Awel y Môr Offshore Wind Farm

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AWEL Y MÔR OFFSHORE WINDFARM

Wintering Birds Survey (Onshore)

Prepared for: Awel y Môr Offshore Wind Ltd

SLR Ref: 406.05356.00009
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BASIS OF REPORT

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1.0 Introduction

Awel y Môr Offshore Wind Farm (AyM) is a Nationally Significant Infrastructure Project (NSIP). An Environmental Impact Assessment (EIA) is being undertaken and an Environmental Statement (ES) will be provided as part of a Development Consent Order (DCO) application under the Planning Act 2008 and also as part of a Marine Licence (ML) application under the Marine and Coastal Access Act 2009.

SLR Consulting (SLR) was commissioned by GoBe Consultants, on behalf of Awel y Môr Offshore Wind Farm Ltd (AyMOWL), in May 2020 to undertake the onshore ecological work necessary to inform the EIA. This report presents the results of wintering bird surveys carried out during the winter of 2020-2021.

A preferred landfall location, substation location and cable route had not been identified at the time the wintering bird survey commenced in October 2020. Wintering Bird surveys were therefore initially carried out at three potential landfall locations and within suitable habitat along the three potential cable route corridors that had been shortlisted and were under consideration at that time. In January 2021, the preferred landfall and substation locations and cable route corridor were selected, and the survey area was amended so that subsequent surveys covered the preferred landfall location and suitable habitat within the preferred cable route corridor only. This report presents the survey results relating only to the preferred landfall location and cable route corridor. The survey areas are shown on Figure 1.

1.1 Background

An EIA Scoping Report[1] was prepared in accordance with Regulation 10 of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 and Regulation 6 of the Marine Works (Environmental Impact Assessment) Regulations 2007. The EIA Scoping Report was submitted to the Planning Inspectorate (PINS) in June 2020.

The EIA Scoping Report (Table 76 of the EIA Scoping Report) stated that wintering bird surveys would be targeted at areas in which desk-based study and the surveys undertaken to inform the Preliminary Ecological Appraisal (PEA)[2] indicated that significant effects on protected or notable bird species are possible. It also stated that wintering bird surveys were only considered likely to be required where intertidal and wetland habitats could be affected and potentially in coastal grasslands, where these could be used by significant numbers of wintering waterbirds. This approach followed initial discussions with the Onshore Biodiversity Expert Topic Group (ETG) on 10th December 2019 and no objections to this approach were received in the scoping opinion or in the responses to the scoping report from relevant stakeholders.

The proposed wintering bird survey areas and methodologies were subsequently presented in detail at a meeting with the ETG on 21st September 2020 and in a technical note, circulated to the ETG, dated 30th September 2020[3]. The survey areas and methodologies presented were agreed with the ETG and the proposed survey areas and methods were therefore adopted for the surveys forming the subject of this report.

1.2 Survey Area

As set out in the EIA Scoping Report and subsequent technical note[3], the wintering bird survey area specifically targeted intertidal and wetland habitats and coastal grasslands where these could potentially be used by

[1] Innogy. 2020. AyM Offshore Wind Farm: Environmental Impact Assessment Scoping Report. Revision A, March 2020.
[2] SLR Consulting. 2021. AyM Offshore Wind Farm Preliminary Ecological Appraisal (Onshore).
[3] SLR Consulting. 2020. AyM Offshore Wind Farm: Wintering Bird Survey Methodology. Terrestrial Ecology and Nature Conservation. 30th September 2020.

significant numbers of wintering waterbirds[4]. Given the potential impacts resulting from AyM , (as set out in Chapter 10.1 of the EIA Scoping Report), significant effects on other wintering bird species are unlikely and therefore surveys for other species were not considered necessary.

Potential impacts on wintering waterbirds need to be considered beyond the proposed landfall and substation locations and cable route corridors owing to the potential for noise and visual disturbance to arise during construction. Cutts *et al*. (2013)[5] state that for most wader species, behavioural responses to visual disturbance are unlikely beyond a maximum distance of 250m. Noise disturbance is also unlikely beyond 250m, except in the case of very loud, irregular noise such as the noise generated by driven piling (which will not be required during onshore cable laying operations). On this basis, the survey area included habitats that could potentially be used by significant numbers of wintering waterbirds within a 250m buffer around the proposed cable route corridor. At the landfall, where it is possible that driven piling may be required, the survey covered a wider area, extending to 1,000m either side of the central point of the landfall zone. There is no suitable habitat for wintering waterbirds close to the proposed substation location.

Areas that could potentially be used by significant numbers of wintering waterbirds were identified through a combination of desk study and field survey (as part of habitat survey work to inform the PEA). The desk study included consideration of the following primary sources: information on statutory and non-statutory designated sites (non-statutory site information provided by Cofnod) and the Clwyd Bird Recording Group Atlas[6]. North East Wales Bird Reports for 2014-2018 were also reviewed along with other data sources set out in Table 75 of the EIA Scoping Report.

Areas initially included in the survey area included:

- All intertidal habitats within 250m of the three shortlisted proposed cable routes and landfall locations, i.e., all three proposed landfall locations and the River Clwyd;
- All Local Wildlife Sites (LWS) containing habitats which are potentially suitable for wintering waterbirds within 250m of the three shortlisted proposed cable routes and landfall locations, including Clwyd Estuary and Adjacent Fields LWS, Abergele Grazing Marsh LWS, Coed Gors LWS and Morfa Rhuddlan LWS; and
- All coastal fields located within 250m of the three shortlisted proposed cable routes and landfall locations that lie in 1km grid squares for which the Clwyd Bird Recording Group Atlas holds records of wader and wildfowl species.

It should be noted that not all of the coastal fields within the survey area were suitable for wintering waterbirds. Any such fields were excluded from the survey area following the first visit.

As a preferred landfall location and cable route had not been chosen at the time the surveys commenced in October 2020, three vantage points (one at each landfall location) and suitable habitat within all potential cable route corridors under consideration at that time were surveyed between October and December 2020. The preferred route was chosen in January 2021, and subsequently only one vantage point and one cable route corridor were surveyed between January and March 2021. This report presents the results of surveys at the preferred landfall location and along the preferred cable route corridor only.

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[4] The definition of waterbirds follows that used by the Wetland Bird Survey (WeBS) and includes wildfowl (ducks, geese and swans), waders, rails, divers, grebes, cormorants and herons. Gulls are also included as waterbirds for the purposes of this study.

[5] Cutts, N., Hemingway, K. and Spencer, J. 2013. Waterbird Disturbance Mitigation Toolkit. Information for Estuarine Planning and Coastal Projects. Produced by Institute of Estuarine and Coastal Studies (IECS), University of Hull. Available at: [redacted] [Accessed 20th September 2020]

With respect to terminology, the vantage point at the chosen landfall location is referred to within the remainder of this report as 'Landfall', the fields within a 250m buffer of the cable route are referred to as 'Coastal Fields', and the section of the River Clwyd that the cable will pass beneath and all fields either side visible from the river embankments are referred to as 'River Clwyd'. The Landfall, Coastal Fields and River Clwyd survey areas are shown in Figure 1.

1.3 Purpose of this Report

This report provides details of the survey methodology (Section 2) and presents the results of the survey (Section 3). It also includes a brief discussion regarding the importance of the bird populations recorded (Section 4). The assessment of impacts resulting from the proposed development is beyond the scope of this report however and will be covered in the Onshore Biodiversity and Nature Conservation chapters of the Preliminary Environmental Information Report (PEIR) and ES in due course.

1.4 Evidence of Technical Competence and Experience

Surveys were carried out by Dr Daniel Alexander, a Senior Field Ecologist QCIEMM at SLR Consulting with ten years' experience in undertaking bird surveys, and by Liz Probert MSc, a Senior Ecologist at SLR Consulting with nine years' experience in undertaking bird surveys.

This report has been authored by Liz Probert. The scoping and consultation process was undertaken by Duncan Watson who has provided technical support and a Quality Assurance review. Duncan is a Technical Director at SLR Consulting with over 23 years' professional ecological experience. He is also a Chartered Environmentalist (CEnv) and a full member of CIEEM (MCIEEM).

2.0 Methodology

2.1 Desk Study

The following sources were used to identify relevant existing information regarding wintering birds within a 2km buffer of the survey area:

- Cofnod – North Wales Environmental Information Service;
- The Clwyd Bird Recording Group Atlas;
- North East Wales Bird Reports for 2014-2018; and
- British Trust for Ornithology (BTO) Wetland Bird Survey (WeBS) data for the Clwyd Estuary – Sector 1[7], which covers the tidal estuary downstream as far as the railway line.

2.2 Field Survey

Two survey methods were used - one for intertidal habitats and one for the Coastal Fields. All surveys specifically focused on the recording of waterbird species, although other notable sightings (e.g. raptor/owl species listed on Annex 1 of the EC Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) or particularly large flocks of any species) were recorded incidentally. All surveys were undertaken by suitably experienced ornithologists, using binoculars and a telescope as required.

Intertidal surveys were planned for days in which the low-high or high-low tide cycle was wholly within daylight hours. Adverse weather conditions, such as a wind speed above 29km/h and a visibility below 500m, were avoided as the conditions may have biased the results.

2.2.1 Intertidal Surveys

Intertidal surveys were undertaken at the proposed landfall location and at the River Clwyd (and adjacent fields). Surveys at the proposed landfall location took place from a single vantage point located at SJ 03333 82618 and surveys at the River Clwyd were undertaken from the embankments running along each side of the river (see Figure 1).

At the proposed landfall location, all waterbirds within approximately 1km of the vantage point were recorded in order to provide contextual data as well as data for the 250m buffer zone itself. This included birds using intertidal habitats, birds on the sea, birds on the beach (above the high-water mark) and birds on the golf course, behind the vantage point.

At the River Clwyd, all waterbirds using the estuary itself and adjacent fields, where located within the 250m buffer and where visible from the embankments, were recorded.

Surveys were carried out once per month from October 2020 to March 2021 inclusive (i.e., six surveys in total throughout the six-month survey season). In order to account for changes in bird numbers and distribution due to the tidal state, each survey was undertaken 'through the tide', either starting at low tide and ending at high tide or starting at high tide and ending at low tide. During each survey, counts were undertaken hourly (i.e., six survey periods). On each count the number and location of all waterbird species visible from each vantage point (or embankment in the case of the River Clwyd) were mapped.

[7] Data were provided by WeBS, a Partnership jointly funded by the British Trust for Ornithology, Royal Society for the Protection of Birds and Joint Nature Conservation Committee, in association with The Wildfowl & Wetlands Trust, with fieldwork conducted by volunteers.

The behaviour of each bird or flock was noted to provide an indication of how birds use the survey area. There were four primary flock behaviours observed in all species. These behaviours are listed below together with their definitions:

- Foraging – Obvious feeding behaviours such as searching in flight above the water, diving for prey, searching along the shore on foot and probing the substrate for prey.
- Loafing – Idle behaviour not connected with feeding or travelling in any specific direction.
- Roosting – Resting on the water, groynes, shoreline, or fields.
- Maintenance – Preening, bathing, and drying of feathers.

Where flocks in which individuals were observed displaying more than one behaviour (e.g., loafing, then briefly preening, then loafing), this has been recorded as Behaviour + Behaviour (e.g., Loafing + Maintenance).

The survey dates, times, tide times and weather conditions for the intertidal surveys at the Landfall and River Clwyd are listed in Table 2-1 and Table 2-2 respectively.

Table 2-1 Landfall - Survey Dates, Times, Tides, and Weather Conditions

Survey Date	Survey Times	Tidal Flow	Tide Times	Wind Speed (Beaufort scale) and Direction	Precipitation	Cloud Cover (expressed in oktas n/8) and Visibility
22/10/2020	09:42-15:42	Rising	Low tide 09:42	4-3 SW	Drizzle	8/8 1-3km
12/11/2020	08:02-14:02	Ebbing	High tide 08:02	2 SW	None	6/8 3-5km
06/12/2020	08:23-14:23	Rising	Low tide 08:23	1 S	None	8/8 1-3km
18/01/2021	08:30-14:30	Rising	Low tide 08:17	3-4 SW	Occasional drizzle	6-8/8 >5km
17/02/2021	08:15-14:15	Rising	Low tide 08:06	2-1 SW	Occasional drizzle	6-8/8 >5km
09/03/2021	08:00-14:00	Ebbing	High tide 07:41	2 W	None	4-8/8 >5km

Table 2-2 River Clwyd - Survey Dates, Times, Tides, and Weather Conditions

Survey Date	Survey Times	Tidal Flow	Tide Times	Wind Speed (Beaufort scale) and Direction	Precipitation	Cloud Cover (expressed in oktas n/8) and Visibility
23/10/2020	10:55-16:55	Rising	Low tide 10:55	3 SW	Heavy rain shower for 15mins	8-3/8 1-3km

Survey Date	Survey Times	Tidal Flow	Tide Times	Wind Speed (Beaufort scale) and Direction	Precipitation	Cloud Cover (expressed in oktas n/8) and Visibility
13/11/2020	08:47-14:47	Ebbing	High tide 08:48	3 SW	None	1-6/8 3-5km
07/12/2020	09:20-15:20	Rising	Low tide 09:21	1 SW	None	8-2/8 1-3km – 3-5km
21/01/2021	10:35-16:35	Rising	Low tide 10:33	5-2 SW	Heavy showers at start	7-3/8 >5km
18/02/2021	09:00-15:00	Rising	Low tide 08:42	2-5 SW	Brief light showers	4-6/8 >5km
12/03/2021	10:00-16:00	Ebbing	High tide 10:15	5 SW	Light showers	6/8 >5km

2.2.2 Disturbance Events

Any potential anthropogenic disturbance events that took place during each count were recorded in order to provide an indication of the levels of existing disturbance within the survey area (although a detailed study of existing disturbance was not carried out as the primary focus of the survey was to record bird numbers, distribution and activity).

Potential disturbance events were limited to events considered likely to cause disturbance to waterbirds (based on observations – so for example walkers using the beach at the Landfall were included but walkers using the existing track on the seawall were not) and included:

- Walkers;
- Dogs;
- Anglers;
- Bait Diggers;
- Shell-Fishers;
- Vehicles;
- Unpowered Boats;
- Powered Boats; and
- Other.

The 'other' category included any potential anthropogenic disturbance events that could not be attributed to one of the other categories. Examples might include runners, or people on stand-up paddleboards or kayaks, etc. The nature of each 'other' disturbance event was recorded on each occasion.

Where possible, the response of any waterbirds to each disturbance event was also recorded in accordance with the following scale:

- Weak – birds move slightly away from disturbance but continue their behaviour;

- Moderate – birds move to another part of the study area, may return to original position; and
- High – birds move out of the study area completely and are not observed returning.

2.2.3 Coastal Fields

All fields within the survey area, where not covered by the intertidal surveys at the River Clwyd, were surveyed once per month from October 2020 to March 2021 inclusive (i.e., six surveys in total). All surveys took place during daylight hours. During each survey, the number and location of all waterbird species recorded within the survey area was mapped. The behaviour of each bird or flock (e.g., foraging, loafing, roosting) was also noted, where possible, to provide an indication of how birds use the study area.

Any potential anthropogenic disturbance events that take place during each count were also recorded, although a detailed study of disturbance was not carried out. Surveys took place from suitable vantage points, taking care to minimise disturbance to birds as far as possible.

The survey dates and times of the coastal field surveys are listed in Table 2-3. Note that the times given for the surveys between October and December include the surveys of fields associated with the two cable route corridors which were subsequently dropped in January 2021.

Table 2-3 Coastal Fields - Survey Dates and Times

Survey Date	Survey Times
23/10/2020	09:00-16:50
13/11/2020	08:20-15:30
07/12/2020	09:20-15:20
18/01/2021	14:00-15:45
17/02/2021	15:00-16:30
18/02/2021	15:00-16:00
09/03/2021	14:30-17:00

2.3 Limitations

Access was not available to the Coastal Fields to the north of the A547. Surveys of this area were carried out from vantage points located on publicly accessible land (e.g. road sides and public rights of way). Although parts of some fields were not visible, large flocks of gulls and other waterbirds could generally be seen easily. It is possible however that individual waterbirds, particularly those of smaller, more cryptic species may have been missed. The small number of birds that may have missed due to restrictions on visibility are very unlikely to have been significant, however.

2.4 Data Analysis

On completion of the field surveys bird count data were digitised in ArcGIS (version 10.5.1) and the attribute data captured. The distribution and relative abundance of the species in each survey area, where more than 10 individuals were recorded, are presented as 'heat maps'. Points to represent individual birds were uniformly distributed across the areas recorded in the field by the survey team as the extent of the flocks. From these point distributions heat maps were generated using kernel densities. Kernal densities calculates the magnitude-per-

unit by area using a kernel function, in this instance a circular kernel or neighbourhood 100m in diameter, to fit a smoothly tapered surface to each point. The total value of the neighbourhood is one, for each individual bird, with its highest value in the centre dropping to 0 at its edges. Overlapping neighbourhoods at each grid cell are then totalled to provide the values presented in the figures.

The number of birds represented by the highest density value was estimated by comparing the species with highest density value of a survey area to the survey data from which it was calculated. All other species data was then reclassified to provide results on the same scale as this more abundant species.

Where flocks of less than 10 birds were recorded the locations are presented as point data, with each point representing a single bird. Where small flocks were recorded over a wider area, the birds were distributed across the area as described above.

3.0 Results

3.1 Desk Study

3.1.1 Cofnod data search

The data search returned 1,415 records of 69 waterbird species (including gulls) recorded between the months of October and March between 1985 and 2020 within 2km of the survey area.

Of the 69 species (some species are cited in multiple lists):

- 15 species listed on Annex 1 of the Birds Directive;
- 16 species specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended)[8];
- 8 species are of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016;
- 12 species are Red List Birds of Conservation Concern in the UK (Eaton *et al*, 2015[9]);
- 13 species are on the Red List Birds of Conservation Concern (BoCC) in Wales (Johnstone and Bladwell, 2016[10]);
- 42 species are Amber List Birds of Conservation Concern in the UK (Eaton *et al*, 2015); and
- 45 species are Amber List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016)

A full list of waterbird species listed on Annex 1, Schedule 1, Section 7, and Red and Amber List BoCC in Wales and the UK recorded within 2km of the survey area during the relevant period is provided in Appendix 1. This list also includes records taken from other desk study sources listed in Section 2.1.

3.1.2 BTO WeBS Data

BTO WeBS data were requested for the count sector covering the River Clwyd survey area (Clwyd Estuary – Sector 1 Location Code: 69404). The WeBS count sector covering the Vantage Point survey area (Rhyl to Y-Ffrith Location Code: 69411) has not been surveyed since the late 1990's and then only for a few months, so it was considered that the data would be of very limited value and as such these data were not purchased.

Clwyd Estuary – Sector 1 covers a larger area than was surveyed by SLR – it extends from Foryd Bridge in the north west (approx. 1.63km north of the survey area used for this survey) to downstream of Twthill Castle to the south east (approx. 1.20km south east of the survey area used for this survey). Five-year summary data was requested covering the period 2015/16 to 2019/20.

WeBS data cannot be reproduced but can be summarised. Comparisons of peak counts with species recorded during the surveys of the River Clwyd survey area are given in Section 4.1.1.

3.2 Field Survey

The surveys recorded a total of 27 waterbird species (some species are cited in multiple lists) of which:

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[8] Note that protection through inclusion on Schedule 1 only applies to birds while they are breeding.

[9] Eaton MA, Brown AF, Noble DG, Musgrove AJ, Hearn R, Aebischer NJ, Gibbons DW, Evans A and Gregory RD (2009) Birds of Conservation Concern 3: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds* 102, pp296–341.

[10] Johnstone, I. & Bladwell, S. 2016. Birds of conservation concern 3: the population status of birds in Wales. *Birds in Wales* **13:** 3–31.

- Three species are listed on Annex 1 of the Birds Directive;
- One species is specially protected under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended)[8];
- Six species are of principal importance in Wales (Section 7 of the Environment (Wales) Act 2016;
- Four species are Red List Birds of Conservation Concern in the UK (Eaton *et al*, 2015);
- Eight species are Red List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016);
- 18 species are Amber List Birds of Conservation Concern (Eaton *et al*, 2015); and
- 12 species are Amber List Birds of Conservation Concern in Wales (Johnstone and Bladwell, 2016).

No observations of other notable bird species (e.g., raptor/owl species listed on Annex 1 of the EC Birds Directive or Schedule 1 of the Wildlife & Countryside Act 1981 (as amended) or particularly large flocks of any species) were recorded incidentally during the field surveys.

3.2.1 Relative Abundance and Species Distribution

The relative abundance and distribution of individual waterbird species recorded within the survey area are shown in Figures 2-34 for the Landfall, River Clwyd and Coastal Fields. These figures illustrate how the various species tend to use the relevant parts of the survey area across the season. The figures are arranged by area, with the species presented taxonomically in order[11] to best illustrate any taxonomic variations or similarities in site usage by species assemblages.

A total of 27 waterbird species were recorded over the survey season. Fourteen species were recorded at the Landfall, 25 at River Clwyd and seven in the Coastal Fields. Chart 3-1 shows the proportion of the total species recorded over the survey season within each survey site.

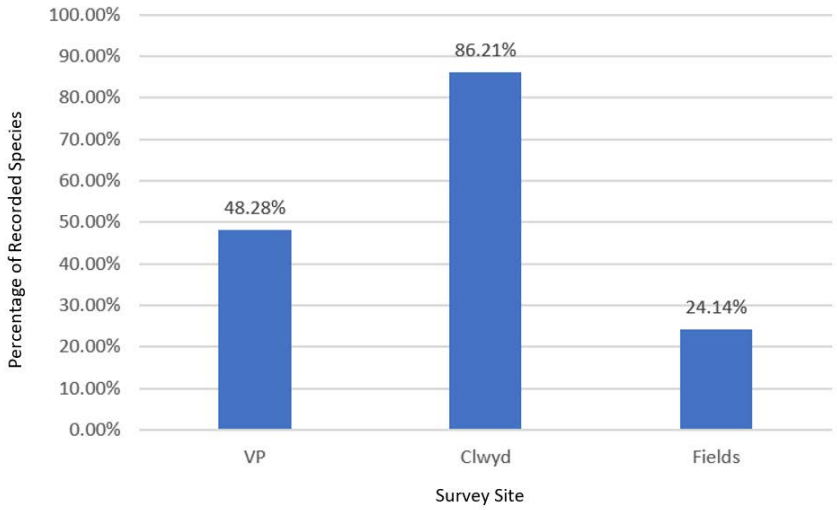


Chart 3-1 Proportion of all waterbird species recorded at each survey site (n=27)

Chart 3-1 Proportion of all waterbird species recorded at each survey site (n=27) shows the number of species recorded each month and the number recorded within each individual survey site.

11 [redacted]

Table 3-1 Number of Species Recorded per Month in All Survey Sites and Each Survey Site

Month	Total	Fields	Landfall	River Clwyd
Oct	19	3	7	10
Nov	17	2	6	7
Dec	24	3	8	15
Jan	12	4	5	9
Feb	23	6	11	18
Mar	22	3	11	16

These results are displayed in Chart 3-2. A higher number of species were consistently recorded at the River Clwyd compared with the Landfall or Coastal Fields.

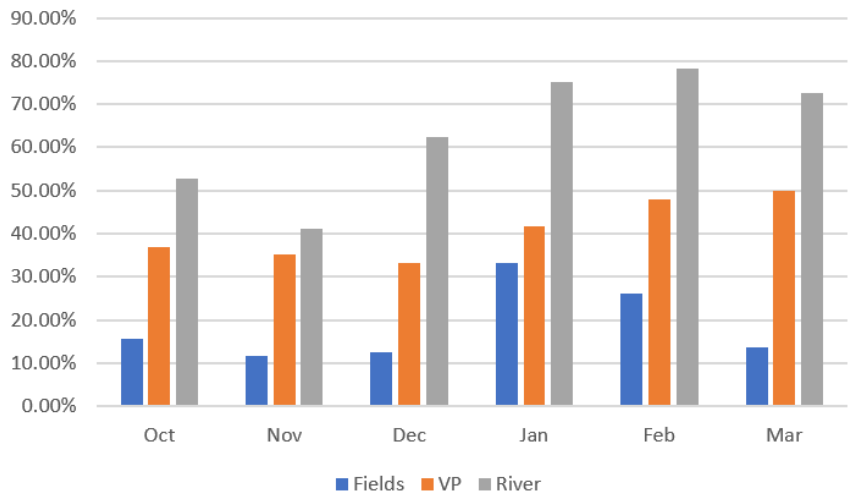


Chart 3-2 Proportion of all waterbird species recorded at each survey site by month

3.2.2 Peak Count Data

Table 3-2 and Table 3-3 show, for the Landfall and the River Clwyd respectively, the peak counts of each waterbird species recorded on each survey date throughout the survey period. The tables also show the proportional frequency of observation for each species, i.e., the proportion of survey periods in which each species was recorded (n=36), in order to show how regularly each species uses the survey area. Species are arranged taxonomically in order.

Table 3-2 Peak counts of waterbird species recorded at the Landfall on each survey date, the number of hourly counts in which each species was observed and the proportional frequency of those observations

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	22/10/20	12/11/20	06/12/20	18/01/21	17/02/21	09/03/21
Haematopus ostralegus Oystercatcher	28	77.78%	102	4	77	56	33	22
Charadrius hiaticula Ringed plover	9	25.00%	4	9	0	0	7	9
Numenius arquata Curlew	8	22.22%	3	0	1	0	2	2
Arenaria interpres Turnstone	18	50.00%	14	5	9	0	4	46
Calidris alba Sanderling	10	27.78%	0	0	47	0	15	12
Calidris alpina Dunlin	3	8.33%	32	0	0	0	5	6
Tringa totanus Redshank	8	22.22%	3	5	7	0	2	0
Chroicocephalus ridibundus Black-headed gull	11	30.56%	0	0	0	30	13	6

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	22/10/20	12/11/20	06/12/20	18/01/21	17/02/21	09/03/21
Larus canus Common gull	1	2.78%	0	0	0	450	0	0
Larus marinus Great black-backed gull	8	22.22%	0	0	0	2	2	1
Larus argentatus Herring gull	26	72.22%	0	26	78	20	57	45
Larus fuscus Lesser black-backed gull	3	8.33%	0	0	0	0	1	2
Phalacrocorax carbo Cormorant	6	16.67%	3	5	1	0	0	0
Egretta garzetta Little egret	1	2.78%	0	1	0	0	0	0

Table 3-3 Peak counts of waterbird species recorded at the River Clwyd survey area on each survey date, the number of hourly counts in which each species was observed and the proportional frequency of those observations

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	23/10/20	13/11/20	07/12/20	21/01/21	18/02/21	09/03/21
Branta canadensis Canada goose	14	38.89%	0	0	0	15	182	82
Anser anser Greylag goose	12	33.33%	0	0	0	8	105	14
Cygnus olor Mute swan	5	13.89%	4	0	2	0	0	2
Cygnus cygnus Whooper swan	1	2.78%	6	0	0	0	0	0
Tadorna tadorna Shelduck	11	30.56%	0	0	0	1	7	6
Mareca penelope Wigeon	18	50%	0	0	61	0	27	12
Anas platyrhynchos Mallard	24	66.67%	18	0	9	23	14	8

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	23/10/20	13/11/20	07/12/20	21/01/21	18/02/21	09/03/21
Anas crecca Teal	14	38.89%	0	0	35	0	7	14
Podiceps cristatus Great crested grebe	2	5.56%	0	0	0	1	0	1
Oystercatcher	6	16.67%	0	0	0	0	7	3
Vanellus vanellus Lapwing	5	13.89%	2	0	0	34	0	0
Curlew	6	16.67%	0	1	0	0	1	0
Limosa lapponica Bar-tailed godwit	2	5.56%	0	0	2	0	0	0
Turnstone	1	2.78%	1	0	0	0	0	0
Dunlin	1	2.78%	0	0	0	0	4	0
Gallinago gallinago Snipe	3	8.33%	12	8	0	0	0	0

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	23/10/20	13/11/20	07/12/20	21/01/21	18/02/21	09/03/21
Actitis hypoleucos Common sandpiper	4	11.11%	0	0	1	0	1	0
Redshank	20	55.56%	2	4	2	0	1	2
Black-headed gull	35	97.22%	78	78	66	75	78	24
Common gull	13	36.11%	0	0	5	230	38	0
Greater black-backed gull	11	30.56%	0	0	2	0	1	1
Herring gull	36	100%	80	37	92	12	64	52
Lesser Black-Backed Gull	9	25%	0	0	0	0	2	4
Cormorant	2	5.56%	0	3	2	0	0	0
Little egret	22	61.11%	1	1	1	9	1	1

Table 3-4 lists the peak counts of each waterbird species recorded during surveys of the Coastal Fields, for each survey date, throughout the survey period. It also shows the proportional frequency of observation for each species i.e., the proportion of monthly surveys in which the species were recorded (n=6). Note that some of the observations included in Table 3-4, including all of the mute swan, shelduck, lapwing and little egret records, were recorded within the River Clwyd survey area. These observations have been included within the relevant Figures showing the abundance and distribution of waterbirds within the River Clwyd survey area but are presented separately here because the records were made during the Coastal Fields surveys, rather than during the through the tide surveys at the River Clwyd.

