



**Code:** UKCAL-CWF-CON-EIA-RPT-00007-7B28

## **Volume 7B Proposed Development (Offshore) Appendices**

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

**Caledonia Offshore Wind Farm Ltd**

5th Floor Atria One, 144 Morrison Street, Edinburgh, EH3 8EX

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

<b>Code</b>	UKCAL-CWF-CON-EIA-RPT-00007-7B28
<b>Revision</b>	Issued
<b>Date</b>	18 October 2024

# Table of Contents

1	Spatial Distribution Figures .....	1
1.1	Introduction .....	1
1.2	Kittiwake .....	2
1.3	Great Black-backed Gull .....	5
1.4	Herring Gull.....	8
1.5	Lesser Black-backed Gull .....	11
1.6	Guillemot.....	14
1.7	Razorbill .....	17
1.8	Fulmar .....	20
1.9	Gannet .....	23
1.10	Puffin .....	26
1.11	Common Tern.....	29
1.12	Arctic Tern .....	32
1.13	Great Skua.....	35
1.14	Red-throated Diver.....	38

## List of Figures

Figure 1-1: Distribution of kittiwake between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	3
Figure 1-2: Distribution of kittiwake between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	4
Figure 1-3: Distribution of great black-backed gull between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ...	6
Figure 1-4: Distribution of great black-backed gull between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ...	7
Figure 1-5: Distribution of herring gull between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	9
Figure 1-6: Distribution of herring gull between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	10
Figure 1-7: Distribution of lesser black-backed gull between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	12
Figure 1-8: Distribution of lesser black-backed gull between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	13
Figure 1-9: Distribution of guillemot between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	15
Figure 1-10: Distribution of guillemot between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	16
Figure 1-11: Distribution of razorbill between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	18
Figure 1-12: Distribution of razorbill between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	19
Figure 1-13: Distribution of fulmar between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	21
Figure 1-14: Distribution of fulmar between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	22
Figure 1-15: Distribution of gannet between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	24

Figure 1-16: Distribution of gannet between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	25
Figure 1-17: Distribution of puffin between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	27
Figure 1-18: Distribution of puffin between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	28
Figure 1-19: Distribution of common tern between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	30
Figure 1-20: Distribution of common tern between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	31
Figure 1-21: Distribution of Arctic tern between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	33
Figure 1-22: Distribution of Arctic tern between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	34
Figure 1-23: Distribution of great skua between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	36
Figure 1-24: Distribution of great skua between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ....	37
Figure 1-25: Distribution of red-throated diver between May 2021 and April 2022 throughout the Caledonia South Site (plus 2km and 4km buffers). ...	39
Figure 1-26: Distribution of red-throated diver between May 2022 and April 2023 throughout the Caledonia South Site (plus 2km and 4km buffers). ...	40

# Acronyms and Abbreviations

<b>OWF</b>	Offshore Wind Farm
------------	--------------------

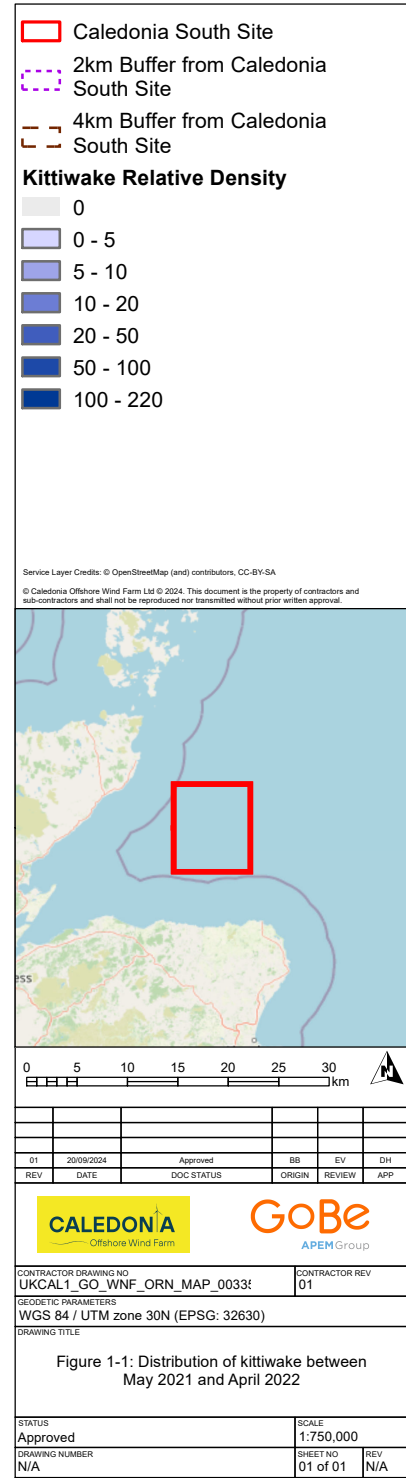
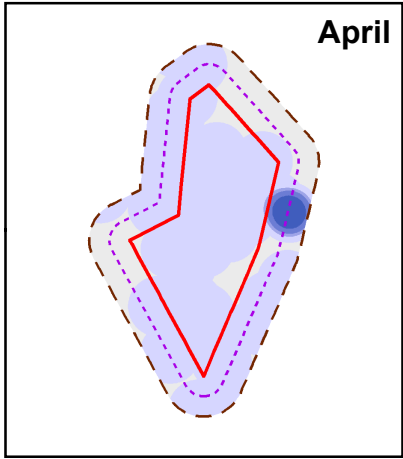
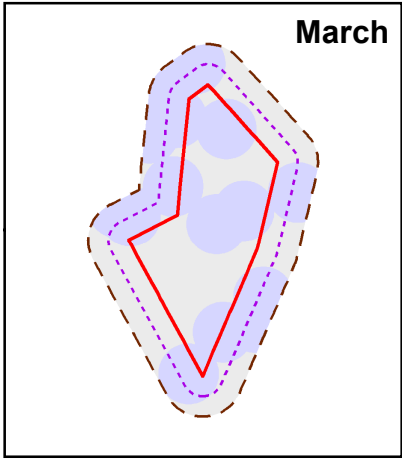
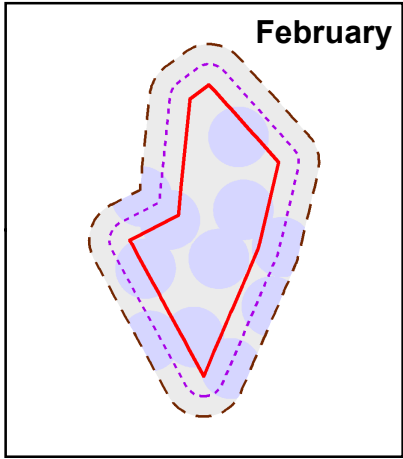
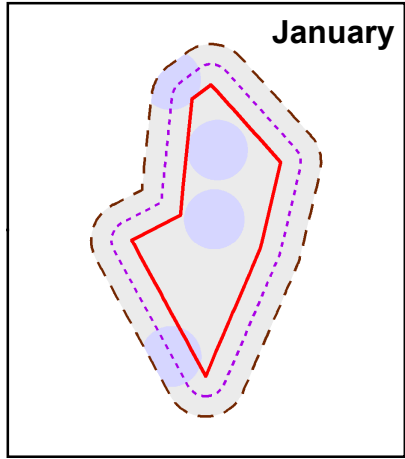
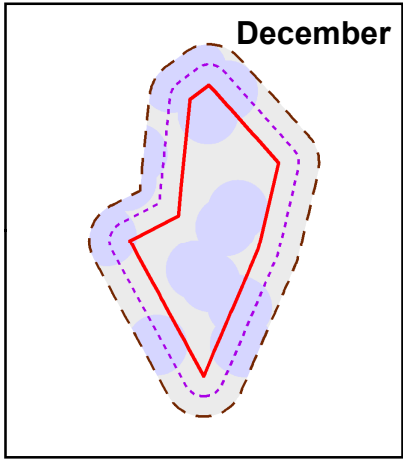
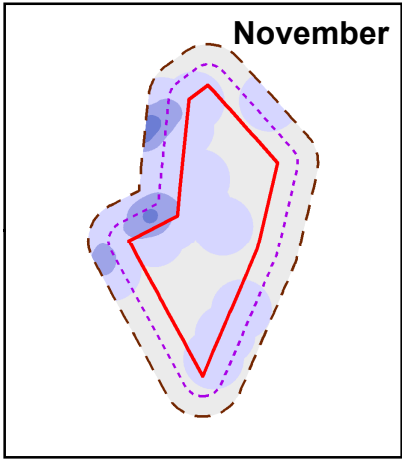
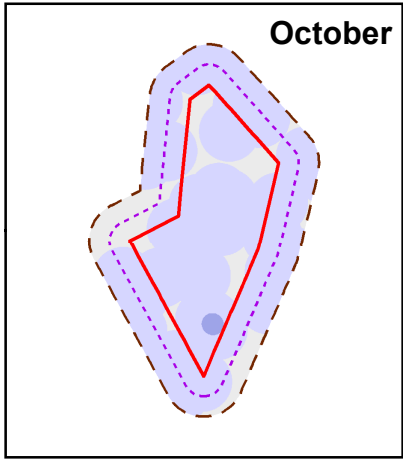
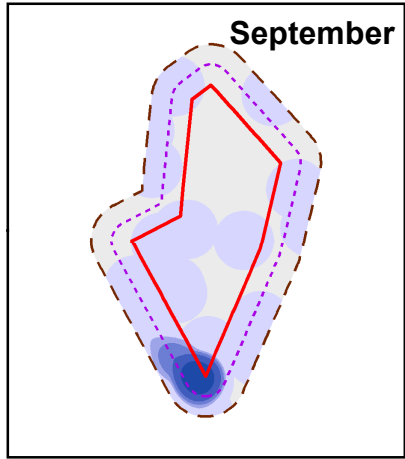
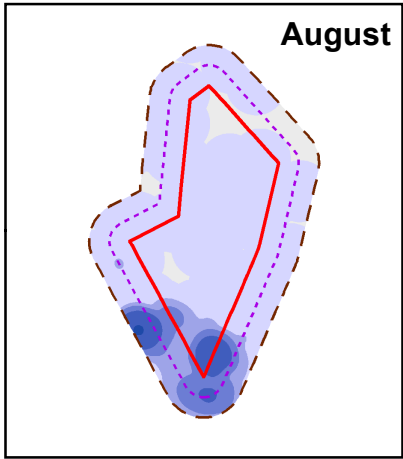
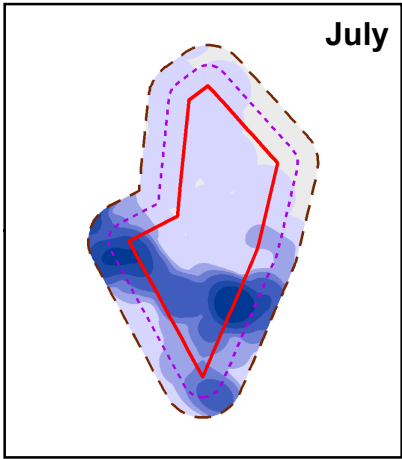
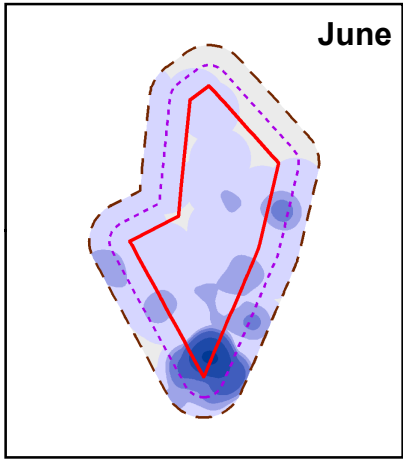
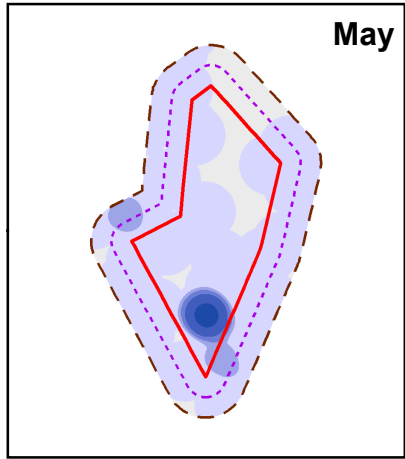
# 1 Spatial Distribution Figures

