened	2	20, 40	Circling, hunting	3	50-150	Hunting, calling	5	80-100, 200	Foraging, circling, catching thermal then foraging	3	300, 80, 30	Direct flight, circling flight, direct height/hunting	2	15-40, 60	Foraging (prey on wing), hunting	3	150, 200	Foraging, circling
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*	Threatened – Nationally Vulnerable																		
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*	Not Threatened																1	140	Transient travel
Korimako/bellbird	*Anthornis melanura melanura*	Not Threatened																		
Mallard	*Anas platyrhynchos*	Introduced and Naturalised				41	20-50	Direct flight										1	5	Transient travel
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*	Not Threatened																		
Piwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*	Not Threatened																1	15	Foraging
Redpoll	*Acanthis flammea*	Introduced and Naturalised	3	5.00	Direct flight	7	5-15, 30, 10-20	Direct flight	3	20,20,50	Foraging, transient travel				3	5-10	Direct flight			
Riroriro/grey warbler	*Gerygone igata*	Not Threatened				2	<5	Direct flight							2	<5				
Tauhou/silvereye	*Zosterops lateralis lateralis*	Not Threatened				2	<5	Direct flight	1	5	Foraging and calling									
Warou/welcome swallow	*Hirundo neoxena neoxena*	Not Threatened				1	20	Direct flight				1	10	Foraging						

TL3 – TL4

Common Name	Scientific Name	Threat Status	TL3									TL4								
			Count (Feb)	Flight Heights (Feb)	Behaviours (Feb)	Count (May)	Flight Heights (May)	Behaviours (May)	Count (Aug)	Flight Heights (Aug)	Behaviours (Aug)	Count (Feb)	Flight Heights (Feb)	Behaviours (Feb)	Count (May)	Flight Heights (May)	Behaviours (May)	Count (Aug)	Flight Heights (Aug)	Behaviours (Aug)
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised																1	30	
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised													1	5	Direct flight			
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised																		
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised																		
Kāhu/swamp harrier	*Circus approximans*	Not Threatened	1	400	Circling flight	1	50-70	Hunting				1	600	Hunting	1	40	Foraging (prey on wing), circling			
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*																			
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*																			
Korimako/bellbird	*Anthornis melanura melanura*		3	20	Direct flight							1	20	Direct flight						
Mallard	*Anas platyrhynchos*																			
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*														1	3	Low short flight			
Pīwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*																	1	5	Foraging
Redpoll	*Acanthis flammea*		3	10	Direct flight										2	5-10	Direct flight	10	20	
Riroriro/grey warbler	*Gerygone igata*																			
Tauhou/silvereye	*Zosterops lateralis lateralis*														2	15	Direct flight			
Warou/welcome swallow	*Hirundo neoxena neoxena*																			

TL5 – TL6

Common Name	Scientific Name	Threat Status	TL5									TL6								
			Count (Feb)	Flight heights (Feb)	Behaviours (Feb)	Count (May)	Flight heights (May)	Behaviours (May)	Count (Aug)	Flight heights (Aug)	Behaviours (Aug)	Count (Feb)	Flight heights (Feb)	Behaviours (Feb)	Count (May)	Flight heights (May)	Behaviours (May)	Count (Aug)	Flight heights (Aug)	Behaviours (Aug)
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised																		
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised																		
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised	3	15-20	Direct flight															
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised																		
Kāhu/swamp harrier	*Circus approximans*	Not Threatened																		
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*	Threatened – Nationally Vulnerable	1	Heard only	calling															
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*	Not Threatened																		
Korimako/bellbird	*Anthornis melanura melanura*	Not Threatened				2		Heard calling only												
Mallard	*Anas platyrhynchos*	Introduced and Naturalised																		
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*	Not Threatened							1	15								1	5	
Pīwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*	Not Threatened																		
Redpoll	*Acanthis flammea*	Introduced and Naturalised	5	10	Direct flight				30	15										
Riroriro/grey warbler	*Gerygone igata*	Not Threatened																		
Tauhou/silvereye	*Zosterops lateralis lateralis*	Not Threatened										2	0-5	Direct flight	15	15-20	socialising			
Warou/welcome swallow	*Hirundo neoxena neoxena*	Not Threatened																		

3.5 Kārearea/eastern falcon surveys

While the purpose of these surveys was specifically to record the number and behaviour of kārearea/eastern falcon, data collection was not restricted to just this bird species, and in fact, a wide range of bird flight data was collected during the kārearea/eastern falcon surveys (Table 4). These include 165 observations of 18 species, seven of which were observations of kārearea/eastern falcon.

No kārearea/eastern falcons were observed in the October/November 2024 falcon survey, while three kārearea/falcons were sighted in the February 2025 falcon survey. Two of these were seen circling 200 metres above station FS6, while the third was seen flying west at 100 metres elevation. In May 2025, a single falcon was observed at station FS5, where it was flying south at an elevation of 20-30 metres. In August 2025, two falcons were seen, both at station FS3, and both flying southwest at elevations of 5-30 metres.

When all other survey types are included, as displayed in Figure 4, 35 observations of kārearea/eastern falcons were made during the survey period, with nine falcons observed during October/November 2024, 15 in February 2025, seven in May 2025, and four in August 2025. Kārearea/eastern/falcons were recorded flying at a wide range of elevations, within and below the risk zone. Including all other survey types, and incidental observations, where elevations were noted, 14 falcons were seen flying below the risk zone, while five were seen flying within it.

Overall, kārearea/eastern falcons are considered as being at low risk of colliding with turbines, acknowledging there are, to date, no recorded instances of falcons being struck by turbines in New Zealand. Kārearea/eastern falcons are a relatively rare bird of prey, and the regularity at which they were observed suggests that the site supports an established population of at least one or two pairs of birds. As kārearea/eastern falcons were present throughout both breeding and non-breeding seasons, it is likely that falcons breed at the site. There would be suitable nesting habitat present for them at the site, including forests and hills.

Two other Threatened or At Risk bird species - pīhoihoi/New Zealand pipit and mātātā/South Island fernbird - were also observed during these surveys. Three pipits were heard at station FS3 during the August 2025 survey. A single fernbird was heard at station FS5 also during August 2025.

Table 4 – Number of birds observed at kārearea/eastern falcon fixed stations, their direction of travel, and their height above the ground.

