Iarnród Éireann
Irish Rail

Rosslare ORE Hub

EIAR Technical Appendices

Technical Appendix 14

Ornithological Baseline Surveys

venterra | GDG GAVIN & DOHERTY GEOSOLUTIONS | NICHOLAS O'DWYER an RSK company

Co-funded by the European Union

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

GLOSSARY OF TERMS

Term	Definitions
Amber List species of Birds of Conservation Concern (BoCC)	Species of moderate conservation concern. Birds on this list may have experienced a moderate decline in population or range over a longer period, have localised populations, are rare breeders, or are species for which Ireland is of international importance.
Green List species of Birds of Conservation Concern (BoCC)	Species that are not currently of significant conservation concern.
Target Species	Bird species targeted during project specific surveys.
Post-breeding period	Period immediately after the bird breeding season.
Passage migrant	Bird(s) that stop in a location for a short period during their seasonal migration, to rest and feed, before continuing their journey to or from breeding / wintering areas.
Red List species of Birds of Conservation Concern (BoCC)	Species of the highest conservation concern, typically those that are globally threatened, have experienced severe declines in Ireland, or are rare breeders.
Study Area	The geographical extent for which ecological data exists and has been obtained to produce the terrestrial ecological baseline.
Special Protection Area	A **Special Protection Area (SPA)** is a designation under the European Union's Birds Directive, which is a legal framework aimed at protecting and managing wild bird populations and their habitats. SPAs are specifically established to safeguard the habitats of particularly vulnerable bird species, as well as migratory birds, ensuring their survival and maintaining biodiversity.

GLOSSARY OF ABBREVIATIONS

Abbreviation	Definition
AON	Apparently Occupied Nests
BBS	Breeding bird surveys
BoCCI	Birds of Conservation Concern in Ireland
BTO	British Trust for Ornithology
CBC	Common Bird Census
CIEEM	Chartered Institute of Ecology and Environmental Management
EIA	Environmental Impact Assessment
GDG	Gavin and Doherty Geosolutions
IND	Individual Adults at Colony
MHWS	Mean High-Water Springs
PRoW	Public Rights of Way
SCI	Special Conservation Interests
SPA	Special Protected Area
TSA	Terrestrial Survey Area
TTTCC	Through the Tidal Cycle Count
VP	Vantage Point
WWO	Winter Walk-Over

14 ORNITHOLOGICAL BASELINE SURVEYS

14.1 INTRODUCTION

This report has been prepared to accompany **Volume 2: Chapter 14: Biodiversity Ornithology** of the Rosslare Europort ORE Hub project (hereafter the 'Proposed Development') Environmental Impact Assessment (EIA) Report.

This report has been prepared by Maggie Starr BSc (Hons) Marine Sciences. Maggie is an Ecologist and Ornithologist with experience in terrestrial, aquatic and marine/coastal ecology and is a trained Marine Mammal Observer (MMO). Her expertise includes specialised mammal, bird (land based and aerial) and habitat surveys, as well as freshwater surveys such as assessments for white-clawed crayfish, pearl mussels, and Biotic Indices (Q-values) Surveys. Her current work includes ecological and environmental desktop studies for terrestrial, aquatic and marine environments, specialised mammal surveys, ornithological surveys, map preparation and reporting (AA/NIS, PEAR, EcIA, EIAR).

Nick Veale completed all surveys associated with this project. Nick is a seasoned ornithologist and Principal Ecologist at Veale Ecology, working across the UK and Ireland. With over 22 years' experience, he has worked with consultancies such as RPS Group, WSP, Mouchel, and Golder Associates. Nick specialises in assessing bird collision risk for wind farms, conducting bird surveys, and producing Band collision models for Schedule 1 species. His expertise encompasses a wide range of surveys, including Breeding Bird Surveys (BTO, Atlas & WBBS), Common Bird Census (CBC), Wetland Bird Survey (WeBS), and Ecological Impact Assessments (EcIA). He is trained in European Seabirds at Sea (ESAS) and holds Construction Skills Certification Scheme (CSCS) accreditation with additional quarry site training, ensuring safe operation on construction sites and detailed risk assessments.

APEM Ltd. prepared the original baseline bird survey reports and maps that have informed and are included within this Technical Appendix. APEM's ornithology consultants provide expert advice and bespoke services in relation to wild birds in offshore, intertidal, and terrestrial settings.

This report has been reviewed by Colin Barton (BSc. (Hons) Biology (Ecology)) and Joey O'Connor (BSc (Hons) Marine Science, MSc. Engineering in the Coastal Environment).

Colin Barton, of Cork Ecology, is the lead author of the Ornithology chapter of this EIAR. Colin has worked as an independent consultant since 2001, specialising in all aspects of ornithology. He has prepared ornithology EIAR chapters for several terrestrial and offshore wind farm projects in Ireland and the UK, with key inputs including survey design, advice, data validation and analysis, the writing of baseline and impact assessment chapters on birds, input into HRA/NIS documents on birds and post-construction monitoring plans. Joey is an Environmental Impact Assessment practitioner and Marine Scientist with coastal engineering expertise. Joey has had an overview role in this project as EIAR coordinator and Biodiversity Lead.

14.1.1 BACKGROUND AND SCOPE

This report has been informed by survey data and associated reporting provided by APEM Ltd. (APEM), who were commissioned by Iarnród Éireann to undertake a comprehensive 29-month bird survey programme at Rosslare Europort, based on a survey scope prepared by GDG within the spatial footprint of the Proposed Development Boundary (PDB), detailing site usage and activity patterns of ornithological receptors at Rosslare Europort and an ornithology desk study undertaken by GDG. The primary objective of the surveys was to generate a robust ornithological dataset in support of the proposed Rosslare Europort ORE Hub Planning Application, including the associated EIA Report, Natura Impact Statement and supplementary ecological and environmental reports.

The initial phase (i.e. 2022/23) of the programme comprised:

- Monthly VP Surveys: Conducted once per month throughout the 12-month period (May 2022 to April 2023, inclusive) from VP1 location
- Breeding Bird Surveys (BBS): Three (3) surveys carried out consecutively from May through July 2022
- Post-Aggregation Tern Roost Surveys: Two (2) surveys, one in August and one in September 2022
- Winter Walkover (WWO) Surveys: Three (3) surveys executed in December 2022, January 2023, and February 2023.

Following the completion of the initial survey period 2022/23, the programme was extended (i.e. 2023/24). The extension included:

- Recommissioned VP Surveys: Monthly surveys from July 2023 to August 2024 surveyed from VP1 location, and three (3) VP surveys conducted in June, July and August 2024 surveyed from VP2 location.
- Additional BBS: Six (6) further surveys conducted from March through June 2023, and three (3) surveys carried out consecutively from April through June 2024.
- Post-Aggregation Tern Roost Surveys: Two (2) surveys conducted in September 2023, and two (2) surveys conducted, one in late August and one in early September 2024.
- Additional WWO Surveys: Five (5) surveys conducted from October 2023 through February 2024.

This structured survey design ensured a comprehensive temporal and spatial assessment of the avian community, underpinning the suite of environmental reports required for the proposed planning application.

14.1.2 SITE LOCATION

The Proposed Development Boundary, encompassing 79.4ha, lying mostly within the maritime area is located within Rosslare Harbour, County Wexford, is located at 313107, 112902 (Irish Grid, EPSG:29902). The coastal habitats within the immediate vicinity of the Site include mostly rocky

shoreline and intertidal areas with sand beaches to the northwest. A small boat harbour is present to the west of the main Europort, surrounded by rock armour sea defences. Adjacent terrestrial habitats comprise grassland, scattered scrub, agricultural pasture with associated hedgerows and residential / commercial structures.

The bird surveys spanned almost the entire Proposed Development Boundary, encompassing both the proposed Reclamation Area and the majority of the area designated for dredging. It should be noted, that after the October 2023 surveys were completed during the preliminary design of the Proposed Development, the Proposed Development Boundary was amended with a small extension of the Proposed Development Boundary (Figure 14-1).

To ensure adequate coverage of the Ornithology Study Area, a precautionary additional three VP surveys were conducted from June 2024 through August 2024 at an additional VP location ('VP2') situated on the harbour quay wall (refer to Figure 14-2) to capture the adjusted Proposed Development Boundary.

For clarity and ease of reference throughout this report, VP refers to the specific location at which the surveyor conducted the vantage point observations. The original VP location will be referred to as VP1, while the VP location on the quay wall from June through August 2024 survey will be referred to as VP2.

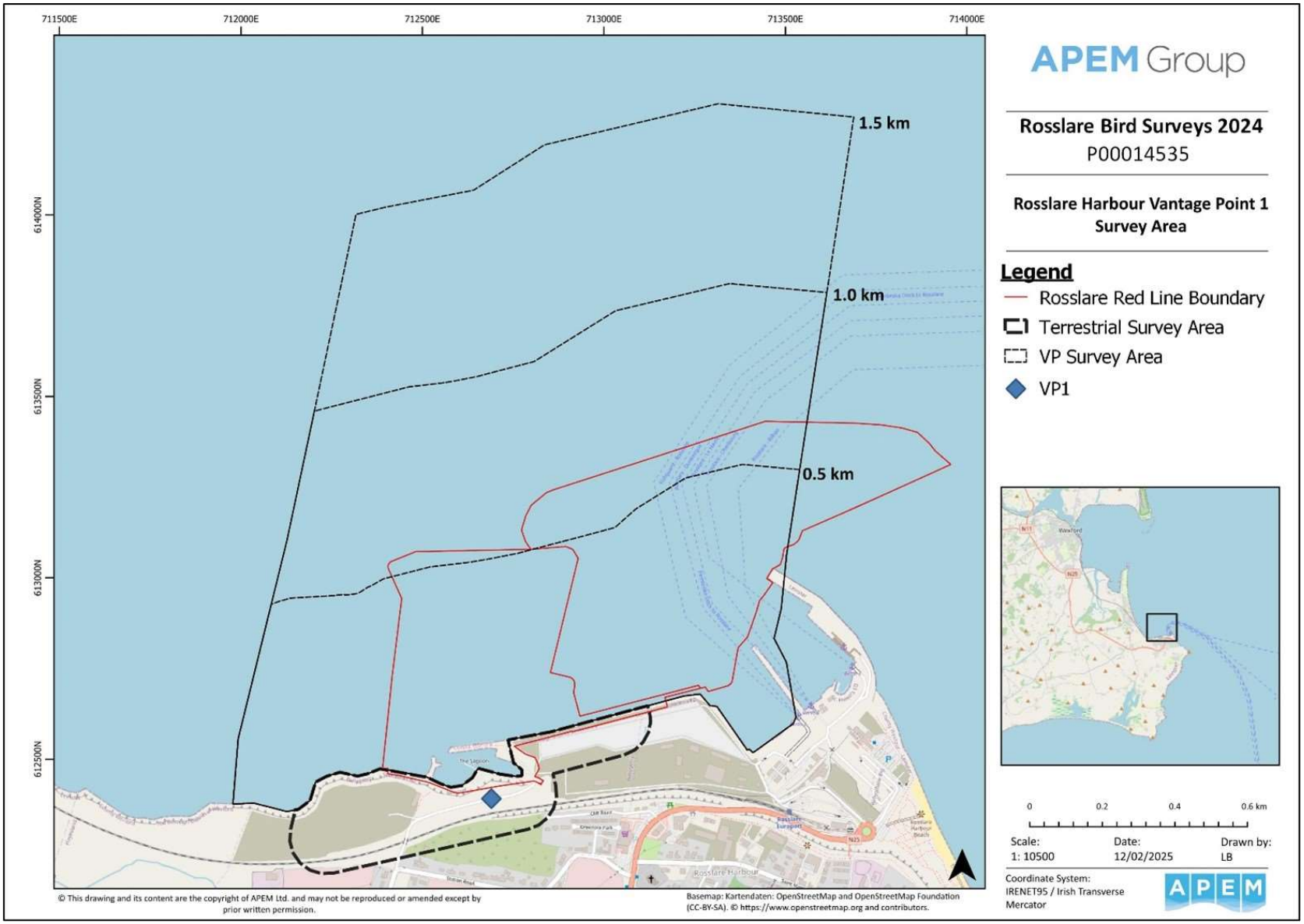


Figure 14-1 Ornithological Survey Area including VP1 survey area and Proposed Development Boundary

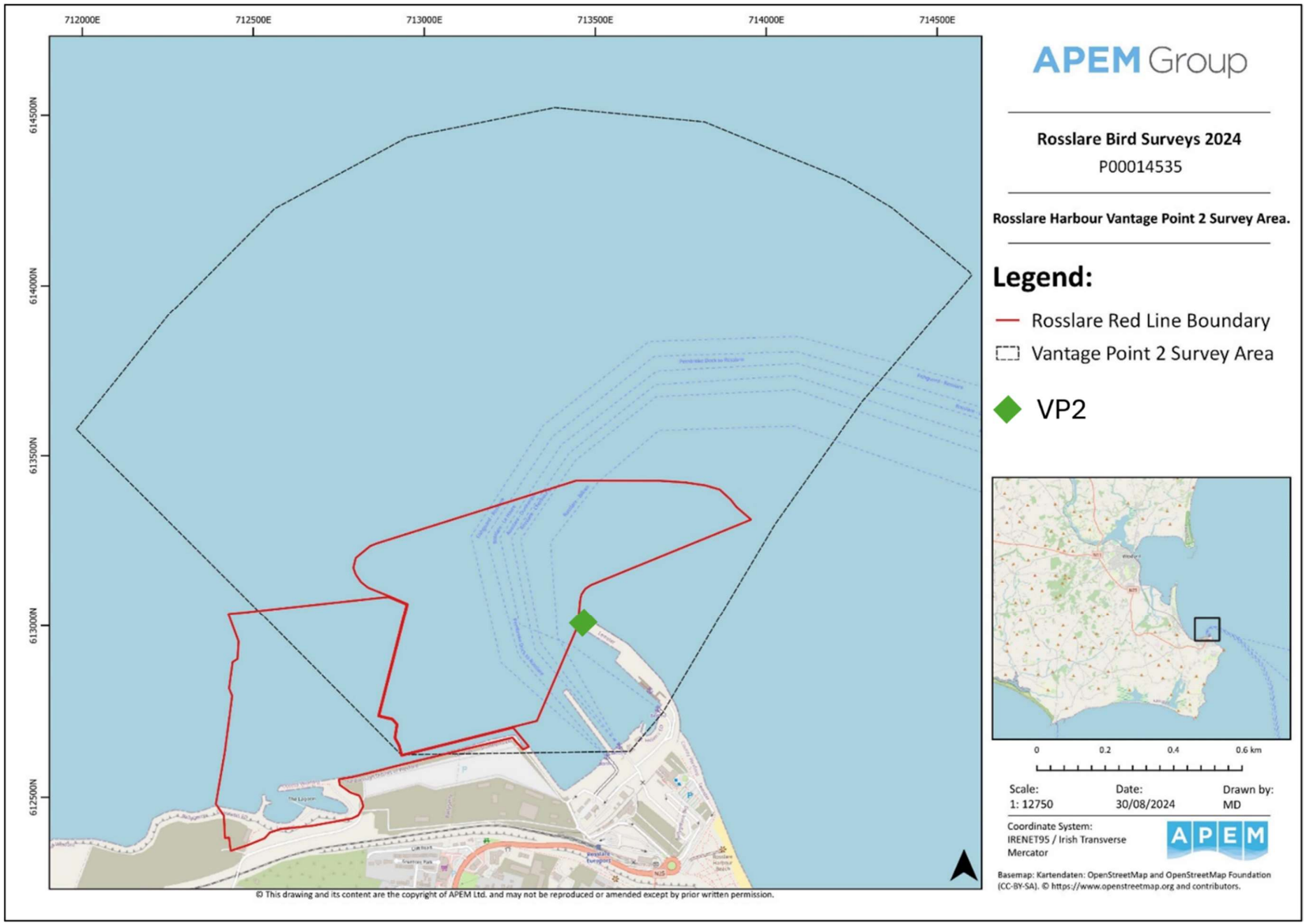


Figure 14-2 Ornithological Survey Area including VP1 survey area and Proposed Development Boundary

14.1.3 SPECIAL PROTECTION AREAS (SPA)

Seven SPAs are located in the vicinity of the Proposed Development Boundary. Each SPA's location, associated Special Conservation Interests (SCIs) and distance and direction from the Ornithology Study Area are detailed in Table 14-1. It is important to note that this listing does not assume any connectivity between the individuals observed during the Project Specific Surveys and the SPAs presented.

Table 14-1 SPAs within the vicinity of the Proposed Development

SPA	Central National Grid Reference (NGR)	SCIs	Distance and Direction from Site
Seas off Wexford cSPA	SM 06055 62277	• Red-throated diver (*Gavia stellata*) • Northern fulmar (*Fulmarus glacialis*) • Manx shearwater (*Puffinus puffinus*) • Northern gannet (*Morus bassanus*) • Cormorant (*Phalacrocorax carbo*) • Shag (*Phalacrocorax aristotelis*) • Common scoter (*Melanitta nigra*) • Mediterranean gull (*Ichthyaetus melanocephalus*) • Black-headed gull (*Larus ridibundus*) • Lesser black-backed gull (*Larus fuscus*) • Herring gull (*Larus argentatus*) • Black-legged kittiwake (*Rissa tridactyla*) • Sandwich tern (*Sterna sandvicensis*) • Roseate tern (*Sterna dougallii*) • Common tern (*Sterna hirundo*) • Arctic tern (*Sterna paradisaea*) • Little tern (*Sterna albifrons*) • Common guillemot (*Uria aalge*) • Razorbill (*Alca torda*) • Puffin (*Fratercula arctica*)	Overlaps with the Site
Wexford Harbour and Slobs SPA	T 07586 21562	• Little grebe (*Tachybaptus ruficollis*) • Great crested grebe (*Podiceps cristatus*) • cormorant (*Phalacrocorax carbo*) • Grey heron (*Ardea cinerea*) • Bewick's swan (*Cygnus columbianus bewickii*) • Whooper swan (*Cygnus cygnus*) • Greenland white-fronted goose (*Anser albifrons flavirostris*) • Light-bellied brent goose (*Branta bernicla hrota*) • Common shelduck (*Tadorna tadorna*) • Eurasian wigeon (*Mareca penelope*) • Eurasian teal (*Anas crecca*) • Mallard (*Anas platyrhyncos*)	Approx. 4.41 km NW of the Site

SPA	Central National Grid Reference (NGR)	SCIs	Distance and Direction from Site
		• Northern pintail (*Anas acuta*) • Greater scaup (*Aythya marila*) • Common goldeneye (*Bucephala clangula*) • Red-breasted merganser (*Mergus serrator*) • Hen harrier (*Circus cyaneus*) • Coot (*Fulica atra*) • Oystercatcher (*Haematopus ostralegus*) • European golden plover (*Pluvialis apricaria*) • Grey plover (*Pluvialis squatarola*) • Lapwing (*Vanellus vanellus*) • Red knot (*Calidris canutus*) • Sanderling (*Calidris alba*) • Dunlin (*Calidris alpina*) • Black-tailed godwit (*Limosa limosa*) • Bar-tailed godwit (*Limosa lapponica*) • Curlew (*Numenius arquata*) • Common redshank (*Tringa totanus*) • Black-headed gull (*Chroicephalus ridibundus*) • Lesser black-backed gull (*Larus fuscus*) • Little tern (*Sternula albifrons*) Wetland and waterbird assemblages	
Lady's Island Lake SPA	T 09936 06018	• Gadwall (*Anas strepera*) • Black-headed gull • Sandwich tern (*Thalasseus sandvicensis*) • Roseate tern (*Sterna dougalli*) • Common tern (*Sterna hirundo*) • Arctic tern (*Sterna paradisaea*) Wetland and waterbird assemblages	Approx. 4.68 km S
The Raven SPA	T 13438 26512	• Red-throated diver (Gavia stellata) • Great cormorant • Greenland white-fronted goose • Common scoter (*Melanitta nigra*) • Grey plover • Sanderling Wetland and waterbird assemblages	Approx. 6.96 km N

SPA	Central National Grid Reference (NGR)	SCIs	Distance and Direction from Site
Tacumshin Lake SPA	T 04856 06173	• Little grebe • Bewick's swan • Whooper swan • Eurasian wigeon (*Mareca penelope*) • Gadwall • Eurasian teal (*Anas crecca*) • Northern pintail (*Anas acuta*) • Northern shoveler (*Spatula clypeata*) • Tufted duck (*Aythya fuligula*) • Eurasian coot • European golden plover • Grey plover • Northern lapwing • Black-tailed godwit Wetland and waterbird assemblages	Approx. 8.48 km SW
Ballyteigue Burrow SPA	S 94580 05873	• Light-bellied brent goose • Common shelduck (*Tadorna tadorna*) • European golden plover • Grey plover • Northern lapwing • Wetland and waterbird assemblages • Black-tailed godwit • Bar-tailed godwit	Approx. 18.12 km SW
Saltee Islands	S 97397 00084	• Northern fulmar • Northern gannet • Great cormorant • European shag • Lesser black-backed gull • European herring gull • Black-legged kittiwake • Common guillemot • Razorbill • Puffin	Approx. 19.26 km SW

14.2 SURVEY METHODOLOGIES

14.2.1 TARGET SPECIES

While all bird species observed were recorded, survey efforts were particularly focused on detecting, identifying, and documenting target species. This ensured that species of high conservation importance were given priority in data collection and analysis. Only target species were mapped during surveys, meaning spatial distribution, flight paths, and behaviours were specifically recorded for species of conservation concern rather than all observed birds.
The selection of target species influenced the survey timing and frequency, ensuring that key periods such as breeding, migration, and wintering seasons were adequately covered. Special attention was given to disturbance responses of target species, particularly those that are highly sensitive to human activities and construction-related impacts.

Across all survey types, the target species of interest included:

- Species listed on Annex I of the Birds Directive (Directive 2009/147/EC);
- Birds included on the BoCCI 4 Red list (Gilbert *et al.,* 2021); and
- Species listed as SCIs of the Seas off Wexford SPA (NPWS, 2024) (which overlaps with the Study Area).

Mapped outputs focused on target species, showing their key areas of activity and any patterns in habitat usage over time.

14.2.2 VP SURVEY METHOD

Coastal VP surveys were undertaken monthly with the aim of providing robust usage data for the intertidal and nearshore areas within the Ornithology Study Area. VP surveys followed standardised protocols to record bird species occurrence, counts, behavioural data, and instances of disturbance.

To ensure adequate coverage of the Ornithology Study Area, VP1 was established at a high point on land to the south of the Proposed Development Boundary (refer to Figure 14-1). This location provided a wide field of view over the intertidal and nearshore within the Proposed Development Boundary. An additional vantage point (VP2) was introduced in June 2024, situated on the harbour quay wall along to the northeast of the Proposed Development (refer to Figure 14-2), to capture the adjusted Proposed Development Boundary and ensure adequate observational coverage of the harbour area.

Given the Ornithology Study Area's proximity to key wintering and migratory sites, the surveys were conducted throughout the survey years as follows:

- VP1 Surveys:
    - 2022/23 (May 2022 through April 2023, note, no VP surveys were completed in May and June 2023)
    - 2023/24 (July 2023 through August 2024, inclusive)
- VP2 Surveys:
    - June through to August 2024

VP surveys used the 'Through the Tidal Cycle Count' (TTTCC) method, which is based upon 'look-see' methods (Gilbert *et al*., 1998). As outlined by Lewis and Tierney (2014), the TTTCC method is considered the most appropriate approach to determining waterbird usage of the intertidal zone in Ireland.

Each VP survey was conducted once per month and covered both rising and falling tides over a six-hour period. Observations were recorded in two-hour intervals, with species counted separately in each interval. This process was repeated throughout the six-hour survey, resulting in three separate counts per species for each monthly VP survey. The highest count recorded for each species across the three two-hourly intervals within a given VP survey was used as the **peak monthly count** for that species. This approach provides a measure of abundance while reducing the risk of double-counting individuals across multiple observation periods within a single VP survey.

The approach aimed to fully capture intertidal area usage by scheduling surveys to alternate, where possible, between rising (flood) and falling (ebb) tides across different months. This allowed for a more comprehensive characterisation of variations related to food availability and energy budgets influenced by tidal currents. Capturing both high tide and low tide roosting and foraging activities within each survey visit provided a robust baseline for assessing potential impacts of construction and operational activities upon ornithological receptors within the intertidal and nearshore areas.

Each survey consisted of one visit to the VP Survey Area (Figure 14-1 and Figure 14-2), covering either a high-to-low tide or *vice versa*, allowing for the observations of both high-tide and low-tide roosting and foraging activities. The primary aim of the surveys was to census and map waterbirds and other species of interest:

- within the intertidal zone between the mean low-water and mean high-water marks (MHWS) including any significant roosts above the high-water mark; and
- those present in the nearshore waters up to 1.5 km seaward from the MHWS.

Only target species were mapped, with their locations recorded on maps alongside the number of individuals and relevant behavioural observations. All intertidal and marine bird species observed were recorded, and additional notes were taken on disturbance events, including the type of disturbance, intensity of the stimuli, and bird responses, following the methods outlined in Briggs (2007). Records of non-target species such as aggregations of passerines were recorded incidentally on an *ad-hoc* basis. Additionally, flight lines of target species over the intertidal, nearshore, and landward areas were mapped, noting the direction of travel. Flight activity was considered subsidiary to other behaviours, and in cases where large aggregations or high numbers of birds were in flight, summary lines or data were recorded.

Incidental sightings of marine mammals were also recorded during the VP surveys.

Counts started at either high or low tide ('scan and count', undertaken as rapidly as possible to reduce the risk of double counting). Disturbance events were monitored continuously between counts. The Surveyor recorded all observed intertidal and marine bird species using standard British Trust for Ornithology (BTO) two-letter codes, along with the abundance and behaviours (refer to Appendix A5, **Table A5-1** to **A5-3** for full list). Behavioural classifications included:

- Roosting (R)
- Foraging (F)
- Flying (Y)
- Loafing (L)
- Comfort / Preening (C)
- Swimming (S)
- Other (described with the record).

14.2.3 BBS METHOD

BBS were conducted following a modified version of the Common Bird Census (CBC) methodology, as outlined in Gilbert *et al*., (1998) and Bibby *et al*., (2000), with further refinements by the Bird Survey and Assessment Group (2024). This amended CBC approach, designed by the Bird Survey and Assessment Group (2024) and endorsed by the Chartered Institute of Ecology and Environmental Management (CIEEM), is recognised as the most appropriate method for conducting BBS in Ireland.

The BBS survey programme included the following survey periods:

- A three-visit vantage point survey programme was completed between May and July 2022.
- A further six surveys were carried out between March and June 2023.
- A final three-visit survey programme was undertaken between April and June 2024.

Each survey visit took place on a single morning, commencing at sunrise and concluding no later than 11:00am. While the Bird Survey and Assessment Group (2024) recommends including a dusk BBS survey visit to detect breeding activity in nocturnal or crepuscular species, this was not deemed necessary at the Proposed Development Boundary. Given the small size of the Terrestrial Survey Area (Figure 14-1) and the limited availability of suitable habitat, it was considered unlikely that such species were breeding nearby. Consequently, a dusk survey visit was not undertaken.

The survey routes were designed to ensure that all suitable habitats within the Terrestrial Survey Area (TSA) were covered. During each visit, the surveyor systematically walked along a route that allowed approach to all areas within 50 m where access was available, stopping at regular intervals to record all bird species observed (or heard) and their associated behaviours. Areas with restricted access were surveyed from Public Rights of Way (PRoW) using suitable survey equipment inclusive of high-quality binoculars and a telescope to maximise coverage.

Each survey visit was conducted in suitable weather conditions, avoiding winds exceeding Beaufort force 5 and/ or poor visibility. Environmental conditions were recorded at the start and end of each visit. The identity and activity of all bird species, including evidence of breeding, were documented on maps using standard BTO notations.

To assess breeding territories, results from each visit were combined following the established methodology in Bibby *et al*., (2000). Breeding territories were identified based on continued

occupation of a bird or pair in suitable breeding habitat between visits. The final territory mapping process focused on target species exhibiting behaviours indicative of breeding, such as pairs in suitable habitat, singing birds, courtship displays, nest-building, or food-carrying. Final territories were identified using these results in combination with professional judgement to ensure a precautionary approach.

14.2.4 TERN ROOST SURVEY METHOD

Tern roost surveys were conducted within the VP Survey Area during 2022, 2023, and 2024, following the methodology outlined by Burke *et al.* (2020). Two surveys were undertaken in each year:

- One (1) in August and one (1) in September 2022
- Two (2) in September 2023
- One (1) in late August and one (1) in early September 2024.

The surveys were timed to coincide with the **post-breeding period**, when tern numbers peak, and were conducted at dusk during a rising mid-tide to capture terns arriving at roosting sites. During each survey, the Surveyor systematically moved through the landward areas of the VP Survey Area, using vantage points to scan all suitable roosting locations. This ensured full coverage of potential tern roosts within a single evening per visit.

All terns present were counted, mapped, and identified to species level. Observations were made using binoculars and a telescope to ensure accurate identification and minimise disturbance. The exact locations of tern flocks were recorded, and any significant changes in roosting behaviour or site usage were noted.

14.2.5 WWO SURVEY METHOD

WWO surveys were conducted following line transect methods, following the approach outlined in Bibby *et al.*, (2000). A predetermined transect route was followed by the Surveyor to record bird species within suitable habitat across the TSA and immediate intertidal areas (Figure 14-1).

WWO surveys primarily focus on detecting target species of higher conservation concern. The Surveyor approached suitable habitat to within a minimum distance of 500 m, in line with standard practice for WWO surveys. This approach reflects the typical spatial extent of WWO coverage, which does not encompass the full 1.5 km Study Area but is instead focused on the TSA and adjacent intertidal habitats. The 500 m distance also accounts for the sensitivity and detectability of the target species, minimising the risk of disturbance while enabling reliable observations. Areas with restricted access were surveyed from PRoW using high quality binoculars and a telescope to maximise coverage while minimising disturbance. In inaccessible areas, observations were conducted from a distance using the same equipment.

Surveys were carried out only in suitable weather conditions, avoiding winds exceeding Beaufort force 5 and/or poor visibility. Environmental conditions were recorded at the start and end of each visit (**Table A4**, **Appendix A4**).

The WWO survey programme consisted of seven monthly visits conducted during the core non-breeding period, with:

- Three (3) surveys during the 2022/23 winter
- Five (5) surveys during the 2023/24 winter.

Note: The 500 m minimum approach distance is not explicitly stated in Bibby *et al.* (2000) but was selected based on professional judgement.

14.2.6 DATA PRESENTATIONS

Data on the abundance and distribution of target species are presented in this report. Due to the VP methodology of repeated counts during a survey visit, the highest count recorded within a survey is used as the peak monthly count for a species and is reported in tables in the results section. The associated VP survey figures in the Appendices present the abundance and spatial distribution of all records across the VP surveys and are therefore not directly comparable with peak monthly counts.

A full list of all species recorded across survey types can be found in **Appendix A5 Table A5-1** to **Appendix A5 Table A5-3** for each respective survey period.

14.2.7 LIMITATIONS

ACCESS CONSTRAINTS

Some areas with restricted access were surveyed from Public Rights of Way (PRoW) using binoculars and a telescope to maximise coverage. However, these access limitations did not significantly impact overall survey effort or data quality.

WEATHER CONDITIONS

Where possible, surveys were scheduled to coincide with suitable weather conditions. However, occasional periods of poor weather (e.g., rain or strong winds) were encountered. Surveying under varying weather conditions is representative of the natural variability in weather and associated bird activity within the Ornithology Study Area. As such, sub-optimal weather conditions are not considered a constraint to the robustness of the data. Full weather data, including tide times, for all surveys are provided in **Appendix A1-3** for the respective surveying periods.

TERN ROOST SURVEY TIMING

In 2023, due to surveyor availability, both tern roost survey visits were conducted in September. Whilst this represents a minor deviation from the typical approach of conducting these surveys in August and September, the low levels of tern activity recorded and the results from 2022 suggest that the absence of roosting terns recorded in 2023 accurately reflects conditions within the Ornithology Study Area.

LIMITATIONS OF VP2 SURVEY COVERAGE

Vantage point surveys from VP2 were only conducted during the period June to August 2024, as site access and health and safety constraints prevented the safe use of this location across the wider 29-month survey period. As such, VP2 data are limited to these three months and were used to

supplement coverage of the adjusted Proposed Development Boundary, particularly the areas not fully visible from VP1. While continuous VP2 coverage was not feasible, the data collected during this targeted period are considered sufficient to characterise bird usage within this specific area of the Ornithology Study Area.

14.3 VP SURVEY RESULTS

The results of the VP surveys including the 2022/23 and 2023/24 survey programmes are presented as **peak two-hourly counts per species per survey visit** (refer to Section 14.2.2). The VP2 survey data, collected between June and August 2024, are presented separately to distinguish them from the main VP1 dataset.

All result tables present **peak counts**, used as a proxy for species abundance (see Section 14.2.2). This approach avoids inflating totals that may occur when combining raw counts from multiple observation periods during a single six-hour survey. Since birds may move within the Ornithology Study Area over the course of a survey, using peak counts minimises the risk of double-counting and provides a more accurate reflection of presence and relative abundance. The peak count refers to the highest number of individuals of a given species recorded during any one of the three two-hour observation intervals within a survey visit.

Maps illustrating the abundance and spatial distribution of all target species records are provided in **Appendix B1**, corresponding to each survey period. As flight line data are not considered highly representative of Site characterisation, they are included separately in **Appendix B1, Figures B1-1 to Figure B1-33**.

14.3.1 WILDFOWL, GREBES AND DIVERS

VP1 SURVEYS

Table 14-2 presents the survey peak counts of wildfowl, grebes and diver species recorded during the VP1 2022/23 and 2023/24 survey periods. A total of six (6) wildfowl, grebes and divers were recorded during the VP1 surveys. Of these, common scoter (*Melanitta nigra*), black-necked grebe (*Podiceps nigricollis*), red-throated diver (*Gavia stellata*) and great northern diver (*Gavia immer*) are target species (in **bold**).

The distribution and abundance of all target wildfowl, grebe and diver species records across all VP1 surveys are shown in **Appendix B1, Figures B1-1 and Figure B1-10**.

Table 14-2 Survey peak counts of wildfowl, grebes and divers recorded during VP1 Surveys (2022/23 and 2023/24)

Survey Period	Species	Month											Maximum Observed Peak Counts					
		May 2022	June 2022	July 2022	August 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	April 2023					
VP1 2022/23	**Common scoter [bc]**	-	-	-	**6**	**18**	**53**	**2**	**36**	**25**	**26**	**16**	-					**53**
	Red-breasted merganser	-	-	-	2	2	2	2	2	1	2	-	2					2
	Great crested grebe	-	-	-	-	2	4	2	4	2	2	1	-					4
	Black-necked grebe [b]	-	-	-	-	-	-	-	**2**	-	**2**	-	-					**2**
	Red-throated diver [ac]	-	-	-	-	**3**	**3**	**1**	**2**	**6**	**4**	**2**	-					**6**
	Great northern diver [a]	-	-	-	-	-	**3**	-	**2**	**2**	**2**	-	**1**					**3**
	Species	**May 2023**	**June 2023**	**July 2023**	**August 2023**	**Sept. 2023**	**Oct. 2023**	**Nov. 2023**	**Dec. 2023**	**Jan. 2024**	**Feb. 2024**	**March 2024**	**April 2024**	**May 2024**	**June 2024**	**July 2024**	**August 2024**	**Maximum Observed Peak Counts**
VP1 2023/24	**Common scoter [bc]**			-	-	-	-	**16**	**2**	-	**19**	-	-		-	-	-	**19**
	Red-breasted merganser			-	1	-	-	-	-	1	4	-	-	-	-	-	-	**4**
	Great crested grebe			-	-	2	2	1	-	-	3	2	-	-	-	-	-	**3**
	Red-throated diver [ac]			-	-	**2**	**2**	**1**	**2**	**1**	**2**	**1**	**3**	-	-	-	-	**3**
	Great northern diver [a]			-	-	-	-	-	**1**	-	**1**	**2**	-	-	-	-	-	**2**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

VP2 SURVEYS

No wildfowl, divers or grebes were recorded during the VP2 surveys.

14.3.2 WADERS

VP1 SURVEYS

Table 14-3 presents the survey peak counts of wader species recorded during the VP1 2022/23 and 2023/24 survey periods. A total of eleven (11) wader species were recorded during the VP1 surveys. Of these, seven (7) are target species: oystercatcher (*Haematopus ostralegus*), lapwing (*Vanellus vanellus*), curlew (*Numenius Arquata*), dunlin (*Calidris alpina*), common redshank (*Tringa totanus*), snipe (*Gallinago gallinago*) and little egret (*Egretta garzetta*). All waders were recorded foraging or roosting along the shoreline, predominately within the small boat harbour.

The distribution of all target wader species records across all VP surveys is shown in **Figure B1-3 (Appendix B),** and **Figure B1-12, Figure B1-13, Figure B1-14 and Figure B1-15** (**Appendix B1)**.

Table 14-3 Survey peak counts of wader species recorded during VP1 Surveys (2022/23 and 2023/24)

Survey Period	Species	Month															Maximum Observed Peak Counts
		May 2022	June 2022	July 2022	August 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	April 2023				
VP1 2022/23	**Oystercatcher** [b]	**1**	**2**	**-**	**-**	**2**	**-**	**2**	**3**	**8**	**-**	**2**	**-**				**8**
	Ringed plover	-	-	-	-	-	-	-	-	7	-	-	-				7
	Ruddy turnstone	-	-	-	3	5	18	5	16	15	17	12	10				18
	Snipe [b]	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**1**	**-**				**1**
	Redshank [b]	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**-**	**2**	**2**	**2**	**-**				**2**
	Greenshank	-	-	-	-	-	-	-	-	-	1	-	-				1
	Species	**May 2023**	**June 2023**	**July 2023**	**August 2023**	**Sept. 2023**	**Oct. 2023**	**Nov. 2023**	**Dec. 2023**	**Jan. 2024**	**Feb. 2024**	**March 2024**	**April 2024**	**May 2024**	**June 2024**	**July 2024**	**August 2024**	**Maximum Observed Peak Counts**
VP1 2023/24	**Oystercatcher** [b]			-	-	-	**16**	**7**	**12**	**5**	-	-	-	-	-	-	**4**	**16**
	Lapwing [b]			-	-	**63**	**85**	**190**	**125**	**-**	**92**	**-**	-	-	-	-	-	**190**
	Curlew [b]			-	-	-	-	**6**	-	**2**	-	-	-		-	-	11	26
	Ruddy turnstone			-	-	12	25	17	9	26	11	21	24	-	-	-	**2**	**6**
	Dunlin [b]			-	-	-	-	**23**	-	-	-	-	-		-	-	-	**23**
	Redshank [b]			-	-	-	-	-	**2**	**2**	-	**2**	-				**2**	**2**
	Grey heron			-	-	1	-	-	1	1	-	-	**1**		1	1	1	1
	Little egret [a]			**1**	**-**	**1**	**-**	**2**	**-**	**1**	**-**	**1**	**-**		-	-	**1**	**2**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

VP2 SURVEYS

Table 14-4 presents the survey peak counts of wader species recorded during the VP2 Survey. A total of three (3) wader species were recorded. Of these, one is a target species; little egret. All waders were recorded foraging or roosting along the shoreline, predominately within the small boat harbour.

The distribution of all target wader species records during the VP2 surveys are shown in **Figure B1-27 (Appendix B)** and **Figure B1-28** (**Appendix B1)**.

Table 14-4 Survey peak counts of wader species recorded during VP2 Surveys

Species	Month			Maximum Observed Peak Count
	June	July	August	
Ruddy turnstone	2	-	3	3
Grey heron	2	-	-	2
Little egret [a]	1	-	-	1
Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.				

14.3.3 SEABIRDS

In both VP1 and VP2 surveys, some distant terns and auks could not be reliably identified to species level and were therefore recorded as a species groups ('common/Arctic tern'/'commic terns' and 'common guillemot/razorbill'). These groups have been treated in the same manner as individual species of greatest conservation concern within the group.

GULLS AND TERN SPECIES

VP1 Surveys

Table 14-5 presents the highest peak counts of all gull and tern species recorded during the VP1 2022/23 and 2023/24 survey programme:

- During the 2022/23 VP1 surveys, a total of nine (9) gull species, four (4) tern species and one tern species group ('Common/Arctic tern' or 'Commic') were recorded, where identification to species level was not possible. Of the gull and tern species recorded, nine (9) are target species:
    - **Gulls**: black-legged kittiwake (*Rissa tridactyla*), black-headed gull (*Larus ridibundus*), Mediterranean gull (*Larus melanocephalus*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*).
    - **Terns**: sandwich tern (*Sterna sandvicensis*), roseate tern (*Sterna dougallii*), common tern (*Sterna hirundo*), and Arctic tern (*Sterna paradisaea*).
- During the 2023/24 VP1 surveys, a total of seven (7) gull species, two (2) tern species and one tern species group ('Common/Arctic tern') were recorded. Of the gull and tern species recorded, seven (7) are target species:

- **Gulls**: black-legged kittiwake, black-headed gull, Mediterranean gull, herring gull, and lesser black-backed gull.
- **Terns**: sandwich tern and common tern.

Table 14-5 Survey peak counts of gull and tern species recorded during VP1 Surveys (2022/23 and 2023/24)

Survey Period	Species	Month															Maximum Observed Peak Counts
		May 2022	June 2022	July 2022	August 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	April 2023				
VP1 2022/23	**Black-legged Kittiwake [bc]**	**31**	**-**	**-**	**9**	**4**	**-**	**-**	**22**	**16**	**12**	**7**	**12**				**31**
	Black-headed gull [c]	**8**	**6**	**25**	**30**	**19**	**85**	**9**	**46**	**32**	**49**	**29**	**24**				**85**
	Little gull	-	-	-	-	-	-	-	1	-	-	-	-				1
	Mediterranean gull [ac]	**1**	**-**	**38**	**34**	**7**	**6**	**1**	**4**	**-**	**1**	**2**	**2**				**38**
	Common gull	11	3	5	19	17	21	3	2	20	17	5	-				21
	Great black-backed gull	8	3	5	12	21	15	7	12	15	10	11	6				21
	Iceland gull	-	-	-	-	-	-	-	-	-	1	-	-				1
	Herring gull [c]	**26**	**17**	**31**	**51**	**23**	**40**	**16**	**29**	**47**	**36**	**21**	**21**				**51**
	Lesser black-backed gull [c]	**2**	**2**	-	**4**	**4**	**2**	-	-	-	-	**2**	-				**4**
	Sandwich tern [ac]	**13**	**11**	**26**	**10**	**-**	**-**	**-**	**-**	**-**	**-**	**6**	**9**				**26**
	Roseate tern [ac]	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**				**2**
	Common tern [ac]	**23**	**4**	**5**	**3**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2**				**23**
	Arctic tern [ac]	**1**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**				**2**
	Common / Arctic tern [ac]	**6**	**9**	**15**	**5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**				**15**
	Species	**May 2023**	**June 2023**	**July 2023**	**August 2023**	**Sept. 2023**	**Oct. 2023**	**Nov. 2023**	**Dec. 2023**	**Jan. 2024**	**Feb. 2024**	**March 2024**	**April 2024**	**May 2024**	**June 2024**	**July 2024**	**August 2024**	**Maximum Observed Peak Counts**
VP1 2023/24	**Black-legged kittiwake [bc]**			-	-	**2**	-	**3**	-	-	-	**10**	**28**	**3**	**6**	**2**	**8**	**28**
	Black-headed gull [c]			-	**14**	**28**	**62**	**55**	**35**	**100**	**82**	**23**	**19**	**14**	**15**	**26**	**18**	**100**

	Mediterranean gull [a]			-	**2**	**4**	**-**	**-**	**-**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**	**4**
	Common gull			-	8	4	8	-	2	-	10	6	6	8	2	13	11	13
	Great black-backed gull			3	10	-	17	14	6	9	15	9	8	9	3	11	13	17
	Herring gull [c]			**20**	**31**	**42**	**129**	**50**	**42**	**34**	**92**	**29**	**24**	**29**	**13**	**30**	**35**	**129**
	Lesser black-backed gull [c]			-	**2**	-	**3**	-	-	-	**3**	**1**	**2**	**-**	**-**	**2**	**4**	**4**
	Sandwich tern [ac]			**11**	**11**	**5**	-	-	-	-	-	**-**	**4**	**13**	**19**	**11**	**6**	**19**
	Common tern [ac]			-	**2**	**1**	-	-	-	-	-	**-**	**-**	**-**	**6**	**-**	**-**	**6**
	Common / Arctic tern [ac]			**3**	**5**	-	-	-	-	-	-	**-**	**-**	**-**	**-**	**3**	**-**	**5**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

VP2 Surveys

Table 14-6 presents the survey peak counts of gull and tern species recorded during the VP2 Survey. A total of nine (9) wader species were recorded. Of the gull and tern species recorded, six (6) are target species:

- **Gulls**: black-legged kittiwake, black-headed gull, herring gull, and lesser black-backed gull.
- **Terns**: sandwich tern, common tern and commic terns.

The distribution of all target gull and tern species records during the VP2 surveys are shown in **Figure B1-30 (Appendix B),** and **Figure B1-31** and **Figure B1-32** (**Appendix B1)**.

Table 14-6 Survey peak counts of gull and tern species recorded during VP2 Surveys

Species	Month			Maximum Observed Peak Count
	June	July	August	
Black-legged kittiwake [bc]	**5**	**-**	**8**	**8**
Black-headed gull [c]	**9**	**11**	**6**	**11**
Common gull	3	1	1	3
Great black-backed gull	6	6	2	6
Herring gull [c]	**27**	**20**	**5**	**27**
Lesser black-backed gull [c]	**10**	**-**	**-**	**10**
Sandwich tern [ac]	**13**	**12**	**6**	**13**
Common tern [ac]	**2**	**-**	**-**	**2**
Common/Arctic tern [ac]	**-**	**2**	**3**	**3**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

PELAGIC SEABIRDS AND CORMORANT SPECIES

VP1 Surveys

Table 14-7 presents the highest peak counts of seabirds recorded during the VP1 2022/23 and 2023/24 survey programme:

- During the 2022/23 VP1 surveys, a total of eight (8) seabirds were recorded.
- During the 2023/24 VP1 surveys, a total of eight (8) seabirds and one unidentified auk species group ('Common Guillemot/Razorbill') were recorded.
- Of these, seven (7) are target species:
  - **Auks**: common guillemot (*Uria aalge*), razorbill (*Alca torda*)

- **Tubenoses**: fulmar (*Fulmarus glacialis*), and Manx shearwater (*Puffinus puffinus*)
- Gannet (*Morus bassana*)
- **Cormorant species**: great cormorant (*Phalacrocorax carbo*) and shag (*Phalacrocorax aristotelis*)

The distribution of all target seabird species records across all VP surveys is shown in **Appendix B1** (**Figure B1-4 – Figure B1-8**).

Table 14-7 Survey peak counts of pelagic seabirds and cormorant species recorded during VP1 Surveys (2022/23 and 2023/24)

Survey Period	Species	Month															Maximum Observed Peak Counts
		May 2022	June 2022	July 2022	August 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	April 2023				
VP1 2022/23	**Common guillemot [c]**	**2**	**2**	**-**	**5**	**15**	**-**	**-**	**-**	**-**	**2**	**-**	**3**				**15**
	Razorbill [bc]	**-**	**1**	**-**	**2**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**				**2**
	Black guillemot	-	3	7	4	4	3	1	-	3	1	8	17				17
	Fulmar [c]	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**				**1**
	Manx shearwater [ac]	**-**	**7**	**25**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**				**25**
	Gannet [c]	**7**	**5**	**8**	**3**	**1**	**-**	**-**	**2**	**-**	**-**	**2**	**4**				**8**
	Cormorant [c]	**2**	**1**	**2**	**3**	**2**	**3**	**4**	**5**	**3**	**4**	**3**	**1**				**5**
	Shag [c]	**9**	**7**	**5**	**3**	**2**	**4**	**5**	**2**	**5**	**4**	**4**	**2**				**9**
	Species	**May 2023**	**June 2023**	**July 2023**	**August 2023**	**Sept. 2023**	**Oct. 2023**	**Nov. 2023**	**Dec. 2023**	**Jan. 2024**	**Feb. 2024**	**March 2024**	**April 2024**	**May 2024**	**June 2024**	**July 2024**	**August 2024**	**Maximum Observed Peak Counts**
VP1 2023/24	**Common guillemot [c]**			-	-	**3**	-	-	**2**	**4**	**2**	**4**	**3**	**3**	**2**	**2**	**4**	**4**
	Razorbill [bc]			-	-	**4**	-	-	-	-	-	**-**	**-**	**-**	**2**	**1**	**1**	**4**
	Common guillemot / Razorbill [bc]			-	**3**	-	-	-	-	-	-	-	-	-	-	-	-	**3**
	Black guillemot			16	10	6	2	3	3	3	4	8	9	8	10	7	-	16
	Fulmar [c]			-	-	-	-	-	-	-	-	-	-	-	-	-	**1**	**1**
	Manx shearwater [ac]			-	**14**	-	-	-	-	-	-	-	-	-	-	-	-	**14**
	Gannet [c]			**4**	**3**	**3**	-	-	-	**1**	-	**3**	**7**	**2**	**5**	**5**	**3**	**7**
	Cormorant [c]			**3**	**4**	**2**	**2**	**2**	**4**	**1**	**2**	**3**	**9**	**2**	**3**	**1**	**3**	**9**
	Shag [c]			**2**	**3**	**6**	**2**	**1**	**2**	**1**	**3**	**5**	**3**	**4**	**4**	**4**	**2**	**6**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

VP2 Counts

Table 14-8 presents the survey peak counts of pelagic seabirds and cormorant species recorded during the VP2 surveys. A total of six (6) species were recorded. Of these, five (5) are target species:

- **Auks**: common guillemot and razorbill
- **Tubenoses**: Manx shearwater (*Puffinus puffinus*)
- Gannet (*Morus bassana*)
- **Cormorant species**: cormorant and shag

The distribution and abundance of all target pelagic seabirds and cormorant species recorded during the VP2 surveys are shown in **Appendix B2** (**Figure B1-29 – Figure B1-31**).

