

Volume 7B Proposed Development (Offshore) Appendices

Appendix 6-1 Offshore Ornithology Baseline Characterisation Report Annex 14 Spatial Distribution Figures (Caledonia South)

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Volume 7B Appendix 6-1 Annex 14 Spatial Distribution Figures (Caledonia South)

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Acronyms and Abbreviations

OWF Offshore Wind Farm



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1 Spatial Distribution Figures

1.1 Introduction

- 1.1.1.1 This annex presents spatial distribution maps, generated using design-based estimates, throughout the Caledonia Offshore Wind Farm (OWF), specifically the Caledonia South Site, and relevant buffers (2km and 4km).
- 1.1.1.2 Spatial distribution maps have been generated for the following species:
 - Kittiwake, Rissa tridactyla;
 - Great black-backed gull, Larus marinus;
 - Herring gull, Larus argentatus;
 - Lesser black-backed gull, Larus fuscus;
 - Guillemot, Uria aalge;
 - Razorbill, Alca torda;
 - Fulmar, Fulmarus glacialis;
 - Gannet, Morus bassanus;
 - Puffin, Fratercula arctica;
 - Common tern, Sterna hirundo;
 - Arctic tern, Stercorarius parasiticus;
 - Great skua, Stercorarius skua; and
 - Red-throated diver, Gavia stellata.
- 1.1.1.3 For the purposes of this report, the spatial distribution of seabirds within Caledonia South are presented in the form of heatmaps. The heatmaps present data on a monthly basis in order to account for species-specific spatial and temporal distributions for the purposes of defining the Caledonia South ornithological baseline.
- 1.1.1.4 To create the heatmaps, point shapefiles were loaded into QGIS and the heatmap plugin for QGIS was installed. The shapefiles were then inputted to the heatmap plugin and a kernel radius of 3 km was selected, which was determined to provide the most appropriate smoothing between the data points leaving no gaps in the model outputs. The output raster pixel size was set to 30m. All other default settings within the QGIS heatmap plugin were accepted. The heatmap plugin for each species was then run to generate GeoTIFF heatmaps.
- 1.1.1.5 For further information see Volume 7B, Appendix 6-1: Offshore Ornithology Baseline Characterisation Report.

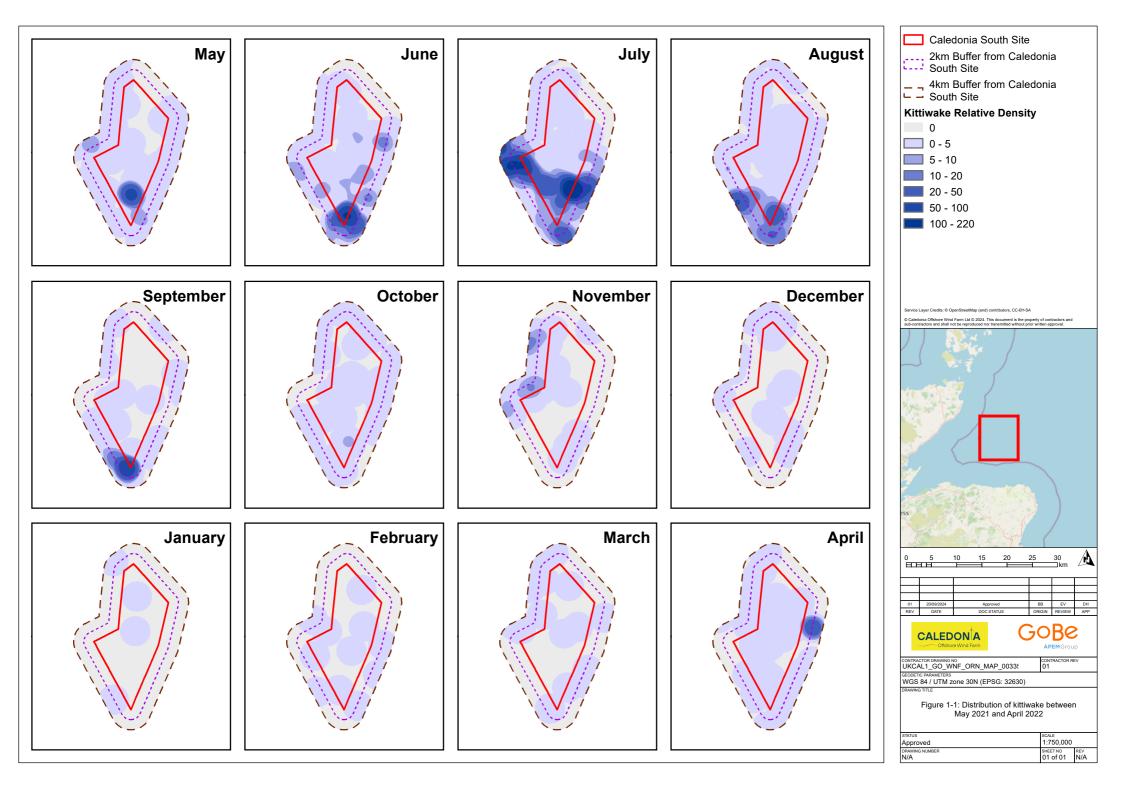


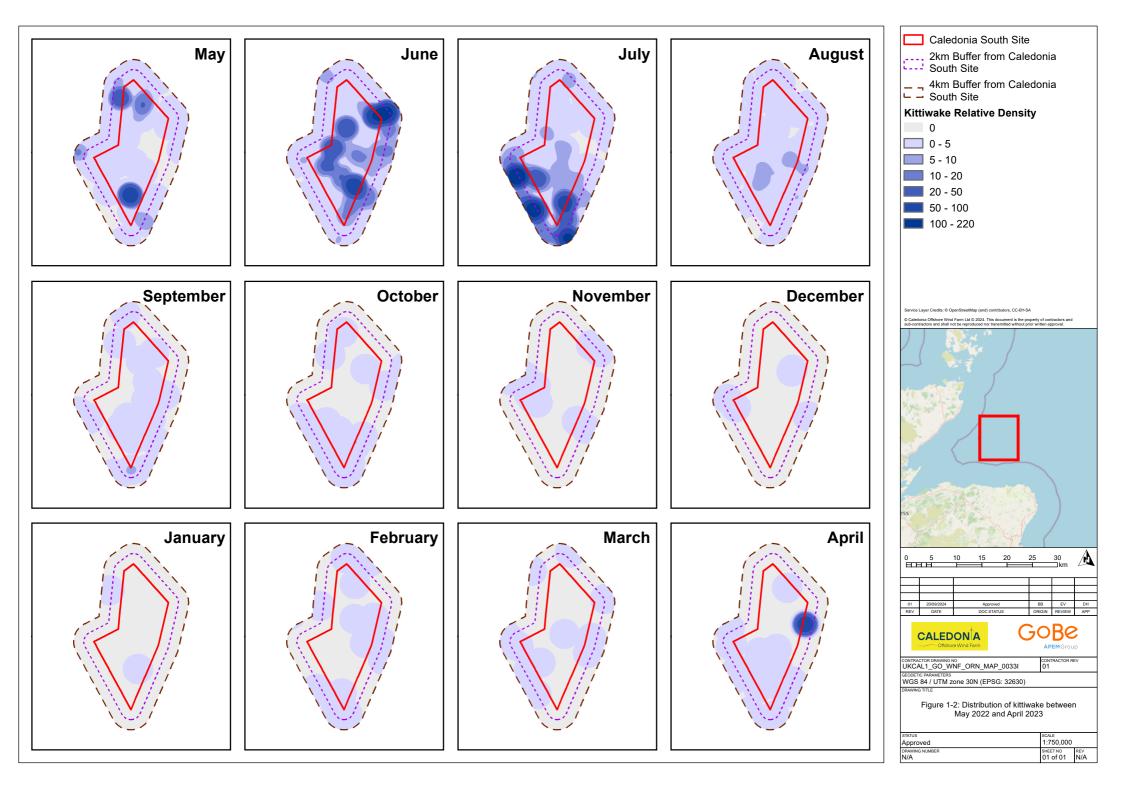
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1.2 Kittiwake

1.2.1.1 Spatial distribution maps, generated using design-based estimates, for kittiwake throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-1 and Figure 1-2, respectively.