Table 3-4 Peak counts of waterbird species recorded in the Coastal Fields survey area on each survey date, the number of monthly counts in which each species was observed and the proportional frequency of those observations

Species	No. counts in which species observed	Proportional frequency of counts in which species observed	23/10/20	13/11/20	07/12/20	18/01/21	17-18 /02/21	09/03/21
Mute swan	1	16.67%	2	0	0	0	0	0
Shelduck	1	16.67%	0	0	0	0	6	0
Lapwing	1	16.67%	0	0	0	0	26	0
Black-headed gull	5	83.33%	80	0	0	0	0	0
Common gull	2	33.33%	0	0	0	160	22	0
Herring gull	6	100%	11	8	6	60	3	4
Little egret	3	50.00%	0	0	0	2	1	1

3.2.3 Flock Behaviour

The behaviours displayed by each individual species are described in the species accounts in Section 3.2.6.

Landfall

The most frequent behaviour observed in all species (combined) throughout the survey season at the Landfall was foraging (48.53%), followed by loafing (33.82%) and roosting (6.86%) as shown in Chart 3-3.

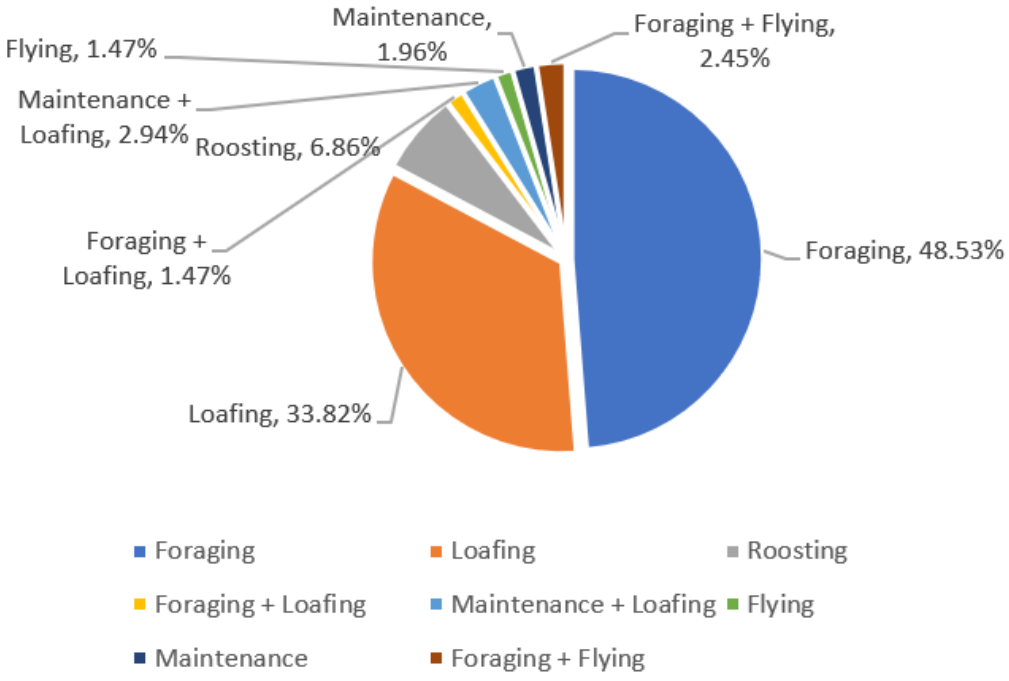


Chart 3-3 Proportion of observations of four primary behaviours by all species combined at the Landfall throughout the survey season

River Clwyd

Foraging was also the most frequently recorded behaviour at the River Clwyd (32.70%), followed by loafing (26.25%) and roosting (20.05%), as shown in Chart 3-4.

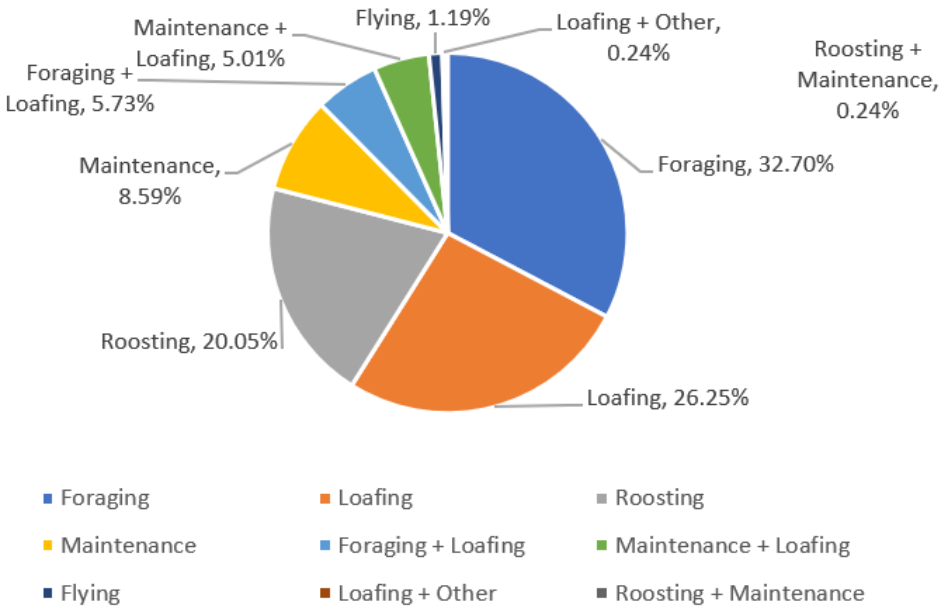


Chart 3-4 Proportion of observations of four primary behaviours by all species combined at the River Clwyd throughout the survey season

Coastal Fields

Foraging was also the most frequently recorded behaviour from individuals and flocks recorded in the Coastal Fields (65.91%), followed by loafing (27.27%) and foraging + loafing (4.55%), as shown in Chart 3-5.

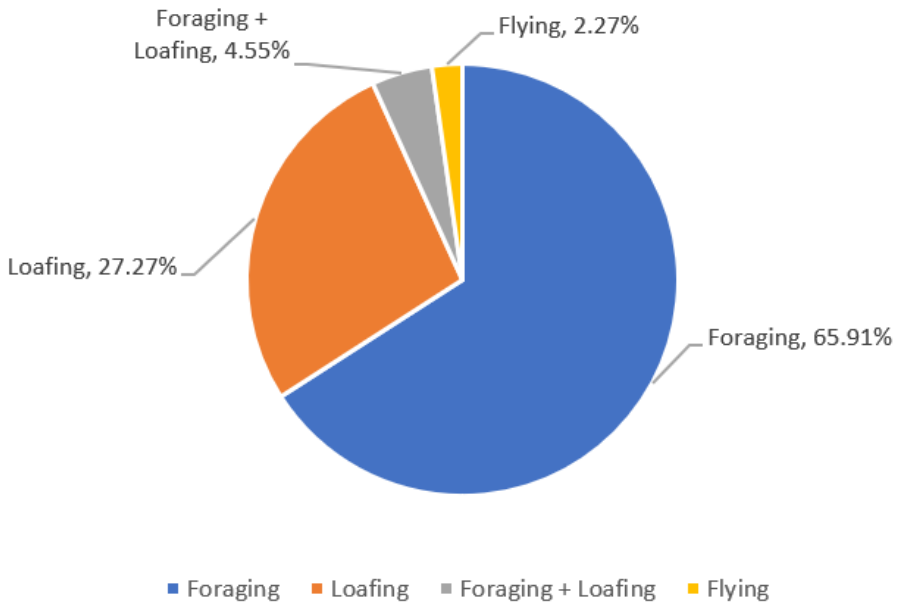


Chart 3-5 Proportion of observations of four primary behaviours by all species combined in the Coastal Fields throughout the survey season

3.2.4 Tidal State and Bird Distribution and Behaviour

Landfall

Table 3-5 lists the number of species, the proportional frequency of counts in which species were observed during each tidal state (n=18) and the behaviour displayed by waterbirds during each phase of the tide at the Landfall.

Foraging was the most frequently recorded behaviour during each tidal state[12], followed by roosting and loafing. Although other factors may have influenced the number of species present (e.g., weather, time of day), a higher number of species and flocks was recorded during the mid-low (M-L) and low-mid (L-M) tidal phases than during the mid-high (M-H) and high-mid (H-M) phases.

Table 3-5 Number of species and flocks, the proportional frequency of counts in which species observed, and the behaviours displayed by waterbirds during each tidal state at the Landfall.

Tidal State	No. Species (and No. Flocks) Recorded Over Survey Season	Proportional frequency of counts in which species observed	Recorded Behaviours (% of all flocks, all species combined)
H-M	9 (29 flocks)	Herring gull (22.22%) Oystercatcher (22.22%) Sanderling	Foraging (43.3%)

[12] Surveys began at either high or low tide. Tidal phases are defined as: High-Mid – first three survey periods following high tide; Mid-Low – survey periods 4-6 following high tide; Low-Mid – first three survey periods following low tide; and Mid-High – survey periods 4-6 following low tide.

Tidal State	No. Species (and No. Flocks) Recorded Over Survey Season	Proportional frequency of counts in which species observed	Recorded Behaviours (% of all flocks, all species combined)
		(16.67%) Turnstone (16.67%) Ringed plover (11.11%) Curlew (11.11%) Dunlin (5.56%) Great black-backed gull (5.56%) Redshank (5.56%)	Loafing (36.67%) Roosting (20.00%)
M-L	11 (42 flocks)	Herring gull (38.89%) Oystercatcher (33.33%) Turnstone (22.22%) Redshank (11.11%) Black headed gull (11.11%) Great black-backed gull (11.11%) Lesser black-backed gull (11.11%) Cormorant (11.11%) Curlew (5.56%) Sanderling (5.56%) Little egret (5.56%)	Foraging (45.24%) Loafing (38.10%) Roosting (9.52%) Maintenance + Loafing (2.38%) Foraging + Loafing (2.38%) Flying (2.38%)
L-M	10 (75 flocks)	Oystercatcher (66.67%) Herring gull (50.00%) Turnstone (38.89%) Redshank (22.22%) Black headed gull (22.22%) Great black-backed gull (16.67%) Curlew (11.11%) Cormorant (11.11%) Dunlin (5.56%) Sanderling (5.56%)	Foraging (56.76%) Loafing (27.03%) Maintenance + Loafing (5.41%) Maintenance (5.41%) Roosting (2.70%) Foraging + Flying (2.70%)
M-H	13 (59 flocks)	Oystercatcher (38.89%) Herring gull (38.89%) Ringed plover (27.78%) Sanderling (27.78%) Redshank (22.22%) Turnstone (22.22%) Curlew (16.67%) Cormorant (11.11%) Dunlin (5.56%) Black headed gull (5.56%) Common gull (5.56%) Great black-backed gull (5.56%) Lesser black-backed gull (5.56%)	Foraging (45.76%) Loafing (37.29%) Foraging + Flying (5.08%) Roosting (3.39%) Flying (3.39%) Foraging + Loafing (3.39%) Maintenance + Loafing (1.69%)

River Clwyd

Table 3-6 lists the number of species, the most frequently recorded species, and the behaviour displayed by waterbirds during each phase of the tide at the River Clwyd.

As for the Landfall, foraging was the most frequently recorded behaviour, followed by loafing and roosting at all tidal states. A higher number of species and flocks was recorded during the mid-low and low-mid tidal phases than at the high-mid and mid-high phases.

Table 3-6 Number of species and flocks, the most frequently recorded species, and the behaviour displayed by waterbirds during each phase of the tide at River Clwyd.

Tidal State	No. Species (and No. Flocks) Recorded Over Survey Season	Most Frequently Recorded Species	Recorded Behaviours (% of all flocks, all species combined)
H-M	16 (56 flocks)	Herring gull (33.33%) Redshank (27.78%) Black-headed gull (22.22%) Canada goose (16.67%) Greylag goose (16.67%) Mallard (16.67%) Wigeon (16.67%) Little egret (16.67%) Shelduck (11.11%) Curlew (11.11%) Turnstone (11.11%) Oystercatcher (5.56%) Great-crested grebe (5.56%) Lesser black-backed gull (5.56%) Cormorant (5.56%)	Foraging (44.64%) Loafing (39.29%) Roosting (12.50%) Flying (3.57%)
M-L	16 (73 flocks)	Black-headed gull (33.33%) Herring gull (33.33%) Redshank (22.22%) Canada goose (16.67%) Shelduck (16.67%) Wigeon (16.67%) Mallard (16.67%) Curlew (16.67%) Great blacked backed gull (16.67%) Lesser black backed gull (16.67%) Little egret (16.67%) Greylag goose (11.11%) Teal (11.11%) Goosander (11.11%) Mute swan (5.56%) Oystercatcher (5.56%)	Foraging (35.62%) Loafing (24.66%) Roosting (15.07%) Maintenance (13.70%) Maintenance + Loafing (9.59%) Foraging + Loafing (1.37%)
L-M	26 (152 flocks)	Herring gull (72.22%) Black-headed gull (61.11%) Mallard (50.00%) Common gull (38.89%)	Foraging (29.33%) Loafing (28.67%) Roosting (20.67%)

Tidal State	No. Species (and No. Flocks) Recorded Over Survey Season	Most Frequently Recorded Species	Recorded Behaviours (% of all flocks, all species combined)
		Little egret (38.89%) Wigeon (33.33%) Redshank (27.78%) Great black-backed gull (27.78%) Canada goose (22.22%) Greylag goose (22.22%) Shelduck (22.22%) Teal (22.22%) Mute swan (11.11%) Bar-tailed godwit (11.11%) Lesser black backed gull (11.11%) Cormorant (11.11%) Whooper swan (5.56%) Lapwing (5.56%) Oystercatcher (5.56%) Curlew (5.56%) Dunlin (5.56%) Turnstone (5.56%) Snipe (5.56%) Common sandpiper (5.56%) Great crested grebe (5.56%)	Maintenance (9.33%) Maintenance + Loafing (8.00%) Foraging + Loafing (2.67%) Flying (1.33%)
M-H	19 (139 flocks)	Black headed gull (66.67%) Herring gull (66.67%) Little egret (50.00%) Mallard (44.44%) Teal (33.33%) Wigeon (33.33%) Common gull (33.33%) Canada goose (22.22%) Redshank (22.22%) Goosander (16.67%) Greylag goose (16.67%) Lapwing (16.67%) Oystercatcher (16.67%) Great black-backed gull (16.67%) Mute swan (11.11%) Shelduck (11.11%) Common sandpiper (11.11%) Lesser black backed gull (11.11%)	Foraging (30.22%) Roosting (25.18%) Loafing (19.42%) Foraging + Loafing (13.67%) Maintenance (8.63%) Maintenance + Loafing (2.16%) Flying (0.72%)

3.2.5 Disturbance Events and Responses

A total of 18 disturbance events were logged over all surveys at the Landfall. No disturbance events were recorded at River Clwyd or the Coastal Fields.

There were two disturbance types recorded at the Landfall – Walkers (n=3) and Walkers & Dogs (n=15).

The strength of behavioural response to disturbance events by birds (all species combined) recorded from the Landfall is provided in Table 3-7.

Table 3-7 Strength of behavioural responses to disturbance events by birds recorded at the Landfall throughout the survey season (all waterbird species combined)

Disturbance Type	Weak	Moderate	High
Walkers & Dogs	14	1	0
Walkers	0	3	0

The species most frequently recorded as being disturbed was oystercatcher, with this species showing a disturbance response during nine survey periods. Table 3-8 shows the number of behavioural responses recorded per species over the survey season. Individual disturbance events often provoked a response in more than one species per survey period.

Table 3-8 Number of disturbance responses recorded by species at the Landfall over the survey season

Species	No. Disturbance Responses	Weak	Moderate
Oystercatcher	9	7	2
Sanderling	3	2	1
Herring gull	2	1	1
Curlew	1	1	0
Redshank	1	1	0
Ringed plover	1	1	0
Turnstone	1	1	0

3.2.6 Species Accounts

Summary accounts of the conservation status, behaviours, and numbers and distribution of each recorded waterbird species are given in Table 3-9. Analyses of most frequently displayed behaviour types are based on the number of flocks or individuals observed exhibiting that behaviour. Flocks and individuals of a single species may have been recorded more than once during a single survey period where they were displaying different behaviours and/or were distributed in different locations within the same survey site.

Table 3-9 Accounts of the conservation status, behaviours, numbers, and distribution of each recorded waterbird species

Species	Conservation Status	Account
Canada Goose	Not assessed	**River Clwyd** – 27 flocks were recorded during the 2021 surveys only within 14 survey periods. Numbers recorded ranged from 182 to 2 (mean = 48.19). A peak count of 182 individuals was recorded foraging during the February survey. Foraging was the most frequently observed behaviour (71.43% of flocks) followed by loafing (14.29%), roosting (7.14%) and loafing + foraging (3.57%). This species was predominately recorded on the western saltmarsh, with large flocks observed foraging and loafing towards the north of the survey area. Large flocks were also observed by surveyors to the north of the survey area, within the river and in the saltmarsh either side, but were not counted.
Greylag goose	Amber List (UK)	**River Clwyd** – 24 flocks were recorded within 12 survey periods during the 2021 surveys (max. 105 - min. 2, mean = 38.5). A peak count of 105 was recorded foraging during the February survey. 60% of flocks were observed foraging, 20% were observed foraging + loafing, 8% were recorded loafing, and 8% were recorded roosting. Distribution was centred towards the north of Afon Ffyddion, with large flocks observed in the field to the north and in the saltmarsh west of the river. Large flocks (not counted) were also observed between the northern end of the survey area and Foryd Bridge.
Mute Swan	Amber List (Wales & UK)	**Fields** – A flock of 13 swans was recorded flying west to east to the north of the Afon Ffyddion during the October survey. **River Clwyd** – A peak count of four was recorded foraging within one survey period during the October survey. A pair was recorded in the field to the southeast of the survey area foraging during the December and March surveys. They were also observed in the saltmarsh on the other side of the river from the mouth of the Afon Ffyddion and in a field south west of Cwybr Uchaf.
Whooper swan	Annex 1, Schedule 1, Amber List (UK)	**River Clwyd** - Six whooper swans were observed during a single survey period of the October survey flying from west to east across the River Clwyd, to the north of Afon Ffyddion. No further records of this species were made throughout the survey season.

Species	Conservation Status	Account
Shelduck	Amber List (Wales & UK)	**Coastal Fields** – A flock of six and two additional individuals were recorded foraging during the February survey in a field to the west of Cwybr Uchaf. **River Clwyd** - 14 flocks and/or individuals were recorded within 11 survey periods during the December, February and March surveys (max. 7 – min. 1, mean = 3.57). 50% of all flocks recorded were observed foraging, followed by 28.57% loafing and 21.43% roosting. Flocks were mainly recorded within the saltmarsh towards the north west of the survey area, with a small number recorded in a field to the west of Cwybr Uchaf.
Wigeon	Amber List (Wales & UK)	**River Clwyd** – Wigeon were recorded within one survey period during the December, February and March surveys. A peak count of 61 was recorded roosting during the December survey. Distribution was centred on the west bank of the river towards the north of the survey area. Flocks were observed roosting on the saltmarsh at high tide and on the mud banks at mid and low tide.
Mallard	Amber List (Wales & UK)	**River Clwyd** – 36 flocks and pairs of mallards (max. 23 – min. 2, mean = 10.79) were recorded within 24 survey periods during all but the November survey. A peak count of 23 was recorded roosting during the January survey. 44.44% of flocks and pairs were recorded roosting, followed by foraging (27.78%), loafing (22.22%) and maintenance (5.56%). The majority of roosting and loafing observations came from an area of saltmarsh in the southwest corner of the survey area, to the north of the caravan park. Mallards were also recorded on the saltmarsh along the west bank and on the shingle bank in the centre of the river.
Teal	Amber List (Wales & UK)	**River Clwyd** – 14 flocks (max. 35 – min. 3, mean = 10.79) were recorded within 14 survey periods during the December, February and March surveys. A peak count of 35 was recorded foraging during the December survey. Roosting was the most frequently observed behaviour (42.86% of flocks), followed by foraging (35.71%) and loafing (21.43%). Teal were frequently observed roosting at low to mid tides on the mud banks of the river in north west of the survey area.

Species	Conservation Status	Account
Goosander	Green (Wales & UK)	**River Clwyd** – 6 pairs or individuals (max. 2 – min. 1) were recorded foraging during the December, February and March surveys. All were observed foraging. Sightings were largely towards the southern end of the river within the survey area, with individuals observed swimming downstream past the shingle bank on two occasions.
Great crested grebe	Green (Wales & UK)	**River Clwyd** – Three individuals were recorded during the December, January and March surveys within one survey period each. All were recorded foraging.
Oystercatcher	Amber List (Wales & UK)	**River Clwyd** – Six flocks were recorded within six survey periods during the February and March surveys. A peak count of seven was recorded foraging during the February survey. They were observed foraging in fields immediately to the north and south of Afon Ffyddion, in the saltmarsh on the west bank, and on the shingle bank. **Landfall –** 58 flocks (max. 102 – min. 1, mean=53.64) were recorded within 28 survey periods during all surveys. 70.69% of flocks were observed foraging, followed by loafing (12.07%), roosting (8.62%), flying + foraging (5.17%), and flying (3.45%). At low to mid tide, they were distributed along the majority of the shoreline, moving inwards as the tide came in. At high tides, flocks were recorded roosting on the golf course.
Lapwing	Section 7, Red List (Wales & UK)	**Coastal Fields** – A flock of 26 was recorded loafing during the February survey in a field to the west of Cwybr Uchaf. **River Clwyd** – Six flocks (max. 34 – min. 1, mean = 14.33) were recorded within five survey periods during the October and February surveys, with a peak of 34 recorded foraging + loafing during the February survey. Flocks were observed foraging (33.33% of flocks), loafing (33.33%) and foraging + loafing (33.33%). The majority of sightings were from fields to the north of Afon Ffyddion. Larger flocks of 70+ individuals were often observed by surveyors further downstream of the survey area.
Ringed plover	Section 7, Red List (UK), Amber List (Wales)	**Landfall** – 7 flocks (max. 9 – min. 2, mean = 6.14) were recorded within seven survey periods during all but the January survey. A peak count of nine was recorded foraging during the December survey. 44.44% were recorded foraging, followed by loafing (11.11%), roosting (11.11%), and foraging + flying (11.11%). They were distributed close to the VP itself and around the concrete groyne to the west. Individuals were also observed foraging on the golf course.

Species	Conservation Status	Account
Curlew	Section 7, Red List (Wales & UK)	**River Clwyd** – Curlew was recorded during the November and February surveys, with one foraging individual being recorded over at total of six survey periods. They were observed on the saltmarsh in the northwest of the survey area and on the shingle bank at low-mid tide. **Landfall** - Curlew was recorded within seven survey periods during the October, December, February, and March surveys, with a peak count of two individuals recorded during the February and March surveys. One individual was recorded foraging during seven survey periods and loafing during one survey period. Foraging individuals were recorded on the golf course as well as on the beach.
Bar-tailed godwit	Annex 1, Section 7, Red List (Wales), Amber List (UK)	**River Clwyd** - Two individuals were recorded foraging along the Clwyd during the December survey within three survey periods. They were observed foraging close to the mouth of the Afon Ffyddion and within a field immediately to the north of the Afon Ffyddion.
Turnstone	Amber List (Wales & UK)	**River Clwyd** – An individual was observed loafing on the northwest bank of the river within a single survey period during the October survey. **Landfall** – 18 flocks and/or individuals (max. 46 – min. 1, mean = 14.07) were recorded within 18 survey periods during all but the January survey. A peak count of 46 was recorded foraging on the concrete groyne during the March survey. 88.89% were observed foraging and 11.11% were observed loafing.
Sanderling	Amber List (Wales & UK)	**Landfall** – 14 flocks (max. 47 – min. 2, mean = 16.21) were recorded within 11 survey periods during the December, February, and March surveys. A peak count of 47 was recorded during the December survey. 61.11% of flocks were recorded foraging, followed by loafing (11.11%) and roosting (5.56%). They were largely distributed within 20m either side of the VP and foraged along the shoreline.
Dunlin	Red List (Wales), Amber list (UK)	**River Clwyd** – Four dunlin were recorded within one survey period during the February survey. They were observed foraging towards the northwest of the survey area. **Landfall** – Three flocks (max. 32 min. 6) were recorded within three survey periods during the October, February and March surveys. A peak count of 32 was recorded foraging during the October survey. The distribution was

Species	Conservation Status	Account
		largely centred on the concrete groyne to the west of the vantage point, with two individuals also recorded foraging on the golf course.
Common sandpiper	Amber List (Wales & UK)	**River Clwyd** – An individual foraging common sandpiper was recorded within four survey periods during the December and February surveys. It was observed foraging near the mouth of the Afon Ffyddion and on a shingle bank in the centre of the river at low tide.
Redshank	Amber List (Wales & UK)	**River Clwyd** – 21 flocks and/or individuals were recorded within 19 survey periods during all but the January survey. A peak count of four was recorded foraging during the November survey. 85.71% were observed foraging, followed by loafing (9.52%) and flying (4.76%). They were most frequently recorded during mid-low and low-mid tides foraging on shingle banks in the river. **Landfall** – 13 flocks and/or individuals were recorded within 11 survey periods during all but the January survey. A peak count of 23 was recorded loafing during the December survey. 84.62% of flocks were observed foraging followed by foraging + flying (7.69%) and loafing (7.69%). They were largely recorded within 20m either side of the VP.
Black-headed gull	Section 7, Red List (Wales), Amber List (UK)	**Coastal Fields** - 13 individuals and/or flocks (max. 80 – min. 1, mean = 20.64) were recorded during all but the December surveys. The peak count was a flock of 80 foraging in a field to the southwest of Cwybr Uchaf as part of a large mixed flock with common gulls and herring gulls. The most frequently recorded behaviour was foraging (85.71% of flocks), particularly in stubble fields to the east of Clwyd Retail Park, followed by loafing (14.29%). **River Clwyd** – 71 flocks (max. 78 – min. 3, mean 34.85) were recorded within 35 survey periods during all months of the survey season. The peak count was a flock of 78 loafing during the October survey. 33.33% of recorded flocks were observed loafing, 16.67% were observed carrying out maintenance behaviour, 15.28% were observed roosting, and 11.11% were recorded foraging. All other recorded behaviours were a combination of loafing, foraging and maintenance. Flocks were predominately recorded loafing and maintenance around a shingle bank in the river as part of a mixed gull species flock.