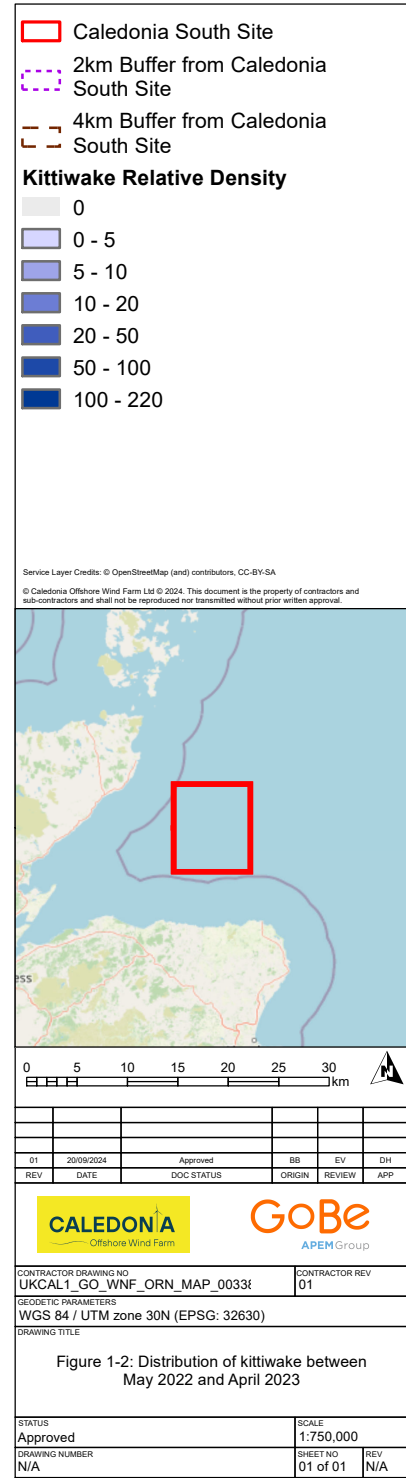
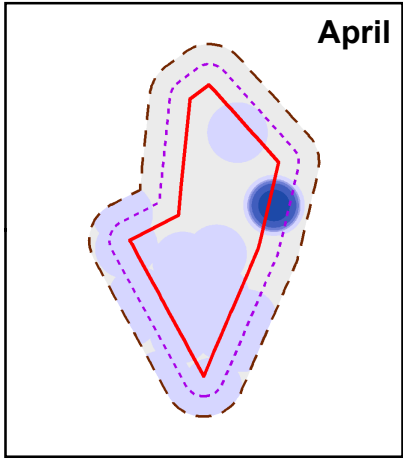
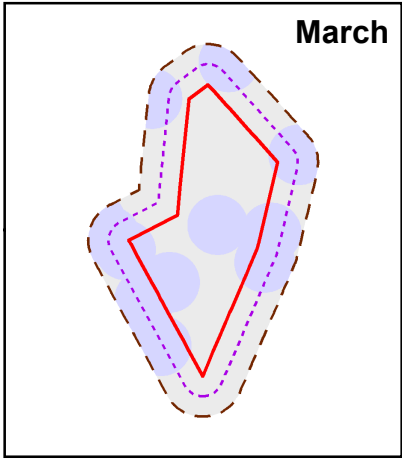
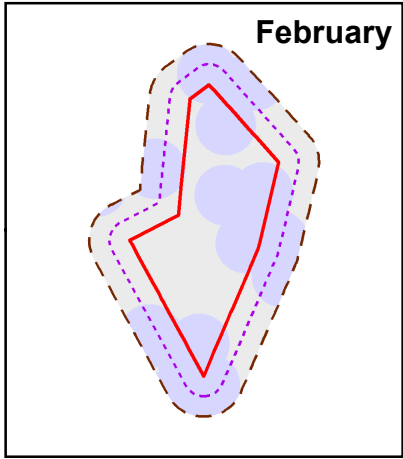
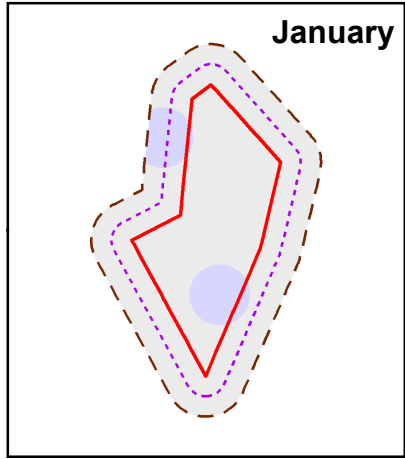
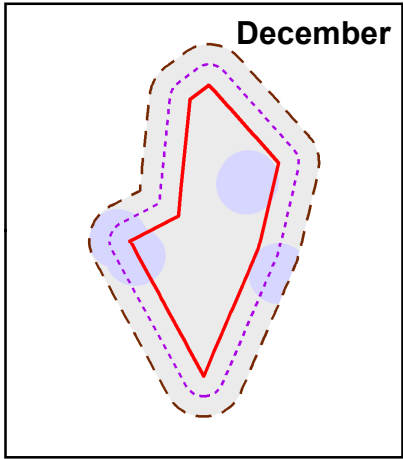
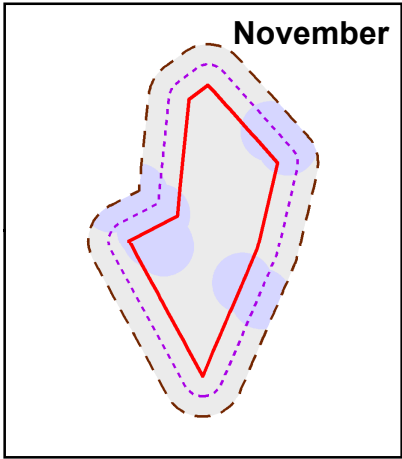
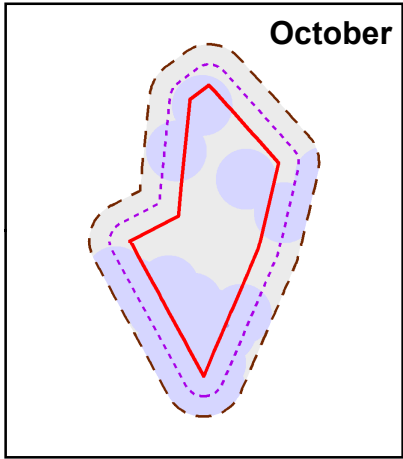
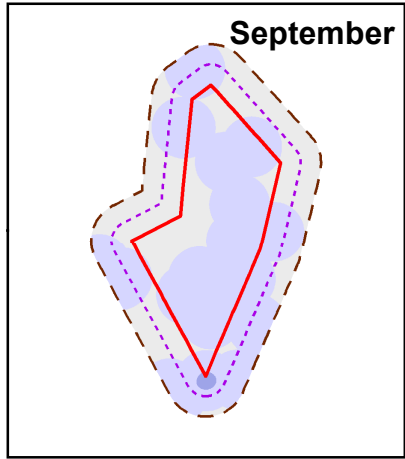
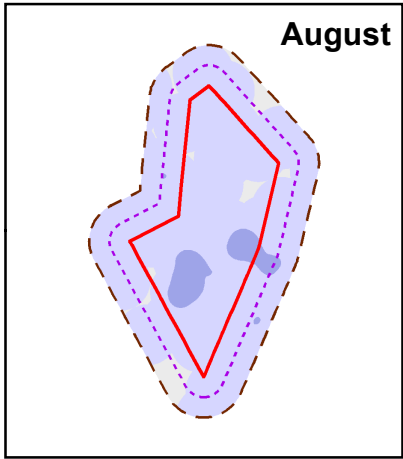
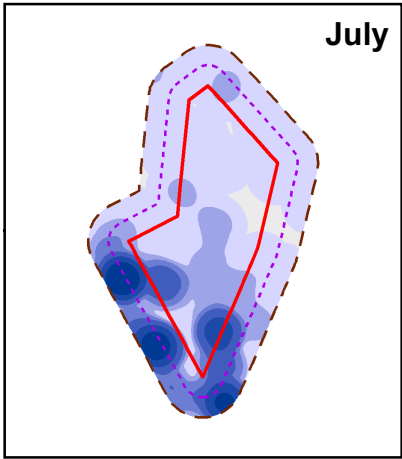
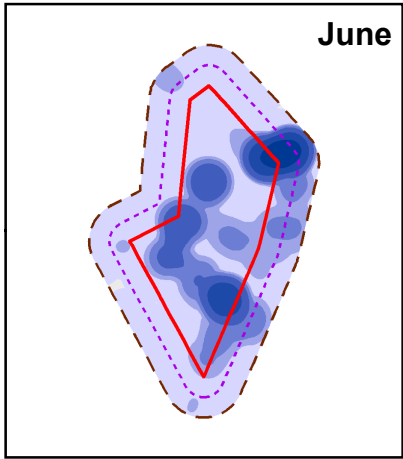
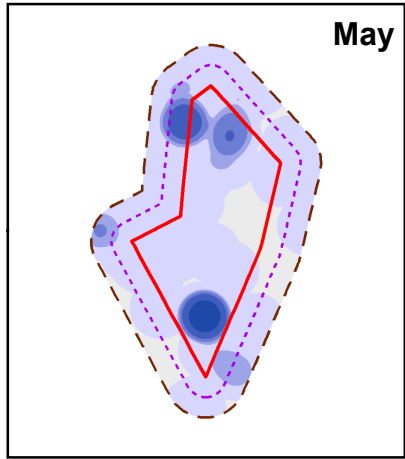
## 1.1 Introduction

- 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.

## 1.2 Kittiwake

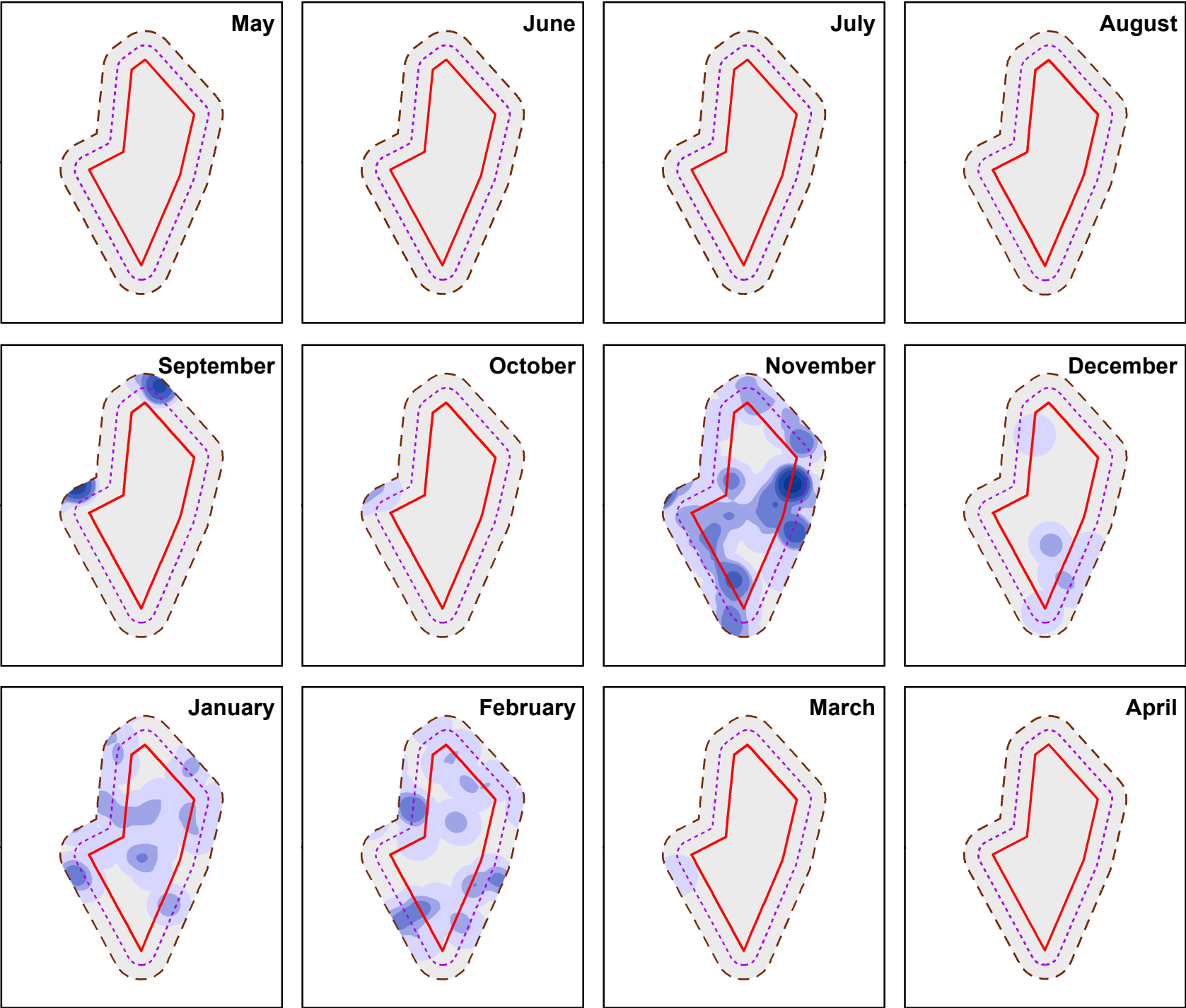
- 1.2.1.1 Spatial distribution maps, generated using design-based estimates, for kittiwake throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-1 and Figure 1-2, respectively.





## 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.

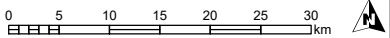


- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site



Great black-backed gull Relative Density

- 0
- 0 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 28

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_0034

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-3: Distribution of great black-backed gull between May 2021 and April 2022

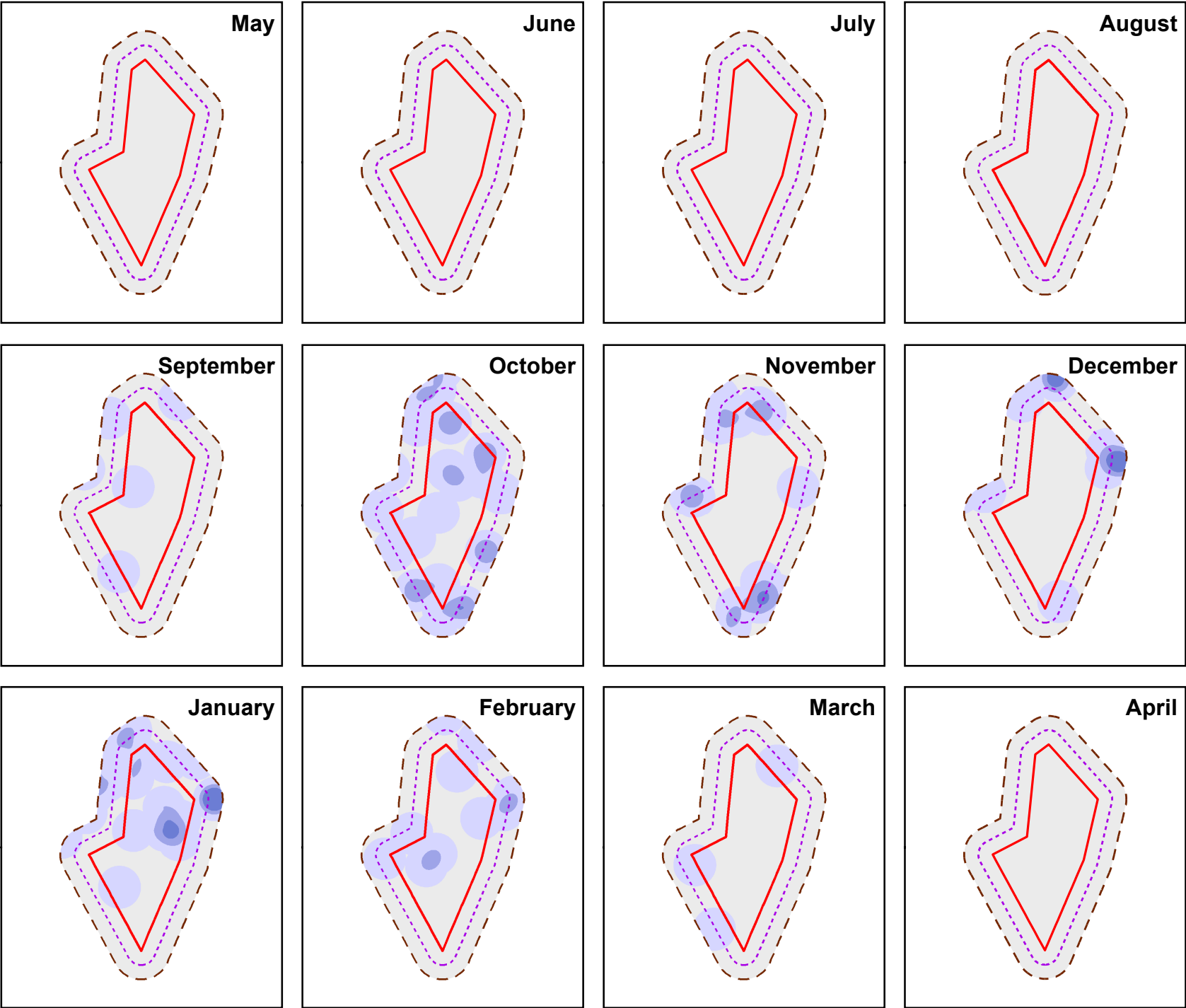
STATUS  
Approved

SCALE  
1:750,000

DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

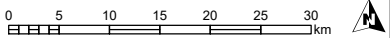


- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

Great black-backed gull Relative Density

- 0
- 0 - 1
- 1 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 28

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO UKCAL1\_GO\_WNF\_ORN\_MAP\_0034 CONTRACTOR REV 01

COORDINATE PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)

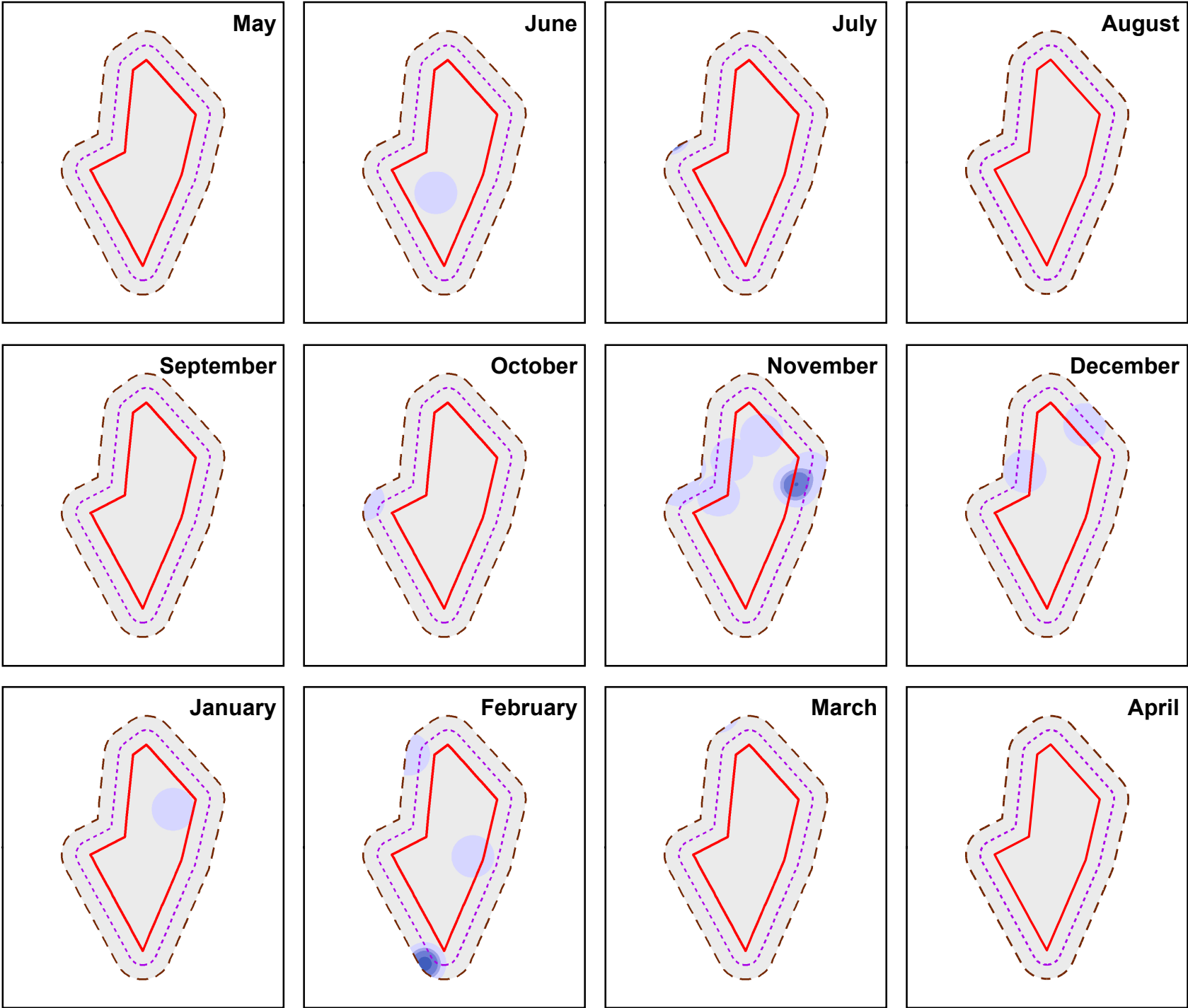
DRAWING TITLE

Figure 1-4: Distribution of great black-backed gull between May 2022 and April 2023