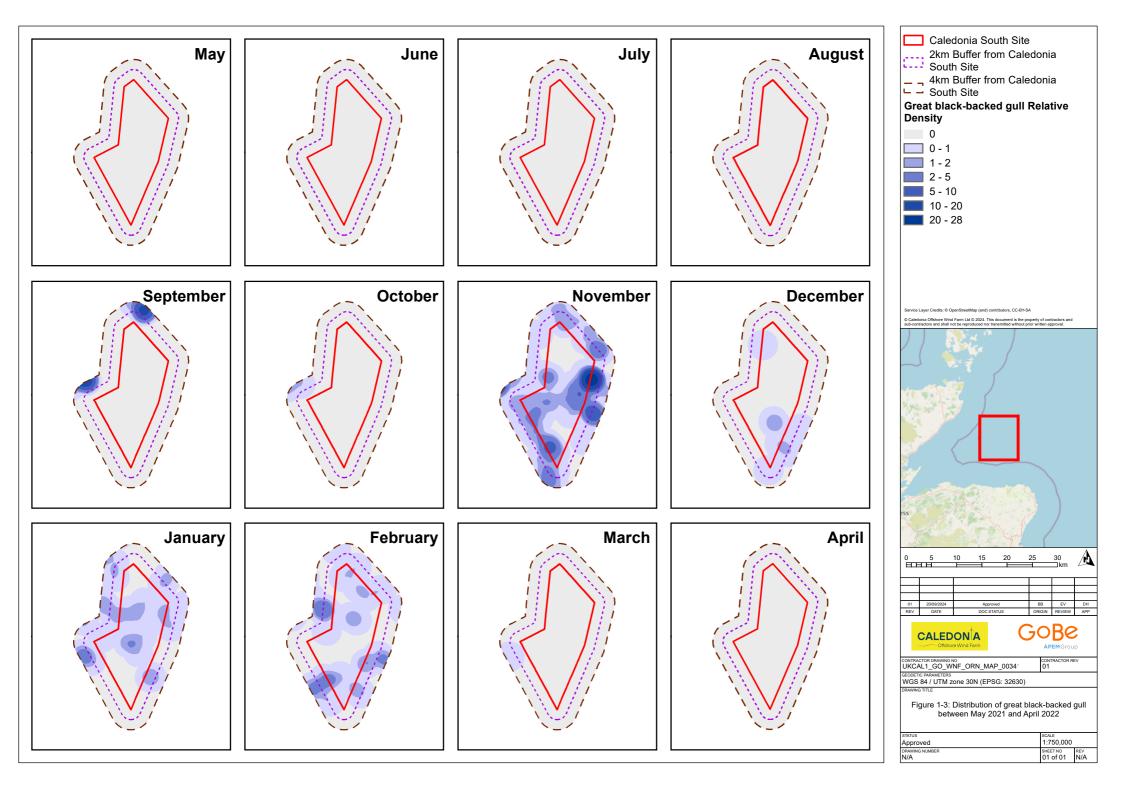


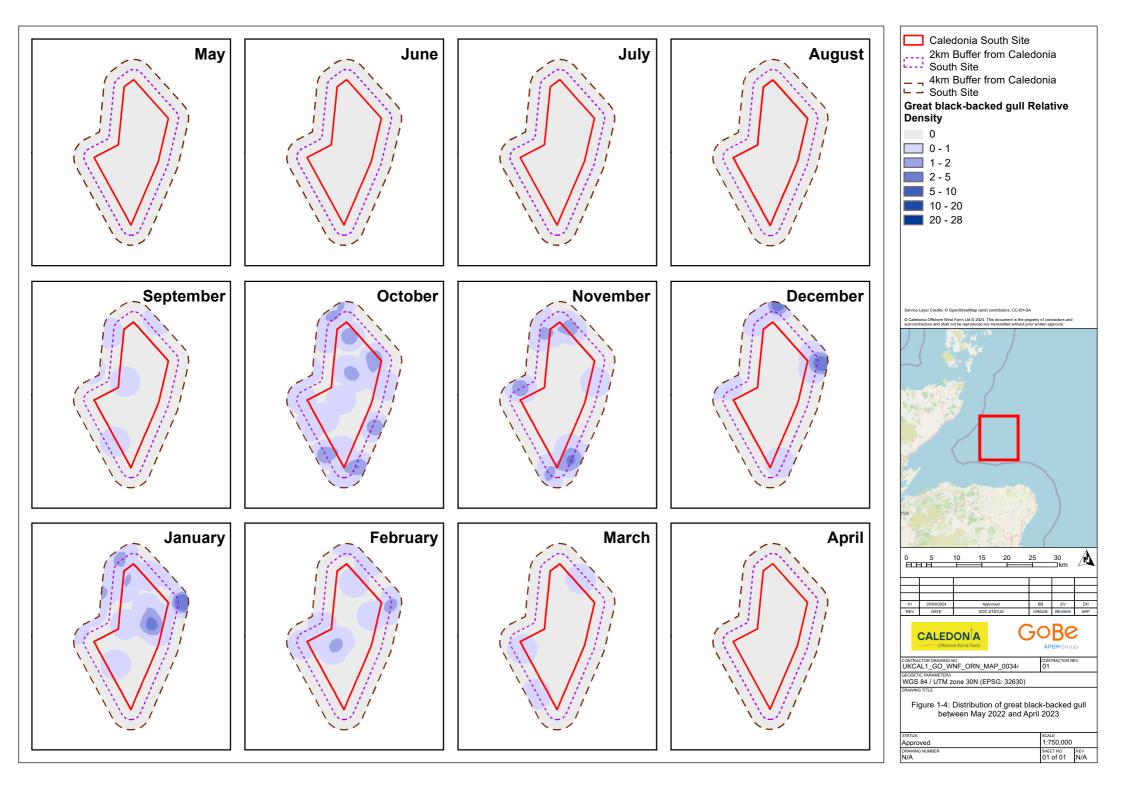
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1.3 Great Black-backed Gull

1.3.1.1 Spatial distribution maps, generated using design-based estimates, for great black-backed gull throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-3 and Figure 1-4, respectively.





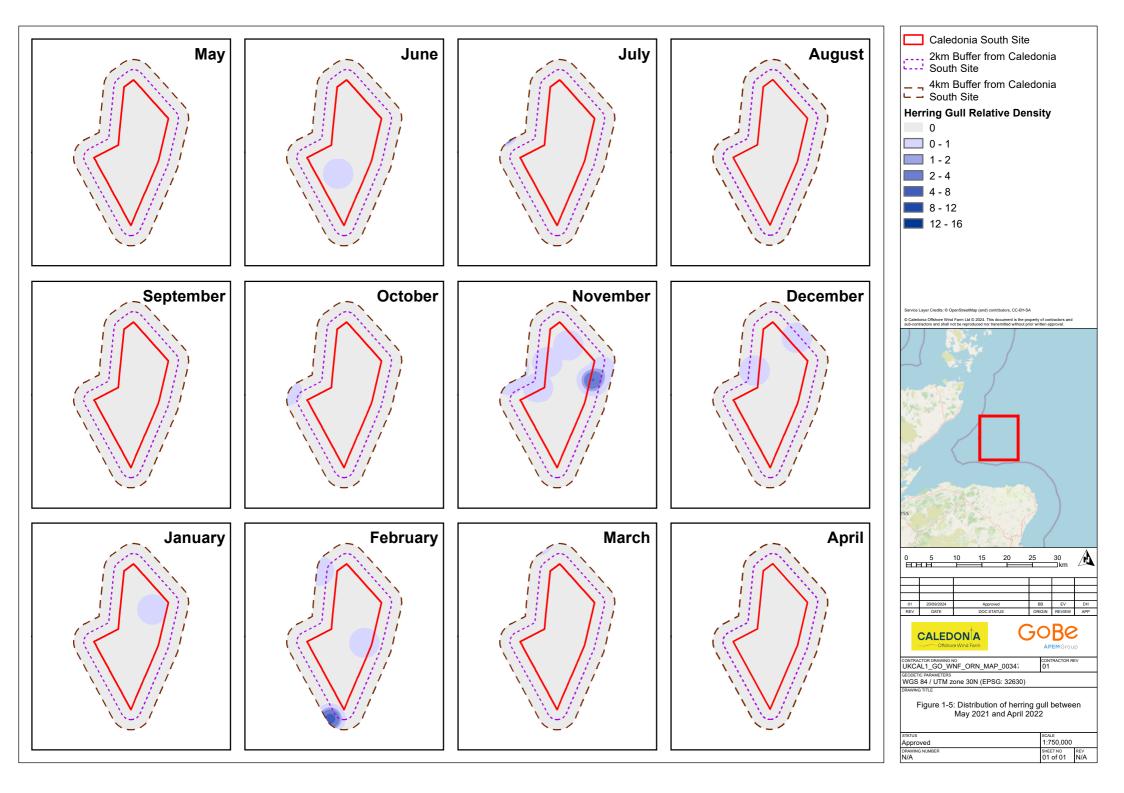


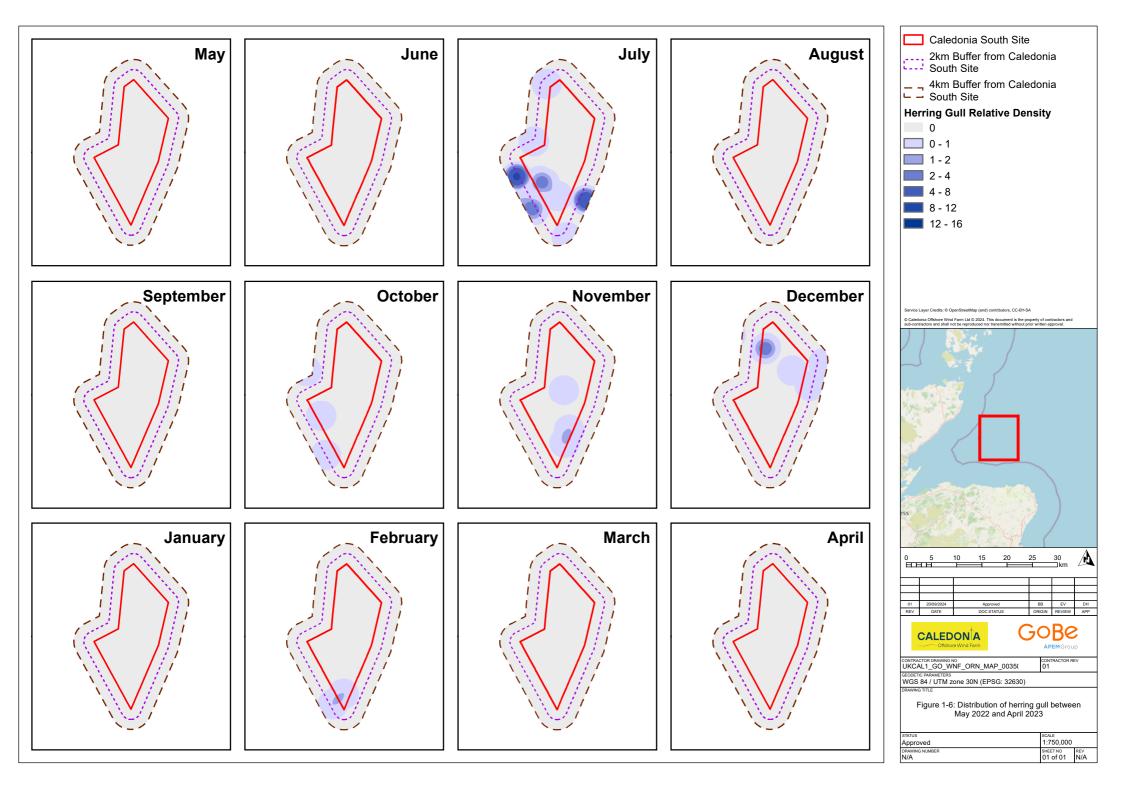
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1.4 Herring Gull

1.4.1.1 Spatial distribution maps, generated using design-based estimates, for herring gull throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-5 and Figure 1-6, respectively.





