AtkinsRéalis

Appendix 7-2 – Wherrew Intake Breeding Bird Survey 2024

Uisce Éireann
October 2026

BALLINA AND LOUGH TALT WATER SUPPLY UPGRADE

Wherrew Water Treatment Plant Intake



Breeding Bird Survey 2024

Prepared By:

Delichon Ecology

Prepared For:

AtkinsRéalis

Wherrew Water Treatment Plant Intake Breeding Bird Survey 2024

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Table of Contents

1. Introduction 4
1.1 Project Description 4
1.2 Aims of the Proposed Survey 5
2 Methodology 8
2.1.1 Bird Surveys 8
2.1.2 Conservation Status of Bird Species 9
2.1.3 Zone of Influence 9
3 Results 10
3.1 Birds in the Existing Environment 10
3.1.1 Survey Results 2024 10
. 17
3.2 Summary 18
4 References 19
APPENDIX A – BTO BREEDING STATUS CODES 20

Tables

Table 2-1 - Breeding bird survey dates 8
Table 3-1 – Line Transect Breeding Bird Survey Results June 2024 12
Table 3-2 – Vantage Point Breeding Bird Survey Results June 2024 15

Figures

Figure 1-1 - Study area 6
Figure 1-2 - Alignment of the existing and proposed pipelines, existing treatment plants and pumping stations and the indicative locations of the new reservoirs and pumping station 7
Figure 3-1 - Bird Survey Locations 17

1. Introduction

Delichon Ecology Ltd was commissioned by AtkinsRealis, to undertake a breeding bird survey for the works at existing Wherrew Water Treatment Plant Intake in June 2024.

The works proposed at the Wherrew Water Treatment Plant Intake are part of the Ballina and Lough Talt Water Supply Upgrade development. The works at the Wherrew Intake, and details the overall Proposed Development, are described in detail in the Chapter 3 of the EIAR (AtkinsRéalis 2026).

This study consisted of walkover surveys that incorporated line transect and Vantage Point surveys during the late breeding season 2024; i.e. mid and late June 2024. The surveys were undertaken to assess the presence, pattern of usage and current conservation status of breeding bird species found within and in the vicinity of the Wherrew Water Treatment Plant intake area **(See Figure 1-1** & **Figure 3-1).** These surveys were also used to evaluate the importance and potential ecological significance of the study area and its environs to support breeding avifauna.

Figure 1-2 below illustrates the alignment of the existing and proposed pipelines, existing treatment plants and pumping stations and the indicative locations of the new reservoirs and pumping station.

1.1 Aims of the Proposed Survey

- To record quantitative spatial data on breeding birds within the footprint, environs and Zone of Influence of the Wherrew WTP intake area.