STATUS	Approved	SCALE	1:750,000
DRAWING NUMBER	N/A	SHEET NO	01 of 01
		REV	N/A

## 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.



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

Herring Gull Relative Density

0

0 - 1

1 - 2

2 - 4

4 - 8

8 - 12

12 - 16

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_0034;

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-5: Distribution of herring gull between May 2021 and April 2022

STATUS

Approved

SCALE

1:750,000

DRAWING NUMBER

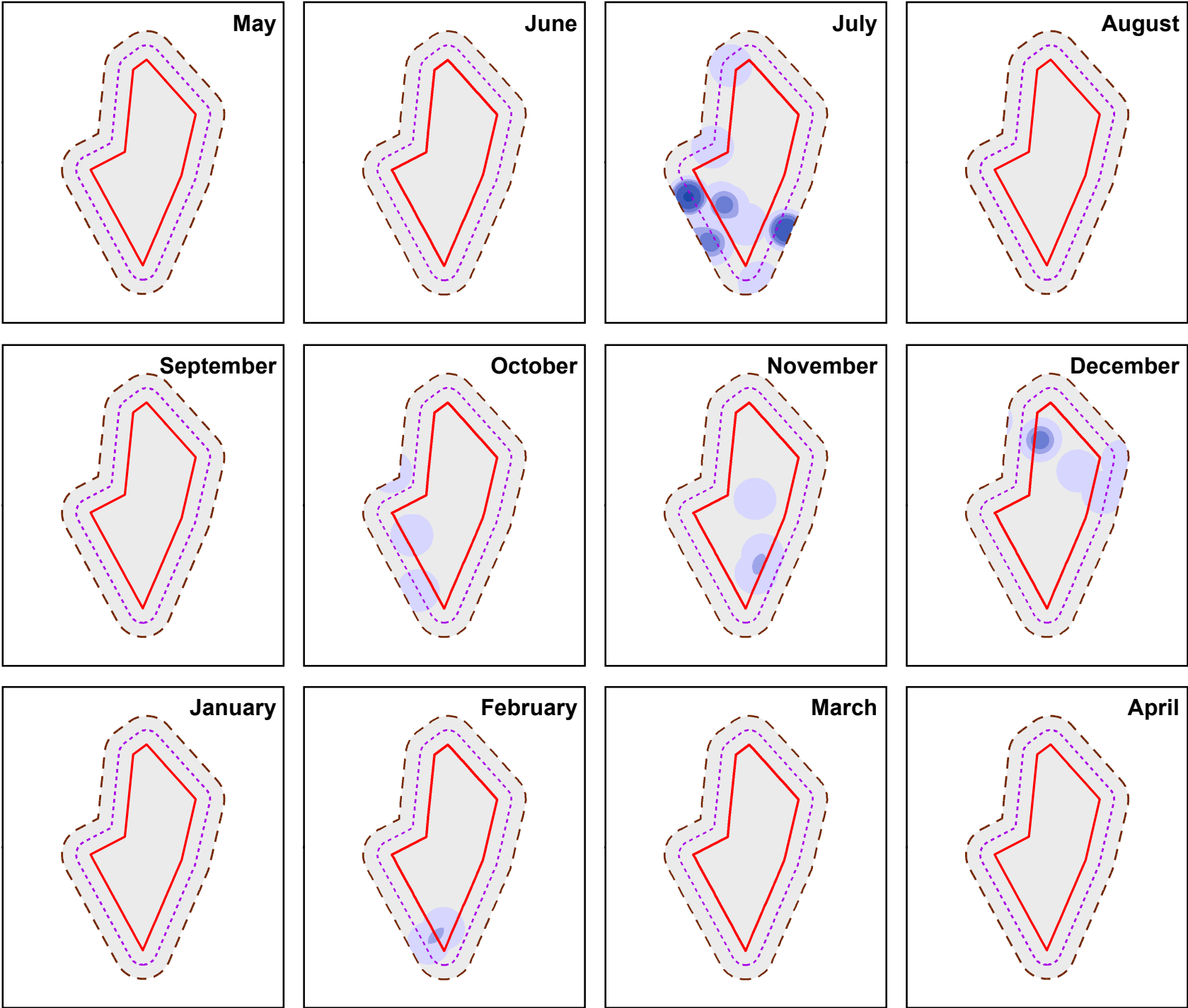
N/A

SHEET NO

01 of 01

REV

N/A



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

Herring Gull Relative Density

0

0 - 1

1 - 2

2 - 4

4 - 8

8 - 12

12 - 16

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_0035(

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-6: Distribution of herring gull between May 2022 and April 2023

STATUS

Approved

SCALE

1:750,000

DRAWING NUMBER

N/A

SHEET NO

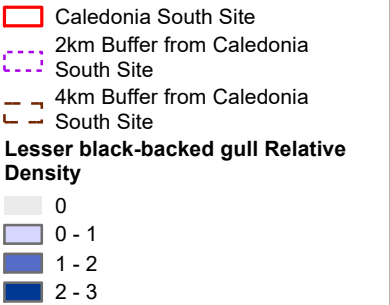
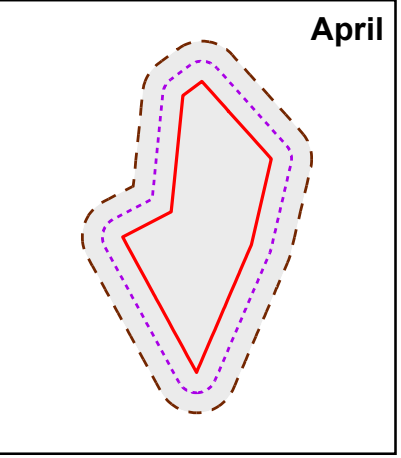
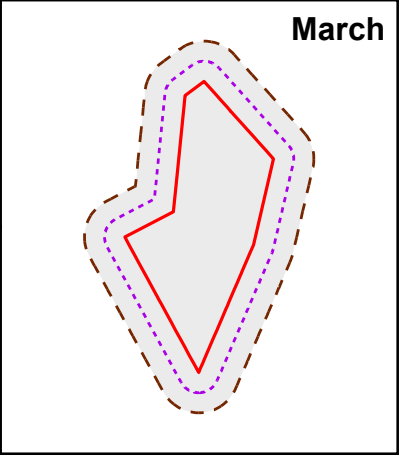
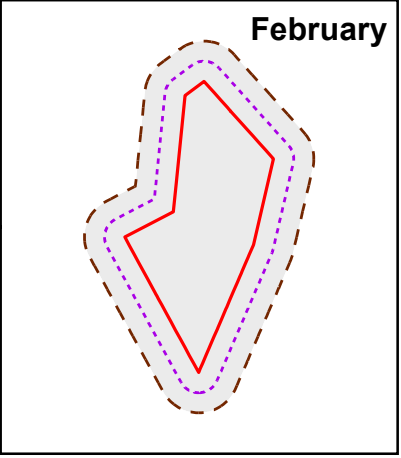
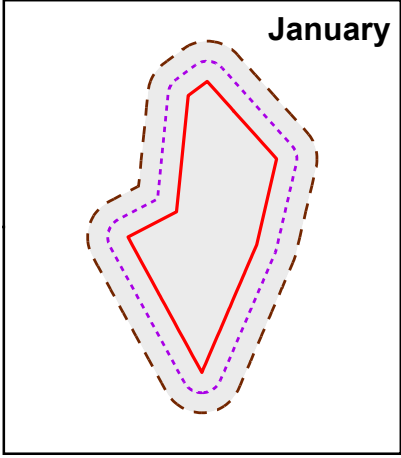
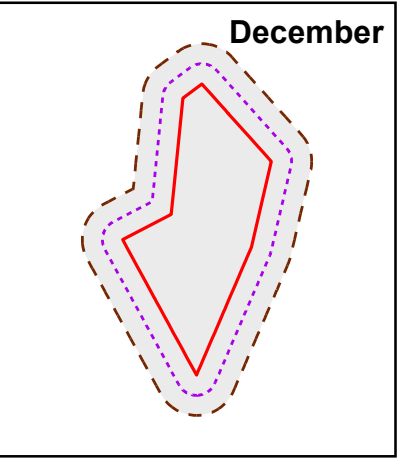
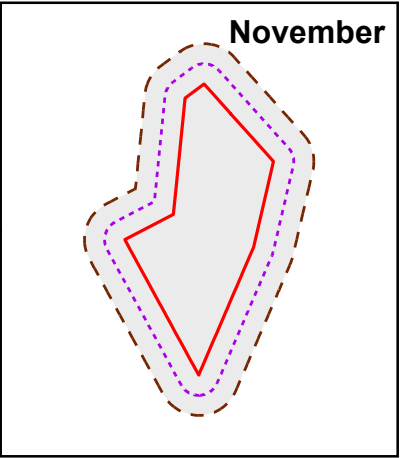
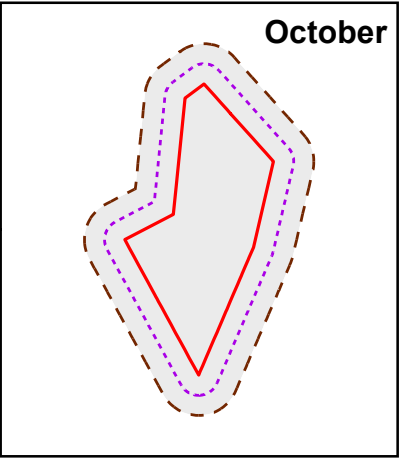
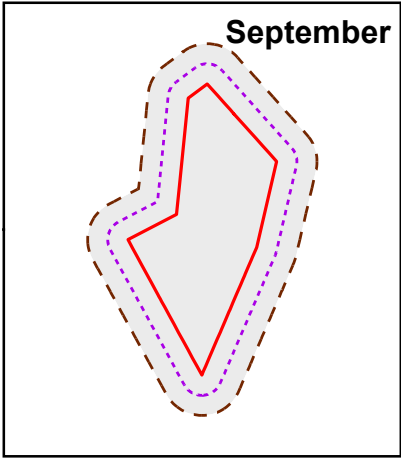
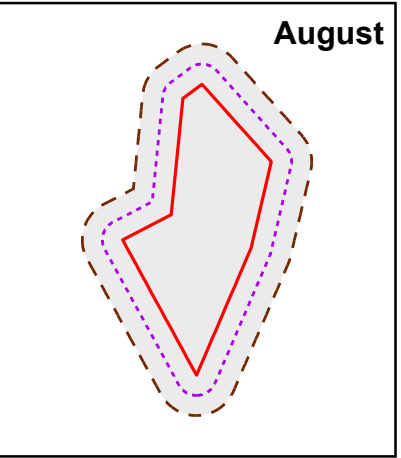
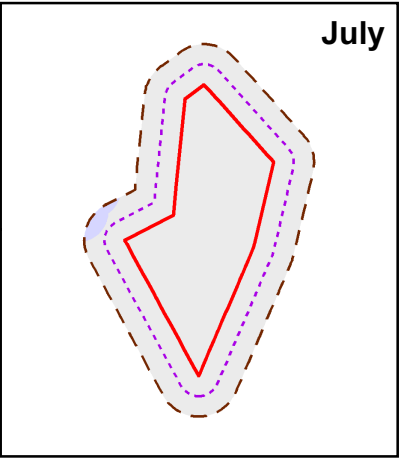
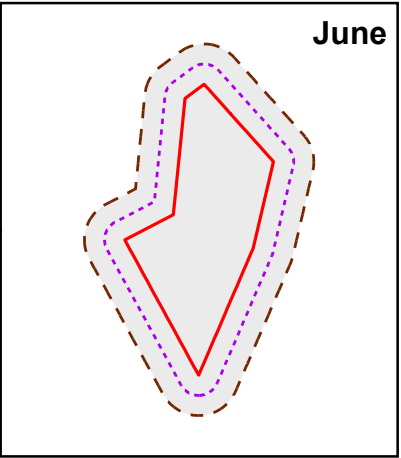
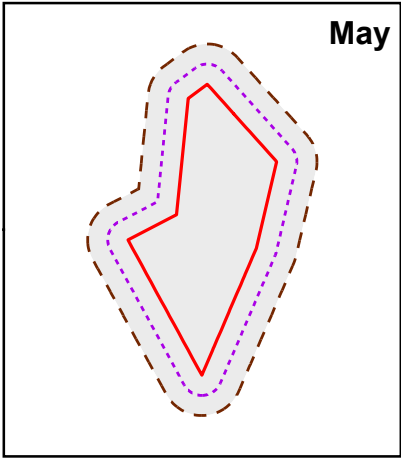
01 of 01