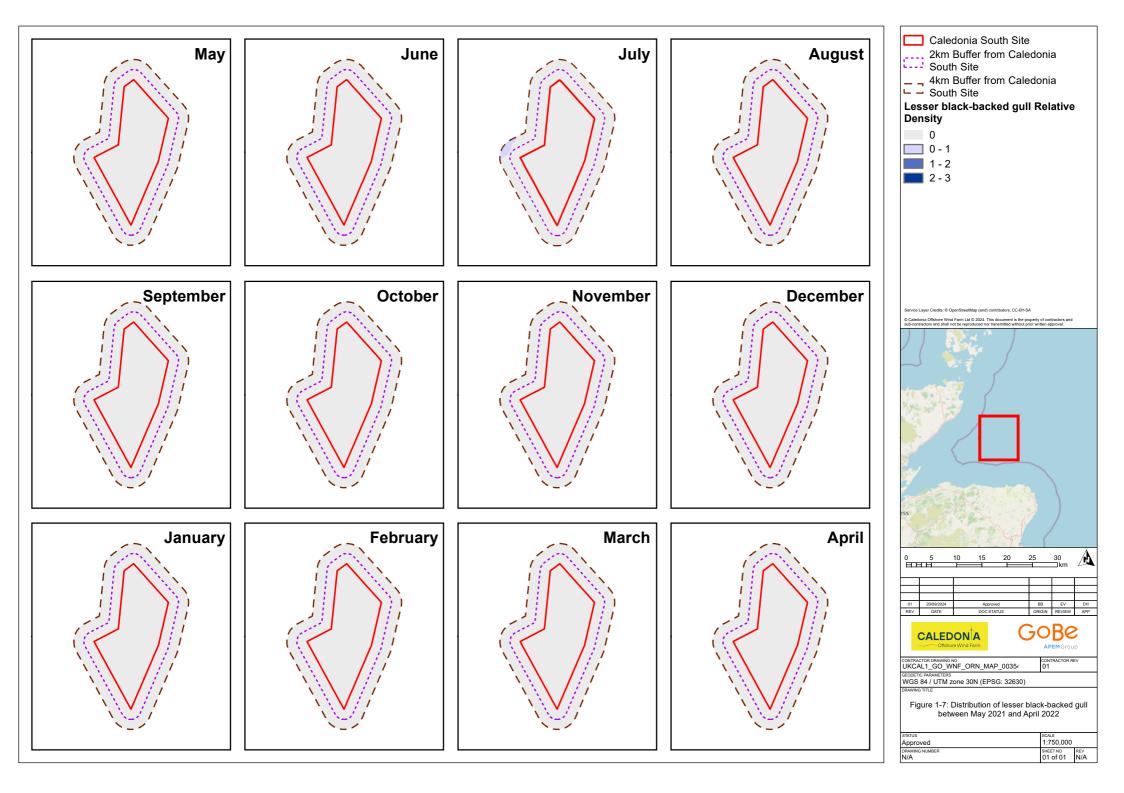


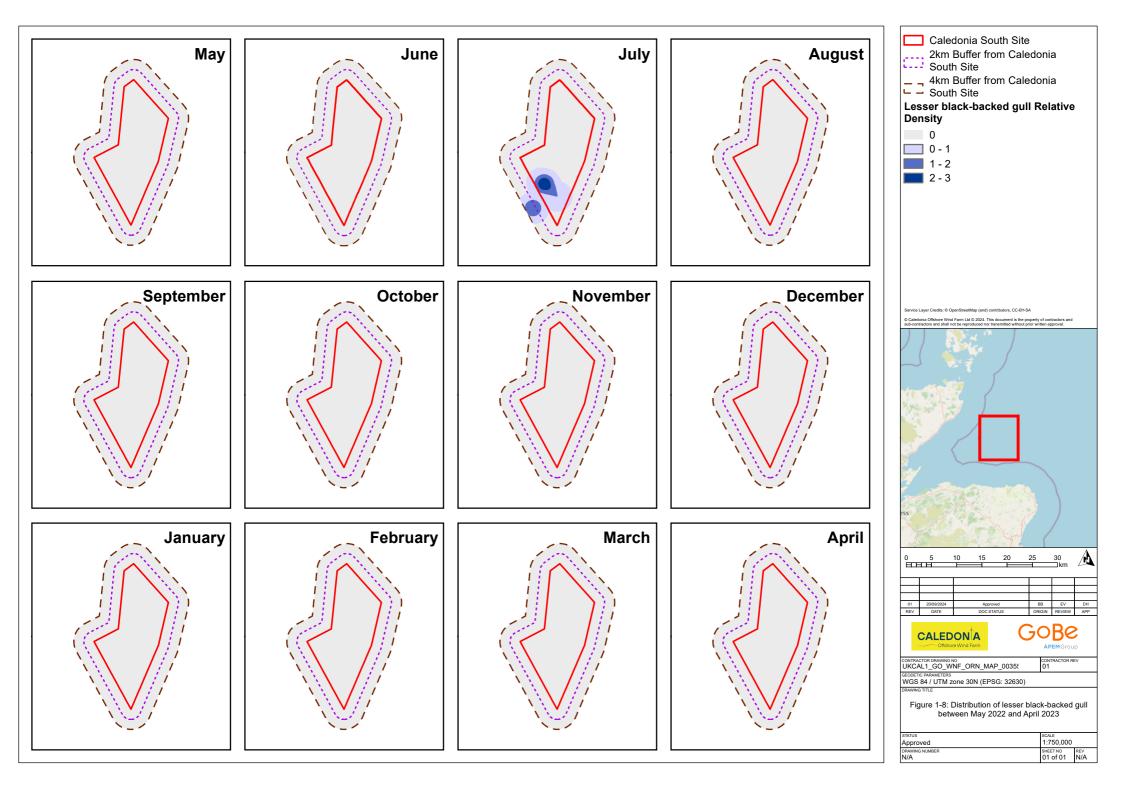
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1.5 Lesser Black-backed Gull

1.5.1.1 Spatial distribution maps, generated using design-based estimates, for lesser black-backed gull throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-7 and Figure 1-8, respectively.