Table 14-8 Survey peak counts of pelagic seabirds and cormorant species recorded during VP2 Surveys

Species	Month			Maximum Observed Peak Count
	June	July	August	
Common guillemot[c]	**3**	**1**	**-**	**3**
Razorbill[bc]	**2**	**-**	**5**	**5**
Black guillemot	12	6	-	12
Gannet[c]	**12**	**3**	**2**	**12**
Cormorant[c]	**16**	**2**	**1**	**16**
Shag[c]	**14**	**12**	**12**	**14**

Species in bold are of conservation concern. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.

14.3.4 MARINE MAMMALS

Three (3) species of marine mammal, grey seal (*Halichoerus grypus*), bottlenosed dolphin (*Tursiops truncatus*) and harbour porpoise (*Phocoena phocoena*), were recorded incidentally throughout the VP survey programme. Their highest peak counts are presented in Table 14-9 below and distribution maps of all marine mammal records across all VP surveys are mapped in **Figure B5-1** (**Appendix B**) to **Figure B5-3** in (**Appendix B5**). Most grey seal observations involved loafing males within 100 m of the shoreline, while harbour porpoises were primarily recorded in offshore areas of the Ornithology Study Area.

Table 14-9 Survey peak counts of marine mammals recorded during VP1 Surveys (2022/23 and 2023/24)

Survey Period	Species	Month																Maximum Observed Peak Counts
		May 2022	June 2022	July 2022	August 2022	Sept. 2022	Oct. 2022	Nov. 2022	Dec. 2022	Jan. 2023	Feb. 2023	March 2023	April 2023					
VP1 2022/23	Grey seal	-	1	1	1	2	3	2	2	1	2	2	3					3
	Harbour porpoise	2	-	-	-	-	-	-	-	-	-	3	-					3
	Species	May 2023	June 2023	July 2023	August 2023	Sept. 2023	Oct. 2023	Nov. 2023	Dec. 2023	Jan. 2024	Feb. 2024	March 2024	April 2024	May 2024	June 2024	July 2024	August 2024	Maximum Observed Peak Counts
VP1 2023/24	Grey seal			2	1	5	1	-	1	-	2	1	2	3	3	1	2	5
	Harbour porpoise			3	2	2	2	-	-	-	-	-	-	-	-	-	-	3
	Bottlenose dolphin			-	-	-	-	-	-	-	-	-	-	1	-	1	1	3

14.4 BBS RESULTS

The complete BBS results including all bird species recorded for each survey are presented in Table 14-10 (BBS 2022), Table 14-12 (BBS 2023) and Table 14-14 BBS (2024).

In BBS, understanding site usage during the breeding season relies on recording birds exhibiting behaviours indicative of breeding, such as singing, courtship displays, nest-building, and food-carrying. These behaviours provide essential evidence of species actively using the Ornithology Study Area for breeding, rather than simply passing through.

For this reason, flight data recorded during the BBS are associated with birds utilising the TSA and have been included in the total bird counts. These data, along with observations of key breeding behaviours of target species, are mapped in the BBS results figures (**Figures B2-1 – Figure B2-15** in **Appendix B2)** to illustrate target species presence and breeding activity across the Site.

Further details on each target species recorded during BBS surveys are provided in the species summaries in Section 14.7 below.

14.4.1 BBS 2022

During the BBS surveys (2022), a total of thirty-nine (39) bird species were recorded within the TSA (presented in Table 14-10), including twelve (12) target species and **Figure B2-1 – Figure B2-5, Appendix B2**). Of these:

- Four (4) species are listed on the BoCCI Red List (Gilbert *et al.,* 2021)
- Four (4) are included in Annex I of the Birds Directive (2009/147/EC)
- Eight (8) are designated as SCIs of the Seas off Wexford SPA

Table 14-10 BBS (2022) counts of all species recorded

Species	May	June	July	Survey Period Total Counts
Shelduck	1	-	-	1
Grey partridge [b]	**1**	**-**	**-**	**1**
Woodpigeon	4	-	3	7
Collared dove	-	2	-	2
Oystercatcher [b]	**1**	**-**	**1**	**2**
Black-legged kittiwake [bc]	**9**	**-**	**-**	**9**
Black-headed gull [c]	**7**	**11**	**10**	**28**
Mediterranean gull [ac]	**1**	**1**	**27**	**29**
Great black-backed gull	3	3	4	10
Herring gull [c]	**7**	**12**	**8**	**27**
Sandwich tern [ac]	**3**	**3**	**-**	**6**
Arctic tern [ac]	**-**	**-**	**2**	**2**
Black guillemot	-	-	3	3

Species	May	June	July	Survey Period Total Counts
Cormorant [c]	**2**	**4**	**1**	**7**
Shag [c]	**-**	**-**	**2**	**2**
Little egret [a]	**-**	-	**1**	**1**
Magpie	-	2	3	5
Western jackdaw	2	1	-	3
Rook	-	4	-	4
Hooded crow	2	2	4	8
Blue tit	-	1	2	3
Willow warbler	3	4	2	9
Chiffchaff	-	1	1	2
Sedge warbler	1	3	2	6
Whitethroat	1	1	-	2
Wren	5	6	4	15
Starling	9	4	14	27
Song thrush	-	-	1	1
Blackbird	5	5	13	23
Robin	2	7	5	14
Stonechat	4	7	9	20
House sparrow	7	20	16	43
Dunnock	3	6	4	13
Pied wagtail	3	13	5	21
Meadow pipit [b]	**10**	**4**	**-**	**14**
Rock pipit	5	4	3	12
Chaffinch	-	2	-	2
Common linnet	15	15	25	55
Goldfinch	9	3	18	30
Species in bold are target species. [a] Annex 1 species. [b.] BoCCI4 red-list species. [c] SCIs of Seas off Wexford SPA.				

Territory Analysis

Territory analysis was conducted for target species only. Of the twelve (12) target species recorded, only meadow pipit exhibited breeding behaviour within the TSA including singing males and pairs in suitable breeding habitat between BBS visits. All other target species were not observed exhibiting behaviours indicative of breeding and therefore not presented within the territory analysis.

Territory analysis identified four (4) distinct meadow pipit (*Anthus pratensis*) territories (refer to Table 14-11) within the TSA during the 2022 BBS (**Figure B2-1 Appendix B2)**. This suggests that meadow pipits were actively breeding within the area, reinforcing their confirmed usage of the TSA during the breeding season.

Note: Black guillemot are known to breed within the vicinity of the Study Area on the outer breakwater of Rosslare Europort although this is outside of the BBS survey area.

Table 14-11 Territory analysis of terrestrial target species during BBS 2022

Species	Number of Territories
Meadow pipit	4

14.4.2 BBS 2023

During the 2023 BBS surveys, a total of 36 bird species were recorded within the TSA (presented in Table 14-12), including nine (9) target species, with the spatial distribution maps presented in **Figure B2-7 – Figure B2-11, Appendix B2**. Of these:

- One (1) species is included in Annex I of the Birds Directive (2009/147/EC)
- Four (4) species are listed on the BoCCI Red List (Gilbert *et al.,* 2021)
- Four (4) species are designated as SCIs of the Seas off Wexford SPA.

Table 14-12 BBS (2023) counts of all species recorded

Species	Survey 1 March	Survey 2 April	Survey 3 April	Survey 4 May	Survey 5 May	Survey 6 June	Survey Period Total Count
Woodpigeon	-	4	-	-	-	-	4
Collared dove	2	4	-	2	2	-	10
Oystercatcher [b]	**1**	**-**	**-**	**-**	**-**	**-**	**1**
Ruddy turnstone	4	3	2	-	-	-	9
Snipe [b]	**2**	**-**	**-**	**-**	**-**	**-**	**2**
Black-headed gull [c]	**4**	**3**	**3**	**-**	**-**	**-**	**10**
Herring gull [c]	**2**	**4**	**-**	**-**	**-**	**-**	**6**
Cormorant [c]	**1**	**1**	**-**	**-**	**-**	**-**	**2**
Shag [c]	**-**	**2**	**1**	**-**	**-**	**-**	**3**
Grey heron	1	1	-	-	1	-	3
Little egret [a]	**-**	**-**	**1**	**1**	**-**	**2**	**4**
Magpie	-	1	2	2	2	2	9
Hooded crow	-	2	1	1	2	-	6
Blue tit	1	2	2	1	2	9	17
Great tit	1	3	-	2	-	-	6
Willow warbler	-	2	1	3	2	2	10
Chiffchaff	-	1	2	1	1	1	6
Blackcap	-	-	1	-	-	1	2

Species	Survey 1 March	Survey 2 April	Survey 3 April	Survey 4 May	Survey 5 May	Survey 6 June	Survey Period Total Count
Wren	4	4	2	5	3	2	20
Starling	4	7	4	2	2	14	33
Song thrush	1	2	1	1	1	1	7
Blackbird	6	5	3	3	5	6	28
robin	2	8	5	5	6	8	34
Stonechat	6	6	2	6	6	5	31
House sparrow	6	6	9	12	18	16	67
Dunnock	1	3	1	3	3	3	14
Pied wagtail	4	3	3	2	2	3	17
Meadow pipit [b]	**2**	**1**	**3**	**2**	**3**	**4**	**15**
Rock pipit	4	2	3	2	3	2	16
Chaffinch	3	-	3	2	2	4	14
Bullfinch	-	-	1	-	-	2	3
Linnet	2	2	3	4	4	1	16
Goldfinch	2	-	2	1	-	-	5
Yellowhammer [b]	**1**	**2**	**1**	**1**	**-**	**1**	**6**
Reed bunting	-	-	-	3	3	2	8
Species in bold are target species. [a] Annex I species. [b.] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.							

Territory Analysis

Territory analysis was conducted for target species only. Of the nine (9) target species recorded, only meadow pipit and yellowhammer (*Emberiza citrinella*) exhibited breeding behaviour within the TSA including singing males and pairs in suitable breeding habitat between BBS visits. All other target species were not observed exhibiting behaviours indicative of breeding and therefore have not presented in the territory analysis.

Territory analysis identified two (2) target species as breeding within the TSA during the 2023 breeding season:

- Meadow pipit – 2 territories
- Yellowhammer – 2 territories.

The results of the territory analysis for these species are presented in Table 14-13 below and **Figure B2-6 Appendix B2**.

Table 14-13 Territory analysis of terrestrial target species during BBS 2023

Species	Number of Territories
Meadow pipit	2

Yellowhammer	2

14.4.3 BBS 2024

During the 2024 BBS surveys, a total of thirty-five (35) bird species were recorded within the TSA (presented in Table 14-14), including eight (8) target species, with the spatial distribution maps presented in **Figure B2-13 – Figure B2-15, Appendix B2**. Of these:

- Two (2) species is included in Annex I of the Birds Directive (2009/147/EC)
- One (1) species are listed on the BoCCI Red List (Gilbert *et al.,* 2021)
- Six (6) species are designated as SCIs of the Seas off Wexford SPA

Table 14-14 BBS (2024) counts of all species recorded

Species	April	May	June	Survey Period Total Counts
Feral pigeon	14	-	-	14
Collared dove	-	-	2	2
Ruddy turnstone	21	-	-	21
Black-headed gull [c]	-	3	-	3
Common gull	4	1	-	5
Great black-backed gull	2	7	-	9
Herring gull [c]	15	20	4	39
Lesser black-backed gull [c]	-	1	-	1
Sandwich tern [ac]	6	-	-	6
Black guillemot	3	2	-	5
Great cormorant [c]	-	3	4	7
European shag [c]	4	1	1	6
Grey heron	1	2	-	3
Little egret [a]	-	1	-	1
Eurasian magpie	-	2	2	4
Western jackdaw	4	1	-	5
Eurasian blue tit	1	5	7	13
Great tit	-	1	1	2
Willow warbler	2	1	-	3
Common chiffchaff	2	-	-	2
Sedge warbler	1	1	1	3
Eurasian wren	9	6	5	20
Common starling	2	2	4	8

Species	April	May	June	Survey Period Total Counts
Song thrush	1	1	-	2
Common blackbird	5	7	5	17
European robin	6	4	5	15
European stonechat	4	4	5	13
House sparrow	1	-	5	6
Dunnock	1	3	2	6
Pied wagtail	4	4	5	13
Meadow pipit [b]	4	4	5	13
European rock pipit	7	4	2	13
Common chaffinch	-	3	5	8
Common linnet	17	7	7	31
Common reed bunting	2	1	1	4
Species in bold are target species. [a] Annex 1 species. [b] BoCCI4 red-list species. [c] SCIs of Seas off Wexford SPA.				

Territory Analysis

Territory analysis was conducted for target species only. Of the eight target species recorded, only meadow pipit exhibited breeding behaviour within the TSA including singing males and pairs in suitable breeding habitat between BBS visits. All other target species were not observed exhibiting behaviours indicative of breeding and therefore not presented within the territory analysis.

Territory analysis identified two distinct meadow pipit territories within the TSA during 2024 BBS. The locations of the breeding territories are presented in Table 14-15 and **Figure B2-12** within **Appendix B2**.

Table 14-15 Territory analysis of terrestrial target species during BBS 2024

Species	Number of Territories
Meadow pipit	4

Note: Black guillemot are known to breed within the vicinity of the Study Area on the outer breakwater of Rosslare Europort, although this is outside of the BBS survey coverage area (NPWS, 2011).

14.5 TERN ROOST SURVEY RESULTS

14.5.1 2022

Common tern (*Sterna hirundo*), Arctic tern (*Sterna paradisaea*) and Sandwich tern (*Thalasseus sandvicensis*) were recorded during 2022 tern roost surveys. The results of these surveys are presented in Table 14-16.

During the August 2022 survey, all three species were observed roosting, with records concentrated around the Rosslare Harbour wall, indicating this as the primary roost site for terns within the Ornithology Study Area. However, during the September 2022 survey, only Sandwich tern was recorded.

The spatial distribution of roosting terns during these surveys is shown in **Figure B3-1, Appendix B3**.

Table 14-16 2022 tern roost counts

Species	August	September
Sandwich tern	17	4
Common tern	4	0
Arctic tern	5	0

14.5.2 2023

No tern species were recorded roosting within the Study Area during either of the 2023 tern roost surveys.

14.5.3 2024

No terns were recorded roosting within the Study Area during either survey in 2024. A light passage of terns was noted during the August survey with a small flock numbering 15 common terns and four Sandwich terns recorded passing through the Study Area but not lingering.

14.6 WWO SURVEY RESULTS

In this section of the report, only target species (refer to Section 14.2.1) are presented, as these are the primary focus of the WWO surveys (refer to Section 2.3). Records of non-target species observed during the WWO surveys are provided separately in **Appendix B4-1**, Tables **B4-1** and **B4-2**.

14.6.1 WWO 2022/23

A total of thirty-four (34) bird species were recorded during the WWO 2022/23. Of these, sixteen (16) are target bird species, including:

- Six (6) listed under Annex I of the Birds Directive (2009/147/EC)
- Six (6) included on the BoCCI Red List (Gilbert *et al.,* 2021)
- Eight (8) designated as SCIs of the Seas off Wexford SPA.

The counts for target species during the WWO 2022/23 survey are provided in Table 14-17 below, and their spatial distribution is presented in **Figures B4-1 to Figure B4-5** in **Appendix B4**. Further details for each target species are provided in Section 14.7 below.

A total of eleven (11) target species were recorded in December, fourteen (14) target species recorded in January 2023 and seven (7) target species were recorded in February 2023.

Table 14-17 WWO 2022/23 counts of target species

Species	December 2022	January 2023	February 2023	Survey Period Total Count
Common scoter [bc]	19	-	-	19
Red-throated diver [ac]	1	3	-	4
Great northern diver [a]	-	1	-	1
Oystercatcher [b]	1	2	4	7
Snipe [b]	2	5	2	9
Redshank [b]	2	2	1	5
Black-headed gull [c]	86	12	-	98
Mediterranean gull [ac]	3	8	-	11
Herring gull [c]	33	14	12	59
Little egret [a]	1	-	1	2
Cormorant [c]	4	4	-	8
Shag [c]	1	1	1	3
Black-necked grebe [ab]	-	2	-	2
Great northern diver [a]	-	1	-	1
Gannet [c]	-	2	-	2
Grey wagtail [b]	-	1	1	2

[a] Annex 1 species. [b]. BoCCI4 red-list species. [c] SCIs of Seas off Wexford SPA.

14.6.2 WWO 2023/24

A total of thirty-six (36) bird species and 1 marine mammal species were recorded during the WWO 2023/24. Of these, fourteen (14) are target species including:

- three are listed under Annex I,
- seven are included on the BoCCI red list
- six are SCIs of the Seas off Wexford SPA.

Counts for target species during each survey are provided in Table 14-18 below and the distribution of target species are presented in **Figure B4-6 to Figure B4-12, Appendix B4**. Further breakdowns for each target species can be found in Section 14.7 below.

A single grey seal was recorded in the December 2023 survey visit.

Table 14-18 WWO 2023/24 counts of target species

Species	October 2023	November 2023	December 2023	January 2024	February 2024	Survey Period Total Count
Oystercatcher [b]	2	-	-	3	3	8
Lapwing [b]	28	159	322	-	26	535
Redshank [b]	1	-		-	1	2
Black-headed gull [c]	4	-	33	-	-	37
Herring gull [c]	9	6	57	15	4	91
Cormorant [c]	1	4	5	4	2	16
Shag [c]	-	-	1	-	-	1
Meadow pipit [b]	2	3	10	-	-	15
Little egret [a]	-	1	1	1	1	4
Red-throated diver [ac]	-	1	1	-	-	2
Curlew [b]	-	-	18	-	2	20
Mediterranean gull [ac]	-	-	2	-	-	2
Dunlin [b]	-	-	-	-	16	16
Yellowhammer [b]	-	-	-	-	2	2
Species in bold are target species. [a] Annex I species. [b] BoCCI red-list species. [c] SCI of the Seas of Wexford SPA.						

14.7 SPECIES SUMMARIES

Species summaries are provided for all target species recorded during the survey programme. Where available, each summary includes:

- National population estimates for Ireland.
- SPA population figures from citation documents for relevant SCI species.

These summaries provide context for assessing the importance of the Study Area in relation to wider population trends.

14.7.1 PASSERINES

GREY WAGTAILS

The grey wagtail (*Motacilla cinerea*) is a small passerine species that is BoCCI Red-listed (Gilbert *et al.,* 2021). BirdWatch Ireland (2025) describes it as "a widespread resident along fast flowing streams and rivers throughout Ireland".

2022/23

- WWO Survey (2022/23): one (1) grey wagtail was recorded in January 2023, and one (1) individual in February 2023 (Table 14-17 above; **Figure B4-1** and **B4-2, Appendix B4**).

2023/24

- Grey wagtail was not recorded during surveys in 2023/24.

MEADOW PIPIT

The meadow pipit is a small passerine species that is BoCCI4 Red-listed (Gilbert *et al.,* 2021). BirdWatch Ireland (2025) describes it as "one of the commonest bird species in Ireland, favouring rough pastures and uplands".

2022/23

- BBS (2022): recorded in two (2) months surveyed (May and June), with fourteen (14) individuals recorded in total over the BBS 2022 and a survey period peak count of ten (10) in May 2022 (Table 14-10 above: **Figure B2-1** and **Figure B2-2**, **Appendix A**). Four (4) breeding territories were recorded within the TSA, all in grassland set back from the shoreline (Table 14-11; **Figure B2-3, Appendix B2**).

2023/24

- BBS (2023): recorded in all six (6) months surveyed (March to June inclusive), with 15 individuals recorded in total over the BBS and a survey period peak count of four (4) in June 2023 (Table 14-12; **Figure B2-6, Appendix B2**). Two (2) territories were recorded in rough grassland set back from the shoreline, east of the small boat harbour (Table 14-13; **Figure B2-7, Appendix B2**).

- WWO Survey (2023/24): meadow pipit was recorded in October, November, and December 2023, with a survey period peak count of ten (10) in December (Table 14-18 above; **Figure B4-6, Appendix B4**).
- BBS (2024): meadow pipits were recorded in all months surveys, with four (4) individual recorded in April and again in May, and a peak count of five (5) in June (Table 14-14 above: **Appendix B2, Figure B2-12**). Two (2) meadow pipit breeding territories were confirmed in the rough grassland and scrub at the south of the BBS Survey Area just north of the railway line (Table 14-15 above: **Appendix B2, Figure B2-13**).

YELLOWHAMMER

The yellowhammer is a BoCCI red-listed, small passerine species (Gilbert *et al.,* 2021). BirdWatch Ireland (2025) describes this species as a "declining resident mainly in the east and south of Ireland".

2022/23

- Yellowhammer was not recorded during the 2022/23 survey period.

2023/24

- BBS (2023): yellowhammers were recorded in each month surveyed from March to June 2023, except in May 2023, with a total of six (6) yellowhammers recorded (Table 14-12 above; **Figure B2-6** and **Figure B2-7**, **Appendix B2**). The peak count for the survey period was two (2) individuals in April 2023. Two (2) yellowhammer territories were recorded, both in the hedge line that borders the arable field in the western limit of the TSA (Table 14-13; **Figure B2-9, Appendix B2**).
- WWO Survey (2023/24): two (2) individuals were recorded in February 2024 (Table 14-18 above; **Figure B4-6, Appendix 4B**).

14.7.2 GALLIFORMES (GAMEBIRD)

GREY PARTRIDGE

The grey partridge (*Perdix perdix*) is a BoCCI4 red-listed, medium-sized gamebird (Gilbert *et al.*, 2021) and is considered a species of high conservation concern in Ireland due to significant long-term population declines. BirdWatch Ireland (2025) describes this species as a "resident in lowland farmland in County Offaly". The species is now critically endangered in Ireland, with a small, managed population at Boora, Co. Offaly, where conservation efforts focus on habitat restoration and population recovery.

2022/23

- BBS (2022): one (1) individual grey partridge (*Perdix perdix*) was recorded in May 2022 (Table 14-10 above; **Figure B2-2** and **Figure B2-3**, **Appendix B2**).

2023/24

- Grey partridge was not recorded during surveys in 2023/24.

14.7.3 WADERS

OYSTERCATCHER

The oystercatcher is a BoCCI4 red-listed wader (Gilbert *et al.,* 2021) and a SCI species of Wexford Harbour and Slobs SPA, with a citation count of 1,493 individuals (five-year peak mean between 1995/6 – 1999/2000; NPWS, 2014). The Irish population was estimated at 42,875 (Burke *et al.,* 2018). Birdwatch Ireland (2025) describes the species as a "resident and winter visitor – largest numbers between September and March".

2022/23

- VP1 Surveys (2022/23): oystercatchers were recorded in seven (7) months from May 2022 to April 2023, with a maximum observed peak count of eight (8) in January 2023 (Table 14-3; **Figure B1-3, Appendix B1**).
- BBS (2022): one (1) oystercatcher was recorded in May and one in July 2022 (Table 14-10; **Figure B2-3 Appendix B2**). No breeding behaviour was recorded.
- WWO Survey (2022/23): oystercatchers were recorded during all three (3) surveyed months, with a survey period peak count of four (4) in February 2023 (Table 14-17 above; **Figure B4-1** and **Figure B4-2, Appendix B4**).

2023/24

- VP1 Surveys (2023/24): oystercatchers were recorded across five (5) months (October 2023 to January 2024, inclusively, and August 2024), with a maximum observed peak count of sixteen (16) in October 2023 (Table 14-3 above; **Figure B1-12 Appendix B1**, and **Figure B1-15**)
- BBS (2023): one (1) individual was observed in March 2023 (Table 14-12 above: **Figure B2-7** and **Figure B2-9**, **Appendix B2**). The species is not thought to breed within the Ornithology Study Area.
- WWO Survey (2023/24): a total of eight (8) oystercatchers were recorded, with a peak count of three (3) individuals in January and February 2024 (Table 14-18)
- Across all surveys, oystercatchers were recorded foraging or roosting along the shoreline west of the old boat harbour (**Figures B2-7, Figure B2-9, Figure B4-10, Figure B4-11, Appendix B2 and B4**).

LAPWING

The northern lapwing (*Vanellus vanellus*) is a BoCCI4 red-listed wader and a SCI of the Wexford Harbour and Slobs, Tacumshin Lake, and Ballyteige Burrow SPAs, with citation counts of 11,826, 5,302, and 7,808 respectively (NPWS, 2014a, 2014b, and 2014c). The Irish population was estimated at 69,823 individuals (Burke *et al*., 2018). BirdWatch Ireland (2025) describes the species as a "resident and a summer visitor from the Continent (France & Iberia) and winter visitors (from western & central Europe)" with some overlap between groups.

2022/23

- No observations were made of northern lapwing in the 2022/23 survey period.

2023/24

- VP1 Survey (2023/24): Lapwings were recorded in September 2023 to December 2023 (inclusive) and in February 2024 (Table 14-3). The maximum observed peak count for the survey period was 190 individuals in November 2023 roosting on the old boat harbour wall (**Figure B1-12** and **Figure B1-13, Appendix B1**). In December 2023, one hundred and twenty-five (125) were recorded (the second highest peak count of the survey period).
- WWO Survey (2023/24): Lapwings were recorded in every month from October 2023 to February 2024, except in January 2024. The highest peak count was recorded in December 2023 of the WWO survey, where 322 lapwings were observed (Table 14-18; **Figure B4-8** and **B4-9, Appendix B4**).

CURLEW

The Curlew (*Numenius arquata*) is a BoCCI4 red-listed large wader and a SCI of the Wexford Harbour and Slobs SPA, with a citation count of 1,771 individuals (five-year peak mean between 1995/6 – 1999/2000; NPWS, 2014). The Irish population was estimated at 28,300 individuals (Burke *et al.,* 2018). BirdWatch Ireland describes the species as a "winter visitor to wetlands throughout Ireland, as well as breeding in small numbers").

2022/23

- Curlew were not recorded during the 2022/23 survey period.

2023/24

- VP1 Survey (2023/24): six (6) individuals were recorded in November 2023 (the maximum observed peak count during the survey period) and two (2) individuals in January 2024 and again in August 2024 (Table 14-3 above: **Figure B1-12**, **Appendix B1**)
- WWO Survey (2023/24): eighteen (18) curlews were recorded in November 2023 and two (2) individuals in February 2024 (Table 14-18 above: **Figure B4-8** and **B4-9, Appendix B4**).

DUNLIN

The dunlin (*Calidris alpina*) is a BoCCI4 red-listed small wader species and a SCI of the Wexford Harbour and Slobs SPA, with a citation count of 2,485 individuals (five-year peak mean between 1995/6 – 1999/2000; NPWS, 2014). The Irish population was estimated at 37,409 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes the species as a "summer visitor from NW Africa/SW Europe, winter visitor from Scandinavia to Siberia and a passage migrant from Greenland (heading south to winter in Africa), with most Curlews occurring during the mid-winter period".

2022/23

- No observations of dunlin were recorded during the 2022/23 survey period.

2023/24

- VP1 Surveys (2023/24): twenty-three (23) individuals were recorded in November 2023 foraging along the western shoreline (Table 14-3 above; **Figure B1-12**, **Appendix B1**).

- WWO Survey (2023/24): sixteen (16) dunlin were recorded in February 2024 (Table 14-18 above; **Figure B4-8** and **Figure B4-9, Appendix B4**).

SNIPE

The snipe (*Gallinago gallinago*) is a BoCCI4 red-listed small wader species (Gilbert *et al.,* 2021). BirdWatch Ireland (2025) describes this species as a "summer visitor from west Europe and west Africa as well as a widespread winter visitor".

2022/23

- VP1 Surveys (2022/23): one (1) individual snipe was recorded in March 2023 (Table 14-3 above; **Figure B1-3**, **Appendix B1**).
- WWO Survey (2022/23): Snipe were recorded during all three (3) months surveyed, with a total survey period count of nine (9) individuals and a peak count for the survey period of five (5) in January 2023 (Table 14-17). All records were located to the east of the small boat harbour (**Figure B4-1, Figure B4-2** and **Figure B4-5, Appendix B4**).

2023/24

- BBS (2023): two (2) snipe were recorded in March 2023 (Table 14-12; **Figure B2-7** and **Figure B2-8, Appendix B2**). This species is not thought to breed on site and these records are considered passage migrants.

REDSHANK

The common redshank (*Tringa totanus*) is a cBoCCI4 red-listed medium sized wader (Gilbert *et al.,* 2021) and a SCI of the Wexford Harbour and Slobs SPA, with a citation count of 555 individuals (five-year peak mean between 1995/6 – 1999/2000; NPWS, 2014). The Irish population was estimated at 16,812 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes the species as a "resident and winter visitor with highest numbers in early autumn".

2022/23

- VP1 Surveys (2022/23): redshank was recorded in September and November 2022, and January to March 2023 (inclusive), with a survey period peak count of two (2) individuals in January, February and March 2023 (Table 14-3 above; **Figure B1-3 Appendix B1**).
- WWO Survey (2022/23): redshank were recorded during all three (3) months surveyed, with a survey period peak count of two (2) individuals in January and February 2023 (Table 14-17 above: **Figure B4-1** and **Figure B4-2**, **Appendix B4**).

2023/24

- VP1 Surveys (2023/24): redshank were recorded during 4 of the VP survey months. Two (2) individuals were recorded in December 2023, with a further two (2) observed in January 2024 (Table 14-3 above; **Figure B1-12 and Figure B1-13, Appendix B1**). In March, two (2) redshanks were recorded foraging within the intertidal area along the breakwater of the old boat harbour and, two (2) individuals recorded foraging within the old boat harbour in August 2024 (Table 14-3 above; **Figure B1-14 and Figure B1-15, Appendix B1**).

- WWO Surveys (2023/24): one (1) individual was recorded in October 2023 and again in February 2024 (Table 14-18 above: **Figure B4-10** and **Figure B4-11, Appendix B4**).

LITTLE EGRET

The little egret (*Egretta garzetta*) is a BoCCI4 green-listed small heron (Gilbert *et al.,* 2021), and an Annex I species. The Irish wintering population was estimated at 1,274 for 2015/2016 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes this species as a "resident along coasts and rivers throughout Ireland".

2022/23

- BBS (2022): one (1) individual was recorded in July (Table 14-10 above; **Figure B2-2** and **Figure B2-3, Appendix B2**).
- WWO Survey (2022/23): one (1) individual was recorded in December 2022 and again in February 2023 (Table 14-17 above; **Figure B4-1** and **Figure B4-2, Appendix B4**).

2023/24

- VP1 Surveys (2023/24): one (1) individual was recorded foraging along the shoreline in July 2023, September 2023, January, March and August 2024, while two (2) individuals were recorded in November 2023 (Table 14-3 above; **Figure B1-12** and **Figure B1-13, Appendix B1**).
- VP2 Surveys (2024): one (1) individual little egret was recorded in June 2024 (Table 14-4 above; **Figure B1-27 Appendix B1**).
- BBS (2023): Little egrets were recorded in April, May, and June 2023 with a total of four (4) recorded across the BBS and a peak count of two (2) individuals in June (Table 14-12 above; **Figure B2-7, Figure B2-8** and **Figure B2-9, Appendix B2**).
- WWO Survey (2023/24): one (1) individual was recorded in each of the four (4) recorded months: November, December 2023, January and February 2024 (Table 14-18 above; **Figure 4-6, Appendix B4**).

14.7.4 WILDFOWL, GREBES AND DIVERS

COMMON SCOTER

The common scoter is a BoCCI4 red-listed sea duck (Gilbert *et al.,* 2021). It is a SCI of The Raven SPA, with a citation count of 3,234 individuals (five-year peak mean between 1995/96 and 1998/99; NPWS, 2010), and the Seas off Wexford SPA, with a citation count of 1,078 in 2018/2019 (NPWS 2024), both of which are of national importance. The Irish population is estimated at 10,607 in 2015/2016, (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes this species as a "resident and winter visitor to all Irish coasts between October and April".

2022/23

- VP1 Surveys (2022/23): common scoter was recorded from August 2022 and March 2023, with a survey period peak count of fifty-three (53) individuals recorded in October 2022 (Table 14-2 above; **Figure B1-1, Appendix B1**).
- WWO Survey (2022/23): nineteen (19) individuals were recorded in December 2022 (Table 14-17 above; **Figure B4-3** and **Figure B4-4, Appendix B4**).

2023/24

- VP1 Survey (2023/24): common scoter was recorded in November, December 2023, and February 2024, with a survey period peak count of nineteen (19) individuals in February 2024 (Table 14-2 above; **Figure B1-10, Appendix B1**).

BLACK-NECKED GREBE

The black-necked grebe (*Podiceps nigricollis*) is a BoCCI4 red-listed grebe species (Gilbert *et al.,* 2021). This species is a rare winter visitor and passage migrant, formerly a breeding species on well-vegetated lakes in western Ireland. BirdWatch Ireland (2025) describes this species as a "rare winter visitor to coastal areas from October to March".

2022/23

- VP1 Surveys (2022/23): two (2) individuals were recorded in December 2022 and two (2) in January 2023 (Table 14-3 above; **Figure B1-1, Appendix B1**).
- WWO Survey (2022/23): two (2) individuals were recorded in January 2023 (Table 14-17 above; **Figure B4-3** and **Figure B4-4, Appendix B4**). It is presumed that these are the same individuals recorded during the January 2023 VP1 survey.

2023/24

- Black-necked grebe was not recorded during any survey during the 2023/24 survey programme.

RED-THROATED DIVER

The red-throated diver is a BoCCI4 amber-listed diver species (Gilbert *et al.,* 2021), and an Annex I species. It is a SCI of The Raven SPA, with a citation count of 77 (five-year peak mean from 1995/1996 to 1999/2000; NPWS, 2010), and of the Seas off Wexford SPA, with a citation count of 499 in 2018/2019 (NPWS 2024). The Irish population was estimated at 657 for 2015/2016 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes this species as a "winter visitor to all Irish coasts from September to April".

2022/23

- VP1 Survey (2022/23): red-throated diver was recorded between September 2022 and March 2023, with a survey period peak count of six (6) individuals in January 2023 (Table 14-2 above; **Figure B1-1, Appendix B1**).

- WWO Survey (2022/23): one (1) individual was recorded in December 2022 and three (3) individuals in January 2023 (Table 14-17). The species was typically recorded between 250m and 350m offshore (**Figure B4-3** and **Figure B4-4, Appendix B4**).

2023/24

- VP1 Survey (2023/24): red-throated diver was recorded in every VP1 survey between September 2023 and April 2024 inclusively, with a survey period peak count of three (3) individuals in April 2024 (Table 14-2 above**; Figure 1-10, Appendix B1**).
- WWO Survey (2023/24): one (1) individual was recorded in November 2023 and one (1) individual in December 2023 (Table 14-18 above; **Figure 4-10, Appendix B4**).

GREAT NORTHERN DIVER

The great northern diver (*Gavia immer*) is a BoCCI4 amber-listed species (Gilbert *et al.,* 2021) and an Annex I species. The Irish population was estimated at 2,128 in 2015/2026 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes the species as a "widespread winter visitor to coastal areas from September to April".

2022/23

- VP1 Survey (2022/23): great northern diver was recorded in October, December 2022, January, February and April 2023, with a survey period peak count of three (3) individuals in October (Table 14-2 above; **Figure B1-1**, **Appendix B1**).
- WWO Survey (2022/23): one (1) individual was recorded in January 2023 (Table 14-17 above; **Figure B4-3** and **Figure B4-4**, **Appendix B4**).

2023/24

- VP1 Survey (2023/24): great northern divers were recorded in December 2023, February 2024 and March 2024, with a peak of two (2) individuals in March (Table 14-2 above; **Figure B1-10 and Figure B1-11, Appendix B1**).

14.7.5 SEABIRDS

GULLS

Black-legged kittiwake

The black-legged kittiwake (*Rissa tridactyla*) is a BoCCI4 red-listed, small, pelagic, gull species (Gilbert *et al.,* 2021) and a SCI of the Saltee Islands SPA, with a citation count of 2,125 pairs, 1998-2000 (NPWS, 2012), and of the Seas off Wexford SPA (NPWS 2024). The all-Ireland breeding population of kittiwakes, based on Apparently Occupied Nests (AON), was estimated at 41,875 AONs across eighty-three (83) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes the species as a "summer visitor to steep coastal cliffs along all Irish coasts".

2022/23

- VP1 surveys (2022/23): kittiwake was recorded during eight (8) months, with a peak count of thirty (31) individuals recorded in May 2022 (Table 14-5 above; **Figure B1-6, Figure B1-7 Figure 7 and Figure B1-8, Appendix B1**).
- BBS (2022): nine (9) kittiwakes were recorded in May 2022, although no breeding behaviour was noted (Table 14-10 above; **Figure B2-4 and Figure B2-5, Appendix B2**).

2023/24

- VP1 Survey (2023/24): kittiwakes were recorded in September and November 2023, and in during every survey month from March 2024 through August 2023, with a survey period peak count of twenty-eight (28) individuals in April (Table 14-5 above; **Figure B1-17**, **Appendix B**).
- VP2 Surveys: five (5) kittiwakes were recorded in June and eight (8) in August (Table 14-6 above: **Appendix B1**, **Figure B1-30**).
- Most records were observed foraging between 1 and 1.5 km offshore, however two individuals were observed roosting on the breakwater in the main harbour from VP1 in August (**Appendix B1, Figure B1-17** and **Figure B1-30**).

Black-headed Gull

The black-headed gull is a BoCCCI4 amber-listed small gull species (Gilbert et al., 2021), and is a SCI of Wexford Harbour and Slobs SPA, with a citation count of 5,977 individuals (five-year peak mean between 1995/6 – 1999/2000; NPWS, 2014), Lady's Island Lake SPA, with a citation count 949 pairs in 2002 (NPWS,2015), and the Seas off Wexford SPA (NPWS 2024). The all-Ireland breeding population of black-headed gulls, based on AON, was estimated at 19,611 AONs across sixty-nine (69) occupied sites from 2015 to 2021 (Burnell et al., 2023). BirdWatch Ireland (2025) describes this species as a "resident along all Irish coasts with significant numbers arriving in winter.

2022/23

- VP1 survey (2022/23): black-headed gull was recorded in all 12 months, with a peak count of eighty-five (85) individuals in October 2022 (Table 14-5 above; **Figure B1-6, Figure B1-7 and B1-8 Appendix B1**).
- BBS (2022): black-headed gulls were recorded in all three (3) surveyed months, with a peak count of eleven (11) individuals in June 2022. No breeding behaviour was recorded with the species predominately roosting or foraging in the intertidal area (Table 14-10 above; **Figure B2-4 and Figure B2-5, Appendix B2**).
- WWO surveys (2022/23): eighty-six (86) black-headed gulls were recorded in December 2022 and twelve (12) individuals in January 2023, (Table 14-17 above**; Figure B4-3 and Figure B4-4, Appendix B4**).

2023/24

- VP1 surveys (2023/24): black-headed gulls were recorded during every month from August 2023 through August 2024, with a peak count of one hundred (100) birds in January 2024 (Table 14-5 above; **Figure B1-17 and Figure B1-18, Appendix B1**).
- VP2 Surveys: black-headed gulls were recorded during all three months surveyed, with a peak count of eleven (11) individuals recorded in July (Table 14-6 above; **Figure 1-30 Appendix B1**).
- BBS 2023: black-headed gull was recorded in March and during both April surveys, with a total of ten (10) individuals recorded across all three surveys, and a peak count of four (4) in March (Table 14-12 above; **Figure B2-10 and Figure B2-11, Appendix B2**) This species is considered not to breed on site.
- WWO surveys (2023/24): four (4) individuals were recorded in October 2023, and thirty-three (33) individuals in December 2023 (Table 14-18 above; **Figure B4-11 and Figure B4-12, Appendix B4**).
- BBS 2024: three (3) individuals were recorded in May (Table 14-14 above: **Appendix B2**, **Figure B2-14** and **Figure B2-15**).

Most records of Black-headed gull were recorded foraging within 500 m of the shoreline or roosting on the two piers in the east of the Ornithology Study Area.

Mediterranean Gull

The Mediterranean gull is a BoCCI4 amber-listed medium-sized gull species (Gilbert *et al.,* 2021) and an Annex I species. The all-Ireland breeding population of Mediterranean gulls, based on AONs, was estimated at twenty-three (23) AONs across six (6) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as "breeding in small numbers in the south-east and a winter visitor occurring from September to April".

2022/23

- VP1 Survey (2022/23): Mediterranean gull was recorded in ten (10) of the twelve (12) months, with no observations recorded in June 2022 and January 2023. The peak count was 38 individuals in July 2022, followed by a high count of thirty-four (34) individuals in August 2022 (Table 14-5 above; **Figure B1-6**, **Figure B1-7 and Figure B1-8, Appendix B1**). Moderate numbers were also recorded in September (7 individuals) and October (6 individuals). In the remaining six months where the species was observed (May, November, December 2022, February, March, and April 2023), counts were consistently low, with fewer than five (5) individuals recorded in each month.
- BBS (2022): Mediterranean gull was recorded in May, June, and July, with one individual recorded in both May and June, and a notably higher count of 27 individuals in July (Table 14-10 above; **Figure B2-4** and **Figure B2-5, Appendix B2**). No breeding behaviour was recorded.

- WWO survey (2022/23): Mediterranean gull was recorded in two of the three months, with three (3) individuals in December 2022 and eight (8) individuals in January 2023 (Table 14-17 above; **Figure B4-3** and **Figure B4-4**, **Appendix B4**).

2023/24

- VP1 Surveys (2023/24): Mediterranean gulls were recorded in August, September 2023, February and April 2024, with a peak count of four (4) in September 2023 (Table 14-5 above; **Figure B1-17** and **Figure B1-18, Appendix B1**).
- WWO Survey (2023/24): two (2) individuals were recorded in December 2023 (Table 14-18 above; **Figure B4-13** and **Figure B4-14 in Appendix B4**).

Herring Gull

The herring gulls are a large gull species that is a SCI of Saltee Islands SPA, with a citation count of 73 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA, with a citation count of 572 in 2021 (NPWS 2024). The all-Ireland breeding population of herring gulls, based on AON, was estimated at 11,879 AONs across two hundred and ninety-nine (299) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "resident along all Irish coasts".

2022/23

- VP1 Surveys (2022/23): herring gull was recorded in all twelve (12) months, with a peak count of fifty-one (51) individuals in August 2022 (Table 14-5 above; **Figure B1-6, Figure B1-7, and Figure B1-8, Appendix B1**).
- BBS (2022): herring gull was recorded in all three (3) surveyed months, with a peak of twelve (12) in June 2022 (Table 14-10 above; **Figure B2-4 and Figure B2-5, Appendix B2**), however, they do not breed within the Ornithology Study Area.
- WWO Surveys (2022/23): herring gull was recorded during all three (3) surveyed months, with 33 individuals in December 2022, fourteen (14) in January 2023, and twelve (12) in February 2023 (Table 14-17 above; **Figure B4-3 and Figure B4-4 Appendix B4**).

2023/24

- VP1 Surveys (2023/24): herring gull was recorded in every surveyed month from July 2023 through August 2024. The peak count was one hundred and twenty-nine (129) individuals in October 2023, followed by the second-highest count of 92 individuals in February 2024. In the remaining months, counts varied between 20 and 50 individuals (Table 14-5 above). Most records of this species involved aggregations of roosting or loafing on or near the piers in the east of the Ornithology Study Area and the small boat harbour in the west of the Ornithology Study Area (**Figure B1-17 and Figure B1-18 Appendix B1**).
- VP2 Surveys: herring gulls were recorded during all months surveyed, with a peak count of twenty-seven (27) individuals recorded in June 2024 (Table 14-6). The majority of the

records were observed foraging less than 500 m offshore (**Appendix B1, Figure B1-30** and **Figure B1-31**).

- BBS (2023): herring gulls was recorded in March and April, with two (2) individuals recorded in March and four (4) individuals recorded during the first survey visit in April (Table 14-12 above; **Figure B2-10 and Figure B2-11, Appendix B2**). This species is not thought to breed on site.
- WWO Surveys (2023/24): herring gull was recorded in all five (5) surveyed months. The peak count was fifty-seven (57) individuals recorded roosting or loafing in December 2023 (Table 14-18 above; **Figure B4-11 and Figure B4-12, Appendix B4**). Lower numbers were recorded in October (8 individuals), November (6 individuals), and February (4 individuals).
- BBS (2024): herring gull were recorded during all months surveyed, with a peak count of twenty (20) individuals during the May survey and a total of 39 recorded across the breeding survey programme (Table 14-14 above; **Appendix B2, Figure B2-14** and **Figure B2-15**).

Lesser black-backed gull

The lesser black-backed gull is a BoCCI4 amber-listed large gull species (Gilbert *et al.,* 2021), and a SCI of the Saltee Islands SPA, with a citation count of 164 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA. The all-Ireland breeding population of lesser black-backed gulls, based on AON, was estimated at 11,425 AONs across one hundred and eighty-one (181) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "summer visitor to lakes and coasts from March to September and a winter visitor in small numbers along eastern and southern coasts".

2022/23

- VP1 Surveys (2022/23): lesser black-backed gull was recorded in six (6) months: May, June, August, September, October 2022, and March 2023. The peak count was four (4) individuals, recorded in both August and September 2022 (Table 14-5 above: **Figure B1-6, Figure B1-7 and Figure B1-8, Appendix B1**).

2023/24

- VP1 Surveys (2023/24): lesser black-backed gull was recorded during seven (7) months in low numbers throughout the VP1 2023/24 survey programme, with a peak count was four (4) individuals in August 2024 (Table 14-5 above; **Figure B1-17** and **Figure B1-18, Appendix B1**).
- VP2 Surveys: ten (10) individuals were recorded foraging in June (Table 14-6). The gulls were observed on or near the breakwater in the main harbour (**Appendix B1, Figure B1-30** and **Figure B1-31**).
- BBS (2024): one (1) individual was recorded in May (Table 14-14 above; **Appendix B2, Figure B2-14** and **Figure B2-15**).

TERNS

No terns were recorded during the 2023 and 2024 tern roost surveys. A light passage of terns was observed during the August 2023 survey, with a small flock comprising fifteen (15) common terns and four (4) sandwich terns recorded passing through the Study Area without stopping to roost.

Sandwich tern

The sandwich tern (*Thalasseus sandvicensis*) is a BoCCI4 amber-listed, large tern species (Gilbert *et al.,* 2021), and an Annex I species. It is a SCI breeding feature of Lady's Island Lake SPA, where it is of international importance, with a citation count 1,048 pairs in 1999 (NPWS, 2015). The all-Ireland breeding population of sandwich terns, based on AON, was estimated at 4,408 AONs across seventeen (17) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "summer visitor to all Irish coasts from March to September".

2022/23

- VP1 Surveys (2022/23): sandwich tern was recorded during all summer months (May – August 2022, and March and April 2023), with a peak count of twenty-six (26) individuals in July 2022 (Table 14-5 above; **Figure B1-9**, **Appendix B1**).
- BBS (2022): Sandwich tern was recorded feeding during April and May visits, with a peak count of three (3) individuals in both April and May (Table 14-10 above: **Figure B2-4** and **Figure B2-5**, **Appendix B4**).
- Tern Roost Survey (2022): sandwich tern was recorded in both surveyed months, with seventeen (17) individuals in August and four (4) individuals in September (Table 14-16 above; **Figure B3-1**, **Appendix B3**).