REV

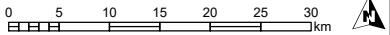
N/A

## 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.



Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



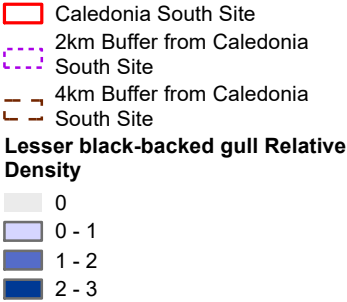
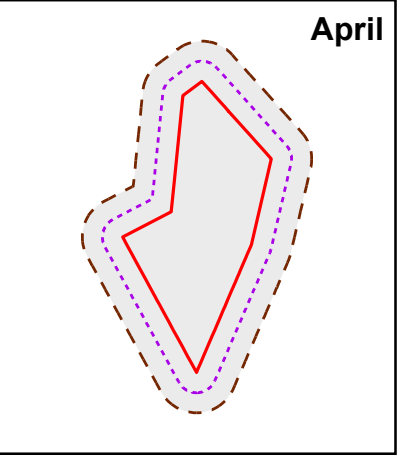
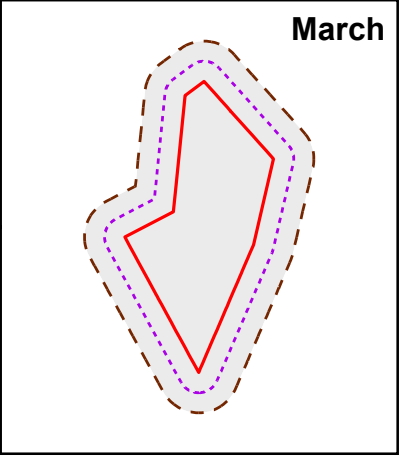
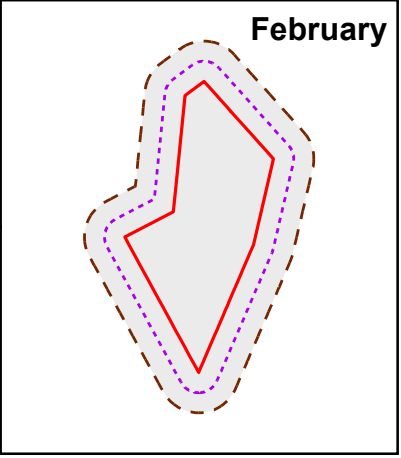
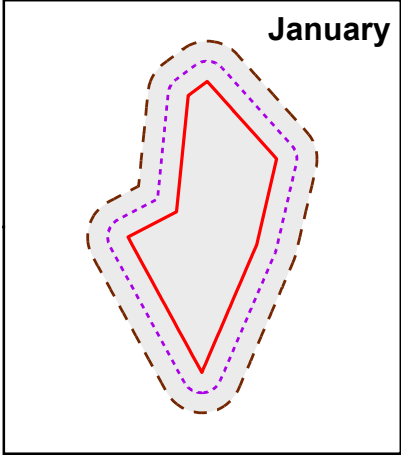
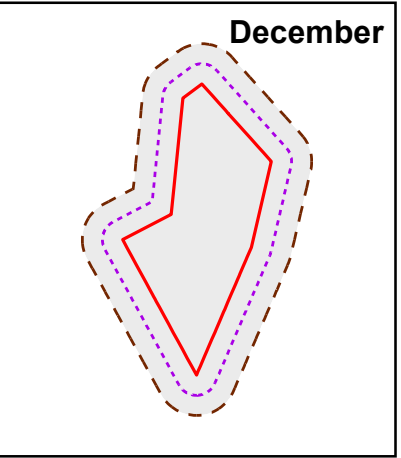
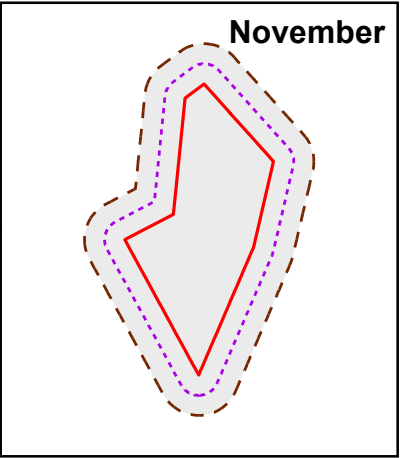
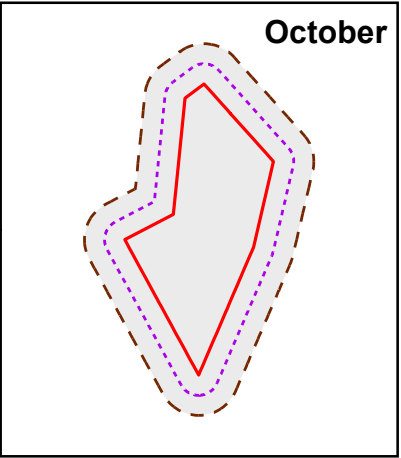
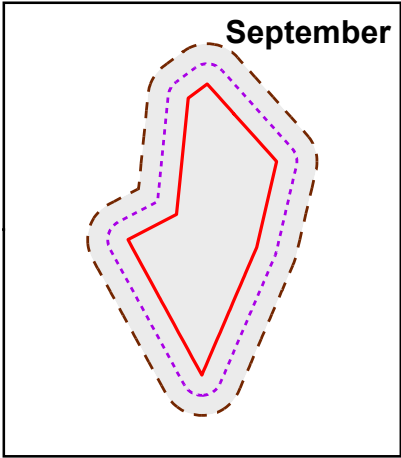
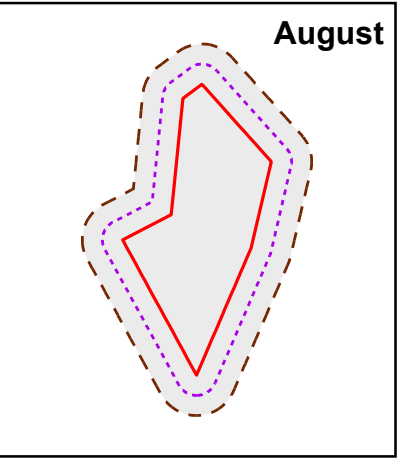
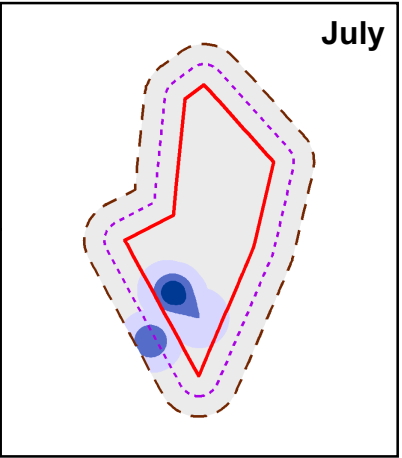
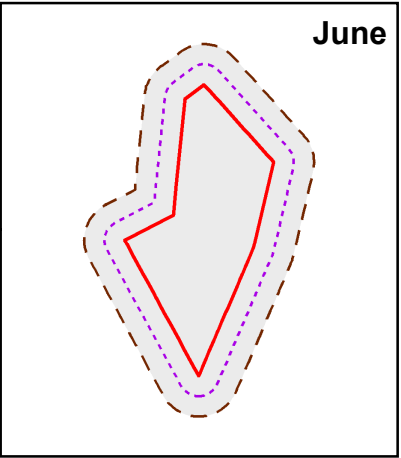
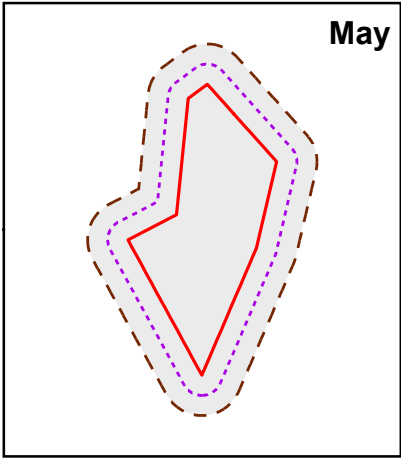
01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO UKCAL1_GO_WNF_ORN_MAP_00354	CONTRACTOR REV 01
GEOGRAPHIC PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)	
DRAWING TITLE	

Figure 1-7: Distribution of lesser black-backed gull between May 2021 and April 2022

STATUS Approved	SCALE 1:750,000
DRAWING NUMBER N/A	SHEET NO 01 of 01
	REV N/A



Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

**CALEDONIA**  
Offshore Wind Farm

**GoBe**  
APEM Group

CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00351

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-8: Distribution of lesser black-backed gull between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

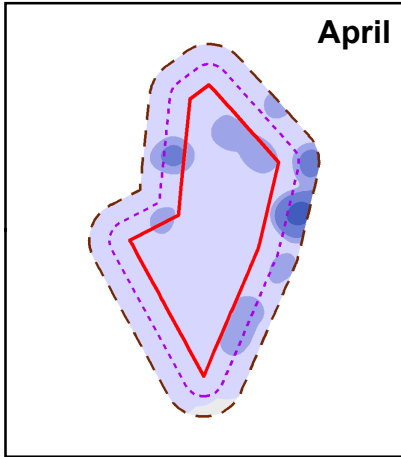
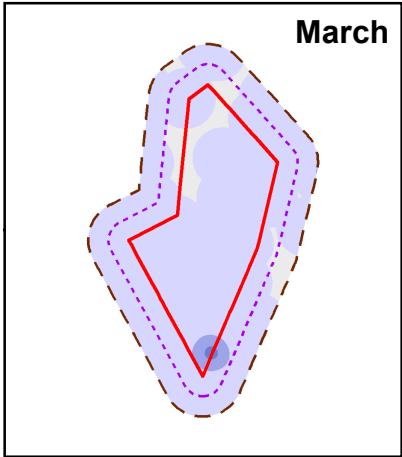
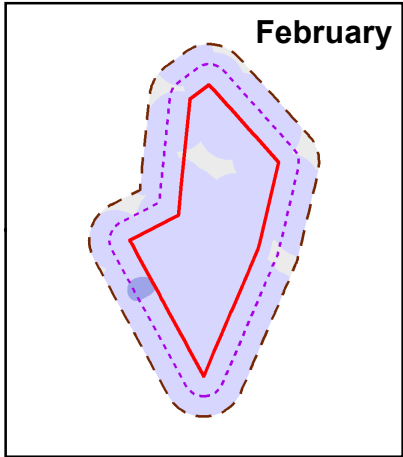
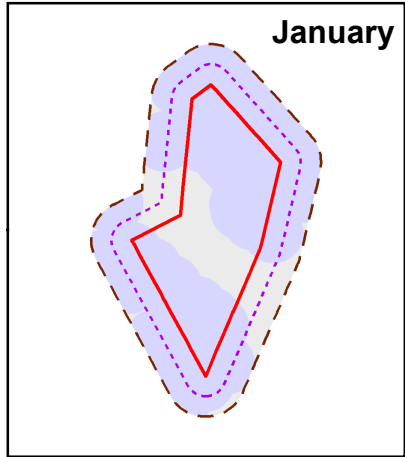
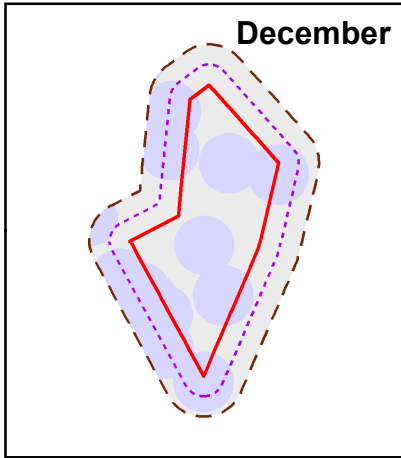
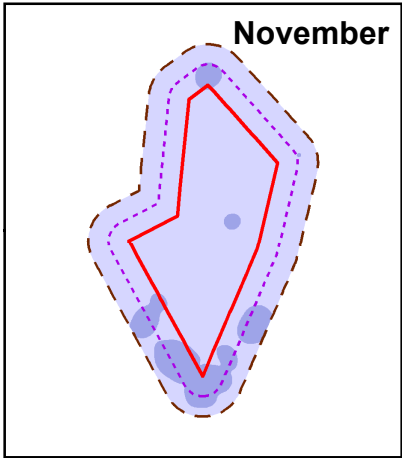
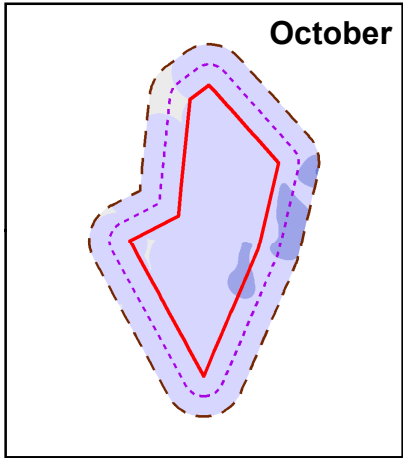
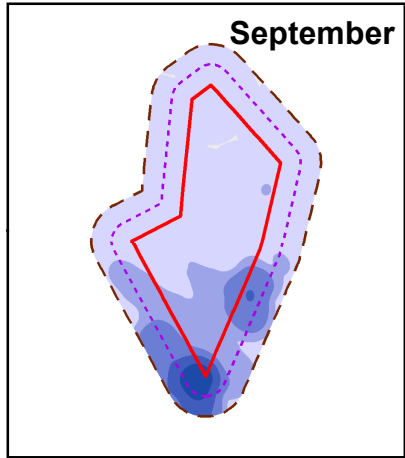
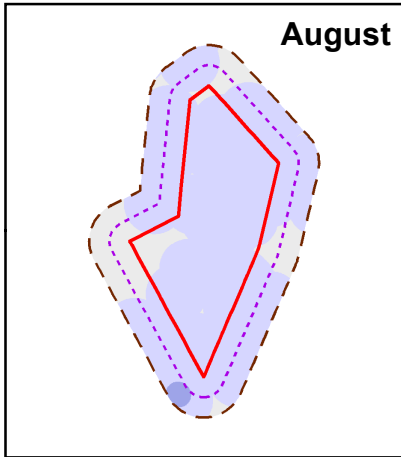
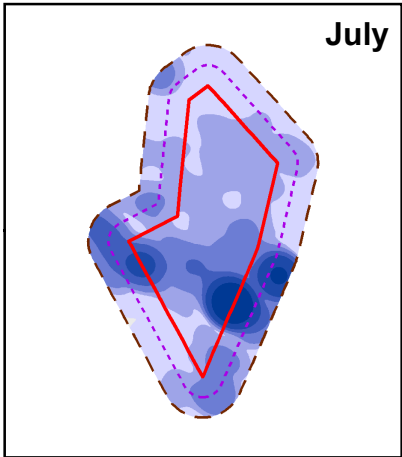
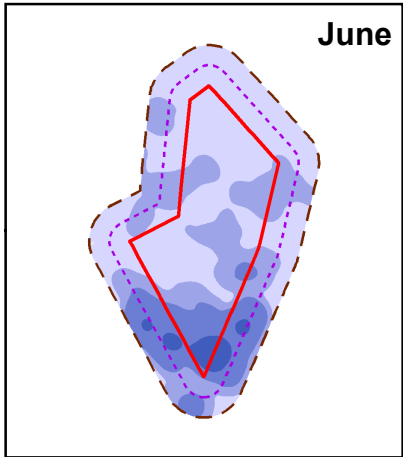
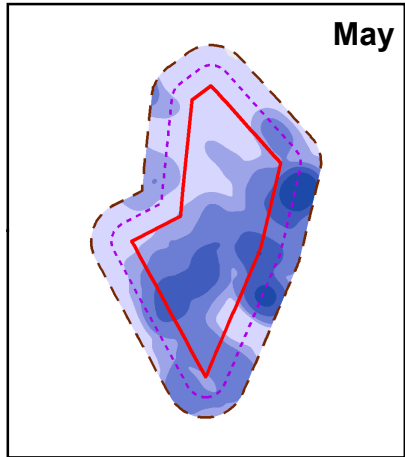
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

## 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.



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

Guillemot Relative Density

0

0 - 10

10 - 20

20 - 50

50 - 100

100 - 250

250 - 715

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH	
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP	

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_0036(

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-9: Distribution of guillemot between May 2021 and April 2022

STATUS

Approved

SCALE

1:750,000

DRAWING NUMBER

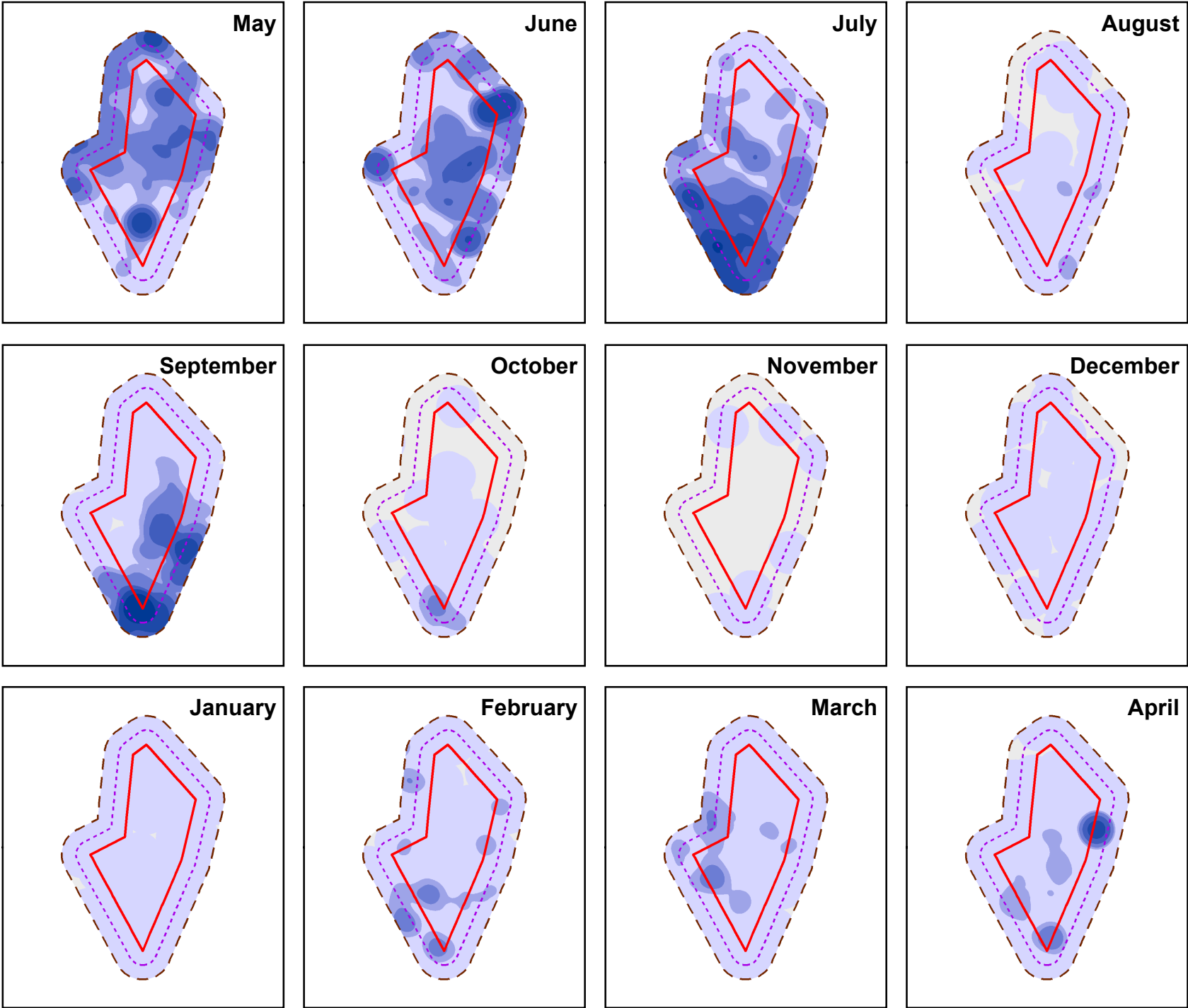
N/A

SHEET NO

01 of 01

REV

N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site



Guillemot Relative Density

- 0
- 0 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 250
- 250 - 715

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_0036

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-10: Distribution of guillemot between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

