

# Inverness Urban Gull Census and Distribution Survey

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For: The Highland Council  
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# Quality Assurance

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# 1. Introduction

## 1.1 Background

In recent decades the urban gull population in the UK has seen a dramatic increase. The urban gull population of Inverness breed within proximity to residents, tourists and local businesses. There have been numerous reports of “nuisance” birds which have interacted negatively with the public. This has created the perception of an urban gull problem which has garnered the attention of governing bodies.

All five of the breeding gull species present in Inverness are now listed on the Birds of Conservation Concern (BoCC) amber and red lists, alongside their conservation status, the birds, their active nests and eggs all have legal protection under The Wildlife and Countryside act 1981.

NatureScot and The Highland Council are considering the development of a Gull Management Plan for the City of Inverness. The plan will aim provide a new approach which takes into consideration both conservation and control of gulls.

Arthian Ltd. (Arthian) has been requested by The Highland Council (THC) to undertake an Urban Gull Census and Distribution Survey of 7km<sup>2</sup> of the Inverness City Centre and its immediate surrounds together with 23 additional receptors, identified as having vulnerable users. The survey outcome will inform the development of the Inverness Gull Management Plan.

## 1.2 Purpose of this Report

This report has been produced to document the methods, results and conclusions from the Inverness Urban Gull Census and Distribution Survey. The report will also provide a summary of mitigation measures which can be adopted to deter nesting gulls on each of the buildings associated with vulnerable receptors, where appropriate.

## 2. Methodology

### 2.1 Urban Gull Census and Distribution Survey

The approach to the gull census and distribution surveys followed an amended version of the Joint Nature Conservation Committee's (JNCC) Seabird Monitoring Programme - Urban Gull Survey methodology. The methods consisted of ground-based counts of gull species within the survey area; common gull (*Larus canus*), lesser black-backed gull (*Larus fuscus*), great black-backed gull (*Larus marinus*) and black-headed gull (*Chroicocephalus ridibundus*).

The surveys were undertaken between the 12<sup>th</sup> - 23<sup>rd</sup> of May 2025. This captures the period of peak incubation when at least one individual of a breeding pair of adult gulls will be tending to a nest site, protecting or incubating eggs. See **Table 1** below for breeding times for each gull species. A single visit at this time of year, along each street within the survey area is considered sufficient to identify all gulls utilising the survey area for breeding.

**Table 1: Timing of Breeding for Gulls**

Species	Laying Date	Incubation Period (days)	Fledging Period (days)
Common gull	From May	22-28	~35
Herring gull	From Late April	26-32	35-40
Lesser black-backed gull	From mid-May	24-27	30-40
Great black-backed gull	From May	27-28	49-56
Black-headed gull	From May	23-28	~35

Where buildings were high and the streets narrow, obscuring rooftops, a single vantage point survey from Inverness Castle was undertaken to supplement the ground-based count. Care was taken to not duplicate records when supplementing ground-based counts with vantage points. To minimise duplication the same surveyor undertook the ground-based count immediately after the vantage point survey.

Each bird that was observed during the survey was recorded on mobile Global Information Software (GIS), specifically QGIS, and bird behaviour was placed into one of four categories.

- Nesting – Adult bird actively incubating a clutch of eggs or brooding young chicks.
- Loafing – Adult bird utilising rooftops or ground level for resting or guarding a nearby nest site.
- Bathing – Adult bird utilising waterbodies for preening and bathing.
- Foraging – Adult bird searching for or utilising a food resource.

Birds were recorded where interactions with ground-level or rooftops were apparent. Birds observed flying over at height were not counted, as these individuals may not be breeding within the survey area.