2023/24

- VP1 Surveys (2023/24): sandwich tern was recorded from July through September 2023 and April through August 2024, with a peak count was nineteen (19) individuals in June 2024 (Table 14-5 above; **Figure B1-23**, **Appendix B1**).
- VP2 Surveys: sandwich terns were recorded during all survey months surveys, with a peak count of thirteen (13) in June (Table 14-6 above: **Appendix B1, Figure B1-32**).
- BBS 2024: six (6) sandwich terns were recorded in April (Table 14-14 above; **Appendix B2, Figure B2-14** and **Figure B2-15**).

Roseate tern

The roseate tern (*Sterna dougallii*) is a BoCCI4 amber-listed, medium-sized tern species (Gilbert *et al.,* 2021), an Annex I species and a SCI breeding feature of Lady's Island Lake SPA, where it had a citation count 250 pairs in 1999 (NPWS, 2015), and a SCI of the Seas off Wexford SPA. The all-Ireland breeding population of roseate tern, based on AONs, was estimated at 1,870 AONs across three (3) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this

species as “a rare summer visitor from April to October, majority breeding at two sites in the Irish Sea”.

2022/23

- VP1 Surveys (2022/23): two (2) individuals were recorded in May 2023 (Table 14-5 above; **Figure B1-9**, **Appendix B1**).

2023/24

- No roseate tern were recorded during the 2023/24 survey period.

Common tern

Common tern (*Sterna hirundo*) is a BoCCI4 amber-listed, medium-sized tern species (Gilbert *et al.,* 2021), an Annex I species and a SCI of Lady’s Island Lake SPA, with a citation count 250 pairs in 1999 (NPWS, 2015), and the Seas off Wexford SPA, with a citation count of 515 in 2021 (NPWS 2024). The all-Ireland breeding population of common tern, based on AONs, was estimated at 6,548 AONs across seventy-two (72) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as “a summer visitor from March to October”.

2022/23

- VP1 Survey (2022/23): common tern was recorded between May and August 2022 (inclusive) and April 2023. The peak count was twenty-three (23) individuals in May 2022 (Table 14-5 above; **Figure B1-9**, **Appendix B1**). In all other recorded months, counts were five (5) or fewer individuals.
- Tern Roost Survey (2022): four (4) individuals were recorded in August 2022 (Table 14-16 above; **Figure B3-1**, **Appendix B3**).

2023/24

- VP1 Surveys (2023/24): common terns were recorded in August, September 2023 and June 2024, with a peak count of six (6) individuals in June (Table 14-5). All common tern records were observed foraging beyond 500 m offshore (**Figure B1-25**, **Appendix B1**).
- VP2 Surveys: two (2) individuals were recorded in June (Table 14-6 above; **Appendix B1, Figure B1-32**)

Arctic terns

The Arctic tern (*Sterna paradisaea*) is a BoCCI4 amber-listed species (Gilbert *et al.,* 2021), an Annex I species, and a SCI of Lady’s Island Lake SPA, with a citation count 151 pairs in 1999 (NPWS, 2015), and the Seas off Wexford SPA, with a citation count of 400 in 2021 (NPWS 2024). The all-Ireland breeding population of Arctic tern, based on AONs, was estimated at 3,508 AONs across sixty-five (65) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a “summer visitor from March to September to all Irish coasts”.

2022/23

- VP1 Survey (2022/23): one (1) Arctic tern was recorded during May 2022 and two (2) individuals in July 2022 (Table 14-5 above; **Figure B1-9**, **Appendix B1**).
- BBS (2022): Arctic tern was recorded in July 2022 with a count of two (2) individuals (Table 14-10 above: **Figure B2-4** and **Figure B2-5**, **Appendix B2**).
- Tern Roost Survey (2022): five (5) individuals were recorded in August 2022 (Table 14-16 above; **Figure B3-1**, **Appendix B3**).

2023/24

See commic tern counts below.

Commic terns

Unidentified common or Arctic terns (i.e. commic terns) were recorded throughout the survey programme.

2022/23

- VP1 Surveys (2022/23): commic terns (common/Arctic) were recorded from May 2022 through August 2022, inclusive, with a peak count of fifteen (15) individuals recorded in July (Table 14-5). The majority of records were observed foraging beyond 500 m offshore (**Figure B1-9, Appendix B1**).

2023/24

- VP1 Surveys (2023/24): three (3) commic terns were recorded in July 2023, and five (5) individuals in August 2023 (Table 14-5). All 'commic tern' records were observed foraging beyond 500 m offshore (**Figure B1-23 Appendix B1**).
- VP2 Surveys: commic terns were recorded in July, August 2023 and July 2024, with a peak count of five (5) in August (Table 14-6). All records were of birds foraging at least 500 m offshore (**Appendix B1, Figure B1-32**).

PELAGIC SEABIRDS

Common Guillemot

Common guillemot is a BoCCI4 amber-listed (Gilbert *et al.,* 2021) large auk that is a qualifying breeding feature of Saltee Islands SPA (citation count of 14,362 pairs, 1998-2000 (NPWS, 2012)) and the Seas off Wexford SPA (citation count of 13,504 in 2021 (NPWS 2024)). It is described as "resident which occurs inshore/on coastlines during the breeding season March/April to August/September" by BirdWatch Ireland (2024).

2022/23

- VP1 Surveys (2022/23): common guillemot was recorded in May, June, August, September 2022, and April 2023. The peak count for the survey period was fifteen (15) individuals in September (above; **Figure B1-4** and **Figure B1-5**, **Appendix B1**).

2023/24

- VP1 Surveys (2023/24): common guillemot was recorded in September, December 2023, and January through August 2024, with a peak count of four (4) individuals in January, March and August 2024 (Table 14-7). Common guillemots were observed foraging across the entire offshore area (**Figure B1-16 and Figure B1-19, Appendix B1**).
- VP2 Surveys: three (3) common guillemots were recorded in June 2024 and one (1) individual in July 2024 (Table 14-8 above; **Appendix B1 Figure B1-29**).

Black Guillemot

Black guillemot (*Cepphus grylle*) is a BoCCI amber-listed auk species (Gilbert *et al*., 2021). The all-Ireland breeding population of black guillemot, based on IND, was estimated at 5,285 IND across two hundred and thirty-nine (239) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) described this species as a "resident along all Irish coasts".

Note: black guillemot was not identified as a target species for detailed mapping, as defined in Section 14.2.1. Consequently, spatial distribution maps for this species have not been produced. However, given that black guillemots are known to utilise the adjacent piers near the Proposed Development Boundary during the breeding season, a summary of relevant observations is provided below.

2022/23

- VP1 Surveys (2022/23): black guillemot was recorded from June through November 2022, and from January through April 2023, with a survey period peak count of seventeen (17) individuals in April (Table 14-7).
- BBS (2022): three (3) individuals were recorded in June (Table 14-10).

2023/24

- VP1 Surveys (2022/23): black guillemots were recorded from July 2023 through July 2024, inclusively, with a survey period peak count of sixteen (16) individuals in July 2023 (Table 14-7).
- VP2 Surveys: twelve (12) black guillemots were recorded in June and six (6) individuals in July (Table 14-8).
- BBS (2022): three (3) individuals were recorded in June (Table 14-14).

Razorbill

Razorbill (*Alca torda*) is a BoCCI4 red-listed large auk species (Gilbert *et al.,* 2021), and a SCI breeding feature of the Saltee Islands SPA, with a citation count 2,505 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA, with a citation count of 2,747 in 2021 (NPWS 2024). The all-Ireland breeding population of razorbill, based on IND, was estimated at 57,634 IND across eighty-four (84) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "resident which occurs inshore/on coastlines during the breeding season, March/April to August/September".

2022/23

- VP1 Surveys (2022/23): Razorbill was recorded in June, August, October and December 2022, with a survey period peak count of two (2) individuals in August (Table 14-7 above; **Figure B1-4** and **Figure B1-5**, **Appendix B1**).

2023/24

- VP1 Survey (2023/24): razorbill were recorded in September 2023, and from June 2024 through August 2024, with a peak count of four (4) individuals September (Table 14-7 above; **Figure B1-16** and **Figure B1-19, Appendix B1**).

Common Guillemot/Razorbill

Unidentified common guillemot or razorbill were recorded during the 2023/24 survey period.

2023/24

- Common Guillemot/Razorbill during the VP1 Surveys (2023/24): three (3) individual common guillemot/razorbill (unidentifiable to species level) were recorded in August 2023 (Table 14-7 above; **Figure B1-6**, **Appendix B1**).

Manx Shearwater

The manx shearwaters (*Puffinus puffinus*) are a BoCCI4 amber-listed, medium-sized shearwater (Gilbert *et al.,* 2021) and an Annex I species. It is a SCI of the Seas off Wexford SPA, with a citation count of 8,269 in 2021 (NPWS 2024). The all-Ireland breeding population of Manx shearwater, based on AOS, was estimated at 139,070 AOS across twenty-two (22) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "summer visitor to all coasts from March to August".

2022/23

- VP1 Surveys (2022/23): seven (7) individuals were recorded in June 2022, and twenty-five (25) individuals in July 2022 (Table 14-5). All Manx shearwaters were recorded beyond 1.5 km of the shoreline (**Figure B1-14, Appendix B1**).

2023/24

- VP1 Surveys (2023/24): fourteen (14) individuals were recorded in August 2023 (Table 14-7). All Manx shearwaters were recorded beyond 1 km of the shoreline (**Figure B1-16, Appendix B1**).

Northern Fulmar

The fulmar (*Fulmarus glacialis*) is a BoCCI4 amber-listed, large seabird (Gilbert *et al.,* 2021), and a SCI breeding feature of Saltee Islands SPA, with a citation count 520 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA. The all-Ireland breeding population of fulmar, based on AOS, was estimated at 34,697 AOS across three hundred and eighty-six (386) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "resident along all Irish coasts".

2022/23

- VP1 Surveys (2022/23): one (1) individual fulmar was recorded in May 2022 (Table 14-7 above; **Figure B1-4** and **Figure B1-5, Appendix B1**).

2023/24

- VP1 Surveys, one (1) fulmar was recorded foraging in August 2024 (Table 14-7 above). All of the northern fulmars were observed 1 to 1.5km offshore (**Figure B1-19**, **Appendix B1**).

Gannet

The gannet (*Morus bassaunus*) is a BoCCI4 amber-listed, large seabird (Gilbert *et al.,* 2021) and a SCI of Saltee Islands SPA, with a citation count of 2,446 pairs in 2004 (NPWS, 2012), and the Seas off Wexford SPA, with a citation count of 687 in 2021 (NPWS 2024). The all-Ireland breeding population of gannet, based on Apparently Occupied Sites (AOS)/AON, was estimated at 48,032 AOS/AON across six (6) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). BirdWatch Ireland (2025) describes this species as a "resident along all Irish coasts".

2022/23

- VP1 Surveys (2022/23): gannet was recorded from May through September (inclusive), and December 2022, and again in March and April 2023. The peak count for the survey period was eight (8) in July 2022 (Table 14-5). The majority of northern gannet were recorded beyond 0.5 km of the shoreline (**Figure B1-4** and **Figure B1-5, Appendix B1**).
- WWO Survey (2022/23): two (2) individuals were recorded in January 2023 (Table 14-17 above; **Figure B4-3** and **Figure B4-4, Appendix B4**).

2023/24

- VP1 Surveys (2023/24): gannets were recorded in July, August, and September 2023, and January 2024. The peak count for the survey period was four (4) in August 2023 (Table 14-5).

All gannets were recorded foraging beyond 0.5 km of the shoreline (**Figure B1-16, Appendix B1**).

CORMORANT SPECIES

Cormorant

The cormorant (*Phalacrocorax carbo*) is a BoCCI4 amber-listed, large seabird (Gilbert *et al.,* 2021) and a SCI breeding feature of Saltee Islands SPA, with a citation count 273 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA. The all-Ireland breeding population of cormorant, based on AON, was estimated at 4,685 AON across seventy-seven (77) occupied sites from 2015 to 2021 (Burnell *et al*., 2023). The Irish population was estimated at 7,967 for 2015/2016 (Burke *et al.,* 2018). BirdWatch Ireland (2025) describes this species as a "resident, some immigration during winter".

2022/23

- VP1 Surveys (2022/23): great cormorant was recorded during all surveyed months, with a survey period peak count of five (5) in December 2022 (Table 14-7). The majority of cormorants were recorded foraging less than 0.5 km offshore (**Figure B1-4** and **Figure B1-5, Appendix B1**).
- BBS Survey (2022): cormorants were recorded during all three (3) surveyed month from May to July 2022, with a survey period peak count of four (4) individuals in June (Table 14-10 above; **Figure B2-4** and **Figure B2-5**, **Appendix B2**).
- WWO Surveys (2022/23): four (4) individuals were recorded in December 2022 and January 2023 (Table 14-17 above; **Figure B4-3** and **Figure B4-4, Appendix B4**).

2023/24

- VP1 Surveys (2023/24): cormorants were recorded in all months from July 2023 through August 2024, inclusively, with a peak count of nine (9) individuals recorded in both August 2024 (Table 14-7). The majority of cormorants were recorded foraging less than 0.5 km offshore (**Figure B1-16, Appendix B1**).
- VP2 Surveys: cormorants were recorded during all months surveyed, with a peak count of sixteen (16) in June (Table 14-8 above; **Appendix B1, Figure B1-29**). Two (2) individuals were recorded in July and one (1) individual was recorded in August.
- BBS (2023): one (1) individual was recorded in March and one (1) individual in April (Table 14-12). This species is not thought to breed on site (**Figures B2-10** and **Figure B2-11**, **Appendix B2**).
- WWO Survey (2023/24): Great cormorants were also recorded across all months of the winter transect survey, with a peak count of five in December 2023 (Table 14-18 above; **Figure B4-10, Appendix B4**).
- BBS (2024): three (3) cormorants were recorded in May and four (4) in June (Table 14-14 above; **Appendix B2, Figure B2-14** and **Figure B2-15**.

Shag

The shag is a BoCCI4 amber-listed, large seabird (Gilbert *et al.,* 2021). It is a SCI breeding feature of the Saltee Islands SPA, with a citation count 268 pairs, 1998-2000 (NPWS, 2012), and the Seas off Wexford SPA. The all-Ireland breeding population of shag, based on AON, was estimated at 5,026 AON across two hundred and seventeen (217) occupied sites from 2015 to 2021 (Burnell et al., 2023). BirdWatch Ireland (2025) describes this species as a "resident along all Irish coasts".

2022/23

- VP1 Survey (2022/23): shag was recorded during all months surveyed (May 2022 to April 2023, inclusively), with a survey period peak count of nine (9) in May 2022 (Table 14-7). Shags were distributed across the Survey Area, with higher concentrations recorded towards the east side of the Survey Area (**Figure B1-4** and **Figure B1-5, Appendix B1**).
- BBS (2022): shag was recorded foraging during July 2022, with two (2) individuals recorded (Table 14-10 above; **Figure B2-4** and **Figure B2-5, Appendix B2**). This species is not thought to breed on Site.
- WWO Survey (2022/23): one (1) individual shag was recorded in December 2022, January 2023 and in February 2023 (Table 14-17 above; **Figures B4-3** and **Figure B4-4, Appendix B4**). 2023/24.

2023/24

- VP1 Survey (2023/24): shags were recorded in all months surveyed from July 2023 through August 2024, inclusively, with a peak count for the survey period was six (6) in September 2023 (Table 14-7). The shags recorded were mostly distributed on the east side of the survey area (**Figure B1-16, Appendix B1**).
- VP2 Surveys: shags were recorded during all months surveyed, with a peak count of fourteen (14) individuals in June, and twelve (12) individuals recorded in July and twelve (12) in August (Table 14-8 above; **Appendix B1, Figure B1-29**).
- The European shags were fairly evenly distributed across the VP1 and VP2 survey areas, with a notable roost location identified on the outer breakwater of the Europort.
- BBS (2023): shags were recorded during both surveys that were conducted in April, with a survey period peak count of two (2) in the first survey (Table 14-12 above; **Figure B2-10** and **Figure B2-11, Appendix B2**). This species is not thought to breed on Site.
- WWO Survey (2023/24): one (1) individual shag was recorded in December 2023 (Table 14-18 above; **Figure B4-10**, **Appendix B4**).
- BBS (2024): shags were recorded during all months surveyed, with a peak count of four (4) in April and an overall total of six recorded during the BBS programme (Table 14-14 above; **Appendix B2, Figure B2-14** and **Figure B2-15**).

REFERENCES

Bibby, C. J., Burgess, N. D., Hill, D. A. and Mustoe, S. H. (2000). Bird Census Techniques. Second Edition.

Bird Survey & Assessment Steering Group. (2024). Bird Survey Guidelines for assessing ecological impacts, v.0.1.0. https://birdsurveyguidelines.org.

BirdWatch Ireland. (2025). Birds Archive. [Online]. BirdWatch Ireland. Available at: https://birdwatchireland.ie/birds [Accessed 5 March 2025].

Briggs, B.D.J. (2007). The use of waterbodies in SW London by Gadwall and Shoveler; Implications for nature conservation. D.Phil. Thesis, Oxford University.

Burke, B., Fitzgerald, N., Boland, H., Murray, T., Gittings, T. and Tierney, T.D. (2020) Results from the first three years of monitoring post-breeding tern aggregations in Ireland.

Burnell, D., Perkins, A.J., Newton, S.F., Bolton, M., Tierney, T.D. and Dunn, T.E. (2023) *Seabirds Count: A Census of Breeding Seabirds in Britain and Ireland (2015–2021)*. Barcelona: Lynx Edicions

BTO Bird species codes. https://www.bto.org/sites/default/files/u16/downloads/forms_instructions/bto_bird_species_codes.pdf

Burke, B., Lewis, L.J., Fitzgerald, N., Frost, T., Austin, G., and Tierney, T.D. (2018). Estimates of waterbird numbers wintering in Ireland, 2011/12–2015/16. Irish Birds, 11, pp.1-12.

CIEEM (2019) Advice note: on the lifespan of ecological reports & surveys. CIEEM. Winchester.

Gilbert, G., Gibbons, D.W. & Evans, J. (1998) Bird Monitoring Methods. RSPB, Sandy.

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

Lewis, L. J. & Tierney, T. D. (2014) Low tide waterbird surveys: survey methods and guidance notes. Irish Wildlife Manuals, No. 80. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.

Mitchell (2012) Mapping the distribution of feeding Pink-footed and Iceland Greylag Geese in Scotland. Wildfowl & Wetlands Trust / Scottish Natural Heritage Report, Slimbridge. 108pp.

NPWS (2010). The Raven SPA Site Synopsis. Available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004019.pdf [Accessed 10 March 2024].

NPWS (2011) South Wexford Black Guillemot Survey 2011.

NPWS (2012). Saltee Islands SPA Site Synopsis. Available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004002.pdf [Accessed 12 June 2023].

NPWS (2014). Wexford Harbour and Slobs SPA Site Synopsis. Available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004076.pdf [Accessed 12 June 2023].

NPWS (2015). Lady's Island Lake SPA Site Synopsis. Available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/SY004009.pdf [Accessed 12 June 2023].

NPWS (2024). Seas off Wexford SPA Site Synopsis. Available at https://www.npws.ie/sites/default/files/protected-sites/synopsis/004237%20Site%20Synopsis.pdf [Accessed 10 March 2024].

SNH. (2016). Assessing Connectivity with Special Protection Areas (SPAs). Guidance Note Version 3. Available at: https://www.nature.scot/sites/default/files/2022-12/Assessing%20connectivity%20with%20special%20protection%20areas.pdf.

Woodward, I., Thaxter, C.B., Owen, E., and Cook, A.S.C.P. (2019) Desk-based revision of seabird foraging ranges used for HRA screening. BTO Research Report Number 724. Thetford.

APPENDIX

APPENDIX A: WEATHER CONDITIONS AND SPECIES LIST

A1: VP WEATHER DATA

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
VP1 2022/23											
1	23/05/2022	06:10 / 08:10	02:00	Low	Low: 06:07 High: 12:30	Rising	10	W BF2	>15KM	0	7
	23/05/2022	08:10 / 10:10	02:00				12	W BF2	>15KM	0	5
	23/05/2022	10:10 / 12:10	02:00				18	W BF3	>15KM	0	5
2	28/06/2022	04:35 / 06:35	02:00	Rising	High: 06:27 Low: 12:04	Falling	14	SSE BF2	>10KM	Light showers	6
	28/06/2022	06:35 / 08:35	02:00				16	SSE BF2	>15KM	0	5
	28/06/2022	08:35 / 10:35	02:00				16	SSW BF2	>15KM	0	4
3	08/07/2022	09:48 / 11:48	02:00	Rising	Low: 06:24 High: 12:48	Falling	18	W BF2	>15KM	Dry	2

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
	08/07/2022	11:48 / 13:48	02:00				19	WSW BF2	>15KM	Dry	3
	08/07/2022	13:48 / 15:48	02:00				20	WSW BF2	>20KM	Dry	2
4	26/08/2022	06:00 / 08:00	02:00	Rising	High: 06:35 Low: 12:04	Low	15	NNW BF3	>15KM	Dry	0
	26/08/2022	08:00 / 10:00	02:00				18	NW BF2	>15KM	Dry	1
	26/08/2022	10:00 / 12:00	02:00				19	NW BF2	>15KM	Dry	2
5	23/09/2022	06:45 / 08:45	02:00	Falling	High: 05:18 Low: 10:49	Rising	10	NNW BF2	>10KM	Dry	1
	23/09/2022	08:45 / 10:45	02:00				12	NW BF2	>10KM	Dry	3
	23/09/2022	10:45 / 12:45	02:00				12	NNW BF3	>10KM	Dry	4
6	28/10/2022	08:50 / 10:50	02:00	High	High: 08:50 Low: 14:24	Low	6	ENE BF3	>10KM	Light showers	7

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
	28/10/2022	10:50 / 12:50	02:00				7	NE BF4	>10KM	Intermittent light showers	6
	28/10/2022	12:50 / 14:50	02:00				6	NE BF4	>10KM	Dry	6
7	15/11/2022	09:05 / 11:05	02:00	High	High: 09:03 Low: 15:09	Low	6	WSW BF1	>10KM	Dry	2
	15/11/2022	11:05 / 13:05	02:00				7	NW BF2	>10KM	Dry	2
	15/11/2022	13:05 / 15:05	02:00				7	W BF2	>10KM	Dry	3
8	05/12/2022	09:11 / 11:11	02:00	Low	Low: 09:11 High: 16:18	Rising	7	ENE BF3	>10KM	Light showers	5
	05/12/2022	11:11 / 13:11	02:00				8	ENE BF3	>10KM	Light showers	6
	05/12/2022	13:11 / 15:11	02:00				7	NE BF4	>5KM	Dry	5
9	13/01/2023	09:27 /	02:00	High	High: 09:27	Falling	6	WSW BF 3	>5KM	Dry	3

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
		11:27			Low: 15:09						
	13/01/2023	11:27 / 13:27	02:00				7	WSW BF3	>5KM	Dry	3
	13/01/2023	13:27 / 15:27	02:00				7	W BF3	>5KM	Dry	2
10	22/02/2023	08:15/ 10:15	02:00	High	High: 08:15 Low: 14:04	Low	5	WNW BF4	>5KM	Dry	6
	22/02/2023	10:15 / 12:15	02:00				4	NW BF3	>5KM	Dry	7
	22/02/2023	12:15 / 14:15	02:00				5	NW BF3	>5KM	Dry	5
11	31/03/2023	07:05 / 09:0	02:00	Low	Low: 07:08 High: 12:59	High	8	SSW BF3	>5KM	Light showers	7
	31/03/2023	09:05 / 11:05	02:00				9	SSW BF3	>5KM	Dry	6
	31/03/2023	11:05 / 13:05	02:00				11	SW BF4	>5KM	Dry	7

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
12	06/04/2023	07:40 / 09:40	02:00	High	High: 07:43 Low: 13:25	Low	7	WNW BF2	>5KM	Intermittent light rain	8
	06/04/2023	09:40 / 11:40	02:00				9	NW BF2	>10KM	Dry	6
	06/04/2023	11:40 / 13:40	02:00				11	W BF2	>10KM	Showers	7
VP1 2023/24											
1	19/07/2023	08:12 /	02:00	High	High tide at 08:12	Low	16	F2 WNW	>5	None	4
	19/07/2023	10:12 / 12:12	02:00				18	F2 WNW	>10	None	3
	19/07/2023	12:12 / 14:12	02:00				19	F2 WNW	>10	None	3
2	18/08/2023	11:50 / 13:50	02:00	Low	Low tide at 11:54	High	15	F3 E	>5	Light rain	6
	18/08/2023	13:50 / 15:50	02:00				17	F3 E	>5	Light rain	7

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
	18/08/2023	15:50/ 17:50	02:00				18	F3 ESE	>5	Rain	8
3	29/09/2023	07:00 / 09:00	02:00	High	High tide at 07:09	Low	13	F3 W	>10	None	0
	29/09/2023	09:00 / 11:00	02:00				15	F2 WSW	>10	None	0
	29/09/2023	11:00 / 13:00	02:00				17	F2 SW	>10	None	1
4	24/10/2023	07:28 / 09:28	02:00	Low	Low tide at 07:28	High	10	F3 SSW	>5	None	5
	24/10/2023	09:28 / 11:28	02:00				11	F3 SW	>5	None	6
	24/10/2023	11:28 / 13:28	02:00				12	F3 SSW	>5	None	7
5	20/11/2023	10:46 / 12:46	02:00	High	High tide at 10:46	Low	10	F3 NNW	3-5	None	8
	20/11/2023	12:46 /	02:00				9	F3 NNW	3	Light rain	8

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
		14:46									
	20/11/2023	14:46 / 16:46	02:00				8	F3 NW	5	None	8
6	19/12/2023	10:53 / 12:53	02:00	High	High tide at 10:53	Low	6	F2 WNW	5	None	0
	19/12/2023	12:53 / 14:53	02:00				5	F2 NW	5	None	1
	19/12/2023	14:53 / 16:53	02:00				5	F3 NNW	5	None	3
7	09/01/2024	09:35 / 11:35	02:00	Low	High: Low tide at 09:35	High	1	F3 E	5	None	5
	09/01/2024	11:35 / 13:35	02:00				2	F3 ENE	5	None	6
	09/01/2024	13:35 / 15:35	02:00				2	F4 NE	3	None	7
8	29/02/2024	08:50 / 10:50	02:00	High	Low tide at 14:16	Low	4	F1 W	10	None	0

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
	29/02/2024	10:50 / 12:50	02:00				7	F2 WNW	10	None	2
	29/02/2024	12:50 / 14:50	02:00				7	F3 WNW	5	Showers	6
VP1 2023/24											
1	25/03/2024	12:19 / 14:19	02:00	Low	Low tide at 12:19	High	7	F1 NW	>5	Light Drizzle	7
	25/03/2024	14:19 / 16:19	02:00				8	F1 NW	>3	Light Drizzle	6
	25/03/2024	16:19 / 18:19	02:00				7	FI NNW	>5	Light Drizzle	8
2	12/04/2024	09:38 / 11:38	02:00	High	High tide at 09:38	Low	9	F3 WSW	>5	Showers	5
	12/04/2024	11:38 / 13:38	02:00				10	F3 WSW	>5	Showers	3
	12/04/2024	13:38 / 15:38	02:00				11	F3 WSW	>5	None	3

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
3	22/05/2024	11:58 / 13:58	02:00	High	High tide at 11:58	Low	13	F2 NNW	>5	None	7
	22/05/2024	13:58 / 15:58	02:00				14	F3 NW	>5	None	8
	22/05/2024	15:58 / 17:58	02:00				13	F2 NW	>5	Light Rain	8
4	17/06/2024	08:31 / 10:31	02:00	Low	Low tide at 08:31	High	17	F1 NW	>10	None	2
	17/06/2024	10:31 / 12:31	02:00				18	F2 WNW	>10	None	3
	17/06/2024	12:31 / 14:31	02:00				18	F1 NW	>10	None	2
5	13/07/2024	10:45 / 12:45	02:00	High	High tide at 10:51	Low	18	F2 NW	>5	None	6
	13/07/2024	12:45 / 14:45	02:00				17	F2 NNW	>10	None	5
	13/07/2024	14:45 /	02:00				17	F3 NNW	>10	None	6

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
		16:45									
6	28/08/2024	06:05 / 08:05	02:00	Low	Low tide at 06:06	High	14	F1 SSE	>10	None	0
	28/08/2024	08:05 / 10:05	02:00				15	F1 SW	>10	None	1
	28/08/2024	10:05 / 12:05	02:00				17	F1 SSW	>10	None	2
VP2 2024											
1 VP2 (corrected)	21/06/2024	06:23 / 08:23	02:00	High	High tide at 06:23	Low	13	F2 SW	>5	None	6
	21/06/2024	08:23 / 10:23	02:00				15	F2 WSW	>5	None	5
	21/06/2024	10:23 / 12:23	02:00				15	F3 WSW	>5	None	7
2 VP2 (corrected)	27/07/2024	10:45 / 12:45	02:00	High	High tide at 11:11	Low	15	F1 SSW	>5	None	7
	27/07/2024	12:45 /	02:00				17	F1 WSW	>5	None	6

Visit	Date	Start / End	Duration	Start Tide	Tide Times	End Tide	Air Temp (°C)	Wind	Visibility	Precipitation	Cloud Cover (x/8)
		14:45									
	27/07/2024	14:45 / 16:45	02:00				18	F1 SSW	>10	None	7
3 VP2 (corrected)	07/08/2024	09:36 / 11:36	02:00	Low	Low tide at 09:36	High	14	F1 SSW	>5	None	8
	07/08/2024	11:36 / 13:36	02:00				14	F1 SSE	>5	Light Rain	8
	07/08/2024	13:36 / 15:36					15	F2 SSW	>5	Patchy Drizzle	8

A2: BBS WEATHER DATA

Visit	Date	Wind Direction & Force	Cloud Cover (X/8)	Visibility (km)	Air Temp (°C)	Precipitation
BBS 2022						
1	30/05/2022	BF3 (NE)	2	10+	12-15	0
2	16/06/2022	BF0 (E)	5	10+	16-18	0
3	11/07/2022	BF1 (SSE)	2	10+	19-23	0
BBS 2023						
1	09/03/2023	F3 ENE	7	5	3 – 4	0

Visit	Date	Wind Direction & Force	Cloud Cover (X/8)	Visibility (km)	Air Temp (°C)	Precipitation
2	07/04/2023	F1 ESE	5	5	6 – 9	0
3	21/04/2023	F3 ENE	0	5	9 – 11	0
4	05/05/2023	F2 SSE	5	10	13	0
5	26/05/2023	F2 WNW	3	5	15	0
6	16/06/2023	F1 ESE	3	10	19	0
BBS 2024						
1	25/04/2024	F1 WNW	3	>5	6	0
2	17/05/2024	F2 NNE	6	>5	13	0
3	07/06/2024	F2 W	3	>10	14	0

A3: TERN ROOST SURVEY WEATHER DATA

Visit	Date	Start / End	Wind Direction & Force	Visibility (km)	Air Temp (°C)	Precipitation
Tern Roost Survey 2022						
1	30/08/2022	18:50 / 20:50	BF3 (NE)	15+	16-18	0
2	10/09/2022	18:20 / 20:20	BF2 (SW)	10+	14	0
Tern Roost Survey 2023 Note: the weather data for the second tern survey was not provided						
1	15/09/2023	18:15 / 20:15	F2 NNW	5+	13	Light Rain
2	21/09/2023	17:27 / 19:57	NA	NA	NA	NA
Tern Roost Survey 2024						
1	28/08/2024	18:21 / 20:51	F1 SSW	>10	18	0

Visit	Date	Start / End	Wind Direction & Force	Visibility (km)	Air Temp (°C)	Precipitation
2	06/09/2024	18:01 / 20:31	F1 NNE	>10	17	0

A4: WWO WEATHER DATA

Visit	Date	Wind Direction & Force	Cloud Cover (X/8)	Visibility (km)	Air Temp (°C)	Precipitation
WWO 2022						
1	06/12/2022	BF3 (ENE)	7	10+	6	Light shower
2	28/01/2023	BF2 (SW)	5	5+	6	0
3	03/02/2023	BF4 (WNW)	8	5+	3	Intermittent sleet
WWO 2023						
1	19/10/2023	F3 SW	6	10	12	None
2	16/11/2023	F2 WSW	5	5	8	Intermittent light showers
3	08/12/2023	F3 W	8	10	11	Occasional rain showers
4	16/01/2024	Negligible	0	5	-3	None
5	20/02/2024	F3 SW	8	4	10	Light drizzle

A5: ALL SPECIES LISTS WITH BTO CODES

Table A5-1 All species recorded during the survey programme between May 2022 – April 2023. Including species BTO codes, conservation status and species groupings

Common Name	Scientific Name	Species Code	Species Group	BOCCI 4 / Annex I
Common shelduck	*Tadorna Tadorna*	SU	Wildfowl & grebes	Amber
Common scoter	*Melanitta nigra*	CX	Wildfowl & grebes	Red
Red-breasted merganser	*Mergus serrator*	RM	Wildfowl & grebes	Amber
Common woodpigeon	*Columba palumbus*	WP	Other species	Green
Eurasian collared dove	*Streptopelia decaocto*	CD	Other species	Green
Grey partridge	*Perdix perdix*	P.	N/A	Red
Great crested grebe	*Podiceps cristatus*	GG	Wildfowl & grebes	Amber
Black-necked grebe	*Podiceps nigricollis*	BN	Wildfowl & grebes	Red
Eurasian oystercatcher	*Haematopus ostralegus*	OC	Waders	Red
Common redshank	*Tringa totanus*	RK	Waders	Red
Common greenshank	*Tringa nebularia*	GK	Waders	Green
Common snipe	*Gallinago gallinago*	SN	Waders	Red
Black-legged kittiwake	*Rissa tridactyla*	KI	Gulls & terns	Red
Black-headed gull	*Chroicocephalus ridibundus*	BH	Gulls & terns	Amber
Mediterranean gull	*Ichthyaetus melanocephalus*	MU	Gulls & terns	Amber / Annex I
Great black-backed gull	*Larus marinus*	GB	Gull & terns	Green
European herring gull	*Larus argentatus*	HG	Gulls & terns	Amber
Lesser black-backed gull	*Larus fuscus*	LB	Gulls & terns	Amber
Sandwich tern	*Thalasseus sandvicensis*	TE	Gulls & terns	Amber / Annex I
Common tern	*Sterna hirundo*	CN	Gulls & terns	Amber / Annex I
Arctic tern	Sterna paradisaea	AE	Gulls & terns	Amber / Annex I
Common guillemot	*Uria aalge*	GU	Other species	Amber
Red-throated diver	*Gavia stellata*	RH	Other species	Amber / Annex I
Great northern diver	*Gavia immer*	ND	Other species	Amber / Annex I
Manx shearwater	*Puffinus puffinus*	MX	Other species	Amber
Northern gannet	*Morus bassanus*	GX	Other species	Amber
Great cormorant	*Phalacrocorax carbo*	CA	Other species	Amber
European shag	*Phalacrocorax aristotelis*	SA	Other species	Amber
Grey heron	*Ardea cinerea*	H.	Waders	Green
Little egret	Egretta garzetta	ET	Waders	Green / Annex I
Eurasian magpie	*Pica pica*	MG	Other species	Green
Western jackdaw	*Corvus Monedula*	JD	Other species	Green
Rook	*Corvus Frugilegus*	RO	Other species	Green

Common Name	Scientific Name	Species Code	Species Group	BOCCI 4 / Annex I
Hooded crow	*Corvus cornix*	HC	Other species	Green
Eurasian blue tit	*Cyanistes caeruleus*	BT	Other species	Green
Willow warbler	*Phylloscopus trochilus*	WW	Other species	Amber
Common chiffchaff	*Phylloscopus collybita*	CC	Other species	Green
Sedge warbler	*Acrocephalus Schoenobaenus*	SW	Other species	Green
Common whitethroat	*Curruca communis*	WH	Other species	Green
Eurasian wren	*Troglodytes troglodytes*	WR	Other species	Green
Common starling	*Sturnus vulgaris*	SG	Other species	Amber
Redwing	Turdus Iliacus	RE	Other species	Red
Song thrush	*Turdus philomelos*	ST	Other species	Green
Fieldfare	*Turdus pilaris*	FF	Other species	Green
Common blackbird	*Turdus merula*	B.	Other species	Green
European robin	*Erithacus rubecula*	R.	Other species	Green
Black redstart	Phoenicurus ochruros	BX	Other species	Green
European stonechat	*Saxicola rubicola*	SC	Other species	Green
House sparrow	*Passer domesticus*	HS	Other species	Amber
Dunnock	*Prunella modularis*	D.	Other species	Green
Grey wagtail	*Motacilla cinerea*	GL	Other species	Red
Pied wagtail	*Motacilla alba*	PW	Other species	Green
Meadow pipit	*Anthus pratensis*	MP	Other species	Red
European rock pipit	*Anthus petrosus*	RC	Other species	Green
Common chaffinch	*Fringilla coelebs*	CH	Other species	Green
Common linnet	*Linaria cannabina*	LI	Other species	Amber
European goldfinch	*Carduelis carduelis*	GO	Other species	Green

Table A5-2 All species recorded during the survey programme between May 2023 – February 2024. Including species BTO codes, conservation status and species groupings

Common Name	Scientific Name	Species Code	Species Group	BOCCI 4 / Annex I status
Common scoter	*Melanitta nigra*	CX	Wildfowl	Red
Red-breasted merganser	*Mergus serrator*	RM	Wildfowl	Amber
Common woodpigeon	*Columba palumbus*	WP	Passerine*	Green
Eurasian collared dove	*Streptopelia decaocto*	CD	Passerine*	Green
Great crested grebe	*Podiceps cristatus*	GG	Grebe	Amber
Eurasian oystercatcher	*Haematopus ostralegus*	OC	Wader	Red
Northern lapwing	*Vanellus vanellus*	L.	Wader	Red
European golden plover	*Pluvialis apricaria*	GP	Wader	Red / Annex I
Eurasian curlew	*Numenius arquata*	CU	Wader	Red
Bar-tailed godwit	*Limosa lapponica*	BA	Wader	Red / Annex I
Black-tailed godwit	*Limosa limosa*	BW	Wader	Red
Ruddy turnstone	*Arenaria interpres*	TT	Wader	Amber
Dunlin	*Calidris alpina*	DN	Wader	Red
Sanderling		SS	Wader	Green
Common snipe	*Gallinago gallinago*	SN	Wader	Red
Common redshank	*Tringa totanus*	RK	Wader	Red
Black-legged kittiwake	*Rissa tridactyla*	KI	Gull / Tern	Red
Black-headed gull	*Chroicocephalus ridibundus*	BH	Gull / Tern	Amber
Mediterranean gull	*Ichthyaetus melanocephalus*	MU	Gull/Tern	Amber / Annex I
Common gull	*Larus canus*	CM	Gull/Tern	Amber
Great black-backed gull	*Larus marinus*	GB	Gull/Tern	Green
European herring gull	*Larus argentatus*	HG	Gull/Tern	Amber
Lesser black-backed gull	*Larus fuscus*	LB	Gull/Tern	Amber
Sandwich tern	*Thalasseus sandvicensis*	TE	Gull/Tern	Amber / Annex I
Common tern	*Sterna hirundo*	CN	Gull/Tern	Amber / Annex I
Arctic tern	*Sterna paradisea*	AE	Gull/Tern	Amber / Annex I
Common guillemot	*Uria aalge*	GU	Seabird	Amber
Razorbill	*Alca torda*	RA	Seabird	Red
Black guillemot	*Cepphus grylle*	TY	Seabird	Amber
Red-throated diver	*Gavia stellata*	RH	Seabird	Amber / Annex I
Great northern diver	*Gavia immer*	ND	Seabird	Amber / Annex I
Manx shearwater	*Puffinus puffinus*	MX	Seabird	Amber
Northern gannet	*Morus bassanus*	GX	Seabird	Amber

Common Name	Scientific Name	Species Code	Species Group	BOCCI 4 / Annex I status
Great cormorant	*Phalacrocorax carbo*	CA	Seabird	Amber
European shag	*Phalacrocorax aristotelis*	SA	Seabird	Amber
Grey heron	*Ardea cinerea*	H.	Wading bird	Green
Little egret	*Egretta garzetta*	ET	Wading bird	Green / Annex I
Eurasian magpie	*Pica pica*	MG	Passerine	Green
Hooded crow	*Corvus cornix*	HC	Passerine	Green
Eurasian blue tit	*Cyanistes caeruleus*	BT	Passerine	Green
Great tit	*Parus major*	GT	Passerine	Green
Willow warbler	*Phylloscopus trochilus*	WW	Passerine	Amber
Common chiffchaff	*Phylloscopus collybita*	CC	Passerine	Green
Eurasian blackcap	*Sylvia atricapilla*	BC	Passerine	Green
Eurasian wren	*Troglodytes troglodytes*	WR	Passerine	Green
Common starling	*Sturnus vulgaris*	SG	Passerine	Amber
Song thrush	*Turdus philomelos*	ST	Passerine	Green
Mistle thrush	*Turdus viscivorus*	M.	Passerine	Green
Common blackbird	*Turdus merula*	B.	Passerine	Green
European robin	*Erithacus rubecula*	R.	Passerine	Green
Black redstart	*Phoenicurus ochruros*	BX	Passerine	Green
European stonechat	*Saxicola rubicola*	SC	Passerine	Green
Northern wheatear	*Oenanthe oenanthe*	W.	Passerine	Amber
House sparrow	*Passer domesticus*	HS	Passerine	Amber
Dunnock	*Prunella modularis*	D.	Passerine	Green
Pied wagtail	*Motacilla alba*	PW	Passerine	Green
Meadow pipit	*Anthus pratensis*	MP	Passerine	Red
European rock pipit	*Anthus petrosus*	RC	Passerine	Green
Common chaffinch	*Fringilla coelebs*	CH	Passerine	Green
Eurasian bullfinch	*Pyrrhula pyrrhula*	BF	Passerine	Green
Common linnet	*Linaria cannabina*	LI	Passerine	Amber
European goldfinch	*Carduelis carduelis*	GO	Passerine	Green
Yellowhammer	*Emberiza citronella*	Y.	Passerine	Red
Common reed bunting	*Emberiza schoeniclus*	RB	Passerine	Green
Grey seal	*Halichoerus grypus*	-	Marine mammal	-
Harbour porpoise	*Phocoena phocoena*	-	Marine mammal	-

Table A5-3 All species recorded during the survey programme between March – February 2024. Including species BTO codes, conservation status and species groupings

Common Name	Scientific Name	Species Code	Species Group	BoCCI4 / Annex I status
Feral pigeon	*Columba livia*	FP	Passerine*	-
Eurasian collared dove	*Streptopelia decaocto*	CD	Passerine*	Green
Great crested grebe	*Podiceps cristatus*	GG	Grebe	Amber
Eurasian oystercatcher	*Haematopus ostralegus*	OC	Wading bird	Red
Golden plover	*Pluvialis apricaria*	GP	Wading bird	Red
Eurasian curlew	*Numenius arquata*	CU	Wading bird	Red
Ruddy turnstone	*Arenaria interpres*	TT	Wading bird	Amber
Common redshank	*Tringa totanus*	RK	Wading bird	Red
Black-legged kittiwake	*Rissa tridactyla*	KI	Gull/Tern	Red
Black-headed gull	*Chroicocephalus ridibundus*	BH	Gull/Tern	Amber
Mediterranean gull	*Ichthyaetus melanocephalus*	MU	Gull/Tern	Amber / Annex I
Common gull	*Larus canus*	CM	Gull/Tern	Amber
Great black-backed gull	*Larus marinus*	GB	Gull/Tern	Green
European herring gull	*Larus argentatus*	HG	Gull/Tern	Amber
Lesser black-backed gull	*Larus fuscus*	LB	Gull/Tern	Amber
Sandwich tern	*Thalasseus sandvicensis*	TE	Gull/Tern	Amber / Annex I
Common tern	*Sterna hirundo*	CN	Gull/Tern	Amber / Annex I
Common guillemot	*Uria aalge*	GU	Seabird	Amber
Razorbill	*Alca torda*	RA	Seabird	Red
Black guillemot	*Cepphus grylle*	TY	Seabird	Amber
Red-throated diver	*Gavia stellata*	RH	Seabird	Amber / Annex I
Great northern diver	*Gavia immer*	ND	Seabird	Amber
Northern fulmar	*Fulmaris glacialis*	F.	Seabird	Amber
Northern gannet	*Morus bassanus*	GX	Seabird	Amber
Great cormorant	*Phalacrocorax carbo*	CA	Seabird	Amber
European shag	*Phalacrocorax aristotelis*	SA	Seabird	Amber
Grey heron	*Ardea cinerea*	H.	Wading bird	Green
Little egret	*Egretta garzetta*	ET	Wading bird	Green / Annex I
Eurasian magpie	*Pica pica*	MG	Passerine	Green
Western jackdaw	*Coloeus monedula*	JD	Passerine	Green
Eurasian blue tit	*Cyanistes caeruleus*	BT	Passerine	Green
Great tit	*Parus major*	GT	Passerine	Green
Willow warbler	*Phylloscopus trochilus*	WW	Passerine	Amber

Common Name	Scientific Name	Species Code	Species Group	BoCCI4 / Annex I status
Common chiffchaff	*Phylloscopus collybita*	CC	Passerine	Green
Sedge warbler	*Acrocephalus schoenobaenus*	SW	Passerine	Amber
Eurasian wren	*Troglodytes troglodytes*	WR	Passerine	Green
Common starling	*Sturnus vulgaris*	SG	Passerine	Amber
Song thrush	*Turdus philomelos*	ST	Passerine	Green
Common blackbird	*Turdus merula*	B.	Passerine	Green
European robin	*Erithacus rubecula*	R.	Passerine	Green
European stonechat	*Saxicola rubicola*	SC	Passerine	Green
House sparrow	*Passer domesticus*	HS	Passerine	Amber
Dunnock	*Prunella modularis*	D.	Passerine	Green
Pied wagtail	*Motacilla alba*	PW	Passerine	Green
Meadow pipit	*Anthus pratensis*	MP	Passerine	Red
European rock pipit	*Anthus petrosus*	RC	Passerine	Green
Common chaffinch	*Fringilla coelebs*	CH	Passerine	Green
Common linnet	*Linaria cannabina*	LI	Passerine	Amber
Common reed bunting	*Emberiza schoeniclus*	RB	Passerine	Green
Grey seal	*Halichoerus grypus*	-	Marine mammal	-
Bottlenose dolphin	*Tursiops truncatus*	-	Marine mammal	-

APPENDIX B: SURVEY RESULTS – MAPS AND TABLES

B1: VP SURVEYS

VP1 2022/23

Wildfowl, Grebes and Divers

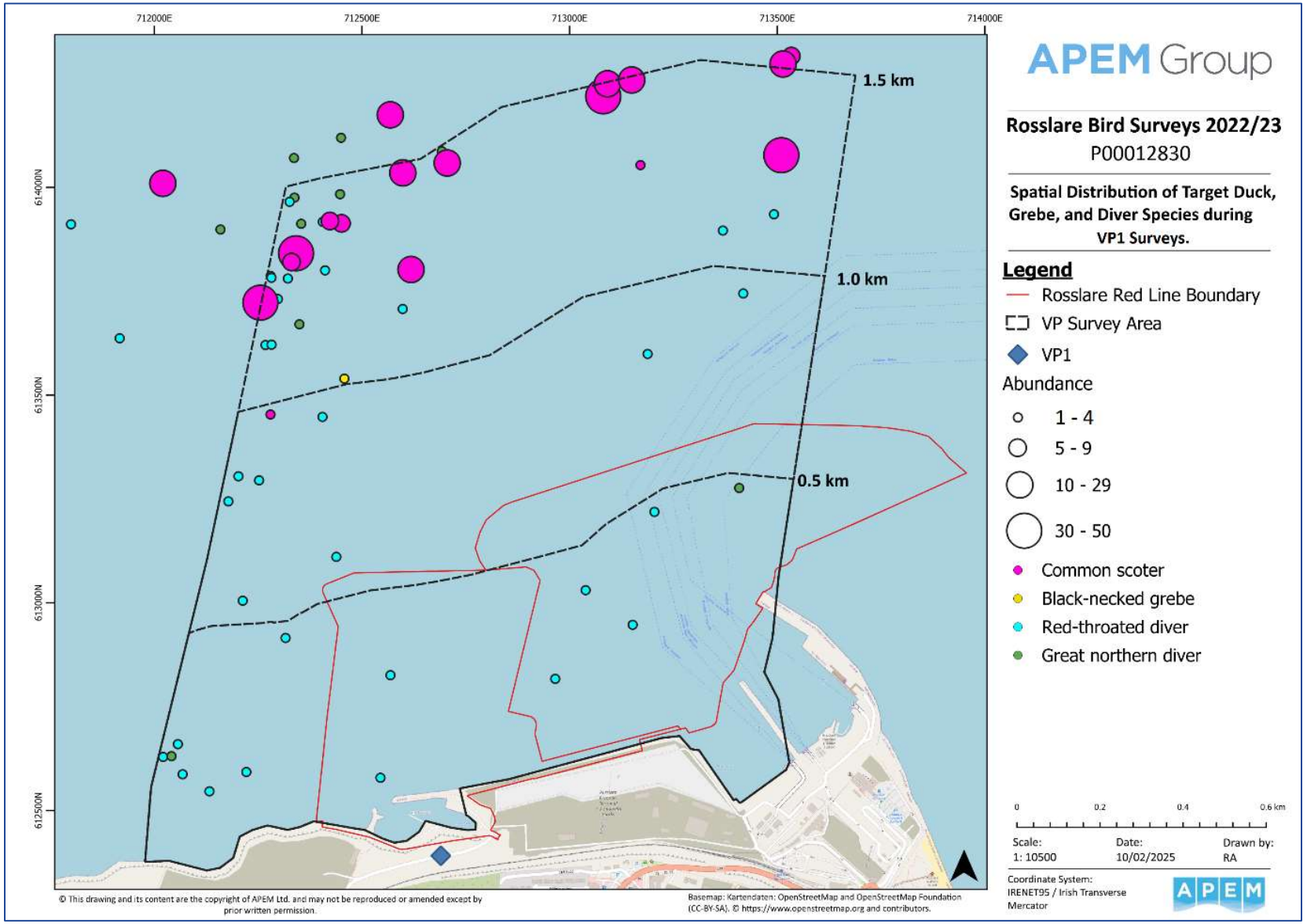


Figure B1-1 Spatial distribution of all target duck, grebe, and diver species records during VP1 2022/23 survey