Date	Station Code	Species	Number Seen	Number Heard	Height Above Ground (m)	Flight Direction
3/11/2024	FS1	Karoro/southern black-backed gull	1	-	20	NE
26/11/2024	FS1	Kereru	1	-	10-20	SW
26/11/2024	FS2	Skylark	1	-		
27/11/2024	FS5	Tūi	-	3	60	
12/02/2025	FS5	Kererū	2	-	50-80m	N then NE
12/02/2025	FS5	Kererū	1	-	20-80m	N
12/02/2025	FS5	Tūī	-	8	-	
12/02/2025	FS5	Tūī	4	-	10m	W
12/02/2025	FS6	Kārearea/eastern falcon	2	2	200m	Circling
12/02/2025	FS7	Kārearea/eastern falcon	1	-	100m	W
13/02/2025	FS3	Redpoll	50	-	-	N
15/02/2025	FS6	Kererū	1	-	20	SE
15/02/2025	FS6	Kererū	6	-	200m+	N
15/02/2025	FS6	Southern black-backed gull	1	-	300m	W

Date	Station Code	Species	Number Seen	Number Heard	Height Above Ground (m)	Flight Direction
12/05/2025	FS New (Old FS7)	Korimako/bellbird	1		2	
12/05/2025	FS New (Old FS7)	Korimako/bellbird		1		
8/05/2025	FS5	Kārearea/eastern falcon	1		20-30	S
8/05/2025	FS5	Korimako/bellbird	2		20	N to S, N to SE
6/08/2025	FS3	Australian magpie		1		
6/08/2025	FS3	Pihoihoi/New Zealand pipit		1		
6/08/2025	FS3	Redpoll		2		
6/08/2025	FS3	Kārearea/eastern falcon	2		5-30	SW
6/08/2025	FS3	Pihoihoi/New Zealand pipit		2		
6/08/2025	FS1	Ngirungiru/South Island tomtit		1		
6/08/2025	FS1	Blackbird		1		
6/08/2025	FS1	Riroriro/grey warbler		1		
6/08/2025	FS1	Kāhu/swamp harrier	1		20-100	Circling
6/08/2025	FS2	Korimako/bellbird	1		5	SE
6/08/2025	FS2	Tauhou/silvereye	7		0-5	S
7/08/2025	FS5	Redpoll	30		20	SW
7/08/2025	FS5	Bellbird		2		
7/08/2025	FS7	Riroriro/grey warbler		2		
7/08/2025	FS7	Bellbird		2		
7/08/2025	FS4	Ngirungiru/South Island tomtit		1		
12/08/2025	FS5	Ngirungiru/South Island tomtit		1		
12/08/2025	FS5	Korimako/bellbird		1		
12/08/2025	FS5	Pīpipi/brown creeper		5		
12/08/2025	FS5	Redpoll		1		
12/08/2025	FS4	Kāhu/swamp harrier	1		100-150	E then NW
12/08/2025	FS4	Mātātā/South Island fernbird		1		
13/08/2025	FS1	Song thrush		2		
13/08/2025	FS1	Blackbird		1		
13/08/2025	FS1	Ngirungiru/South Island tomtit		1		
13/08/2025	FS1	Tauhou/silvereye		1		
13/08/2025	FS3	Karoro/southern black-backed gull	2		100	E, then circling, then S
13/08/2025	FS2	Korimako/bellbird		2		
13/08/2025	FS2	Song thrush		2		

3.6 Call playback surveys

At fernbird stations, located in the Matariki property near turbines MAT-09, MAT-10, MAT-11, and MAT-12 (Figure 1c), in February 2025, four mātātā/South Island fernbirds were detected during the survey, including one at Fernbird Station 3, one at Fernbird Station 5, and two at Fernbird Station 6. No other records of cryptic wetland birds including kotoreke/marsh crake or matuku-hūrepo/Australasian bittern were recorded. In May 2025, the only bird observed during fernbird playback surveys was a single fernbird at Matariki Playback Station 2.

In August 2025, six observations of mātātā/South Island fernbirds were made at Fernbird Stations 2, 4, and 5, with four of these observations observed at Fernbird Station 4. Pīhoihoi/New Zealand pipit were observed once, with one pipit seen at Fernbird Station 7. No marsh crakes or bitterns were heard during any of the surveys in October/November 2024 or in February 2025. However, in October/November 2024, one fernbird was seen at Fernbird Station 4, near turbine MAT-12, and an ambiguous possible fernbird call was heard at Fernbird Station 3, closest to turbine MAT-14. No birds of any kind were observed during playback surveys in May 2025.

contact

LEGEND

Wind Farm

- Wind Turbines
- Transmission Line Route
- Jedburgh Plateau
- Civil Works Design
- Wind Farm Site

Kārearea/Eastern Falcons Surveys

- Oct - Nov / No Risk Zone Information
- Oct - Nov / Below Risk Zone
- Oct - Nov / Within Risk Zone
- Feb / No Risk Zone Information
- Feb / Below Risk Zone
- Feb / Within Risk Zone
- May / No Risk Zone Information
- May / Below Risk Zone
- Aug / No Risk Zone Information
- Aug / Below Risk Zone
- Falcon Flight Directions

Distribution of Kārearea/Eastern Falcons observations across the Wind Farm Site.

- Blue arrows denote the observed flight direction.
- Red numbers denote the number of falcon observations.

MAP SCALE	PRINT DATE
N Scale: 1:45,000	14/11/2025
	VERSION 1.0

Kilometers
0 0.25 0.5 1 1.5 2 2.5

CREDITS:

Wildlands
Avifauna data provided by Wildlands Consultants

TITLE

FIGURE - 4

KĀREAREA/EASTERN FALCONS OBSERVATIONS ACROSS THE WIND FARM SITE

Service Layer Credits: Eagle Technology, LINZ

At cryptic sites located on the Jedburgh Plateau near turbines JED-16, JED-24, JED-25, JED-27, and JED-28, In August 2025, 12 observations of six bird species were made during cryptic playback surveys. Two pīhoihoi/New Zealand pipits were observed at station CP6 (approximately midway between turbines JED-16 and JED-27), a third was observed at station CP21 (near turbine JED-24), and a fourth at station CP23 (near turbines JED-24 and JED-28). Mātātā/South Island fernbird was observed at station CP18 (closest to turbine JED-25), with one bird seen and a second heard at this location. The indigenous species riroriro/grey warbler and ngirungiru/tomtit were also observed during this survey, with two riroriro/grey warblers heard at station CP17 and a third heard at CP5, and one tomtit heard at station CP5. Chaffinch and song thrush were also observed, with one chaffinch seen at station CP17 and two song thrushes heard at station CP21. In May and February 2025, no bird species were observed at any of the cryptic playback stations.

3.7 Acoustic surveys

A total of 6,640 recordings of three of the target species (mātātā/South Island fernbird, ruru/morepork, and tōrea/South Island pied oystercatcher) were made during the acoustic surveys (Table 5). None of the other target species were recorded during the entire duration of the 2024-2025 field trips, though it is cautioned that non-detection does not necessarily mean absence, especially given the low likelihood of several target species (sea birds) producing vocalisations away from breeding colonies.

As in five-minute bird counts, tōrea/South Island pied oystercatchers were only heard in very low numbers in the October/November 2024 and August 2025 surveys. This further confirms a seasonal change in habitat usage. Oystercatchers were heard at stations GLE-01 (pasture), GLE-02 (pasture), JED-02 (pasture), JED-09 (pasture), JED-10 (pasture), and JED-12 (plantation forest). These results validate findings in five-minute bird counts that show oystercatchers have a strong preference for pasture habitats but also shows that they sometimes venture into plantation forest over 500 metres from their preferred habitat.

Ruru/moreporks were consistently detected across the site, though were most frequently heard during the October/November 2024 and August 2025 surveys, particularly near turbine JED-19 (exotic grassland/paddock habitat), where 715 and 743 detections were made respectively.