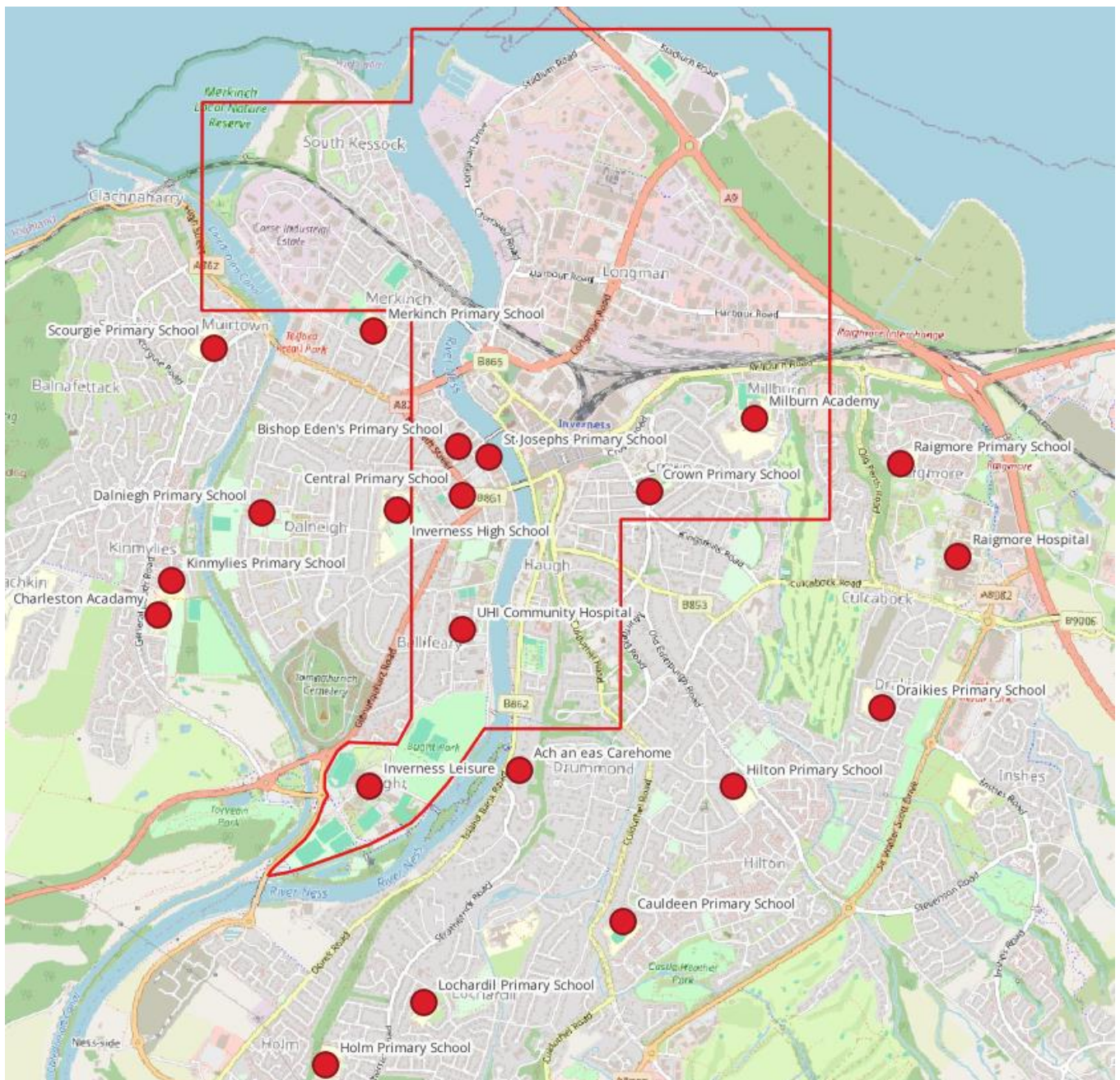
This categorisation of behaviour allows for the analysis and reporting of three different census units (i.e. objective values based on three different means of measurement) as a breeding population estimate.

- Apparently occupied nest (AON) – a well-constructed nest or scrape nest, either containing eggs or young, or an apparently incubating adult.
- Apparently occupied territory (AOT) - estimated by the spacing of birds or pairs on different rooftops and observations of apparent territorial behaviour, when actual nests cannot be discerned. All AONs were considered AOTs and accounted for during analysis.
- Individual adults (IND) - total number of birds in full adult plumage.

The Survey Area and additional vulnerable receptors are shown in **Plate 1** below.

The additional receptors have been identified by The Highland Council where “nuisance” behaviour from breeding gulls could be considered a health and safety risk to vulnerable users.

**Plate 1: Main Survey Area (Red boundary) and Vulnerable Receptors (Red circles)**



Where possible visits were undertaken in dry weather conditions with good visibility and light winds no more than Beaufort Force 4, detailed in **Table 2**.

**Table 2: Details of Survey Visit Conditions.**

Date	Weather Conditions			
	Cloud (Oktas)	Wind (Beaufort)	Precipitation	Temp (°C)
12/05/2025	0	2	None	13
13/05/2025	0	1	None	12
14/05/2025	0	3	None	14
15/05/2025	0	2	None	14
20/05/2025	0	1-2	None	20
21/05/2025	0	3	None	16
22/05/2025	0	3	None	13
23/05/2025	0	2	None	14

## 2.2 Limitations

Although the survey aims to count all gulls in full adult plumage, it must be considered that some birds will move in and out of obscured areas during observation. It therefore cannot be guaranteed that records of individuals have not been duplicated, nor that every bird can be counted. However, the methods used are robust and the most appropriate for the purpose of the study, and where necessary the surveyors used best judgement, based on a wealth of bird survey experience, to determine whether to record an individual whilst in motion.

Privately-owned land was avoided and all ground-based surveys were undertaken from publicly accessible streets, pathways, parks and gardens. As such, concealed nest sites may not have been recorded. However, privately-owned land was mostly in distinct, small parcels with visibility from adjacent areas, and therefore all areas could be adequately viewed with binoculars to identify apparently occupied territories as a minimum.



## 3. Results

### 3.1 Gull Distribution and Conservation Status

The distribution of each gull species is described in Sections 3.1.1 - 3.1.5 below. To accurately depict the distribution only data from the main survey area of 7km<sup>2</sup> is presented here.

#### 3.1.1 Common Gull

Common gulls are currently on the BoCC Red List with 49k pairs estimated to be breeding in the UK.

There were 206 occurrences of common gull recorded throughout the survey area. The majority of which were located in the north of the city within the industrial estates of Carse and Longman. With more localised colonies around UHI Community Hospital and Inverness Leisure Centre. See **Figure 1** and **2** for distribution of common gulls within the survey area.

The nests identified were largely within guttering, flat roofs or concealed ground locations.

#### 3.1.2 Herring Gull

Herring gulls are currently on the BoCC Red List with 130k pairs estimated to be breeding in the UK.

There were 1271 occurrences of herring gull observed within the Survey Area. The densest populated areas were the industrial estates to the north of the city, the city centre itself and along the riverside. Bught in the south of the survey area and the Crown and Milburn areas to the east were the least densely occupied. See **Figure 3** and **4** for herring gull distribution within the survey area.

The nests identified were mostly on flat or gently sloping roofs, roof ledges, chimney stacks and in one colony, at ground level.

#### 3.1.3 Lesser Black-backed Gull

Lesser black-backed gulls are currently on the BoCC Amber List with an estimated 110k pairs breeding throughout the UK.