Species	Conservation Status	Account
		Landfall – This species was recorded during the 2021 surveys only. 11 individuals and flocks were recorded during 61.11% of the 2021 survey periods. The most frequently observed behaviour was Loafing (36.36% of flocks) followed by Foraging (27.27%) and Maintenance (18.18%).
Common Gull	Red List (Wales), Amber List (UK)	**Coastal Fields –** Seven flocks (max. 160 – min. 4, mean = 47.71) were recorded during the January and February surveys. A peak count of 160 was recorded during the January survey foraging in a field to the southwest of Cwybr Uchaf. 71.43% of flocks were observed foraging and 28.57% were recorded loafing. **River Clwyd** – 35 flocks (max. 230 – min. 5, mean = 63.11) were recorded during the December, January and February surveys, within 13 survey periods. A peak count of 230 individuals was recorded foraging + loafing during the March survey. The behaviours loafing, roosting and foraging + loafing were observed in nine flocks each (25.71%), followed by maintenance (8.57%), maintenance + loafing (8.57%), and foraging (5.71%). Flocks were observed carrying out maintenance and loafing behaviour on the shingle bank and loafing, roosting and foraging in the fields to the north of Afon Ffyddion. **Landfall** – One flock of 450 common gulls was recorded within one survey period during the January survey. The flock arrived from the south, loafed and foraged on the sea for approximately 20 minutes, then flew south again.
Great black-backed gull	Red List (Wales), Amber List (UK)	**River Clwyd** – 14 flocks and/or individuals were recorded within 11 survey periods during the December, February and March surveys. A peak count of two individuals was recorded during the December survey. They were observed loafing and carrying out maintenance towards the southern end of a shingle bank in the centre of the river at low-mid tide as part of a mixed-species flock of gulls. **Landfall** -Eight flocks and individuals were recorded within eight survey periods during the 2021 surveys, with a peak count of two recorded during the Jan and Feb surveys. Distribution was focused around the concentre groyne to the west of the vantage point. 62.50% of individuals were recorded Loafing. Other behaviours observed included Roosting (12.50%), Maintenance (12.50%), and Foraging (12.50%).
Herring gull	Section 7, Red List (Wales & UK)	**Coastal Fields** – 16 flocks (max. 150 – min. 2, mean = 23.75) were recorded during all surveys other than the December survey. A peak count of 150 was recorded loafing in a field north of the A547 during the October survey.

Species	Conservation Status	Account
		River Clwyd - 61 flocks (max. 92 – min. 2, mean = 27.89) were recorded within all survey periods during all surveys. A peak count of 92 was recorded loafing + carrying out maintenance during the December survey on the shingle bank in the centre of the river. The majority of sightings were at this location, with flocks also observed in the fields to the east of the river and in the saltmarsh to the west. The most frequently observed behaviour was maintenance + loafing (45.90% of flocks), followed by loafing (19.67%), roosting (14.75%), maintenance (14.75%), foraging (3.28%) and foraging + loafing (1.64%). The majority of sightings, particularly of flocks carrying out maintenance and loafing behaviour, were from the shingle bank. **Landfall** – 53 flocks (max. 78 – min. 1, mean = 18.25) were recorded within 75 survey periods during all surveys but the October survey. A peak count of 78 was recorded loafing during the December survey. 71.7% of flocks were recorded loafing, followed by roosting (11.32%), maintenance + loafing (11.32%), foraging (3.77%), and maintenance (1.89%). Flocks were distributed throughout the survey area, with some flocks roosting on the golf course at high tide.
Lesser black-backed gull	Amber List (Wales & UK)	**River Clwyd** – 23 flocks and/or individuals were recorded within nine survey periods during the February and March surveys, with a peak count of four recorded during the March survey. The majority of records were from the shingle bank at the centre of the river where birds were observed loafing (9.09% of sightings) and carrying out maintenance (45.45%), and from the saltmarsh west of the river where birds were recorded roosting (45.45%). **Landfall** – Loafing individuals (peak count 2) were observed within three survey periods during the February and March surveys around the concrete groyne.
Cormorant	Amber List (Wales)	**River Clwyd** – Cormorant was recorded within one survey period during the November survey and two survey periods during the December survey, with a peak count of three individuals. All were observed loafing near the shingle bank. **Landfall** – Five flocks and/or individuals were recorded within six survey periods during the October, November and December surveys. A peak count of 12 was recorded loafing during the October survey. The most frequently observed behaviour was loafing at the shoreline during low tides (83.33% of survey periods) and flying (16.67%).

Species	Conservation Status	Account
Little egret	Annex 1	**Coastal Fields** – Two individuals were recorded loafing during the January survey in a ditch north of Cwybr Uchaf. Single individuals were recorded foraging and loafing during the February and March surveys close to Cwybr Uchaf. These records all lie within the River Clwyd survey area. **River Clwyd** – 40 flocks and/or individuals (max. 9 – min. 1, mean = 1.58) were recorded within 22 survey periods during all surveys. A peak count of nine was recorded roosting in a field south of Cwybr Uchaf during the January survey. 46.15% of flocks and individuals were recorded foraging, 30.77% were observed roosting and 23.08% were observed loafing. Individuals were frequently observed in the saltmarsh to the southwest of the survey area. **Landfall** – An individual was recorded foraging on the beach approximately 250m in front of the vantage point within one survey period during the November survey.

4.0 Discussion and Conclusions

4.1 Peak Counts

Peak counts for each of the waterbird species recorded within the survey area as a whole and at each survey location, during the survey period are shown in Table 4-1. By way of providing context to the results of the current study, these data are presented alongside the most recent UK wintering population estimate for each species[13]. At the time of writing, we are unaware of any current data for wintering waterbird populations solely in Wales.

Table 4-1 Peak count of species recorded within the entire survey area and at each survey site and the percentage of the UK wintering population represented at each site

Common Name	UK Wintering Population	Peak Count Within Survey Area	Peak Count - Percentage of UK Wintering Population	Peak Count in Coastal Fields	Peak Count Coastal Fields - Percentage of UK Wintering Population	Peak Count at River Clwyd	Peak Count River Clwyd - Percentage of UK Wintering Population	Peak Count at Landfall	Peak Count Landfall - Percentage of UK Wintering Population
Canada goose	165,000	182	0.110%	0	0.00%	182	0.110%	0	0.000%
Greylag goose	230,000	105	0.046%	0	0.00%	105	0.046%	0	0.000%
Mute swan	52,500	13	0.025%	13	0.02%	4	0.008%	0	0.000%
Whooper swan	19,500	6	0.031%	0	0.00%	6	0.031%	0	0.000%
Shelduck	51,000	7	0.014%	6	0.01%	7	0.014%	0	0.000%
Wigeon	450,000	61	0.014%	0	0.00%	61	0.014%	0	0.000%
Mallard	675,000	23	0.003%	0	0.00%	23	0.003%	0	0.000%
Teal	435,000	35	0.008%	0	0.00%	35	0.008%	0	0.000%
Goosander	14,500	2	0.014%	0	0.00%	2	0.014%	0	0.000%
Great crested grebe	18,000	1	0.006%	0	0.00%	3	0.017%	0	0.000%
Oystercatcher	305,000	102	0.033%	0	0.00%	7	0.002%	102	0.033%
Lapwing	635,000	34	0.005%	26	0.00%	34	0.005%	0	0.000%
Ringed plover	43,000	8	0.019%	0	0.00%	0	0.000%	9	0.021%
Curlew	125,000	2	0.002%	0	0.00%	1	0.001%	2	0.002%
Bar-tailed godwit	54,000	2	0.004%	0	0.00%	2	0.004%	0	0.000%

[13] Woodward, I., Aebischer, N., Burnell, D., Eaton, M., Frost, T., Hall, C., Stroud, S. & Noble, D. (2020) APEP 4 - Population estimates of birds in Great Britain and the United Kingdom. British Birds Volume: 113

Common Name	UK Wintering Population	Peak Count Within Survey Area	Peak Count - Percentage of UK Wintering Population	Peak Count in Coastal Fields	Peak Count Coastal Fields - Percentage of UK Wintering Population	Peak Count at River Clwyd	Peak Count River Clwyd - Percentage of UK Wintering Population	Peak Count at Landfall	Peak Count Landfall - Percentage of UK Wintering Population
Turnstone	43,000	46	0.107%	0	0.00%	1	0.002%	46	0.107%
Sanderling	21,000	47	0.224%	0	0.00%	0	0.000%	47	0.224%
Dunlin	350,000	32	0.009%	0	0.00%	4	0.001%	32	0.009%
Common sandpiper	52	1	1.923%	0	0.00%	1	1.923%	0	0.000%
Redshank	100,000	23	0.023%	0	0.00%	4	0.004%	23	0.023%
Black-headed gull	22,000,000	80	0.000%	80	0.00%	78	0.000%	30	0.000%
Common gull	710,000	450	0.063%	160	0.02%	230	0.032%	450	0.063%
Great black-backed gull	77,000	2	0.003%	0	0.00%	2	0.003%	2	0.003%
Herring gull	740,000	92	0.012%	150	0.02%	92	0.012%	78	0.011%
Lesser black-backed gull	130,000	4	0.003%	0	0.00%	4	0.003%	2	0.002%
Cormorant	64,500	12	0.019%	0	0.00%	3	0.005%	12	0.019%
Little egret	11,500	9	0.078%	2	0.02%	9	0.078%	1	0.009%

Although the datasets are not directly comparable, and caution must be applied when comparing figures, Table 4-1 indicates that peak counts recorded from each survey location represent considerably less than 1% of the UK wintering population for almost all species recorded during the survey season.

The only exception is common sandpiper, with 1.923% of the UK wintering population recorded at the River Clwyd. This species was recorded within one survey period during the December survey and three survey periods during the February survey. According to the North East Wales Bird Reports dated between 2015-2018, this species is rarely seen during the winter period, however WeBS data for the Clwyd Estuary – Sector 1 count sector recorded a peak count of 10 common sandpipers over the five-year period from 2015-2020 and a monthly mean count of between 1-3, suggesting that this species may regularly overwinter within the Clwyd estuary in small numbers.

4.1.1 River Clwyd – Comparison with BTO WeBS Data

A comparison has also been made, where relevant, between the results of the surveys carried out at the River Clwyd and the WeBS data for the Clwyd Estuary – Sector 1 count sector (which includes the River Clwyd survey area, plus a much larger area upstream and downstream of the area surveyed for this study) for the period 2015-2020, as shown in Table 4-2.

Table 4-2 Comparison of peak waterbird numbers recorded in the River Clwyd survey area during winter 2020-21 with peak counts from WeBS data for the River Clwyd – Sector 1 count sector for the period 2015-2020

Species	Comparison of 2020-21 survey area peak count with peak count for the WeBS River Clwyd – Sector 1 2015-2020
Canada Goose	WeBS - peak count of 227 recorded in February. Survey – peak count of 182 recorded in October (80.18% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Greylag goose	WeBS - peak count of 500 recorded in October. Survey – peak count of 105 recorded in February (21% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Mute Swan	WeBS - peak count of 40 recorded in April. Survey – peak count of 4 recorded in October (10% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Whooper swan	WeBS – no whooper swans recorded by WeBS. Survey – peak count of 6 (flying over) during a single count in October.
Shelduck	WeBS - peak count of 170 recorded in April. Survey – peak count of 7 recorded in February (4.1% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Wigeon	WeBS - peak count of 344 recorded in February. Survey – peak count of 61 recorded in December (17.7% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Mallard	WeBS - peak count of 105 recorded in October. Survey – peak count of 23 recorded in January (21.9% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Teal	WeBS - peak count of 107 recorded in October. Survey – peak count of 35 recorded in December (32.7% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Goosander	WeBS - peak count of 11 recorded in February. Survey – peak count of 2 recorded in December (18.2% of WeBS peak for the wider Clwyd Estuary – Sector 1)
Great crested grebe	WeBS - no great-crested grebe recorded by WeBS. Survey – single birds in December, January and March.
Oystercatcher	WeBS – peak count of 500 recorded in October. Survey – peak count of 7 recorded in February (1.4% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Lapwing	WeBS - peak count of 533 recorded in November. Survey – peak count of 34 recorded in February (6.38% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Curlew	WeBS - peak count of 222 recorded in February.

Species	Comparison of 2020-21 survey area peak count with peak count for the WeBS River Clwyd – Sector 1 2015-2020
	Survey – peak count of 1 recorded in February (0.45% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Bar-tailed godwit	WeBS – no bar-tailed godwit recorded by WeBS. Survey – peak count of 2 in December.
Turnstone	WeBS - peak count of 4 recorded in February. Survey – peak count of 1 recorded in October (25% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Dunlin	WeBS - peak count of 113 recorded in November. Survey – peak count of 4 recorded in February (3.54% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Common sandpiper	WeBS - peak count of 10 recorded in February. Survey – peak count of 1 recorded in February (10.00% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Redshank	WeBS - peak count of 500 recorded in November. Survey – peak count of 4 recorded in November (0.08% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Black-headed gull	WeBS - peak count of 860 recorded in December. Survey – peak count of 78 recorded in October (9.07% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Common Gull	WeBS - peak count of 236 recorded in February. Survey – peak count of 230 recorded in March (97.5% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Great black-backed gull	WeBS - peak count of 39 recorded in October. Survey – peak count of 2 recorded in December (5.13% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Herring gull	WeBS - peak count of 1000 recorded in December. Survey – peak count of 92 recorded in December (9.20% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Lesser black-backed gull	WeBS - peak count of 15 recorded in October and November Survey – peak count of 4 recorded in March (26.7% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Cormorant	WeBS - peak count of 386 recorded in October. Survey – peak count of 3 recorded in November (0.78% of WeBS peak for the wider Clwyd Estuary – Sector 1).
Little egret	WeBS - peak count of 14 recorded in November. Survey – peak count of 9 recorded in January (64.3% of WeBS peak for the wider Clwyd Estuary – Sector 1).

Although direct comparisons between peak counts during the survey and peak counts recorded during WeBS counts for the River Clwyd – Sector 1 should be treated with caution, Table 4-2 indicates that the proportion of the wider River Clwyd -Sector 1 populations recorded within the survey area was generally higher for wildfowl than it was for waders. 80% of the peak WeBS count sector Canada goose population were recorded in the survey area while for other wildfowl species the proportion of the WeBS count sector peak count recorded in the survey area ranged from 4-33%. For waders, the peak counts recorded in the survey area represented 10% or less of the WeBS count sector peak count for all species.

For gulls the peak count of common gull within the survey area represented 98% of the WeBS River Clwyd – Sector 1 peak count for 2015-20. For other gull species the proportion of the WeBS count sector peak count recorded in the survey area ranged from 5-27%. The proportion of the WeBS count sector peak count for cormorant recorded within the survey area was very low at <1% of the WeBS peak count, though for little egret the proportion of the WeBS count sector peak was relatively high at 64%.

These data suggest that in the context of the wider River Clwyd estuary, the survey area is most important for wildfowl, gulls (notably common gull) and little egret.

4.2 Species Distribution

The distribution of each species is described in greater detail in Section 3.2.6 and is shown in Figures 2 to 34.

4.2.1 Landfall

Birds were rarely observed on the sea - flocks of herring gull were observed loafing on the sea at high tide during the December and March surveys, and a flock of 450 common gull was recorded loafing on the sea for 20 minutes during the January survey.

Foraging and loafing flocks were observed along the entirety of the foreshore at mid-low and low-mid tide. At high tide, flocks of gulls and waders were recorded roosting on the golf course. Smaller waders such as turnstone and ringed plover were regularly recorded foraging and loafing on and around a concrete groyne to the west of the Vantage Point.

4.2.2 River Clwyd

At mid-low and low-mid tide, large flocks of gulls regularly gathered to carry out loafing and maintenance behaviours at the southern end of a shingle bank at approximately SJ 01526 78562. Gull flocks were also recorded loafing on the shingle bank itself. Other waterbird species such as cormorant, oystercatcher, redshank, and curlew were also seen foraging on this shingle bank.

Large flocks of waterbirds were frequently observed further downstream of the survey area throughout the survey season, particularly on the saltmarsh south of Foryd Bridge. As they were outside of the survey area the flocks and species were not counted by surveyors, but species were regularly seen in greater numbers than were seen within the survey area. For example, a flock of approximately 200+ lapwing was seen foraging then flying east to west over the Clwyd, but not within the survey area, during the January survey.

4.2.3 Coastal Fields

The majority of species recorded within the Coastal Fields were gulls, mainly black-headed gulls and herring gulls. They were frequently observed in the fields either side of the A547, particularly when the fields were partially flooded and when the surrounding fields were being ploughed. Black-headed gulls were also recorded in stubble fields to the south of Bryn Cwnin Road, again particularly when farming activity was being carried out on the fields. The only non-gull species recorded during the Coastal Fields survey were mute swan (peak count 2), shelducks (peak count 6), lapwing (peak count 26) and little egret (peak count 2) – all were recorded in fields to

the south west of Cwybr Uchaf, which lies within the River Clwyd survey area. No other waterbird species were observed east of the A525 or south of the A547.

4.3 Flock Behaviour

The behaviours displayed by each species at each survey site are described in greater detail in Section 3.2.6.

Foraging was the most frequent behaviour recorded from each area (Landfall – 48.53%, River Clwyd – 32.70% and the Coastal Fields – 65.91%). Loafing was the next most frequent behaviour observed (28.53% of all birds at all three sites), followed by roosting (14.71%) and maintenance (6.01%), respectively.

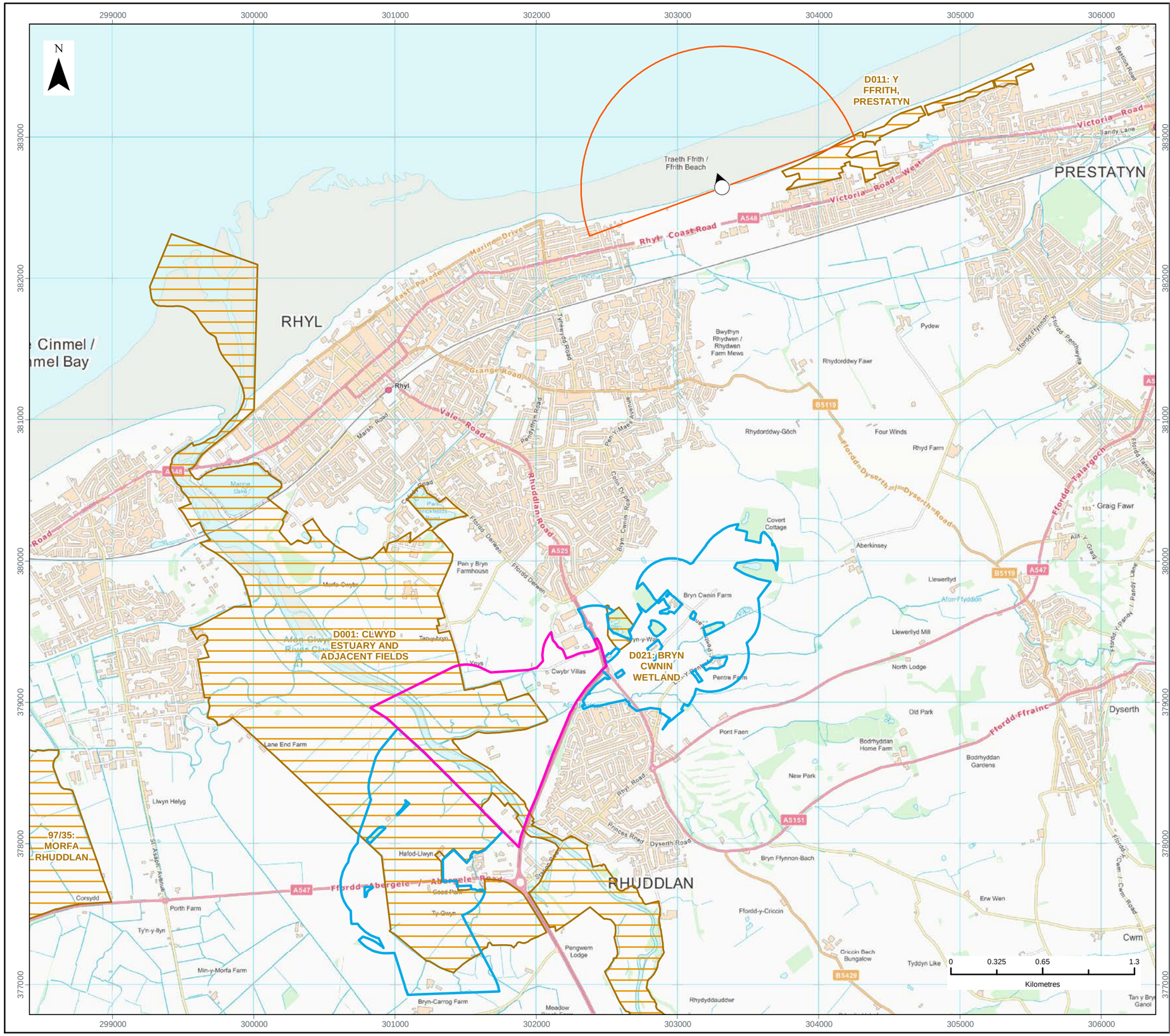
Roosting represented a relatively low percentage of behaviours, though roosting flocks were consistently recorded in the same locations throughout the survey season, particularly in the fields north of Afon Ffyddion and south west of Cwybr Uchaf (within the River Clwyd survey area), on Rhyl golf course, and within the saltmarsh and mudbanks of the River Clwyd.

4.4 Disturbance Events and Responses

Disturbance events were recorded at the Landfall only. The public rights of way through the Coastal Fields appear to be used only very irregularly given the overgrown and unsound nature of the infrastructure. The footpaths along the River Clwyd, particularly along the eastern bank, are regularly used however walkers, runners, dogs and cyclists do not come within close range of birds present within and adjacent to the river and their presence did not cause any disturbance events during the surveys. The footpath along the western bank appeared to be used less frequently by walkers and cyclists but their presence also did not cause any disturbance events during the surveys.

The most frequently recorded source of disturbance at the Landfall was from walkers with dogs, followed by walkers without dogs. Disturbance events relating to walkers with dogs were recorded during the October, November, December, and February surveys. All disturbance events were in relation to people walking on the beach. People walking, cycling, or running along the track on the seawall did not provoke a disturbance response during the surveys. The golf course was not in use for the majority of the surveys due to Covid 19 restrictions so flocks roosting or foraging in this area was generally not disturbed by human activity.

Of the 18 disturbance events, 14 led to a weak response and four led to a moderate response, mostly affecting birds using the foreshore at low tide. Although there are no data available to compare the survey data against, these results suggest regular use of the beach by walkers with dogs and some habituation by waterbirds to their presence.



LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing
- Coastal Fields Survey
- River Clwyd Survey
- Local Wildlife Site

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Winter Bird Survey Areas

VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	AGB	DW

FIGURE NUMBER:

Figure 1

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:27,500	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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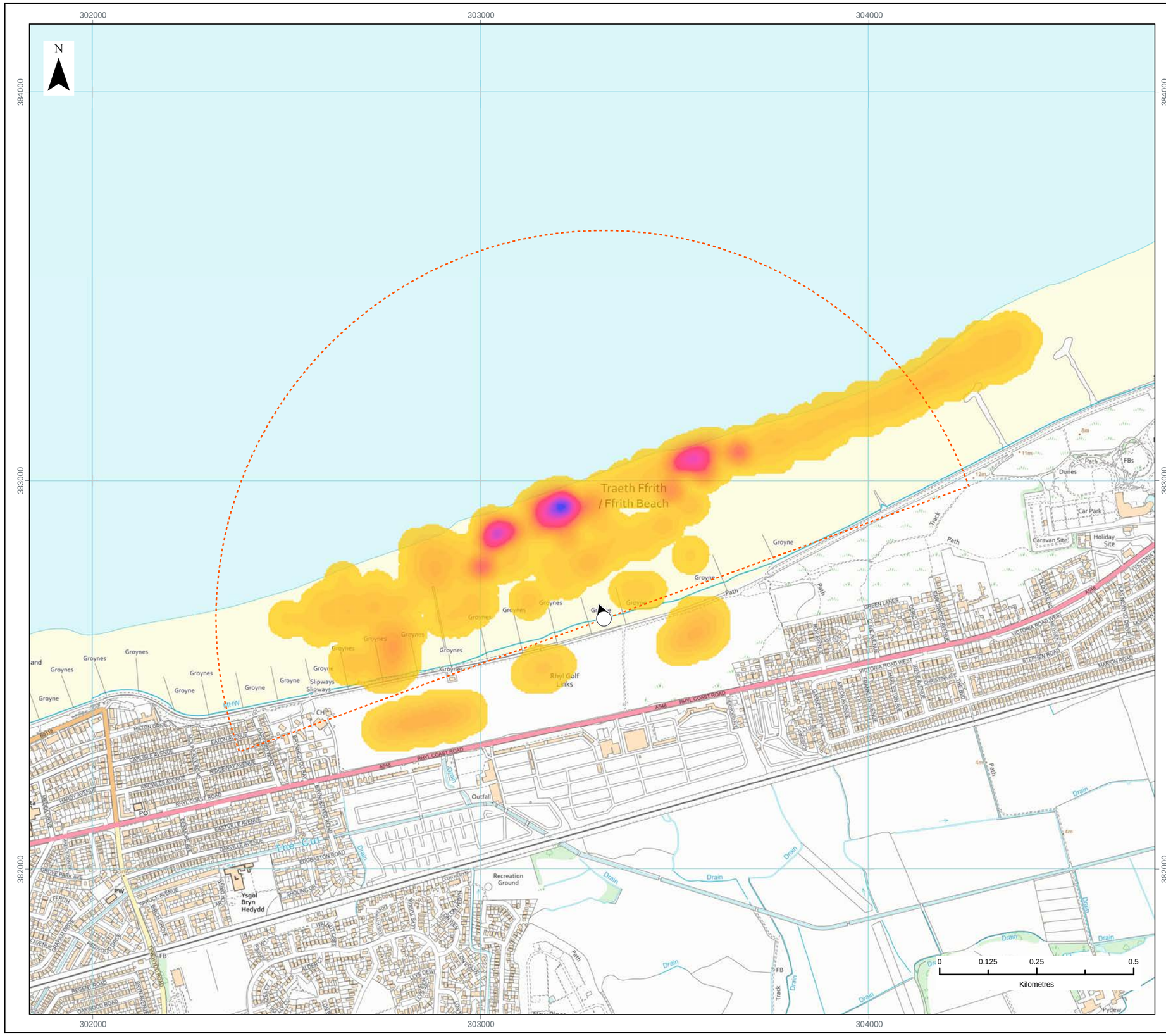

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Oystercatcher Distribution
(Records/50m²; Total = 1131)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Oystercatcher Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 2

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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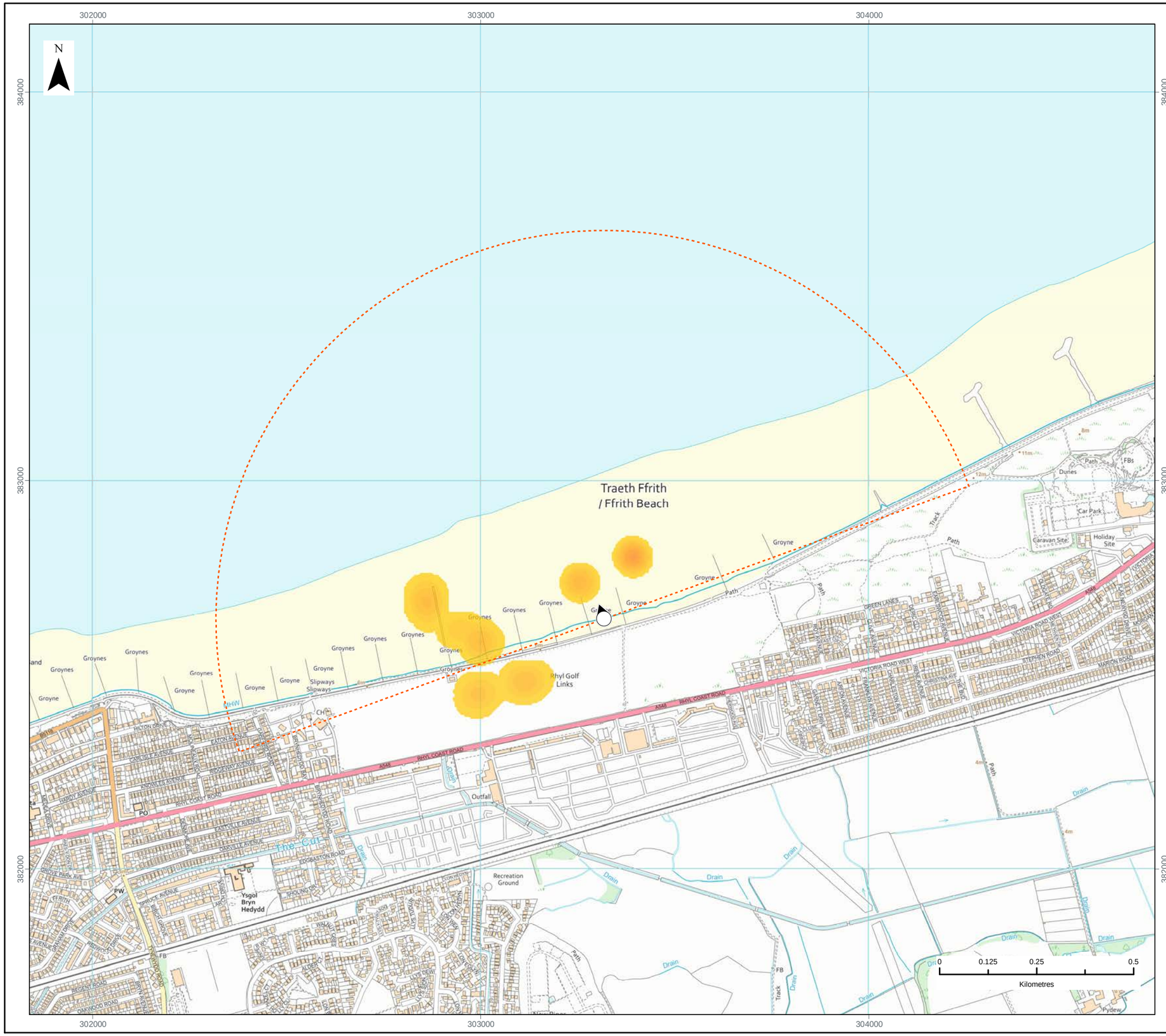

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Ringed Plover Distribution
(Records/50m²; Total = 43)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Ringed Plover Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 3

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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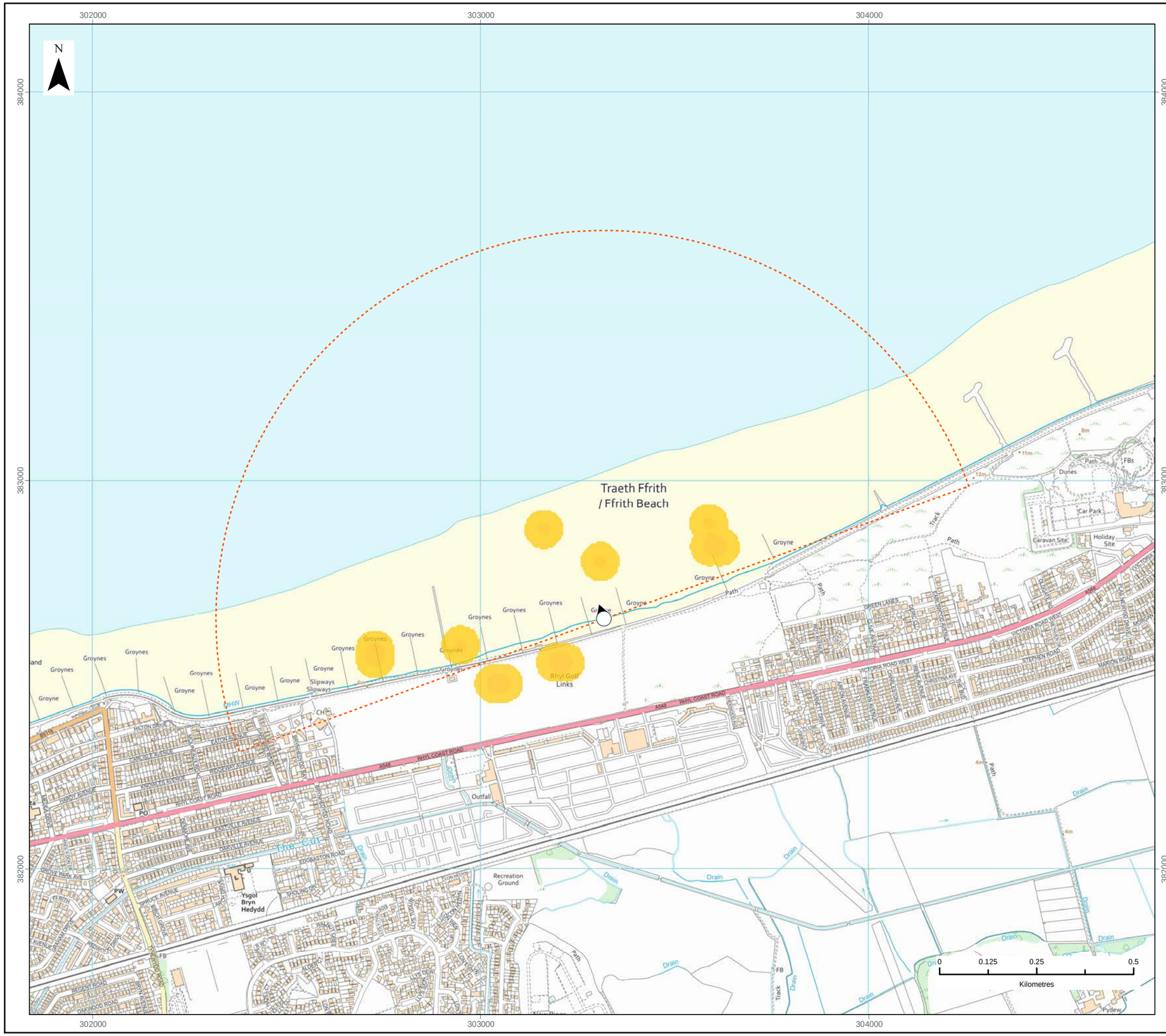

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Curlew Distribution
(Records/50m²; Total = 12)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Curlew
Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 4

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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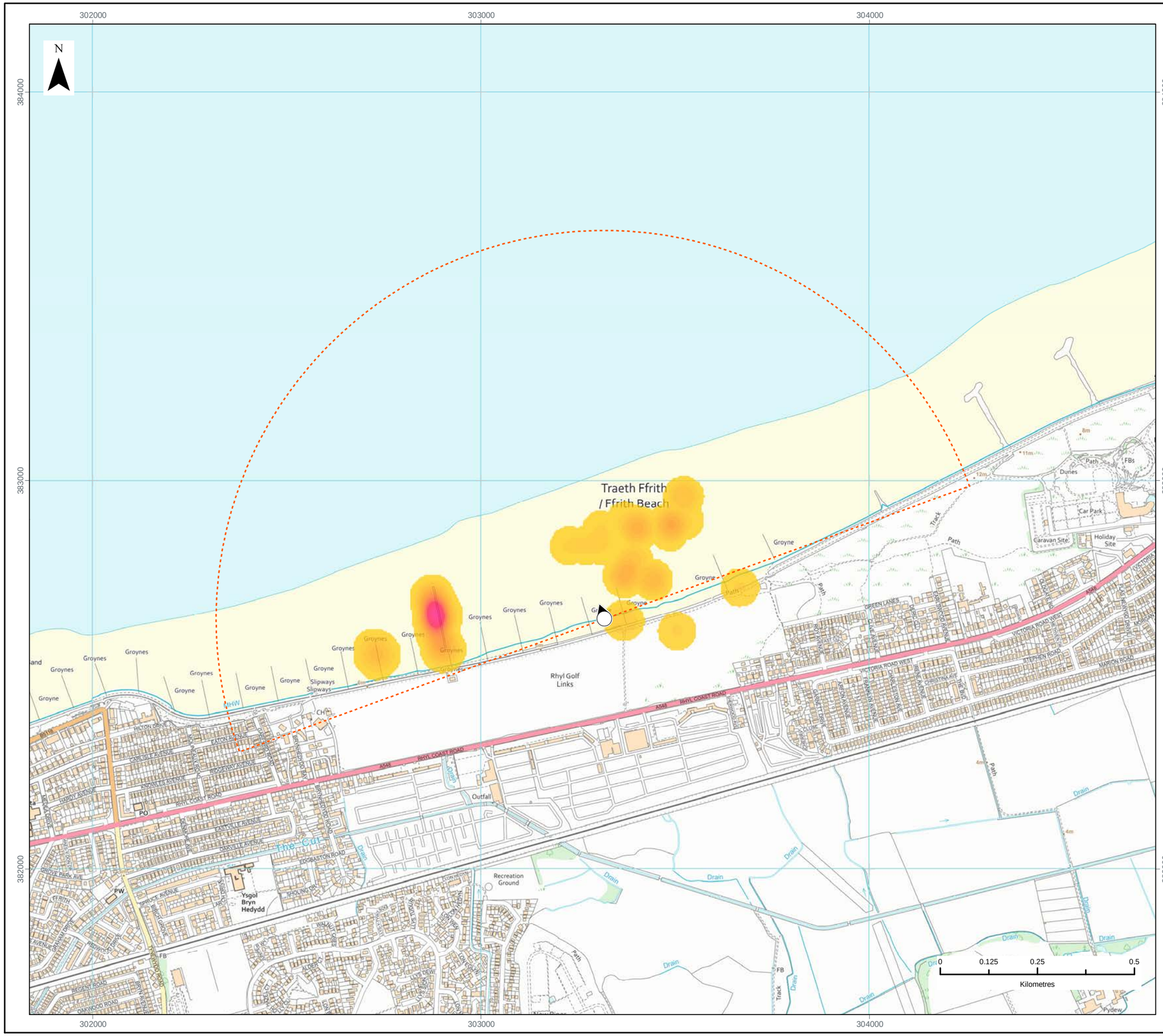

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Turnstone Distribution
(Records/50m²; Total = 200)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Turnstone
Landfall Intertidal Survey

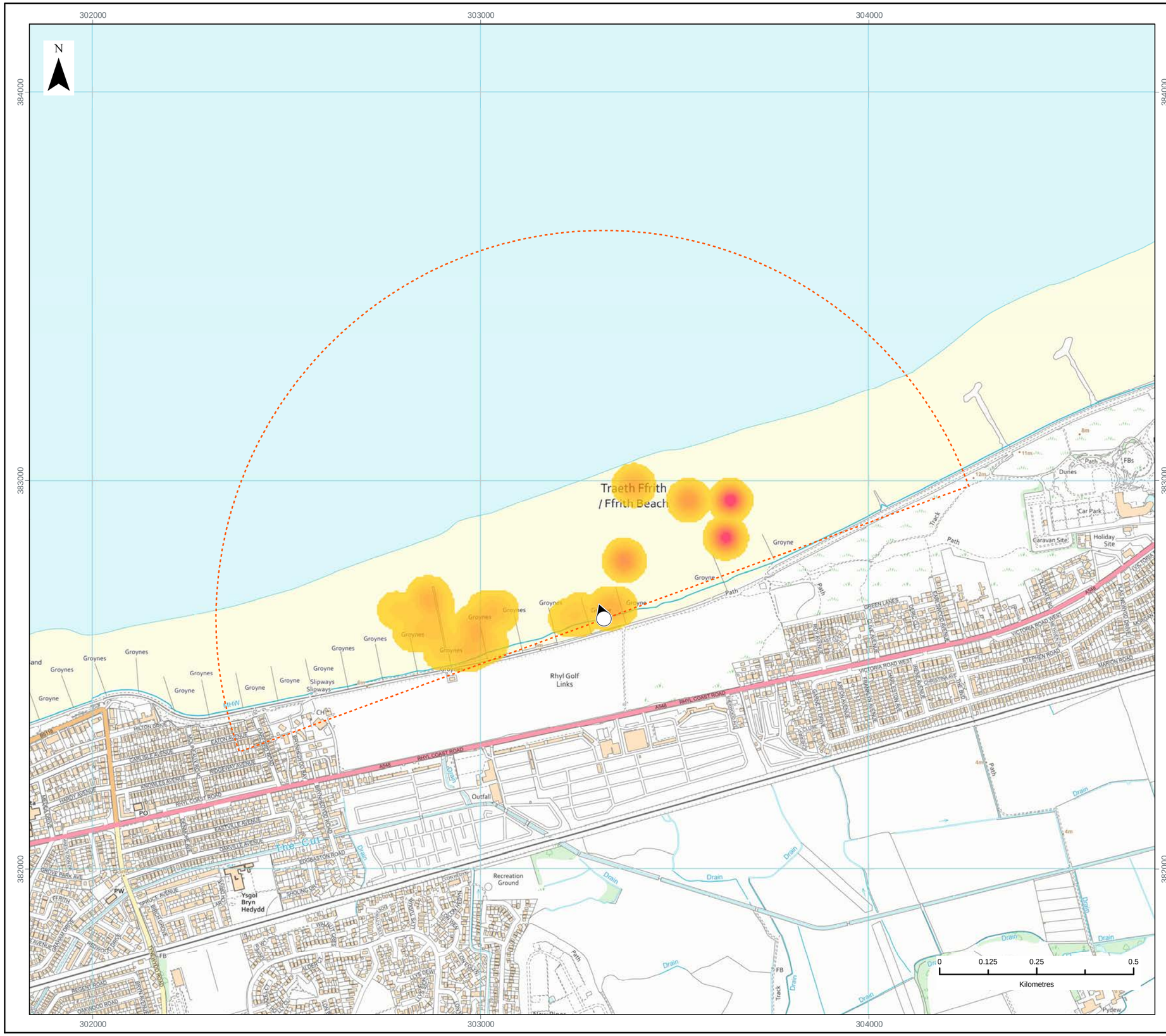
VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 5

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm



LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Sanderling Distribution
(Records/50m²; Total = 226)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Sanderling Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 6

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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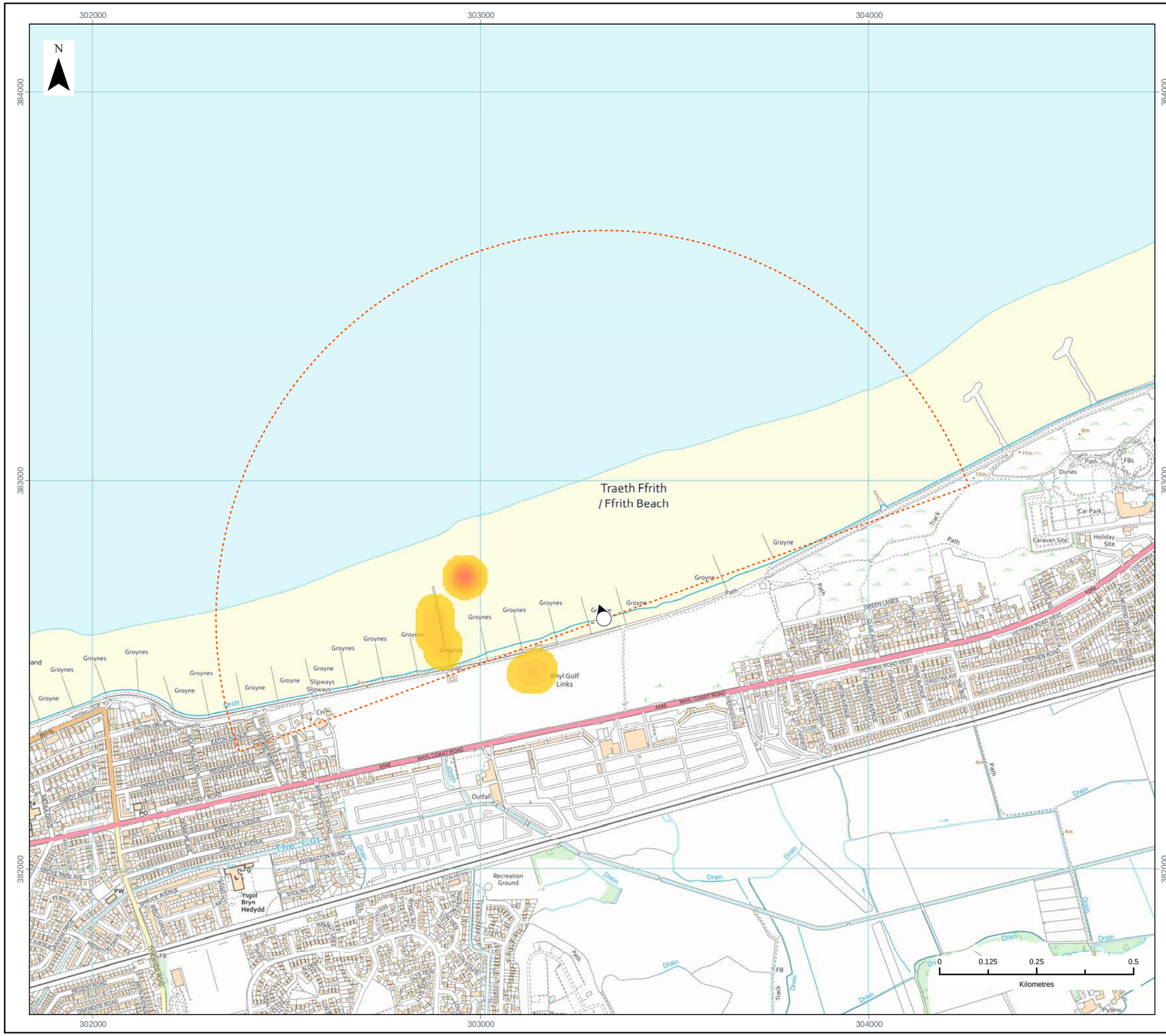

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Dunlin Distribution
(Records/50m²; Total = 42)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Dunlin
Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 7

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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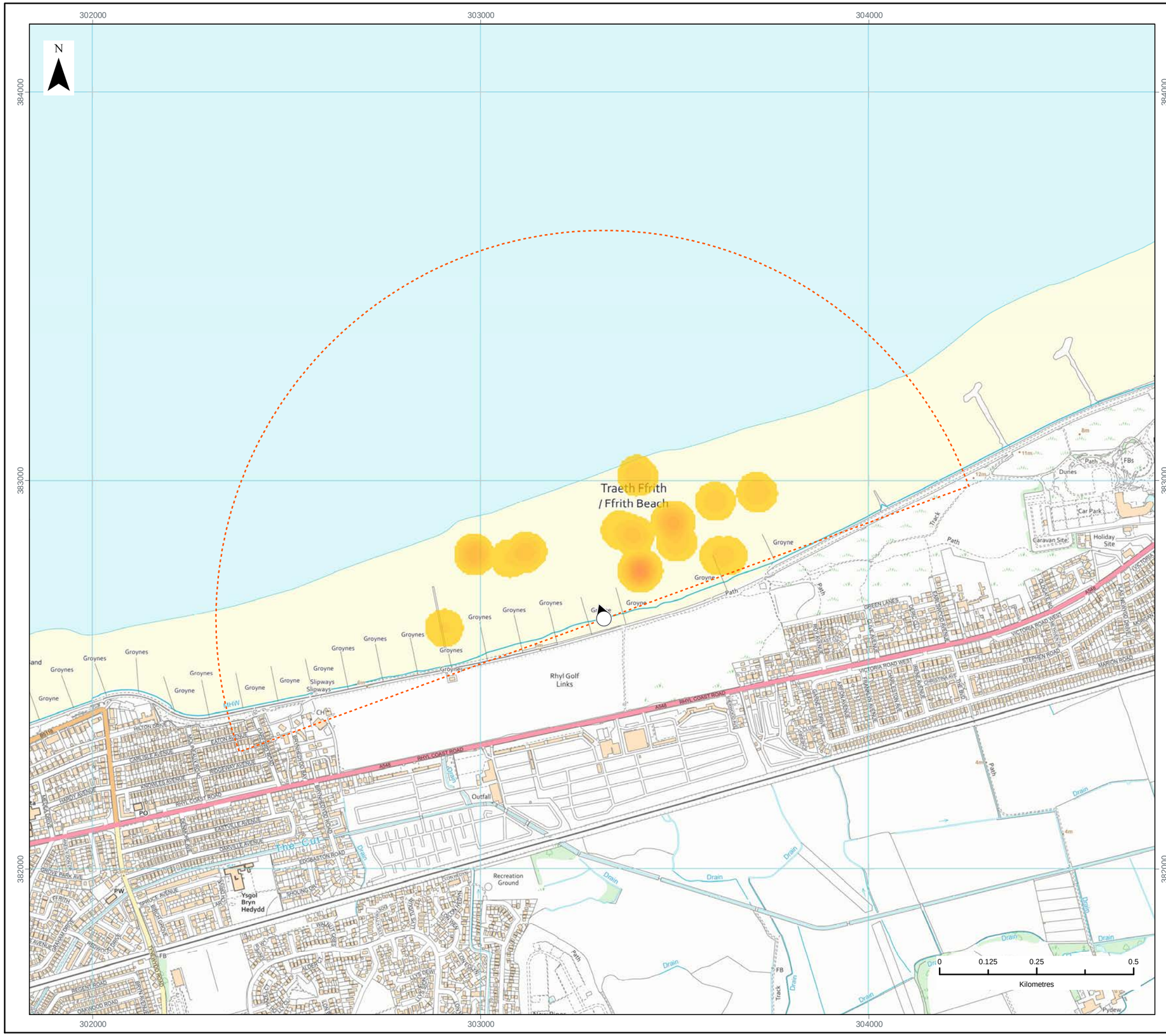

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Redshank Distribution
(Records/50m²; Total = 69)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Redshank Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 8

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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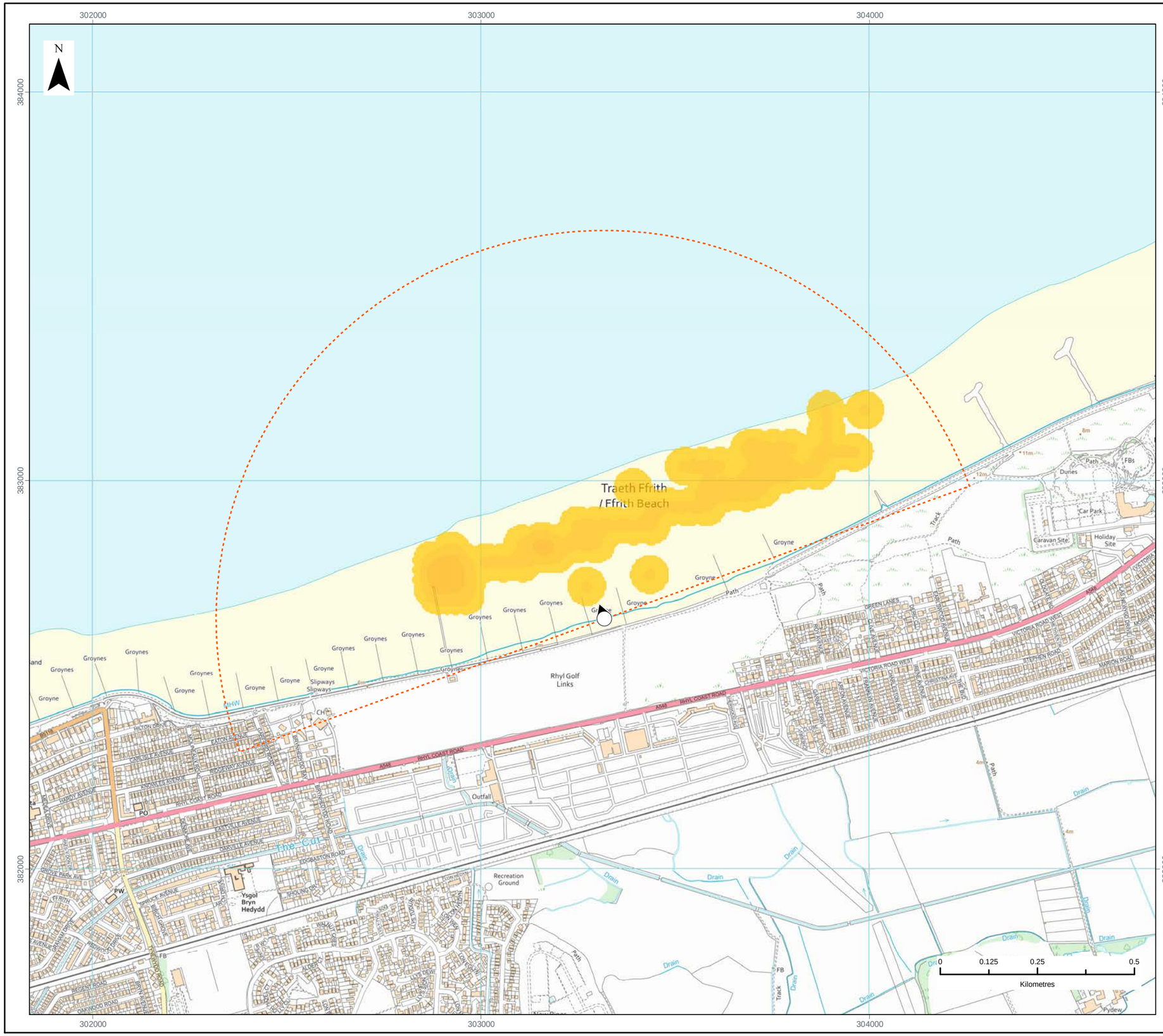