Mātātā/South Island fernbird were only heard twice in the October/November 2024 survey, with two detections near turbine JED-16. In February 2025, 123 fernbird calls were detected at JED-16, 592 fernbird calls were detected at MAT-10, and two were heard at MAT-12. In May, 17 calls were heard at JED-16, one at JED-19, one at JED-25, and 470 at MAT-10. In August, seven calls were heard at JED-25 and 412 at MAT-10. These results show fernbird are most abundant within the Wind Farm Site near MAT-10 and JED-16, particularly during the summer months. The habitats present at these turbine sites are wetland-shrubland mosaic (JED-16) and tussockland-shrubland mosaic (MAT-10).

It is noted that the high number of recordings of fernbird at these sites does not necessarily reflect high numbers of birds, as each bird is expected to have called multiple times. However, it is clear that fernbirds show a strong tendency to be present in indigenous wetland and tussockland-shrubland mosaic habitats on the property.

Table 5 – Summary of detections made during acoustic surveys, by turbine location.

	Mātātā/South Island Fernbird Count				Ruru/Morepork Count				Tōrea/South Island Pied Oystercatcher Count			
Site	Oct/Nov	Feb	May	Aug	Oct/Nov	Feb	May	Aug	Oct/Nov	Feb	May	Aug
GLE-01	0	0	0	0	0	58	60	23	0	0	0	2
GLE-03	0	0	0	0	0	8	0	192	1	0	0	0
JED-02	0	0	0	0	0	0	0	2	2	0	0	0
JED-06	0	0	0	0	12	37	19	220	0	0	0	0
JED-09	0	0	0	0	1	2	4	6	6	0	0	0
JED-10	0	0	0	0	0	2	0	295	1	0	0	0
JED-12	0	0	0	0	1	0	0	5	1	0	0	0
JED-13	0	0	0	0	4	0	0	36	0	0	0	0
JED-16	2	123	17	0	0	6	0	0	0	0	0	0
JED-19	0	0	1	0	715	97	33	743	0	0	0	0
JED-20	0	0	0	0	49	26	0	183	0	0	0	0
JED-22	0	0	0	0	50	10	127	438	0	0	0	0
JED-23	0	0	0	0	208	111	66	332	0	0	0	0
JED-25	0	0	1	7	1	2	0	0	0	0	0	0
JED-26	0	0	0	0	0	0	0	6	0	0	0	0
JED-28	0	0	0	1	2	1	0	1	0	0	0	0
MAT-02	0	0	0	0	0	0	6	10	0	0	0	0
MAT-07	0	0	0	0	0	314	428	45	0	0	0	0
MAT-10	0	592	470	412	0	0	2	0	0	0	0	0
MAT-12	0	2	0	0	0	0	0	0	0	0	0	0

3.8 Incidental observations

As displayed in Table A-2 (Appendix 2), 514 birds were incidentally observed during surveys. These include 70 observations of Threatened or At Risk species (kārearea/eastern falcon, māpunga/black shag (*Phalacrocorax carbo novaehollandiae*, At Risk – Relict), mātātā/South Island fernbird, pīhoihoi/New Zealand pipit, and tōrea/South Island pied oystercatcher). Observations of kārearea/eastern falcon, the most threatened species confirmed at the proposed wind farm site, are displayed in Table 6.

Thirteen incidental observations of kārearea/eastern falcon were made, with birds most commonly seen flying south/southwest/southeast, though birds were also seen flying east, north-northeast, and north. Five kārearea/eastern falcon were observed in the northwest of the proposed wind farm, in the Matariki property, during the surveys. Where flight heights were noted, birds were typically observed flying at elevations between 10 and 40 metres, though one bird was seen flying at 200 metres in elevation southeast between turbines JED-21 and JED-24 in November 2024 by an ecologist during an invertebrate survey. This bird, as well as those seen near turbine GLE-01 and JED-04, flew within the rotor-sweep zone. All other kārearea/eastern falcon either flew below the rotor-sweep zone, or their elevations were not recorded by surveyors.

Mātātā/South Island fernbirds were incidentally observed 20 times, all but one of which was at Matariki Forest, with birds sighted or heard near turbines MAT-02 (gorse scrub/plantation forest), MAT-06 (mānuka/copper tussock grassland), MAT-10 (inaka scrub), MAT-14, and MAT-16 (mānuka-gorse/copper tussock shrubland). One bird was also observed incidentally during the May survey near turbine JED-24. Flight height data was only collected for one Mātātā/South Island fernbird incidental observation: a bird was seen flying approximately one metre above the ground, near turbine MAT-10 during the February 2025 survey.

Seventeen tōrea/South Island pied oystercatchers were incidentally observed during both the October/November 2024 surveys and the August 2025 survey, aligning with all survey data indicating that this species only uses the proposed wind farm site at this time of year. All birds were seen on or near the ground, except for three individuals, which were seen circling at an elevation of twenty metres, around an apparent nest site between turbines JED-05 and JED-04. Despite a lack of typical nesting habitat, two oystercatchers were also seen nesting near JED-04 during this survey. Oystercatchers were typically seen in pasture/grassland/wetland habitats, as well as forest margins, although they sometimes ventured well into the plantation forest, with two sighted near turbine MAT-11.

Pīhoihoi/New Zealand pipits were consistently observed incidentally at Jedburgh Station, where 18 pipits were seen and one heard. These birds were primarily seen foraging on or near the ground or calling from perches. Pipits were seen near turbines JED-04, JED-13, JED-16, JED-24, JED-27, JED-28, and JED-29, and were never seen flying above ten metres elevation.

One māpunga/black shag was seen just outside the proposed wind farm site, roosting in a tree closest to turbine JED-18.

Table 6– Incidental observations of kārearea/eastern falcons at the proposed Southland Wind Farm site.

Date	Location	Nearby Turbine	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
06/11/2024	Jedburgh	JED-21, JED-22	1		SE	200	Y	Chasing swamp harrier
27/11/2024	Matariki	MAT-14	1		N/A	0	Y	Roosting
27/11/2024	Matariki	MAT-14	1		S	10-20	Y	Hunting
29/11/2024	Jedburgh	JED-28	1		S	10-15	Y	Hunting along ridge
10/02/2025	Glencoe	GLE01	1		North	30-40	N	Territorial
12/02/2025	Matariki	MAT-16	1		East	0-10	Y	Landing
14/02/2025	Jedburgh	JED-04	1		Southwest	40	Y	Direct flight
16/02/2025	Jedburgh	JED-21	1		East	10	Y	Direct flight
06/05/2025	Jedburgh	JED-26	1		North-Northeast	Not recorded	Yes	Direct flight
10/05/2025	Matariki	MAT-17		1				Calling in flight
10/05/2025	Matariki	MAT-18		1				Calling in flight
5/08/2025	-46.338504, 169.020912	JED-04	1		W		Yes	Spooked off fence, flew west
7/08/2025	E1300820, N4863066	MAT-07			Flying alongside pre-clearing		Yes	

4.0 Conclusions

4.1 Summary of Results

A total of 15,067 bird observations were recorded at the Southland Wind Farm site across the seasonal surveys undertaken between October/November 2024 and August 2025, representing 23 indigenous and 15 exotic species. Surveys used a range of methods, including five-minute bird counts, flight-height and kārearea/eastern falcon surveys, acoustic monitoring, cryptic playback, and incidental observations. The results show a diverse avifauna with strong seasonal patterns in abundance and habitat use.