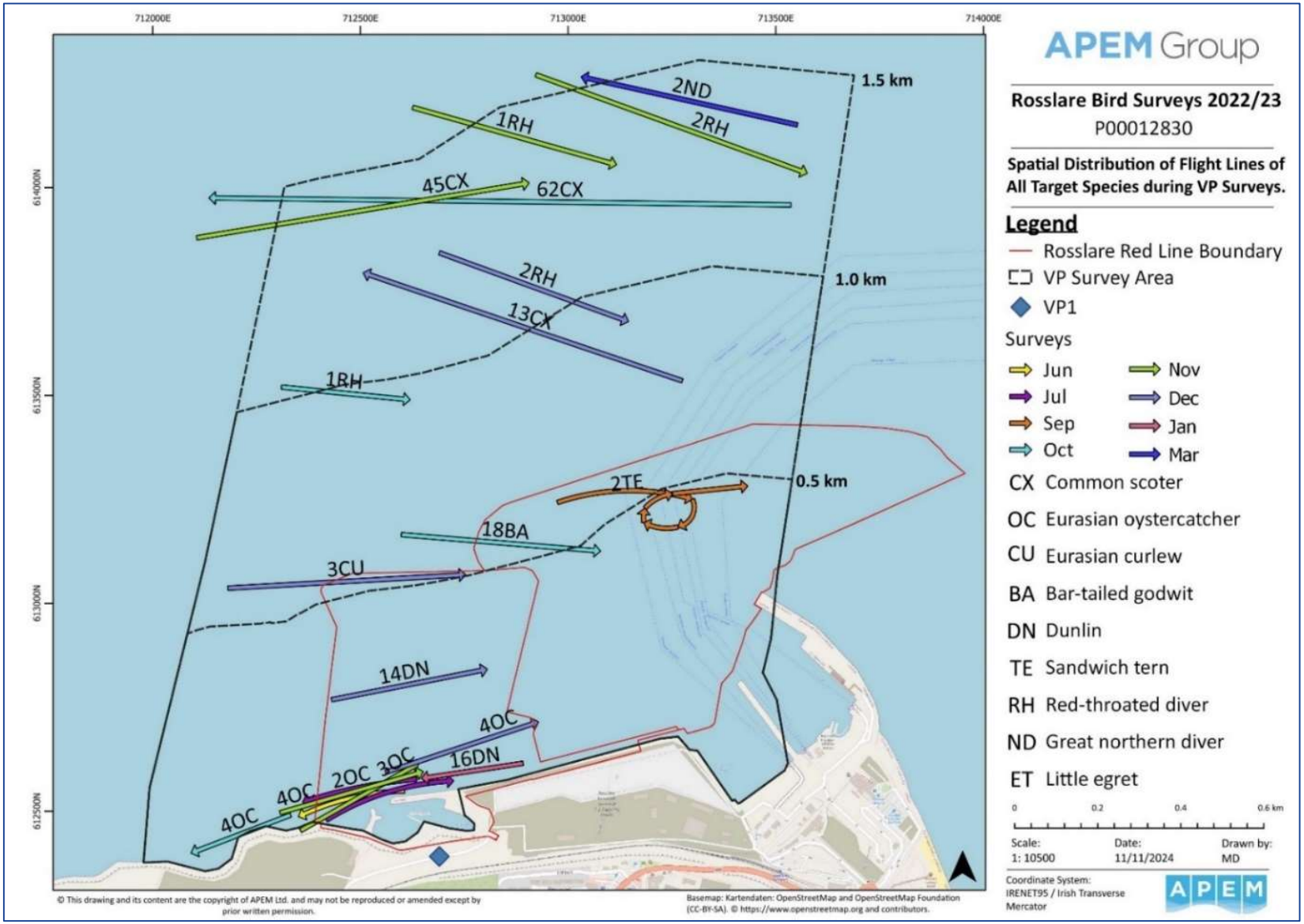


Figure B1-2 Spatial distribution of flight lines of all target species recorded during VP1 2022/23 surveys

Waders

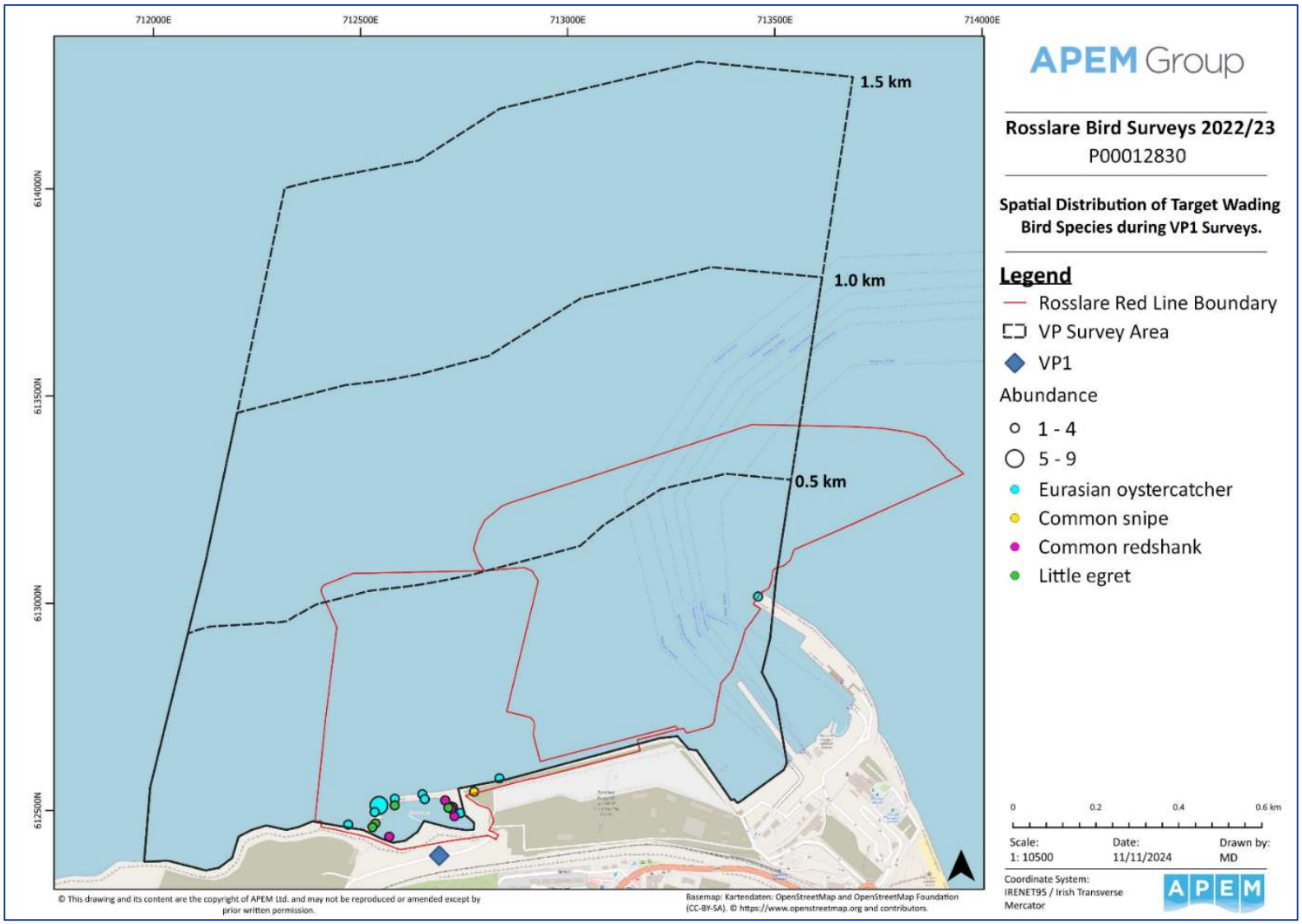


Figure B1-3 Spatial distribution of all target wading bird species records during VP1 2022/23 surveys

Seabirds

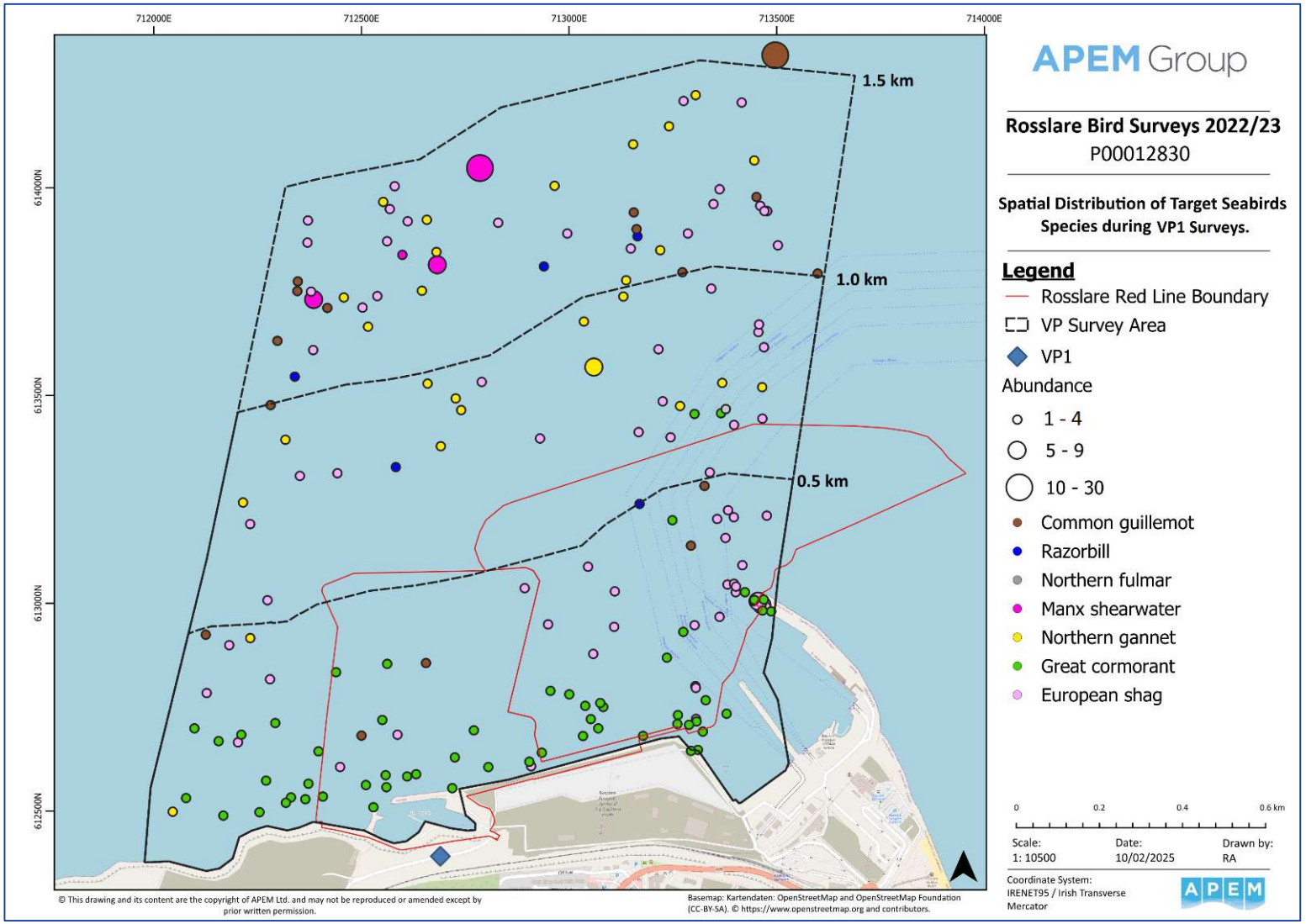


Figure B1-4 Spatial distribution of all target seabird species records during VP1 2022/23 surveys

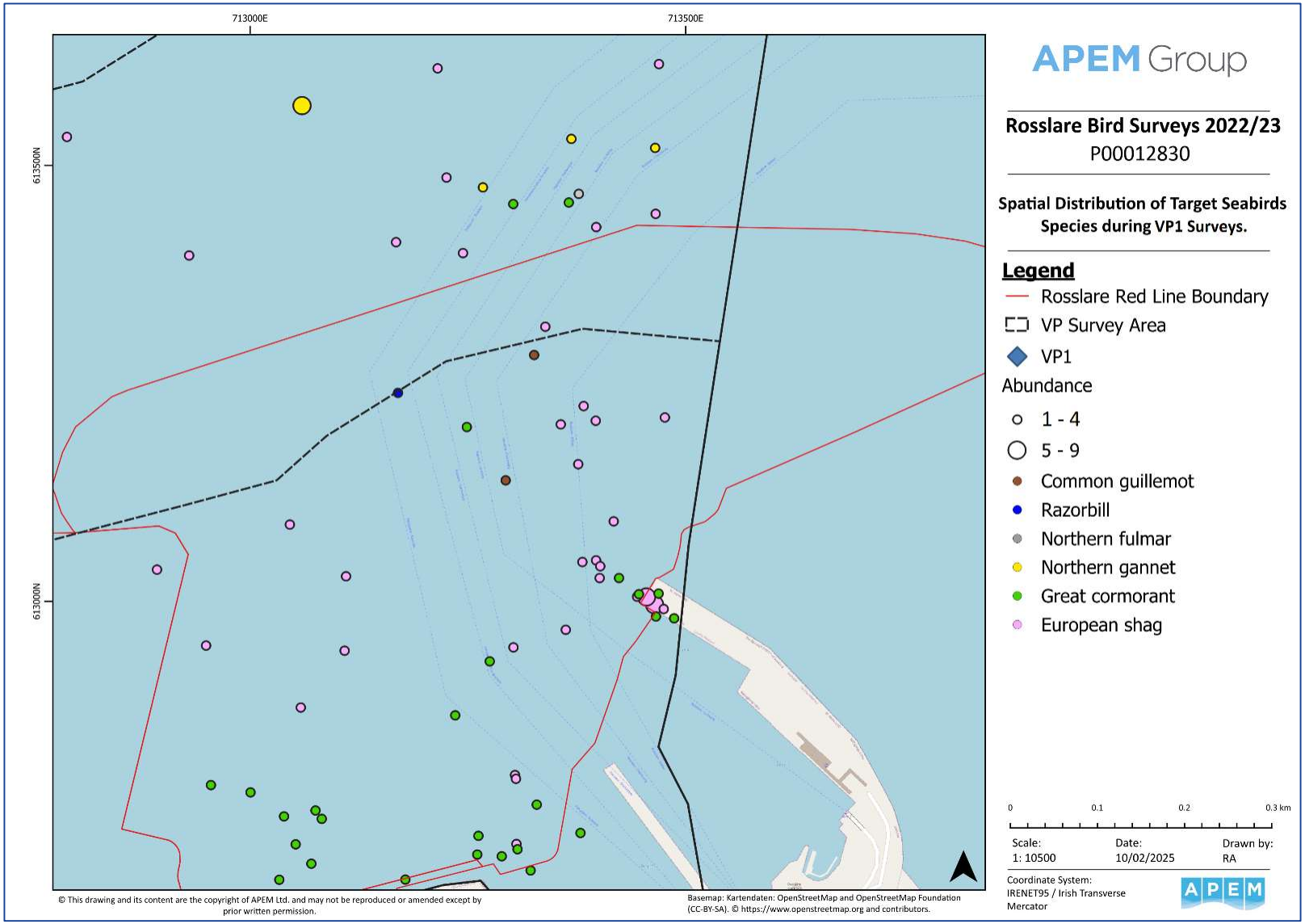


Figure B1-5 Enhanced view of the spatial distribution of all target seabird species, near the breakwater, recorded during VP1 2022/23 surveys

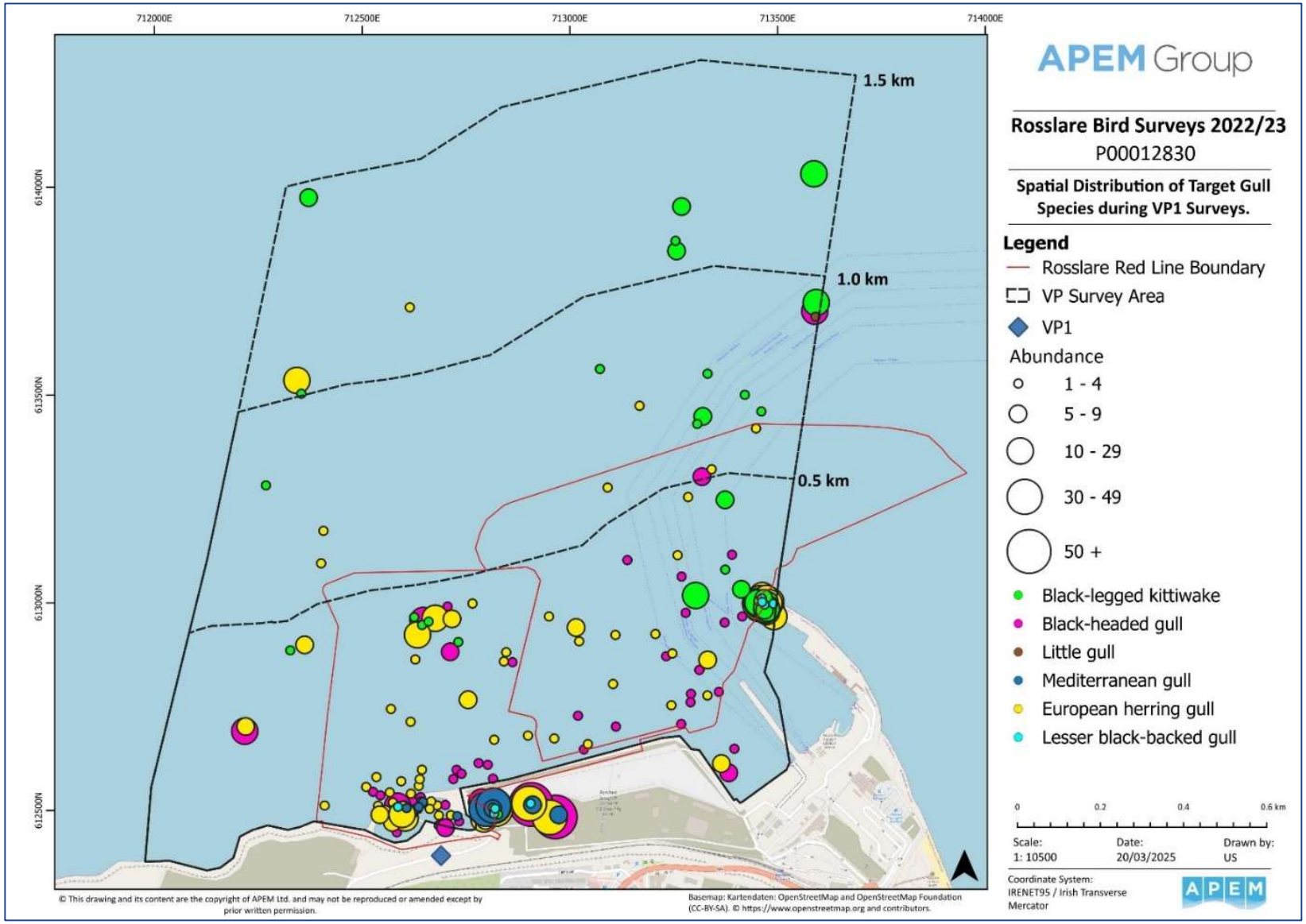


Figure B1-6 Spatial distribution of all target gull species records during VP1 2022/23 surveys

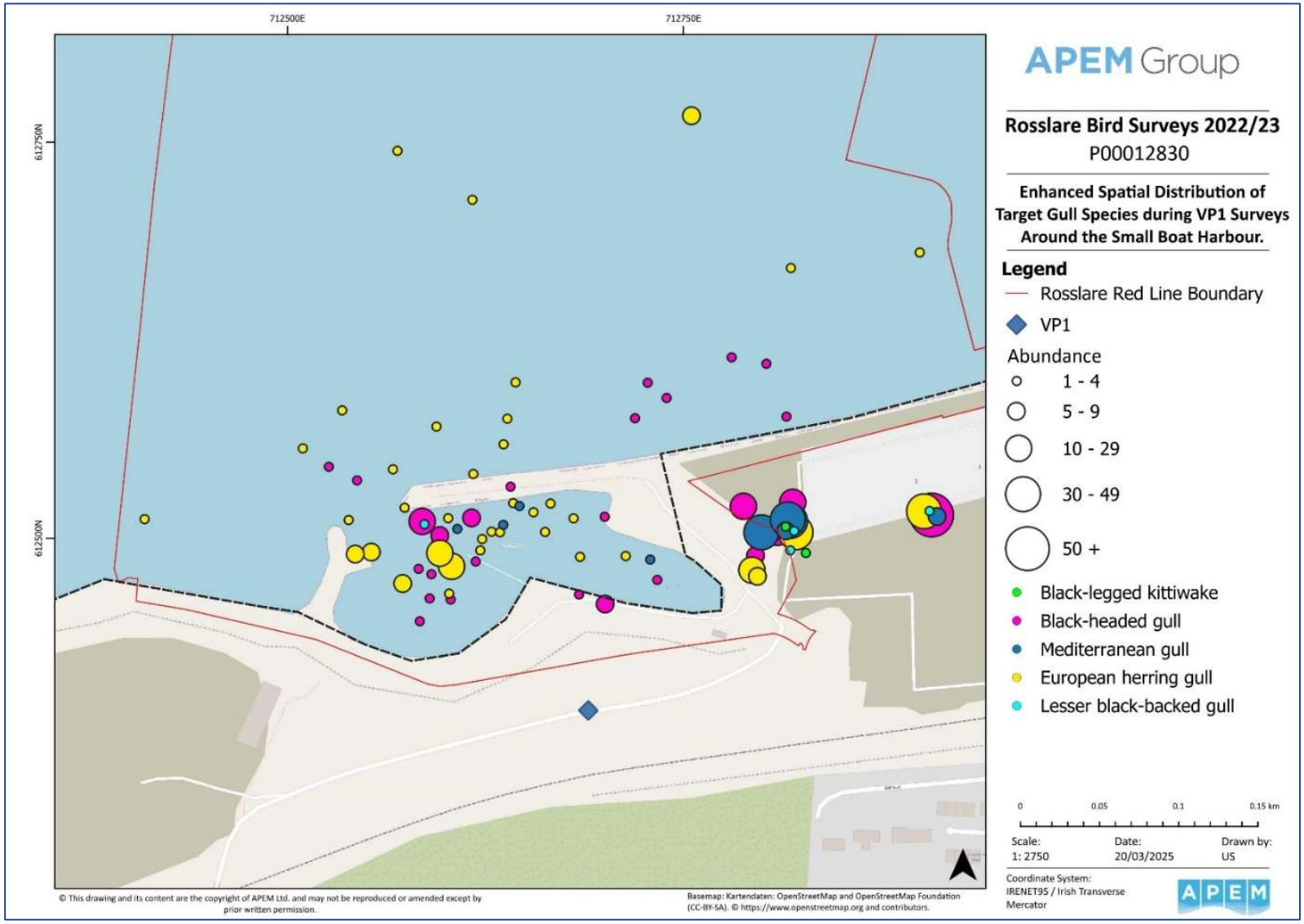


Figure B1-7 Enhanced view of the spatial distribution of all target gull species recorded during VP1 2022/23 surveys around the small boat harbour

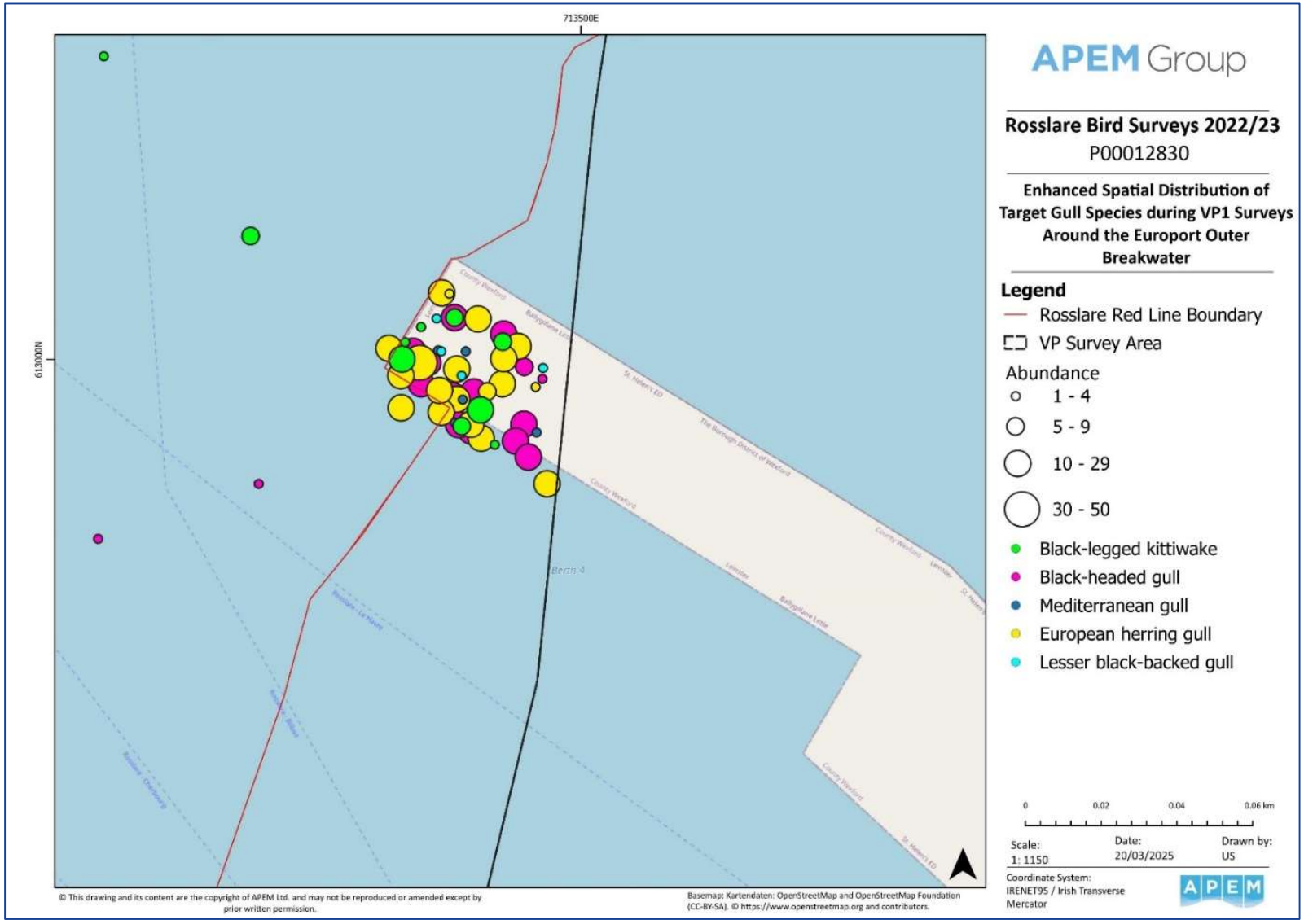


Figure B1-8 Enhanced spatial distribution of all target gull species recorded during VP1 2022/23 surveys around the Europort outer breakwater

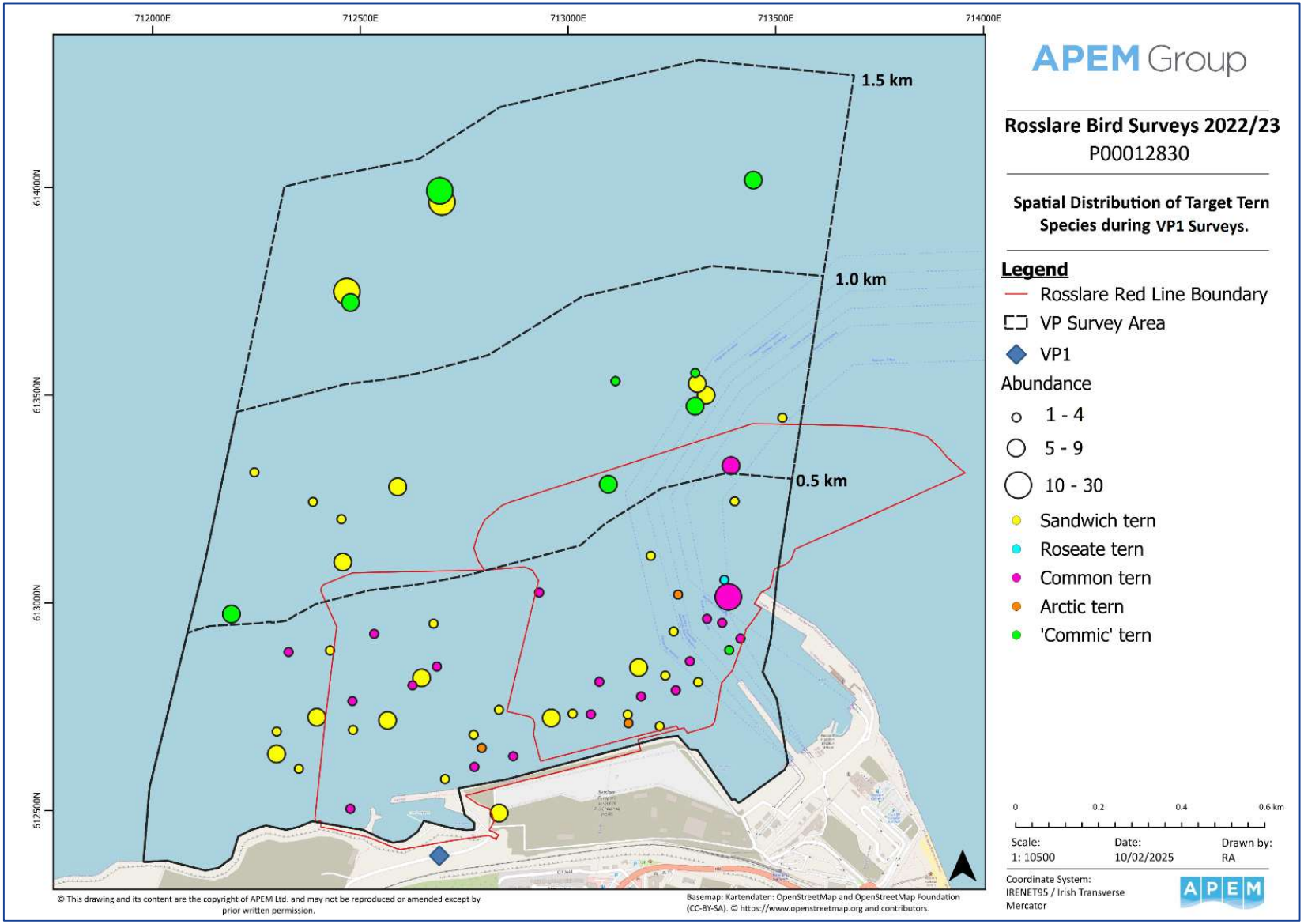


Figure B1-9 Spatial distribution of all target tern species records during VP1 2022/23 surveys

VP1 2023/24

Wildfowl, Grebes and Divers

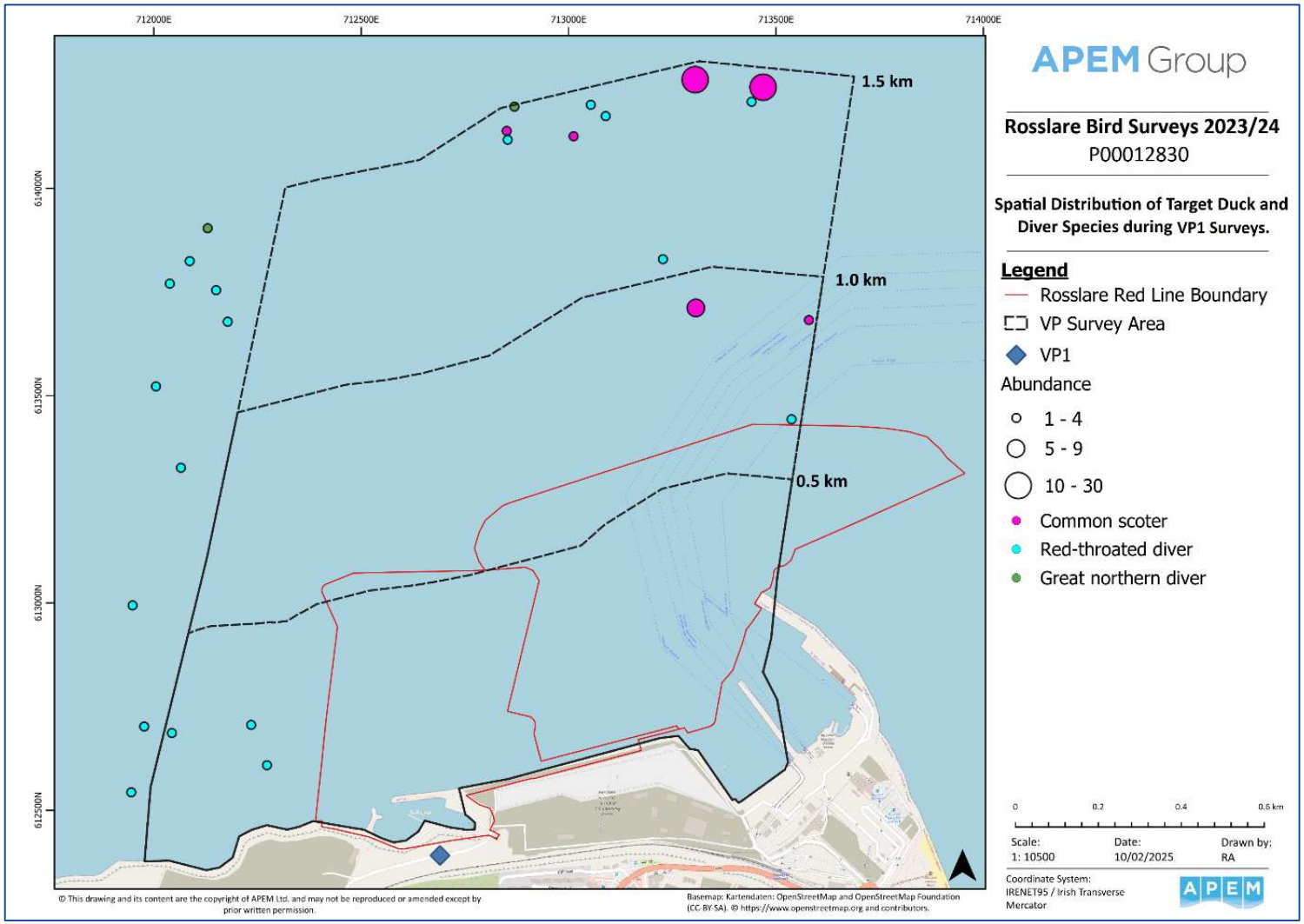


Figure B1-10 Spatial distribution of all target duck and diver species records between July 2023 and February 2024 during VP1 2023/24 surveys

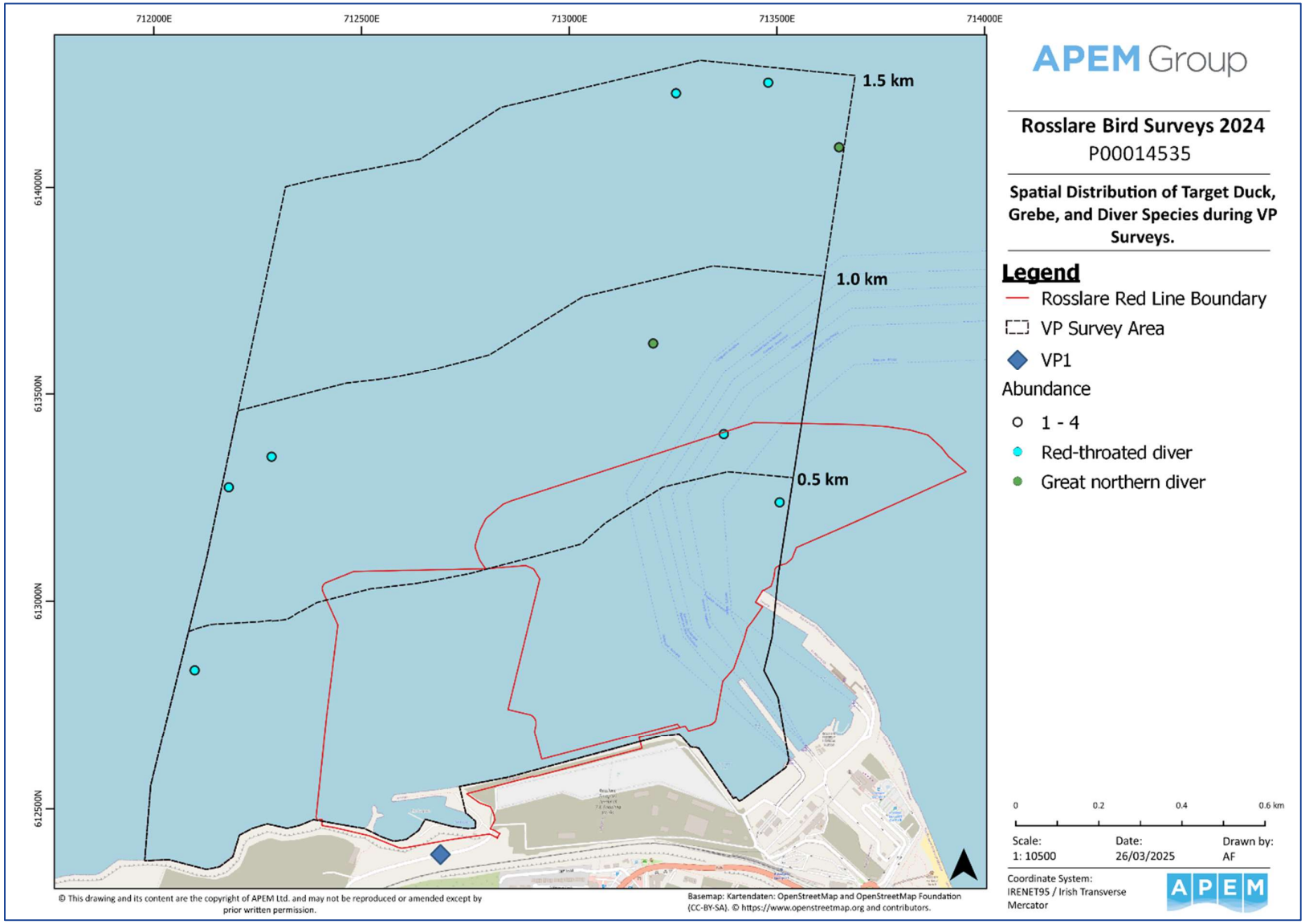


Figure B1-11 Spatial distribution of all target duck, grebe, and diver species records during VP1 2023/24 surveys between March and August 2024

Waders

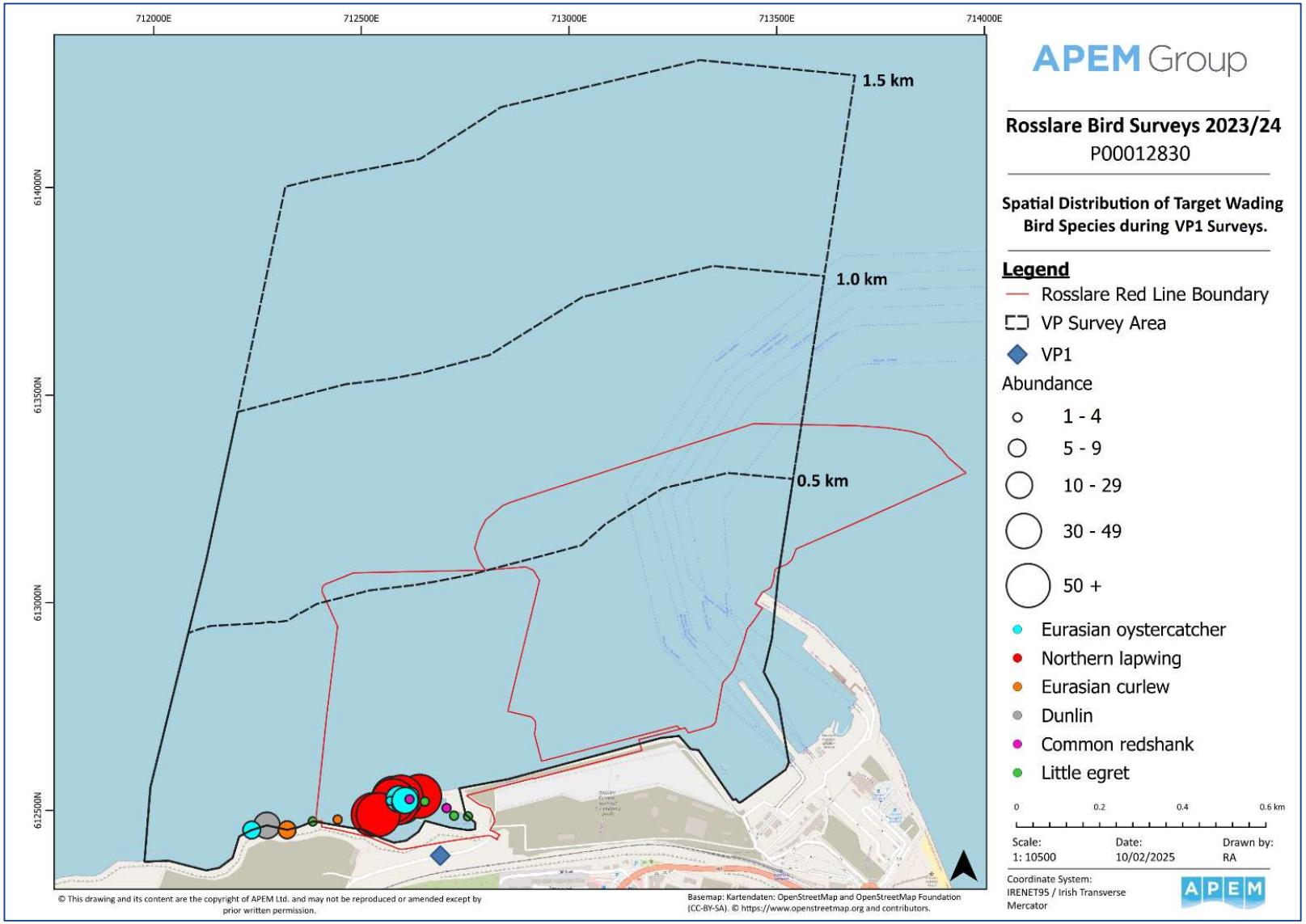


Figure B1-12 Spatial distribution of all target wading bird species records between July 2023 and February 2024 during VP1 2023/24 surveys

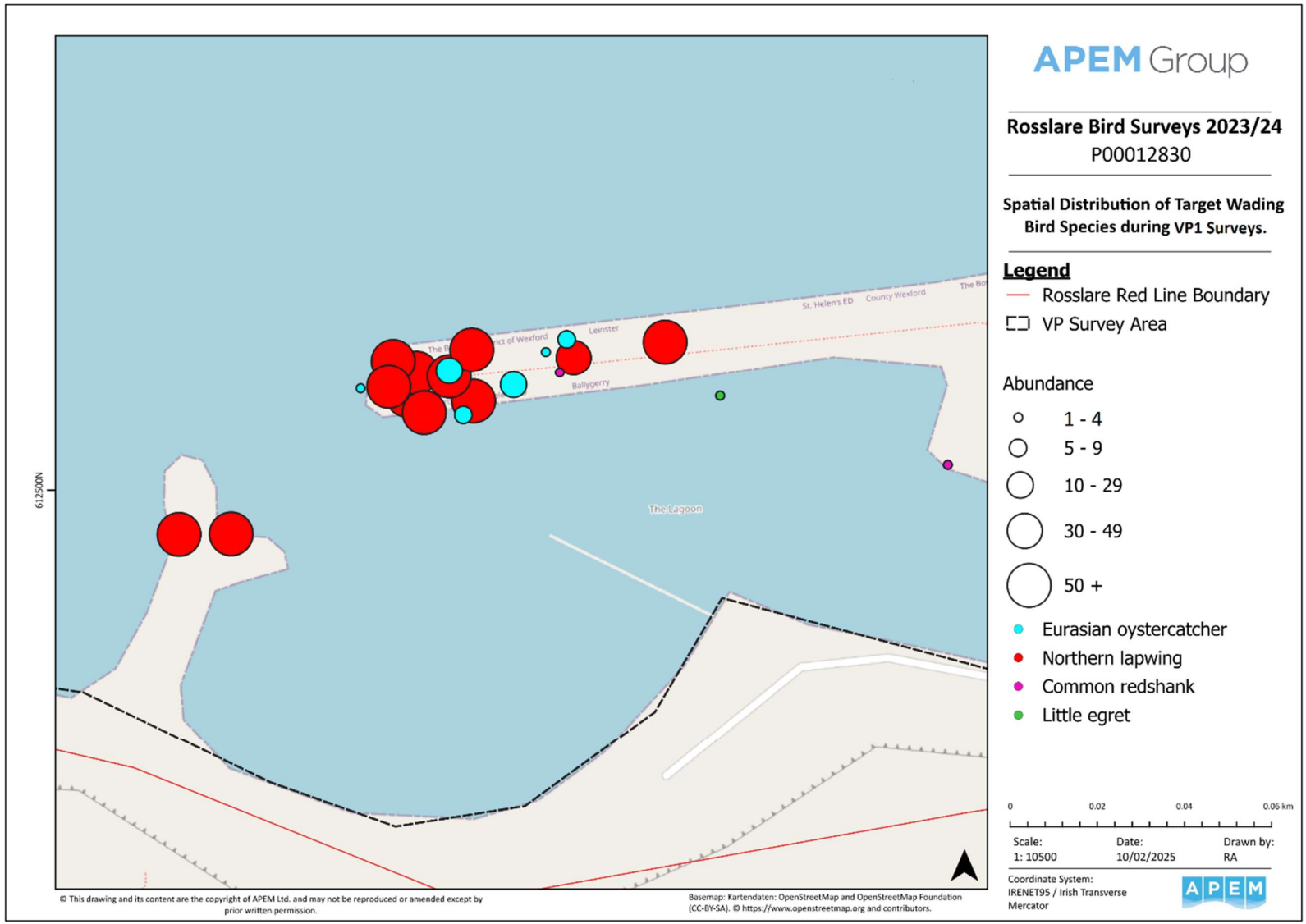


Figure B1-13 Enhanced view of the spatial distribution of all wading bird species recorded between July 2023 and February 2024 in the small harbour during VP1 2023/24 surveys