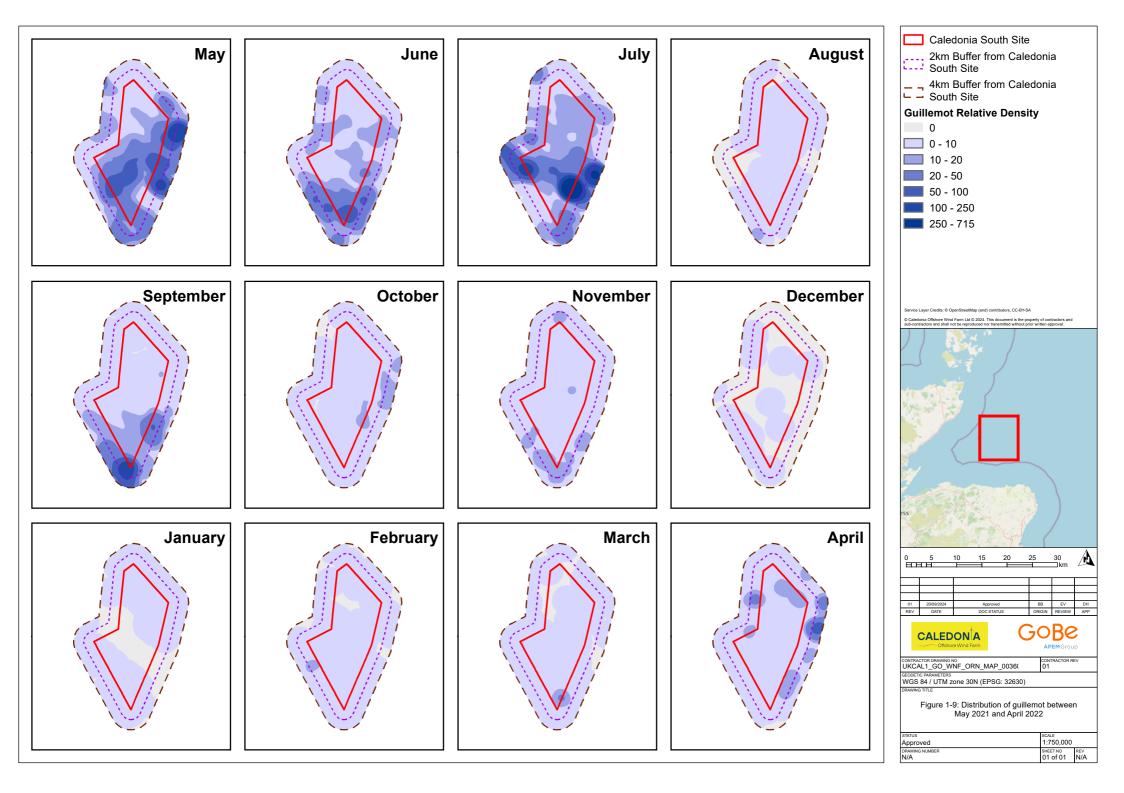


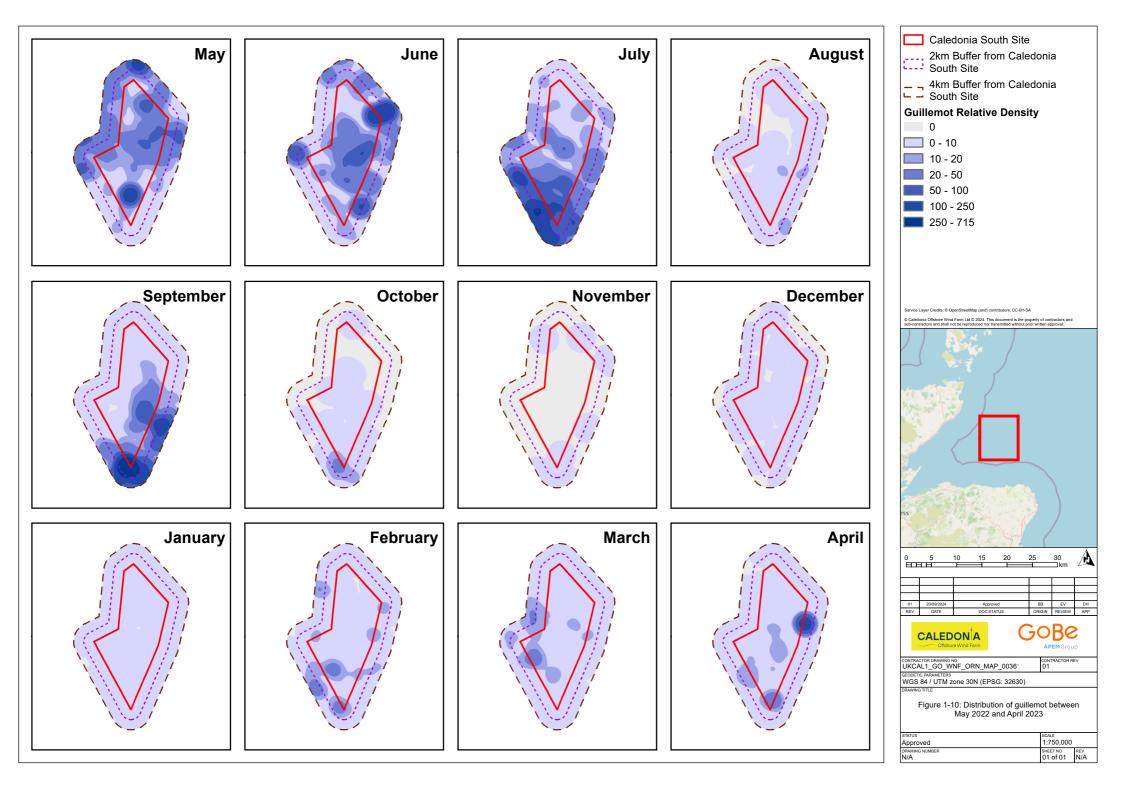
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1.6 Guillemot

1.6.1.1 Spatial distribution maps, generated using design-based estimates, for guillemot throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-9 and Figure 1-10, respectively.





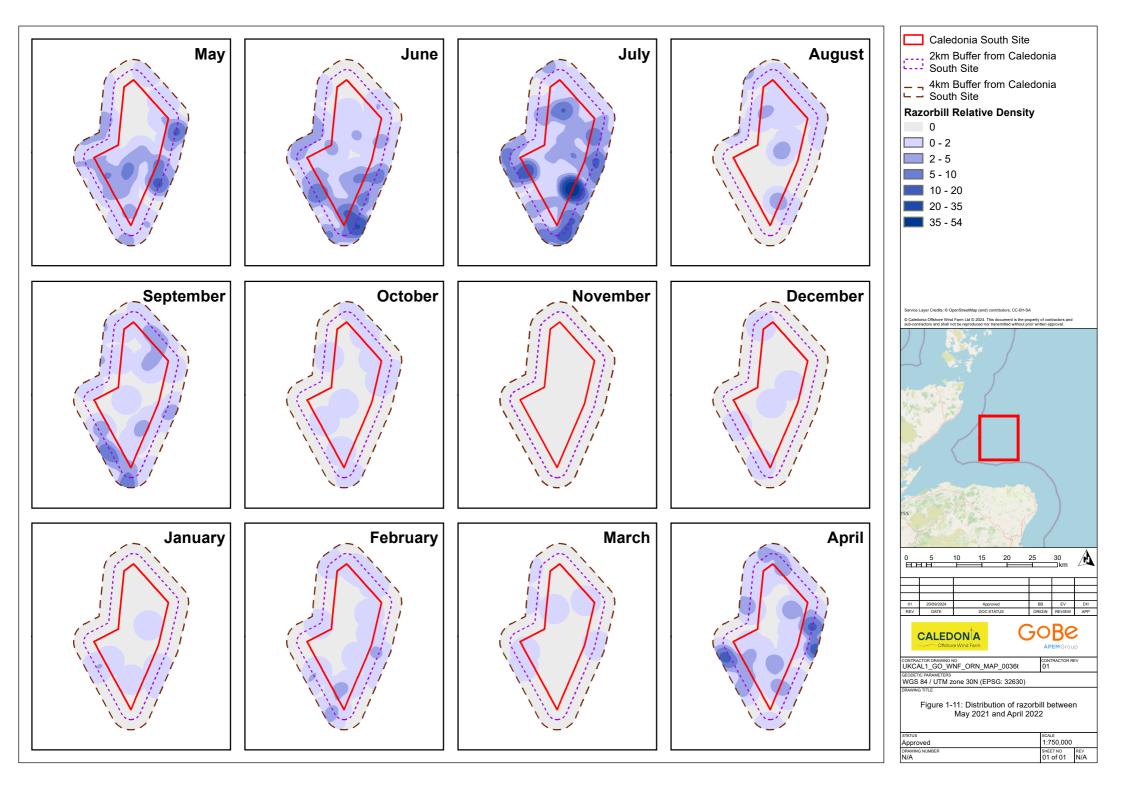


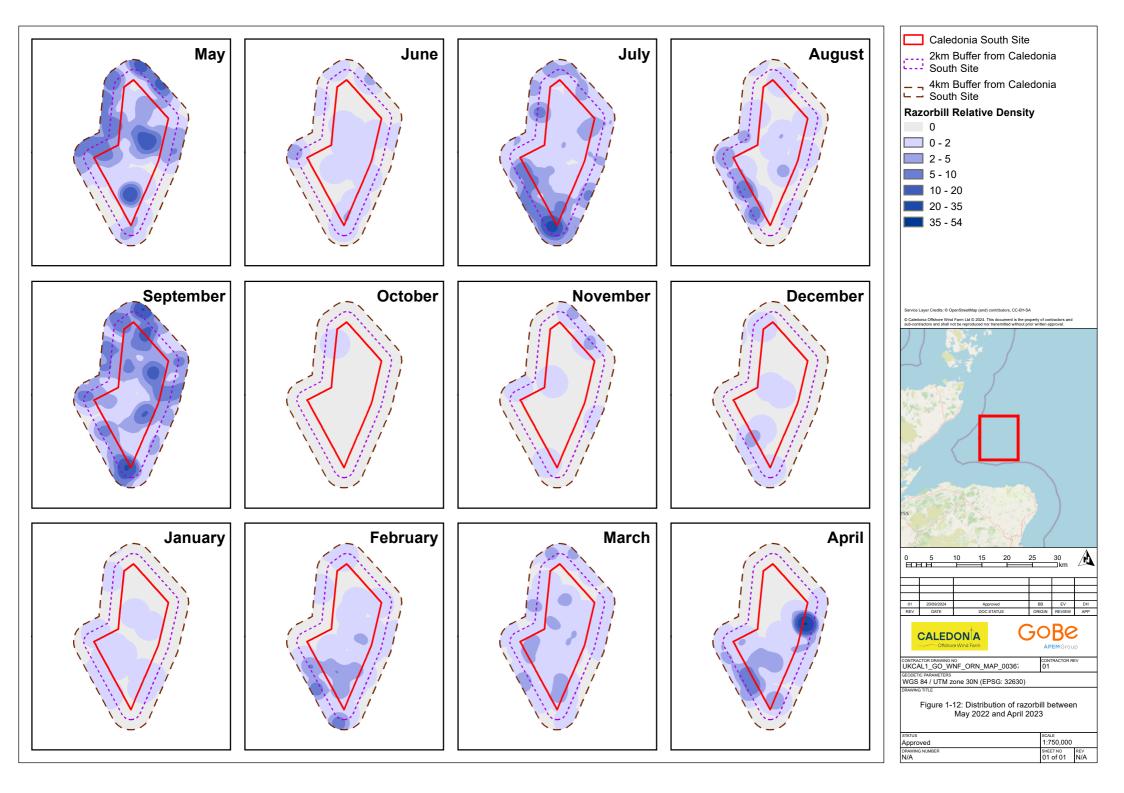
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1.7 Razorbill

1.7.1.1 Spatial distribution maps, generated using design-based estimates, for razorbill throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-11 and Figure 1-12, respectively.