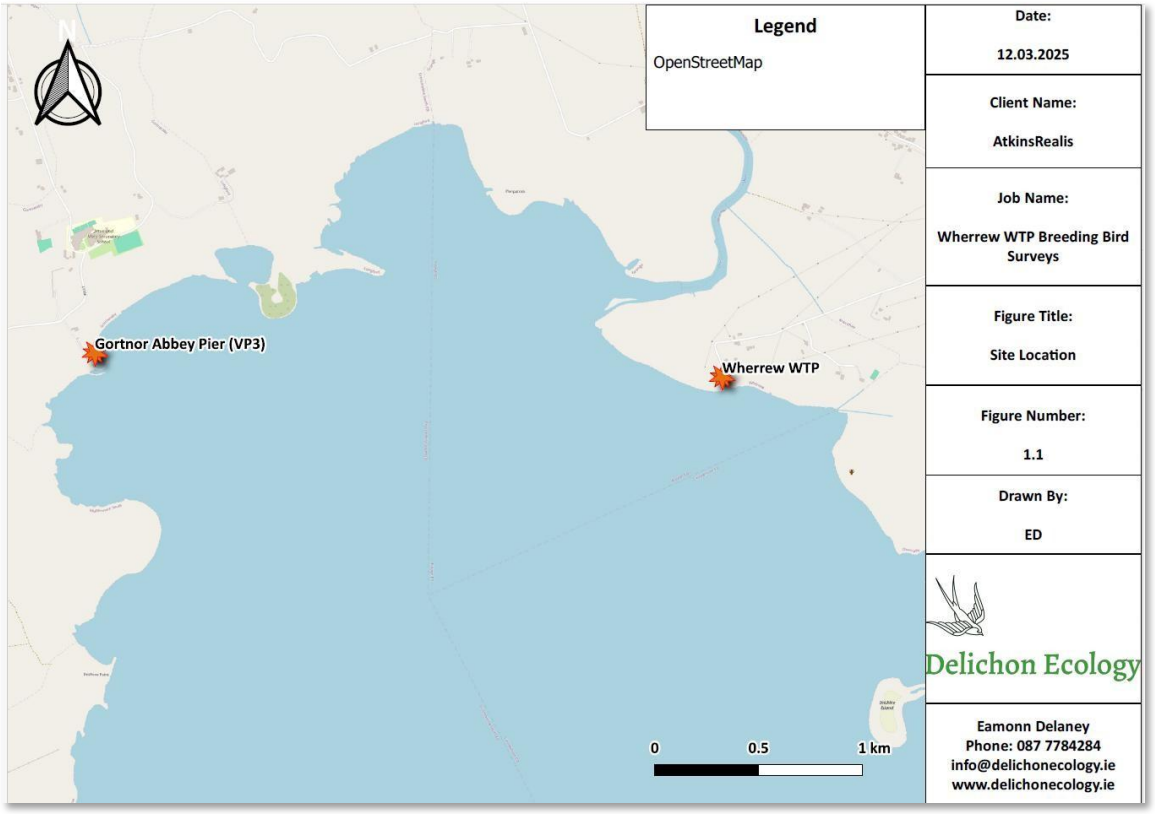


Figure 1-1 - Study area

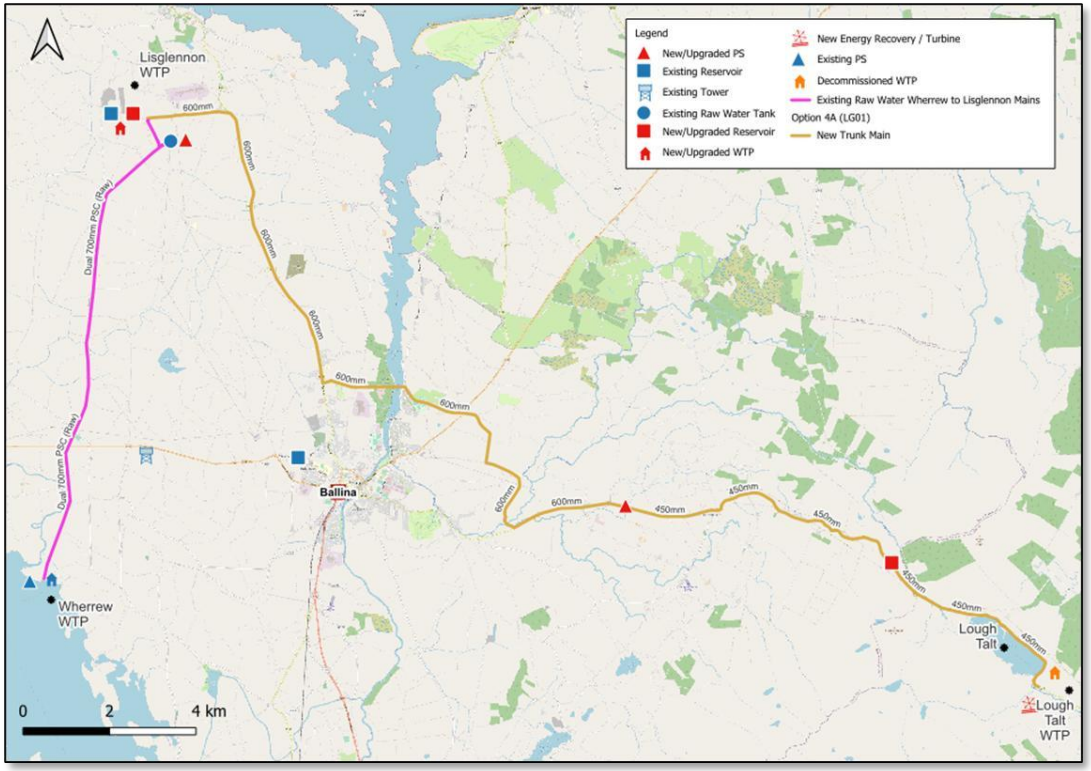


Figure 1-2 - Alignment of the existing and proposed pipelines, existing treatment plants and pumping stations and the indicative locations of the new reservoirs and pumping station

2 Methodology

2.1.1 Bird Surveys

Bird Survey methodology undertaken for the Wherrew WTP intake area and environs included two line transects and three Vantage Point surveys.