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Black-headed Gull Distribution
(Records/50m²; Total = 73)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Black-headed Gull Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 9

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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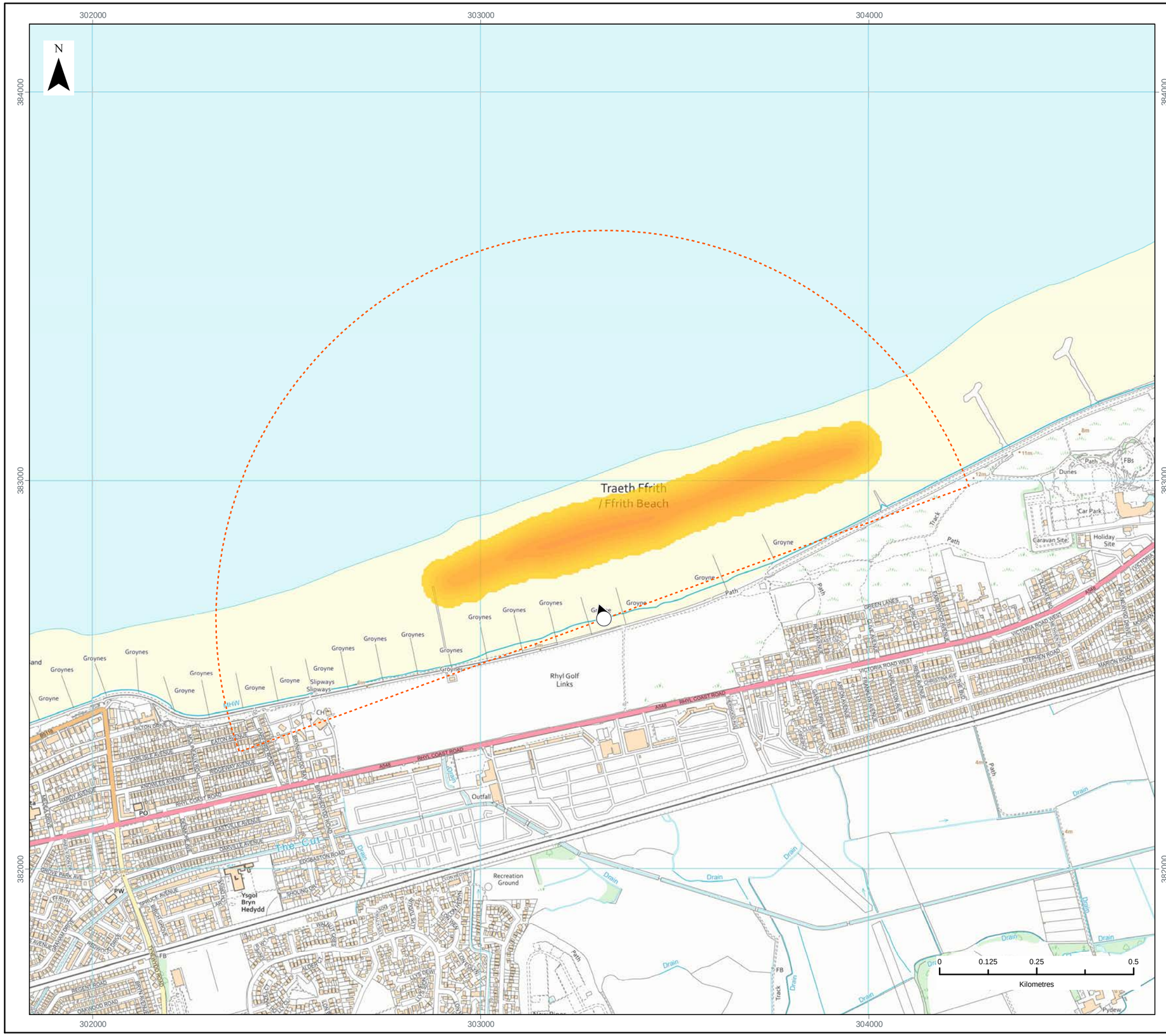

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Common Gull Distribution
(Records/50m²; Total = 450)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Common Gull Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 10

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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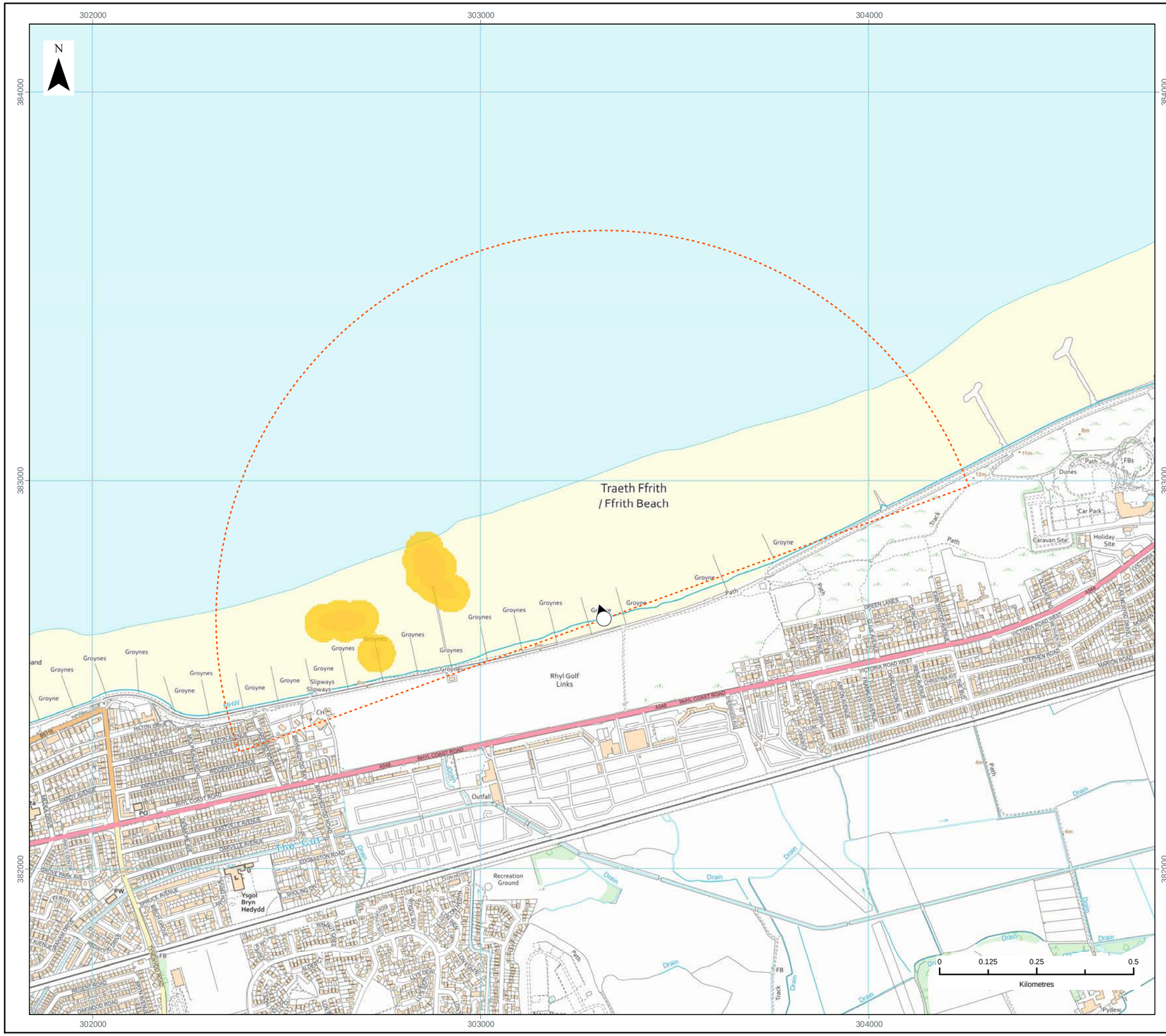

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Great Black-backed Gull Distribution
(Records/50m²; Total = 12)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Great Black-backed Gull Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 11

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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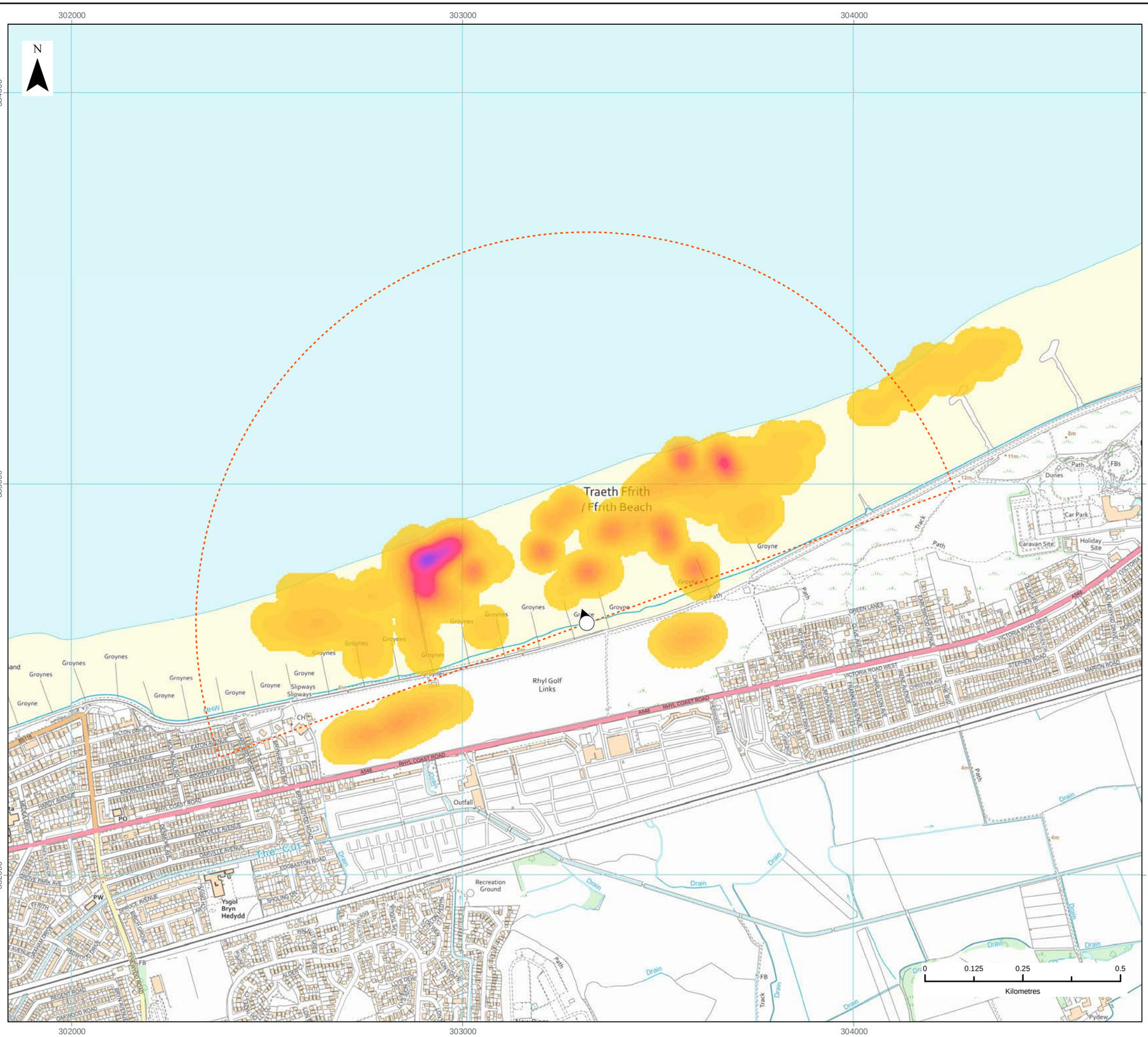

LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing Arc

Herring Gull Distribution
(Records/50m²; Total = 965)

- Highest Density (102)
- Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Herring Gull Landfall Intertidal Survey

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 12

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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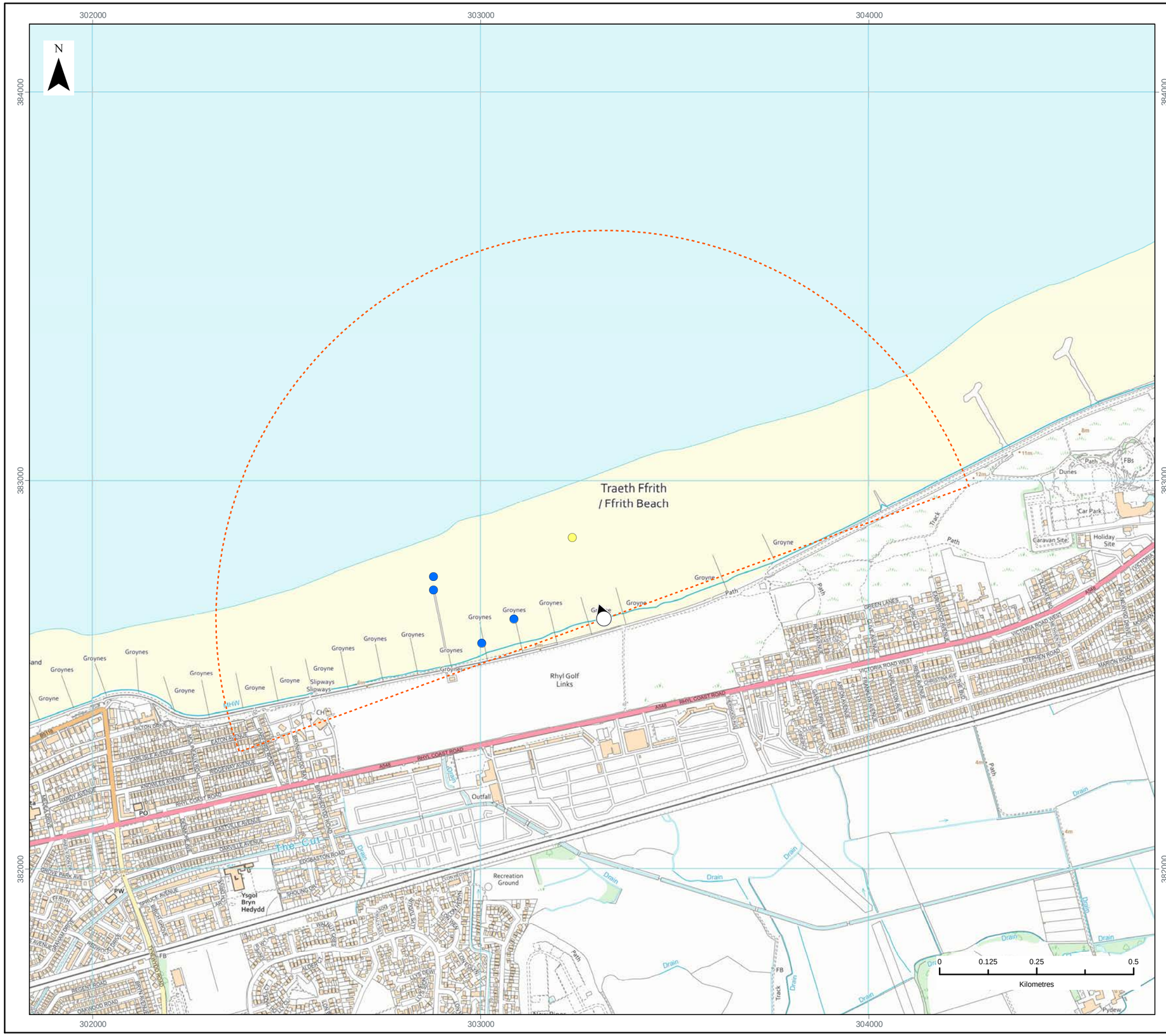


LEGEND

- Landfall Intertidal Survey Location
- Vantage Point 1km Viewing

Species

- Lesser Black-backed Gull (Total = 4)
- Little Egret (Total = 1)

PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Landfall Intertidal Survey Other Waterbird Species

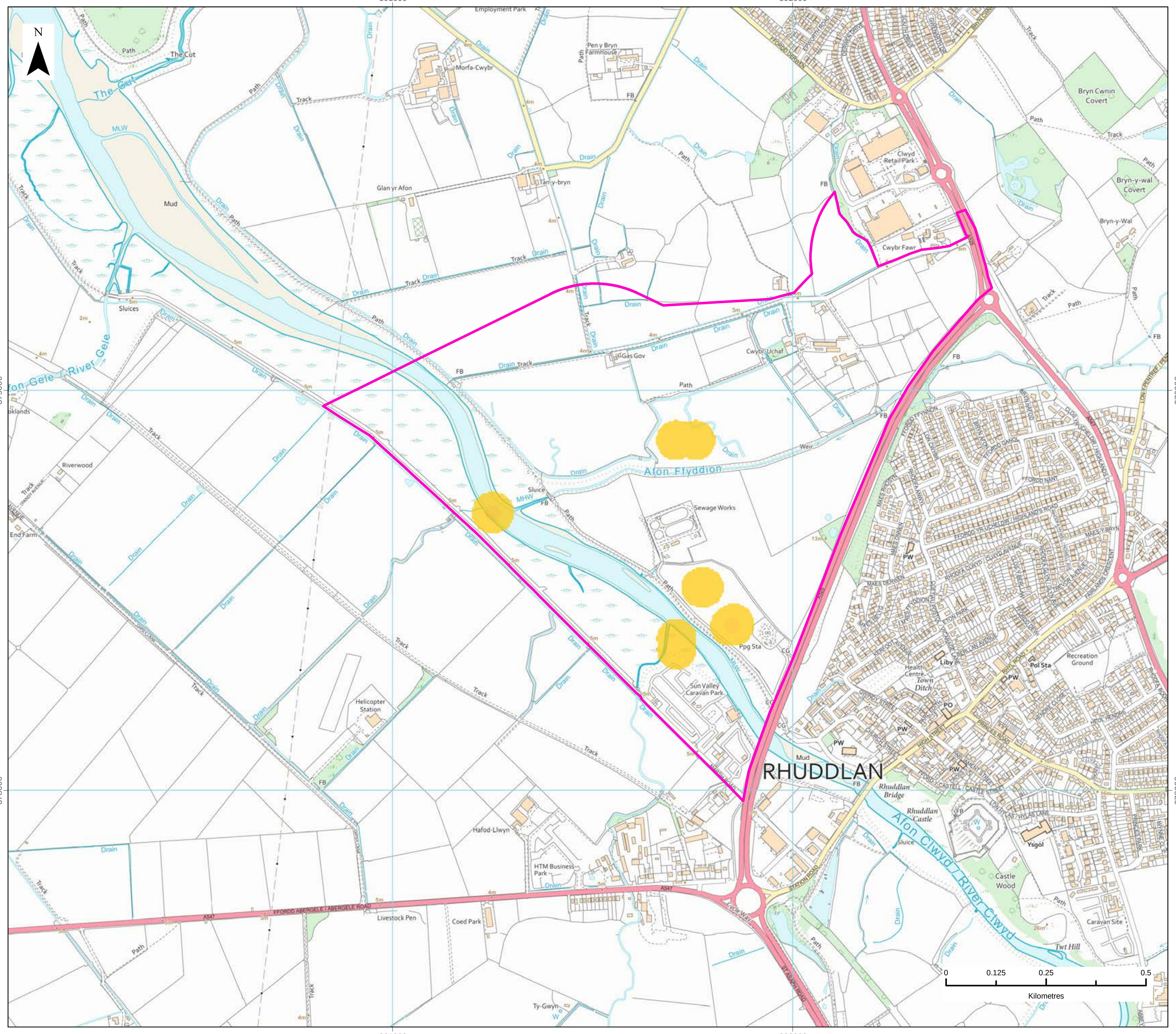
VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

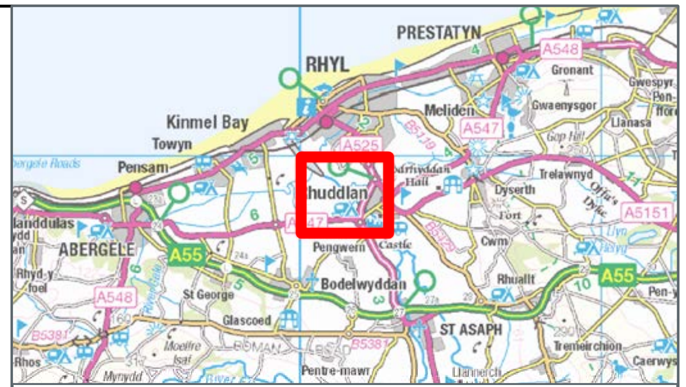
FIGURE NUMBER:

Figure 13

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm





LEGEND

River Clwyd Survey

Mute Swan Distribution
(Records/50m²; Total = 14)

Highest Density (92)

Lowest Density (<1)

Data Source:

PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Mute Swan
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 14

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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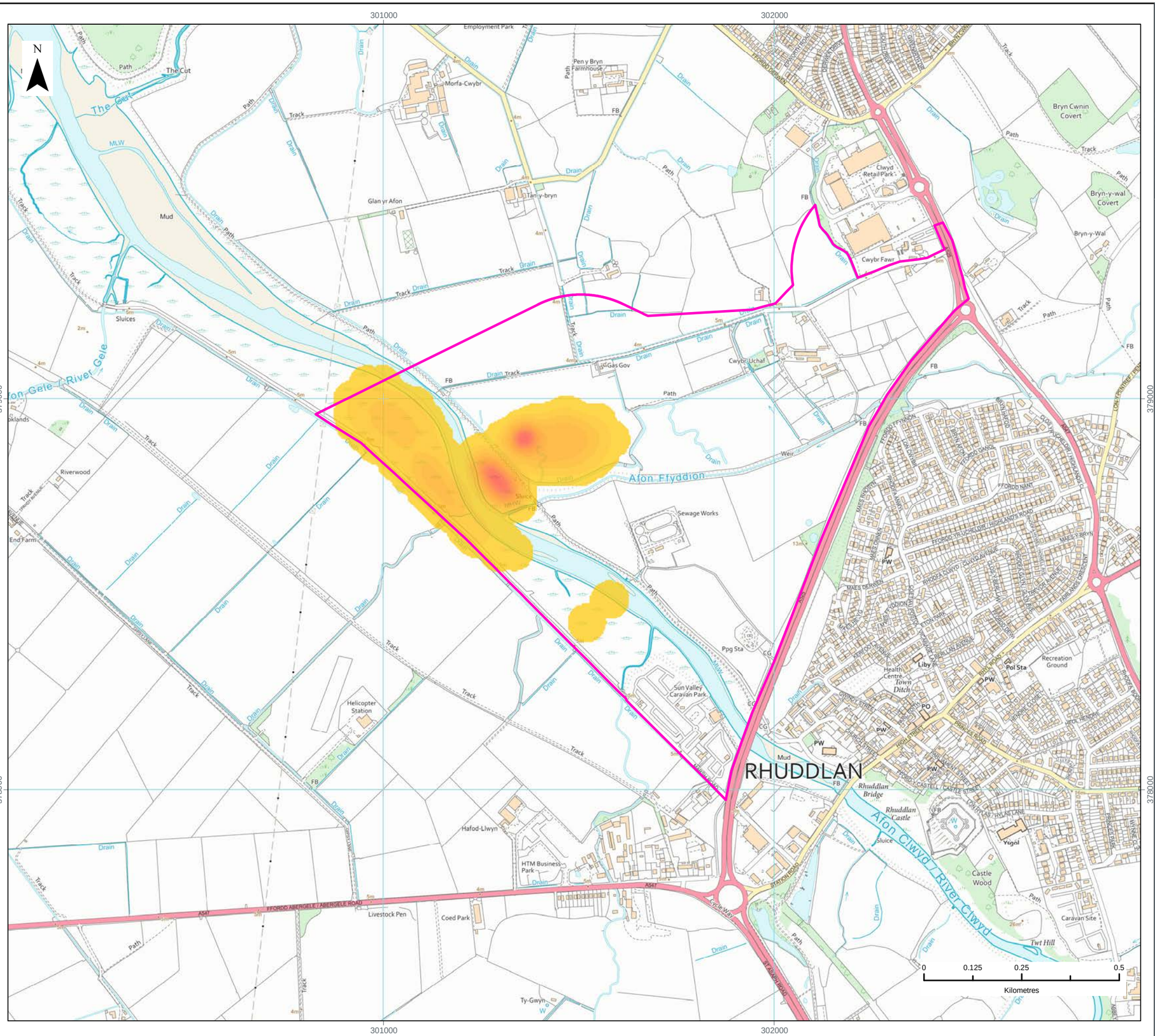

LEGEND

River Clwyd Survey

Greylag Goose Distribution
(Records/50m²; Total = 924)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Greylag Goose
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 15

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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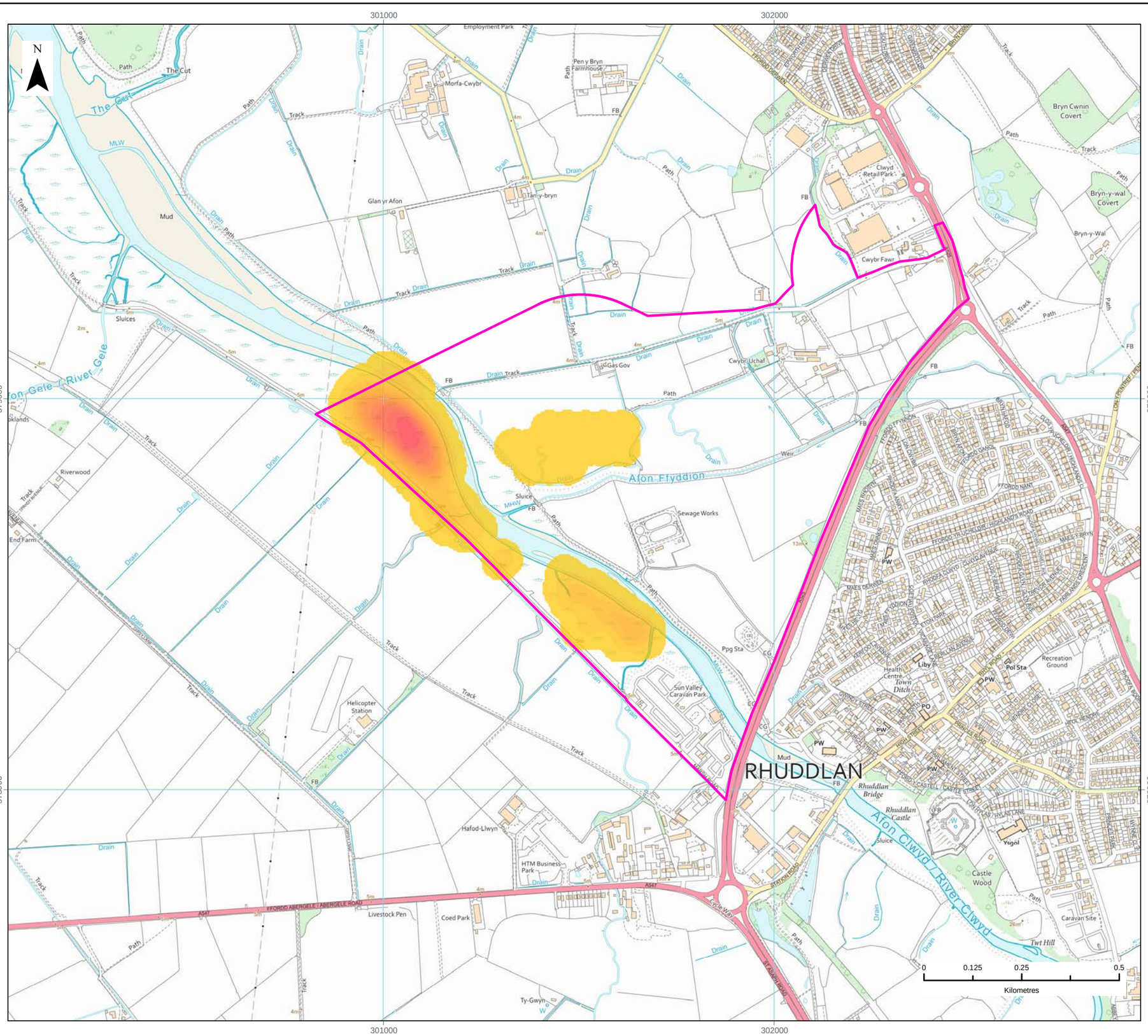