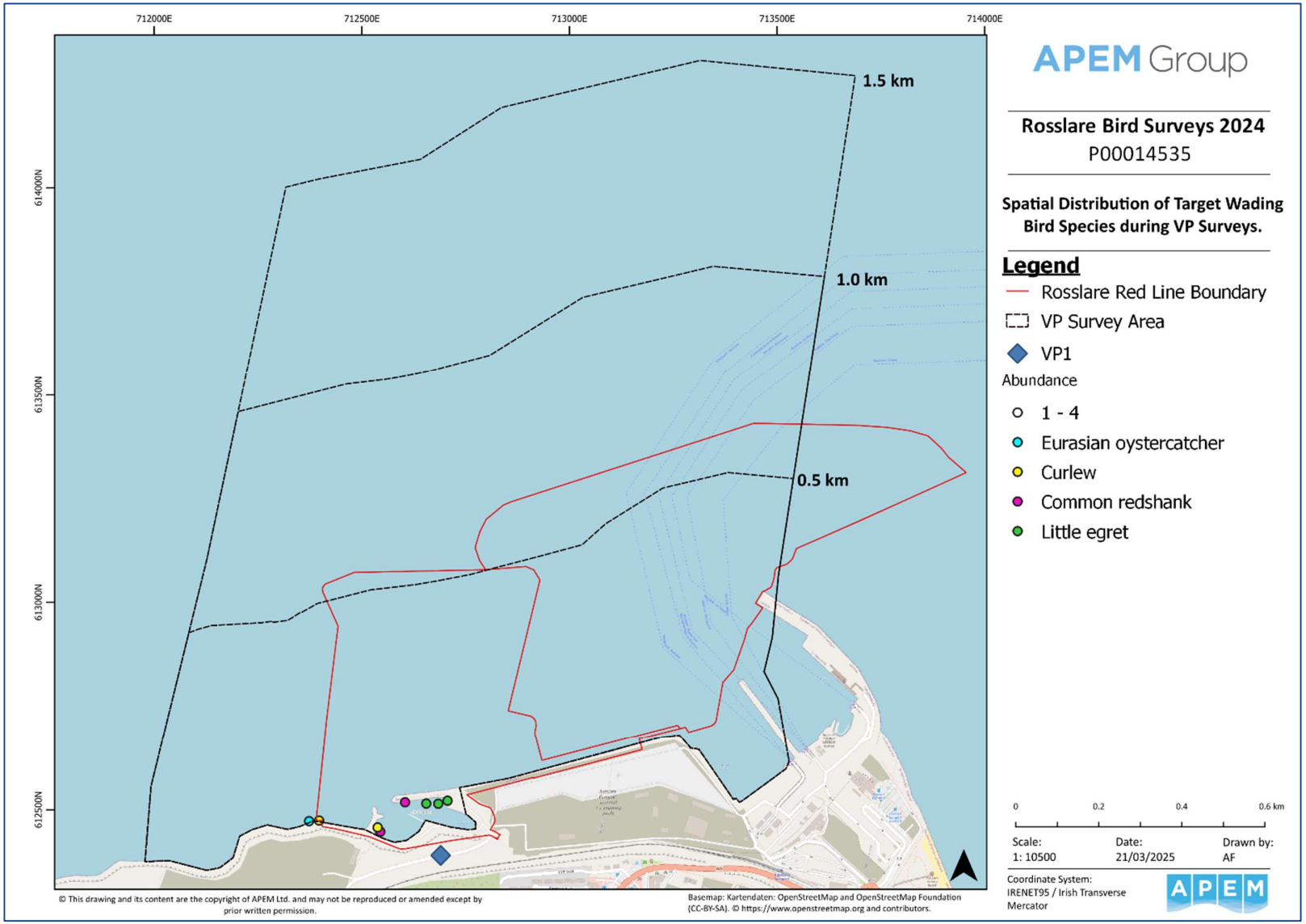


Figure B1-14 Spatial distribution of all target wader species records during VP1 2023/24 surveys between March and August 2024

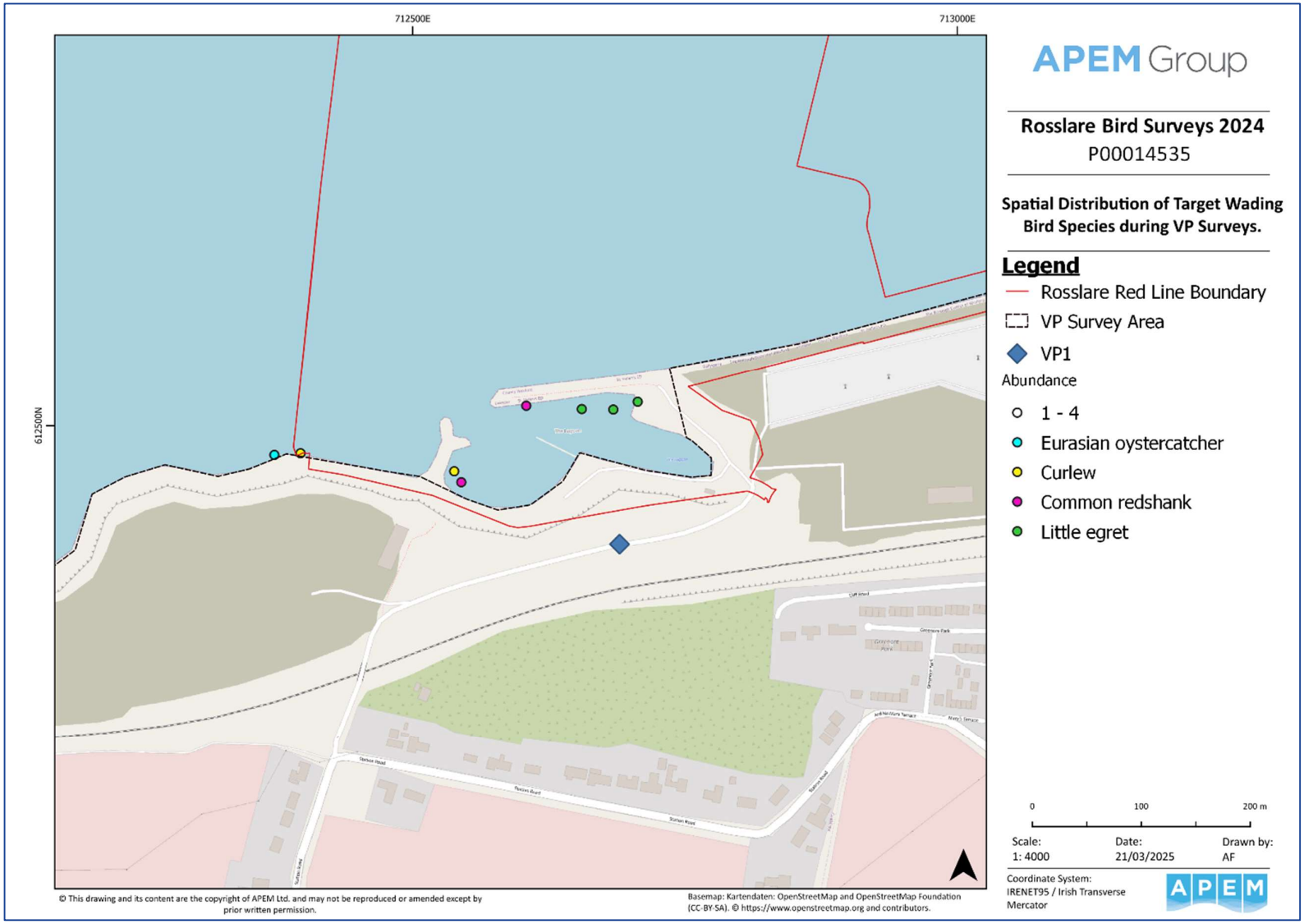


Figure B1-15 Enhanced spatial distribution of all target wader species records during VP1 2023/24 surveys, around the small boat harbour, between March and August 2024

Seabirds

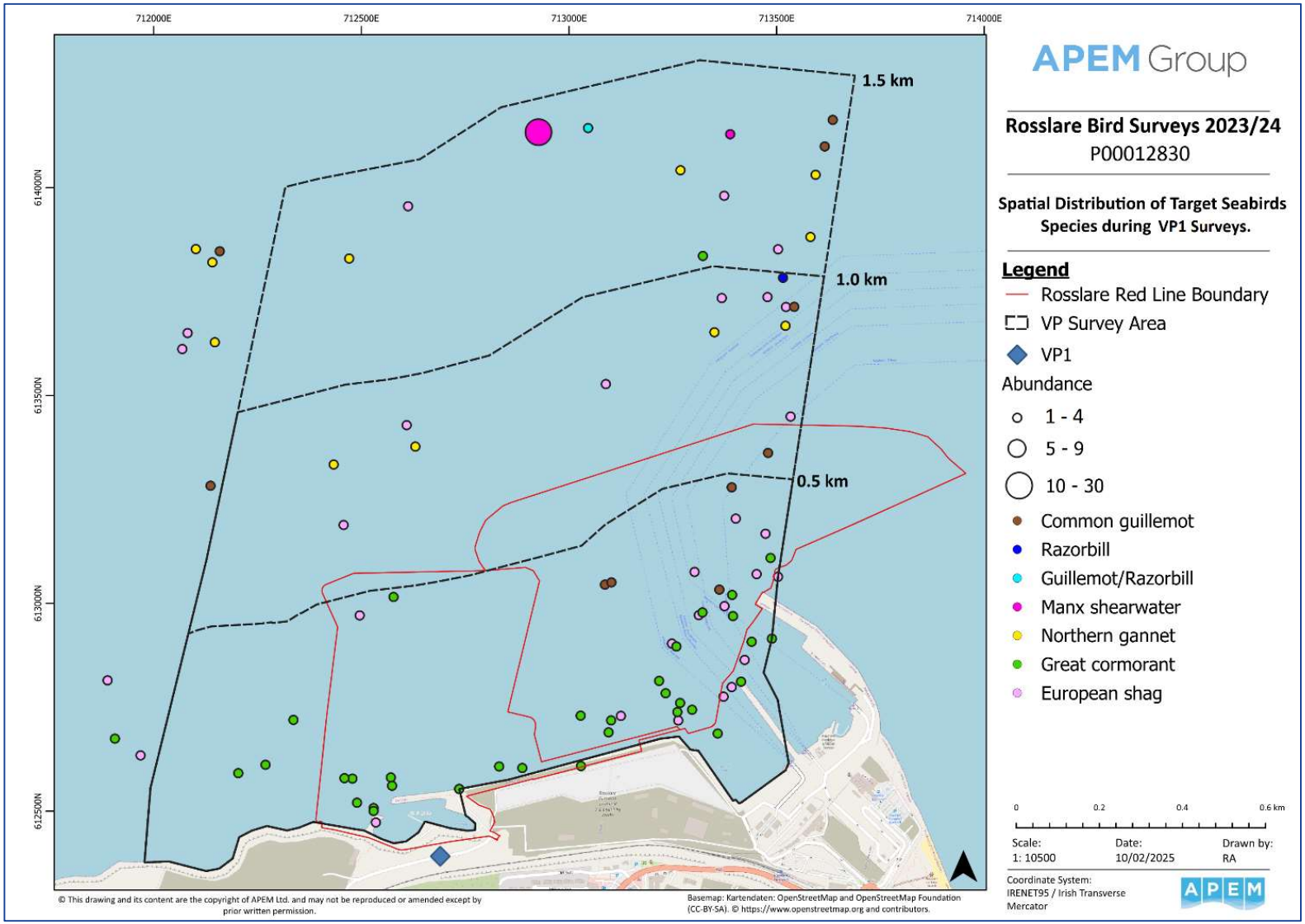


Figure B1-16 Spatial distribution of all target seabird species records between July 2023 and February 2024 during VP1 2023/24 surveys

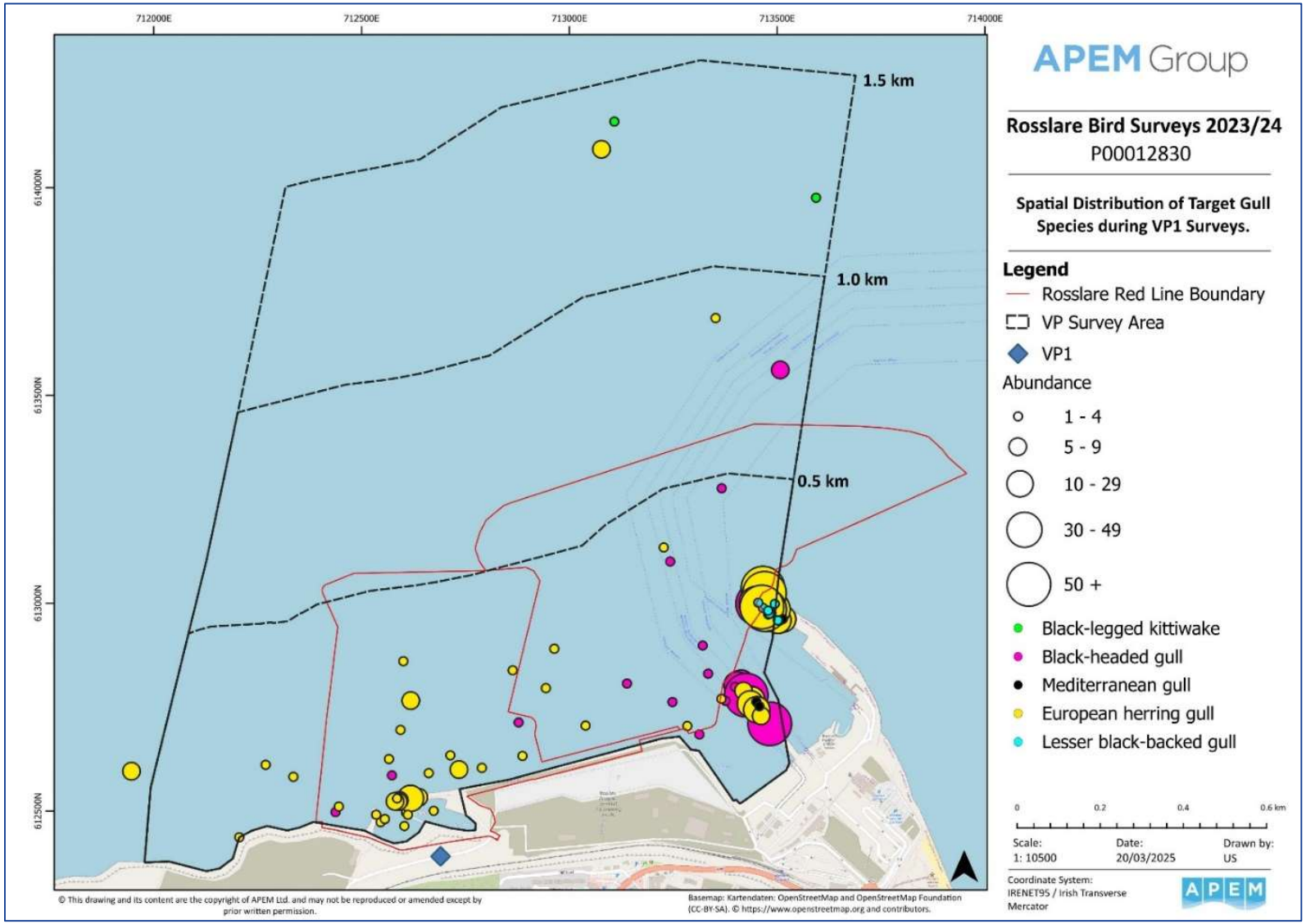


Figure B1-17 Spatial distribution of all target gull species records between July 2023 and February 2024 during VP1 2023/24 surveys

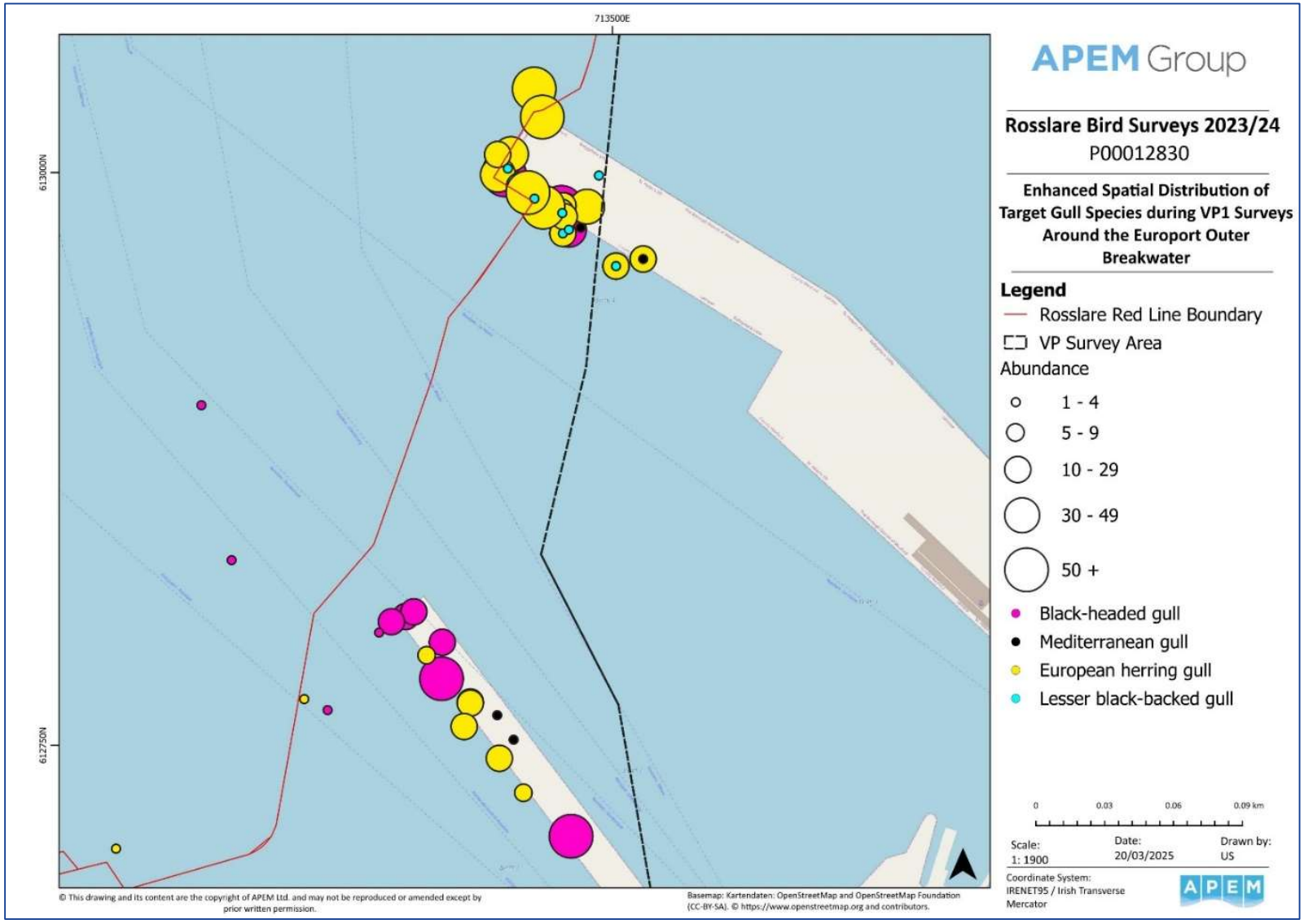


Figure B1-18 Enhanced spatial distribution of all target gull species recorded between July 2023 and February 2024 VP1 2023/24 VP surveys around the Europort outer breakwater

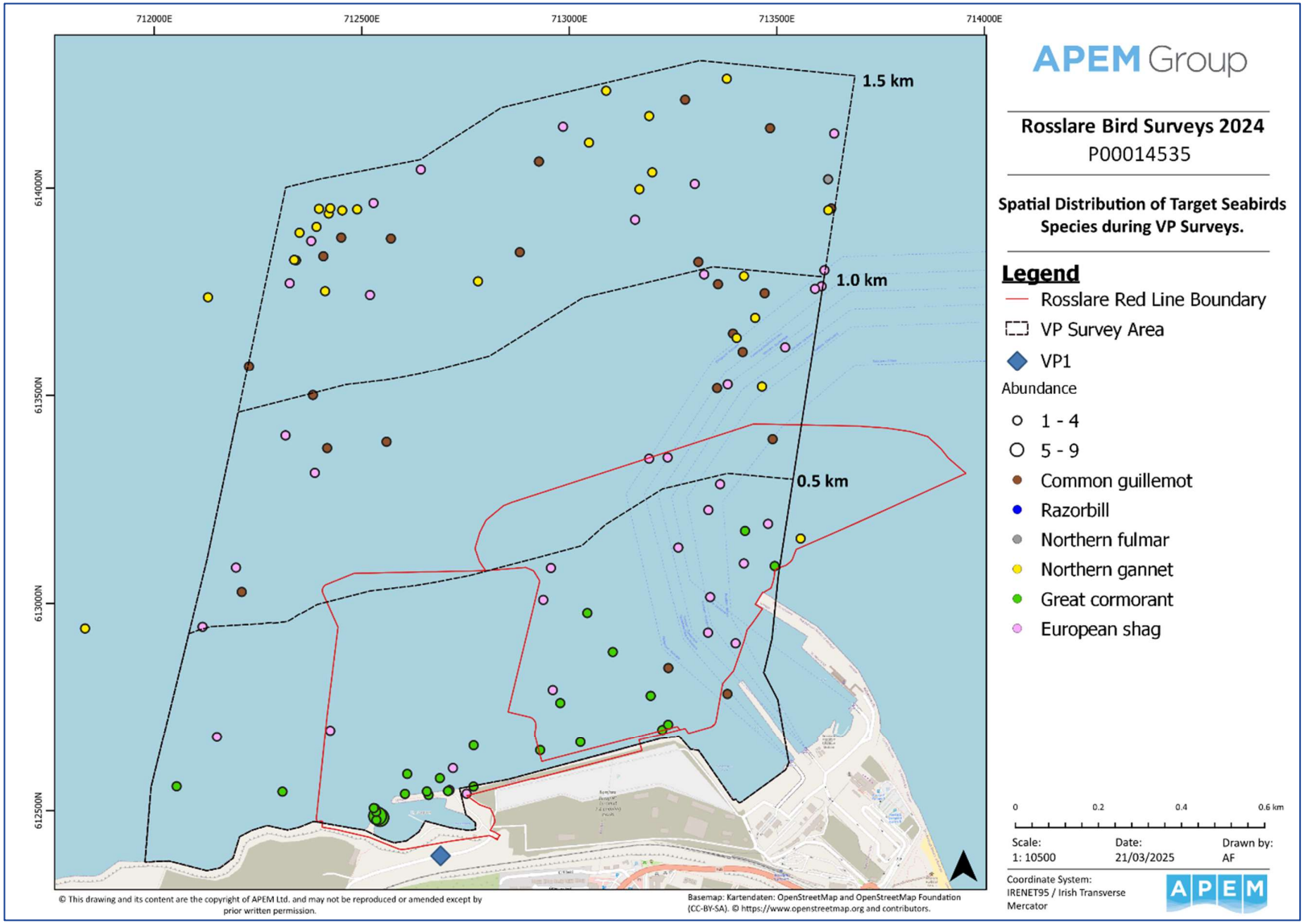


Figure B1-19 Spatial distribution of all seabird species records during VP1 2023/24 surveys between March to August 2024

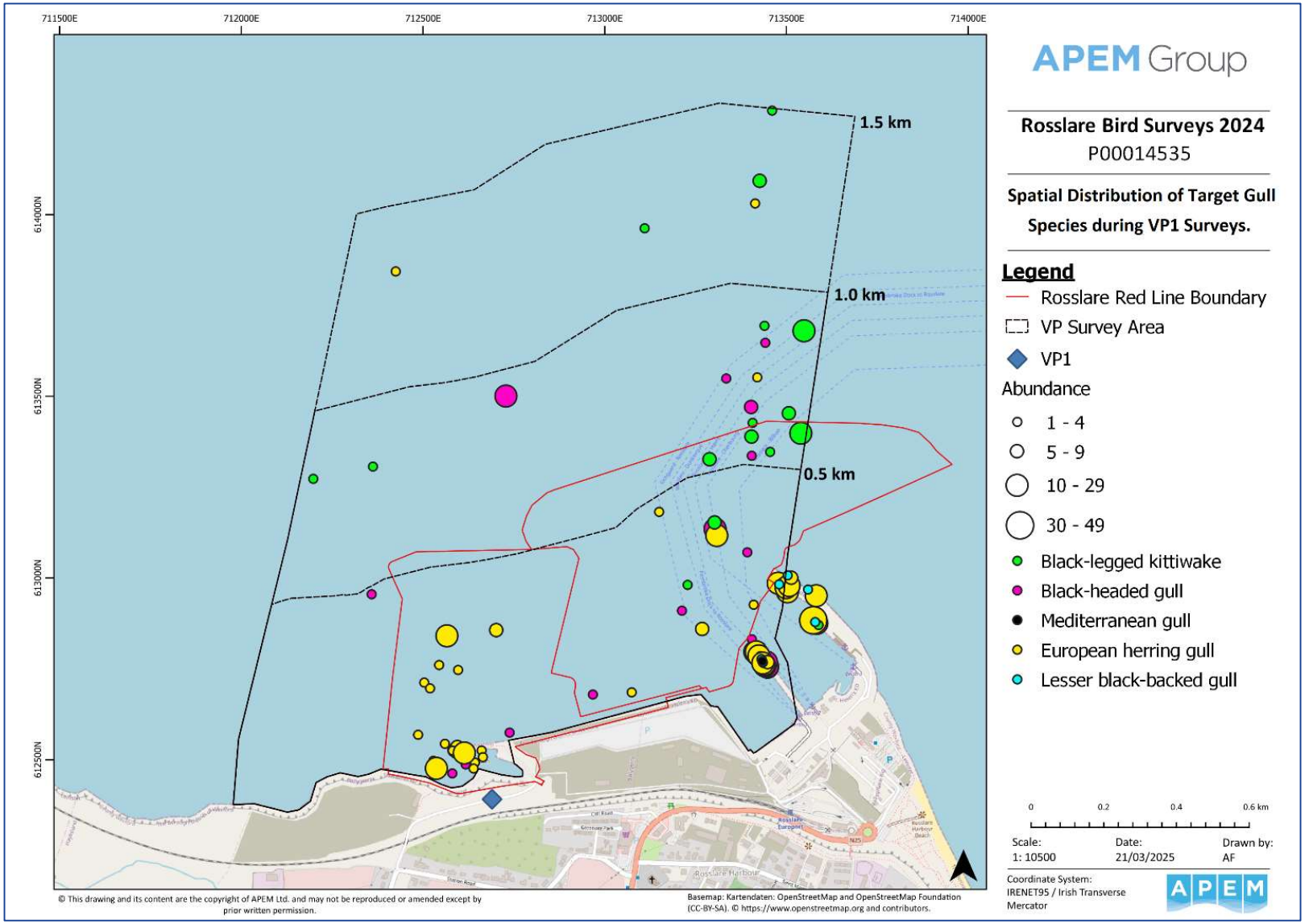


Figure B1-20 Spatial distribution of all target gull species records during VP1 2023/24 surveys between March and August 2024

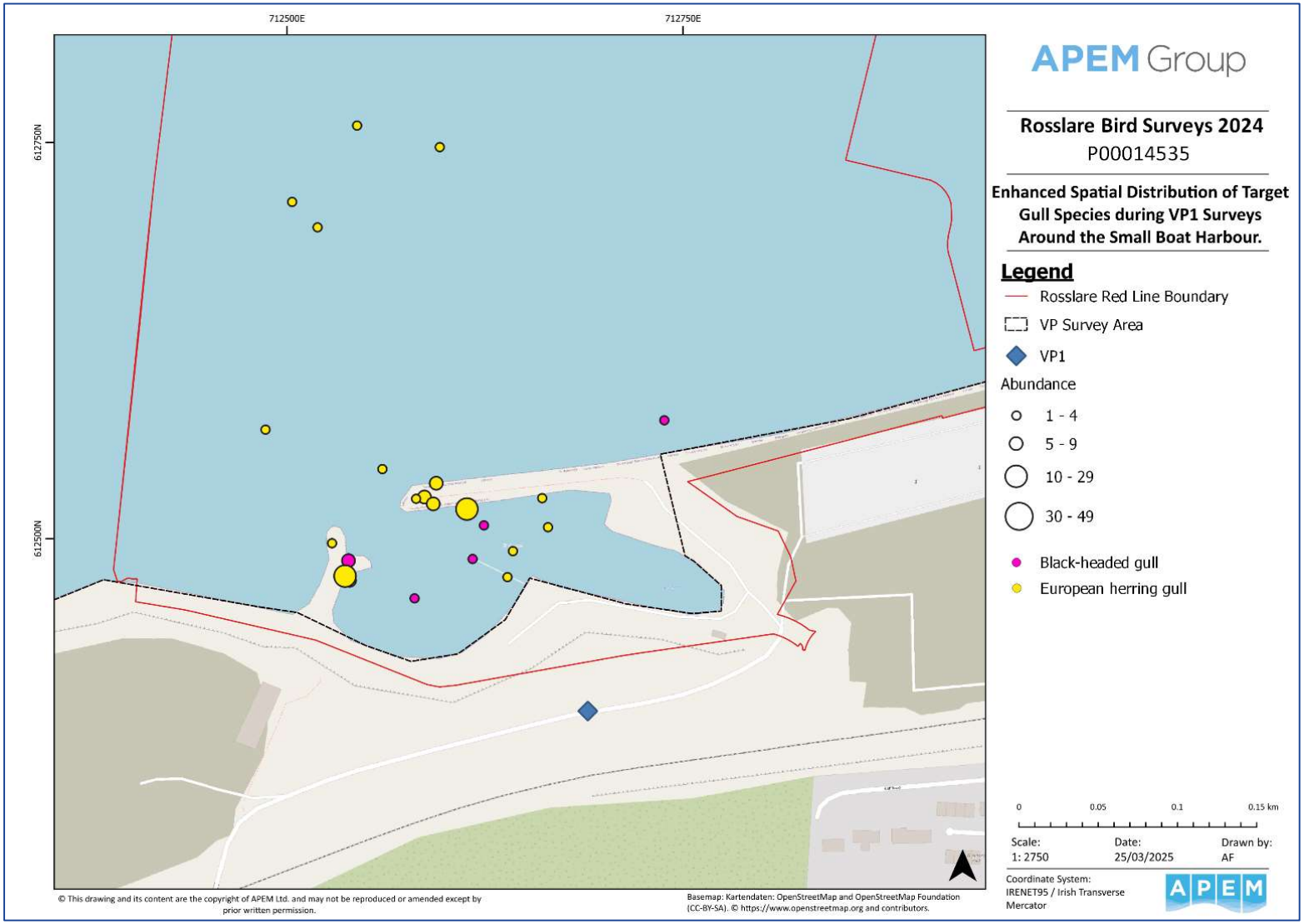


Figure B1-21 Enhanced view of the spatial distribution of all target gull species records during VP1 2023/24 surveys around the small boat harbour between March and August 2024

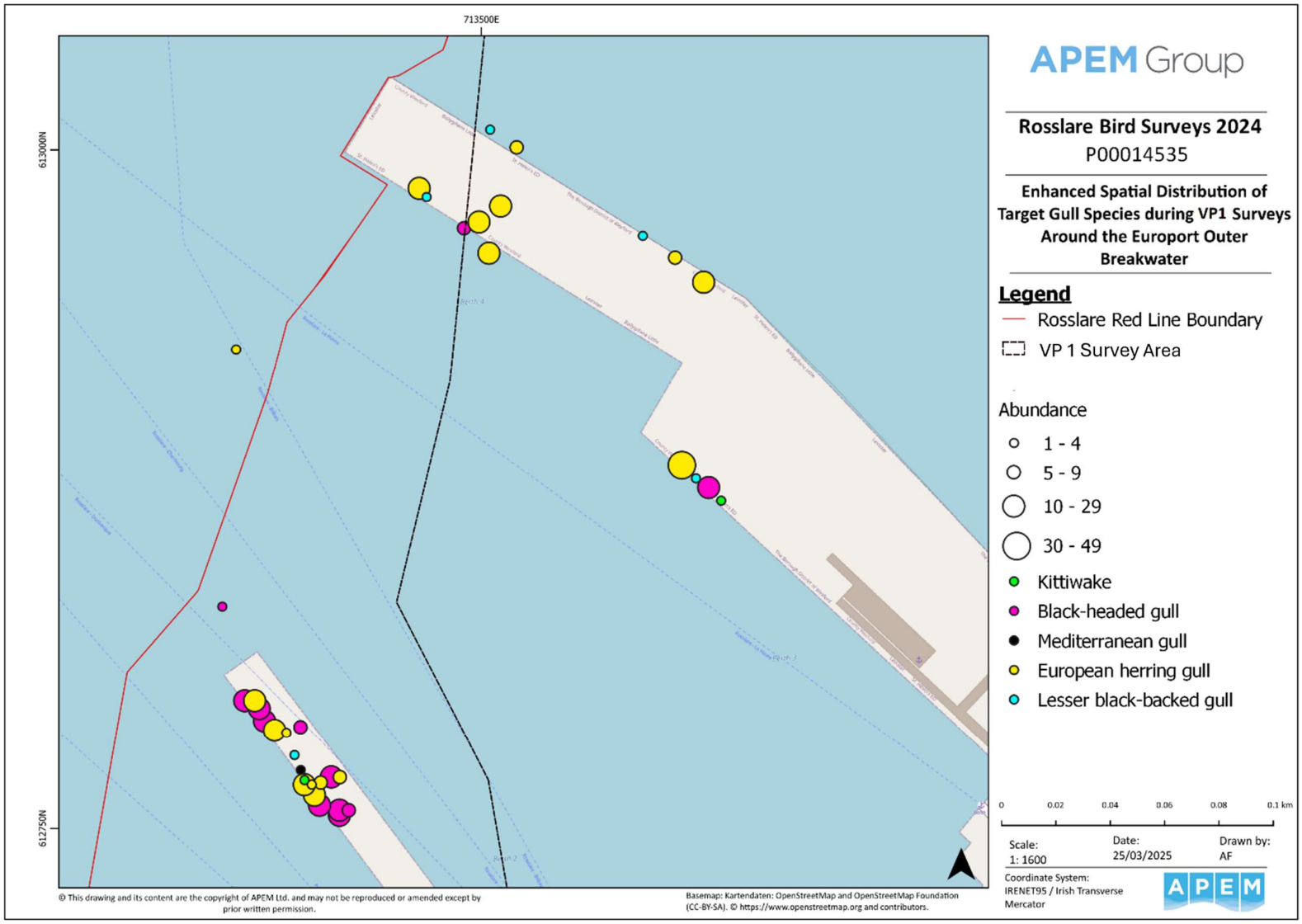


Figure B1-22 Enhanced view of the spatial distribution of all target gull species records during VP1 2023/24 surveys around the Europort outer breakwater between March and August 2024

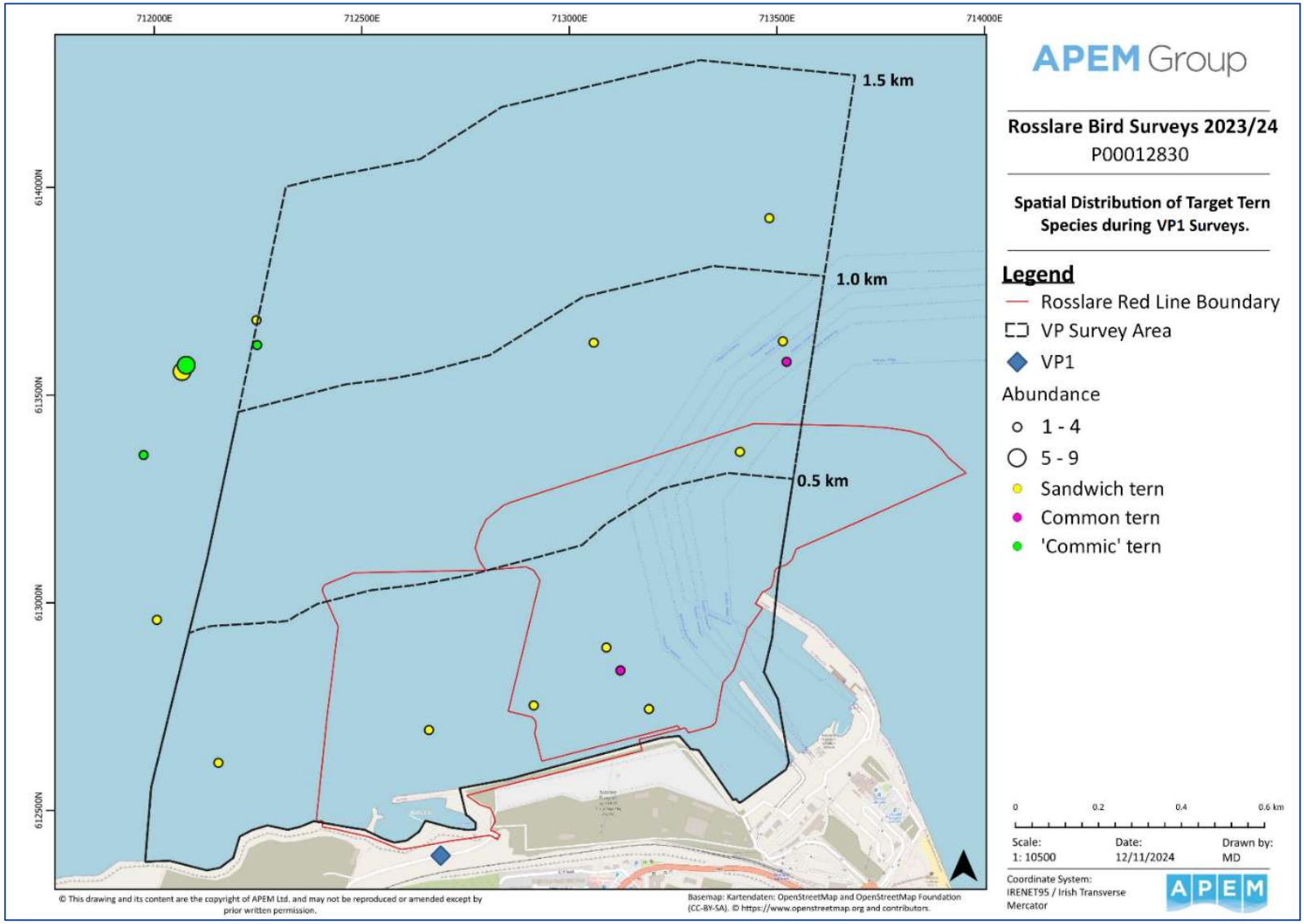


Figure B1-23 Spatial distribution of all target tern species records between July 2023 and February 2024 during VP1 2023/24 surveys

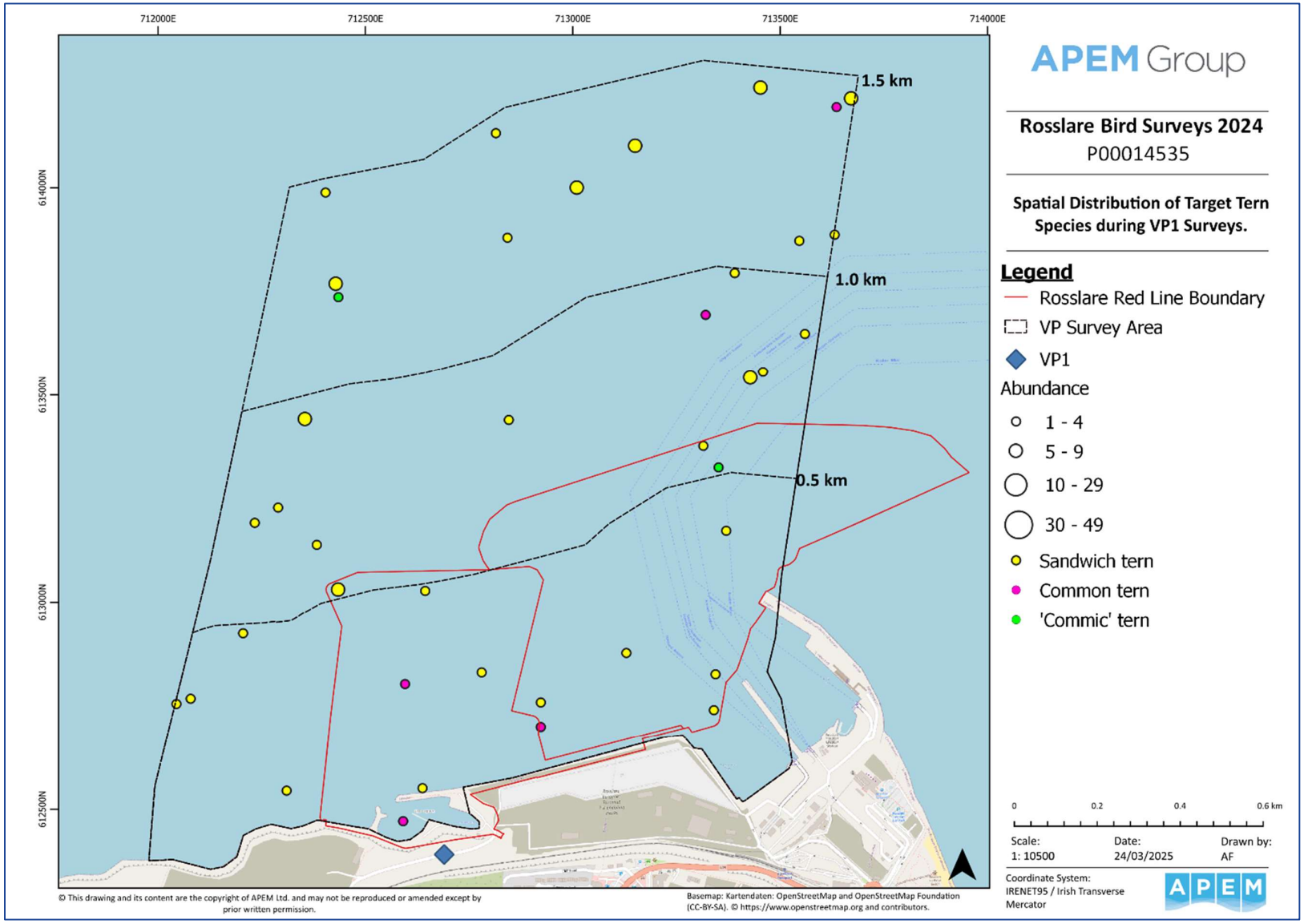


Figure B1-24 Spatial distribution of all target tern species records during VP1 2023/24 surveys between March and August 2024

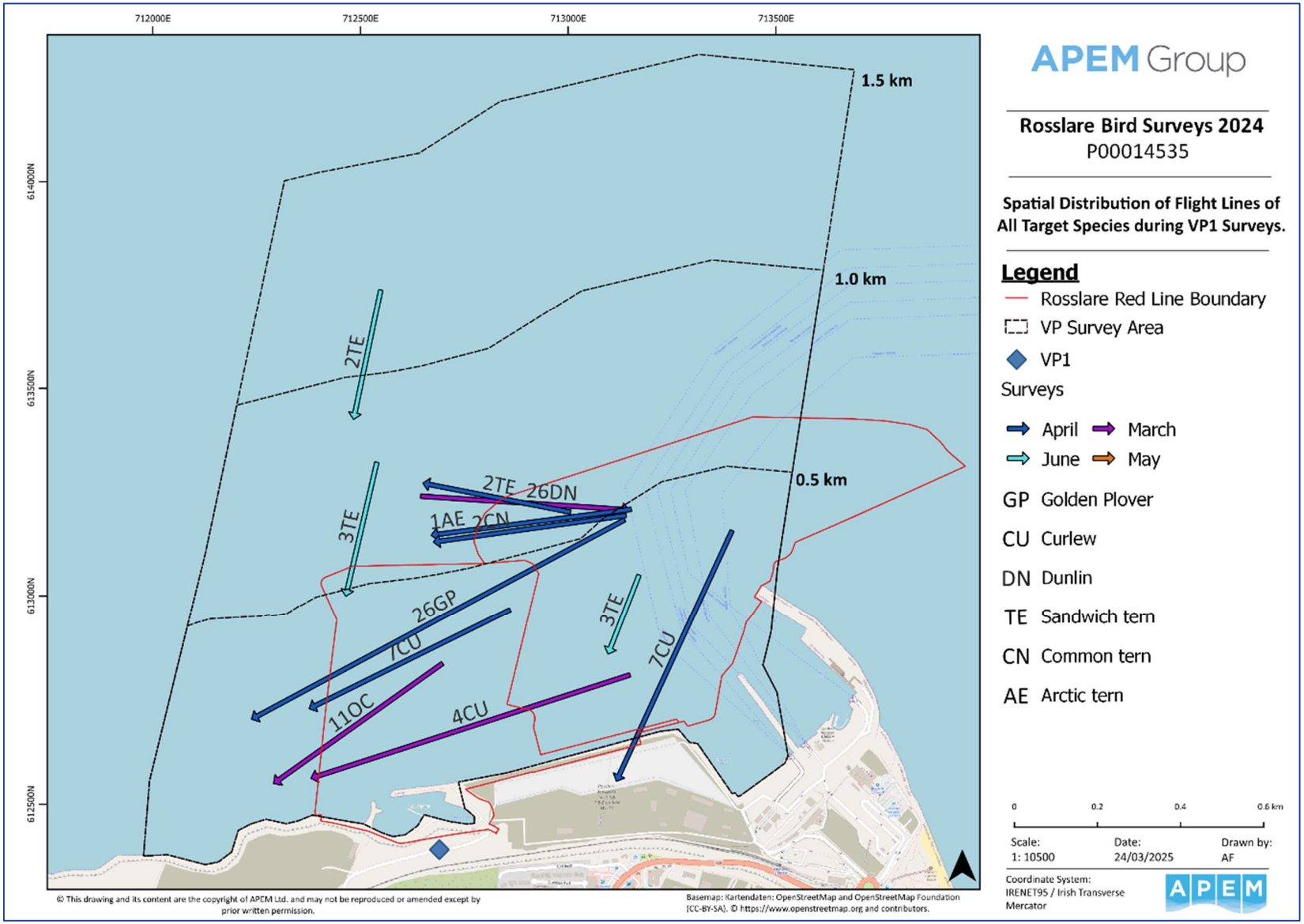


Figure B1-25 Spatial distribution of flight lines of all target species recorded during VP1 2023/24 surveys (March to August 2024)

VP2 Surveys

Waders

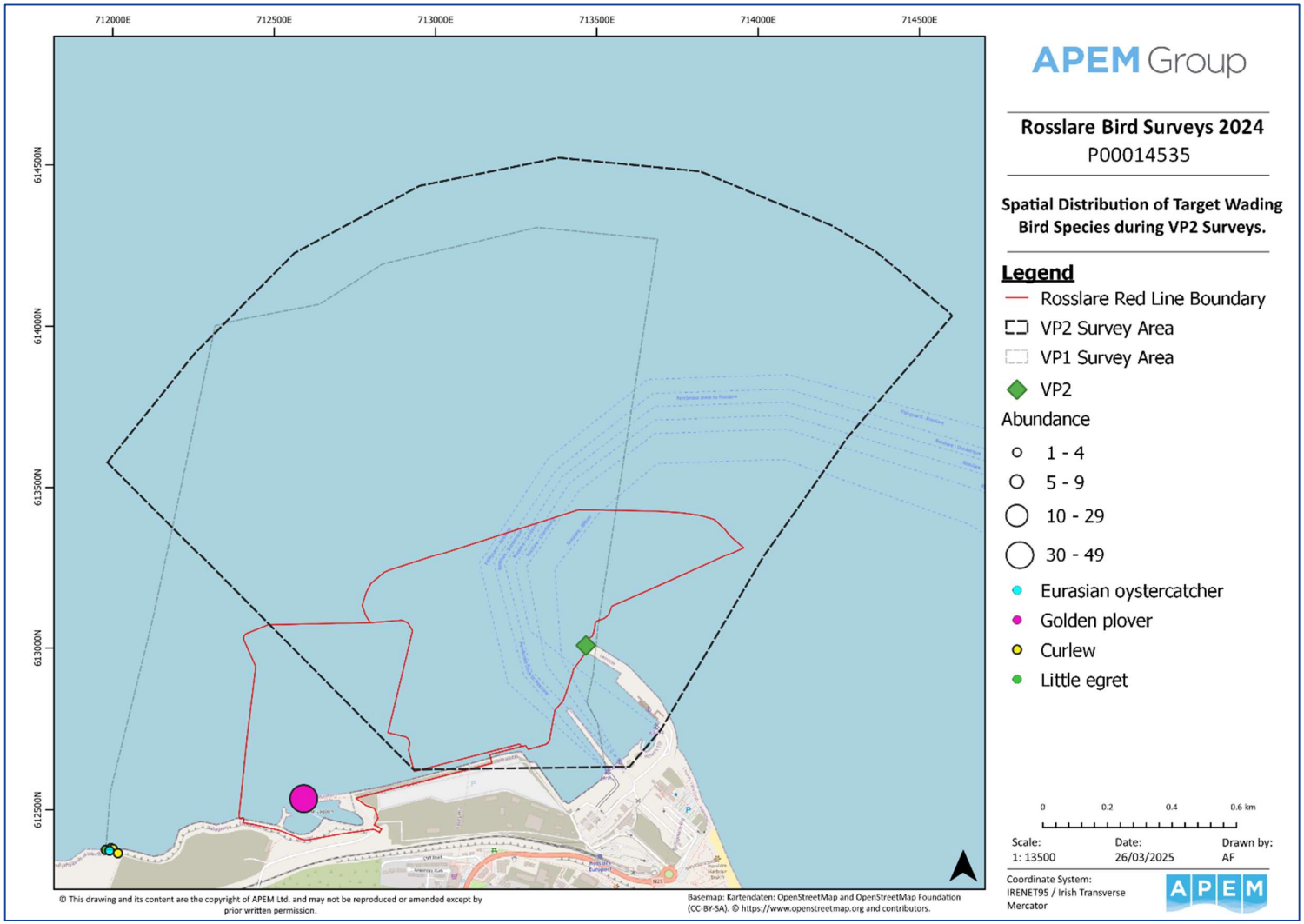


Figure B1-27 Spatial distribution of all target wader species records during VP2 surveys between March and August 2024