The most frequently recorded indigenous species was tauhou/silvereye (Not Threatened), followed by korimako/bellbird (Not Threatened). Both species showed marked seasonality, with silvereye three times more abundant in February 2025 than in the preceding spring. Among exotic species, the common redpoll was the most numerous and similarly displayed a strong seasonal increase, almost four times more abundant in February 2025 than in May 2025.

One Threatened and four At Risk indigenous bird species were identified in the surveys undertaken across the Wind Farm Site: kārearea/eastern falcon (Threatened – Nationally Vulnerable), pīhoihoi/New Zealand pipit (At Risk – Declining), mātātā/South Island fernbird (At Risk – Declining), and tōrea/South Island pied oystercatcher (At Risk – Declining). A fifth, māpunga/black shag (At Risk – Naturally Uncommon) was recorded incidentally.

Kārearea/eastern falcon were observed in all seasons, albeit in moderate numbers, generally flying below the turbine rotor-sweep zone, although occasional individuals entered it.

Pīhoihoi were most common in summer and flew mainly below rotor height. Mātātā/South Island fernbird were observed in small but consistent numbers in wetland, grassland, and shrubland habitats in discrete areas within the Wind Farm Site, primarily in Matariki Forest.

Tōrea/South Island pied oystercatcher were only seen in the breeding seasons of spring and late winter in pasture/grassland/wetland habitats, and several individuals (five of fourteen recorded during flight-height surveys) were observed flying within the turbine risk zone near turbine JED-02, with mean flight heights of around 40 metres. These results indicate this species likely utilises the Wind Farm Site only during the breeding season.

4.2 Implications for Threatened and At Risk birds

Thirty-five observations of kārearea/eastern falcon were made across the site during the survey period, with nine birds observed during October/November 2024, 15 in February 2025, seven in May 2025, and four in August 2025. These numbers suggest the presence of a resident falcon population in the proposed wind farm site. Kārearea/eastern falcons were recorded flying at a wide range of elevations, within and below the risk zone. Including all other survey types and incidental observations where elevations were noted, 14 birds were seen flying below the risk zone, while five were seen flying within it.

As kārearea/eastern falcons were consistently observed throughout the proposed wind farm site across different seasons, it is likely that they are breeding on the site. They breed in a range of habitat types including pine forest, tussockland, cliffs/bluffs, and roughly grazed hill country, so there would be abundant suitable breeding habitat for them at the site. Kārearea/eastern falcons occasionally fly within the risk zone and are present in a variety of habitats. Overall, it is considered that kārearea/eastern falcons is at low risk from the construction and strike collision of turbines within the proposed wind farm. In the context of data collected from other wind farms in New Zealand, which

has found no instances of kārearea/eastern falcon being struck by turbines, the actual risk of collision is likely to be very low.

Pīhoihoi/New Zealand pipit were present in a range of habitats across the site yet were never observed flying within the risk zone. As a result, they are not expected to be at risk from the proposed wind farm.

Tōrea/South Island pied oystercatchers were present at the site during the breeding season and are known to nest there, with two birds seen nesting near JED-04. As five of the fourteen birds seen during the survey flew within the risk zone, tōrea/South Island pied oystercatchers are also considered to be at low to moderate risk from the proposed wind farm during its operation.

Mātātā/South Island fernbirds were found in wetland, scrub, tussockland, and mosaic habitats comprising mixes of these habitats, but did not appear to utilise the forest. The highest number of Mātātā/South Island fernbird calls by far (470) were recorded during acoustic surveys at turbine MAT-10 in the northwest of the Matariki site. As a low-flying species only living in low-growing habitats and flying between shrubs, it is not expected that fernbirds will be affected by the proposed wind farm during its operation, though birds are likely to be affected by construction noise, and nests could be unintentionally destroyed during the construction phase.

4.3 Implications for migratory birds

The surveys did not detect long-distance migrants or seabird species such as tarapirohe/black-fronted tern (*Chlidonias albostriatus*, Threatened – Nationally Endangered), taranui/Caspian tern (*Hydroprogne caspia*, Threatened – Nationally Vulnerable), kuaka/eastern bar-tailed godwits (*Limosa lapponica*, At Risk - Declining), and tara/white-fronted tern (*Sterna striata*, At Risk - Declining).

Koekoeā/long-tailed cuckoo (*Eudynamis taitensis*, Threatened – Nationally Vulnerable) has previously been recorded several times within twenty kilometres of the site(eBird data, iNaturalist 2025), and was therefore discussed in an earlier Wildlands report pertaining to this project (Wildland Consultants 2025). However, this species was not observed during the four surveys and is therefore considered unlikely to regularly use the habitats at the site.

Another migratory species, pīpīwharauroa/shining cuckoo (*Chrysococcyx lucidus lucidus*, Not Threatened) was only observed on the property in October/November 2024 and in February 2025, in low numbers (five and two birds respectively). These observations coincide with their breeding season, and the only time of year that these cuckoos are present in Aotearoa New Zealand. No flight height data for pīpīwharauroa/shining cuckoo were collected. However, as a brood parasite, their host species (riroriro/grey warbler) were never observed flying within the risk zone, only below it, and is therefore interpreted as almost certainly nesting below this level. It is therefore unlikely that pīpīwharauroa/shining cuckoo will be affected by the proposed wind farm.

These results show that the Project poses a low risk to migratory birds.

4.4 Habitat use seasonality

Strong seasonal patterns in bird activity were evident, with overall abundance peaking in February 2025, largely due to the seasonal influx of tauhou/silvereye and common redpoll, whilst the lowest abundance was recorded in August 2025. These results show bird abundance within the site likely aligns with the availability of food. Korimako/bellbird showed increasing detections through autumn but dropped sharply in winter (August), while pīpipi/brown creeper were more numerous in winter, possibly reflecting altered foraging or local movement. Ruru/morepork were detected consistently

across the site, especially near turbine JED-19 during spring and late winter, while tōrea/South Island pied oystercatchers were confined to the breeding season (August to January).

Overall, the site supports a typical assemblage of indigenous and exotic farmland-forest birds, with only a small subset of Threatened or At Risk species occurring in low numbers. It is likely that a small established population of karearea/eastern falcon is present at the site, given the regularity of sightings throughout the year.

4.5 Southland Wind Farm Effects Assessment and Management Implications

The assessment of ecological effects for the Southland Wind Farm project was submitted with the substantive application prior to the completion of the August 2025 survey. Proposed condition EC30 requires that upon completion of the pre-construction monitoring, a report summarising the results shall be prepared, and the Avifauna Management Plan will be updated to reflect the findings of the pre-construction surveys, including any additional effects measures where warranted.