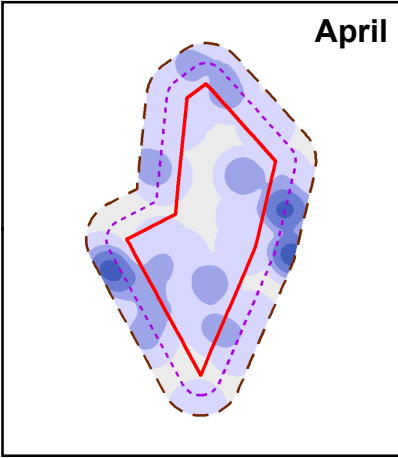
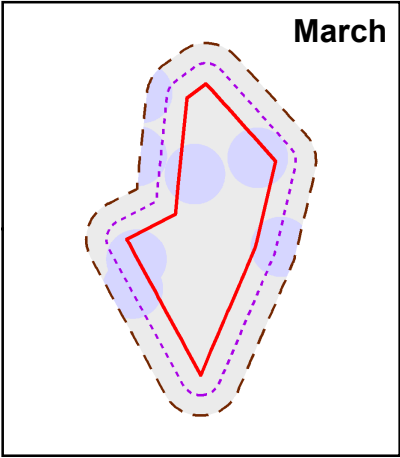
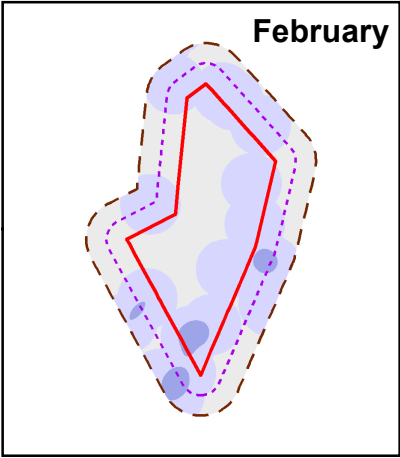
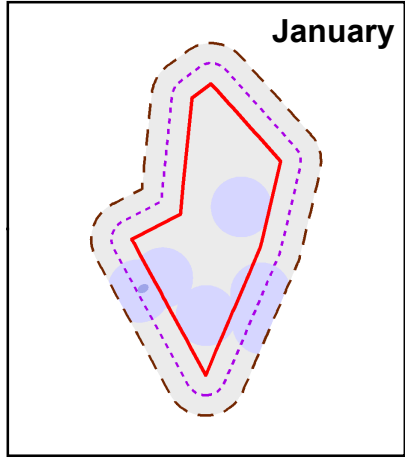
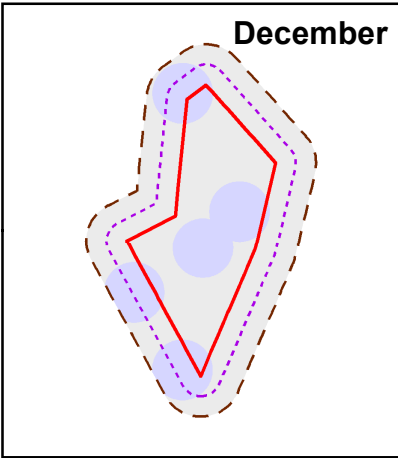
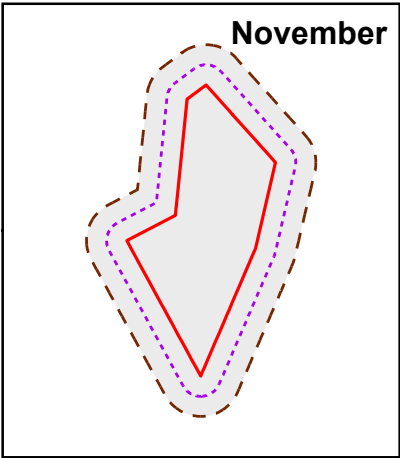
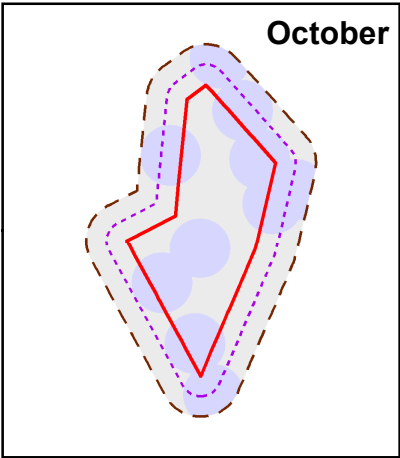
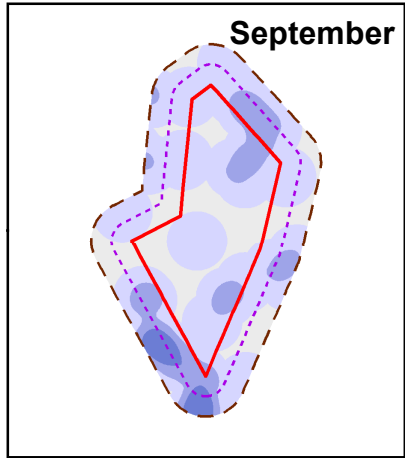
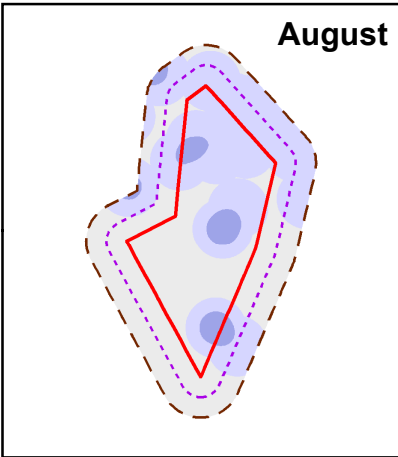
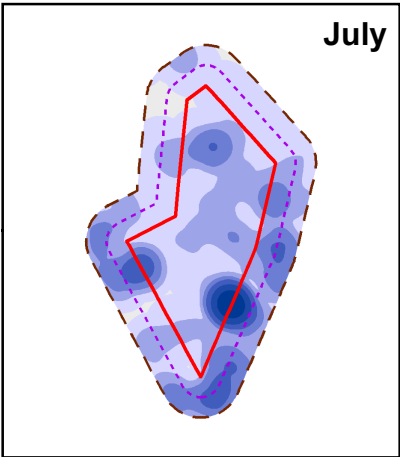
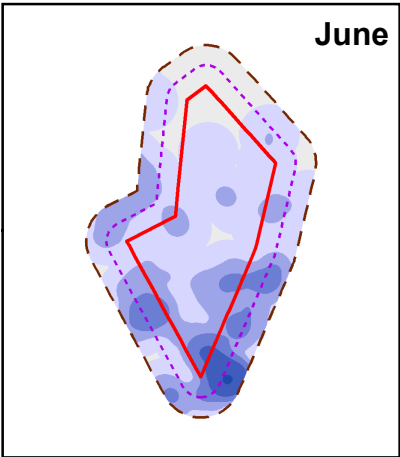
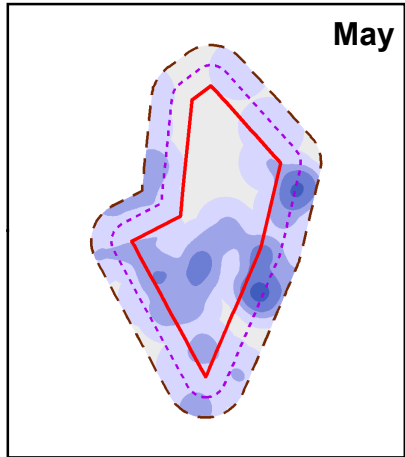
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

## 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.



**Legend**

- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

**Razorbill Relative Density**

- 0
- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 35
- 35 - 54

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0 5 10 15 20 25 30 km

REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP
01	20/09/2024	Approved	BB	EV	DH

**CALEDONIA**  
Offshore Wind Farm

**GoBe**  
APEM Group

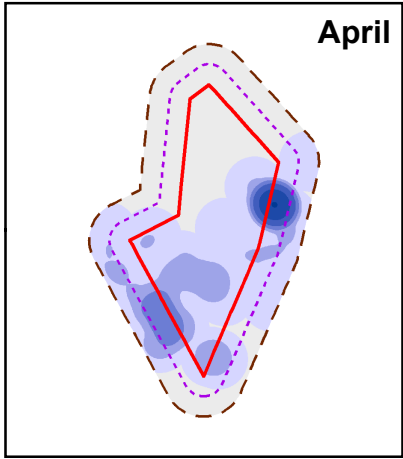
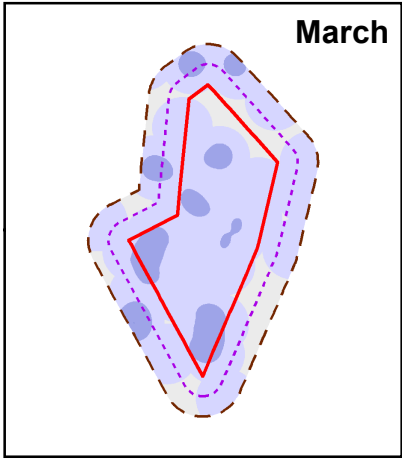
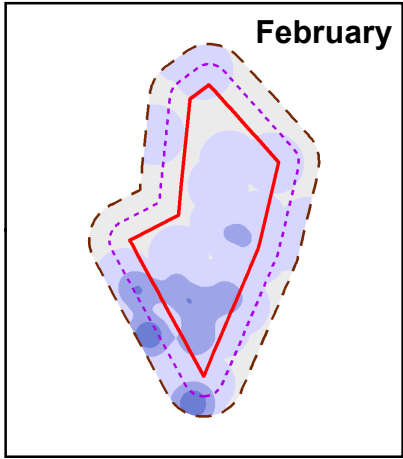
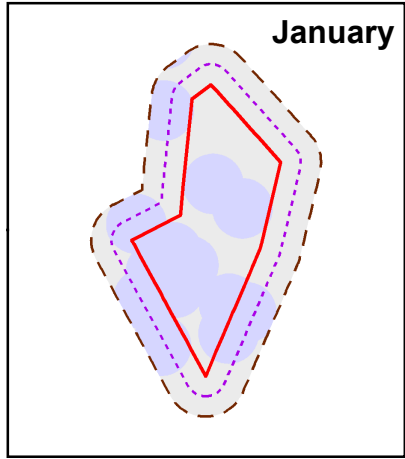
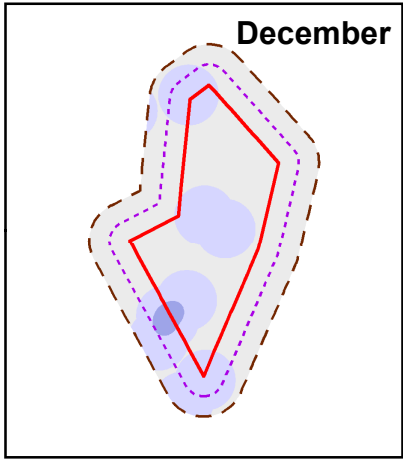
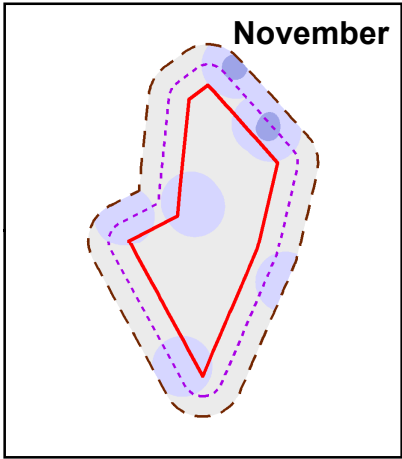
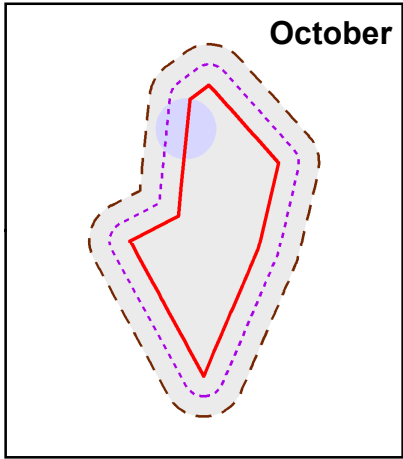
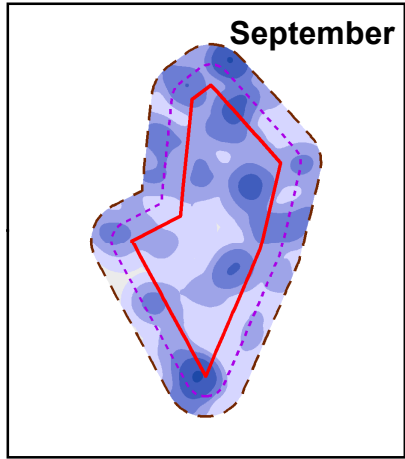
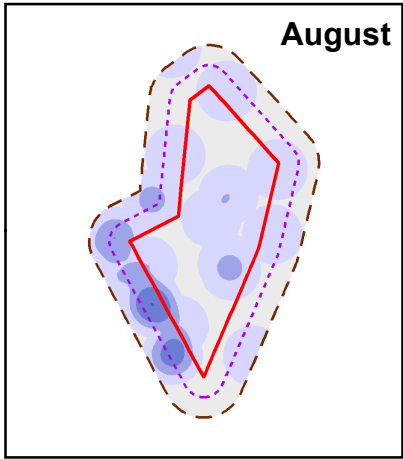
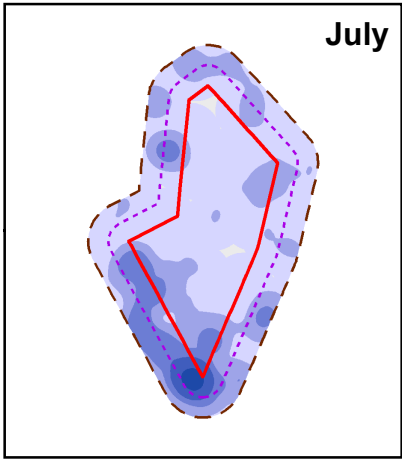
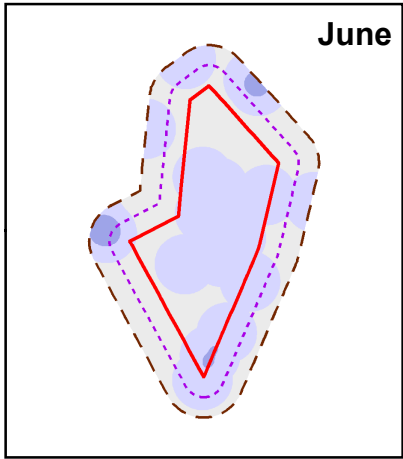
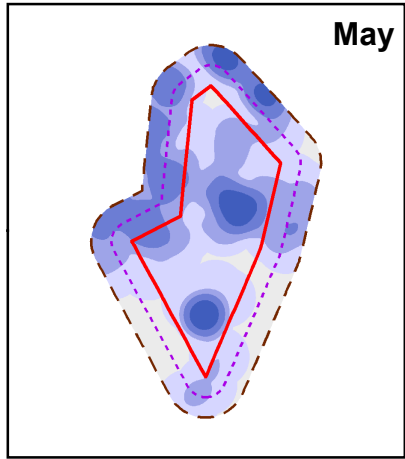
CONTRACTOR DRAWING NO: UKCAL1\_GO\_WNF\_ORN\_MAP\_0036f  
CONTRACTOR REV: 01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-11: Distribution of razorbill between May 2021 and April 2022