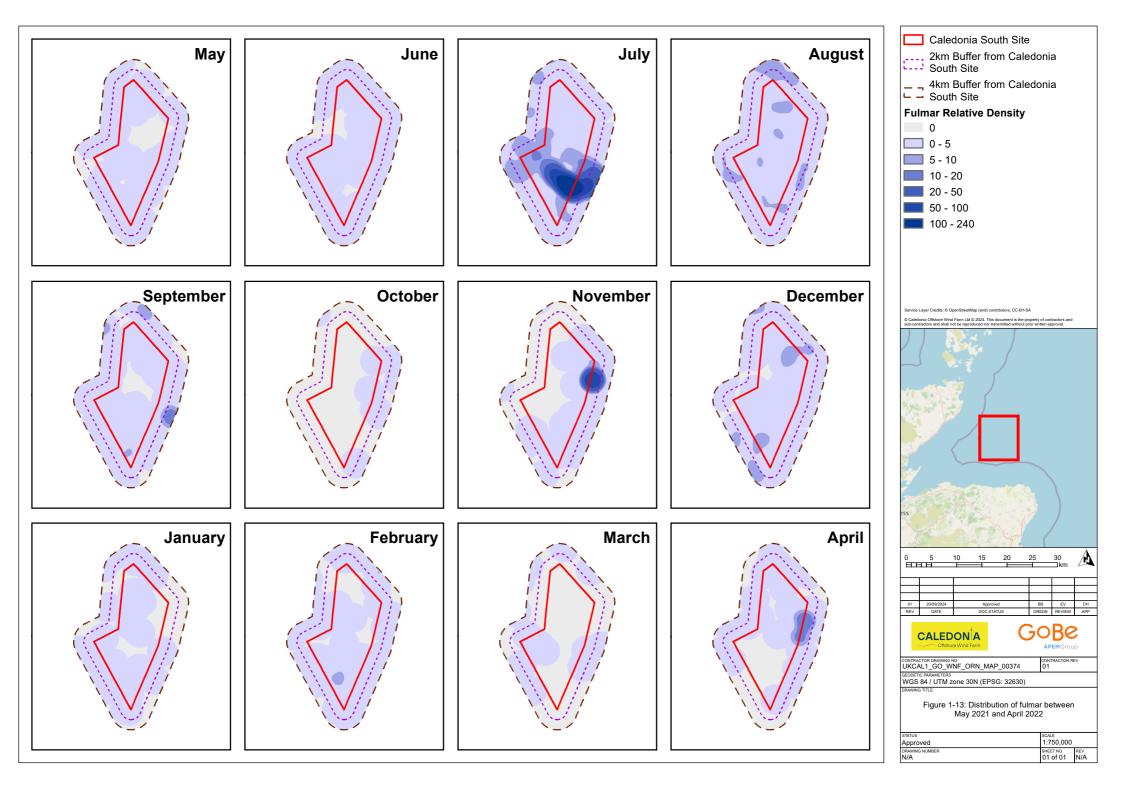


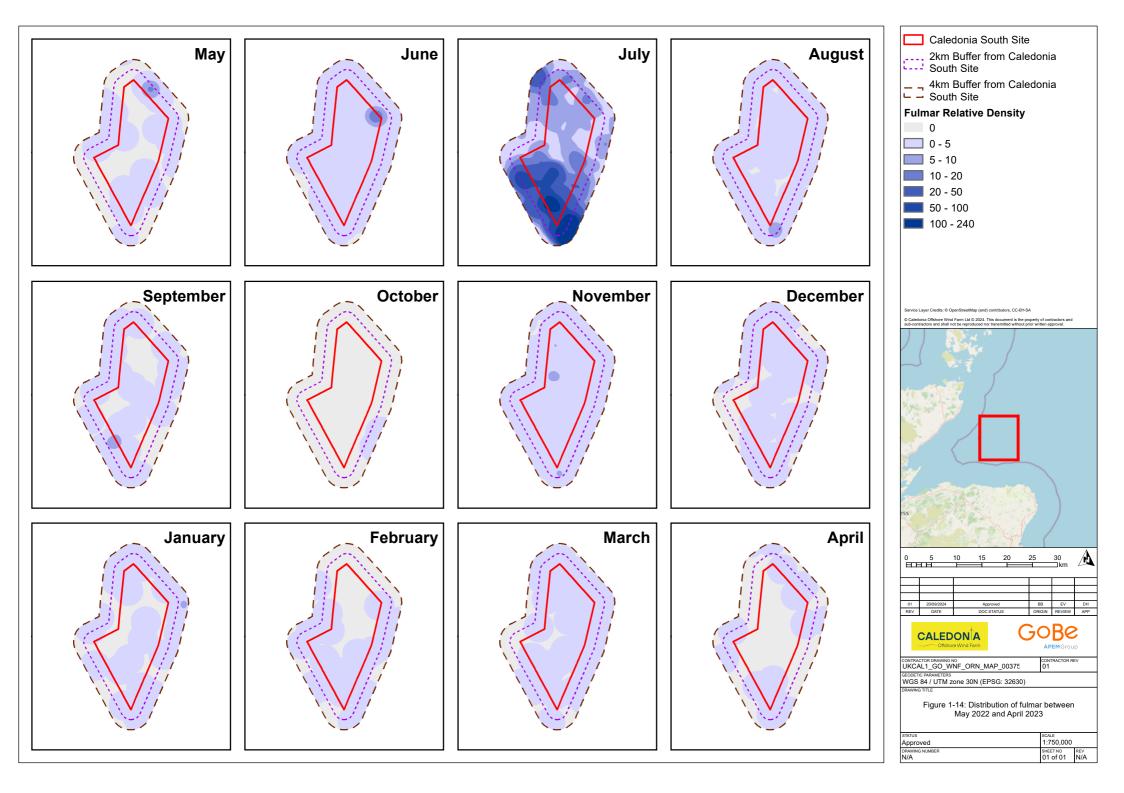
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1.8 Fulmar

1.8.1.1 Spatial distribution maps, generated using design-based estimates, for fulmar throughout theh Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-13 and Figure 1-14, respectively.





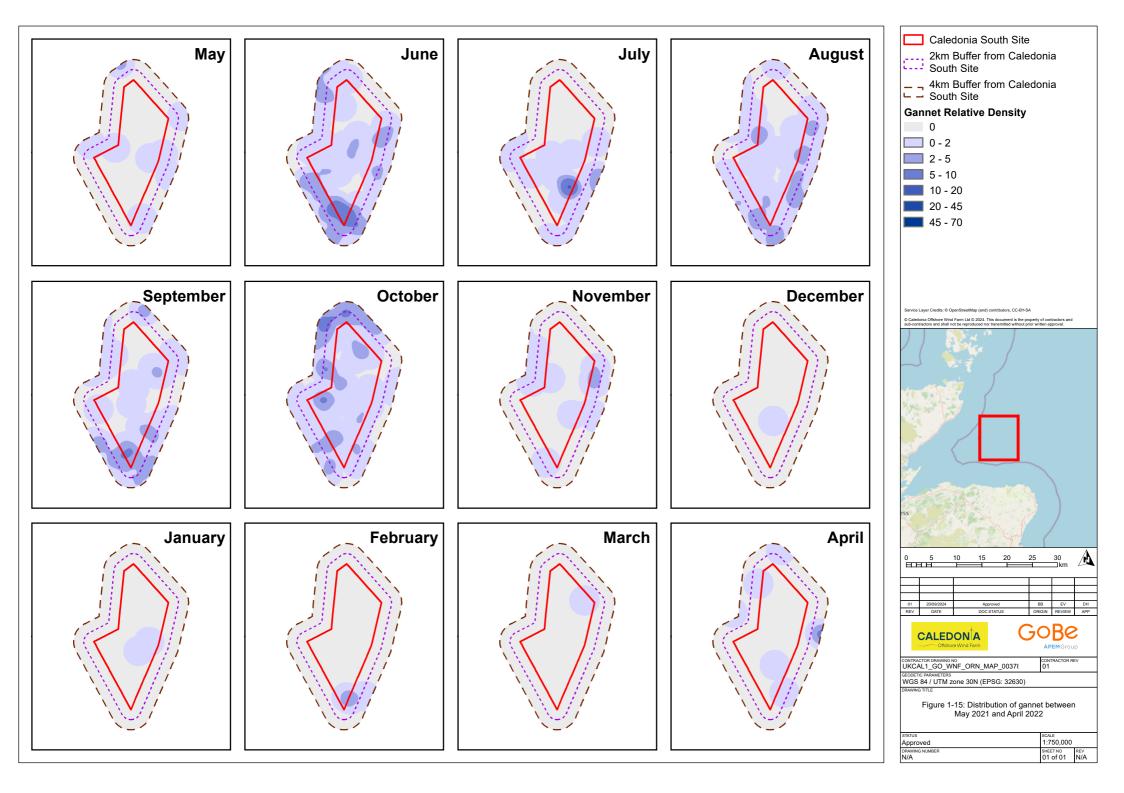


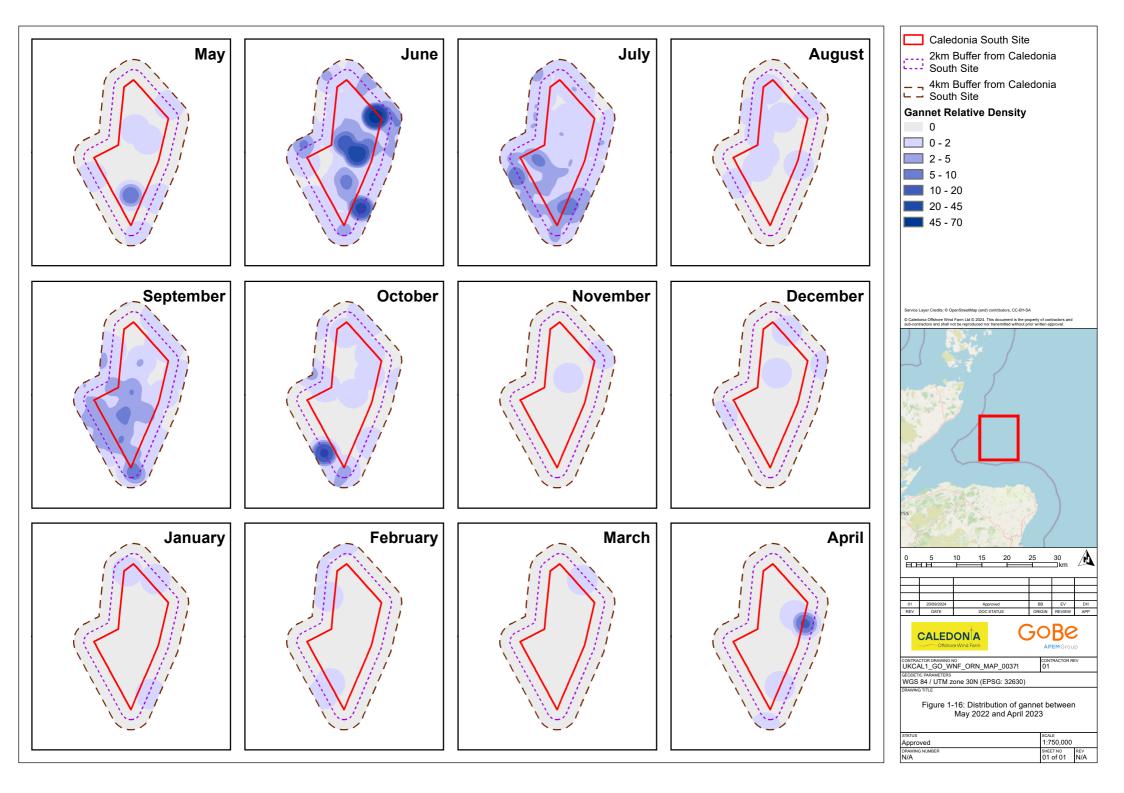
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1.9 Gannet

1.9.1.1 Spatial distribution maps, generated using design-based estimates, for gannet throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-15 and Figure 1-16, respectively.