The line transect surveys were conducted in accordance with the methodology described by Bibby *et al.* (2000) and the Countryside Bird Survey Manual - Guidelines for Countryside Bird Survey participants (BirdWatch Ireland, 2012). Two survey visits were conducted; to identify and determine the occurrence and abundance of resident and migratory breeding bird species within the study area. These surveys were completed during suitable weather conditions (Bibby *et al*. 2000).

Three Vantage Points (VPs) were selected to cover the adjoining areas of the existing WTP intake and to cover the northernmost shoreline and bay areas of Lough Conn. All target species (Annex 1 listed, red and moderate species of conservation concern) were recorded in addition to commoner species potentially sensitive to development. Details recorded included flightlines mapped, flight duration, direction and heights.

Survey dates, survey times and conditions are provided in **Table 2.1** below.

The study area extent is presented in **Figure 3.1** below.

Table 2-1 - Breeding bird survey dates

Survey Date and Period	Survey Time (Extent)	Survey Conditions	Survey Effort
June 12th 2024	**09:11 – 12.45** Transect 1 – 09.11 – 09.27 Transect 2 – 11.01 – 11.14 VP 1 09.39 – 10.09 VP2 10.24 – 10.54 VP3 12.15 – 12.45	No rainfall. Clear skies with moderate temperatures. Good to Excellent visibility, Octas 1/8 - 4/8. Windspeed BF 0-1 S / SW.	Breeding Bird survey – line transect surveys and scan / overview of adjacent areas. VP Survey at three locations
June 28th 2024	**07.37 –** Transect 1 – 07.37 – 07.54 Transect 2 – 09.17 – 09.30 VP 1 08.45 – 09.15 VP2 08.01 – 08.31 VP3 09.33 – 10.03	Overcast, dry (no rain) with moderate temperatures. Excellent visibility, Octas 8/8. Windspeed BF 0-1N BF1-2W.	Breeding Bird survey – line transect surveys and scan / overview of adjacent areas. VP Survey at three locations

All bird species encountered (seen or heard) during the surveys were recorded, together with the abundance of each species. Birds flying over the site were also included as part of the observations. Casual records of birds encountered during the spot counts and field walkovers, but outside of dedicated survey period were also noted.

2.1.2 Conservation Status of Bird Species

The conservation status of bird species recorded during the transect surveys and scoping exercise was assessed with reference to the EU Birds Directive (2009/147/EC) Annex I list and Birds of Conservation Concern in Ireland (BoCCI), (Gilbert & Lewis, 2021)[1]. For the BoCCI list, Red-listed species are of high conservation concern in Ireland, Amber-listed species are considered of medium conservation concern, while Green-listed species are not of conservation concern in Ireland at present. Bird species listed on Annex I of the EU Birds Directive have been identified as requiring special conservation measures in relation to their habitats and have been listed due to risk of extinction; vulnerability to specific changes in their habitat and due to their relatively small population size or restricted distribution. The numbers of birds along each transect was recorded and breeding evidence / behaviour of the birds identified were recorded in accordance with the breeding status codes outlined by the British Trust for Ornithology (BTO). The BTO Breeding Status Codes are presented in **Appendix B**.

2.1.3 Zone of Influence

The current guidance on ecological assessments (CIEEM, 2018)[2] recommends that all ecological features that occur within a 'Zone of Influence' (ZoI) for a proposed development are investigated.

The ZoI for the breeding bird surveys includes:

- areas directly within the proposed project;
- areas adjoining and in proximity to the proposed project providing suitable breeding avifaunal habitat;
- areas adjoining the proposed project subject to indirect impacts (such as disturbance impacts) from the proposed works;
- areas which will be temporarily affected during construction;
- areas likely to be impacted by hydrological disruption; and
- areas where there is a risk of pollution and noise disturbance during construction and/or operation.

The ZoI is variable depending on the ecological receptors affected. Given the extent of the proposed works study area (**Figure 3.1**), in this case the ZoI is the footprint of the proposed works footprint and immediately adjoining and surrounding lands.