The August 2025 survey results are consistent with the conclusions of the Project's ecological effects assessment on avifauna. It is noted that the August 2025 surveys recorded the lowest abundance of birds, whilst the highest abundance of birds was recorded in February 2025. These results show the site is used by birds particularly during the bird breeding season, including summer, when food availability is high. This supports the proposed management measures to undertake indigenous bird nest surveys during the bird breeding season (1 September to 21 March) prior to clearing vegetation.

The results show that most indigenous birds at the site are common, low-flying forest or shrubland species with limited interaction with turbine rotor heights. Only a few larger, open habitat species (notably kāhu/swamp harrier, tōrea/South Island pied oystercatcher, and karearea/eastern falcon) show any meaningful collision potential. Kāhu/swamp harriers were frequently observed within the 30–220 metre rotor-sweep zone near multiple turbines and have a moderate risk of collision. Tūī were only observed flying within the risk zone and are likely to have an elevated collision risk; however, only nine individuals were observed across all surveys, which means there is less confidence in assessing the level of risk. Other species, such as karoro/southern black-backed gulls and kārearea/eastern falcon, were occasionally recorded at rotor height but too infrequently to suggest elevated strike risk. Most of the observations recorded birds flying below the rotor-sweep zone.

These results largely align with the bird collision modelling completed by Bluewattle Ecology for the Project, which predicted the highest mortality rates for kāhu/swamp harrier[1]. As such, the results from the August 2025 survey support the conclusions of that model and that the Southland Wind Farm site is a low-risk site in terms of collision risk.

Flight-height surveys along the proposed transmission line recorded most birds flying well below 30 metres, indicating a low risk of collision with transmission infrastructure, consistent with the conclusions of the ecological effects assessment.

In summary, the completion of the baseline pre-construction surveys further supports the conclusions of the primary ecological effects assessment. We consider the management measures required by the proposed consent conditions and outlined in the Avifauna Management Plan are sufficient to manage

[1] Eighteen pūtangitangi/paradise shelducks were recorded in the rotor-sweep zone during the four surveys. As such, we consider this Not Threatened species has a low to moderate risk of turbine strike.

the effects of the Project on avifauna and do not recommend any further management measures or updates to the Avifauna Management Plan beyond what is currently proposed.

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Appendix 1

List of indigenous and exotic bird species seen or heard during all avifauna surveys at the Southland Wind Farm (but excluding the acoustic surveys for which data are presented in Table 5)

Species	Scientific Name	Threat Status	Total Count (October/ November 2024)	Total Count (February 2025)	Total Count (May 2025)	Total Count (August 2025)	Total Count
Indigenous Species							
Kārearea/eastern falcon	*Falco novaeseelandiae novaeseelandiae*	Threatened – Nationally Vulnerable	9	15	7	4	35
Mātātā/South Island fernbird	*Poodytes punctata punctata*	At Risk – Declining	4	8	11	24	47
Pīhoihoi/New Zealand pipit	*Anthus novaeseelandiae novaeseelandiae*	At Risk – Declining	26	35	28	21	110
Tōrea/South Island pied oystercatcher	*Haematopus finschi*	At Risk – Declining	30	0	0	44	74
Māpunga/black shag	*Phalacrocorax carbo novaehollandiae*	At Risk – Relict	0	1	0	0	0
Kāhu/swamp harrier	*Circus approximans*	Not Threatened	18	25	33	16	92
Karoro/southern black-backed gull	*Larus dominicanus dominicanus*	Not Threatened	47	13	0	10	70
Kereru/New Zealand pigeon	*Hemiphaga novaeseelandiae*	Not Threatened	72	5	3	2	82
Korimako/bellbird	*Anthornis melanura melanura*	Not Threatened	94	275	271	82	722
Matuku moana/white-faced heron	*Egretta novaehollandiae*	Not Threatened	0	0	0	1	1
Ngirungiru/South Island tomtit	*Petroica macrocephala macrocephala*	Not Threatened	129	138	105	182	554
Pīpipi/brown creeper	*Mohoua novaeseelandiae*	Not Threatened	191	93	98	240	622
Pīwakawaka/South Island fantail	*Rhipidura fuliginosa fuliginosa*	Not Threatened	51	82	41	66	240
Pīpīwharauroa/shining cuckoo	Chrysococcyx lucidus lucidus	Not Threatened	5	2	0	0	7
Pūtangitangi/paradise shelduck	*Tadorna variegata*	Not Threatened	27	0	51	46	124
Riroriro/grey warbler	*Gerygone igata*	Not Threatened	157	59	41	131	388
Spur-winged plover	*Vanellus miles novaehollandiae*	Not Threatened	37	6	29	23	95
Tauhou/silvereye	*Zosterops lateralis lateralis*	Not Threatened	152	523	492	171	1,338
Tititipounamu/South Island rifleman	*Acanthisitta chloris chloris*	Not Threatened	20	14	23	6	63
Tūī	*Prosthemadera novaeseelandiae novaeseelandiae*	Not Threatened	10	3	13	0	26
Warou/welcome swallow	*Hirundo neoxena neoxena*	Not Threatened	0	3	3	2	8
Exotic Species							
Australian magpie	*Gymnorhina tibicen*	Introduced and Naturalised	20	75	120	63	278
Canada goose	*Branta canadensis*	Introduced and Naturalised	8	0	0	0	8
Chaffinch	*Fringilla coelebs*	Introduced and Naturalised	330	221	126	34	711
Dunnock	*Prunella modularis*	Introduced and Naturalised	89	25	20	9	143
Eurasian blackbird	*Turdus merula*	Introduced and Naturalised	285	66	65	54	470

Species	Scientific Name	Threat Status	Total Count (October/ November 2024)	Total Count (February 2025)	Total Count (May 2025)	Total Count (August 2025)	Total Count
Eurasian skylark	*Alauda arvensis*	Introduced and Naturalised	48	2	27	7	84
European goldfinch	*Carduelis carduelis britannica*	Introduced and Naturalised	0	83	23	33	139
Greenfinch	*Carduelis chloris*	Introduced and Naturalised	6	3	1	0	10
House sparrow	*Passer domesticus*	Introduced and Naturalised	0	1	12	0	13
Mallard	*Anas platyrhynchos*	Introduced and Naturalised	21	0	6	1	28
Redpoll	*Acanthis flammea*	Introduced and Naturalised	511	792	263	335	1,901
Song thrush	*Turdus philomelos*	Introduced and Naturalised	102	14	1	128	245
Starling	*Sturnus vulgaris vulgaris*	Introduced and Naturalised	17	0	0	0	17
Yellowhammer	*Emberiza citrinella*	Introduced and Naturalised	0	0	0	1	1