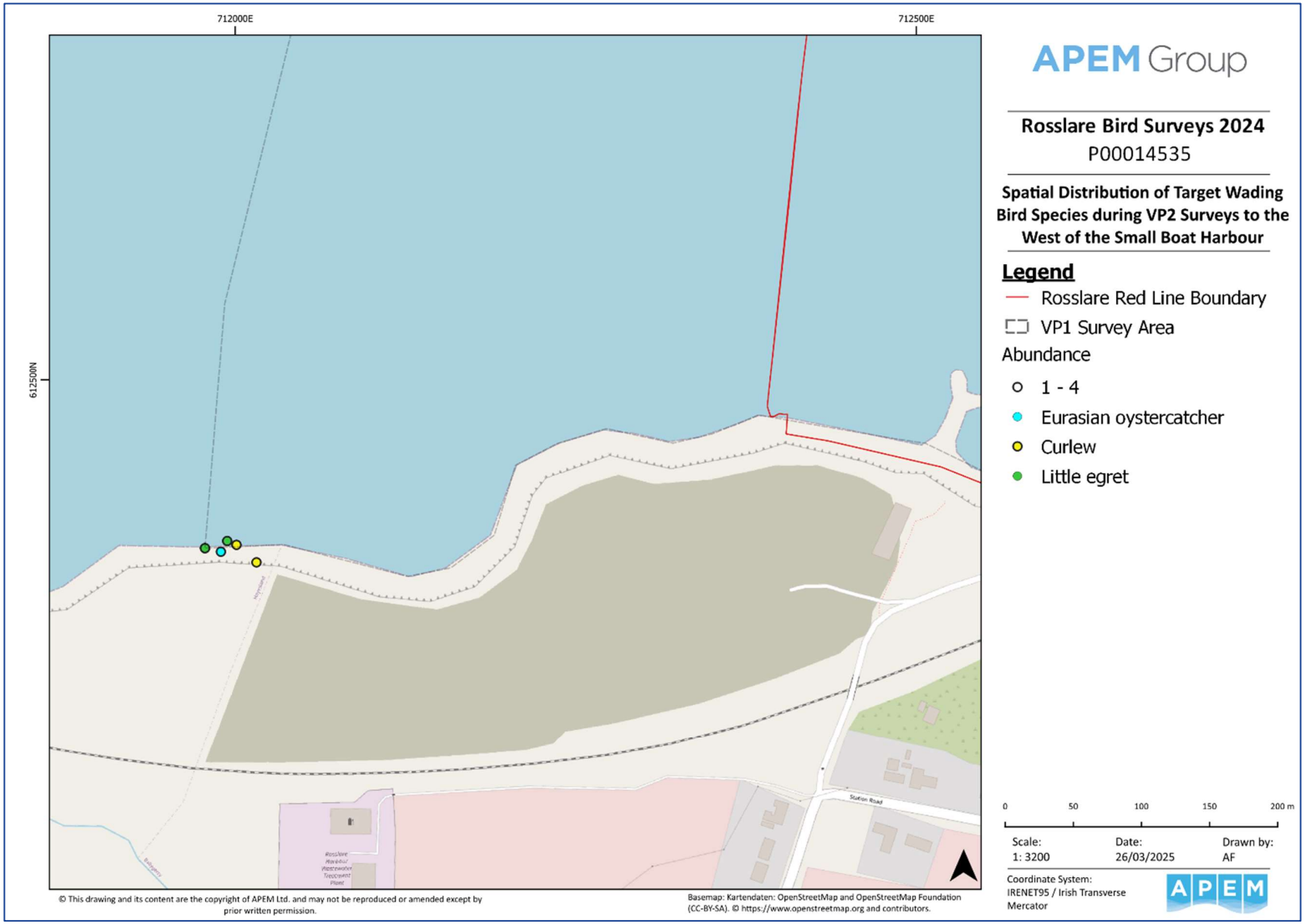


Figure B1-28 Enhanced spatial distribution of all target wader species records, west of the small boat harbour, during VP2 surveys between March and August 2024

Seabirds

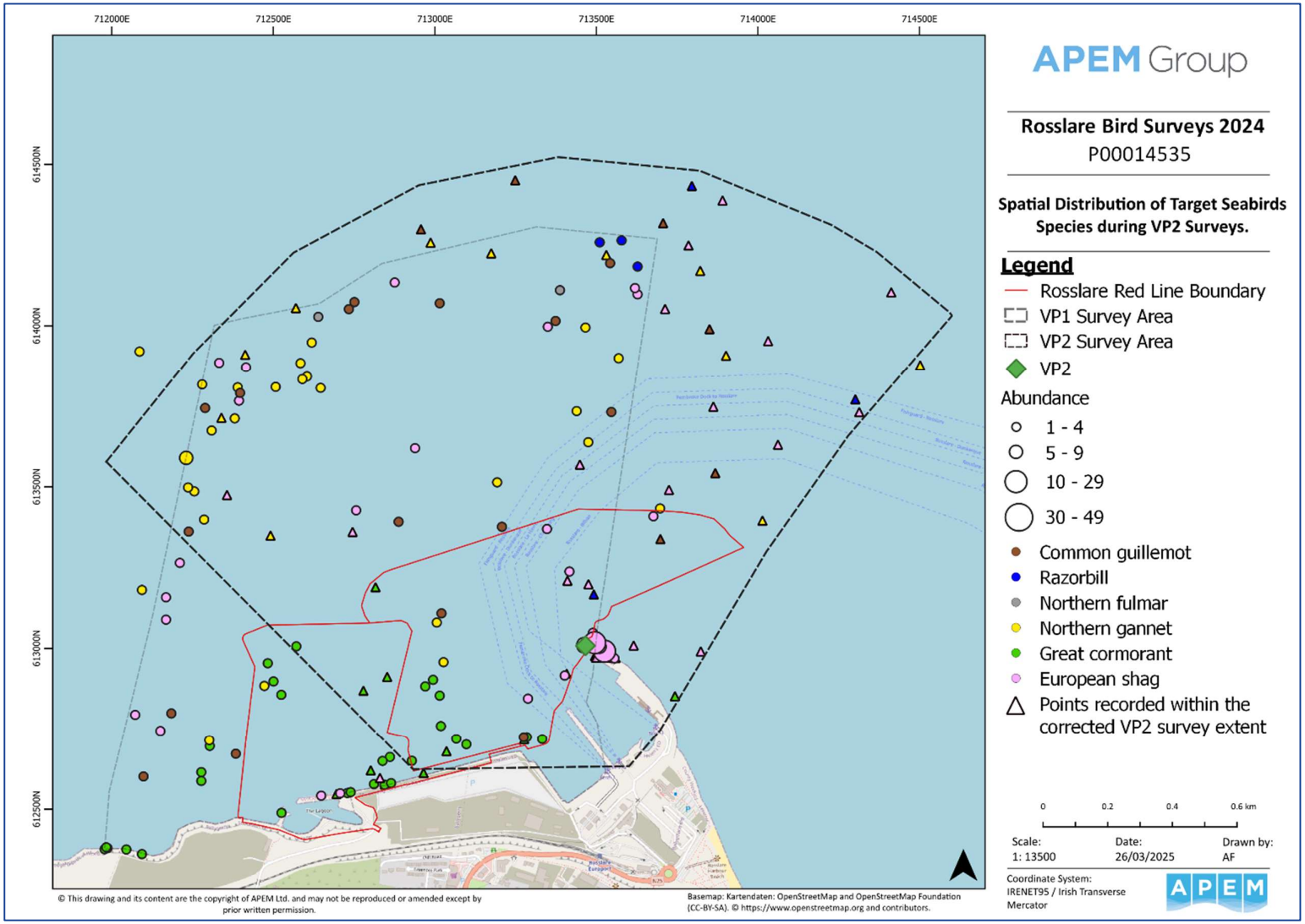


Figure B1-29 Spatial distribution of all target seabird species records during VP2 surveys between March and August 2024

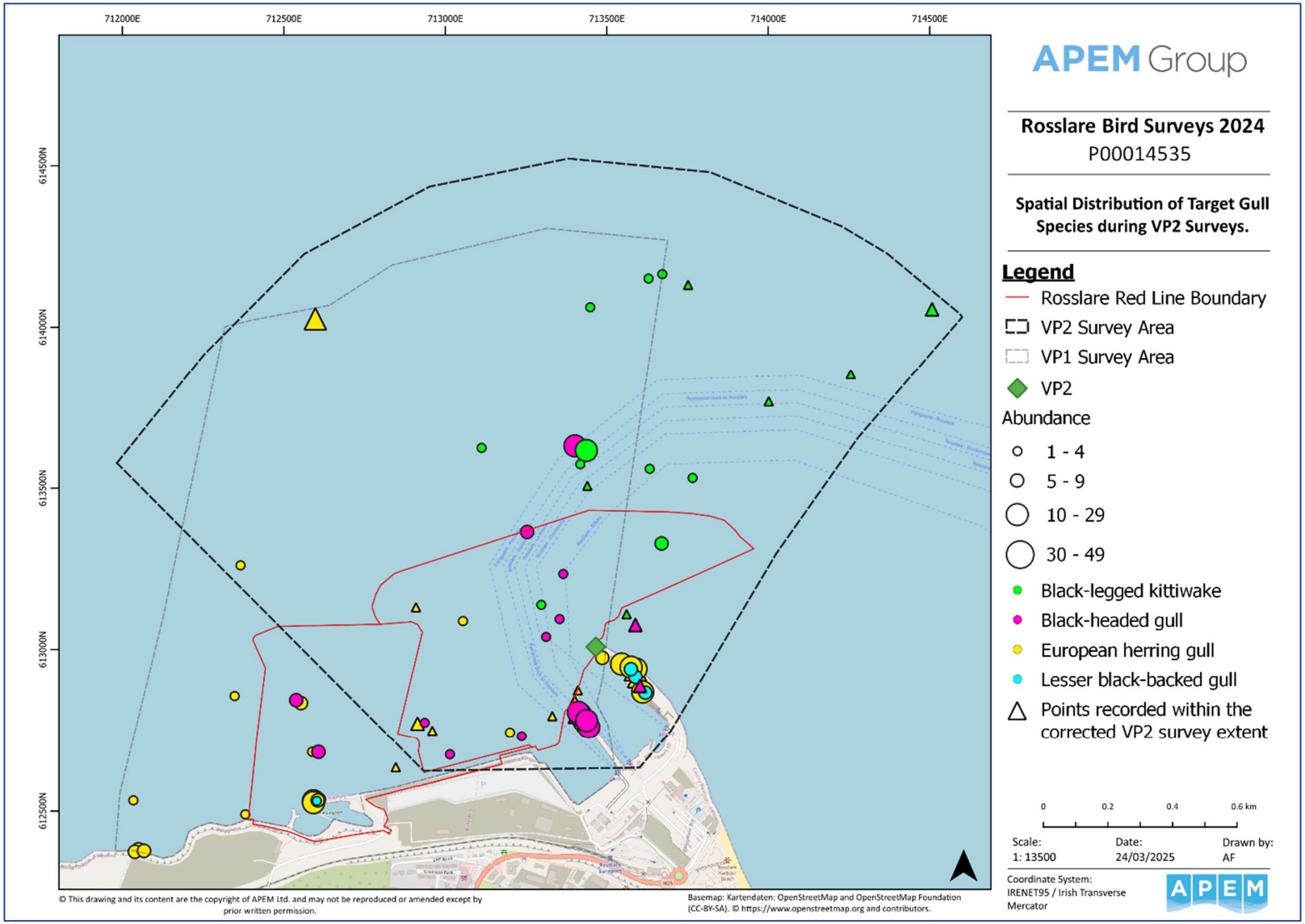


Figure B1-30 Spatial distribution of all target gull species records during VP2 surveys between March and August 2024

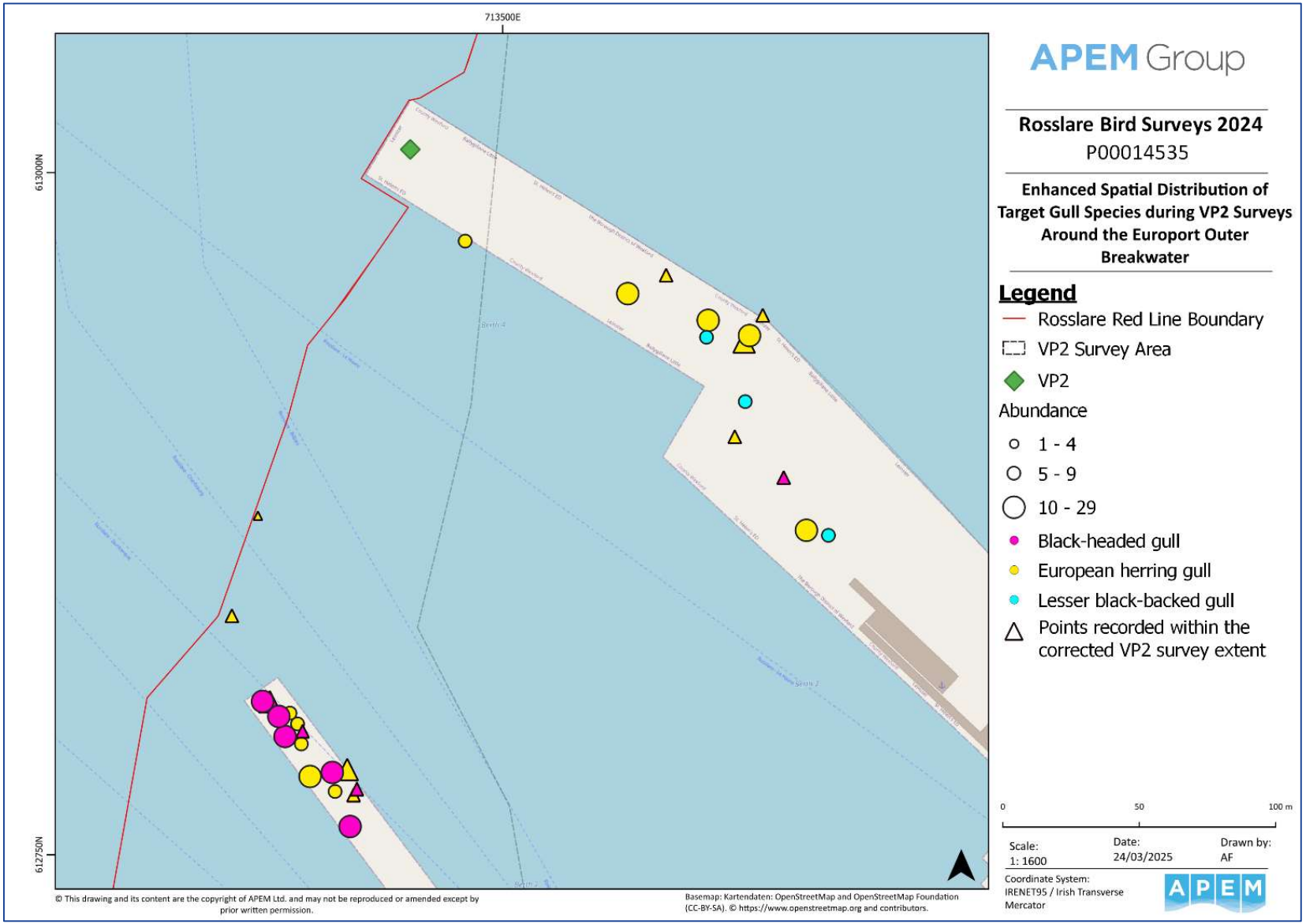


Figure B1-31 Spatial distribution of all target gull species records during VP2 surveys, around the Europort outer breakwater, between March and August 2024

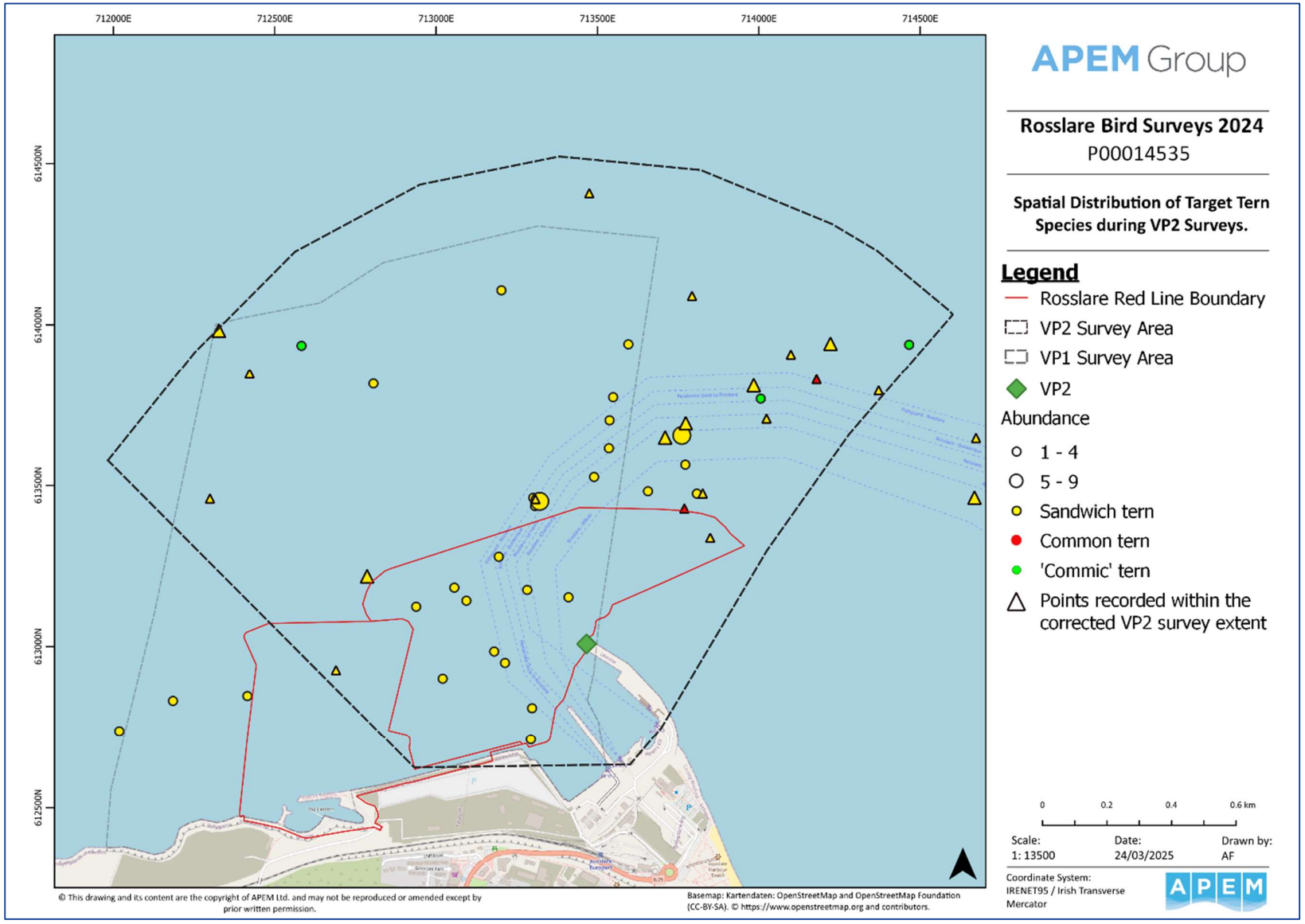


Figure B1-32 Spatial distribution of all target tern species records during VP2 surveys between March and August 2024

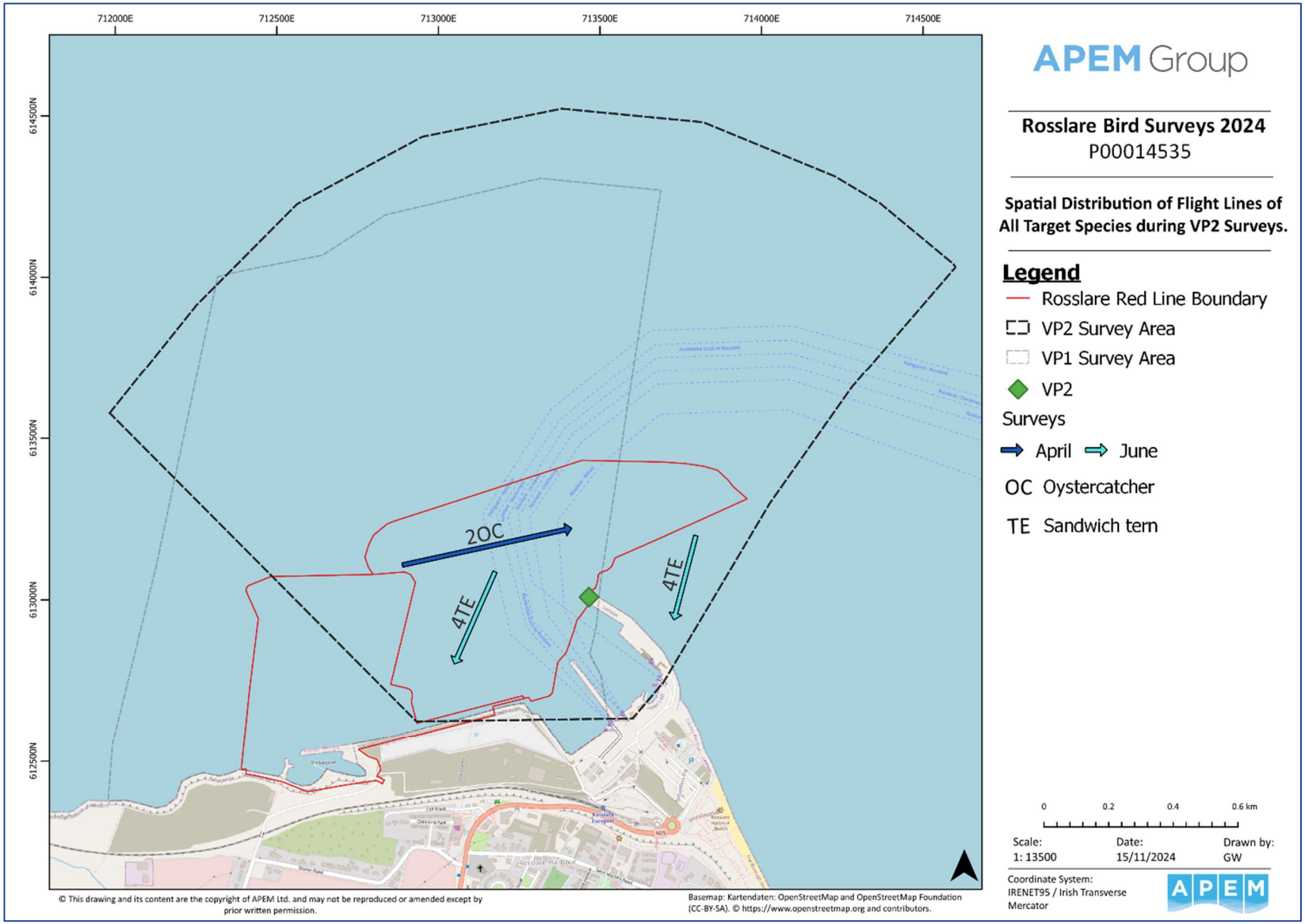


Figure B1-33 Spatial distribution of flight lines of all target species during VP2 surveys between March and August 2024

B2: BBS

BBS 2022

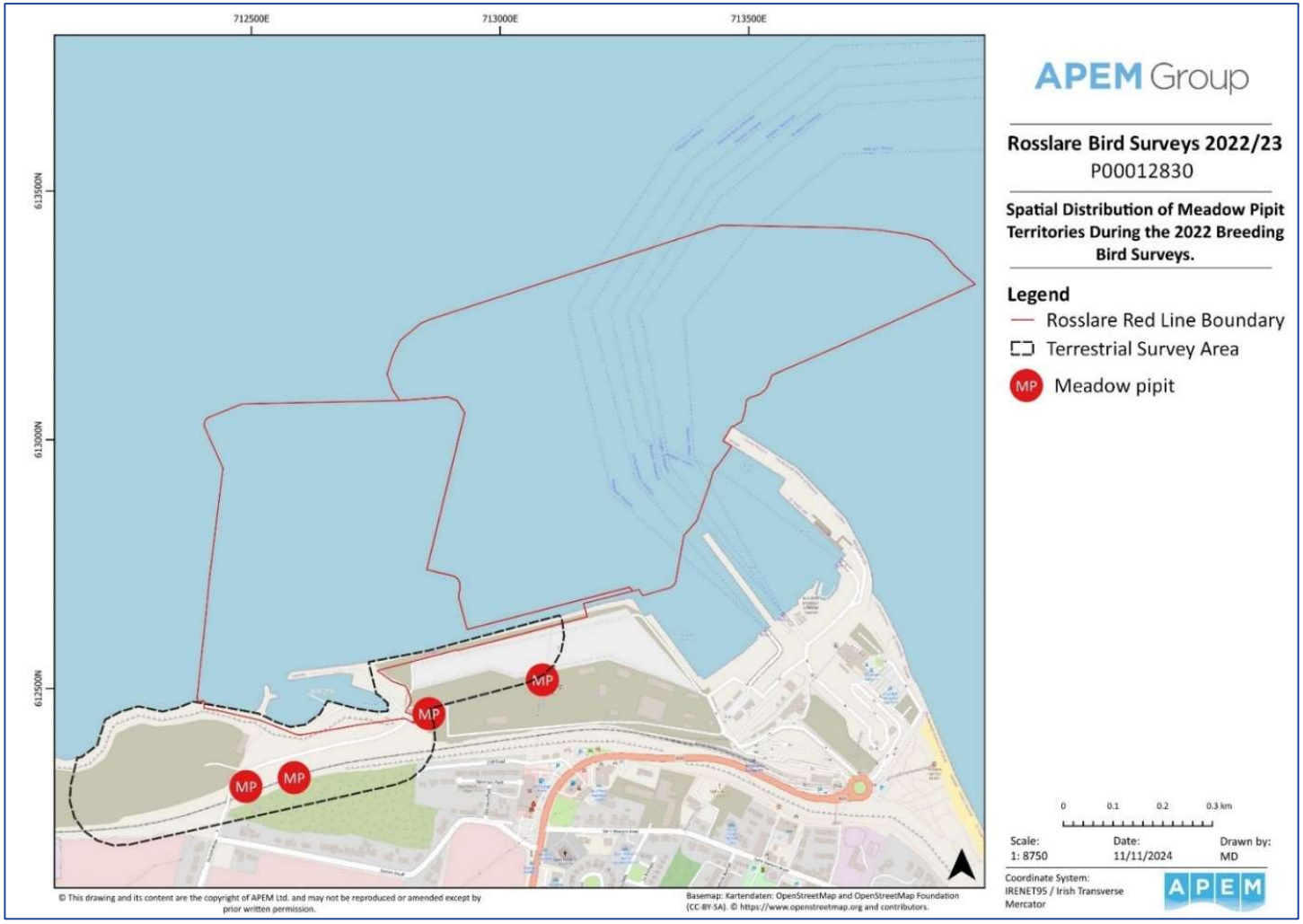


Figure B2-1 Spatial distribution of meadow pipit territories during the BBS 2022

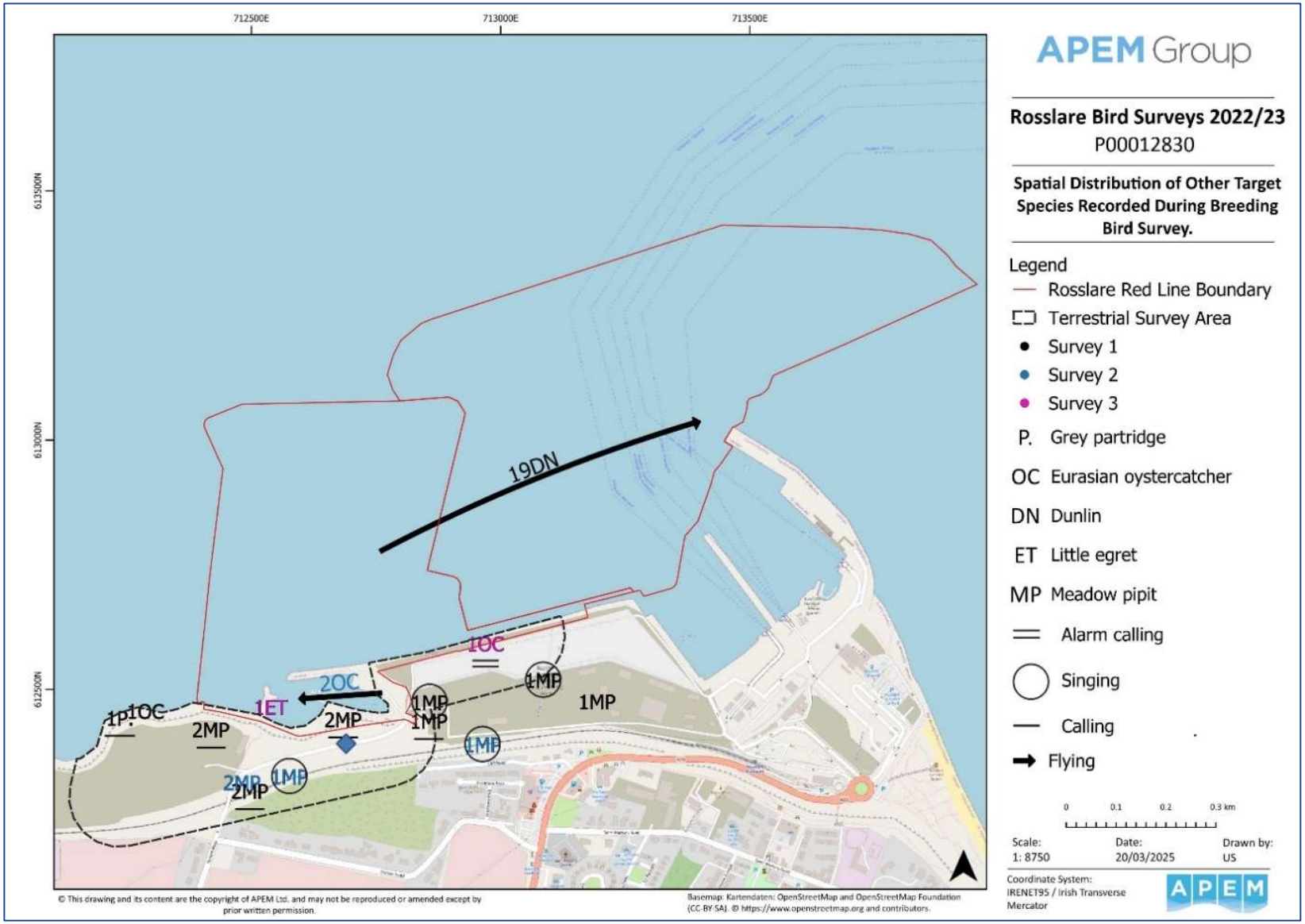


Figure B2-2 Spatial distribution of other target species recorded during breeding bird surveys between BBS 2022

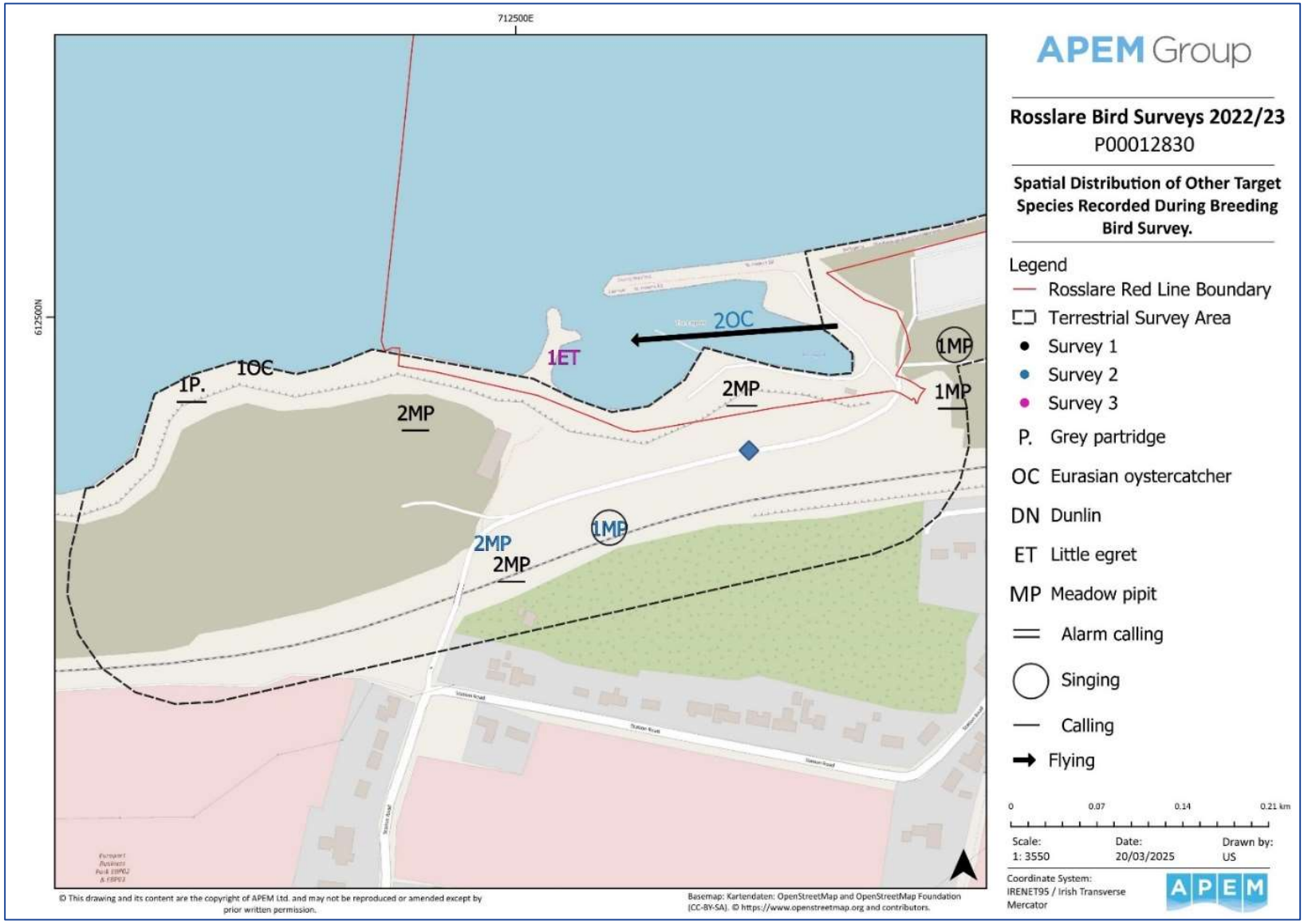


Figure B2-3 Enhanced spatial distribution of other target species recorded during the BBS 2022

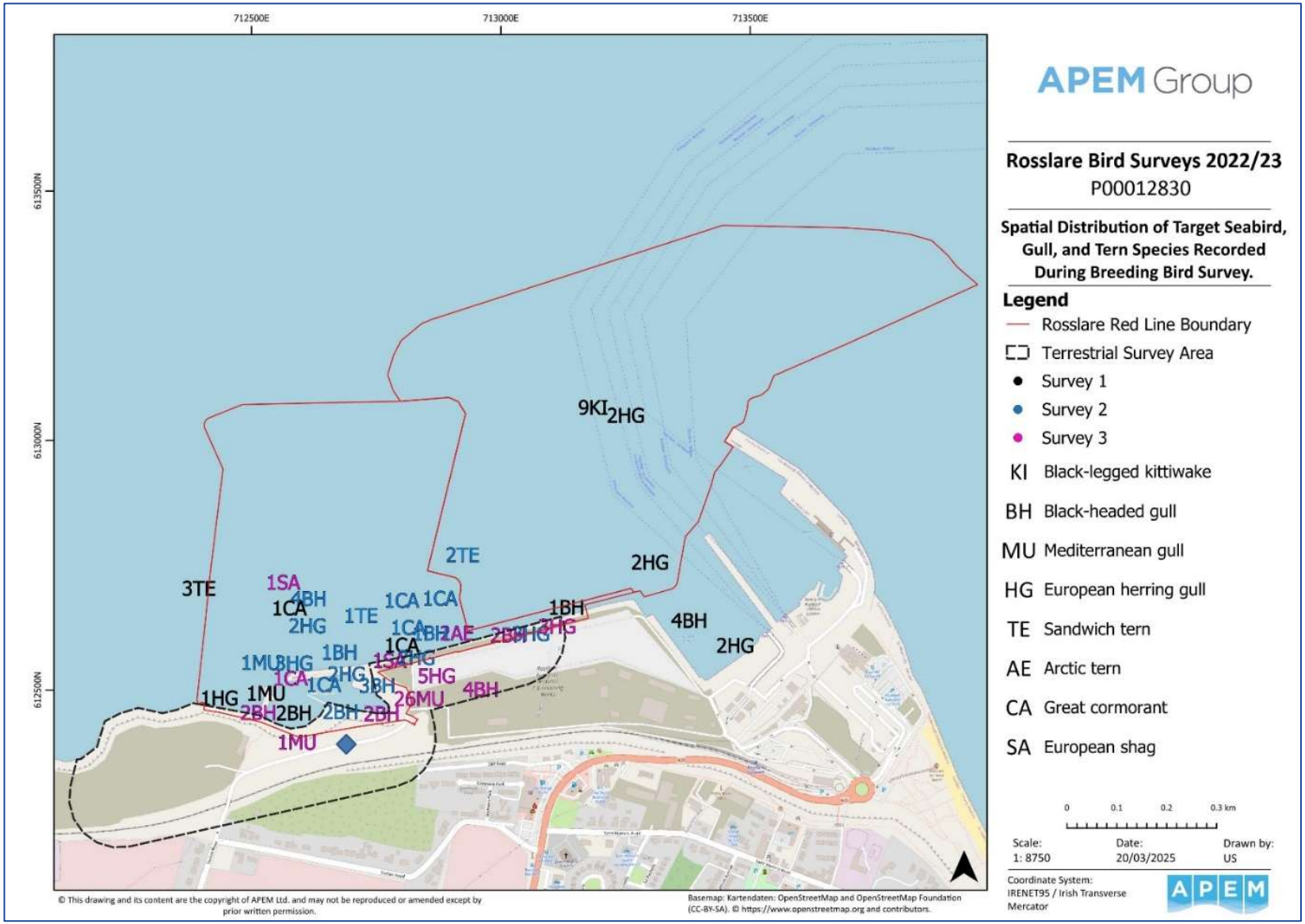


Figure B2-4 Spatial distribution of target seabird, gull, and tern species recorded during the BBS 2022

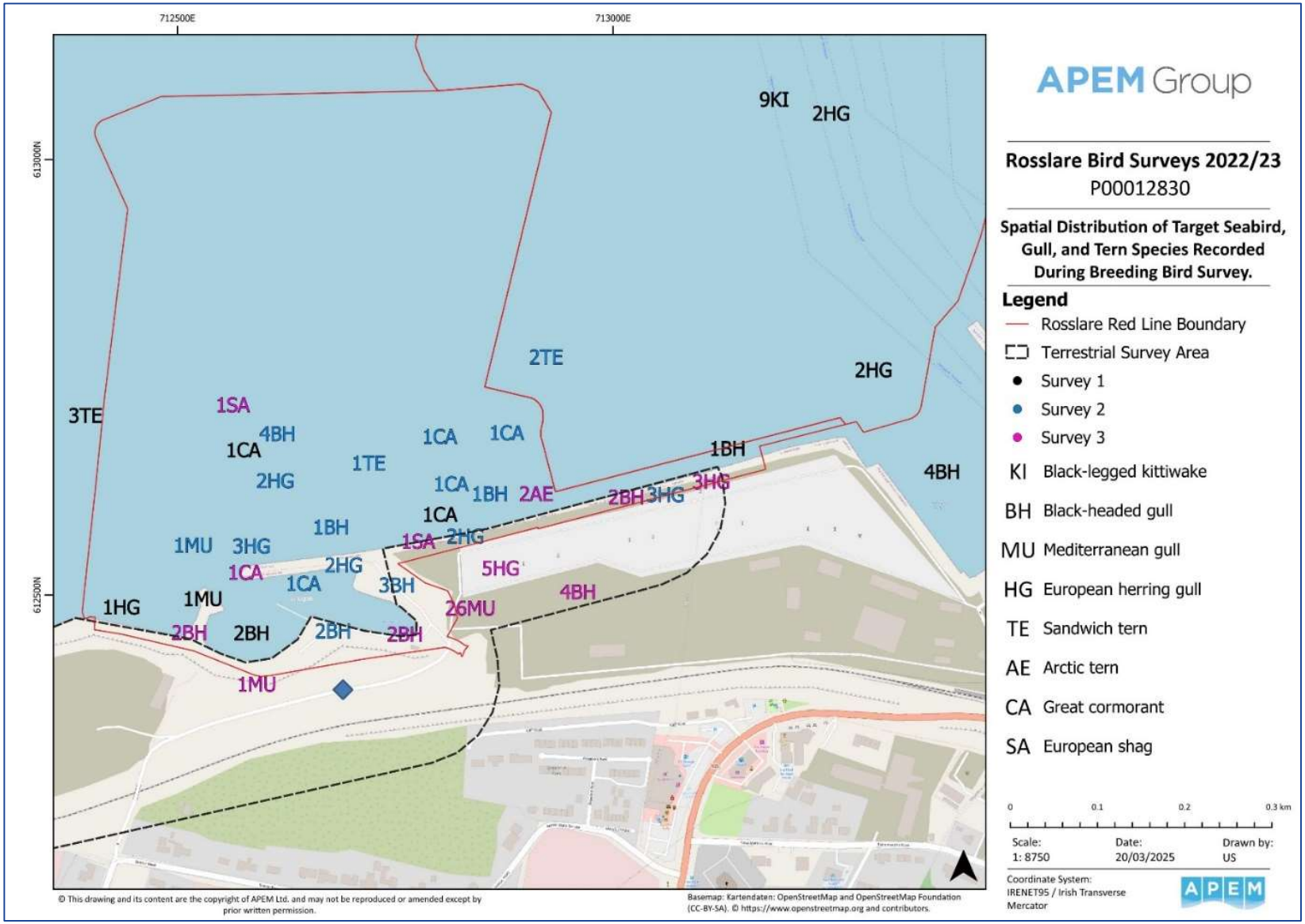


Figure B2-5 Enhanced view of the spatial distribution of target seabird, gull, and tern species recorded during the BBS 2022

BBS 2023

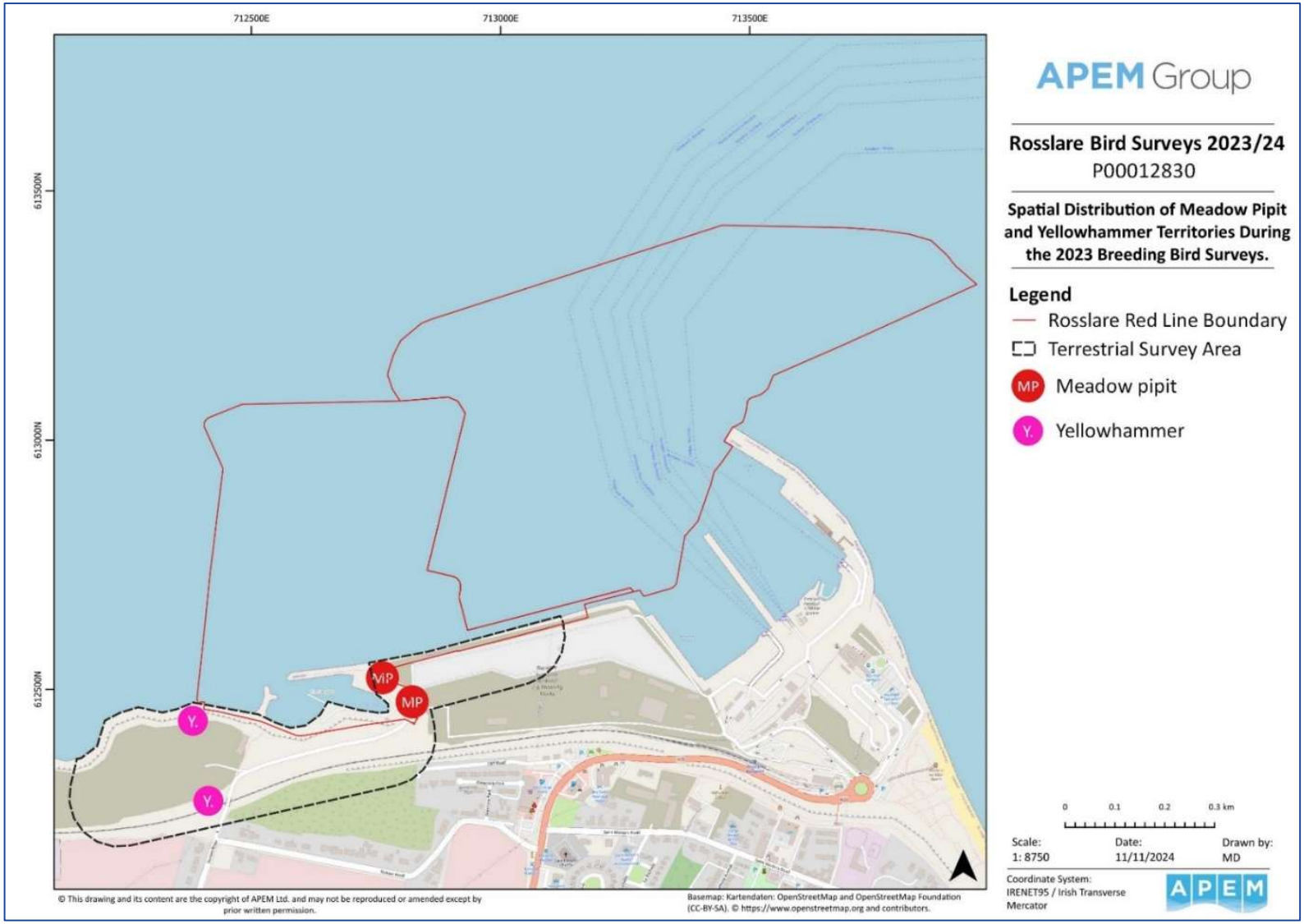


Figure B2-6 Spatial distribution of meadow pipit and yellow hammer territories during the BBS 2023