[1] Gilbert G, Stanbury A and Lewis L (2021), "Birds of Conservation Concern in Ireland 2020 –2026". Irish Birds 9: 523—544

[2] CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal, Version 1.2 Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester

3 Results

3.1 Birds in the Existing Environment

The species assemblage recorded during the breeding bird surveys was typical for the range of habitats present within the study area and its environs. Abundances of breeding avifauna using the study area and its environs were low and restricted to individuals or small flocks. The adjoining areas of the Lough Conn waterbody did not support great abundances of aquatic or avifauna, rather individuals or small flocks of birds overflying the waterbody or associated with adjoining areas of scrub and wet woodland adjoining the lakeshore. Bird species identified using the nearby areas of Lough Conn during the surveys for feeding and foraging purposes included Grey Heron, Common Sandpiper, Sand Martin, Swallow, Grey Wagtail. Lesser Black-backed Gull, Common Gull and Black-backed Gull, Mallard and Common Tern were also identified foraging over the Lough Conn waterbody and margins. Individual Swift were also identified foraging over Lough Conn shoreline area.

The wider terrestrial margins of the surveyed transects supported evidence of resident breeding passerine species including Wren, Robin, Song Thrush, Blackbird, Blue Tit, Chaffinch and Dunnock. These were typically associated with fringing pastoral areas and linear woodland habitats.

Migratory passerine species identified within the survey area included Willow Warbler, Blackcap, House Martin, Swallow and Swift. Willow Warbler and Blackcap were typically associated with scrub cover adjoining Lough Conn. House Martin, Swallow and Swift were seen foraging over the Lough Conn waterbody.

Sustained Common Sandpiper breeding activity was noted (distraction efforts by male bird, territorial behaviour) along the westernmost end of Transect 1. This is a migrant species commonly associated breeding along rocky lakeshore habitat.

A brief analysis of each transect is provided below. The findings of the breeding bird survey results from 2024 is presented in full in **Table 3.1** below.

3.1.1 Survey Results 2024

Line Transect 1 – This transect was located along the north-eastern margins of Lough Conn, running south-east and south of Wherrew WTP. This transect was located along the lakeshore habitats of Lough Conn which included exposed rocky shoreline, seasonally inundated semi-natural grassland and adjoining areas of scrub and wet woodland. Most breeding bird activity associated with this transect was associated with birds occurring on, or flying over, the adjoining areas of Lough Conn; i.e. Mallard, Sand Martin, Grey Heron, Cormorant, Lesser Black-backed Gull and Common Tern. The exposed rocky shoreline of Lough Conn supported evidence of breeding Common Sandpiper immediately south-east of the current WTP intake. The adjoining scrub and young woodland habitat supported evidence of breeding passerine species (mostly singing males), both resident and migratory including Reed Bunting, Chaffinch, Willow Warbler and Blackcap.

Line Transect 2 – This transect was located along the north-eastern margins of Lough Conn, running north-west and north of Wherrew WTP intake. This transect was located along the lakeshore habitats of Lough Conn which included seasonally exposed rocky shoreline and adjoining areas of scrub and wet woodland. The adjoining scrub and woodland habitat supported evidence of breeding passerine

species, both resident and migratory including Spotted Flycatcher, Chaffinch, Willow Warbler and Blackcap. The rocky shoreline areas supported Grey Wagtail, a red listed riverine / lakeshore breeding bird species.

Vantage Point 1 – Vantage Point 1 was located at the northernmost point of Transect 2. This Vantage Point covers the north-eastern shores of Lough Conn and the adjoining bay area. Breeding bird abundance and activity was low with individual occurrences and small flocks of Lesser Black-backed Gull, Black-headed Gull, Common Gull, Mallard and Cormorant.

Vantage Point 2 – Vantage Point 2 was located at the southernmost point of Transect 1. This Vantage Point covers the eastern shores of Lough Conn and the adjoining eastern bay area. Breeding bird abundance and activity was low with individual occurrences and small flocks of Lesser Black-backed Gull, Black-headed Gull, Common Gull and Cormorant over flying the lake and foraging nearby.

Vantage Point 3 – This VP was sited at the pier south of Gortnor Abbey. This Vantage Point covers the north-western shores of Lough Conn and the adjoining eastern bay area. Breeding bird abundance and activity was low with individual occurrences and small flocks of Lesser Black-backed Gull, Cormorant, Mute Swan and Mallard.

A breakdown of the breeding avifauna recorded in June 2024 is presented in **Table 3.1** below.