Only 17 occurrences of lesser black-backed gull were reported within the Survey Area. These were primarily located within Carse Industrial estate with a few outlying individuals in Longman Industrial Estate and one individual in the City Centre. See **Figure 5** for lesser black-backed gull distribution.

The nests identified were mostly on gently sloping roofs and within herring gull colonies.

#### 3.1.4 Great Black-backed Gull

Great black-backed gulls are currently on the BoCC Red List with an estimated 15k pairs breeding throughout the UK.

Great black-backed gulls were identified 17 times within the Survey Area. These were located within the Carse and Longman Industrial Estates in the north of, and within the City Centre. For great black-backed gull distribution see **Figure 6**.

The nests identified were on mostly flat or gently sloping roofs and within common gull or herring gull colonies.

#### 3.1.5 Black-headed Gull



Black-headed gulls are currently on the BoCC Amber List with an estimated 140k pairs breeding throughout the UK.

A total of two individual adult black-headed gull were recorded within the Survey Area: a single bird at the Muirtown Basin and single bird within the Carse Industrial Estate. See **Figure 7** for distribution of black-headed gull within the main survey area.

### 3.2 Gull Census

**Table 3** illustrates the number of birds per census unit within the main survey area. The most common species breeding within the survey area was herring gull with 615 active nests identified, 762 territories recorded, and 1271 individuals observed in total. Following herring gull, common gull was the second most common species present with 112 confirmed active nests, 164 territories and 206 individuals recorded within the Survey Area. Lesser black-back gull and great black-backed gull were equally common, with a total 8 active nests observed for each species, 11 and 13 territories identified respectively, and 17 individuals of each species recorded. Black-headed gull was the least common with only two individuals recorded, both were not showing signs of nesting or holding territory.

The total number of active nests recorded throughout the survey area was 743, active territories were 914 and total number of individual birds observed was 1513.

**Table 3: Total Number of Gulls per Census Unit within Main Survey Area**

Species	AON	AOT	IND
Common gull	112	164	206
Herring gull	615	762	1271
Lesser black-backed gull	8	11	17
Great black-backed gull	8	13	17
Black-headed gull	-	-	2
Total	743	914	1513

Using the total number of pairs estimated to be within the UK and the number of AOTs identified within the 7km<sup>2</sup> main survey area a percentage of the UK population of each species is calculated in **Table 4** below. Due to lack of breeding evidence, black-headed gulls are not considered within this calculation.

**Table 4: Percentage of UK Breeding Gull Population within Main Survey Area by Species**

Species	AOT	Estimated UK Pairs	Percentage of UK population (%)
Common gull	164	49,000	0.33
Herring gull	762	130,000	0.58
Lesser black-backed gull	11	110,000	0.01
Great black-backed gull	13	15,000	0.08

### 3.3 Vulnerable Receptors

**Table 5** below depicts the number of birds per census unit, recorded within 50m of the additional receptors associated with vulnerable users.



Inverness Leisure Centre had the most birds occupying the survey area a total of 34 birds on apparently occupied territories, followed by Raigmore Hospital where 20 birds were on apparently occupied territories. Whilst no adult breeding birds were recorded at Ach an Eas Care Home.

Locations such as Inverness Gaelic Primary School, Inverness Royal Academy and Lochardil Primary School had a larger number of individuals recorded than active territories. This is due to a larger number of foraging gulls recorded during school lunchtimes which have likely travels from further afield. Whereas the larger UHI Community hospital number of individuals is due to the proximity of an area of the River Ness used for loafing and bathing.

**Table 5: Total Number of Gulls per Census Unit within 50m of Vulnerable Receptors**

Vulnerable Receptor	Census Unit		
	AON	AOT	IND
Inverness Leisure	34	34	34
Ach an Eas Care Home	-	-	-
UHI Community Hospital	7	13	47
Crown Primary School	1	1	3
St Joseph's Primary School	2	2	2
Central Primary School	-	2	2
Bishop Eden's Primary School	2	4	4
Milburn Academy	1	3	4
Raigmore Hospital	3	20	21
Raigmore Primary School	-	1	1
Draikies Primary School	1	3	3
Hilton Primary School	-	4	4
Cauldeen Primary School	-	3	3
Inverness Gaelic Primary School	-	4	55
Inverness Royal Academy	-	5	59
Charleston Academy	1	3	7
Lochardil Primary School	1	1	26
Holm Primary School	-	4	4
Inverness High School	2	5	5
Dalnigh Primary School	4	11	11
Merkinch Primary School	5	9	9
Scourgie Primary School	1	3	3
Kinmylies Primary School	4	7	8

## 4. Conclusion and Mitigation Measures

It is recognised that Inverness City has a significant population of breeding gulls, mainly common and herring gulls which as it potentially grows may become increasingly important to seabird conservation. It is important that control measures are put in place where the nuisance behaviour of breeding gulls has the potential cause a health and safety concern for vulnerable users.

Due to the conservation status and legal protection of gulls, issuing licences for lethal control is currently considered a last resort and would only be considered under specific mitigating circumstances such as:

- An adult or chick has been found in a location where it poses a risk to public health or safety and cannot be removed without significantly harming the bird.
- A nest containing newly hatched chicks is at severe and likely risk of starting a fire, however in this case a licence for relocation within close vicinity of the nest site would be preferable to lethal control.

Therefore, it is preferable to undertake other options of mitigation. The following methods of nesting deterrence could be implemented individually or in combination at each of the vulnerable receptors identified by the council.