Appendix 2

List of incidental observations made throughout the proposed wind farm

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
31/10/2024	Jedburgh	JED-15, JED-04	Tōrea/South Island pied oystercatcher	3		S	20	Y	Circling around nesting area
31/10/2024	Jedburgh	JED-15, JED-04	Karoro/southern black-backed gull	2		Circling	10	Y	Circling
31/10/2024	Jedburgh T4-4	GLE-01	Tūi	1		Vertical	60	N	Flying up out of canopy to 60m and back down
4/11/2024	Jedburgh T5-8	JED-09	Canada goose	3		W	>20	Y	Spooked from pond north of T5-8
4/11/2024	Jedburgh	JED-09, JED-18	Canada goose	3		N/A	0	Y	Sitting at small pond north of T5-8
6/11/2024	Jedburgh	JED-21, JED-22	Kārearea/eastern falcon	1		SE	200	Y	Chasing swamp harrier
6/11/2024	Jedburgh	JED-21, JED-22	Kāhu/swamp harrier	1		SE	200	Y	Being chased by Eastern falcon
26/11/2024	Jedburgh	JED-18	Kāhu/swamp harrier	1		W	40	Y	Hunting
27/11/2024	Matariki	MAT-07	Pīpipi/brown creeper	2		N/A	N/A	Y	At wind turbine site
27/11/2024	Matariki	MAT-14	Kārearea/eastern falcon	1		N/A	0	Y	Roosting
27/11/2024	Matariki	MAT-14	Kārearea/eastern falcon	1		S	44,105	Y	Hunting
27/11/2024	Jedburgh	JED-18	Kererū/New Zealand pigeon	3		N/A	N/A	Y	Socialising
27/11/2024	Venlaw Road	JED-34	Kererū/New Zealand pigeon	1		SW	44,105	N	Relocating
27/11/2024	Matariki	MAT-09	Kererū/New Zealand pigeon	7		SW	45,935	Y	Socialising
27/11/2024	Matariki	MAT-09	Kererū/New Zealand pigeon	2		NE	45,935	Y	Relocating
27/11/2024	Jedburgh	JED-09	Pūtangitangi/paradise shelduck	6		N/A	0	Y	Foraging on paddock near pines
27/11/2024	Jedburgh	JED-09	Kāhu/swamp harrier	3		SW	45,935	Y	Socialising
27/11/2024	Jedburgh	JED-09	Kāhu/swamp harrier	1		SW	40-50	Y	Catching thermals
27/11/2024	Jedburgh	JED-09	Kāhu/swamp harrier	1		NE	20	Y	Foraging
27/11/2024	Matariki	MAT-09	Tūi	2		S	5	Y	Relocating
28/11/2024	Jedburgh	GLE-01	Korimako/bellbird	1		N/A	0	Y	Foraging
28/11/2024	Jedburgh	JED-03	Pūtangitangi/paradise shelduck	2		N/A	0	Y	Resting
28/11/2024	Jedburgh	JED_10	Karoro/southern black-backed gull	2		W	30-40	Y	Flying
28/11/2024	Jedburgh	JED-10	Kāhu/swamp harrier	1		NE	20-30	Y	Hunting
28/11/2024	Jedburgh	JED-10	Unidentified bird - potentially shag	1		SW	70-80	Y	Circling
29/11/2024	Jedburgh	JED-04	Mallard	8		S	60-80	Y	Relocating
29/11/2024	Jedburgh	JED-04	Pīhoihoi/New Zealand pipit	1		E	0-10	Y	Foraging

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
29/11/2024	Jedburgh	JED-06	Tītitipounamu/South Island rifleman	1		N/A	0	Y	Heard
29/11/2024	Jedburgh	JED-04	Tōrea/South Island pied oystercatcher	2		N/A	0	Y	Nesting behaviour
29/11/2024	Jedburgh	JED16	Karoro/southern black-backed gull	6		Circling	30-40	Y	Circling
29/11/2024	Jedburgh	JED-06	Karoro/southern black-backed gull	3		W	50-60	Y	Relocating
29/11/2024	Jedburgh	JED-12	Karoro/southern black-backed gull	3		N	44105	Y	Circling
29/11/2024	Jedburgh	JED-28	Kārearea/eastern falcon	1		S	42278	Y	Hunting along ridge
13/02/2025	Venlaw Road	JED-18	Māpunga/black shag	1		n/a	0	N	Roosting
10/02/2025	GLE	GLE01	Kārearea/eastern falcon	1		North	30-40	N	Territorial
12/02/2025	Matariki	MAT-16	Kārearea/eastern falcon	1		East	0-10	Y	Landing
14/02/2025	Jedburgh	JED-04	Kārearea/eastern falcon	1		Southwest	40	Y	Direct flight
16/02/2025	Jedburgh	JED-21	Kārearea/eastern falcon	1		East	10	Y	Direct flight
12/02/2025	Matariki	MAT-12	Mātātā/South Island fernbird	1		n/a	0	Y	Calling
12/02/2025	Matariki	MAT-02	Mātātā/South Island fernbird	1		n/a	0	Y	Landed
12/02/2025	Matariki	MAT-12, MAT-14	Mātātā/South Island fernbird	2		n/a	0	Y	Landed
12/02/2025	Matariki	MAT-12	Mātātā/South Island fernbird	1		n/a	0	Y	Calling
14/02/2025	Matariki	MAT-10	Mātātā/South Island fernbird	2		n/a	1	Y	Calling
11/02/2025	Jedburgh	JED-13	Pīhoihoi/New Zealand pipit	4		n/a	2	Y	Foraging
13/02/2025	Jedburgh	JED-13	Pīhoihoi/New Zealand pipit	2		n/a	3	Y	Foraging
14/02/2025	Jedburgh	JED-18, JED-09	Pūtangitangi/paradise shelduck	8		South	4	Y	Landing
10/02/2025	Jedburgh	JED-04	Karoro/southern black-backed gull	1		Northeast	44105	Y	Circling flight
14/02/2025	Jedburgh	JED-03	Karoro/southern black-backed gull	1		East	20	Y	Circling flight
10/02/2025	Jedburgh	JED-10	Kāhu/swamp harrier	3		Southeast	40-60	Y	Circling flight
10/02/2025	Jedburgh	JED-04	Kāhu/swamp harrier	1		Southwest	10	Y	Circling flight
11/02/2025	Jedburgh	JED-26	Kāhu/swamp harrier	1		Southwest	20-30	Y	Circling flight
12/02/2025	Matariki	MAT-15	Kāhu/swamp harrier	1		West	100-200	Y	Circling flight
15/02/2025	Matariki	MAT-12	Kāhu/swamp harrier	1		West	45935	Y	Direct flight
15/02/2025	Matariki	MAT-15	Kāhu/swamp harrier	1		West	40	Y	Circling flight
15/02/2025	Matariki	MAT-01	Kāhu/swamp harrier	1		Southwest	0	Y	Took off
15/02/2025	Matariki/Jedburgh	JED-32	Kāhu/swamp harrier	1		West	50	Y	Circling flight
16/02/2025	Jedburgh	JED-18	Kāhu/swamp harrier	2		East	40-50	Y	Circling flight
11/02/2025	Jedburgh	JED-10	Matuku moana/white-faced heron	1		Northwest	10	Y	Roosting/took off
6/05/2025	Jedburgh	JED-01, JED-02, JED-09	Pūtangitangi/paradise shelduck	13		circling	<30	Yes	Circling flight