Table 3-1 – Line Transect Breeding Bird Survey Results June 2024[3]

Species Name[4]	Transect 1[5]	Transect 2
June 12th 2024		
House Sparrow (*Passer domesticus*)	1 (S)	
Willow Warbler (*Phylloscopus trochilus*)	3 (H,S)	
Mallard (*Anas platyrhynchos*)	1(F)	7(P)
Pied Wagtail (*Motacilla alba yarrelli*)	1 (H)	1(H)
Common Sandpiper (*Actitis hypoleucos*)	4 (H,A)	
Sand Martin (*Riparia riparia*)	8 (H)	1(H)
Reed Bunting (*Emberiza schoeniclus*)	1 (H)	
Grey Heron (*Ardea cinerea*)	1(F)	
Cormorant (*Phalacrocorax carbo*)	1 (H)	

[3] Numbers presented in the table relate to the numbers of birds identified during the bird surveys.
[4] Conservation status assigned by 'traffic light' system of colour coding, in accordance with the Birds of Conservation Concern in Ireland (Gilbert *et al*., 2021).
[5] Numbers of birds identified along each transect are presented in this table. In addition, the British Trust for Ornithology Breeding Status Codes are also included for each species identified. S - Singing male present (or breeding calls heard) in breeding season in suitable breeding habitat ; H - Species observed in breeding season in suitable nesting Habitat; F - Flying over; U - Species observed but suspected to be sUmmering non-breeder; A - Agitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby

Species Name[4]	Transect 1[5]	Transect 2
Lesser Black-backed Gull (*Larus fuscus*)	1 (F)	
Blackcap (*Sylvia atricapilla*)		2 (S)
Spotted Flycatcher (*Muscicapa striata*)		1 (S)
Chaffinch (*Fringilla coelebs*)		2
June 28th 2024		
Common Sandpiper (*Actitis hypoleucos*)	3 (H,A)	
Common Gull (*Larus canus*)	2 (F)	
Blackcap (*Sylvia atricapilla*)	1 (S)	1 (S)
Sand Marin (*Riparia riparia*)	6 (F)	
Wren (*Troglodytes troglodytes*)	1 (S)	2 (S)
Grey Heron (*Ardea cinerea*)	1 (H)	
Lesser Black-backed Gull (*Larus fuscus*)	3(F)	1
Cormorant (*Phalacrocorax carbo*)	1(F)	
Willow Warbler (*Phylloscopus trochilus*)	1 (S)	
Chaffinch (*Fingilla coelebs*)	1 (S)	1 (S)

Species Name[4]	Transect 1[5]	Transect 2
Linnet (*Linaria cannabina*)	2 (S)	
Meadow Pipit (*Anthus pratensis*)	3 (H, A)	
Mallard (*Anas platyrhynchos*)	1(F)	
Common Tern (*Sterna hirundo*)	1 (F)	
Swallow (*Hirundo rustica*)	2 (F)	1 (F)
Grey Wagtail (*Motacilla cinerea*)		1 (H, A)

Table 3-2 – Vantage Point Breeding Bird Survey Results June 2024

Species Name[6]	Vantage Point 1 Lough Conn[7]	Vantage Point 2 Lough Conn[8]	Vantage Point 3 Gortnor Abbey[9]
12.06.2024			
Common Tern (*Sterna hirundo*)	1		
Black-headed Gull (*Larus ridibundus*)	1	1	
Common Gull (*Larus canus*)	1	1	
Lesser Black-backed Gull (*Larus fucus*)	1	2	1
Mallard (*Anas platyrhynchos*)	5		
Cormorant (*Phalacrocorax carbo*)	1	1	1
Mute Swan (*Cygnus olor*)			1
28.06.2024			

[6] Conservation status assigned by 'traffic light' system of colour coding, in accordance with the Birds of Conservation Concern in Ireland (Gilbert *et al*., 2021).
[7] Other non-target species identified during the survey include: Willow Warbler, Blackcap, Pied Wagtail, Swallow, Chaffinch, Sand Martin, Reed Bunting, House Martin, Wren
[8] Other non-target species identified during the survey include: Willow Warbler, Blackbird, Lapwing heard east of VP, not seen; Little Egret, Meadow Pipit, Blackcap, Reed Bunting, Whitethroat and Chaffinch.
[9] Other non-target species identified during the survey include: Pied Wagtail, Willow Warbler, Wren, Swallow, House Martin, Whitethroat, Hooded Crow, Woodpigeon, Chaffinch, Hooded Crow, Sand Martin.