### 4.1 Physical Prevention

Physically excluding birds from nesting sites is likely to be the most effective solution. This may include netting over flat roof areas and anti-nesting spikes in key areas such as chimney pots or guttering/roof valleys. Netting should be of 75mm mesh and would need to be appropriately maintained to ensure that it remains effective and does not cause birds to become entrapped or entangled.

It must be noted that this method comes with a risk of causing mortality to target and non-target species. Ideally this would be used in areas where there is a lower visibility from public areas and access is easily available for routine maintenance

Installation should occur outside the breeding bird season (September to March) and should be installed by an experience pest control company.

### 4.2 Removal of Old Nests and Material

As some birds use nest sites in subsequent years or use material from old nests, it is prudent to make sure that prior to the next breeding season that all old nest material is cleared and removed from roofs and ledges. This could achieve a moderate impact on the attractiveness of a potential nest site for gulls.

### 4.3 Removal of Foraging Resource

Removal of foraging resources such as litter and food waste is also recommended. As gulls forage communally and as local to nesting sites as possible, if there is less food resource in the area then it is less likely that gulls will take up residence on buildings. This could be in the form of anti-littering campaigns and daily litter clean up.

### 4.4 Disturbance

Where gulls have nested previously and old nest material has been identified and subsequently cleared, a continuous human presence at the start of the breeding gull season (March-April) will deter gulls from nesting in potentially vulnerable areas. This method is effective but can be labour intensive and requires multiple daily



walkovers of potential nesting sites. This can be supplemented by use of a dog handler or falconer to increase its effectiveness further.

#### **4.5 Scaring Devices**

Installation of scaring devices can be effective in conjunction with the above. The most effective would be a mixture of audio and visual deterrents such as gull distress calls and bird of prey “decoys”. As gulls can become desensitised it would be important that these are changed throughout the year to maintain their effectiveness. Scaring devices and decoys should be installed by an experience pest control company to be most effective.

**Appendices**

## **Appendix A- Gull Distribution Maps**

<b>Figure Number</b>	<b>Species Distribution</b>
<b>Figure 1</b>	<b>Common gull (north)</b>
<b>Figure 2</b>	<b>Common gull (south)</b>
<b>Figure 3</b>	<b>Herring gull (north)</b>
<b>Figure 4</b>	<b>Herring gull (south)</b>
<b>Figure 5</b>	<b>Lesser-black backed gull</b>
<b>Figure 6</b>	<b>Great black-backed gull</b>
<b>Figure 7</b>	<b>Black-headed gull</b>



266000

267000

268000



Figure 1 - Common Gull  
Distribution (north)

The Highland Council

Urban Gull Census and  
Distribution Survey

Key:

- Survey Area
- Common gull

0 250 500 m



Project Number: 319414

Scale at A3:

Drawn By: SCR

1:10,000

Reviewed By: NM

Version: Final

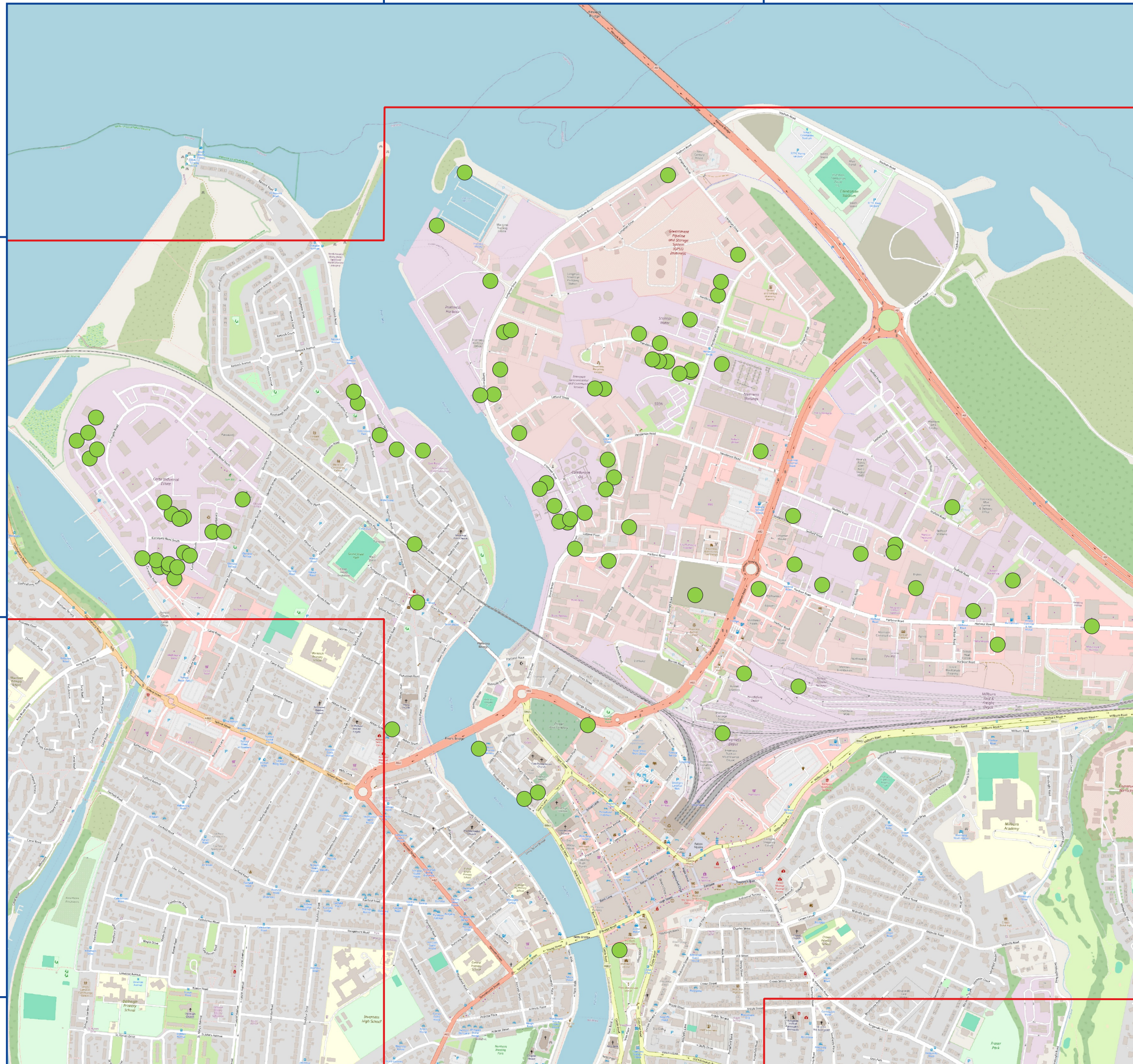
Projection: OSGB 1936/British  
National Grid - EPSG 27700