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
6/05/2025	Jedburgh	JED-26	Kārearea/eastern falcon	1		North-Northeast	Not recorded	Yes	Direct flight
7/05/2025	Jedburgh	JED-18	Spur-winged plover	2		Northeast	20 to ground	Yes	Landing
7/05/2025	Jedburgh	JED-09	Pūtangitangi/paradise shelduck	7		Circling	Ground to 25	Yes	Spooked, then circling
8/05/2025	Jedburgh	JED-18	Ruru/morepork		1			No, near LUV shed	Calling
8/05/2025	Jedburgh	JED-24	Mātātā/South Island fernbird		1			Yes	Calling
8/05/2025	Jedburgh	JED-27	Pīhoihoi/New Zealand pipit	1					Not written by observer
8/05/2025	Jedburgh	JED-13	Pīhoihoi/New Zealand pipit	5		Various	<5	Yes	Group on track, short movements
10/05/2025	Jedburgh	JED-22	Kererū/New Zealand pigeon	1		Stationary			Sitting in tree
10/05/2025	Matariki	MAT-16	Mātātā/South Island fernbird		2				Duet calls heard
10/05/2025	Matariki	MAT-17	Kārearea/eastern falcon		1				Calling in flight
10/05/2025	Matariki	MAT-18	Kārearea/eastern falcon		1				Calling in flight
10/05/2025	Matariki	MAT-16	Mātātā/South Island fernbird		1				Heard walking to falcon station
11/05/2025	Matariki	MAT-06	Mātātā/South Island fernbird		1			Yes	Calling
5/08/2025	T5-7	JED-09	Pūtangitangi/paradise shelduck		2			Yes	
5/08/2025	T5-7	JED-09	Song Thrush		2			Yes	
5/08/2025	T5-7	JED-09	Tōrea/South Island pied oystercatcher	2				Yes	
5/08/2025	T5-7	JED-09	Australasian Magpie		4			Yes	
5/08/2025	T5-7	JED-09	Pīwakawaka/South Island fantail		2			Yes	
5/08/2025	T5-4	JED-02	Tōrea/South Island pied oystercatcher	2				Yes	
5/08/2025	T5-4	JED-02	Spur-winged Plover	2				Yes	
5/08/2025	T5-4	JED-02	Tauhou/silvereye	10				Yes	
5/08/2025	T5-4	JED-02	Song Thrush	2				Yes	
5/08/2025	T5-4	JED-02	Ngirungiru/South Island tomtit	2				Yes	
5/08/2025	-46.338504, 169.020912	JED-04	Kārearea/eastern falcon	1		W		Yes	Spooked off fence, flew west
5/08/2025	-46.339321, 169.01729	JED-04	Pūtangitangi/paradise shelduck	2				Yes	Standing in field to west
5/08/2025	-46.342505, 169.01202	GLE-01	Goldfinch	20				Yes	Flying in flock with chaffinch
5/08/2025	-46.342505, 169.01202	GLE-01	Chaffinch	5				Yes	Flying in flock with goldfinch
5/08/2025	-46.343777, 169.017868	About midway between GLE-01 and JED-05	Tōrea/South Island pied oystercatcher	2				Yes	

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
5/08/2025	-46.34135, 169.022576	About midway between JED-04 nad JED-05	Karoro/Karoro/southern black-backed gull	1		SW	20-30	Yes	Flying southwest
5/08/2025	-46.352053, 169.069566	JED-28	Pīhoihoi/New Zealand pipit	2				Yes	Calling, socialising
5/08/2025	-46.346837, 169.071791	About midway between JED-24 and JED-29	Pīhoihoi/New Zealand pipit	1				Yes	Calling
5/08/2025	-46.34802, 169.076356	JED-29	Pīhoihoi/New Zealand pipit	1				Yes	Calling
5/08/2025	20 m south of coords -46.35505, 169.074916	JED-28	Pīhoihoi/New Zealand pipit	1				Yes	Foraging
6/08/2025	Transect 10	Unknown	Ngirungiru/South Island tomtit		2			Yes	
6/08/2025	Near ARD6	JED-19	Blackbird		2			Yes	
6/08/2025	Near ARD6	JED-19	Song Thrush		1			Yes	
6/08/2025	Near ARD6	JED-19	Pīpipi/brown creeper		2			Yes	
6/08/2025	Near ARD6	JED-19	Australian Magpie		1			Yes	
6/08/2025	Near ARD6	JED-19	Blackbird		1			Yes	
6/08/2025	TL6/JED29	JED-29	Riroriro/grey warbler		1			Yes	
6/08/2025	-46.351651, 169.038324	JED-15	Tītitipounamu/rifleman	1				Yes	Foraging
6/08/2025	-46.331758, 169.10453	MAT-02	Mātātā/South Island fernbird	1				Yes	Spooked
6/08/2025	-46.331758, 169.10453	MAT-02	Mātātā/South Island fernbird	1				Yes	Spooked
7/08/2025	TL5	Transmission line	Korimako/bellbird		1			Yes	
7/08/2025	TL5	Transmission line	Riroriro/grey warbler		1			Yes	
7/08/2025	ARD20/7-3	MAT-10	Pīwakawaka/South Island fantail		1			Yes	
7/08/2025	ARD20/7-3	MAT-10	Ngirungiru/South Island tomtit		4			Yes	
7/08/2025	ARD20/7-3	MAT-10	Mātātā/South Island fernbird		2			Yes	
7/08/2025	ARD19/7-6	MAT-10	Ngirungiru/South Island tomtit		2			Yes	
7/08/2025	ARD19/7-6	MAT-10	Riroriro/grey warbler		1			Yes	
7/08/2025	ARD19/7-6	MAT-10	Korimako/bellbird		2			Yes	
7/08/2025	MAT7	MAT-07	Ngirungiru/South Island tomtit		1			Yes	
7/08/2025	MAT7	MAT-07	Song Thrush		2			Yes	
7/08/2025	MAT8	MAT-08	Ngirungiru/South Island tomtit		2			Yes	
7/08/2025	MAT8	MAT-08	Pīwakawaka/South Island fantail		2			Yes	
7/08/2025	MAT8	MAT-08	Song Thrush		2			Yes	
7/08/2025	Near T11-8	MAT-06	Ngirungiru/South Island tomtit		1			Yes	