Species Name[6]	Vantage Point 1 Lough Conn[7]	Vantage Point 2 Lough Conn[8]	Vantage Point 3 Gortnor Abbey[9]
Common Tern (*Sterna hirundo*)		1	
Common Gull (Larus canus)		5	
Lesser Black-backed Gull (*Larus fuscus*)		2	2
Swift (*Apus apus*)		1	1
Common Sandpiper (*Actitis hypoleucos*)	1		
Mallard (*Anas platyrhynchos*)			2

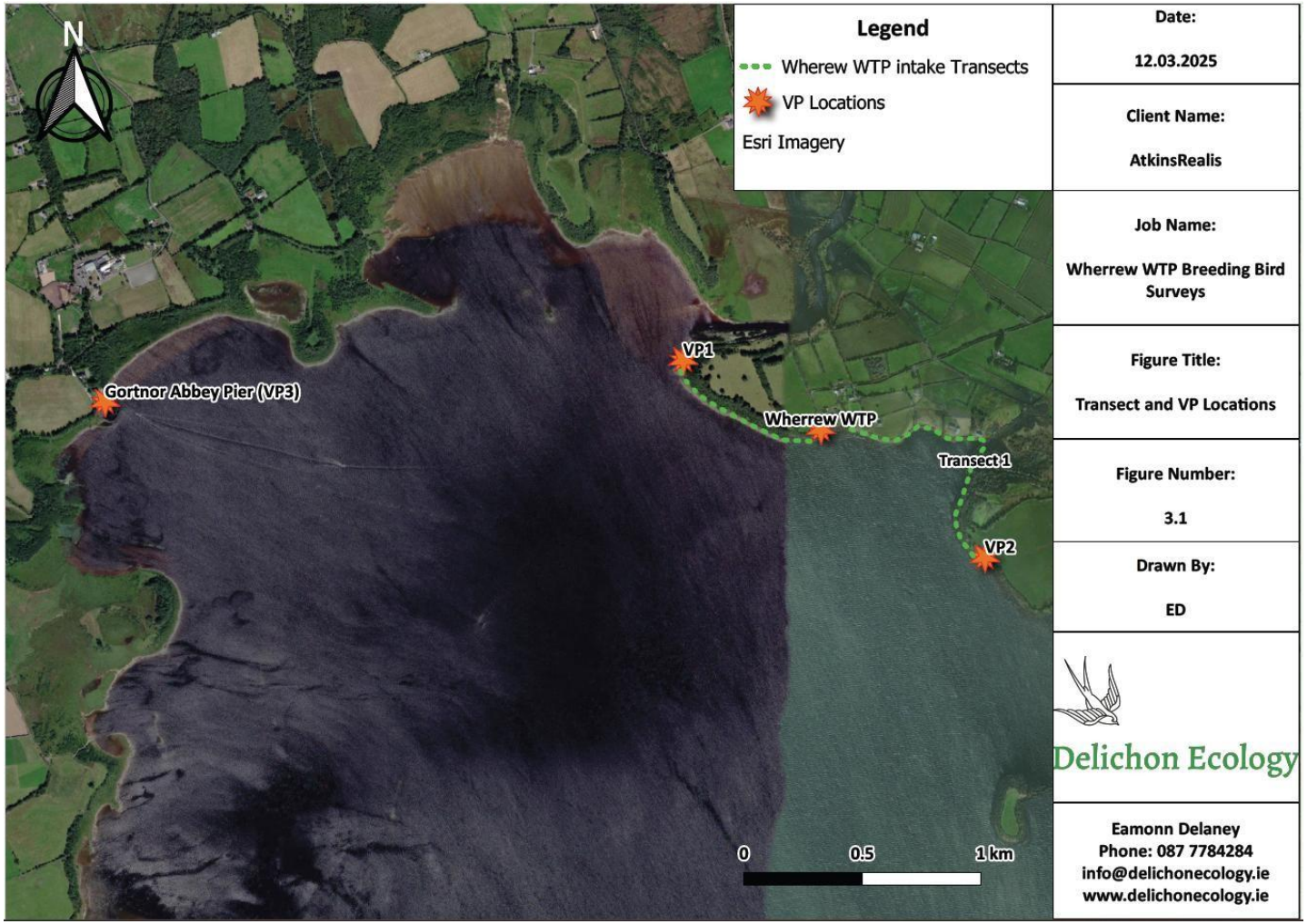


Figure 3-1 - Bird Survey Locations

3.2 Summary

The study area is characterised by the Lough Conn waterbody and its adjoining lakeshore habitats. The findings of the breeding bird surveys undertaken in June 2024 found that the main body of Lough Conn supported very low breeding bird abundance and activity. This may be due to the nature of the waterbody in this area, which supports a large expansive, deep lake waterbody and may not provide optimal feeding and foraging habitat for breeding bird species. Lough Conn is historically known to support breeding Common Scoter in addition to breeding Common Gull, Lesser Black-backed Gull and Common Tern colonies. No evidence of breeding habitat or lands supporting breeding colonies for these species was identified during the breeding bird surveys. Nonetheless, individual and small flocks of gull species and Common Tern were identified overflying the transect and vantage point locations. It is likely that gulls and tern species utilise the wider lake area to forage and for refuge throughout the breeding season.

The lake margins provide suitable breeding habitat for Grey Wagtail and Common Sandpiper and evidence of breeding activity was confirmed for both species along the exposed rocky shoreline during the transect surveys. Summer migrant species overflying the transect and Vantage Point locations for feeding and foraging purposes include Sand Martin, House Martin, Swallow and Swift. There is no suitable breeding habitat for these species within the study area footprint, but the lake and shoreline habitats provide suitable foraging habitat.

Typical migrant warbler species were identified within the study area. The areas of fringing lakeshore scrub and woodland supported migrant warbler species including Willow Warbler, Blackcap, and Whitethroat. Resident breeding bird species identified within these areas included Reed Bunting, Chaffinch, Wren and Linnet.

Raptor species were not identified during the breeding bird surveys. The survey area does not provide optimal habitat for nesting and breeding raptor species. However species such as Sparrowhawk, Kestrel, Peregrine and Buzzard are likely to use the survey area for foraging and hunting purposes.