LEGEND

River Clwyd Survey

Canada Goose Distribution
(Records/50m²; Total = 1301)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Canada Goose River Clwyd Survey Area

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1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 16

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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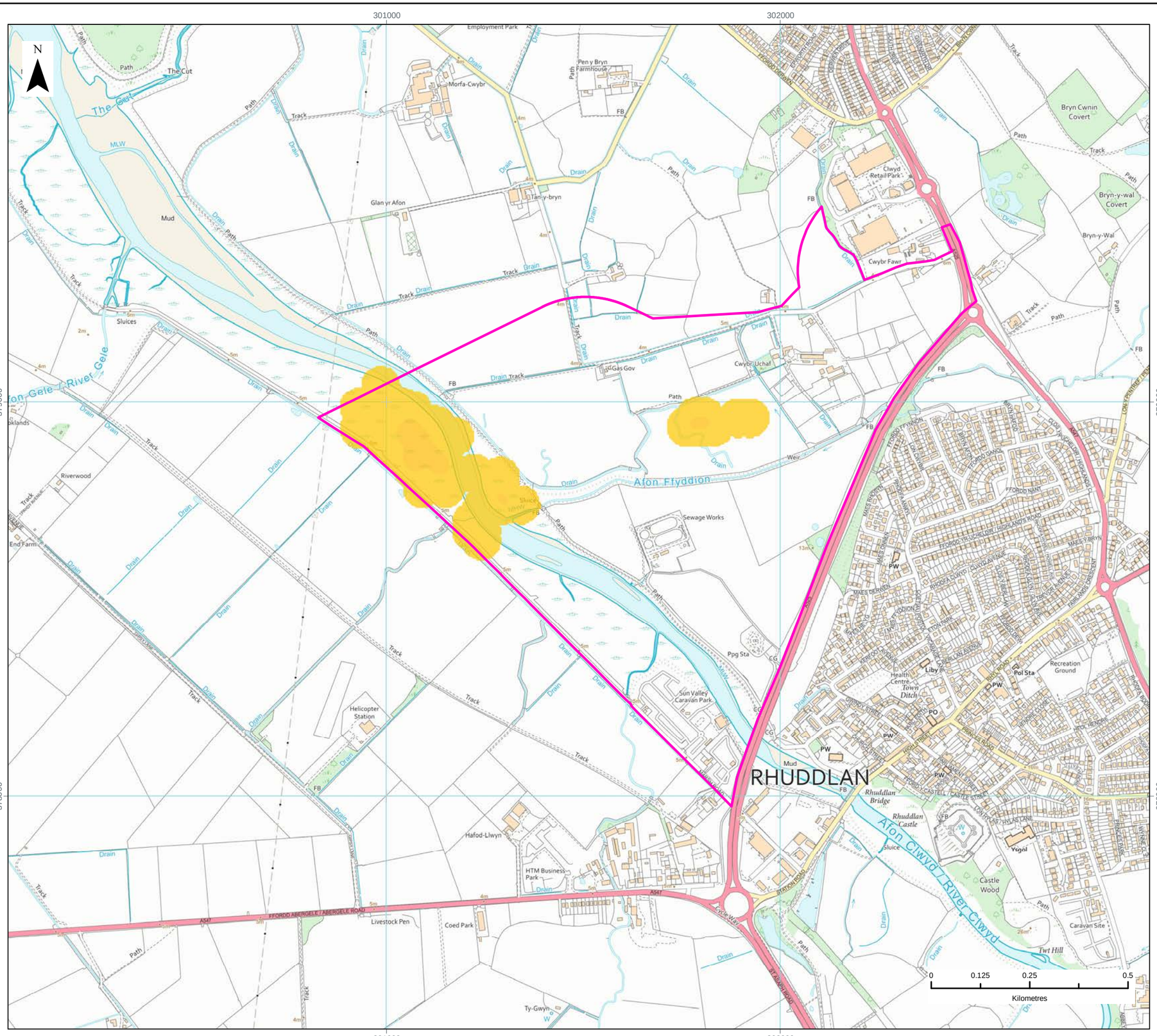

LEGEND

River Clwyd Survey

Shelduck Distribution
(Records/50m²; Total = 58)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Shelduck
River Clwyd Survey Area

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1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 17

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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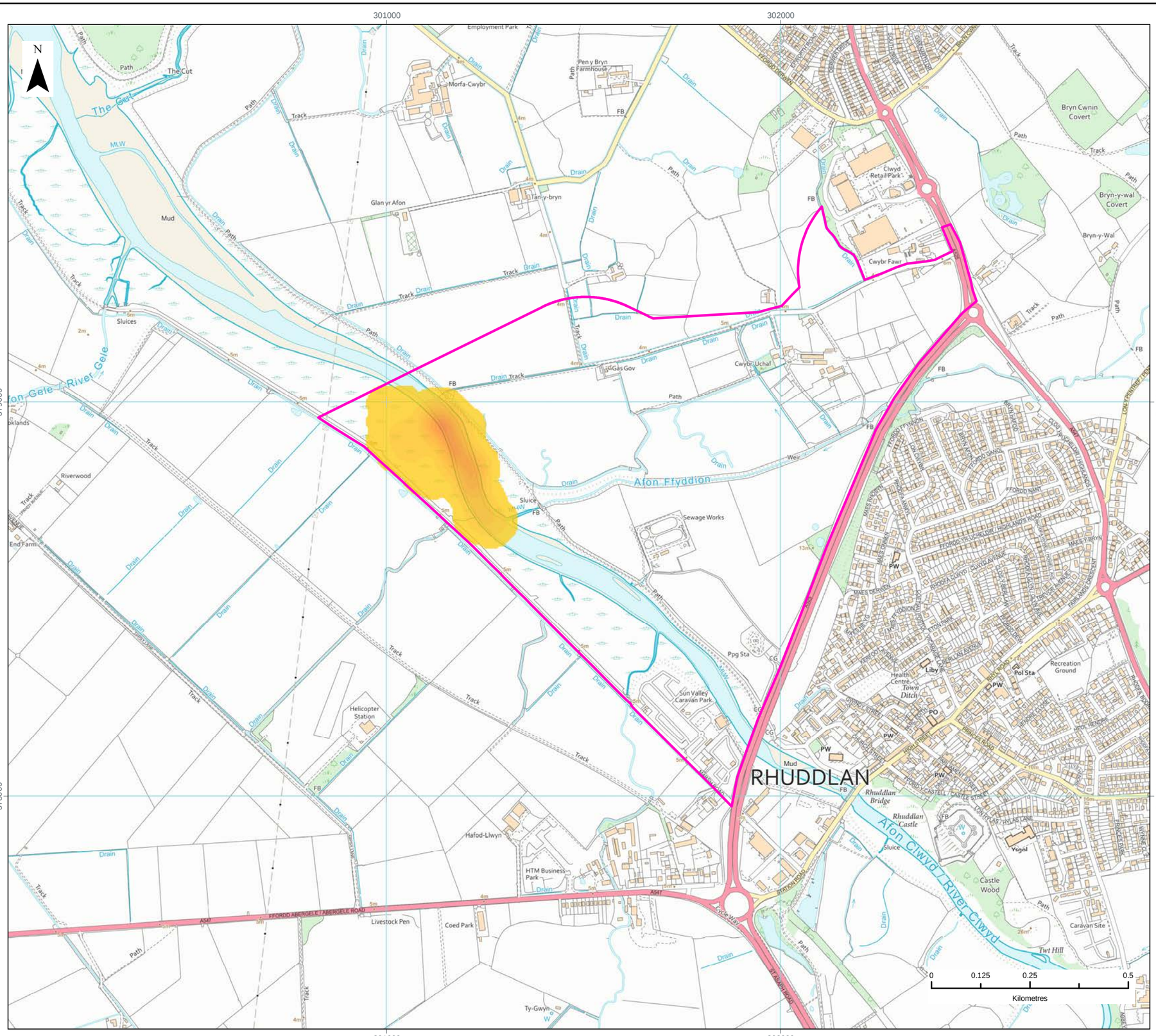

LEGEND

River Clwyd Survey

Wigeon Distribution
(Records/50m²; Total = 388)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Wigeon
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 18

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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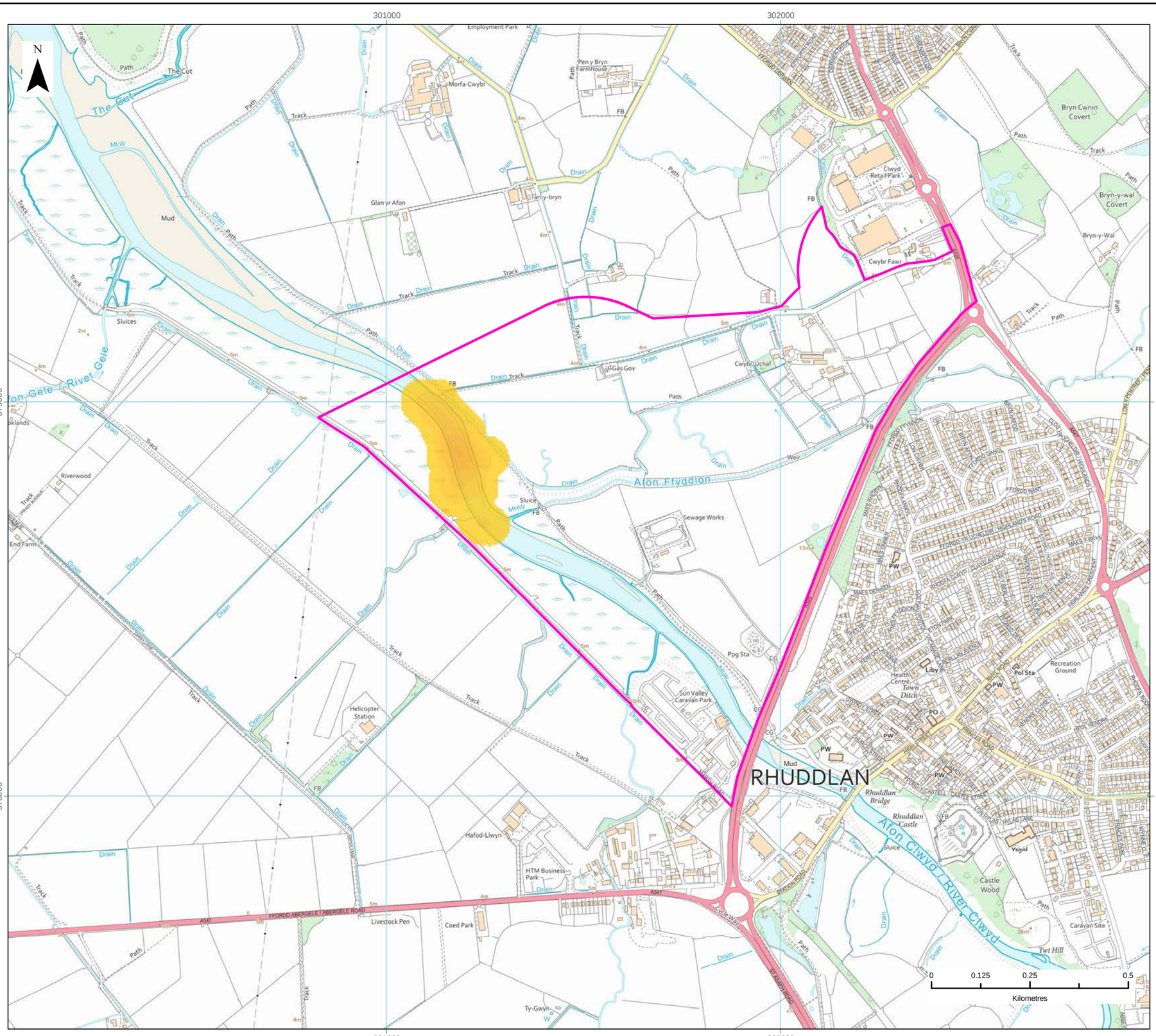

LEGEND

River Clwyd Survey

Teal Distribution
(Records/50m²; Total = 151)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Teal
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 19

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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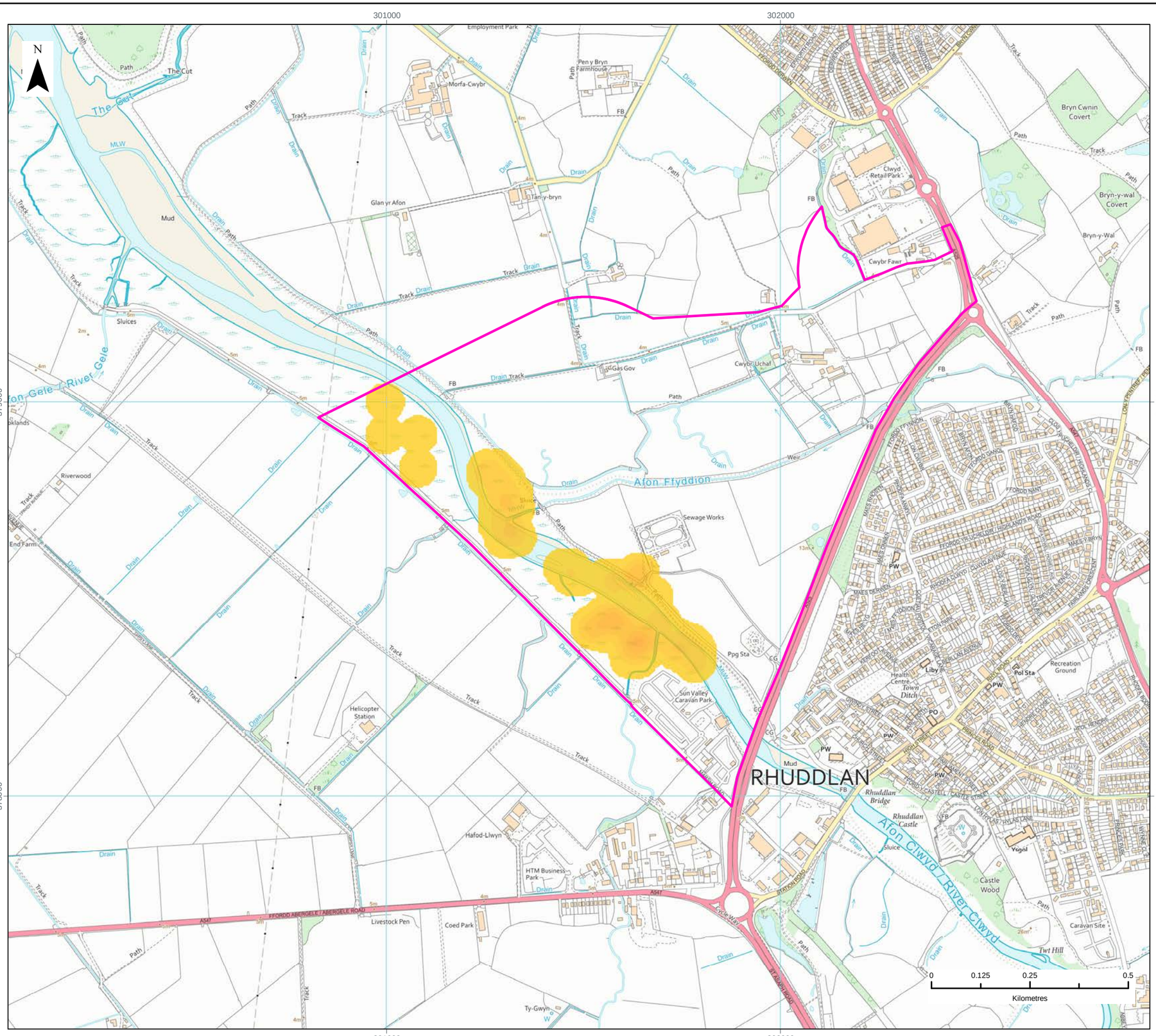

LEGEND

River Clwyd Survey

Mallard Distribution
(Records/50m²; Total = 245)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Mallard
River Clwyd Survey Area

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FIGURE NUMBER:

Figure 20

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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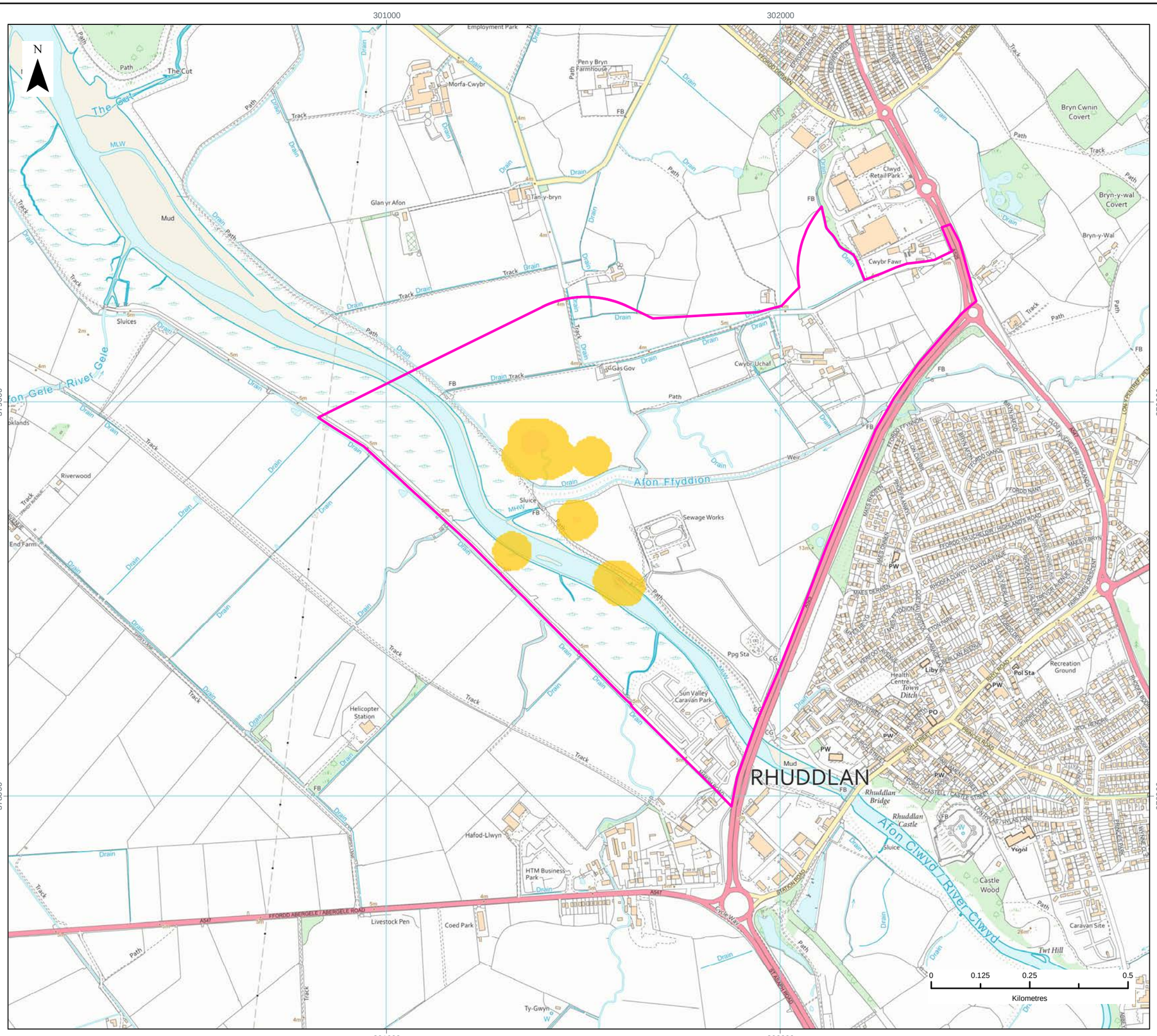

LEGEND

River Clwyd Survey

Oyster Catcher Distribution
(Records/50m²; Total = 21)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Oystercatcher
River Clwyd Survey Area

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FIGURE NUMBER:

Figure 21

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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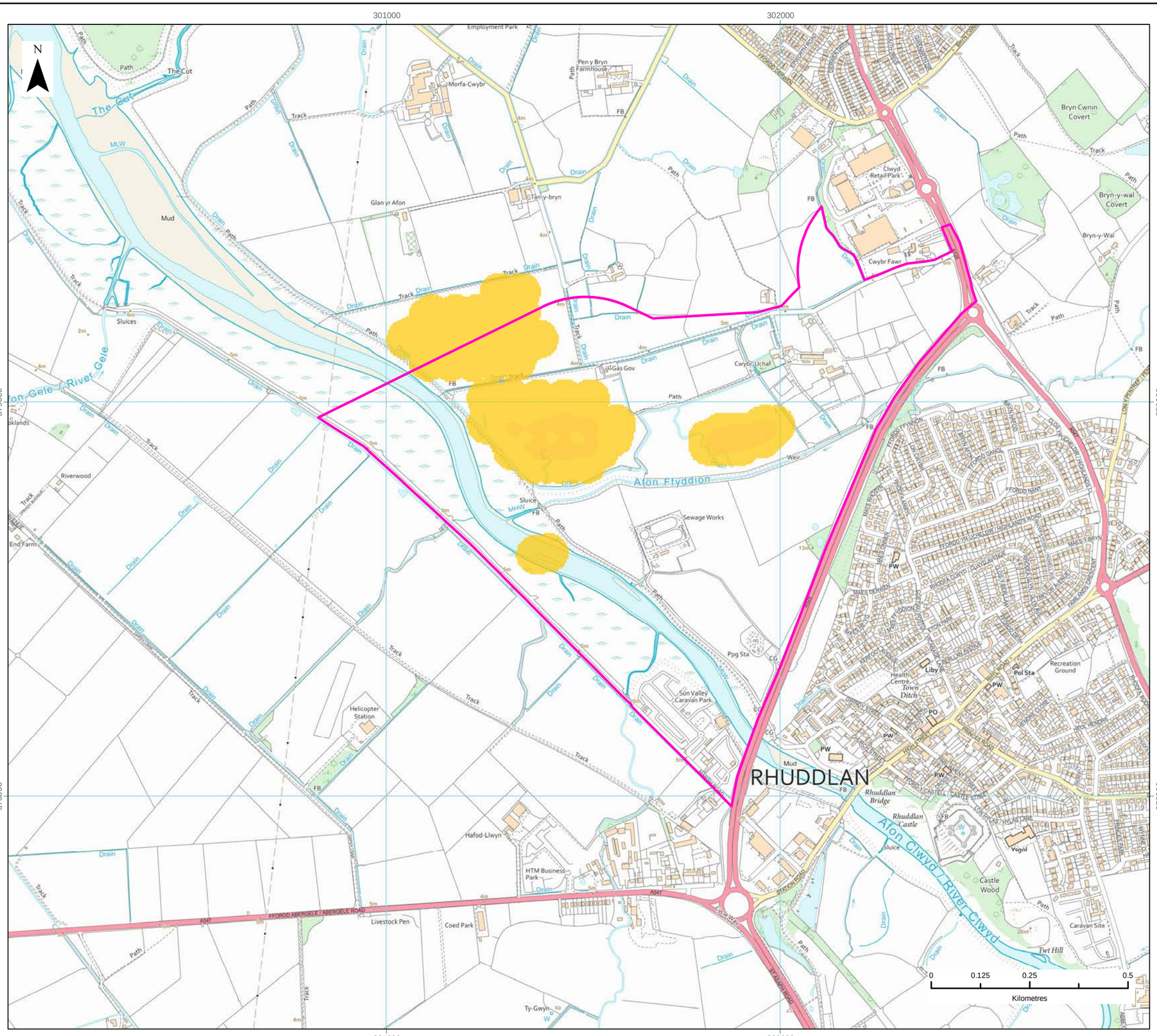

LEGEND

River Clwyd Survey

Lapwing Distribution
(Records/50m²; Total = 112)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Lapwing
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 22

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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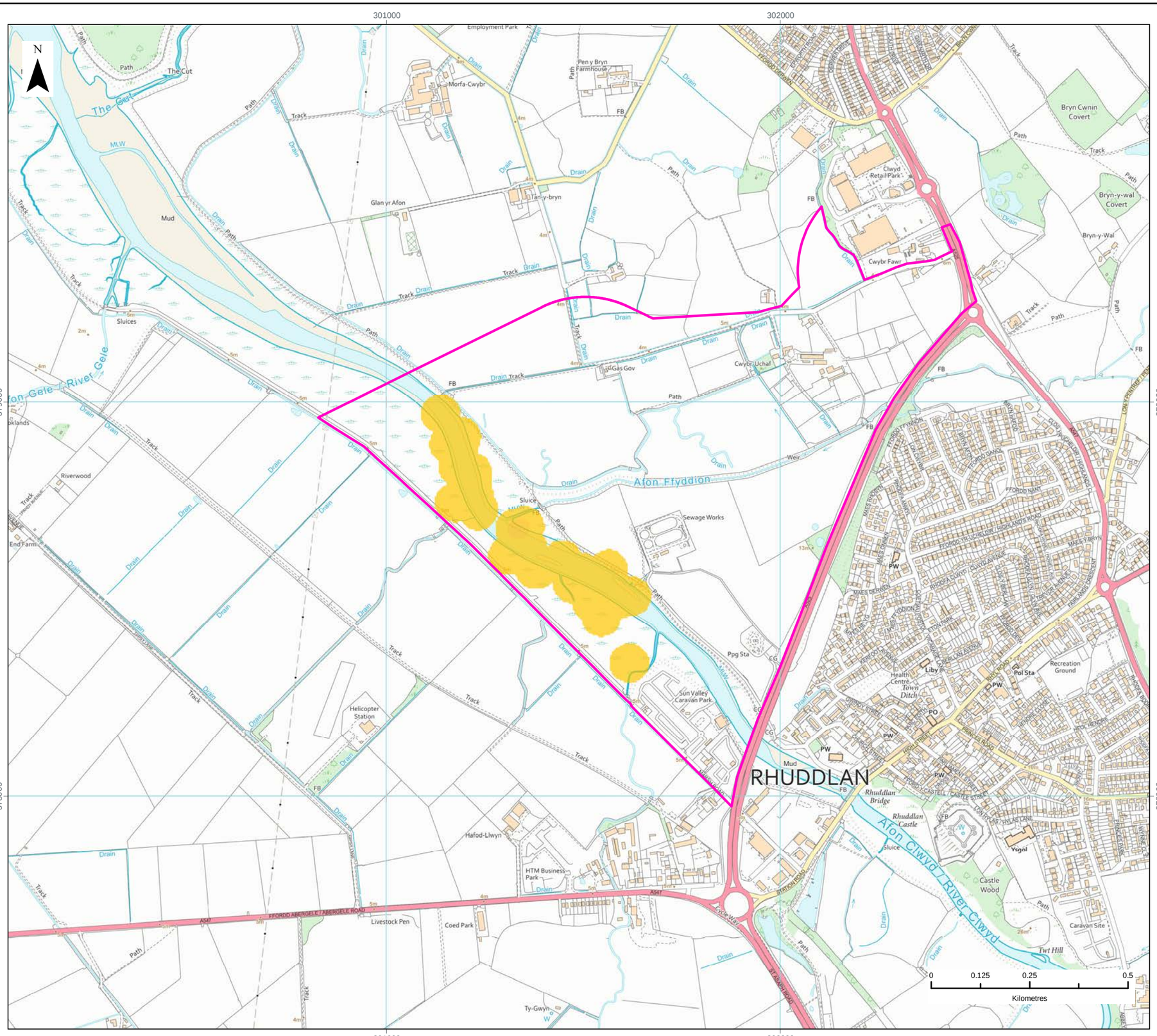