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
7/08/2025	Near T11-8	MAT-06	Pīwakawaka/South Island fantail	1				Yes	
7/08/2025	Between T11-8 and T11-7	MAT-06	Mātātā/South Island fernbird		1			Yes	
7/08/2025	E1300820, N4863066	MAT-07	Kārearea/eastern falcon	1		Flying alongside pre-clearing		Yes	
7/08/2025	E1202346, N4865316	Unknown – Coordinate Error	Mātātā/South Island fernbird		1			Presumably	
8/08/2025	TL1	Transmission line	Riroriro/grey warbler		2			Yes	
8/08/2025	TL1	Transmission line	Pīpipi/brown creeper		10			Yes	
8/08/2025	TL1	Transmission line	Redpoll	5	10			Yes	
8/08/2025	-46.319114, 169.028065	JED-18	White-faced heron	1		N	0-10	Yes	Spooked in paddock, flying N
11/08/2025	ARD2/MAT-07	MAT-07	Pīpipi/brown creeper		2			Yes	Heard in trees
11/08/2025	ARD2	MAT-07	Australian Magpie		2			Yes	
11/08/2025	ARD2	MAT-07	Pūtangitangi/paradise shelduck		2			Yes	
11/08/2025	ARD2	MAT-07	Ngirungiru/South Island tomtit		2			Yes	
11/08/2025	ARD2	MAT-07	Song Thrush		2			Yes	
11/08/2025	ARD2	MAT-07	Korimako/bellbird		2			Yes	
11/08/2025	ARD2	MAT-07	Blackbird		1			Yes	
11/08/2025	ARD2	MAT-07	Tauhou/silvereye		10			Yes	
11/08/2025	ARD2	MAT-07	Tōrea/South Island pied oystercatcher	2				Yes	
11/08/2025	ARD1	GLE-03	Australasian Magpie	1	4			Yes	
11/08/2025	ARD1	GLE-03	Song Thrush	1				Yes	
11/08/2025	MAT4	MAT-04	Riroriro/grey warbler		1			Yes	
11/08/2025	MAT4	MAT-04	Pīwakawaka/South Island fantail		1			Yes	
11/08/2025	MAT4	MAT-04	Tauhou/silvereye		2			Yes	
11/08/2025	MAT4	MAT-04	Song Thrush		1			Yes	
11/08/2025	TL5	Transmission line	Ngirungiru/South Island tomtit	2	2			Yes	
11/08/2025	TL5	Transmission line	Redpoll	30				Yes	
11/08/2025	TL5	Transmission line	Korimako/bellbird		1			Yes	
11/08/2025	MAT5	MAT-05	Ngirungiru/South Island tomtit		1			Yes	
11/08/2025	MAT5	MAT-05	Pīwakawaka/South Island fantail	1				Yes	
11/08/2025	TL4	Transmission line	Korimako/bellbird		1			Yes	
11/08/2025	TL4	Transmission line	Riroriro/grey warbler		2			Yes	
11/08/2025	TL4	Transmission line	Redpoll		10			Yes	
11/08/2025	TL4	Transmission line	Ngirungiru/South Island tomtit		4			Yes	
11/08/2025	TL4	Transmission line	Pīpipi/brown creeper		1			Yes	

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
11/08/2025	TL4	Transmission line	Pīwakawaka/South Island fantail		2			Yes	
11/08/2025	TL4	Transmission line	Dunnock		1			Yes	
11/08/2025	FS7	MAT-07	Ngirungiru/South Island tomtit		1			Yes	
11/08/2025	FS7	MAT-07	Korimako/bellbird		1			Yes	
11/08/2025	FS7	MAT-07	Pīpipi/brown creeper	1	10			Yes	
11/08/2025	FS7	MAT-07	Australian Magpie		1			Yes	
11/08/2025	FS7	MAT-07	Riroriro/grey warbler		1			Yes	
11/08/2025	FS7	MAT-07	Karoro/southern black-backed gull		1			Yes	
11/08/2025	FS6	JED-32	Redpoll	20	10			Yes	
12/08/2025	ARD-17/MAT18	MAT-18	Song Thrush		2			Yes	
12/08/2025	several km SW of FS5	MAT-15	Pūtangitangi/paradise shelduck	2				Yes	
12/08/2025	Walking out from Mātātā/South Island fernbird 4 (see GPS)	MAT-12	Mātātā/South Island fernbird	1				Yes	
12/08/2025	ARD19	MAT-12	Ngirungiru/South Island tomtit		1			Yes	
12/08/2025	-46.30515, 169.145032	MAT-12	Mātātā/South Island fernbird	1				Yes	Calling, 30 m north
13/08/2025	ARD14	JED-22	Korimako/bellbird		1			Yes	
13/08/2025	ARD14	JED-22	Ngirungiru/South Island tomtit		1			Yes	
13/08/2025	ARD13	JED-23	Riroriro/grey warbler		1			Yes	
13/08/2025	ARD13	JED-23	Ngirungiru/South Island tomtit		1			Yes	
13/08/2025	ARD11	JED-16	Pīhoihoi/New Zealand pipit		1			Yes	
13/08/2025	TL6	Transmission line	Tauhou/silvereye		10			Yes	
13/08/2025	TL6	Transmission line	Riroriro/grey warbler		1			Yes	
13/08/2025	TL6	Transmission line	Korimako/bellbird		1			Yes	
13/08/2025	TL6	Transmission line	Redpoll		2			Yes	
13/08/2025	TL6	Transmission line	Pīwakawaka/South Island fantail		1			Yes	
13/08/2025	TL6	Transmission line	Ngirungiru/South Island tomtit	1	1			Yes	
13/08/2025	ARD12	JED-29	Riroriro/grey warbler		1			Yes	
13/08/2025	ARD12	JED-29	Song Thrush		1			Yes	
13/08/2025	ARD12	JED-29	Dunnock		1			Yes	
13/08/2025	ARD15	JED-20	Pīwakawaka/South Island fantail	1	1			Yes	
13/08/2025	ARD15	JED-20	Riroriro/grey warbler		1			Yes	
13/08/2025	ARD15	JED-20	Pīpipi/brown creeper		10			Yes	
13/08/2025	ARD15	JED-20	Song Thrush		2			Yes	
13/08/2025	-46.34989, 169.064493	JED-25	Pīhoihoi/New Zealand pipit	1				Yes	Calling

Date	Location	Nearby Turbine	Species	Number Seen	Number Heard	Direction of Travel	Height Above Ground (m)	Within Project Area (Y/N)	Key Behaviours
13/08/2025	100 m south of coordinates -46.335919, 169.030726	JED-11	Pūtangitangi/paradise shelduck	1				Yes	Calling
13/08/2025	-46.337853, 169.029545	JED-11	Kāhu/swamp harrier	1		E	30	Yes	Foraging
13/08/2025	-46.340951, 169.023882	JED-04	Spur-winged Plover	2				Yes	Paired up
14/08/2025	ARD5	JED-11	Riroriro/grey warbler		1			Yes	
14/08/2025	ARD6	JED-11	Tōrea/South Island pied oystercatcher		4			Yes	
14/08/2025	TL1	Transmission line	Pīpipi/brown creeper	1				Yes	
14/08/2025	TL2	Transmission line	Pīwakawaka/South Island fantail		1			Yes	
14/08/2025	JED13	JED-13	Song Thrush		2			Yes	
14/08/2025	JED13	JED-13	Chaffinch		1			Yes	
14/08/2025	JED13	JED-13	Australian Magpie		1			Yes	
14/08/2025	JED13	JED-13	Tauhou/silvereye	10				Yes	
14/08/2025	JED13	JED-13	Ngirungiru/South Island tomtit		1			Yes	
14/08/2025	JED13	JED-13	Riroriro/grey warbler	1	1			Yes	
14/08/2025	JED13	JED-13	Blackbird		1			Yes	
14/08/2025	ARD7	JED-15	Korimako/bellbird		2			Yes	
14/08/2025	ARD7	JED-15	Song Thrush		1			Yes	
14/08/2025	ARD7	JED-15	Ngirungiru/South Island tomtit	1				Yes	
14/08/2025	ARD7	JED-15	Pīwakawaka/South Island fantail	1				Yes	
14/08/2025	ARD7	JED-15	Riroriro/grey warbler		1			Yes	

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