Red listed species identified during the breeding bird surveys included Grey Wagtail, Meadow Pipit and Swift. All of these species were identified along the lakeshore fringes north and south of the existing WTP intake area. Both Grey Wagtail and Meadow Pipit were identified within suitable breeding habitat and exhibited probable breeding activity.

4 References

Bibby, C., Burgess, N., Hill, D & Mustoe, S. (2000). Bird Census Techniques: Second Edition. Academic Press: London, United Kingdom

BWI, 2012. CBS Manual - Guidelines for Countryside Bird Survey participants, Kilcoole, Wicklow: Birdwatch Ireland in conjunction with the National Parks and Wildlife Service .

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APPENDIX A – BTO BREEDING STATUS CODES

Breeding Status Codes

Non-breeding	
F	**F**lying over
M	Species observed but suspected to be still on **M**igration
U	Species observed but suspected to be s**U**mmering non-breeder
Possible breeder	
H	Species observed in breeding season in suitable nesting **H**abitat
S	**S**inging male present (or breeding calls heard) in breeding season in suitable breeding habitat
Probable breeding	
P	**P**air observed in suitable nesting habitat in breeding season
T	Permanent **T**erritory presumed through registration of territorial behaviour (song etc) on at least two different days a week or more part at the same place or many individuals on one day
D	Courtship and **D**isplay (judged to be in or near potential breeding habitat; be cautious with wildfowl)
N	Visiting probable **N**est site
A	**A**gitated behaviour or anxiety calls from adults, suggesting probable presence of nest or young nearby
I	Brood patch on adult examined in the hand, suggesting **I**ncubation
B	Nest **B**uilding or excavating nest-hole
Confirmed breeding	
DD	**D**istraction-**D**isplay or injury feigning
UN	**U**sed **N**est or eggshells found (occupied or laid within period of survey)
FL	Recently **FL**edged young (nidicolous species) or downy young (nidifugous species). Careful consideration should be given to the likely provenance of any fledged juvenile capable of significant geographical movement. Evidence of dependency on adults (e.g. feeding) is helpful. Be cautious, even if the record comes from suitable habitat.
ON	Adults entering or leaving nest-site in circumstances indicating **O**ccupied **N**est (including high nests or nest holes, the contents of which can not be seem) or adults seen incubating
FF	Adult carrying **F**aecal sac or **F**ood for young
NE	**N**est containing **E**ggs
NY	**N**est with **Y**oung seen or heard