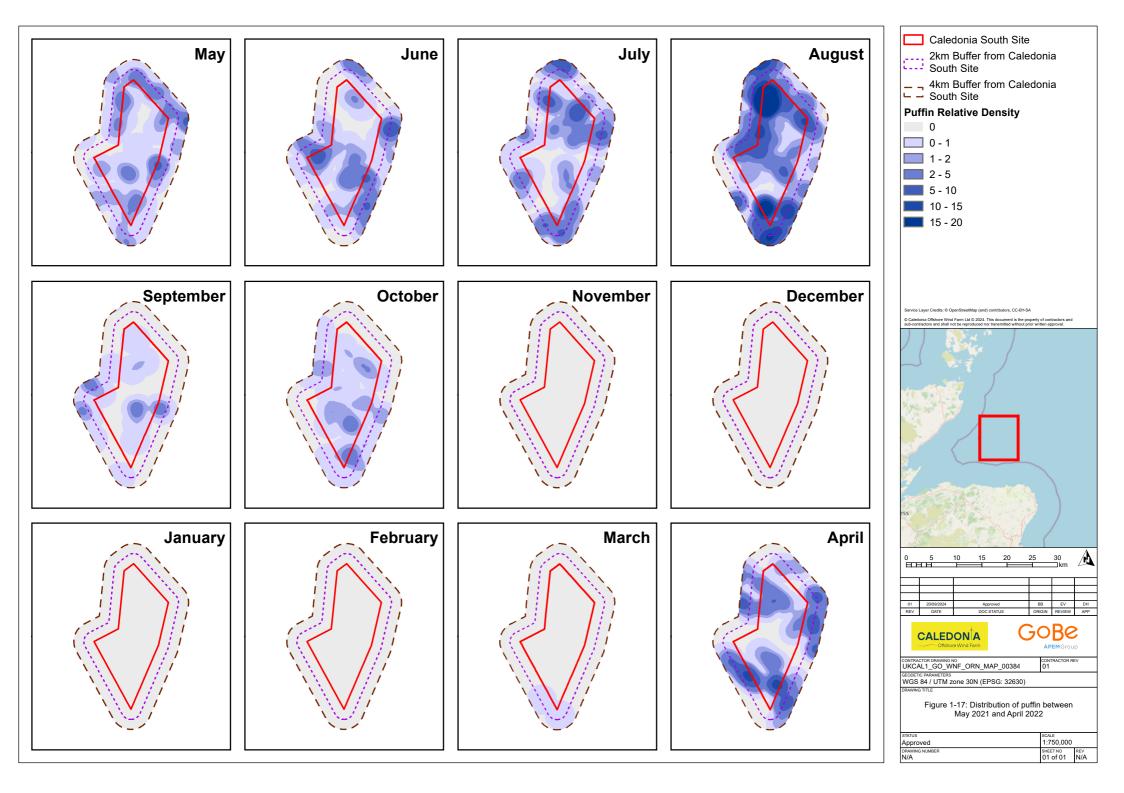


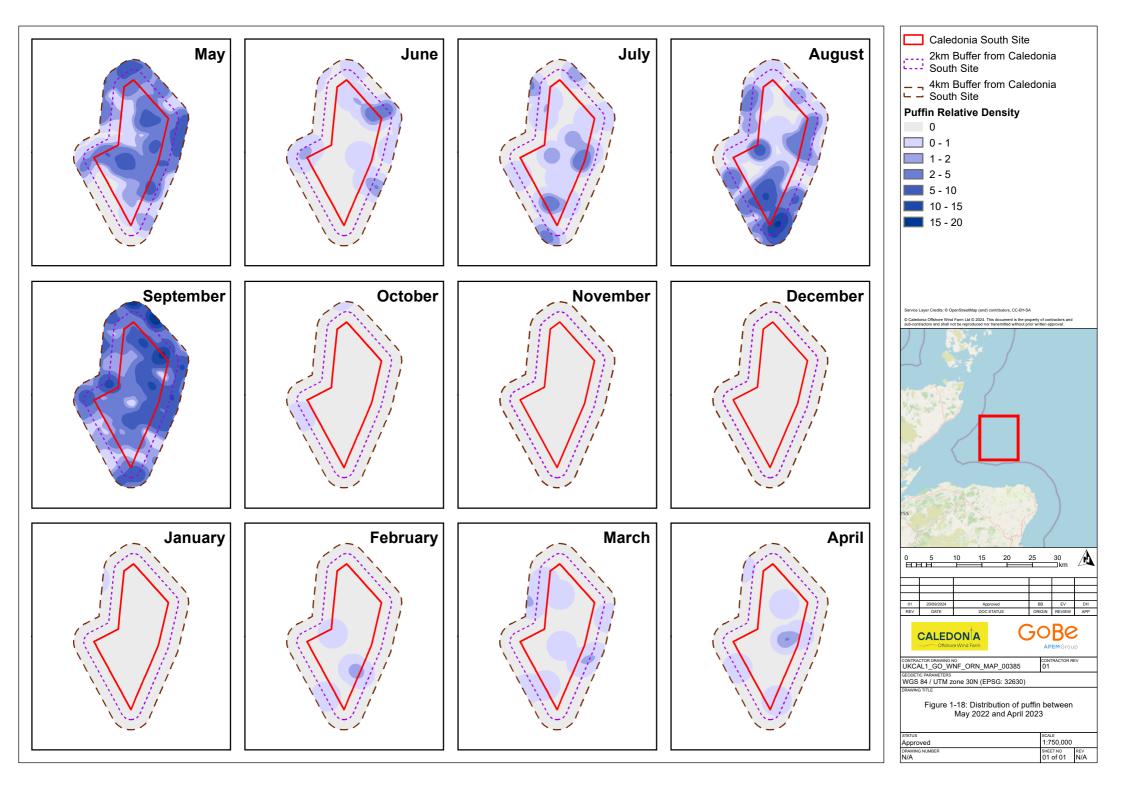
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1.10 Puffin

1.10.1.1 Spatial distribution maps, generated using design-based estimates, for puffin throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-17 and Figure 1-18, respectively.