LEGEND

River Clwyd Survey

Redshank Distribution
(Records/50m²; Total = 37)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Redshank
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 23

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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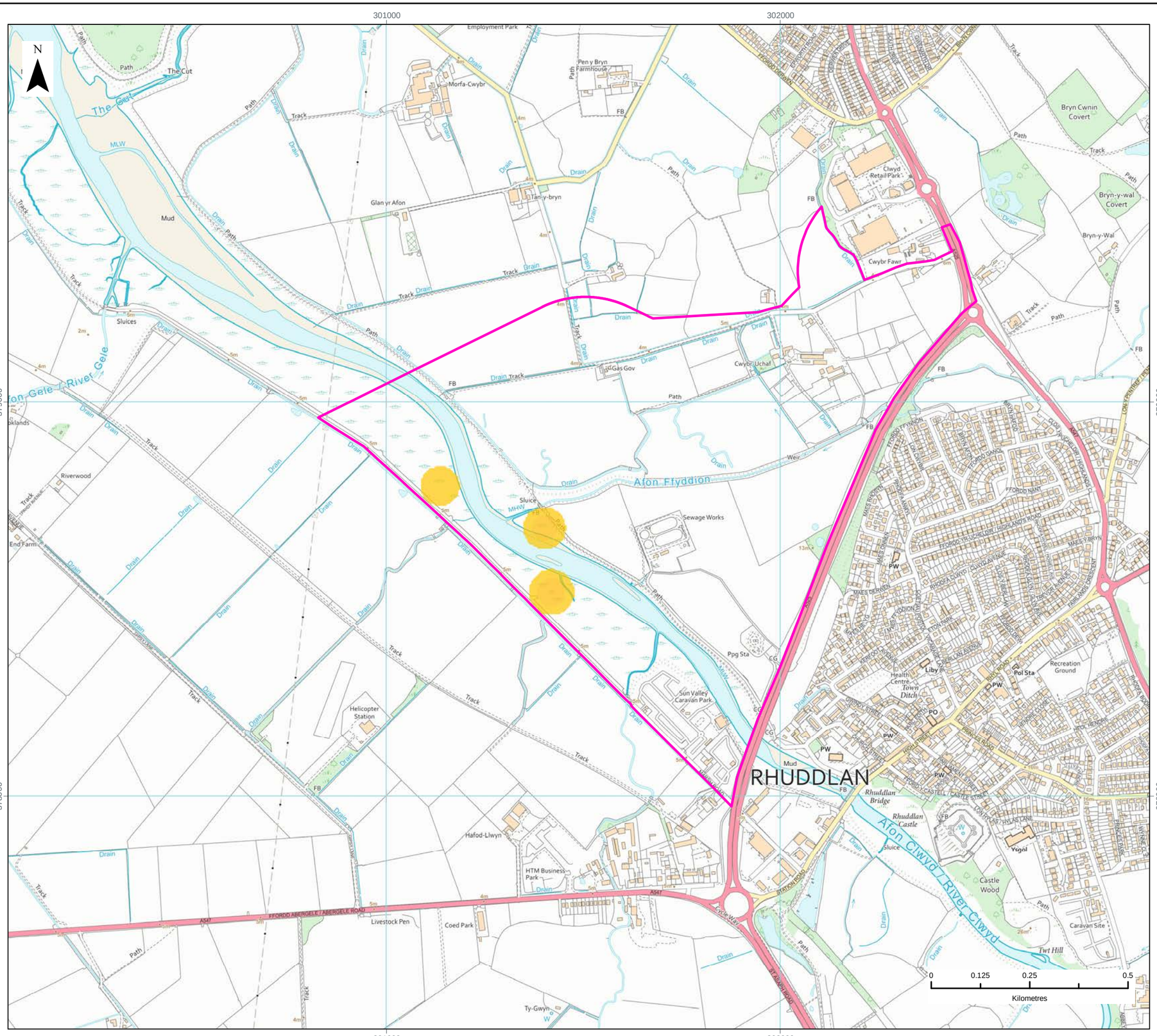

LEGEND

River Clwyd Survey

Snipe Distribution
(Records/50m²; Total = 21)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Snipe
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 24

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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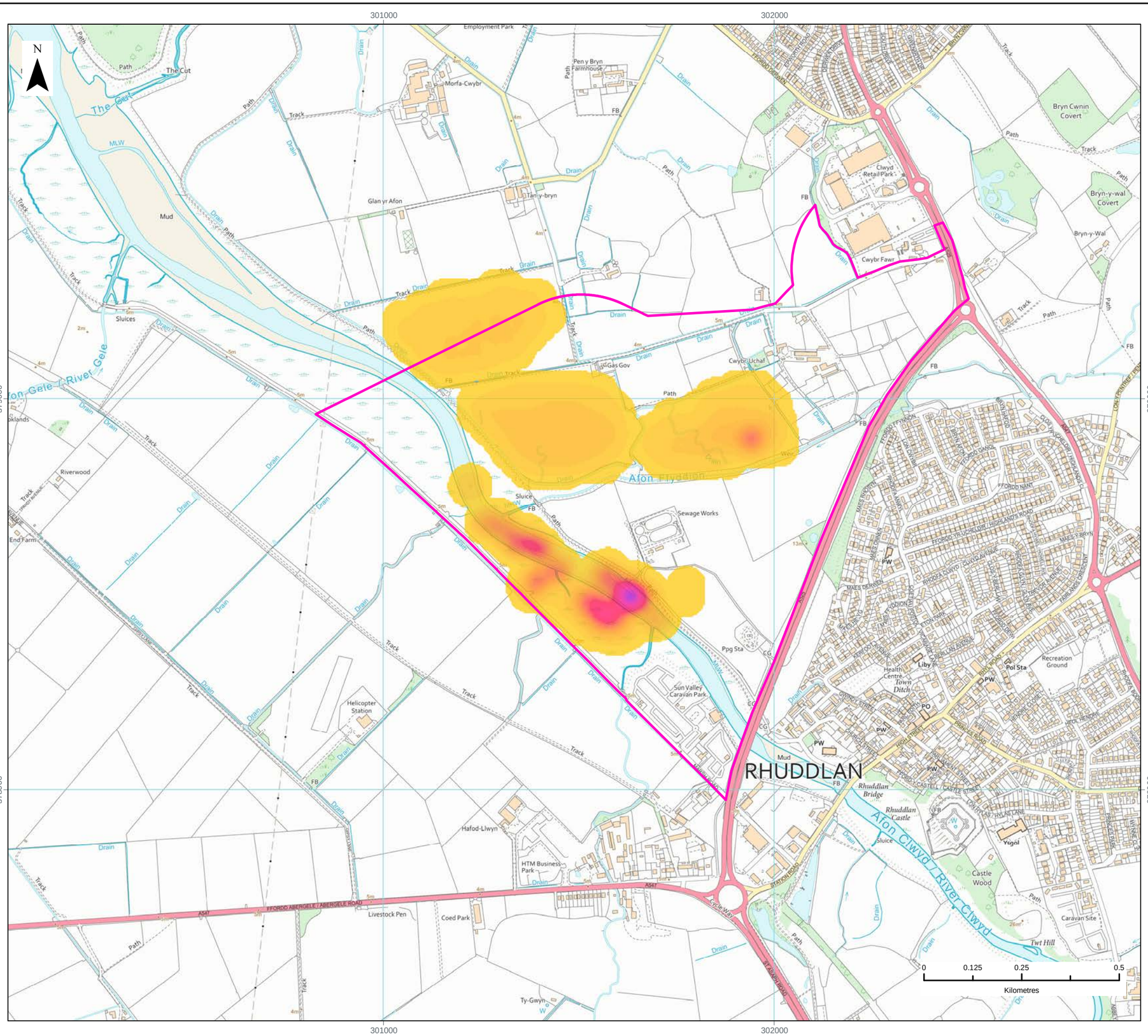

LEGEND

River Clwyd Survey

Black-headed Gull Distribution
(Records/50m²; Total = 2628)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Black-headed Gull River Clwyd Survey Area

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1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 25

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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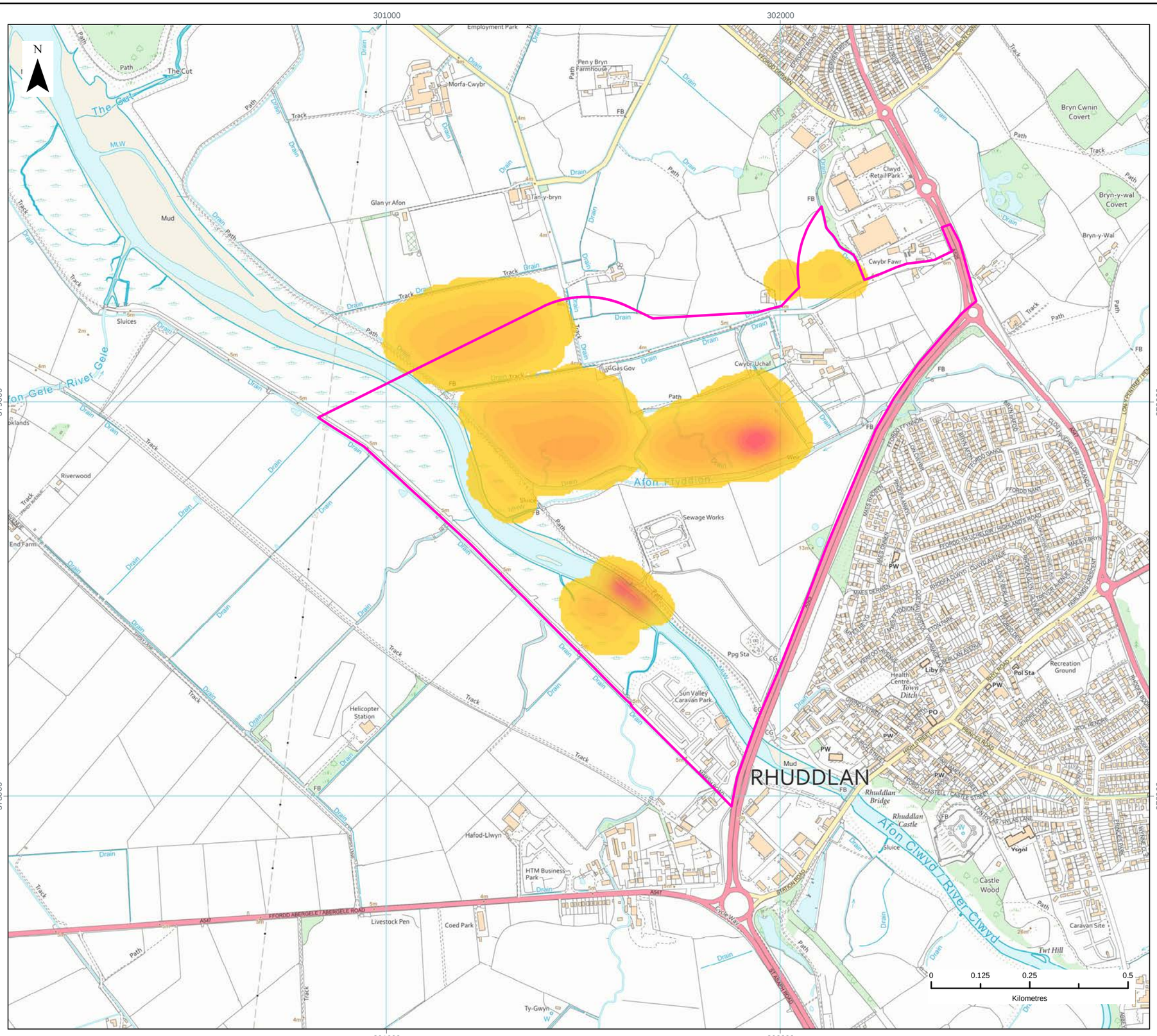

LEGEND

River Clwyd Survey

Common Gull Distribution
(Records/50m²; Total = 2405)

Highest Density (92)

Lowest Density (<1)

Data Source:

PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Common Gull
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 26

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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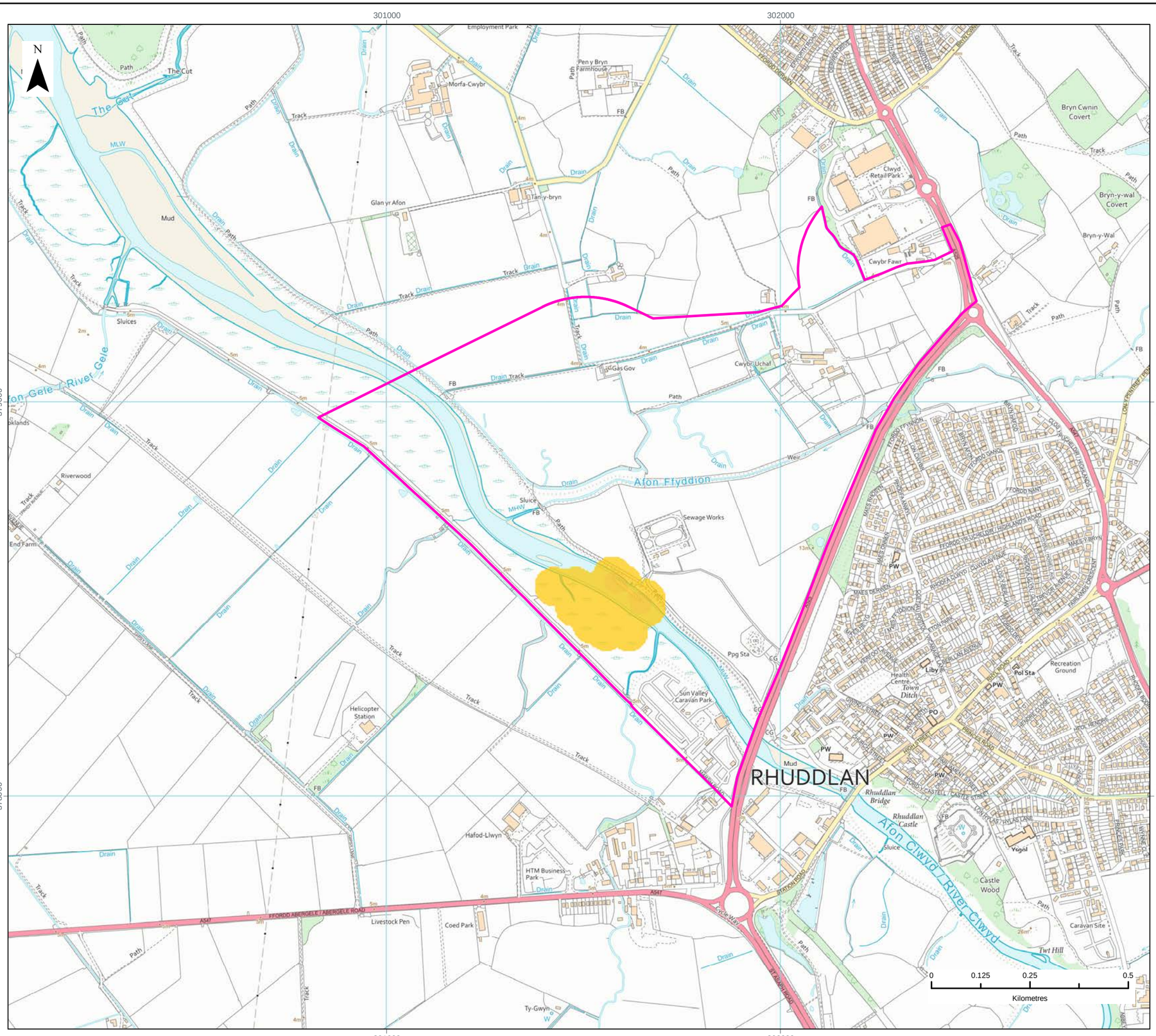

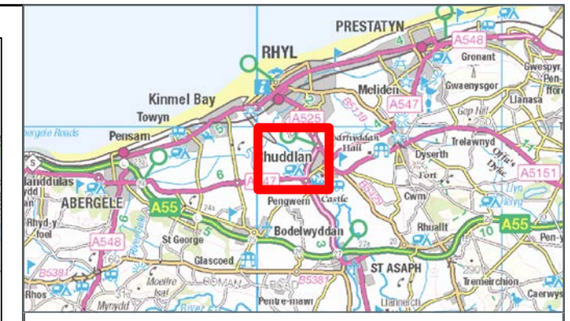

LEGEND

River Clwyd Survey

Lesser Black-backed Gull Distribution (Records/50m²; Total = 23)

Highest Density (None)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Lesser Black-backed Gull River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
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FIGURE NUMBER:

Figure 27

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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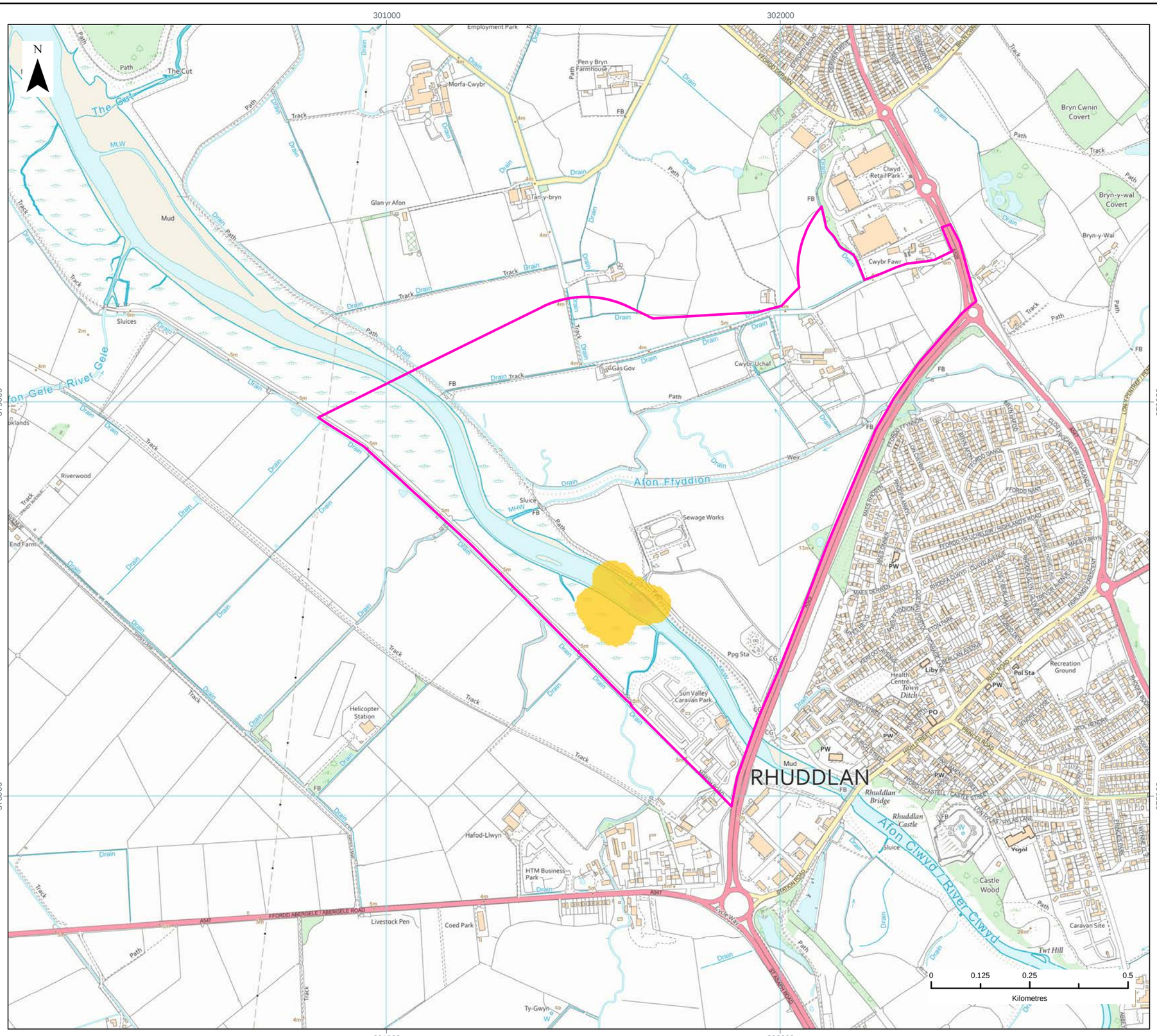

LEGEND

River Clwyd Survey Area

Great Black-backed Gull Distribution (Records/50m²; Total = 14)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Great Black-backed Gull River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

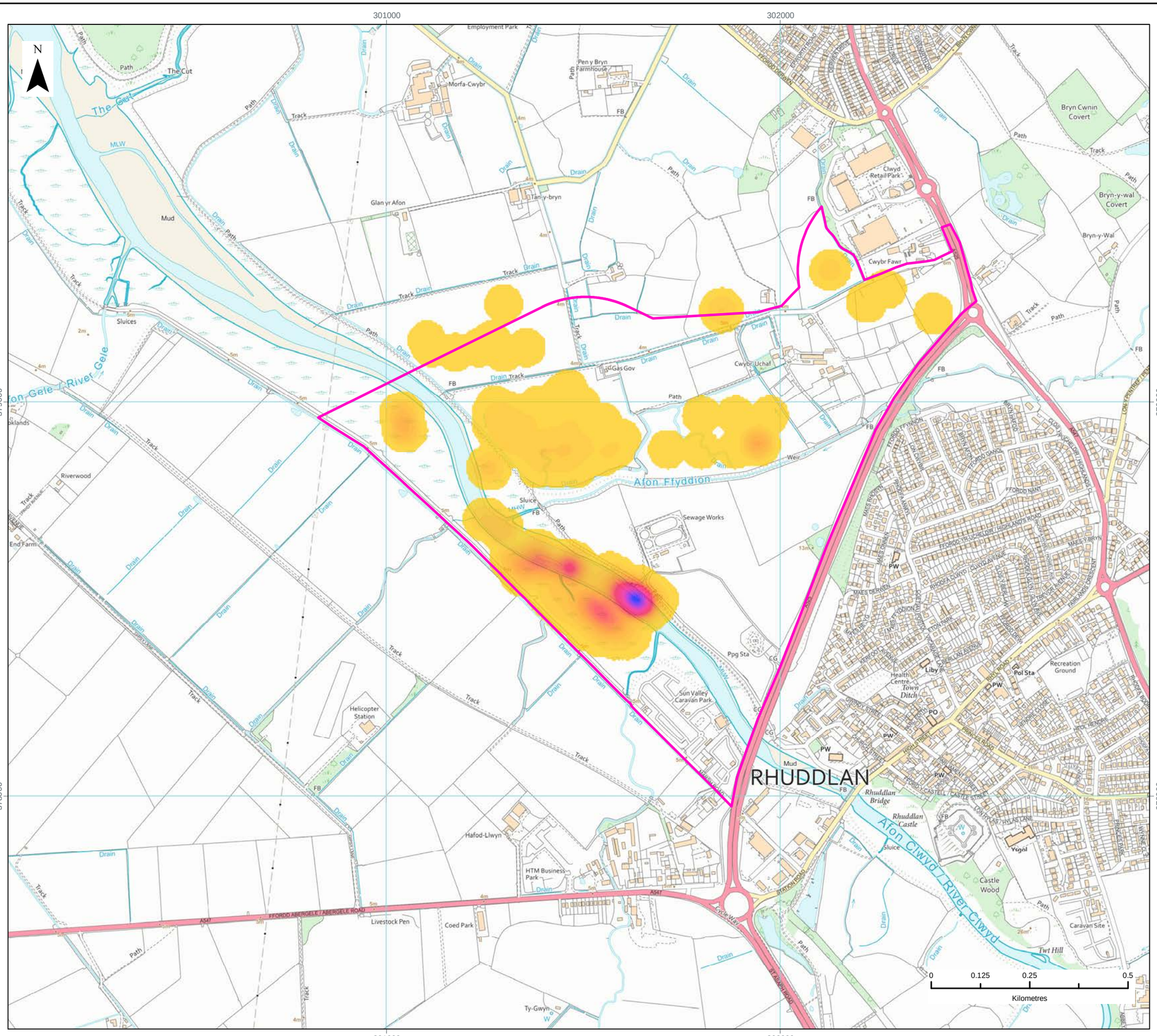
FIGURE NUMBER:

Figure 28

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

P:\05356 - GoBe Consultants Ltd\00009 Awel y Mor\Tech\GIS\Dwgs\Wking\202105 Winter Bird Survey Report\05356.00009.0129.0 Bird Distributions To March 2021.mxd



LEGEND

River Clwyd Survey Area

Herring Gull Distribution
(Records/50m²; Total = 1774)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Herring Gull
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	24/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 29