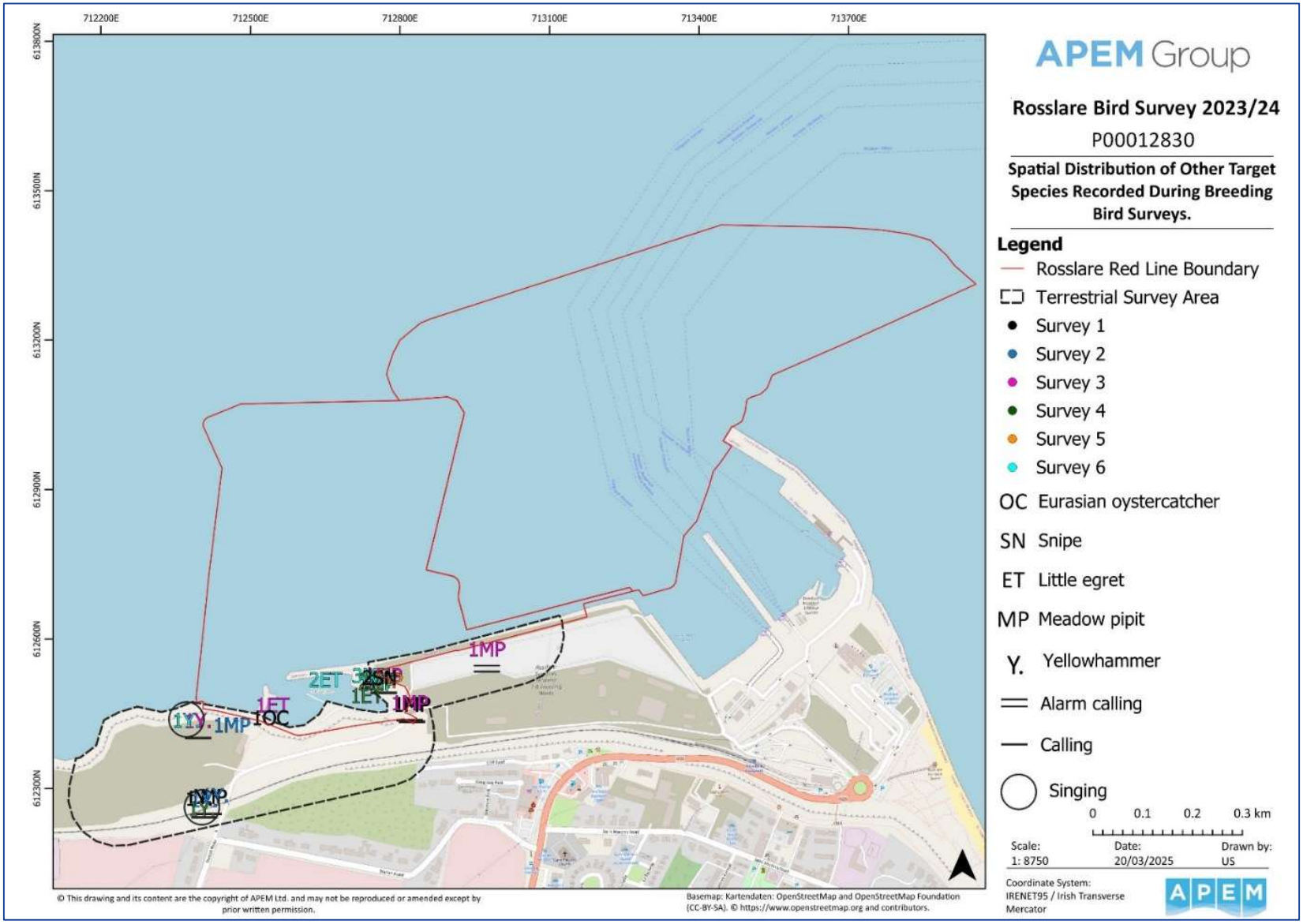


Figure B2-7 Spatial distribution of other target species recorded during the BBS 2023

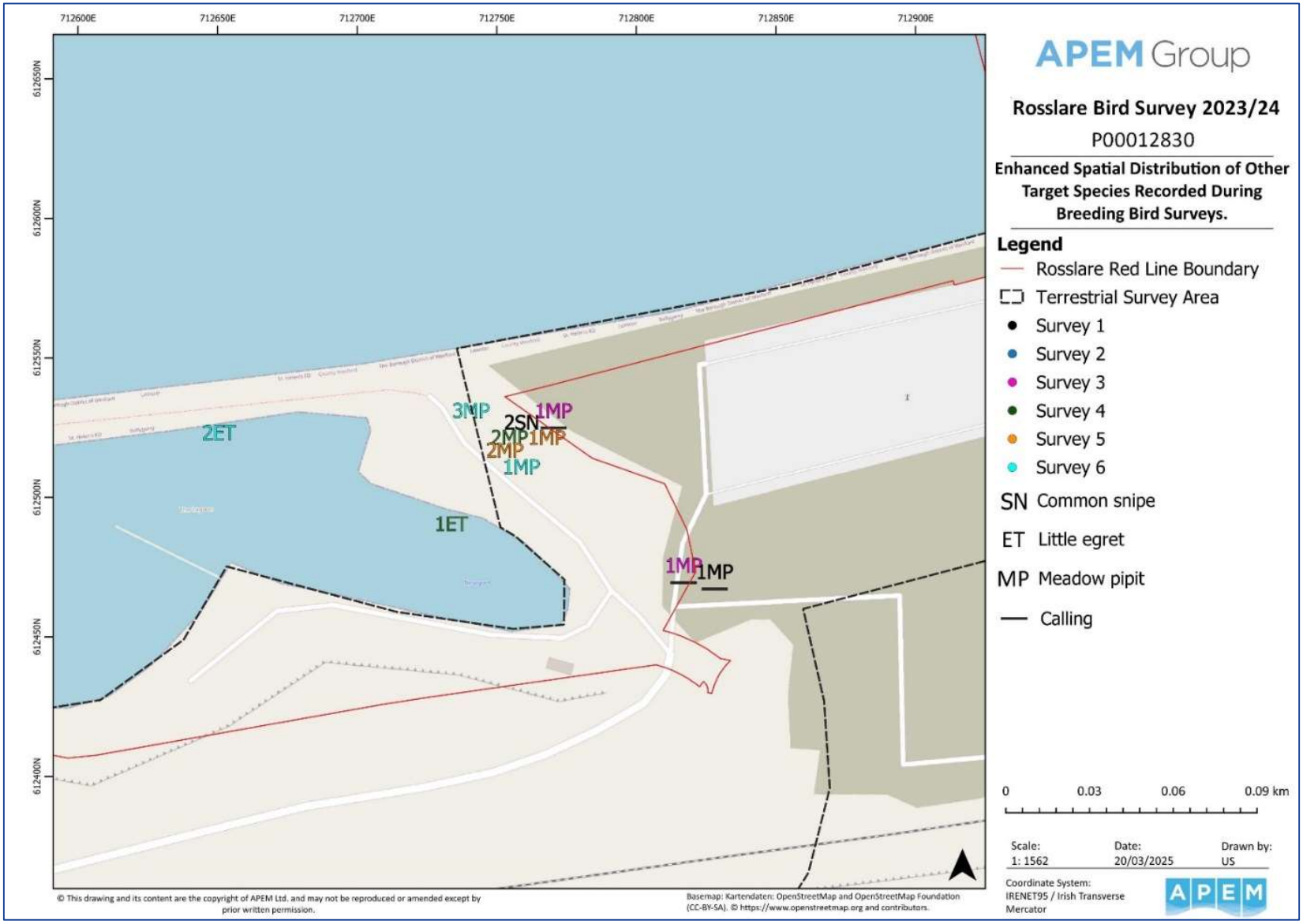


Figure B2-8 Enhanced spatial distribution of other target species recorded during the BBS 2023

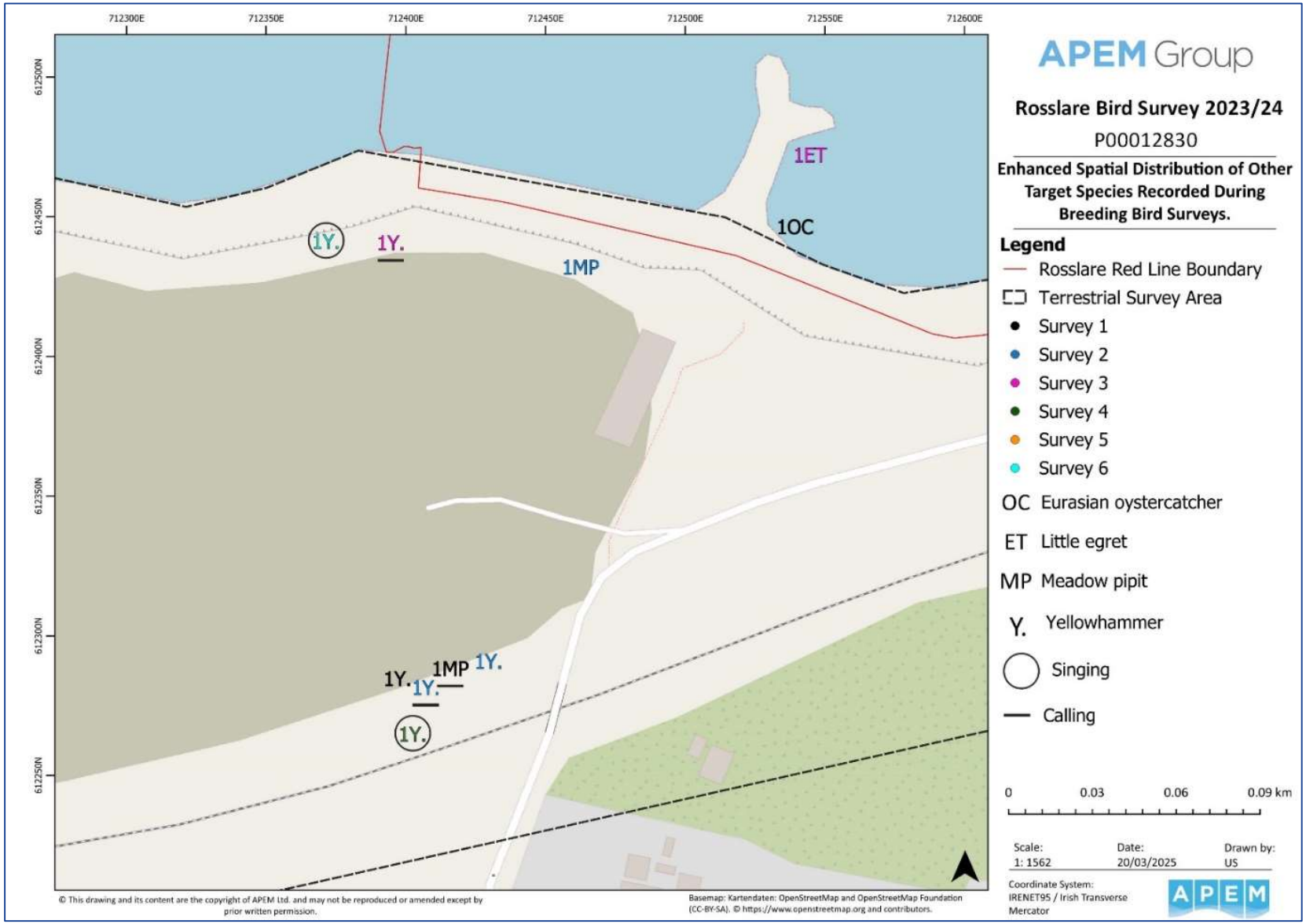


Figure B2-9 Enhanced spatial distribution of other target species recorded during the BBS 2023

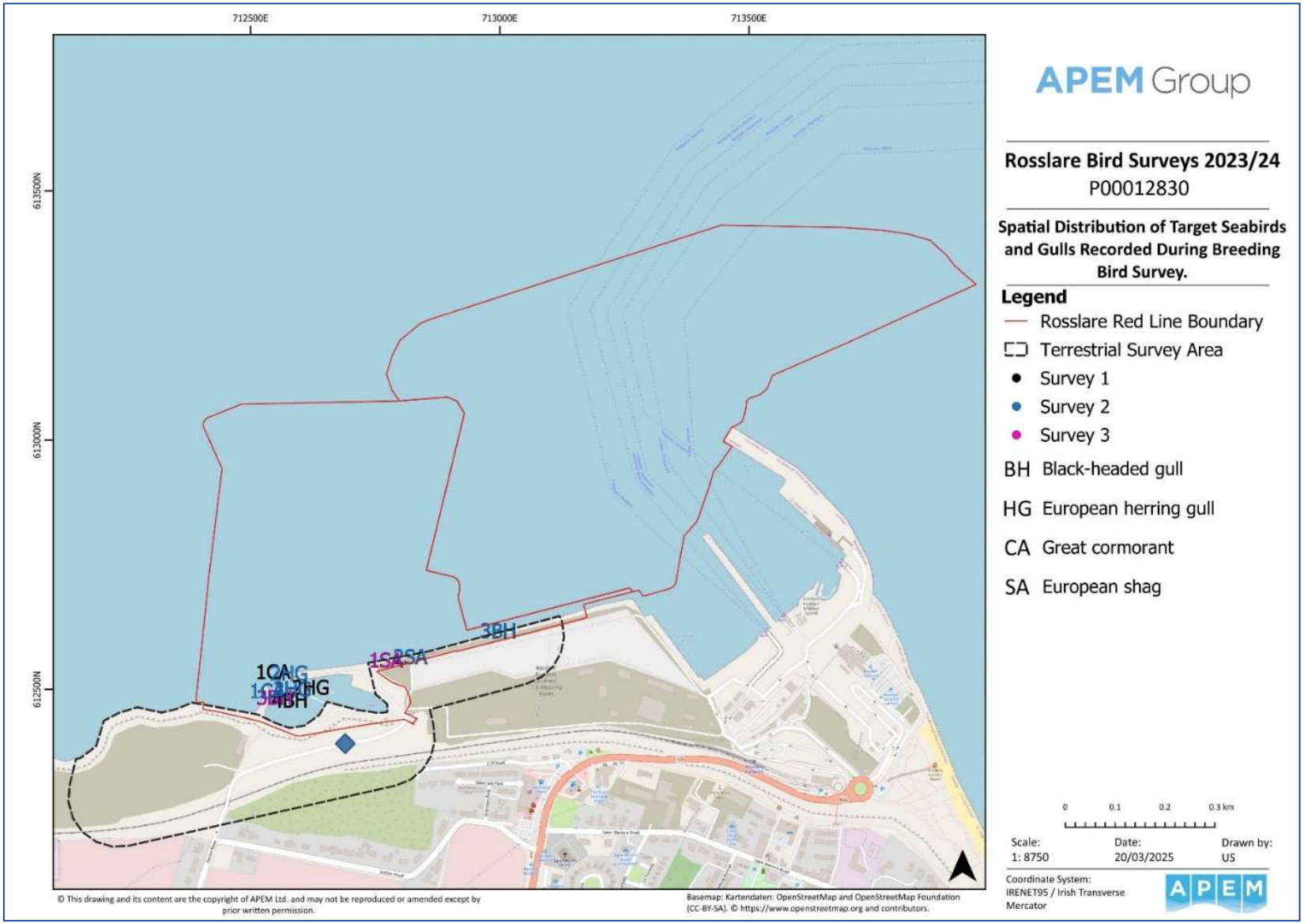


Figure B2-10 Spatial distribution of target seabird and gulls recorded during the BBS 2023

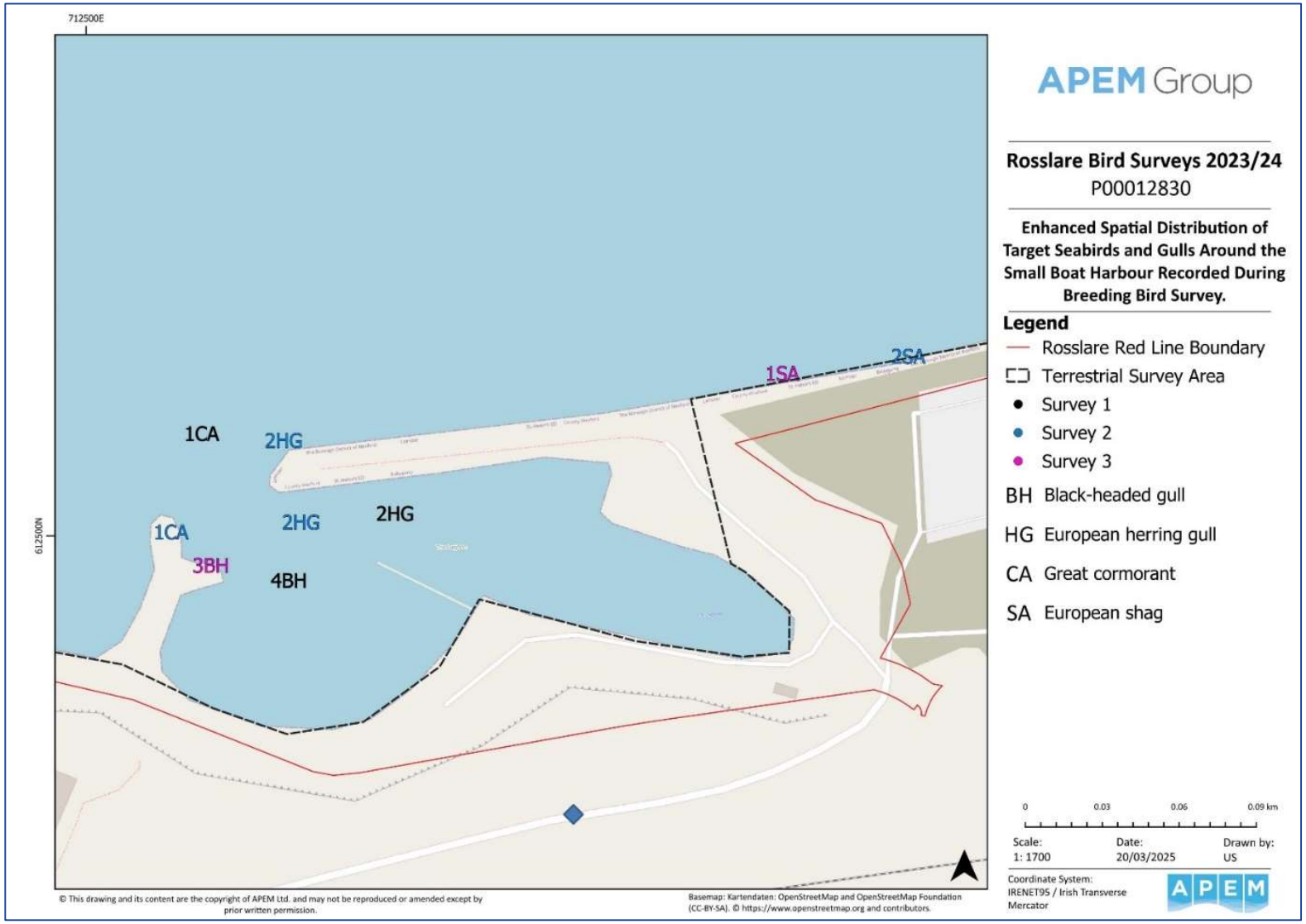


Figure B2-11 Enhanced spatial distribution of target seabirds and gulls around the small boat harbour recorded during the BBS 2023

Table B2-2 Individual counts of all species recorded during the BBS 2023

Species	Survey						Total Count
	Survey 1 March 2023	Survey 2 April 2023	Survey 3 April 2023	Survey 4 May 2023	Survey 5 May 2023	Survey 6 June 2023	
Common woodpigeon	0	4	0	0	0	0	4
Eurasian collared dove	2	4	0	2	2	0	10
Eurasian oystercatcher [b]	**1**	**0**	**0**	**0**	**0**	**0**	**1**
Ruddy turnstone	4	3	2	0	0	0	9
Common snipe [b]	**2**	**0**	**0**	**0**	**0**	**0**	**2**
Black-headed gull [c]	**4**	**3**	**3**	**0**	**0**	**0**	**10**
European herring gull [c]	**2**	**4**	**0**	**0**	**0**	**0**	**6**
Great cormorant [c]	**1**	**1**	**0**	**0**	**0**	**0**	**2**
European shag [c]	**0**	**2**	**1**	**0**	**0**	**0**	**3**
Grey heron	1	1	0	0	1	0	3
Little egret [a]	**0**	**0**	**1**	**1**	**0**	**2**	**4**
Common magpie	0	1	2	2	2	2	9
Hooded crow	0	2	1	1	2	0	6
Eurasian blue tit	1	2	2	1	2	9	17
Great tit	1	3	0	2	0	0	6
Willow warbler	0	2	1	3	2	2	10
Common chiffchaff	0	1	2	1	1	1	6
Eurasian blackcap	0	0	1	0	0	1	2
Eurasian wren	4	4	2	5	3	2	20
Common starling	4	7	4	2	2	14	33
Song thrush	1	2	1	1	1	1	7
Common blackbird	6	5	3	3	5	6	28
European robin	2	8	5	5	6	8	34
European stonechat	6	6	2	6	6	5	31
House sparrow	6	6	9	12	18	16	67
Dunnock	1	3	1	3	3	3	14
Pied wagtail	4	3	3	2	2	3	17
Meadow pipit [b]	**2**	**1**	**3**	**2**	**3**	**4**	**15**
European rock pipit	4	2	3	2	3	2	16
Common chaffinch	3	0	3	2	2	4	14
Eurasian bullfinch	0	0	1	0	0	2	3
Common linnet	2	2	3	4	4	1	16
European goldfinch	2	0	2	1	0	0	5
Yellowhammer [b]	**1**	**2**	**1**	**1**	**0**	**1**	**6**
Common reed bunting	0	0	0	3	3	2	8

BBS 2024

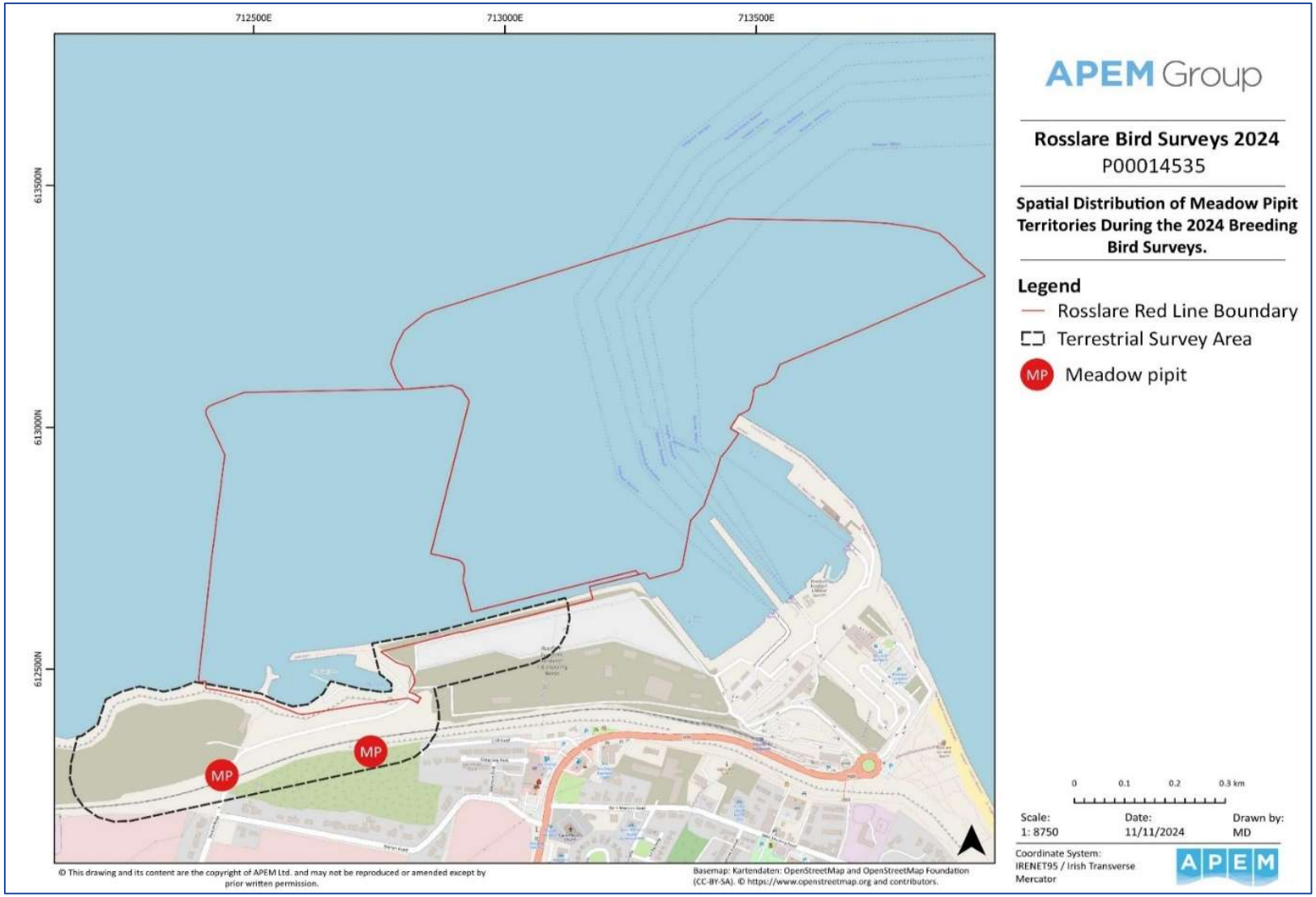


Figure B2-12 Spatial distribution of meadow pipit territories during the BBS 2024

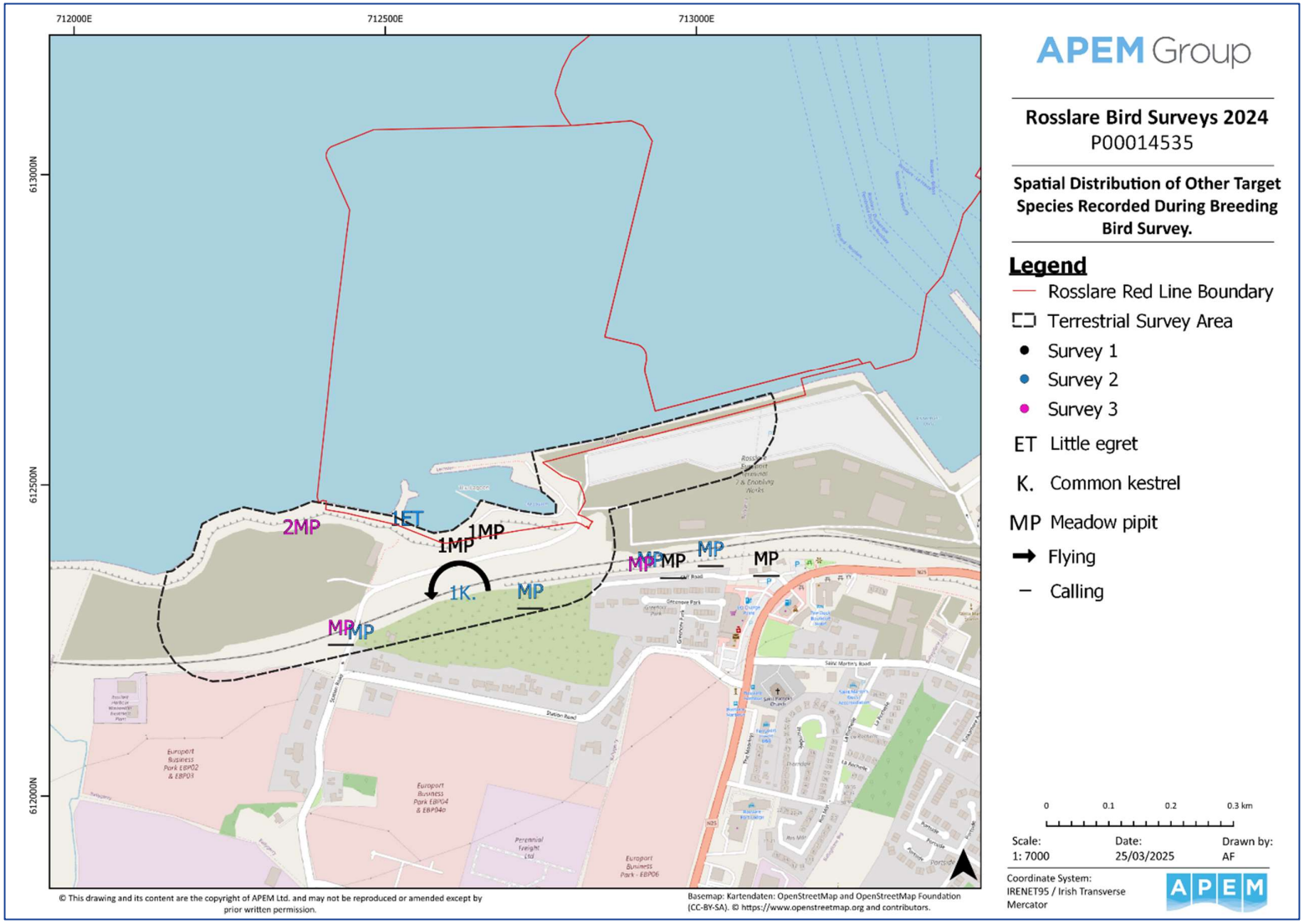


Figure B2-13 Spatial distribution of other target species during the BBS 2024

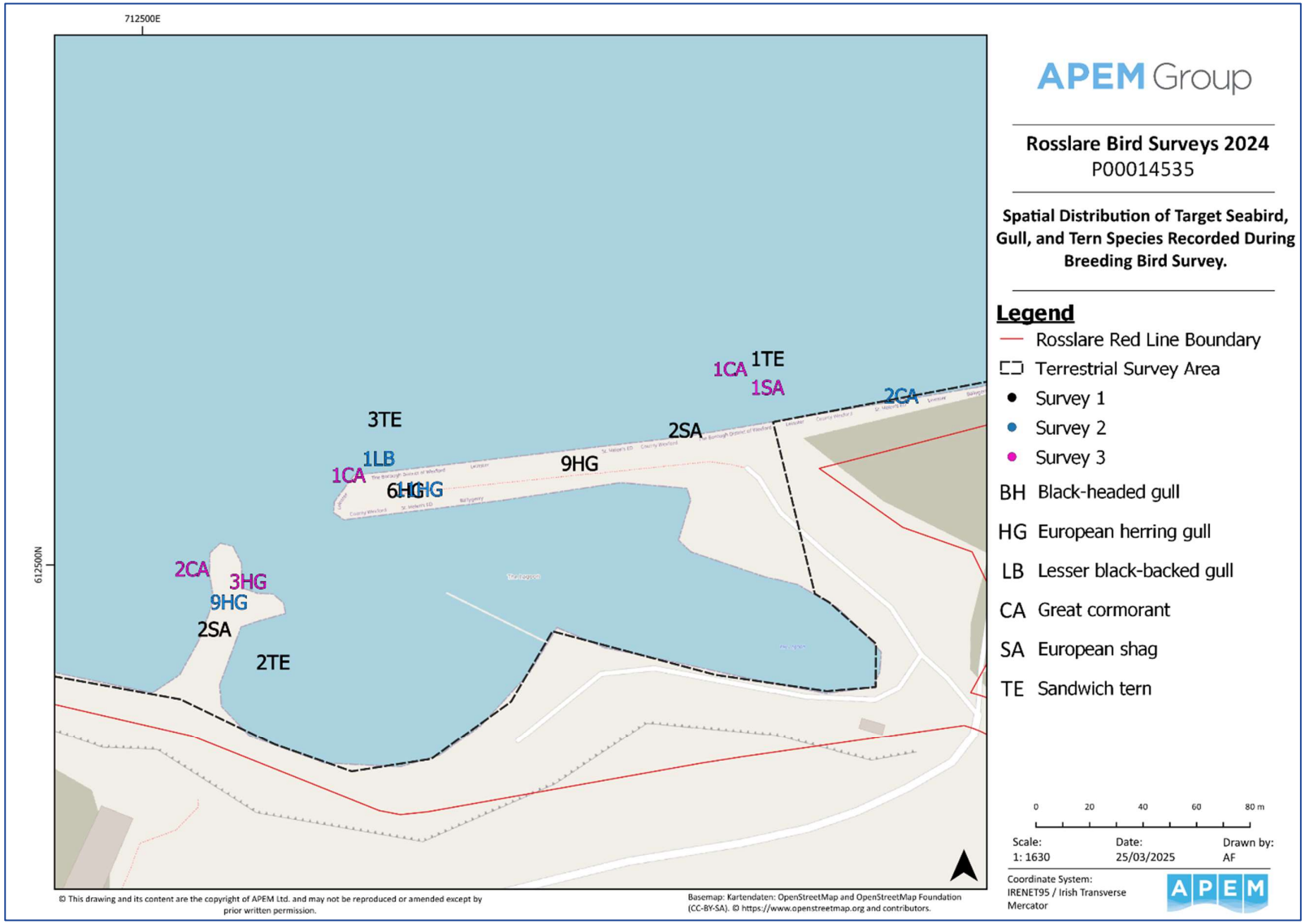


Figure B2-14 Enhanced spatial distribution of target seabird, gull, and tern species around the small boat harbour recorded during BBS 2024

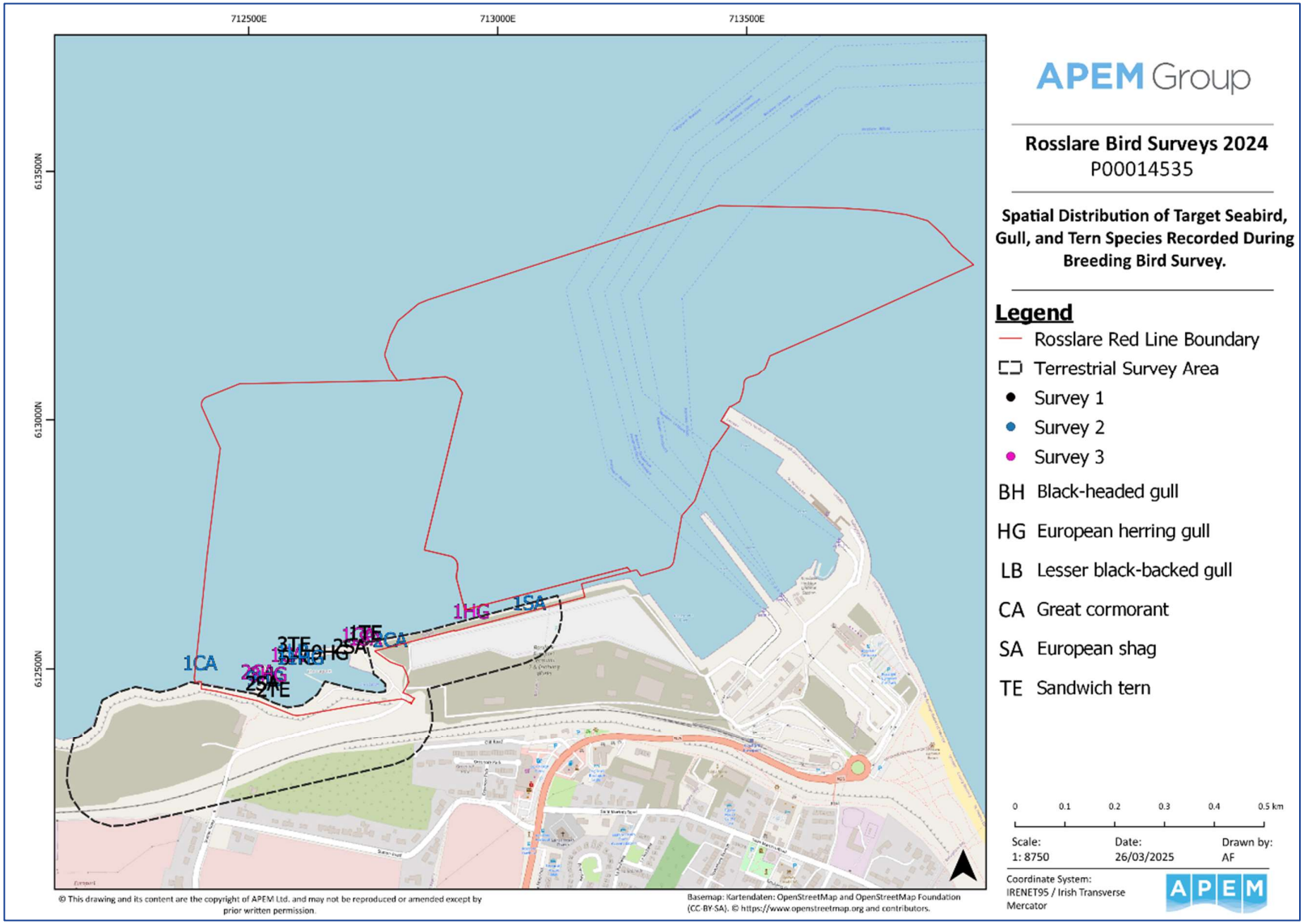


Figure B2-15 Spatial distribution of target seabird, gull, and tern species recorded during the BBS 2024

B3: TERN ROOST SURVEYS

2022 (Report 1 Appendix A)

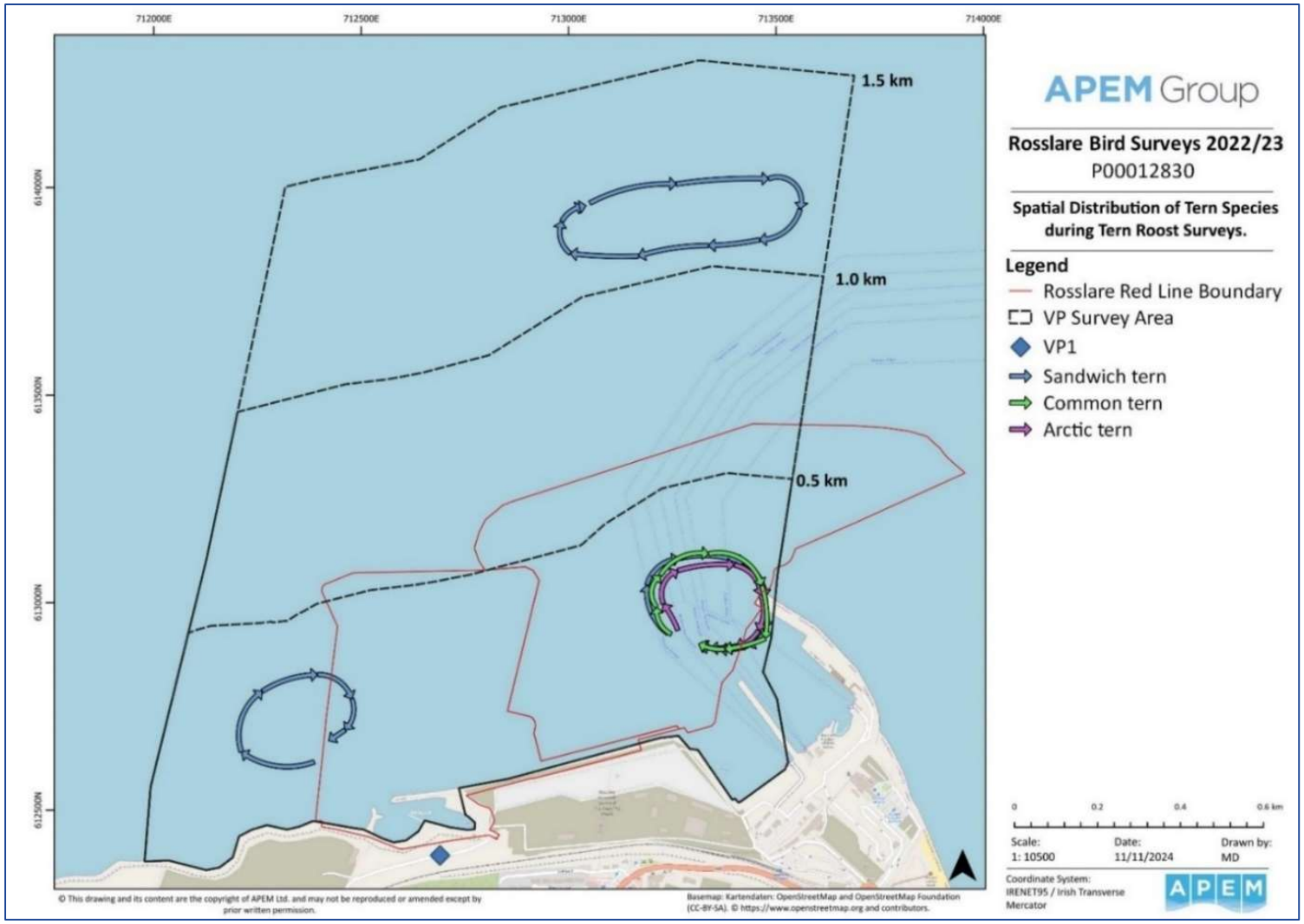


Figure B3-1 Spatial distribution of tern species recorded during 2022 tern roost surveys

B4: WWO SURVEYS

WWO 2022/2023

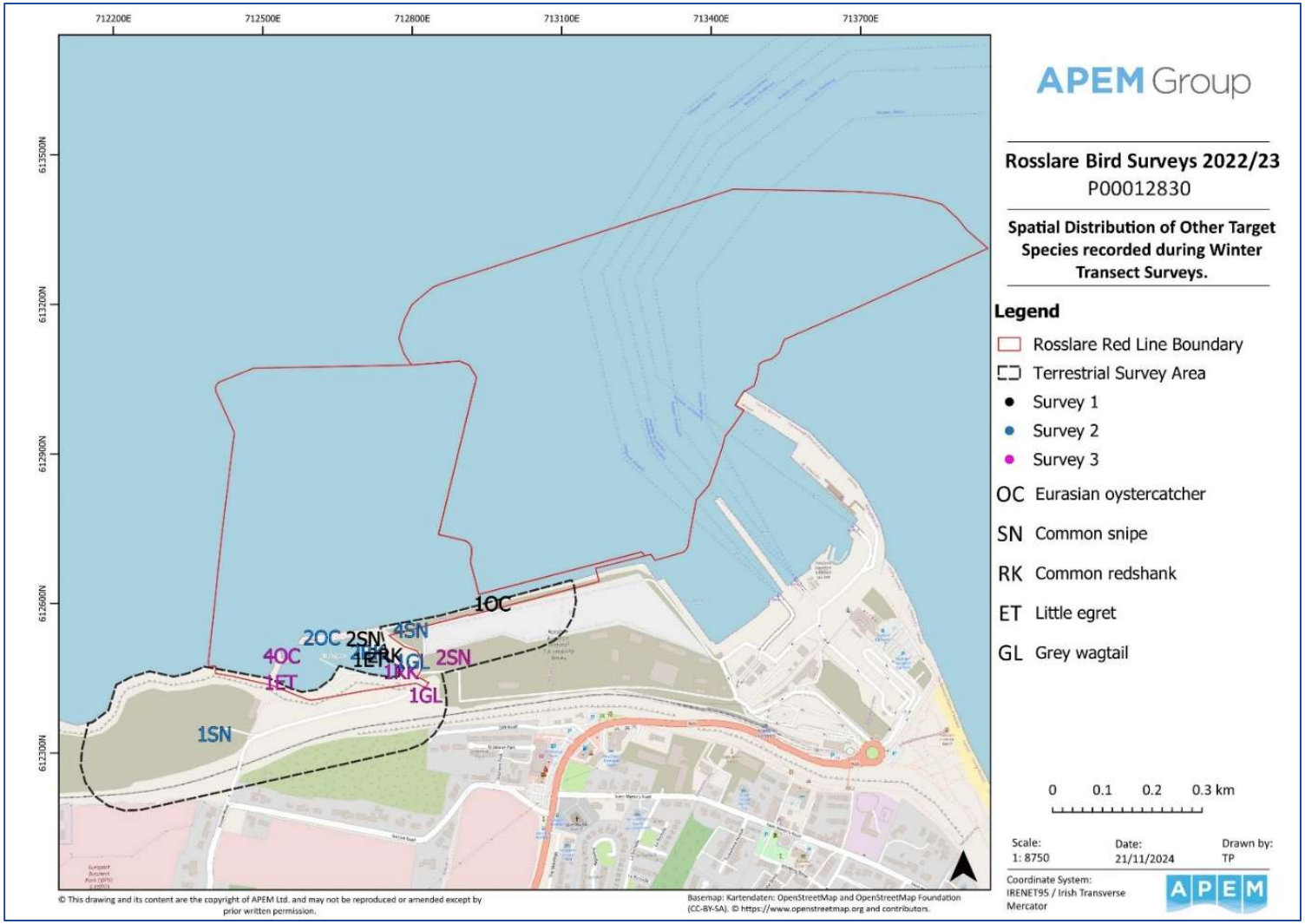


Figure B4-1 Spatial distribution of other target species recorded between December 2022 and February 2023 during WWO 2022/23 surveys

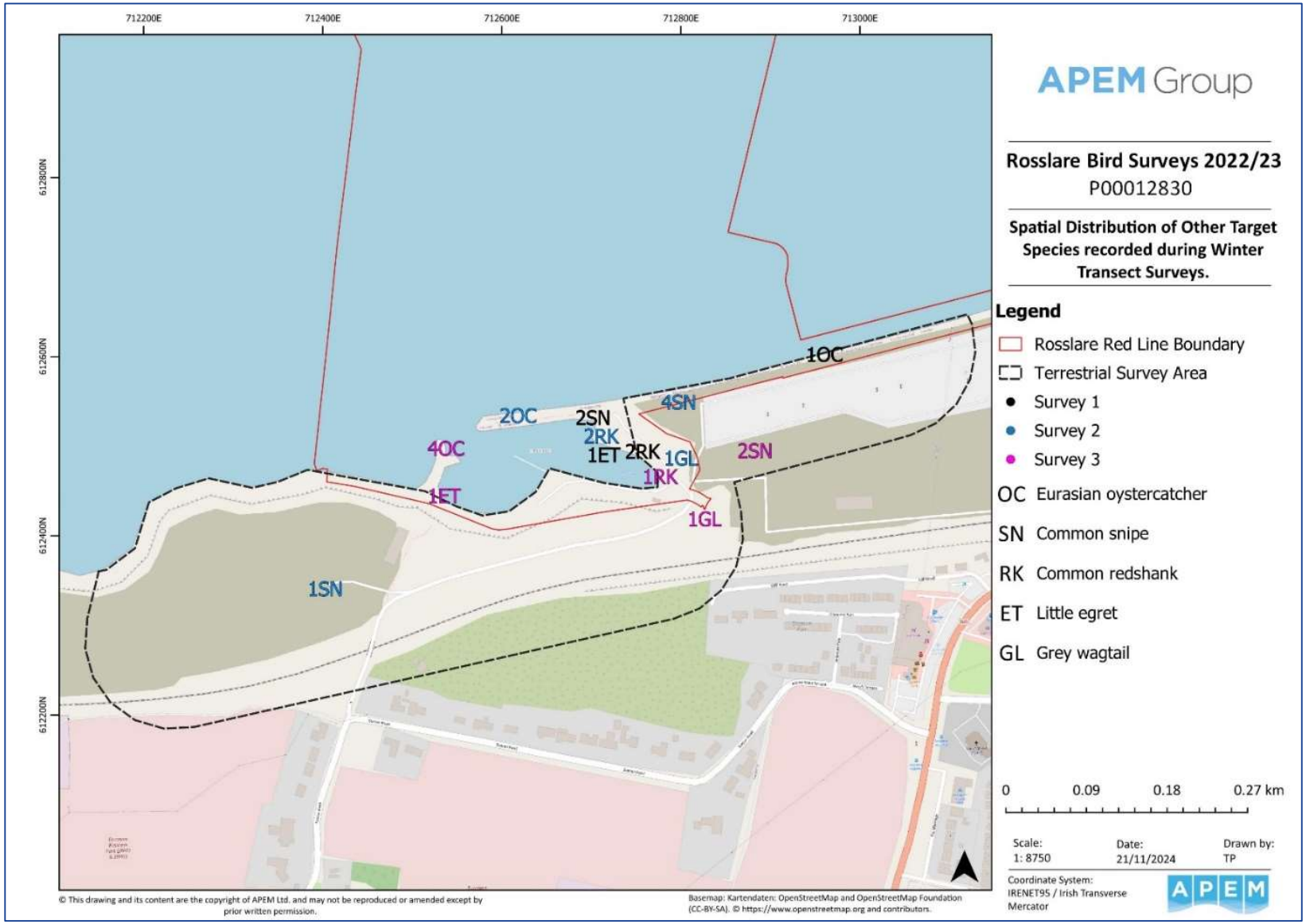


Figure B4-2 Enhanced spatial distribution of other target species recorded between December 2022 and February 2023 during WWO 2022/23 surveys