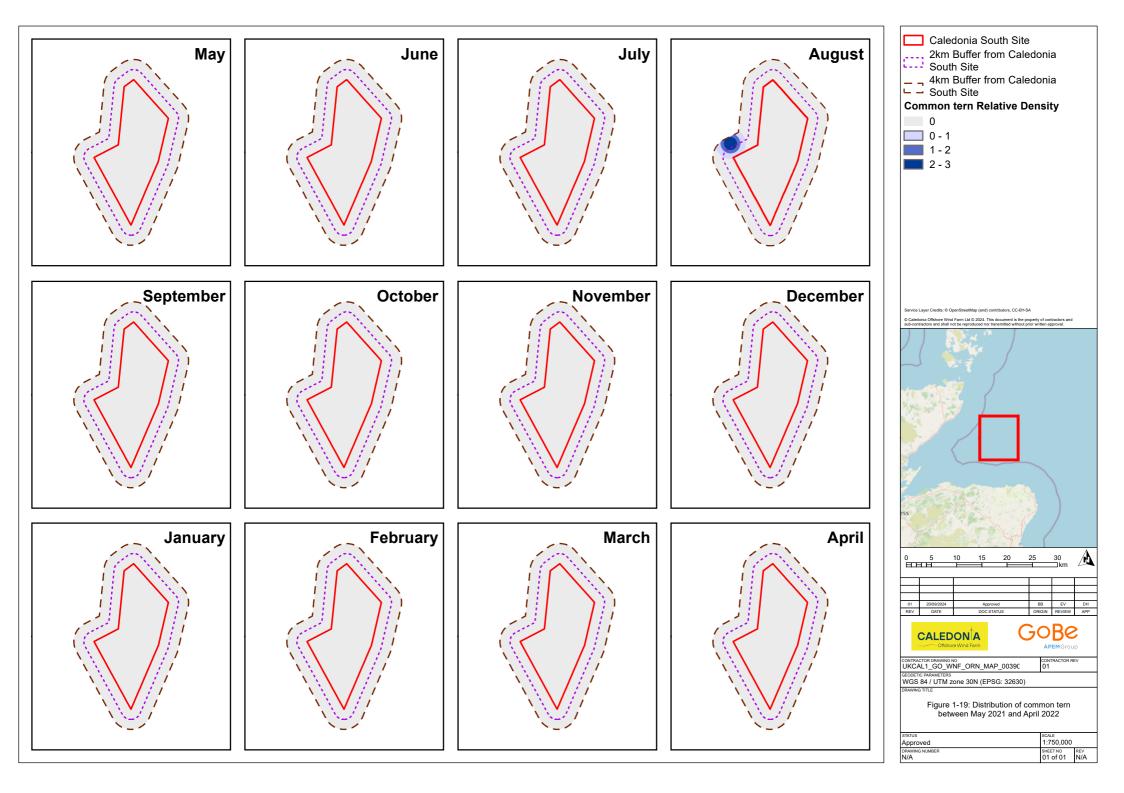


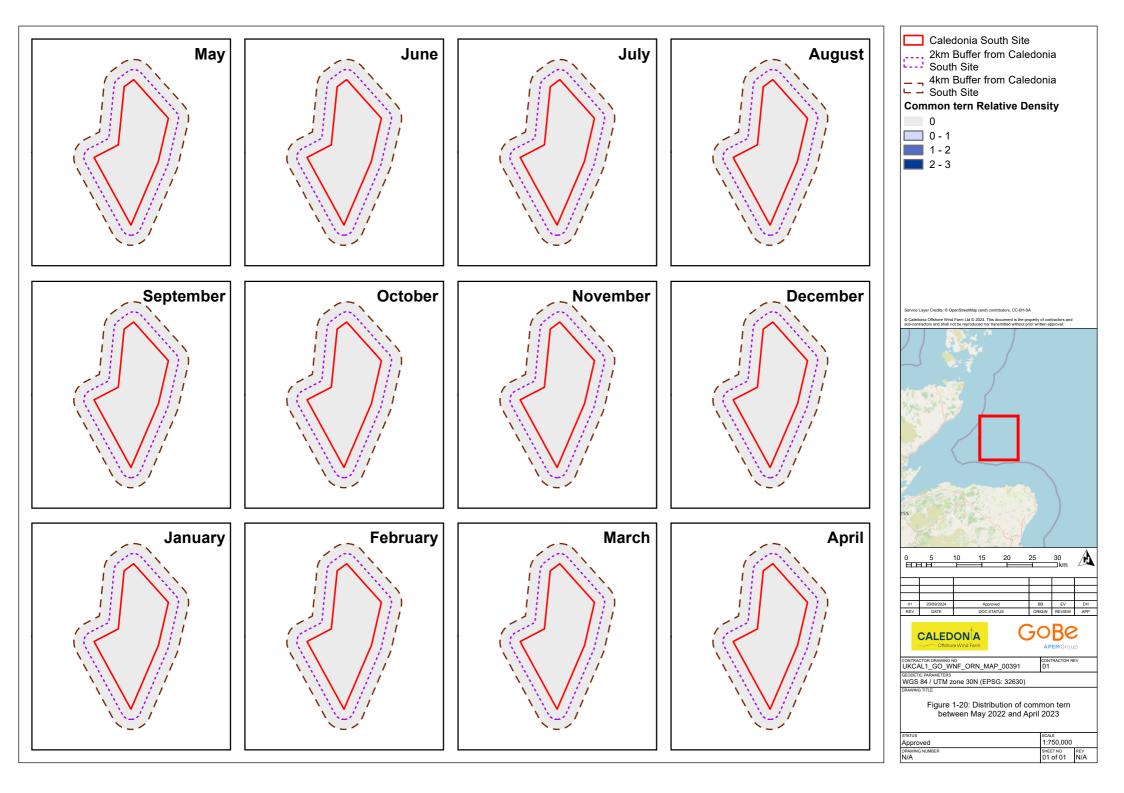
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1.11 Common Tern

1.11.1.1 Spatial distribution maps, generated using design-based estimates, for common tern throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-19 and Figure 1-20, respectively.





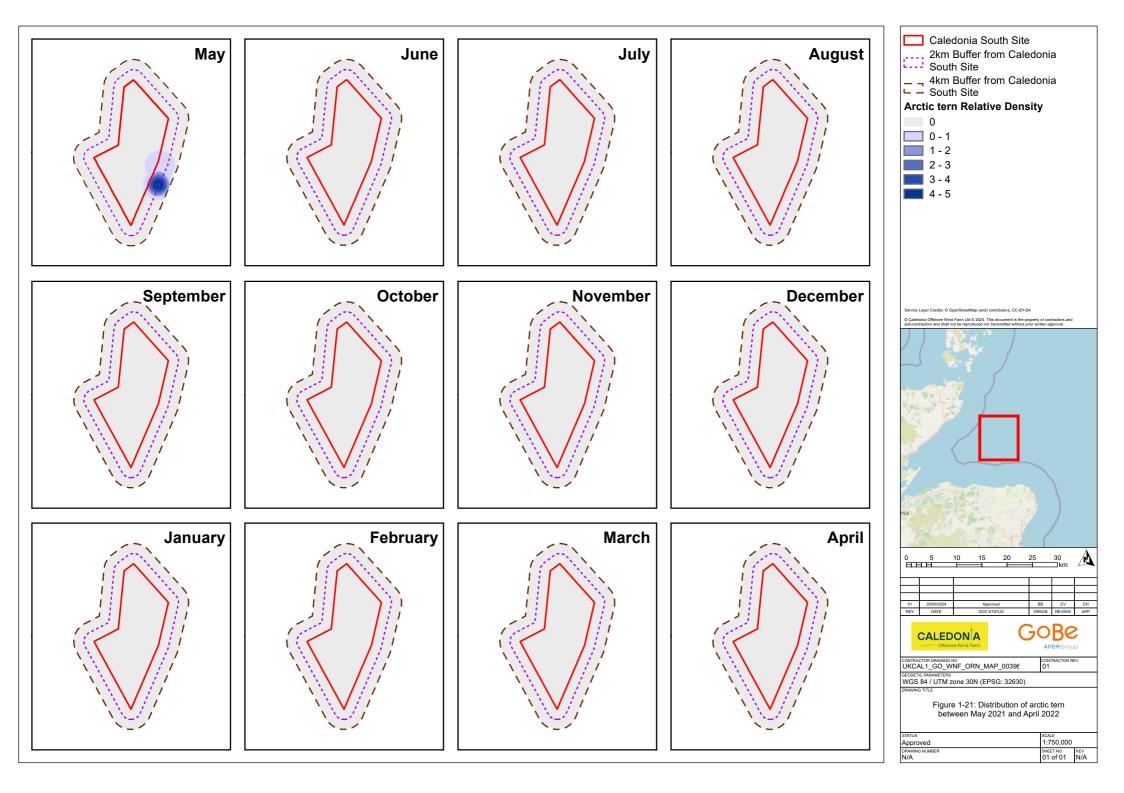


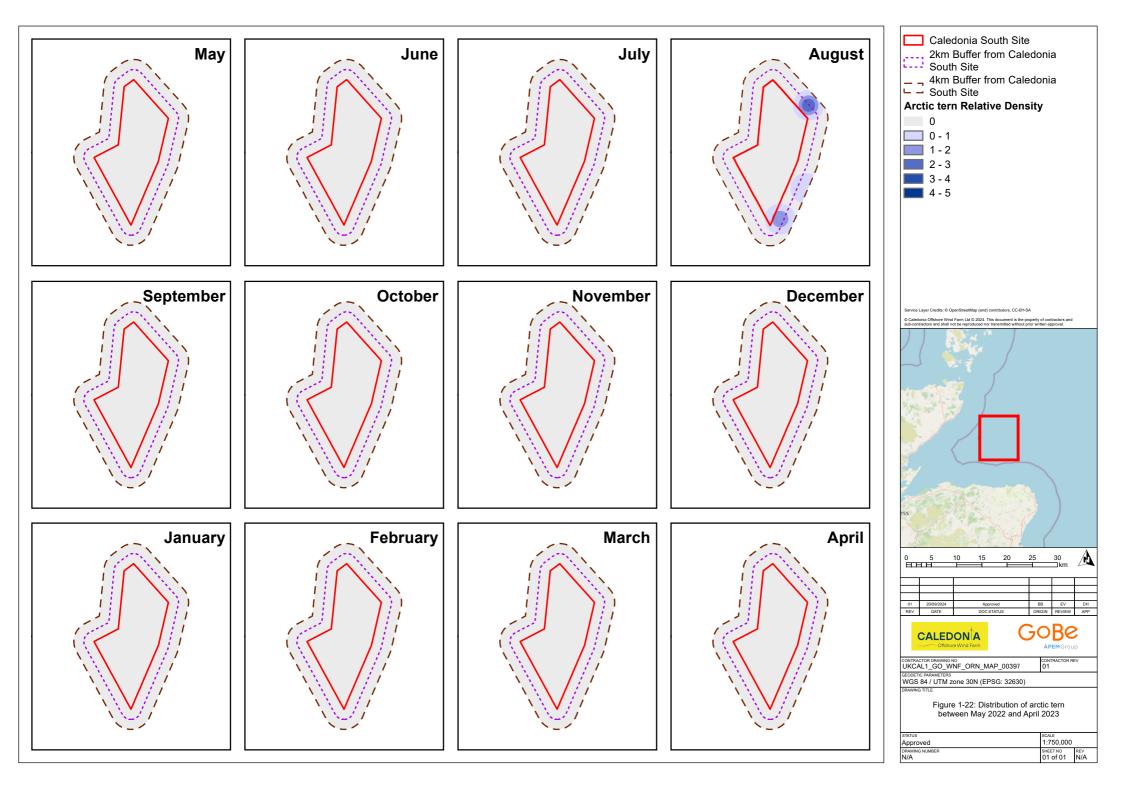
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1.12 Arctic Tern

1.12.1.1 Spatial distribution maps, generated using design-based estimates, for Arctic tern throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-21 and Figure 1-22, respectively.