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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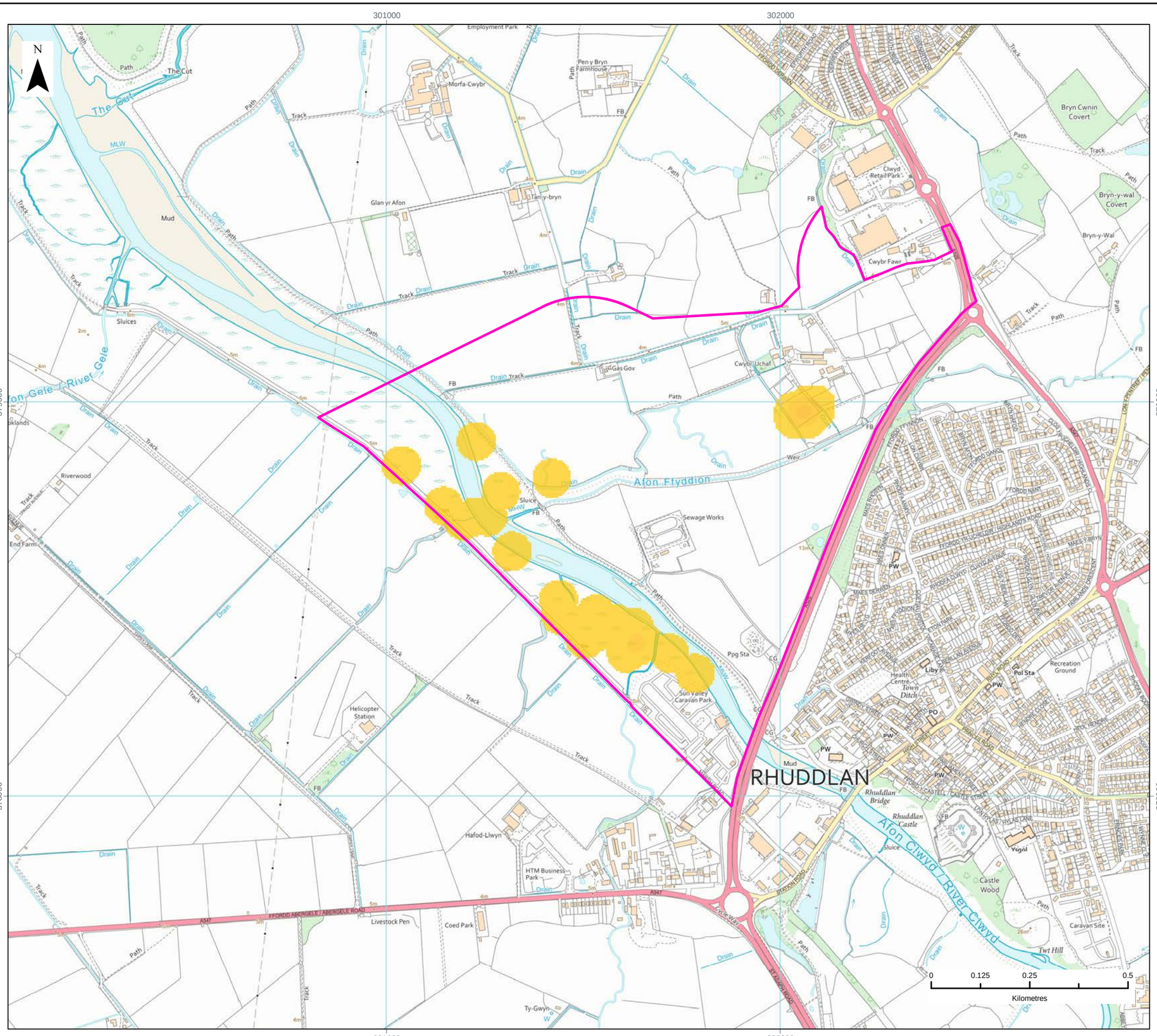

LEGEND

River Clwyd Survey Area

Little Egret Distribution
(Records/50m²; Total = 41)

Highest Density (92)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Little Egret
River Clwyd Survey Area

VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 30

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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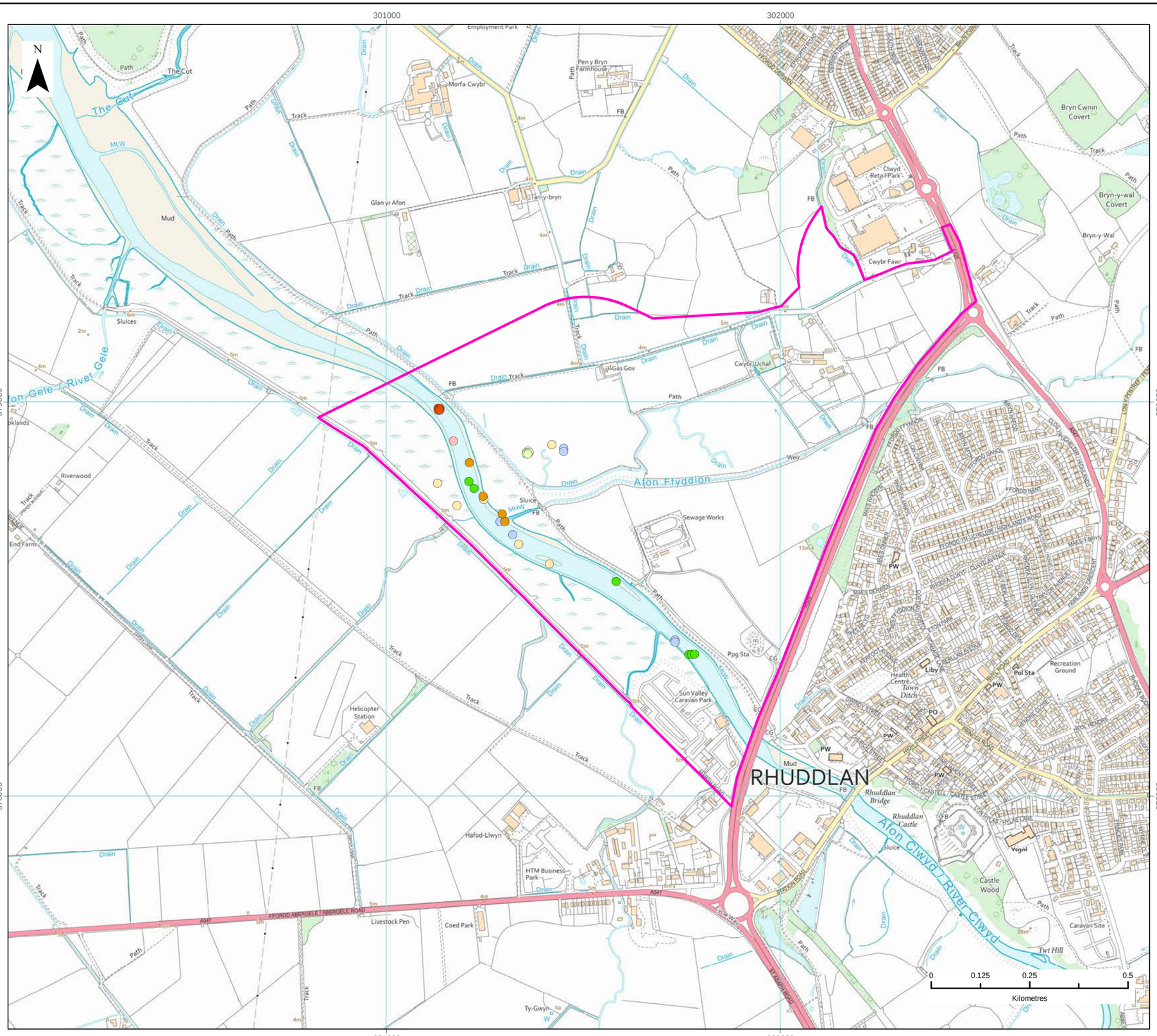


LEGEND

River Clwyd Survey

Species

- Bar-tailed Godwit (Total = 6)
- Common Sandpiper (Total = 4)
- Curlew (Total = 6)
- Dunlin (Total = 4)
- Turnstone (Total = 1)
- Goosander (Total = 6)
- Whooper Swan (Total = 6)

Data Source:

PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

River Clwyd Other Waterbird Species

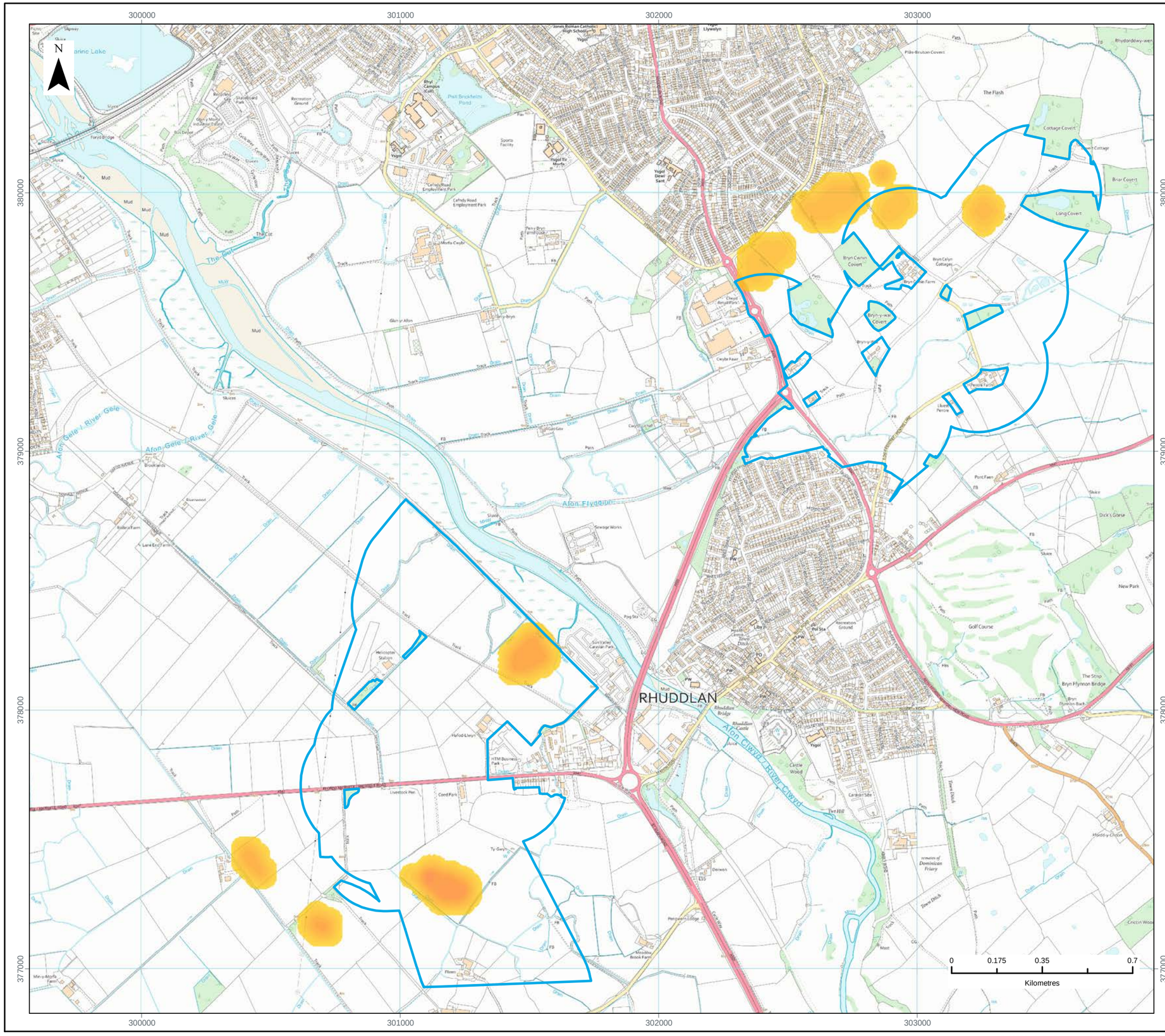
VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

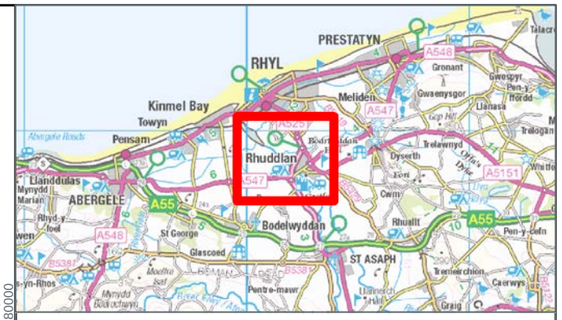
FIGURE NUMBER:

Figure 31

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:10,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm





LEGEND

Coastal Fields Survey

Black-headed Gull Distribution
(Records/50m²; Total = 162)

Highest Density (150)

Lowest Density (<1)

Data Source:
© Crown copyright [and database rights] (2021) OS OpenData.

PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Black-headed Gull Coastal Fields

VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 32

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:15,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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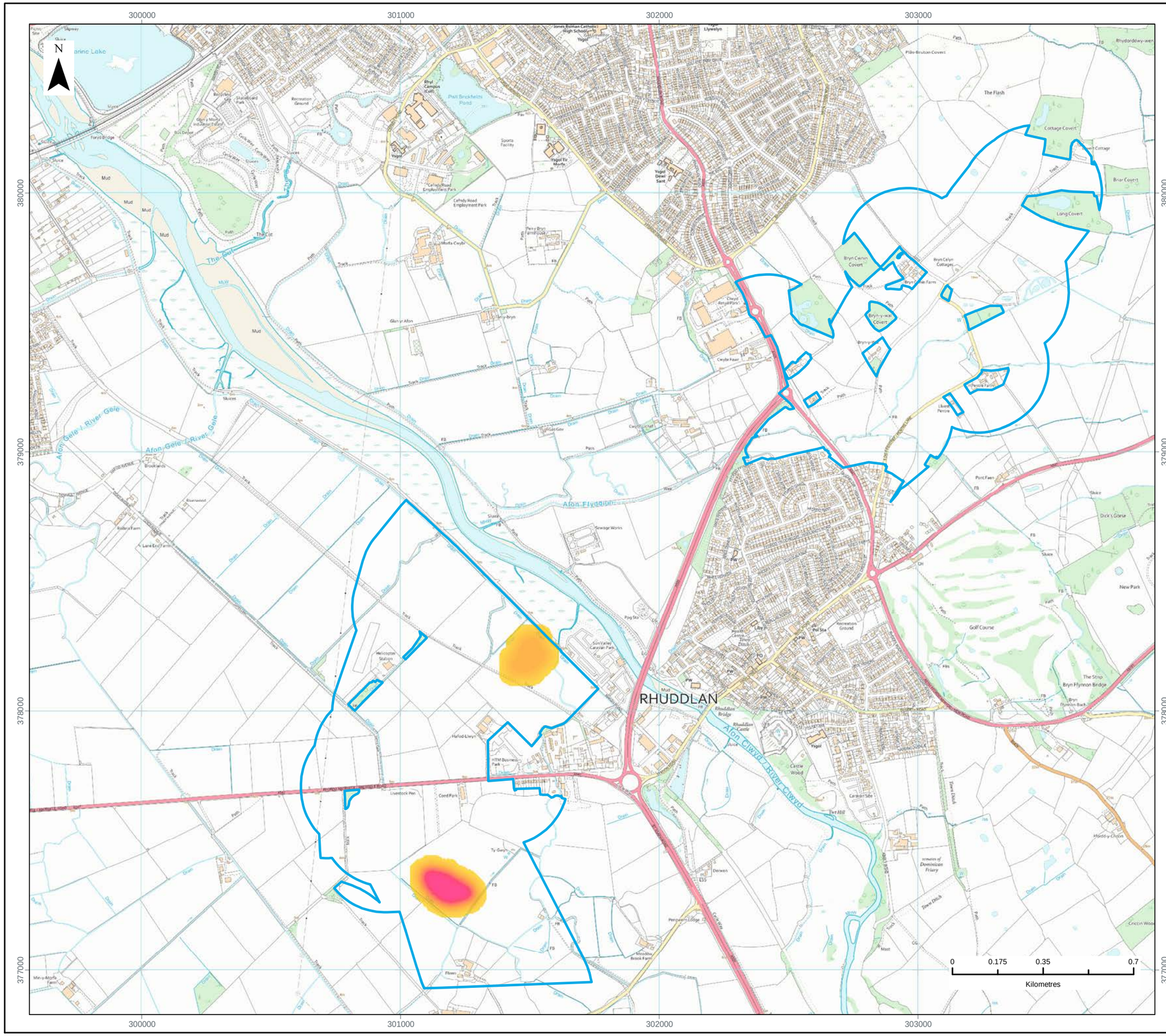

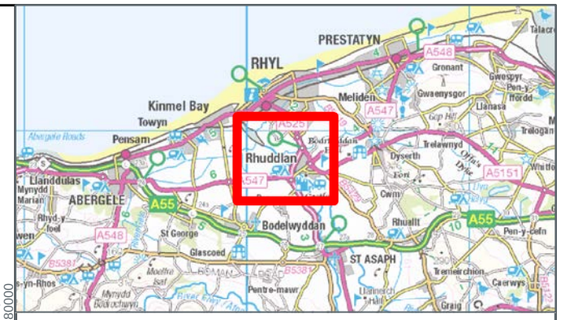

LEGEND

Coastal Fields Survey

Common Gull Distribution
(Records/50m²; Total = 137)

Highest Density (150)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Common Gull Coastal Fields

VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 33

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:15,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

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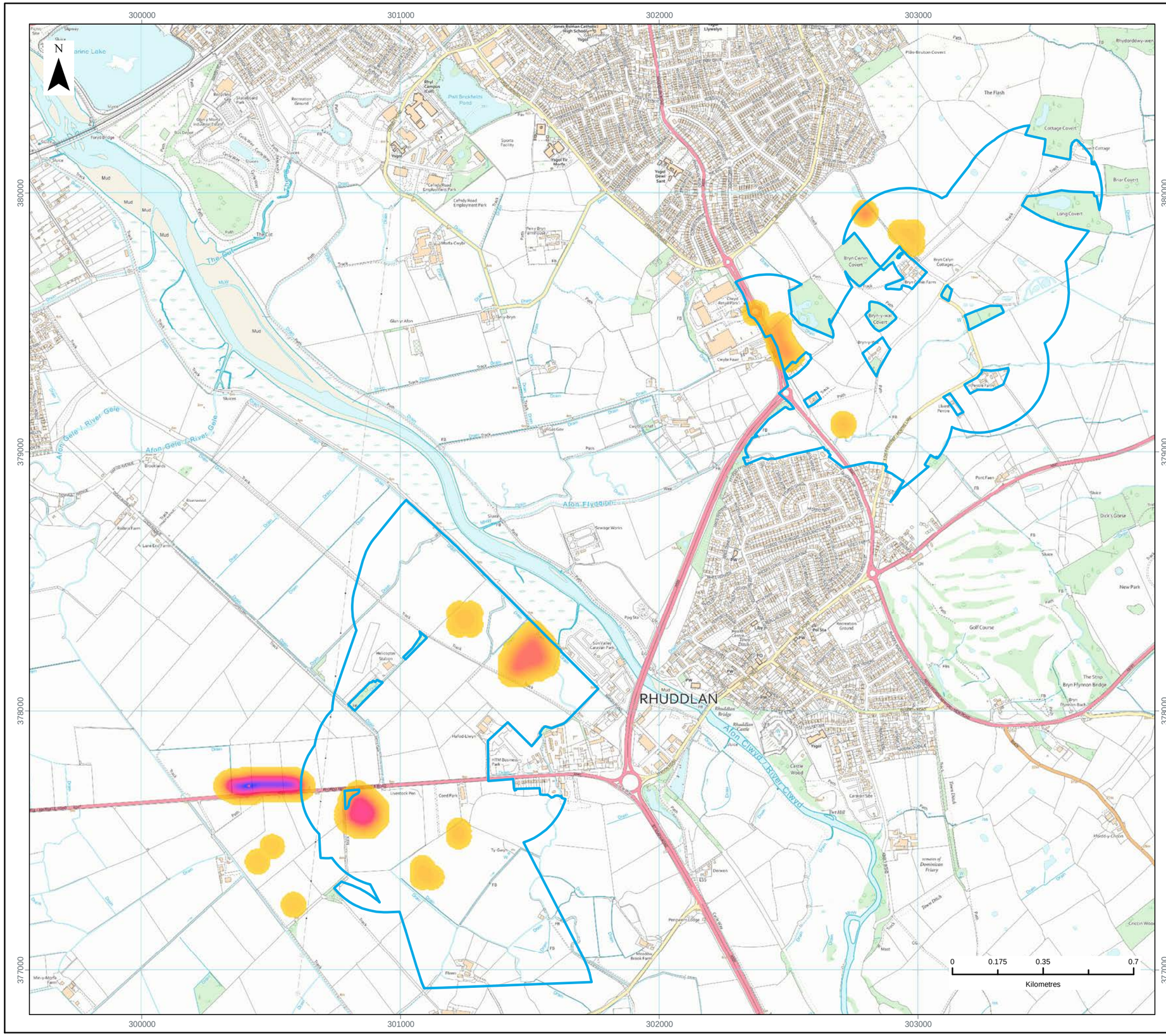

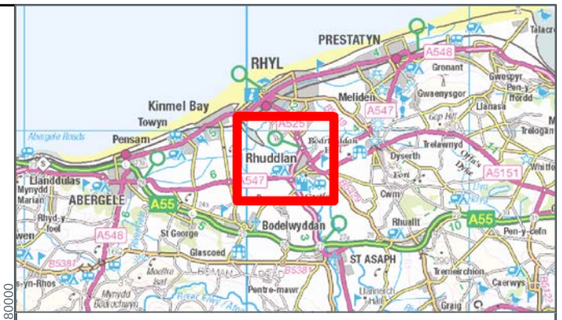

LEGEND

Coastal Fields Survey

Herring Gull Distribution
(Records/50m²; Total = 315)

Highest Density (150)

Lowest Density (<1)

Data Source:
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PROJECT TITLE:

AWEL Y MÔR OFFSHORE WINDFARM

FIGURE TITLE:

Herring Gull Coastal Fields

VER	DATE	REMARKS	Drawn	Checked
1	25/05/2021	Draft	JRS	DW

FIGURE NUMBER:

Figure 34

SCALE:	PLOT SIZE:	DATUM:	COORDINATE SYSTEM:
1:15,000	A3	ODN	British National Grid

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

APPENDIX 01

Desk Study Results – Waterbird Species of Conservation Importance Recorded within 2km of Survey Area

Scientific Name	Common name	Conservation Status[14]
Branta bernicla	Brent Goose	Amber List (Wales & UK)
Branta bernicla subsp. bernicla	Dark-bellied Brent Goose	Section 7, Amber List (Wales)
Branta bernicla subsp. hrota	Light-bellied Brent Goose	Amber List (Wales & UK)
Branta leucopsis	Barnacle goose	Annex 1, Amber List (Wales & UK)
Anser anser	Greylag Goose	Amber List (UK)
Anser albifrons subsp. albifrons	Greater White-fronted Goose	Red List (Wales)
Anser albifrons subsp. flavirostris	Greenland Greater White-fronted Goose	Annex 1, Section 7, Red List (Wales), Amber List (UK)
Cygnus olor	Mute Swan	Amber List (Wales & UK)
Cygnus cygnus	Whooper Swan	Annex 1, Schedule 1, Amber List (UK)
Tadorna tadorna	Shelduck	Amber List (Wales & UK)
Anas clypeata	Shoveler	Amber List (Wales & UK)
Anas strepera	Gadwall	Amber List (Wales & UK)
Somateria mollissima	Eider	Amber List (Wales & UK)
Melanitta fusca	Velvet Scoter	Schedule 1, Red List (UK), Amber List (Wales)
Anas Penelope	Wigeon	Amber List (Wales & UK)
Anas platyrhynchos	Mallard	Amber List (Wales & UK)
Anas acuta	Pintail	Amber List (Wales & UK)
Anas crecca	Teal	Amber List (Wales & UK)
Aythya ferina	Pochard	Red List (Wales & UK)
Aythya fuligula	Tufted Duck	Amber List (Wales)

[14] Annex 1 = Annex 1 of the Birds Directive; Schedule 1 = Schedule 1 of the Wildlife and Countryside Act (1981) (as amended); Section 7 = Species of principal importance in Wales under Section 7 of the Environment (Wales) Act 2016; Red and Amber List (UK) = Red or Amber Listed in Birds of Conservation Concern in the UK (Eaton et al, 2015); and Red and Amber List (Wales) = on the Red or Amber List of Birds of Conservation Concern (BoCC) in Wales (Johnstone and Bladwell, 2016).

Scientific Name	Common name	Conservation Status[14]
Aythya marila	Scaup	Schedule 1, Red List (UK), Amber List (Wales)
Melanitta nigra	Common Scoter	Schedule 1, Red List (UK), Amber List (Wales)
Mergus serrator	Red-breasted Merganser	Amber List (UK)
Clangula hyemalis	Long-tailed Duck	Red List (UK), Amber List (Wales)
Podiceps nigricollis	Black-necked Grebe	Schedule 1, Amber List (Wales & UK)
Podiceps auritus	Slavonian Grebe	Annex 1, Schedule 1, Red List (UK), Amber List (Wales)
Haematopus ostralegus	Oystercatcher	Amber List (Wales & UK)
Recurvirostra avosetta	Avocet	Annex 1, Schedule 1, Amber List (Wales & UK)
Vanellus vanellus	Lapwing	Section 7, Red List (Wales & UK)
Pluvialis apricari	Golden Plover	Annex 1, Section 7, Red List (Wales)
Pluvialis squatarola	Grey Plover	Red List (Wales), Amber List (UK)
Charadrius hiaticula	Ringed Plover	Section 7, Red List (UK), Amber List (Wales)
Numenius phaeopus	Whimbrel	Schedule 1, Red List (UK), Amber List (Wales)
Numenius arquata	Curlew	Section 7, Red List (Wales & UK)
Limosa lapponica	Bar-tailed Godwit	Annex 1, Section 7, Red List (Wales), Amber List (UK)
Limosa limosa	Black-tailed Godwit	Schedule 1, Red List (UK), Amber List (Wales)
Arenaria interpres	Turnstone	Amber List (Wales & UK)
Calidris pugnax	Ruff	Red List (UK), Amber List (Wales)
Calidris ferruginea	Curlew Sandpiper	Amber List (UK)
Calidris alba	Sanderling	Amber List (Wales & UK)
Calidris alpina	Dunlin	Red List (Wales), Amber list (UK)
Calidris maritima	Purple Sandpiper	Schedule 1, Amber List (UK)
Scolopax rusticola	Woodcock	Red List (UK), Amber List (Wales)
Lymnocryptes minimus	Jack Snipe	Amber List (Wales)

Scientific Name	Common name	Conservation Status[14]
Gallinago gallinago	Snipe	Amber List (Wales & UK)
Actitis hypoleucos	Common Sandpiper	Amber List (Wales & UK)
Tringa ochropus	Green Sandpiper	Amber List (UK)
Tringa totanus	Redshank	Amber List (Wales & UK)
Tringa erythropus	Spotted Redshank	Amber List (Wales & UK)
Tringa nebularia	Greenshank	Schedule 1, Amber List (UK)
Chroicocephalus ridibundus	Black-headed Gull	Section 7, Red List (Wales), Amber List (UK)
Hydrocoloeus minutus	Little Gull	Annex 1, Schedule 1, Amber List (Wales)
Larus melanocephalus	Mediterranean Gull	Annex 1, Schedule 1, Amber List (Wales & UK)
Larus canus	Common Gull	Red List (Wales), Amber List (UK)
Larus marinus	Great Black-backed Gull	Red List (Wales), Amber List (UK)
Larus argentatus	Herring Gull	Red List (Wales & UK)
Larus fuscus	Lesser Black-backed Gull	Amber List (Wales & UK)
Chlidonias niger	Black Tern	Annex 1, Schedule 1, Amber List (Wales)
Stercorarius parasiticus	Arctic Skua	Red List (UK), Amber List (Wales)
Uria aalge	Guillemot	Amber List (Wales & UK)
Alca torda	Razorbill	Amber List (UK)
Gavia stellata	Red-throated Diver	Annex 1, Schedule 1, Amber List (Wales)
Gavia arctica	Black-throated Diver	Annex 1
Gavia immer	Great Northern Diver	Annex 1, Schedule 1, Amber List (Wales & UK)
Hydrobates pelagicus	Storm Petrel	Annex 1, Amber List (Wales & UK)
Morus bassanus	Gannet	Amber List (Wales & UK)
Phalacrocorax carbo	Cormorant	Amber List (Wales)
Phalacrocorax aristotelis	Shag	Red List (UK)
Egretta garzetta	Little Egret	Annex 1

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