STATUS: Approved  
DRAWING NUMBER: N/A

SCALE: 1:750,000  
SHEET NO: 01 of 01  
REV: N/A



**Legend**

- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

**Razorbill Relative Density**

- 0
- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 35
- 35 - 54

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0 5 10 15 20 25 30 km

REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP
01	20/09/2024	Approved	BB	EV	DH

**CALEDONIA**  
Offshore Wind Farm

**GoBe**  
APEM Group

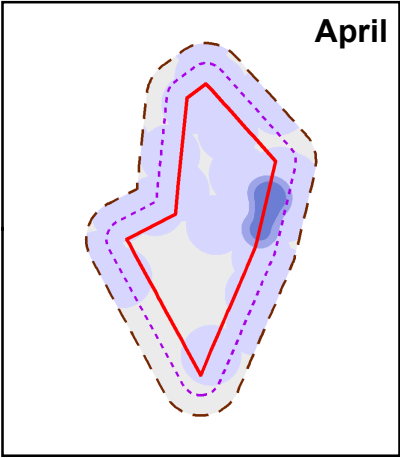
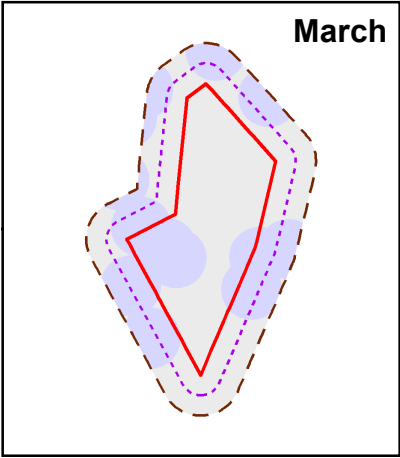
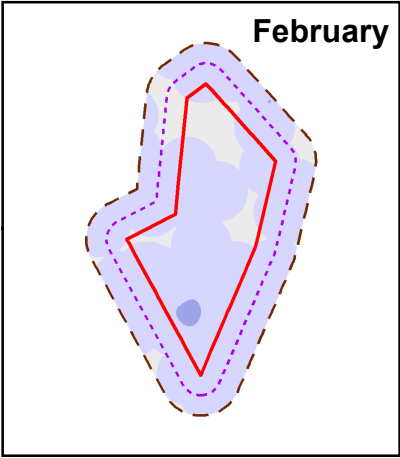
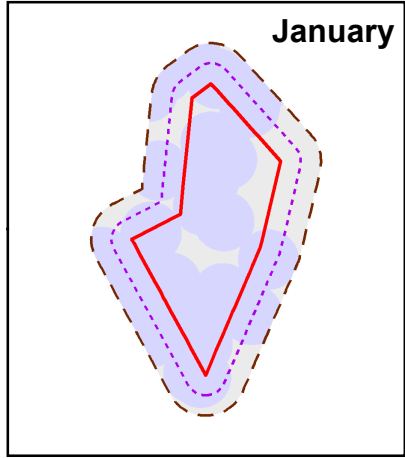
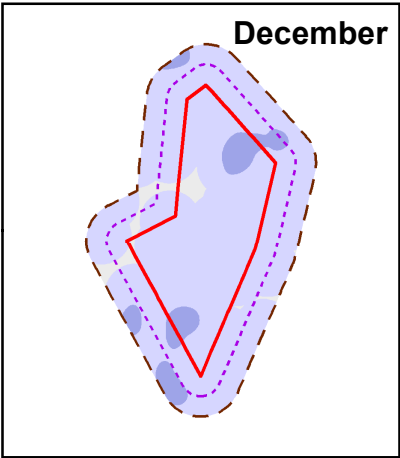
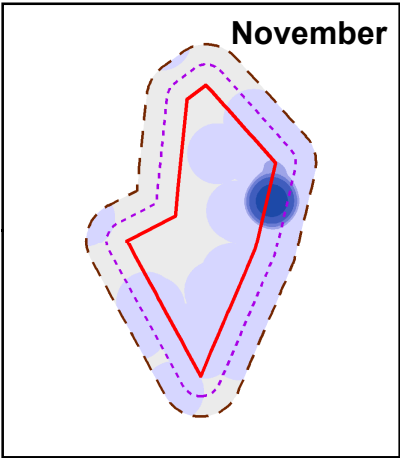
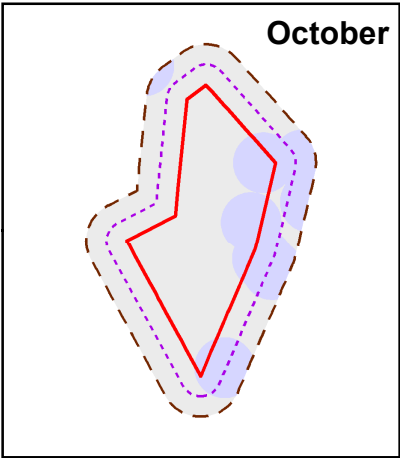
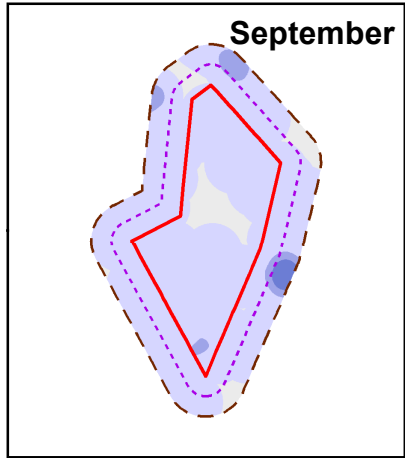
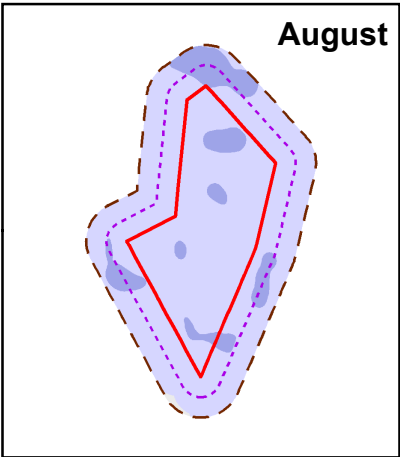
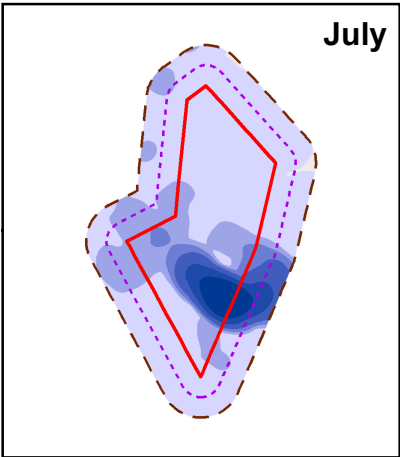
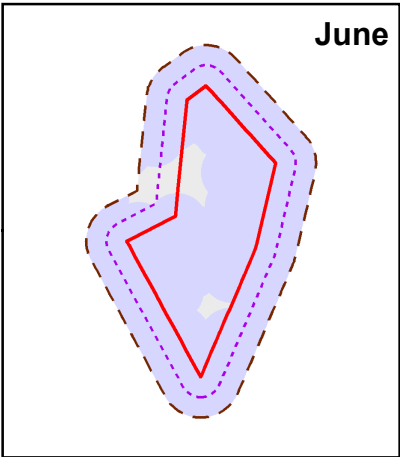
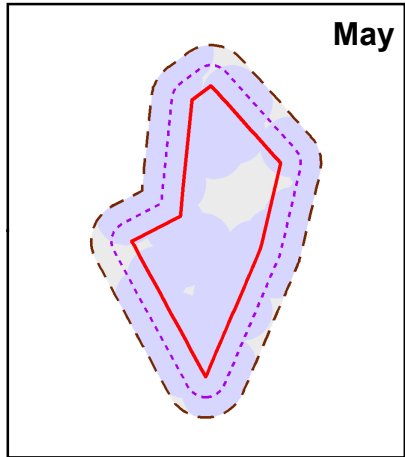
CONTRACTOR DRAWING NO: UKCAL1\_GO\_WNF\_ORN\_MAP\_0036; CONTRACTOR REV: 01  
GEOGRAPHIC PARAMETERS: WGS 84 / UTM zone 30N (EPSG: 32630)  
DRAWING TITLE: Figure 1-12: Distribution of razorbill between May 2022 and April 2023

STATUS: Approved  
DRAWING NUMBER: N/A

SCALE: 1:750,000  
SHEET NO: 01 of 01  
REV: N/A

## 1.8 Fulmar

- 1.8.1.1 Spatial distribution maps, generated using design-based estimates, for fulmar 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 1-13 and Figure 1-14, respectively.



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

**Fulmar Relative Density**

0

0 - 5

5 - 10

10 - 20

20 - 50

50 - 100

100 - 240

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00374

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-13: Distribution of fulmar between May 2021 and April 2022

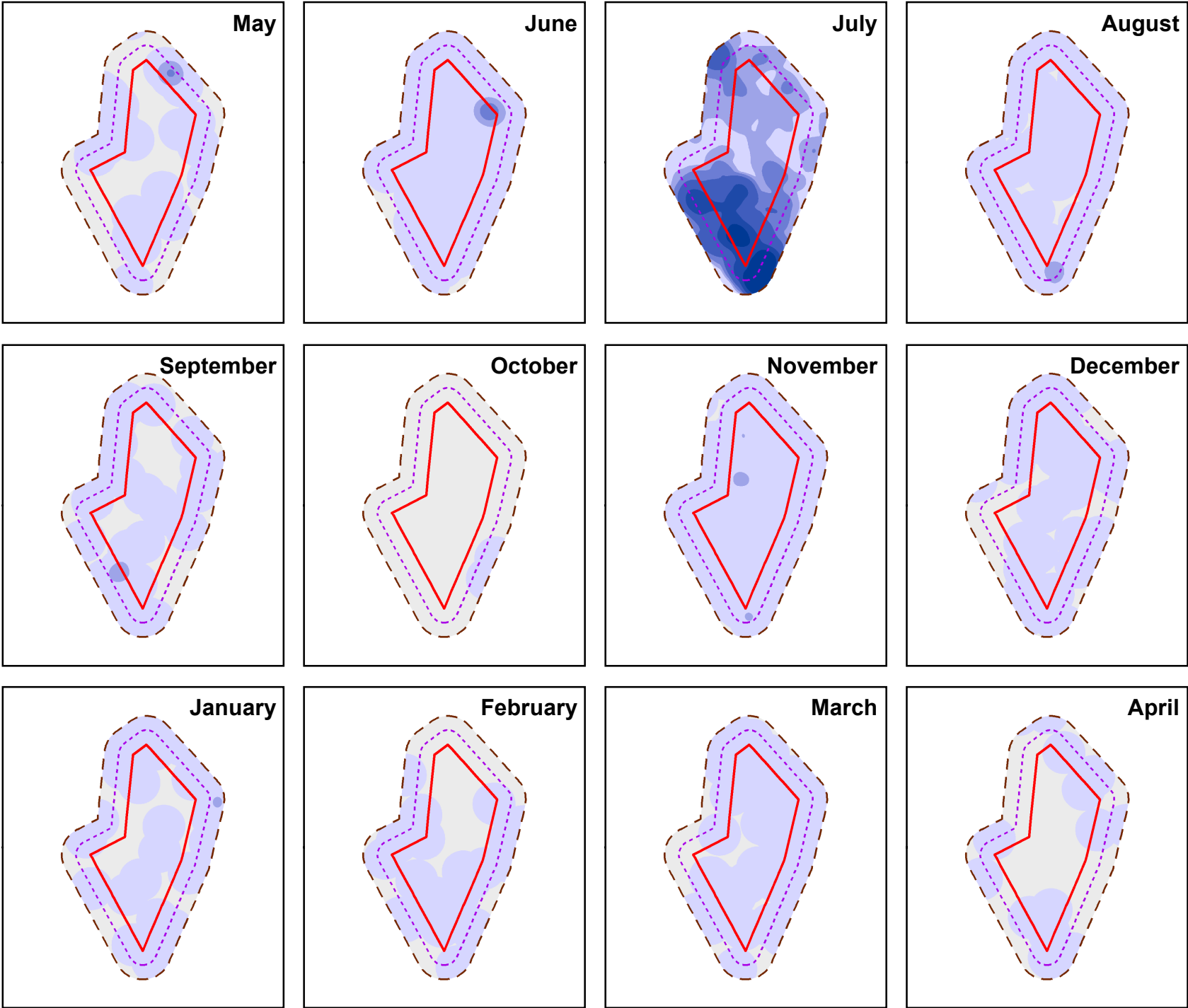
STATUS  
Approved

SCALE  
1:750,000

DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

Fulmar Relative Density

- 0
- 0 - 5
- 5 - 10
- 10 - 20
- 20 - 50
- 50 - 100
- 100 - 240

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

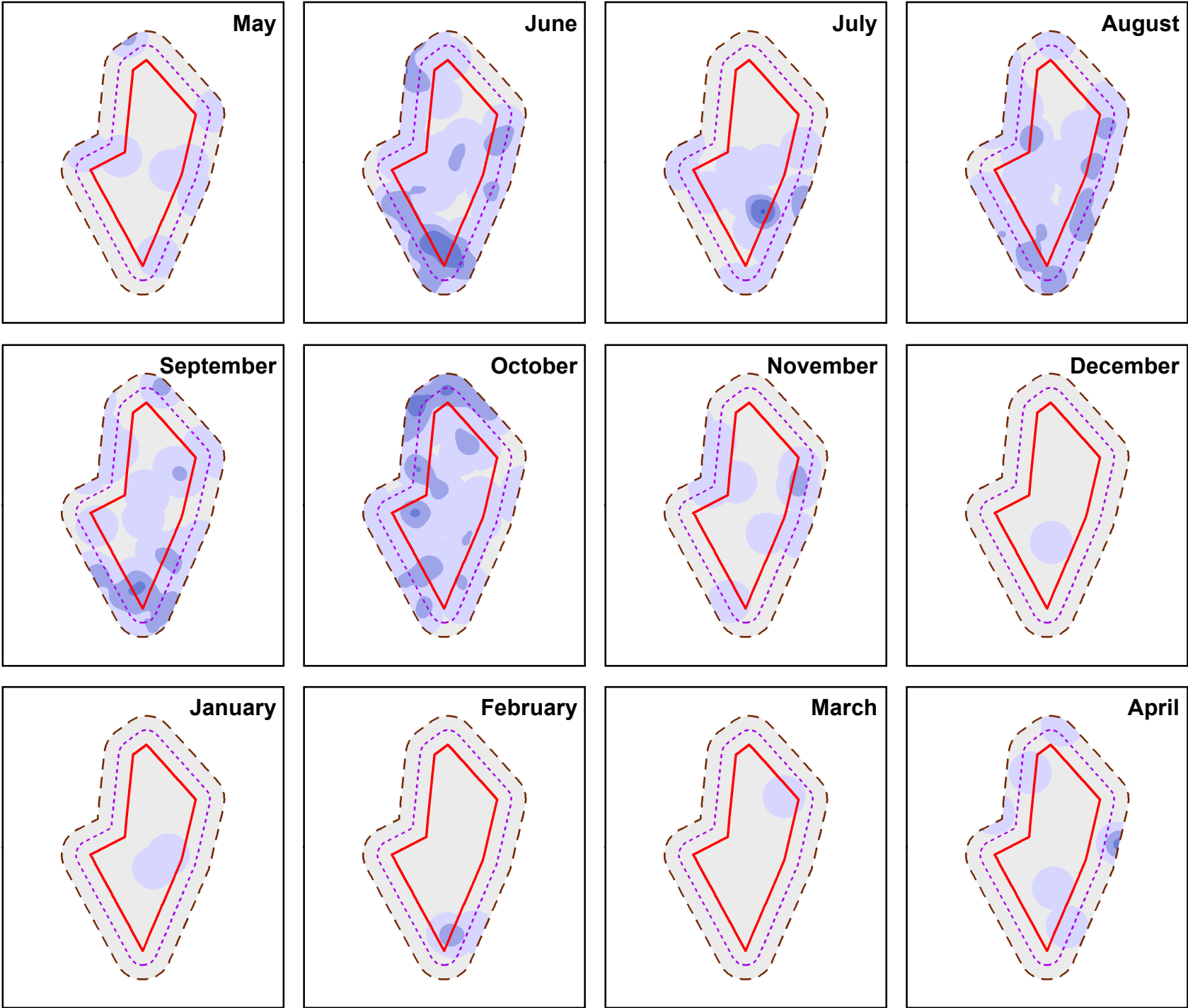


01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

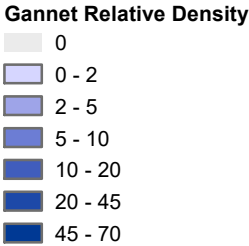
<div><div>CALEDONIA</div><div>Offshore Wind Farm</div></div>		<div><div>GoBe</div><div>APEM Group</div></div>	
CONTRACTOR DRAWING NO UKCAL1_GO_WNF_ORN_MAP_0037E		CONTRACTOR REV 01	
GEOGRAPHIC PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)			
DRAWING TITLE  Figure 1-14: Distribution of fulmar between May 2022 and April 2023			
STATUS Approved		SCALE 1:750,000	
DRAWING NUMBER N/A		SHEET NO 01 of 01	REV N/A

## 1.9 Gannet

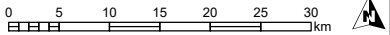
- 1.9.1.1 Spatial distribution maps, generated using design-based estimates, for gannet throughout the Caledonia South Site (plus 2km and 4km buffers) between May 2021 and April 2022 and May 2022 and April 2023 are provided in Figure 1-15 and Figure 1-16, respectively.