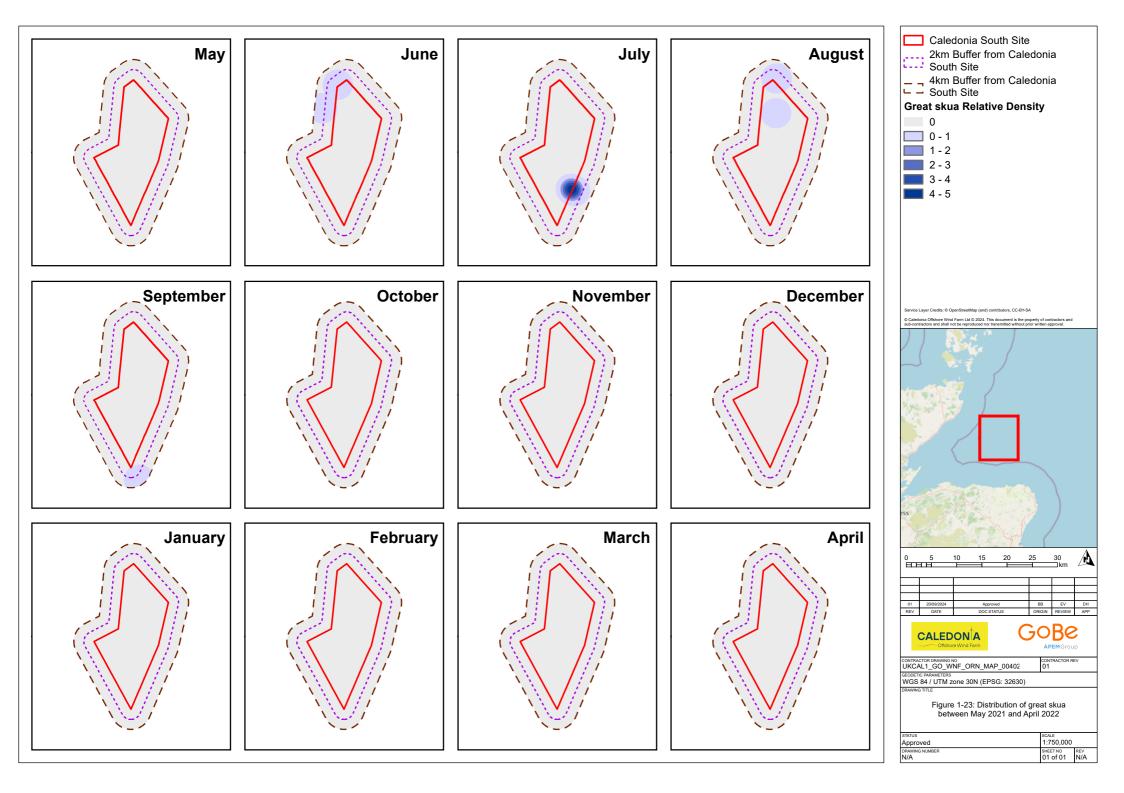


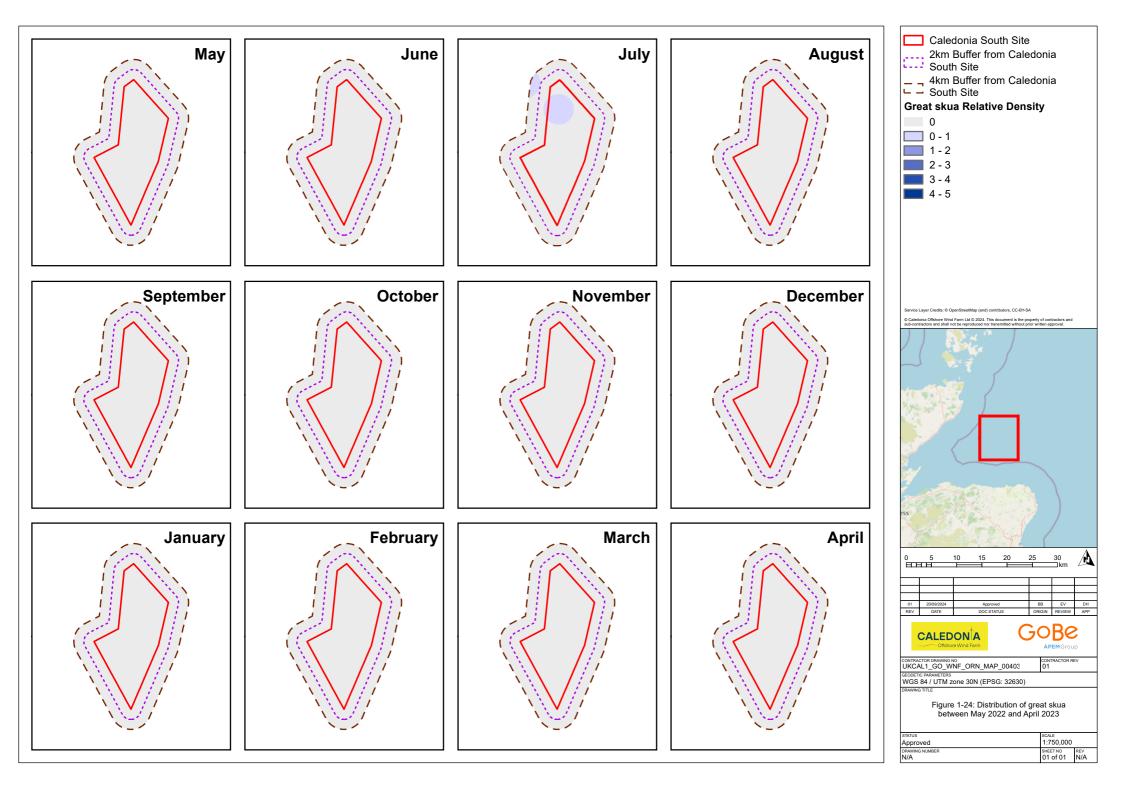
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1.13 Great Skua

1.13.1.1 Spatial distribution maps, generated using design-based estimates, for great skua throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-23 and Figure 1-24, respectively.





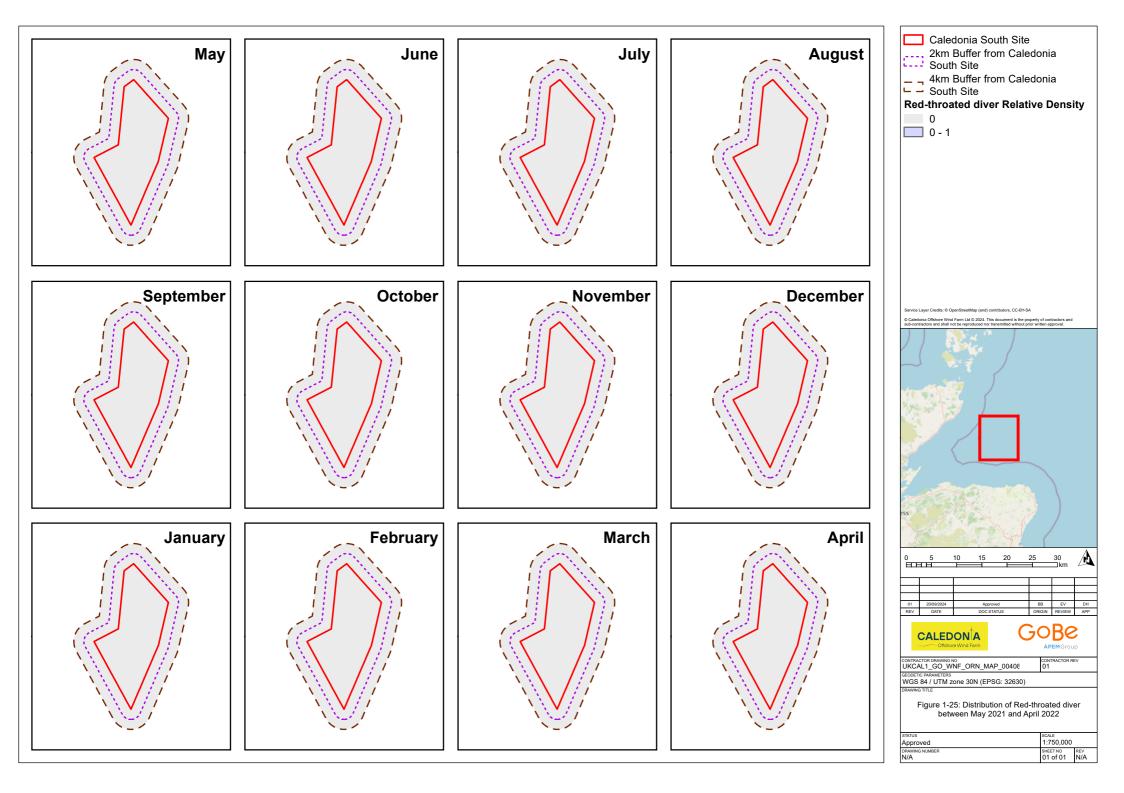


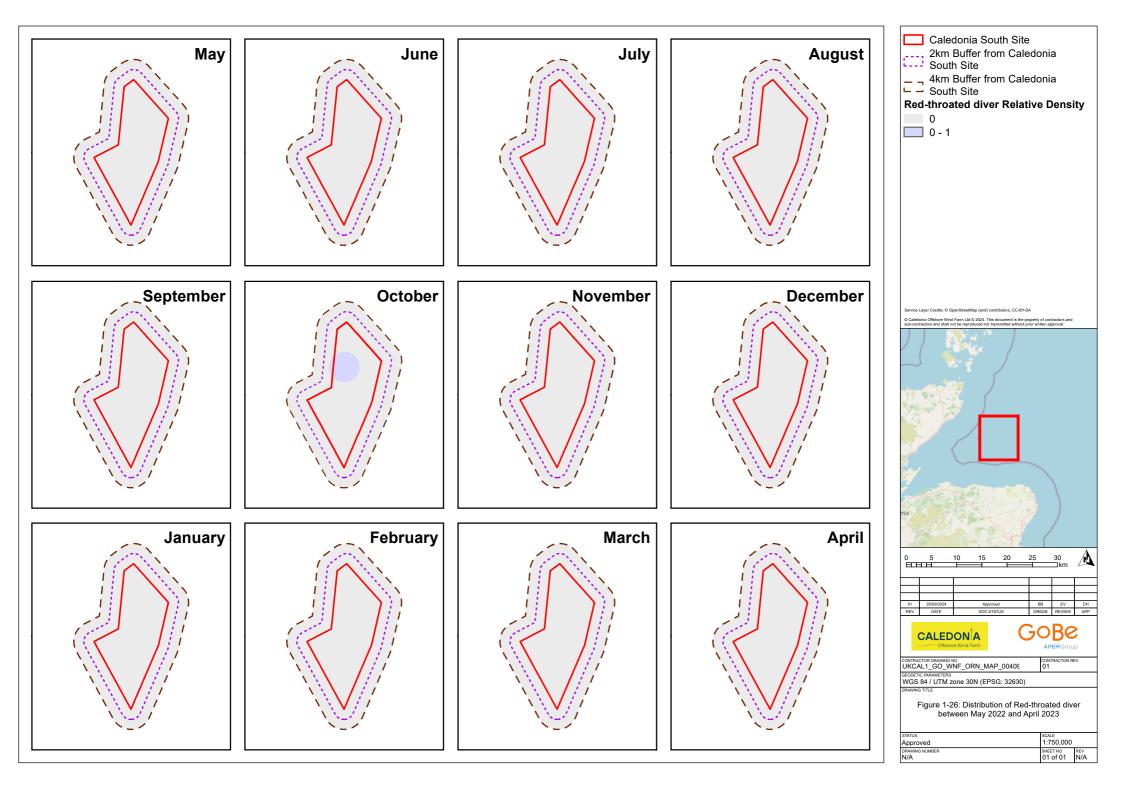
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1.14 Red-throated Diver

1.14.1.1 Spatial distribution maps, generated using design-based estimates, for redthroated diver throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-25 and Figure 1-26, respectively.





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