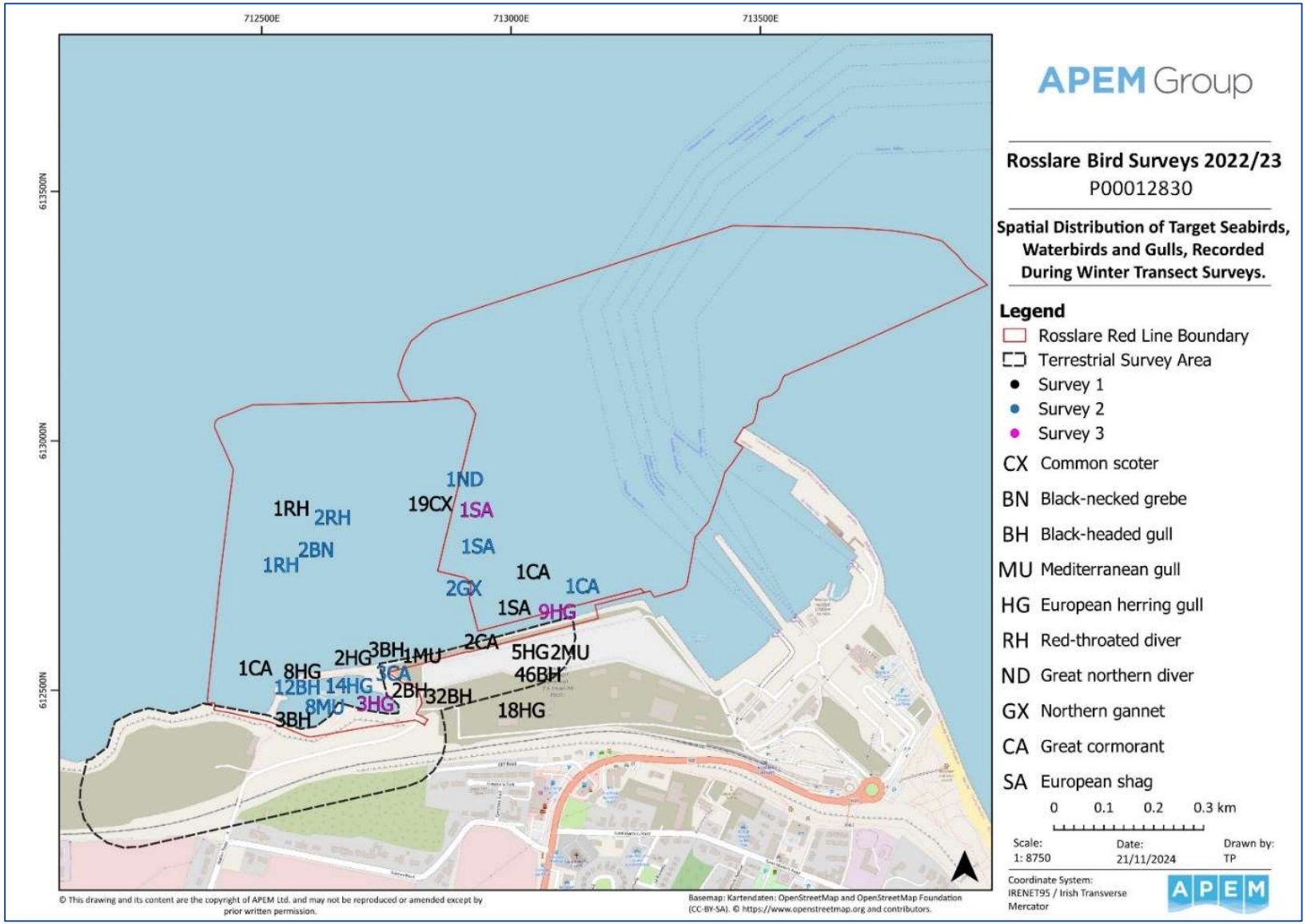


Figure B4-3 Spatial distribution of target seabirds, waterbirds and gulls recorded between December 2022 and February 2023 during WWO 2022/23 surveys

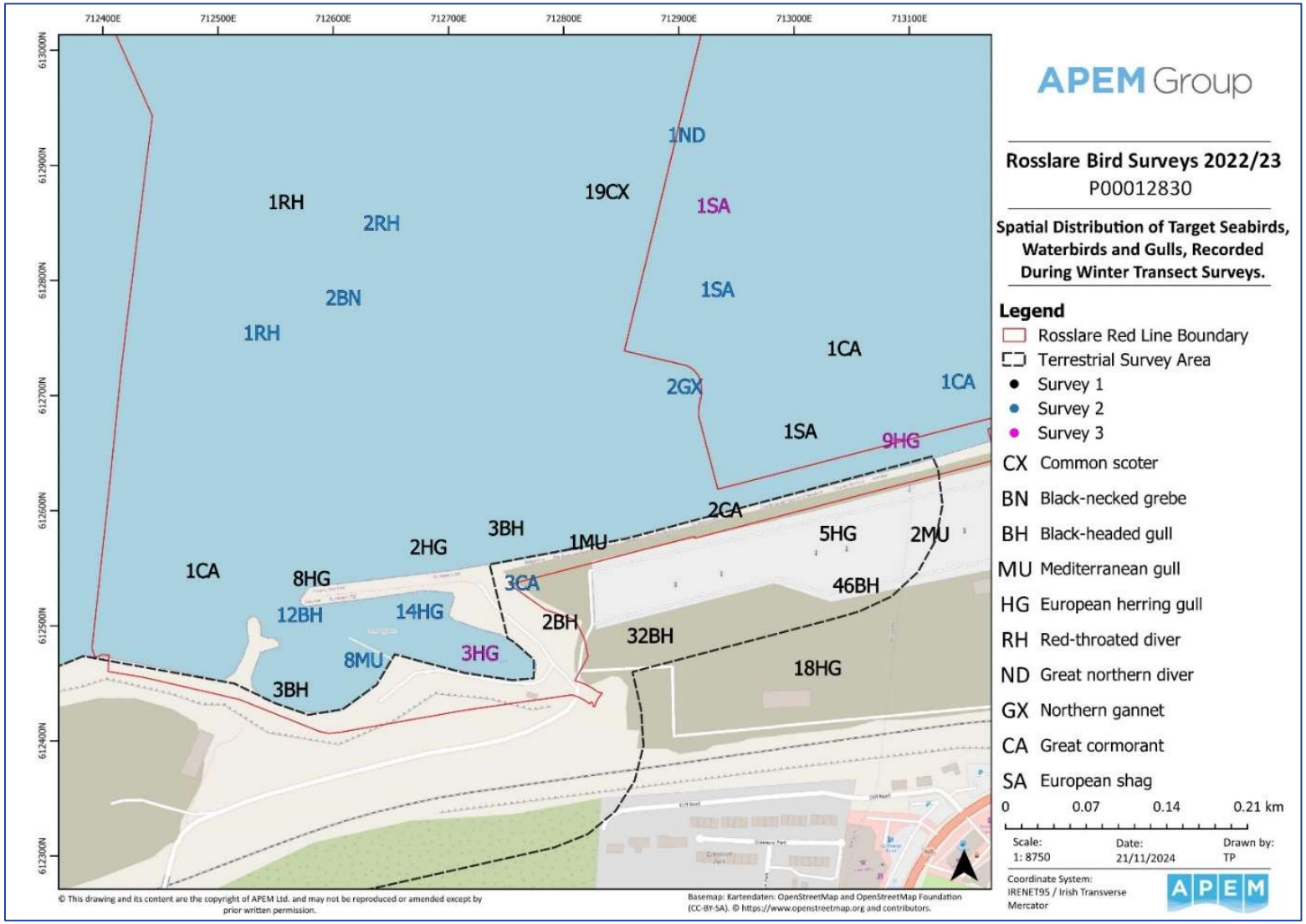


Figure B4-4 Enhanced view of the spatial distribution of target seabirds, waterbirds and gulls recorded between December 2022 and February 2023 WWO 2022/23 surveys

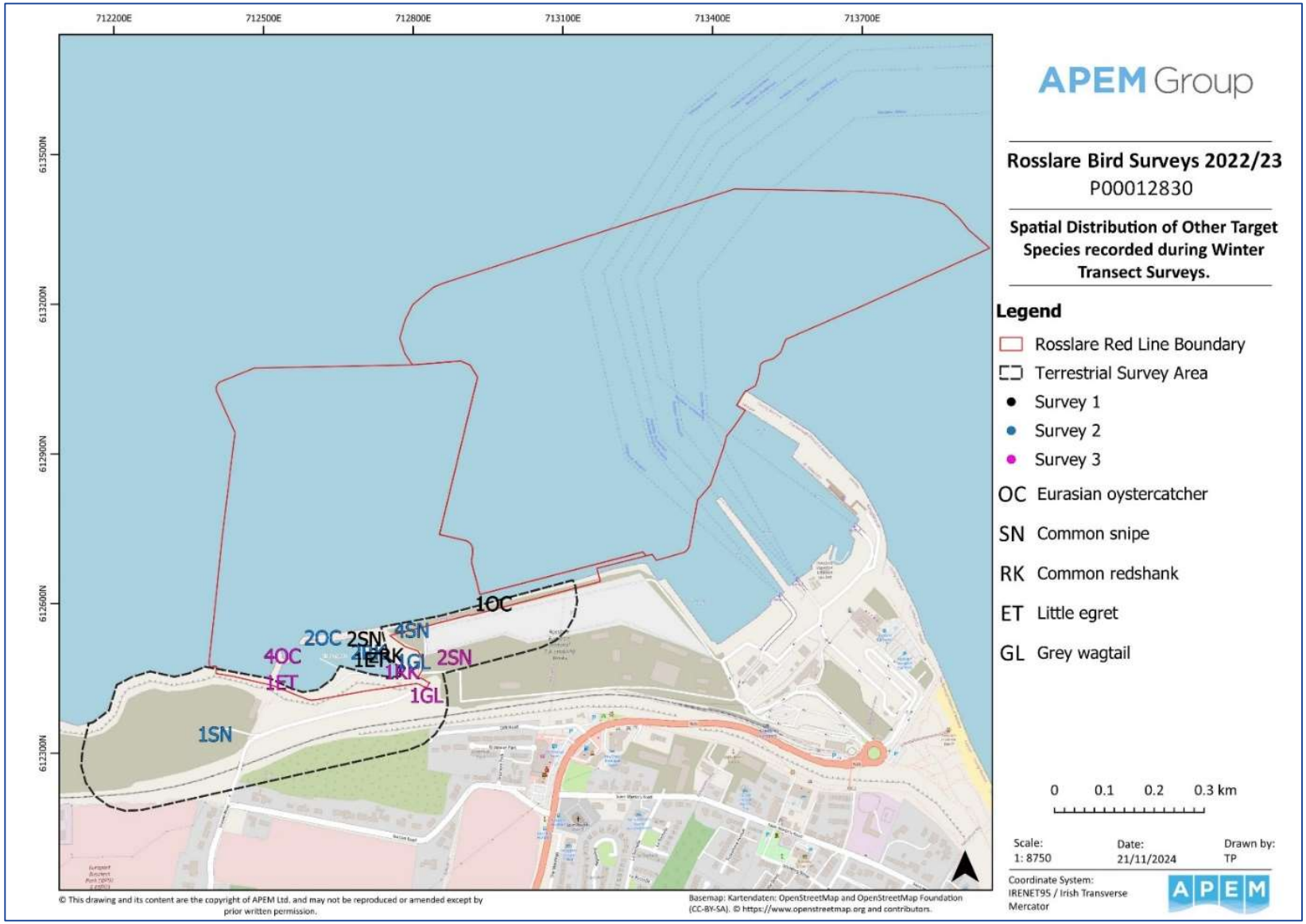


Figure B4-5 Spatial distribution of other target species recorded between December 2022 and February 2023 during WWO 2022/23 surveys

Table B4-1 Individual counts of all passerine species recorded during the 2022/23 WWO Surveys

Species	Survey			Total count
	Survey 1 Dec 2022	Survey 2 Jan 2023	Survey 3 Feb 2023	
Common woodpigeon	18	0	0	18
Common magpie	1	0	0	1
Western jackdaw	2	0	0	2
Hooded crow	3	0	0	3
Eurasian wren	1	0	0	1
Common starling	2	0	0	2
Song thrush	0	0	2	2
Fieldfare	8	0	0	8
Redwing	11	0	0	11
European robin	1	0	2	3
Black redstart	0	1	0	1
European stonechat	5	3	4	12
Grey wagtail [b]	0	1	1	2
Pied wagtail	0	0	2	2
European rock pipit	4	4	4	12
Common chaffinch	0	0	18	18
Common linnet	7	3	15	25
European goldfinch	2	0	29	31

WWO 2023/2024

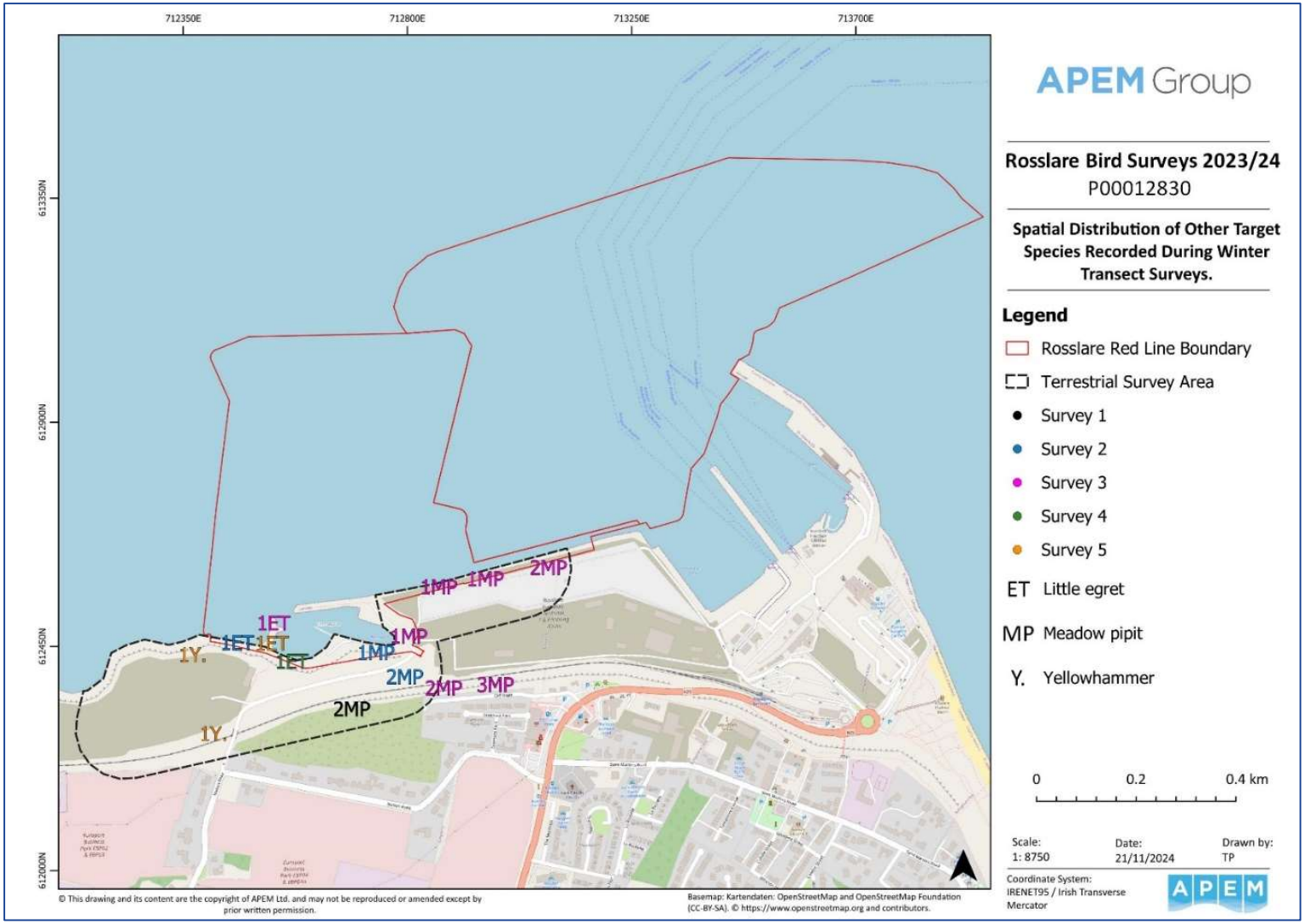


Figure B4-6 Spatial distribution of other target species recorded between October 2023 and February 2024 during WWO 2023/24 surveys

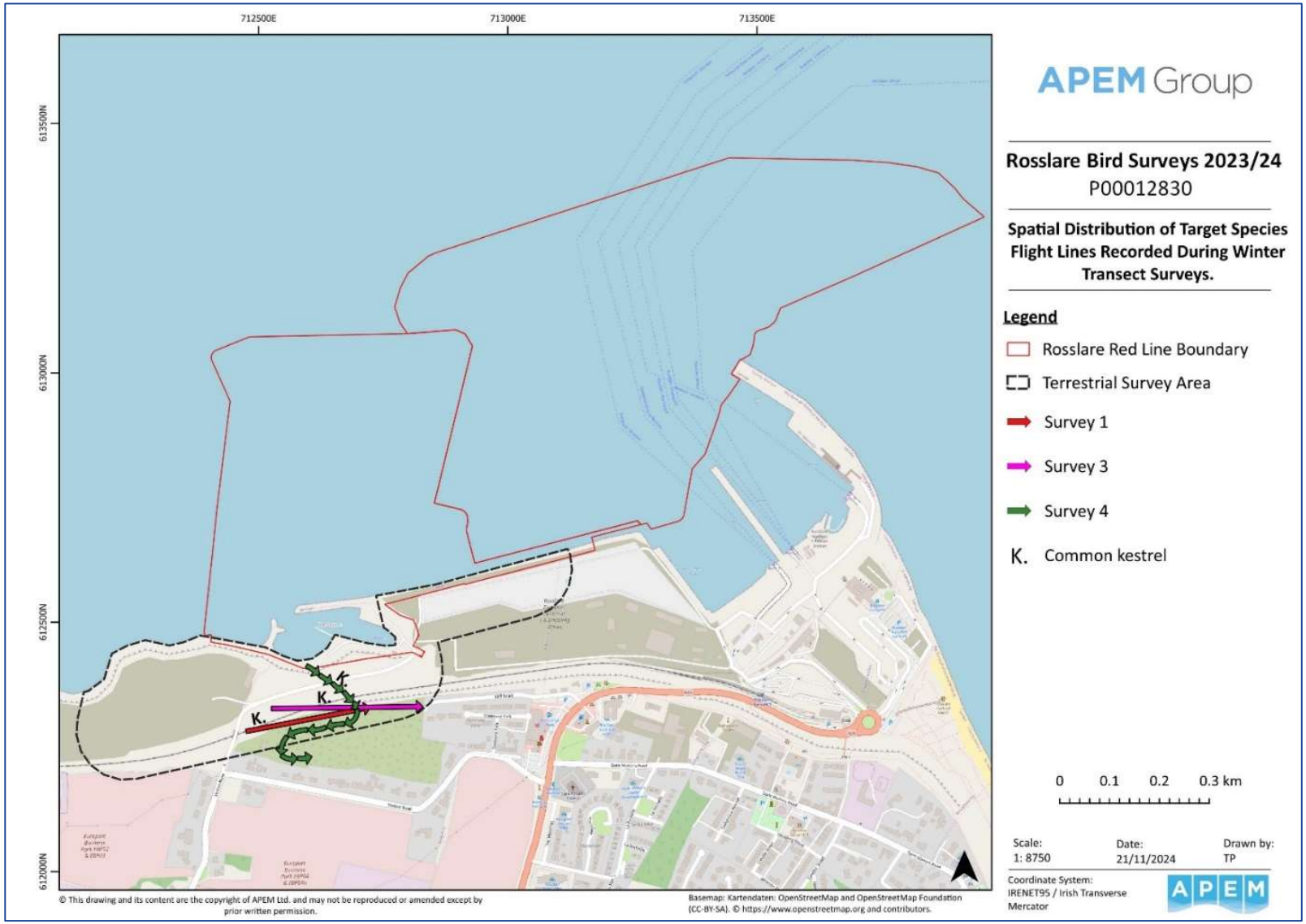


Figure B4-7 Spatial distribution of target species flight lines recorded between October 2023 and February 2024 during 2023/24 WWO surveys

Waders

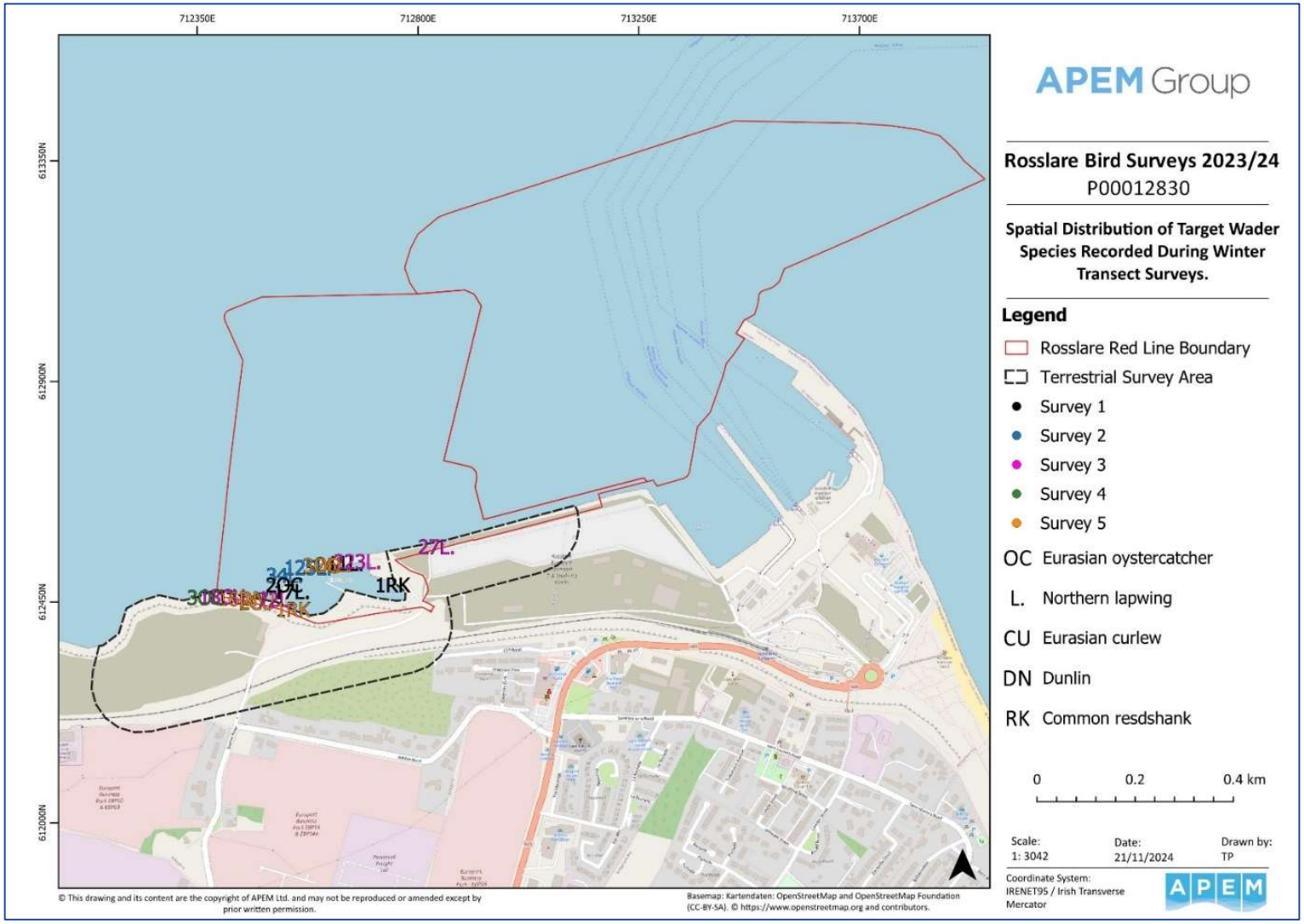


Figure B4-8 Spatial distribution of target wader species recorded between October 2023 and February 2024 during WWO 2023/24 surveys

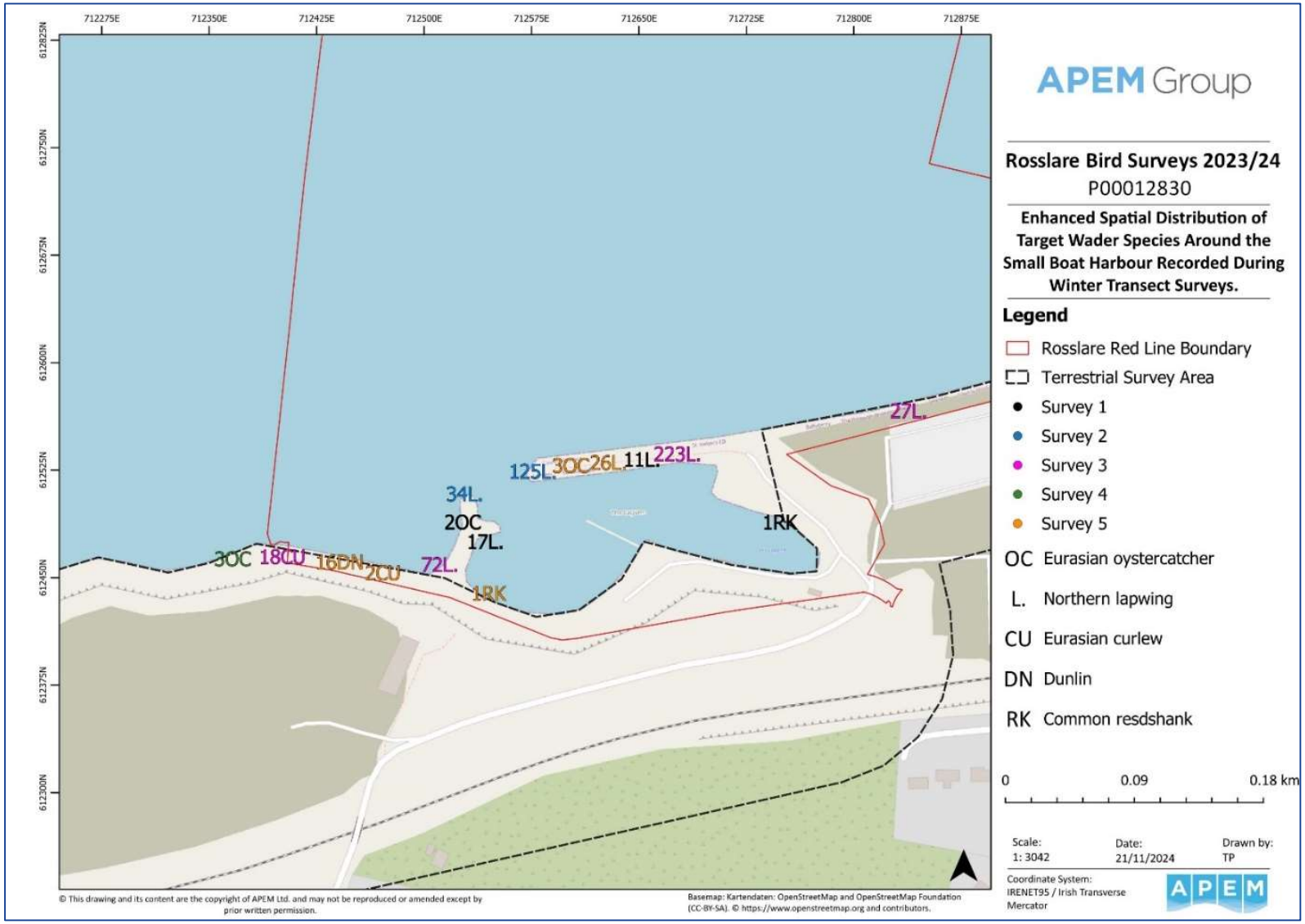


Figure B4-9 Enhanced spatial distribution of target wader species around the small boat harbour recorded between October 2023 and February 2024 during WWO 2023/24 surveys

Seabirds

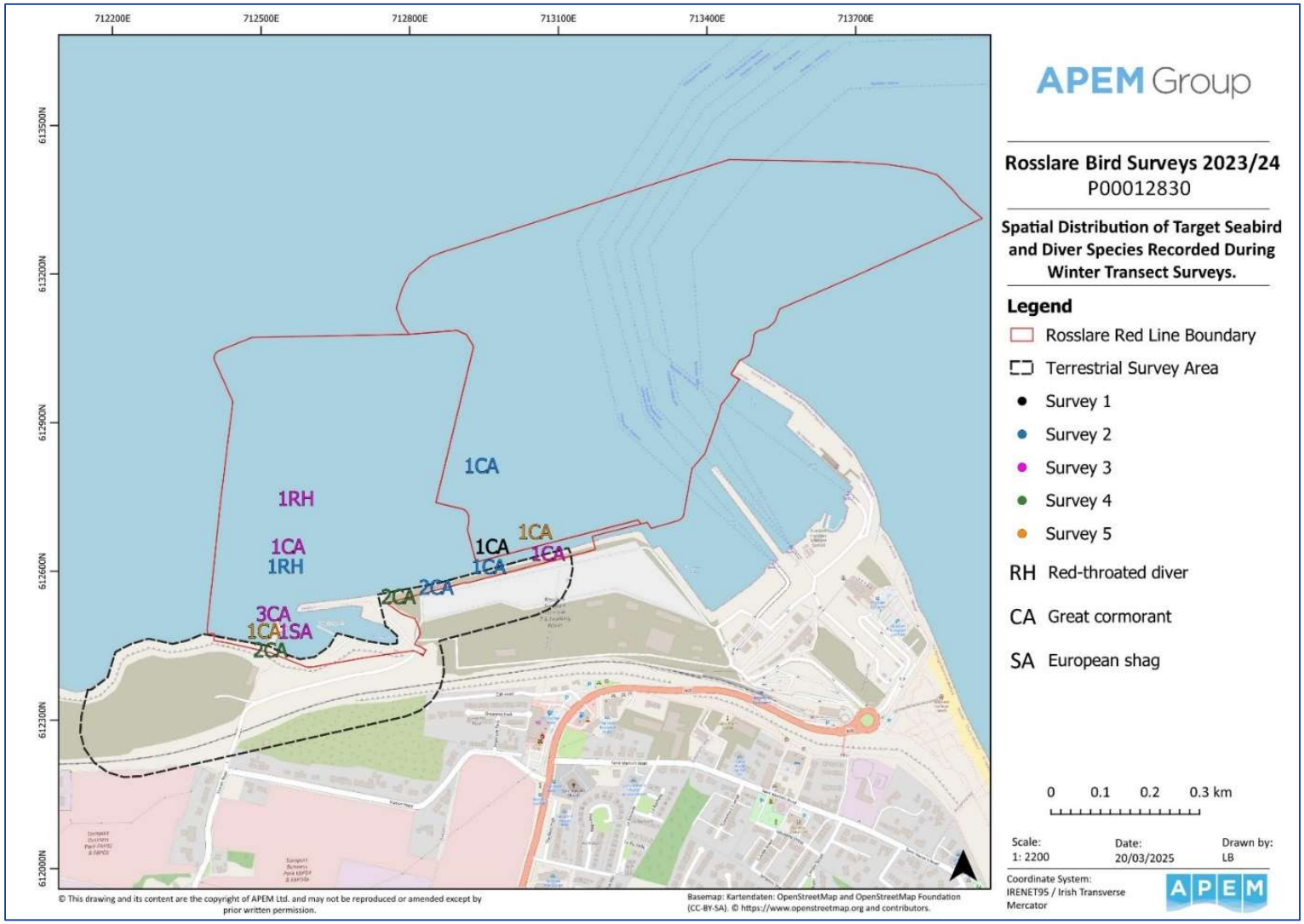


Figure B4-10 Spatial distribution of target seabird and diver species recorded between October 2023 and February 2024 during WWO 2023/24 surveys

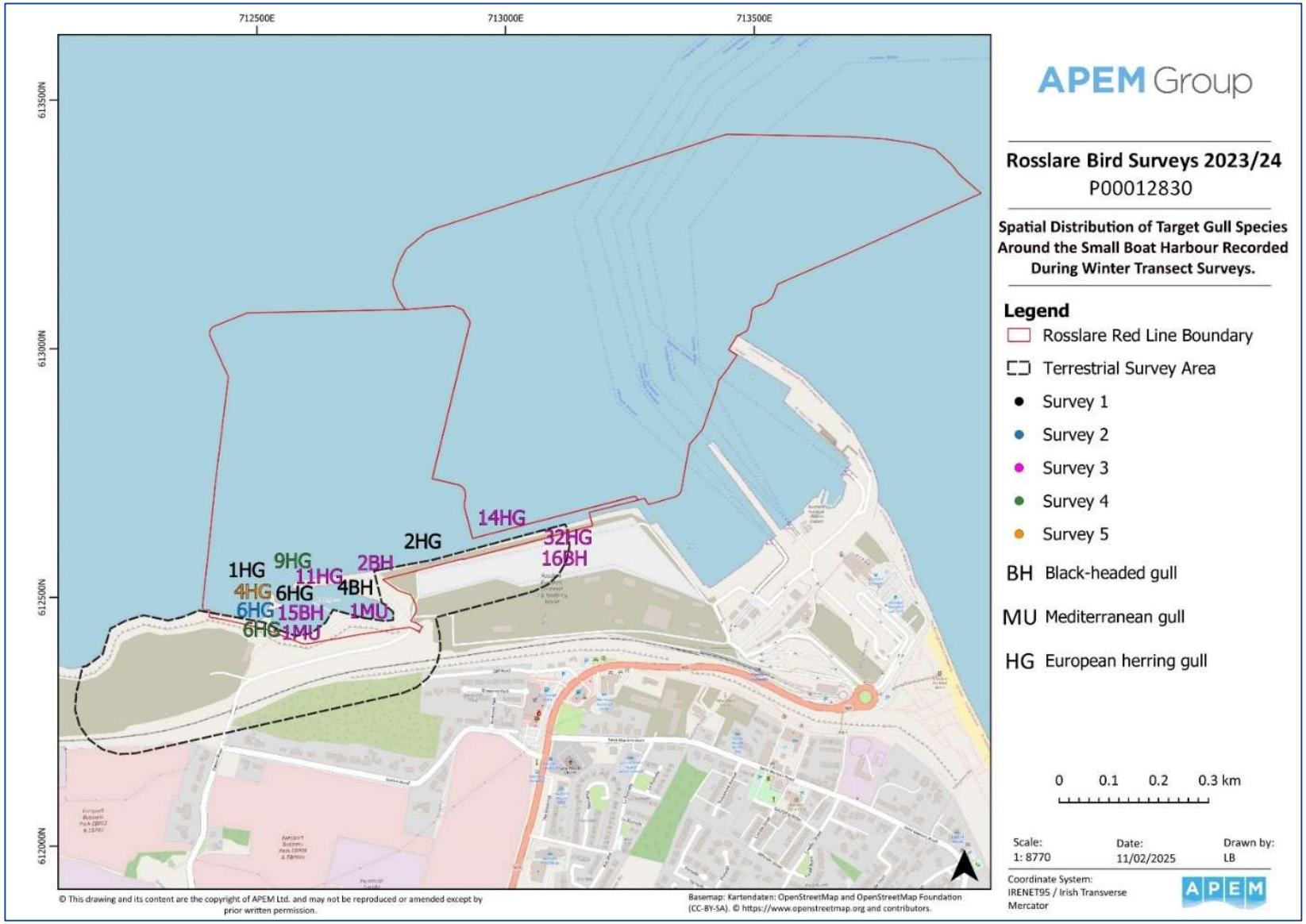


Figure B4-11 Spatial distribution of target gull species recorded between October 2023 and February 2024 during WWO 2023/24 surveys

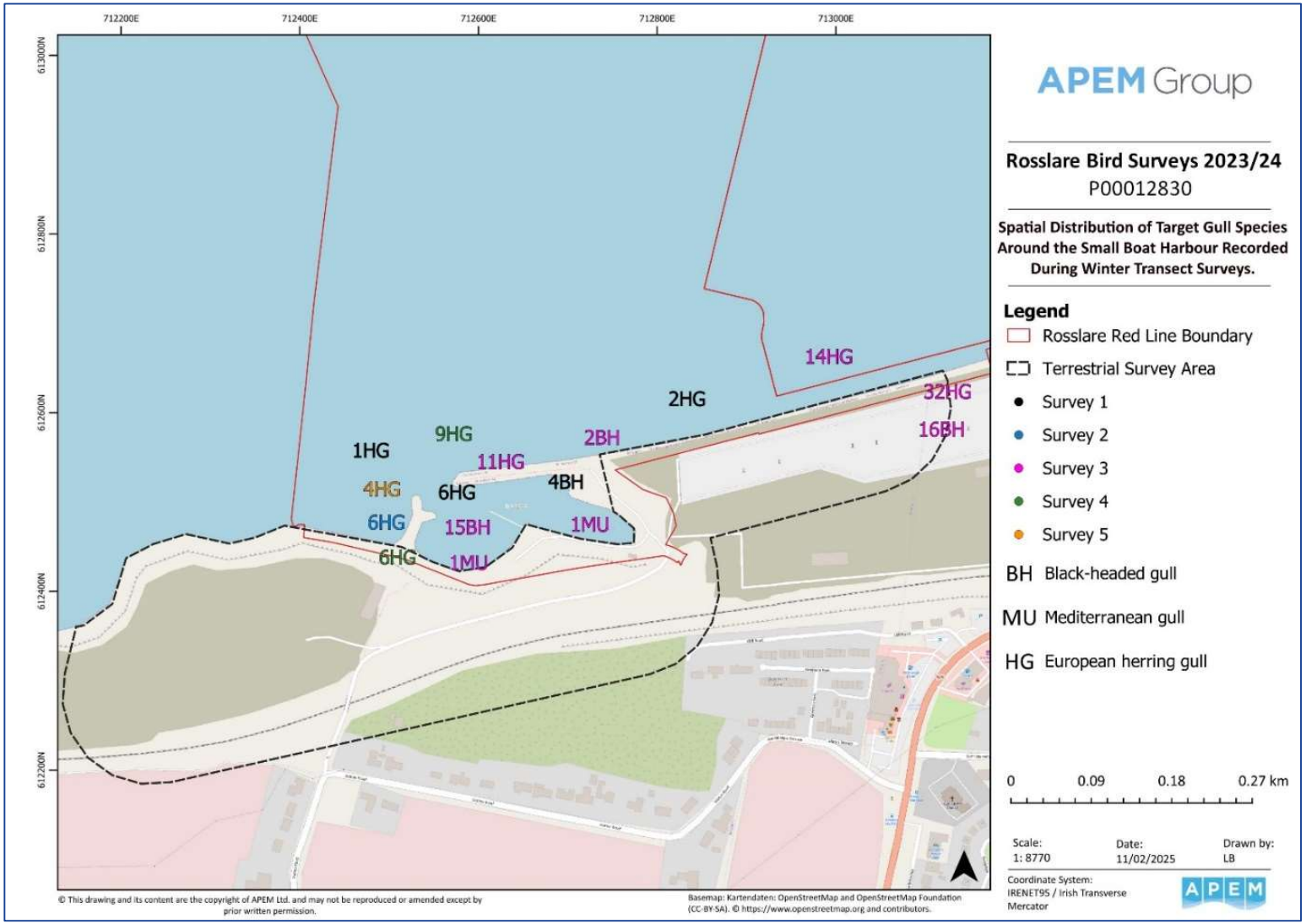


Figure B4-12 Enhanced view of the spatial distribution of target gull species recorded around the small boating harbour between October 2023 and February 2024 during WWO 2023/24 surveys

Table B4-2 Individual counts of all passerine species recorded during the WWO 2023/24 surveys.

Species	Survey					Total count
	Survey 4 Oct 2023	Survey 5 Nov 2023	Survey 6 Dec 2023	Survey 7 Jan 2024	Survey 8 Feb 2024	
Eurasian collared dove	0	0	0	0	2	2
Common magpie	0	3	1	2	0	6
Eurasian blue tit	2	0	0	0	0	2
Great tit	0	4	0	1	0	5
Eurasian wren	0	2	2	2	1	7
Common starling	0	2	0	18	10	30
Song thrush	0	1	0	0	0	1
Mistle thrush	0	0	0	0	1	1
Common blackbird	4	5	3	5	5	17
European robin	2	2	1	2	1	8
Black redstart	0	0	0	2	0	2
European stonechat	5	6	5	3	2	21
Northern wheatear	0	0	2	4	0	6
House sparrow	0	0	0	4	0	4
Dunnock	0	2	0	1	0	3
Meadow pipit [b]	2	3	10	0	0	15
European rock pipit	3	3	2	1	1	10
Common chaffinch	1	4	2	0	0	7
Common linnet	8	7	6	3	1	25
European goldfinch	5	4	4	0	0	13
Yellowhammer [b]	0	0	0	0	2	2
Common reed bunting	0	0	1	0	0	1

B5: MARINE MAMMAL OBSERVATIONS

Marine Mammals 2022/2023

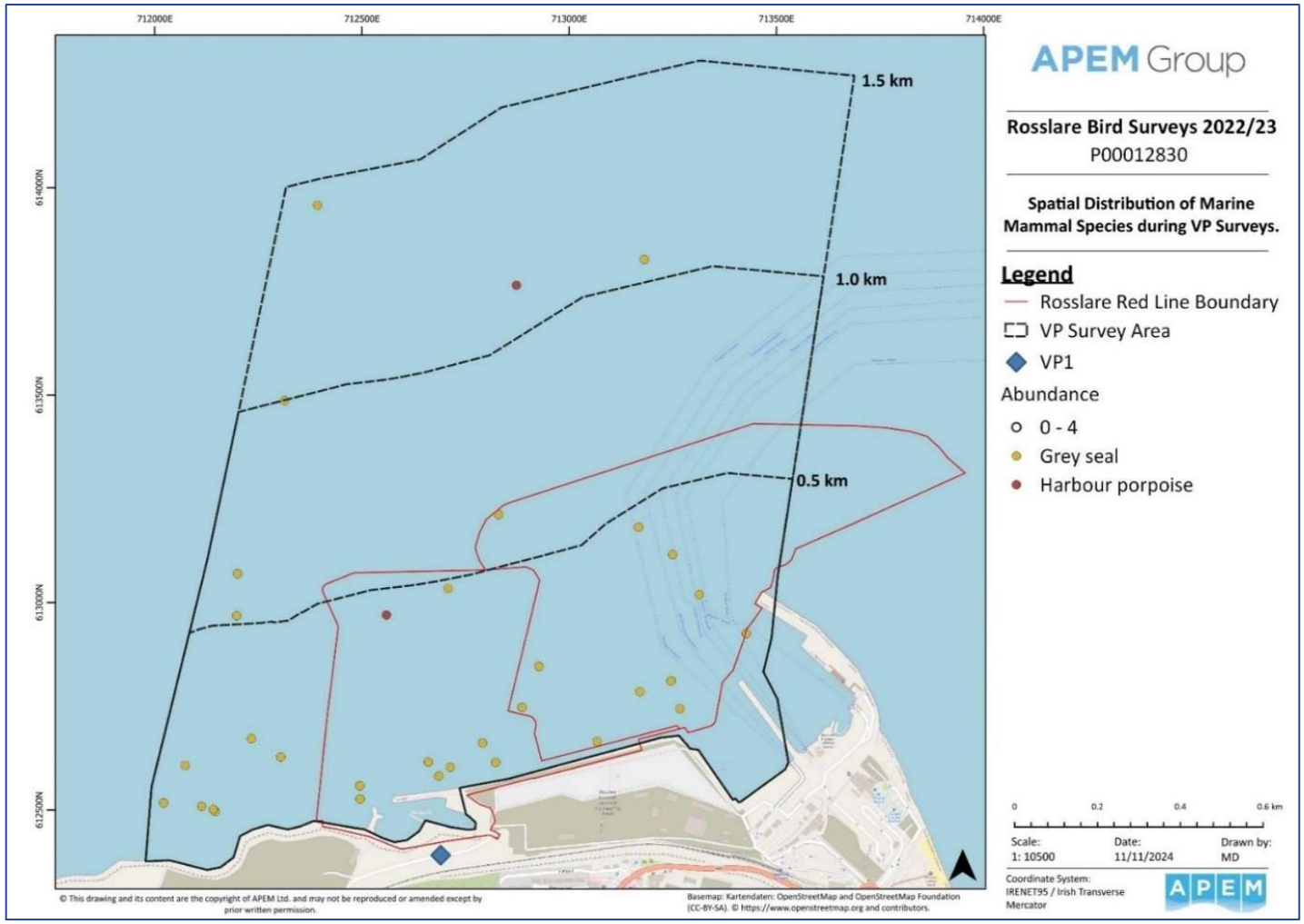


Figure B5-1 Spatial distribution of marine mammal species recorded between May 2022 and April 2023 during VP1 surveys

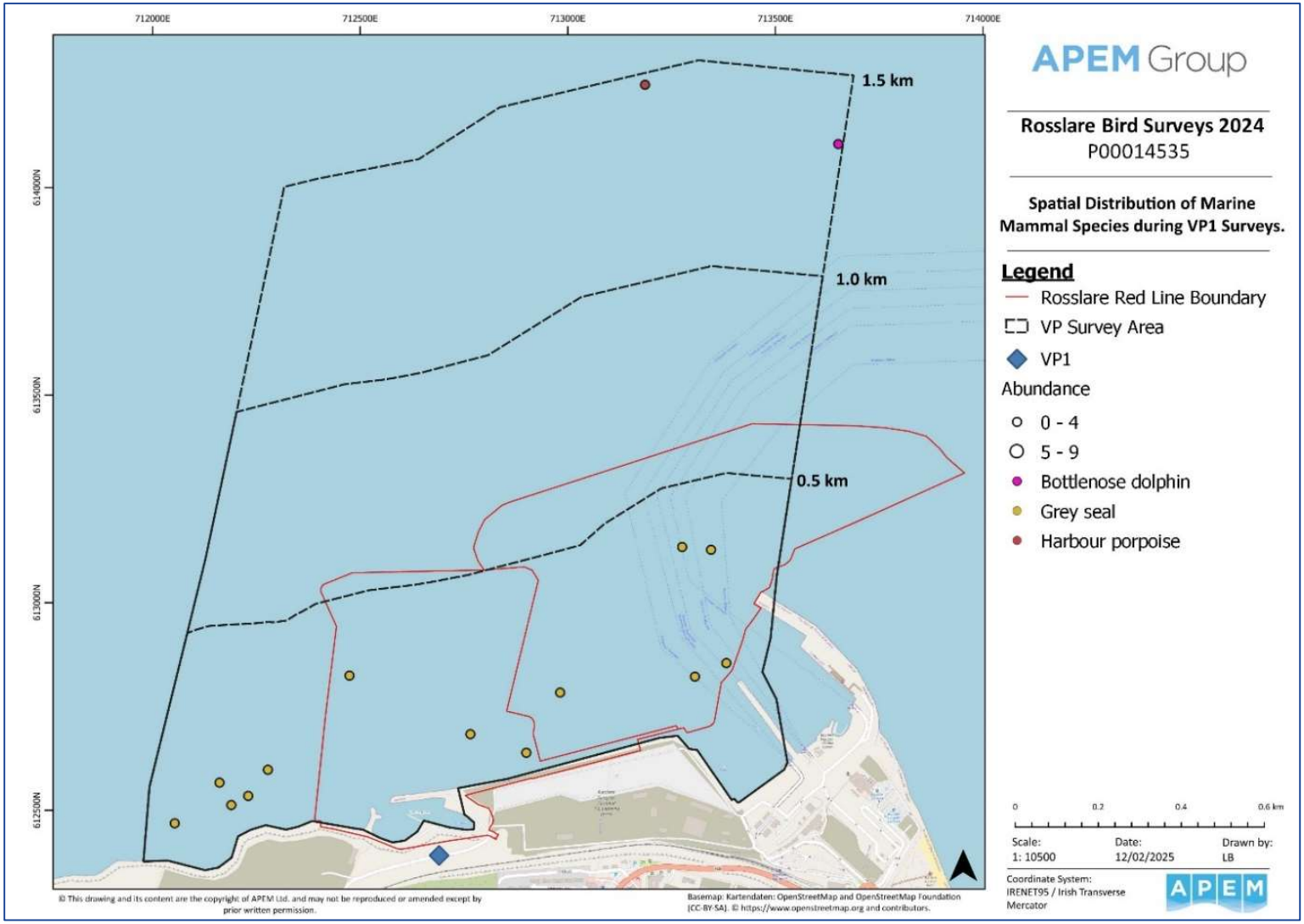
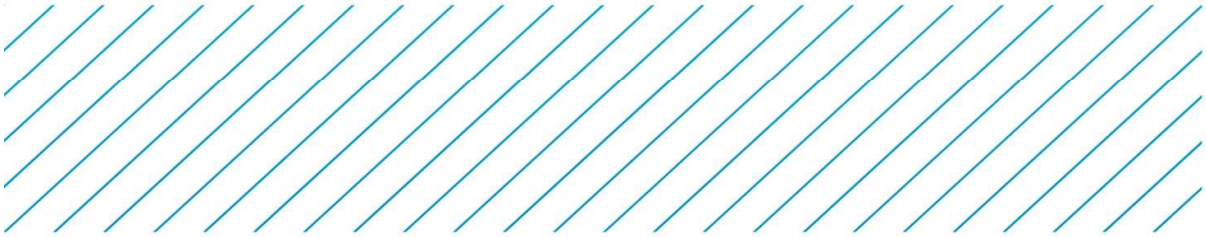


Figure B5-3 Spatial distribution of marine mammal species during VP1 surveys (March to August 2024)

Iarnród Éireann
Irish Rail



venterra | GDG GAVIN & DOHERTY GEOSOLUTIONS | NICHOLAS O'DWYER an RSK company

Co-funded by the European Union