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

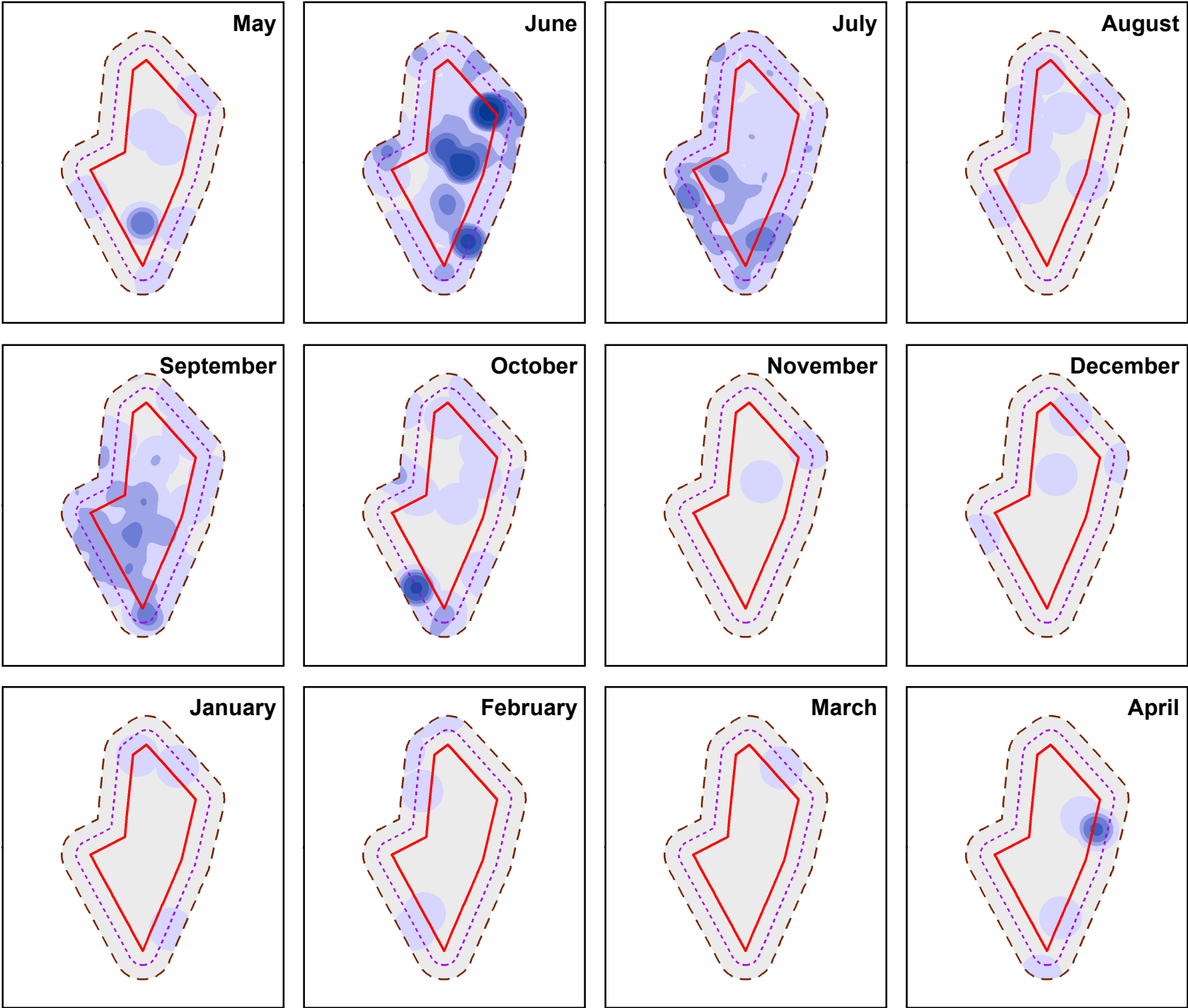


Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CONTRACTOR DRAWING NO UKCAL1_GO_WNF_ORN_MAP_0037r		CONTRACTOR REV 01	
GEOGRAPHIC PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)			
DRAWING TITLE Figure 1-15: Distribution of gannet between May 2021 and April 2022			
STATUS Approved		SCALE 1:750,000	
DRAWING NUMBER N/A		SHEET NO 01 of 01	REV N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site



Gannet Relative Density

- 0
- 0 - 2
- 2 - 5
- 5 - 10
- 10 - 20
- 20 - 45
- 45 - 70

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_0037f

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-16: Distribution of gannet between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

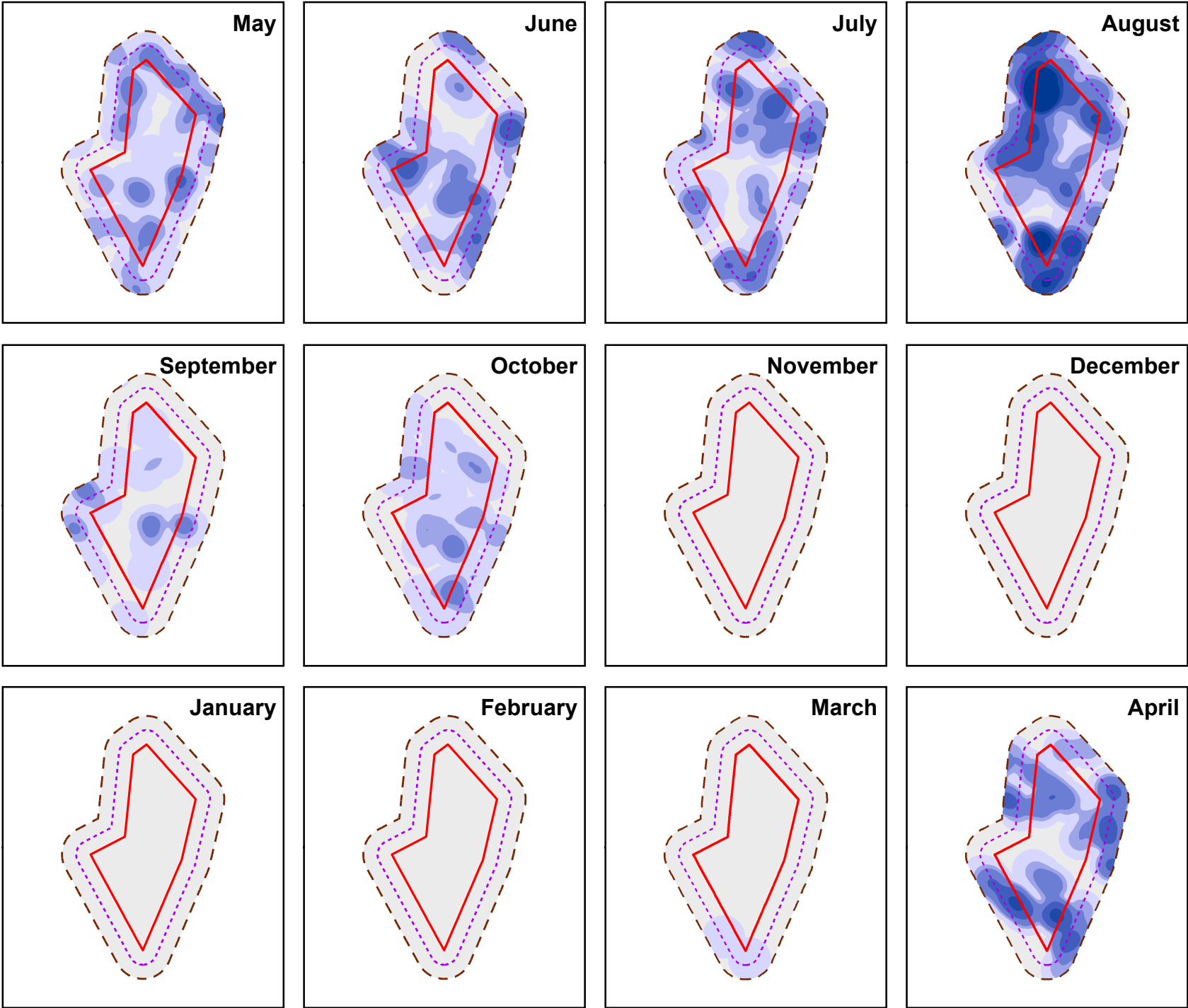
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

## **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.



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

**Puffin Relative Density**

0

0 - 1

1 - 2

2 - 5

5 - 10

10 - 15

15 - 20

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

**CALEDONIA**

Offshore Wind Farm

**GoBe**

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_00384

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-17: Distribution of puffin between May 2021 and April 2022

STATUS

Approved

SCALE

1:750,000

DRAWING NUMBER

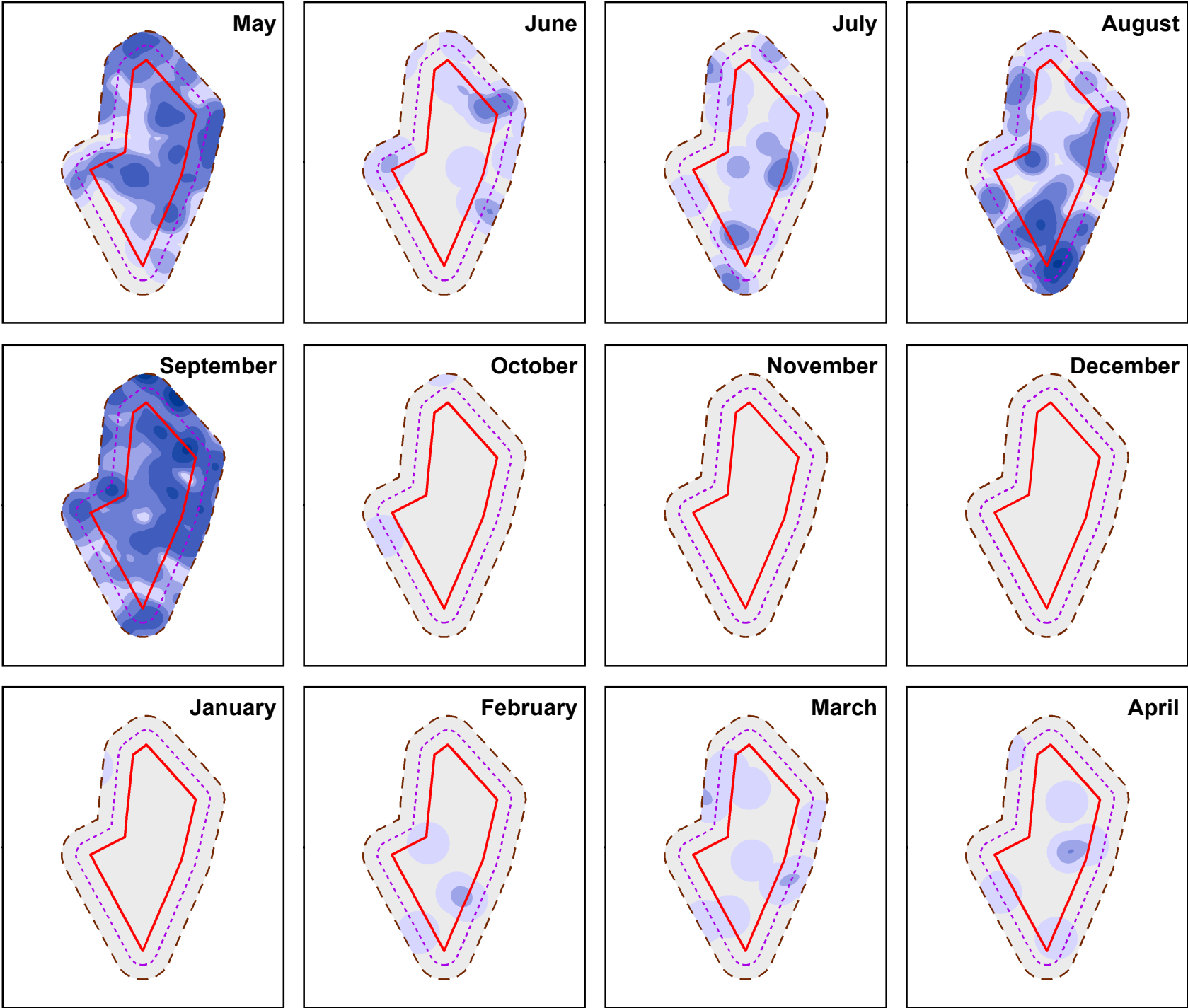
N/A

SHEET NO

01 of 01

REV

N/A



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

Puffin Relative Density

0

0 - 1

1 - 2

2 - 5

5 - 10

10 - 15

15 - 20

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.