Issue Date: 26/06/2025

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Figure 2 - Herring Gull Distribution (South)

The Highland Council Urban Gull Census and Distribution Survey

Key:

- Survey Area
- Common gull

0 250 500 m



Project Number: 319414	Scale at A3:
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Reviewed By: NM	Version: Final
Projection: OSGB 1936/British National Grid - EPSG 27700	Issue Date: 26/06/2025

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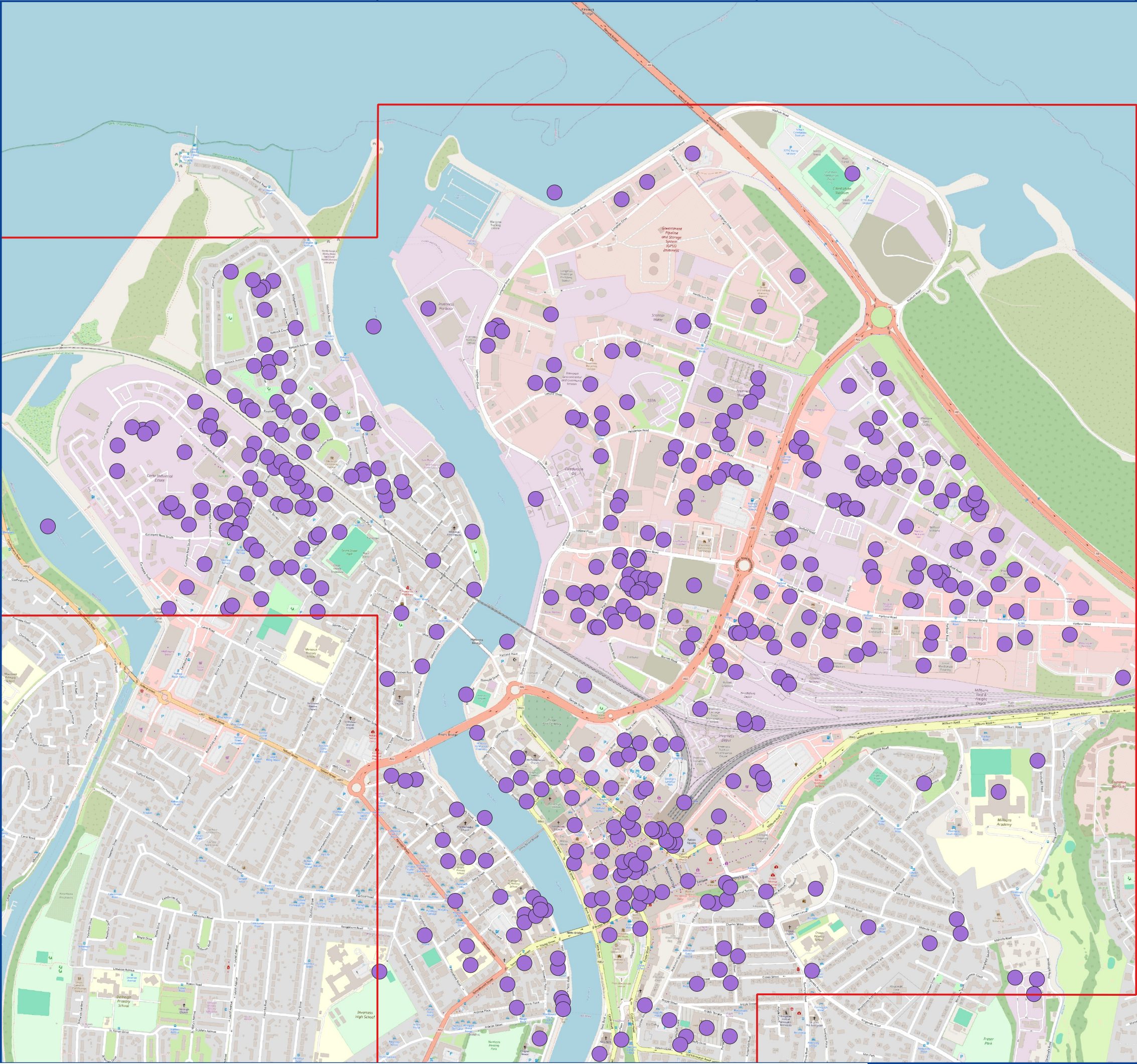
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Figure 3 - Herring Gull Distribution (north)

The Highland Council      Urban Gull Census and Distribution Survey

- Key:
- Survey Area
  - Herring Gull

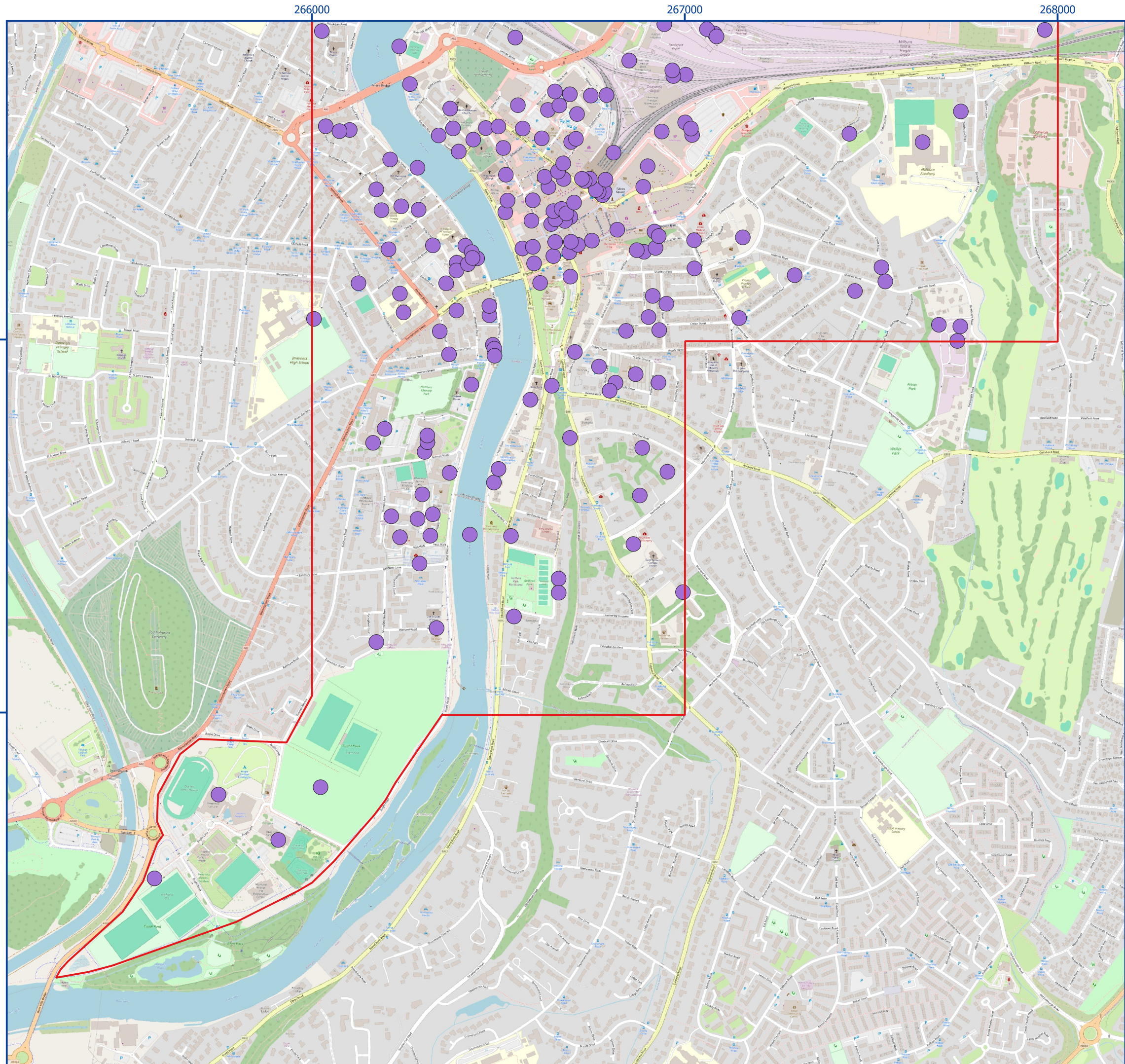


0      250      500 m



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Reviewed By: NM	Version: Final
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**Figure 4 - Herring Gull Distribution (South)**


<b>The Highland Council</b>	<b>Urban Gull Census and Distribution Survey</b>
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**Key:**

-  Survey Area
-  Herring gull



0 250 500 m



N

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## Figure 5 - Lesser Black-backed Gull Distribution

The Highland Council

Urban Gull Census and Distribution Survey

### Key:

 Survey Area

Survey Area Gulls

 Lesser black-backed gull

0 250 500 m



Project Number: 319414

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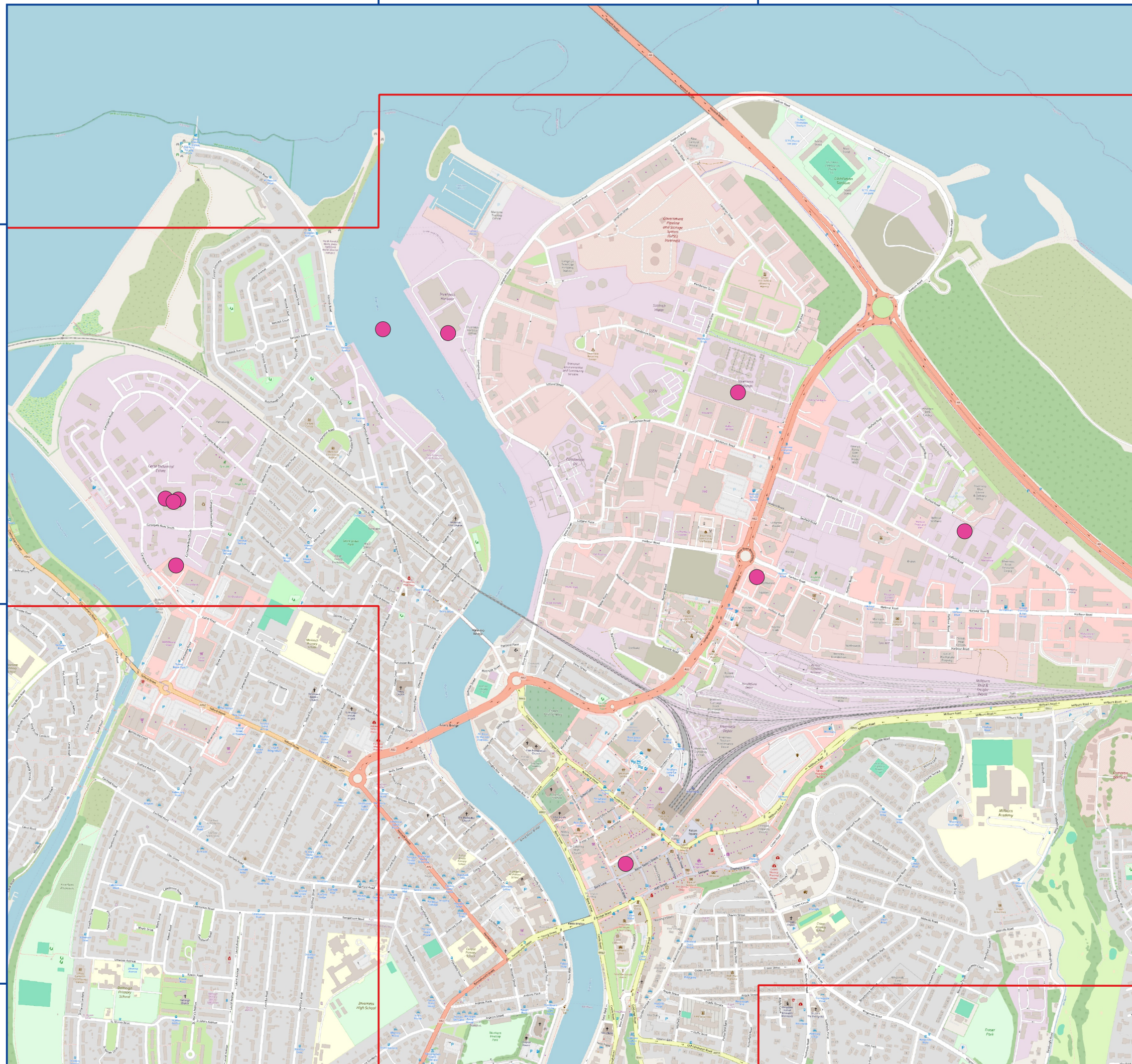
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Reviewed By: NM

Version: Final

Projection: OSGB 1936/British  
National Grid - EPSG 27700

Issue Date: 18/07/2025





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Figure 6 - Great Black-backed Gull Distribution

The Highland Council Urban Gull Census and Distribution Survey

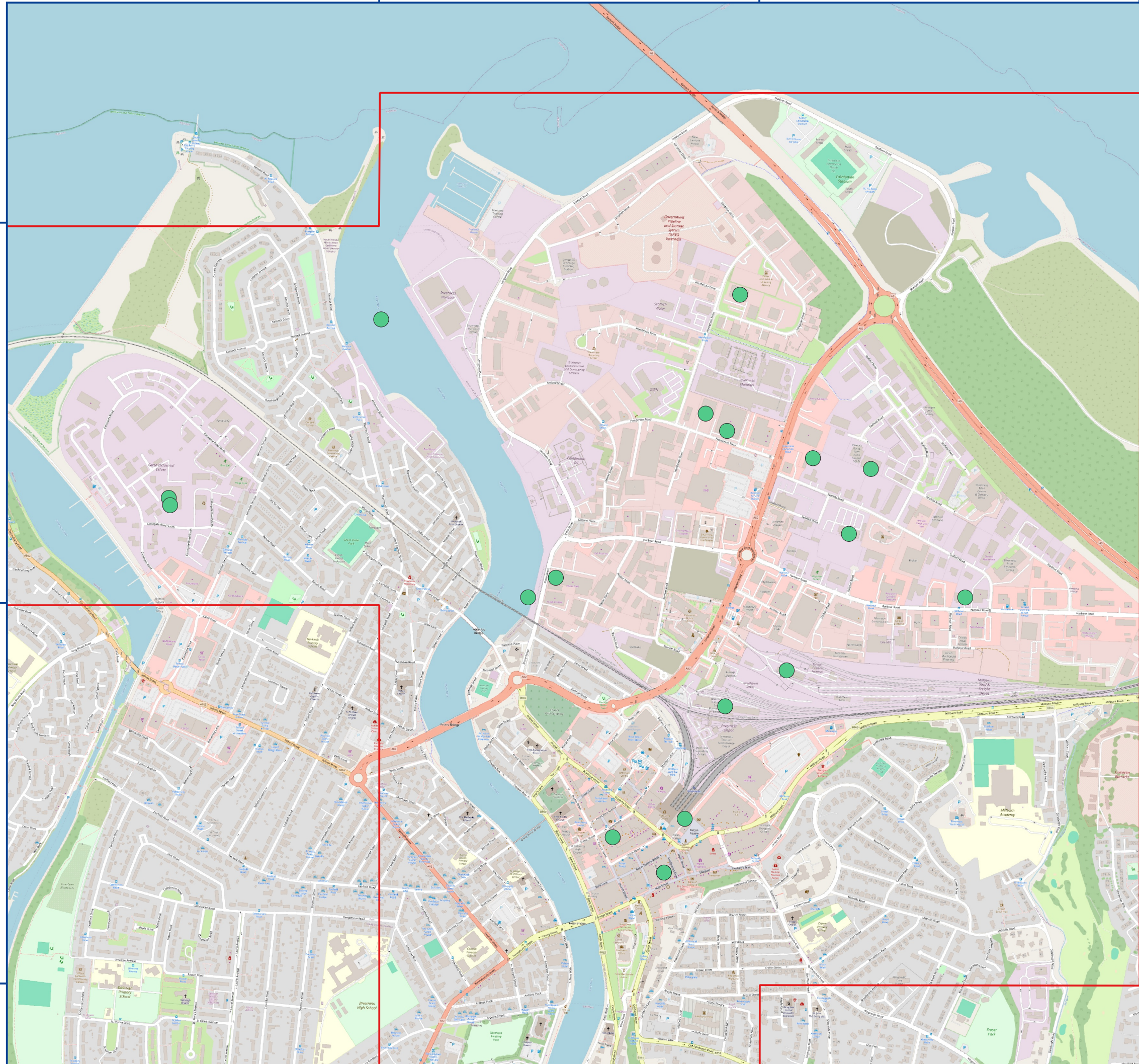
Key:

- Survey Area
- Great black-backed gull

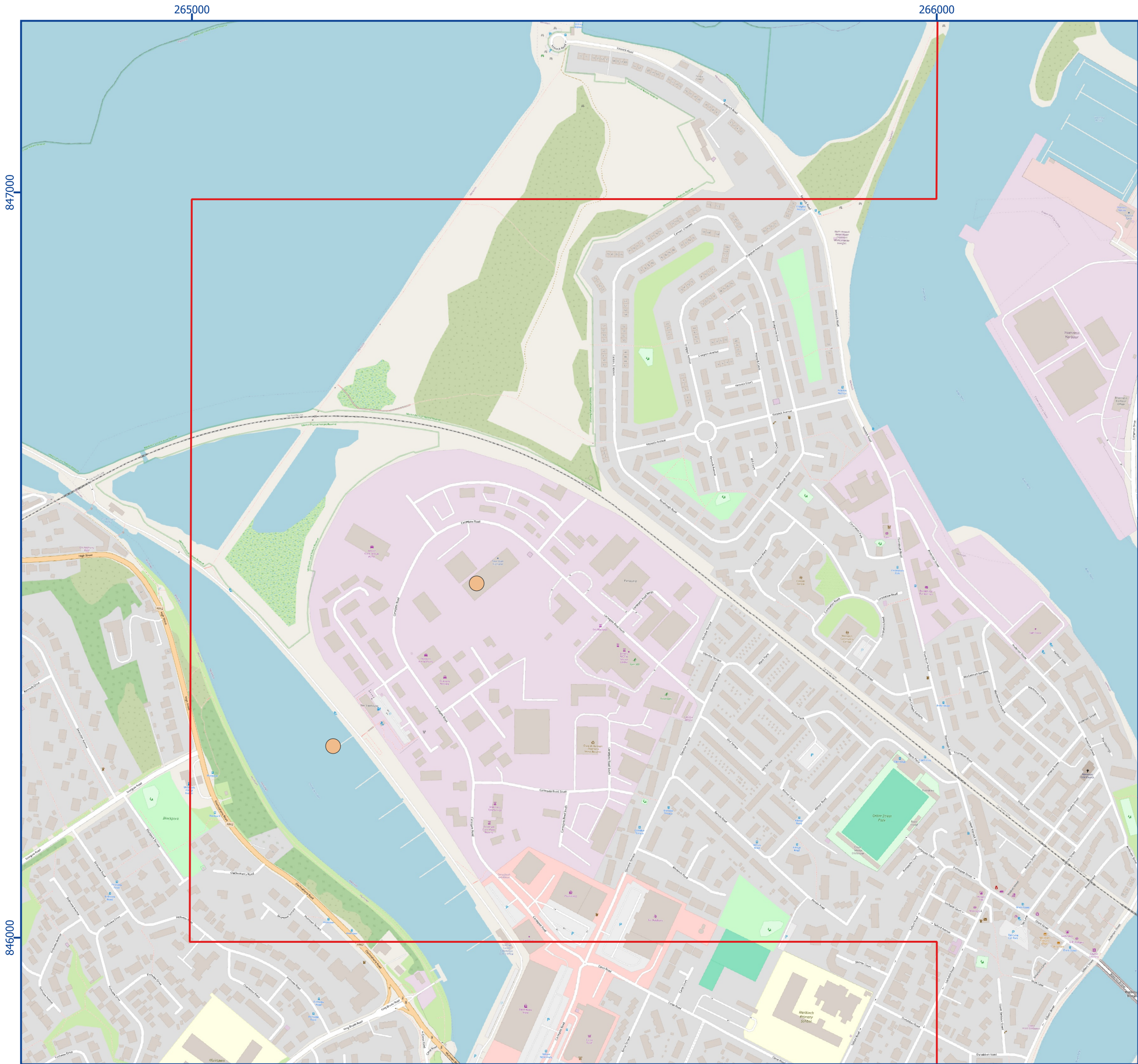
0 250 500 m



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Reviewed By: NM	Version: Final
Projection: OSGB 1936/British National Grid - EPSG 27700	Issue Date: 26/06/2025










**Figure 7 - Black-headed Gull Distribution**

<b>The Highland Council</b>	<b>Urban Gull Census and Distribution Survey</b>
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**Key:**

-  Survey Area
-  Black-headed gull

0 100 200 m



Project Number: 319414	Scale at A3:
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Reviewed By: NM	Version: Final
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