0

5

10

15

20

25

30

km

01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_00385

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

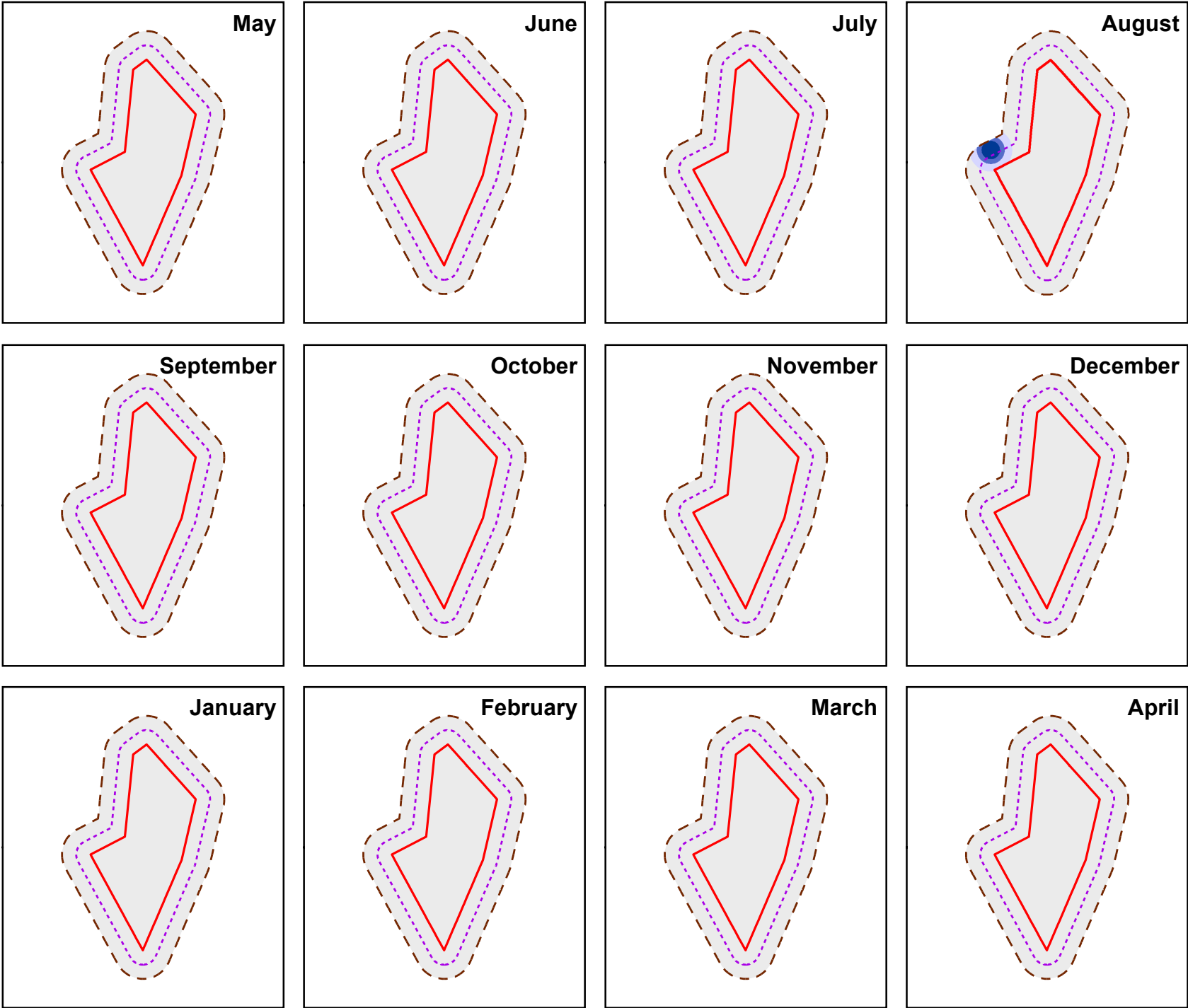
DRAWING TITLE

Figure 1-18: Distribution of puffin between May 2022 and April 2023

STATUS	Approved	SCALE	1:750,000
DRAWING NUMBER	N/A	SHEET NO	01 of 01
		REV	N/A

## 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.

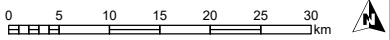


- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

Common tern Relative Density

- 0
- 0 - 1
- 1 - 2
- 2 - 3

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



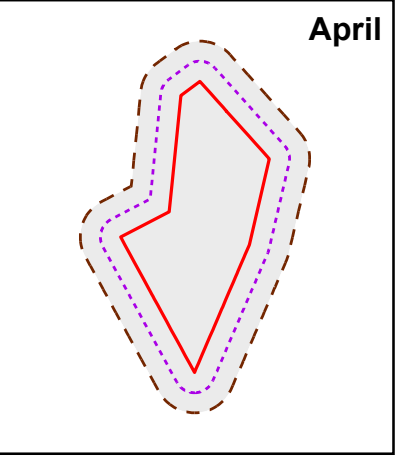
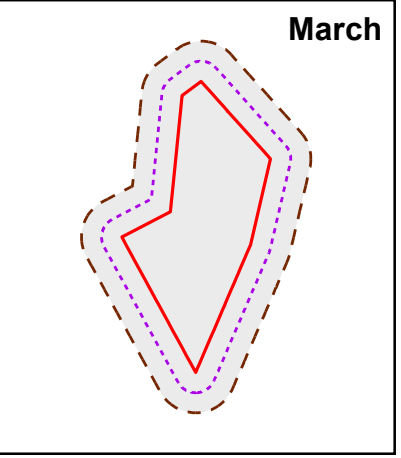
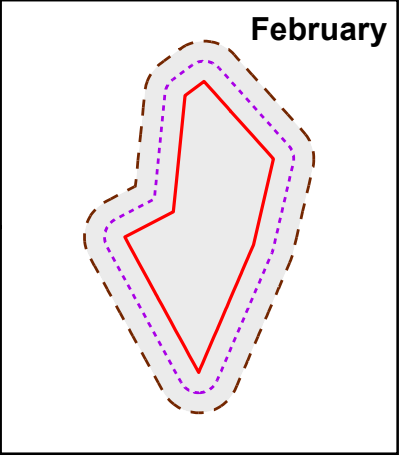
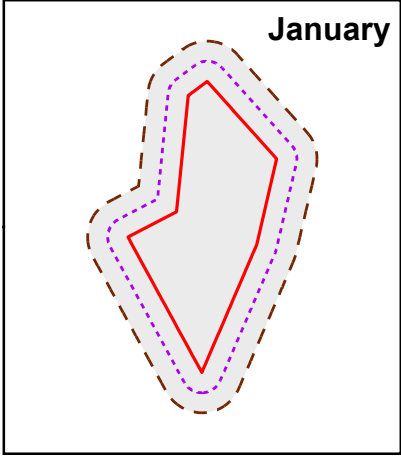
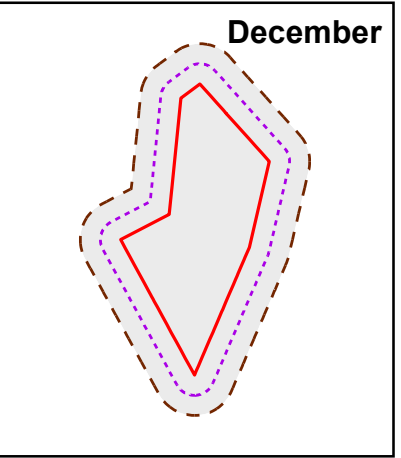
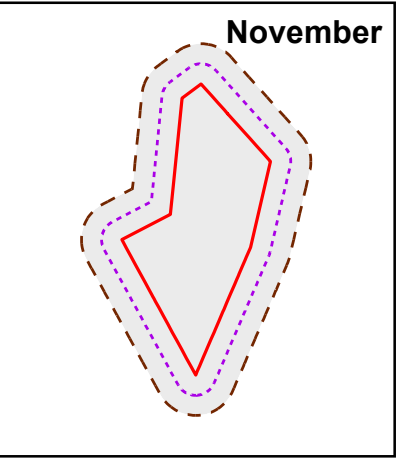
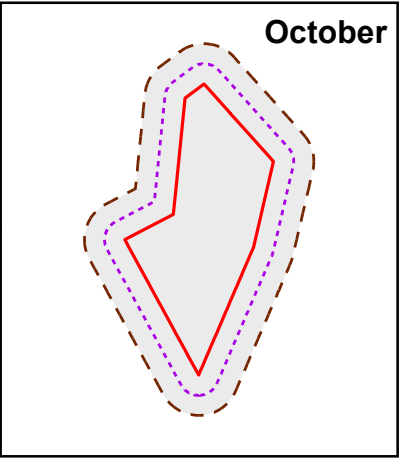
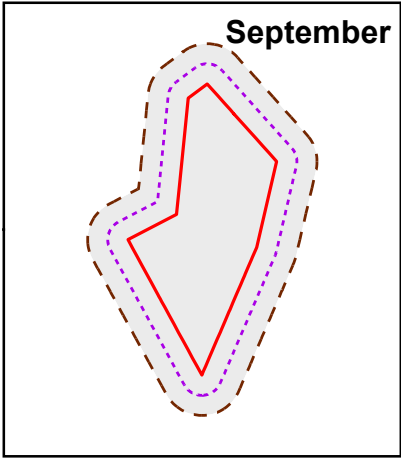
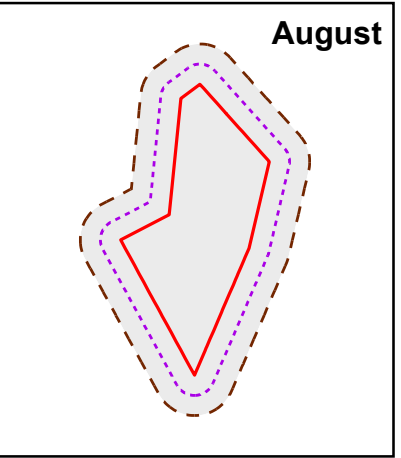
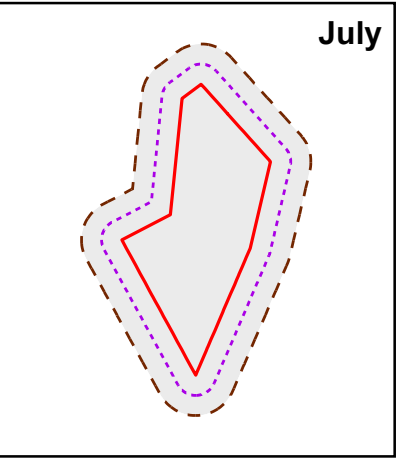
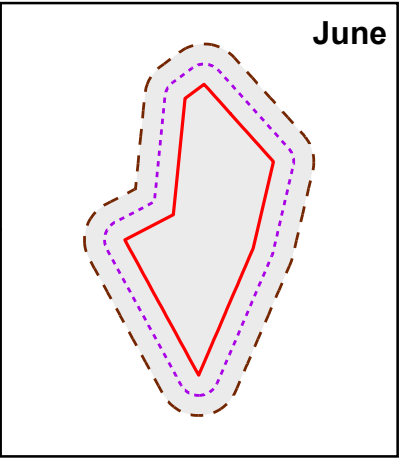
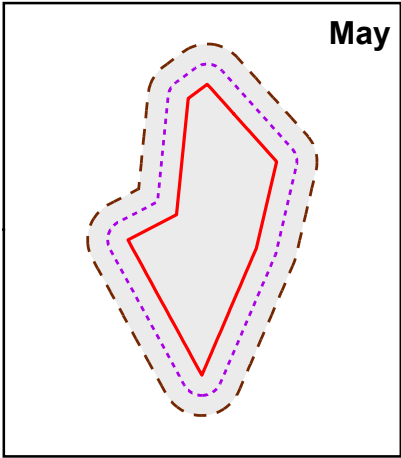
CONTRACTOR DRAWING NO UKCAL1\_GO\_WNF\_ORN\_MAP\_0039C CONTRACTOR REV 01

GEOGRAPHIC PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-19: Distribution of common tern between May 2021 and April 2022

STATUS	Approved	SCALE	1:750,000
DRAWING NUMBER	N/A	SHEET NO	01 of 01
		REV	N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

**Common tern Relative Density**

- 0
- 0 - 1
- 1 - 2
- 2 - 3

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

**CALEDONIA**  
Offshore Wind Farm

**GoBe**  
APEM Group

CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00391

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-20: Distribution of common tern  
between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

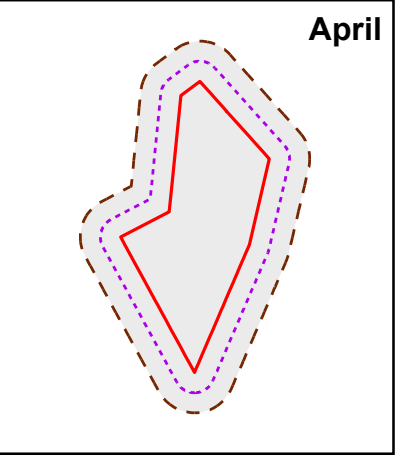
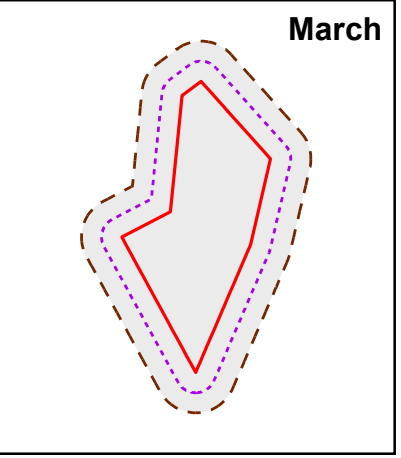
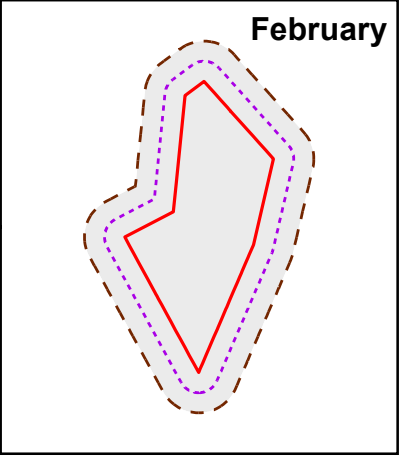
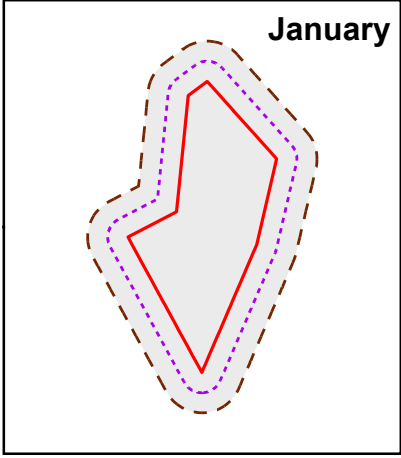
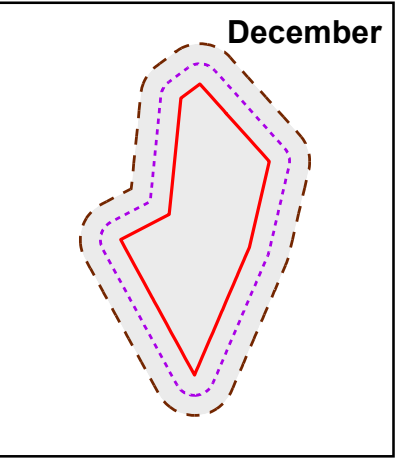
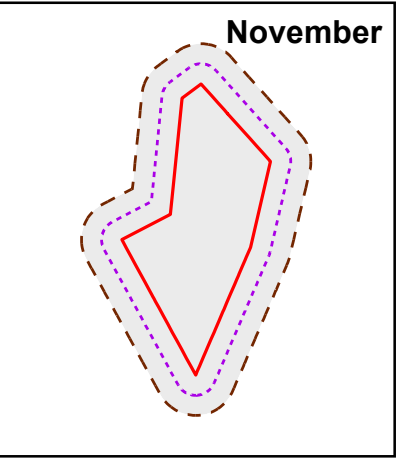
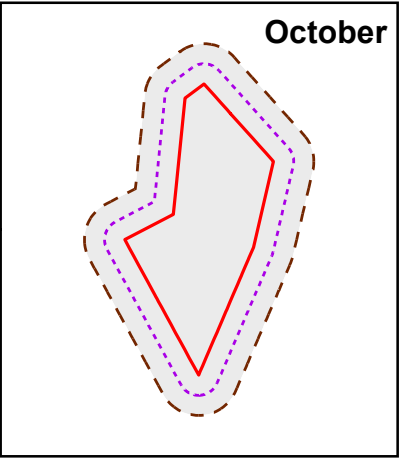
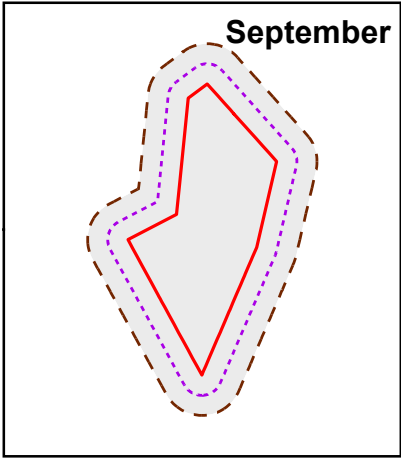
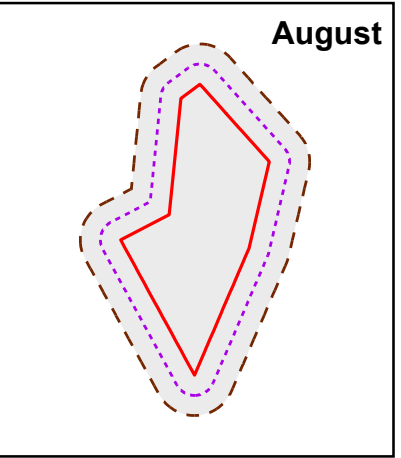
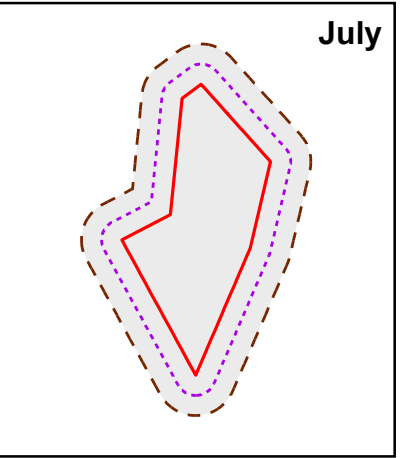
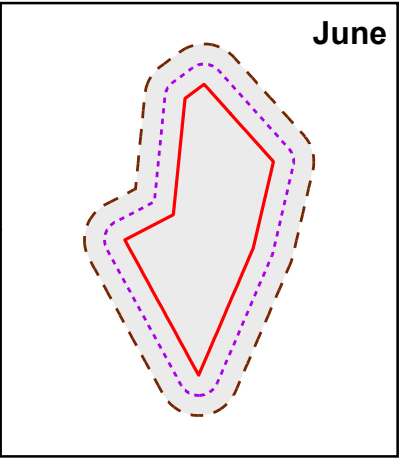
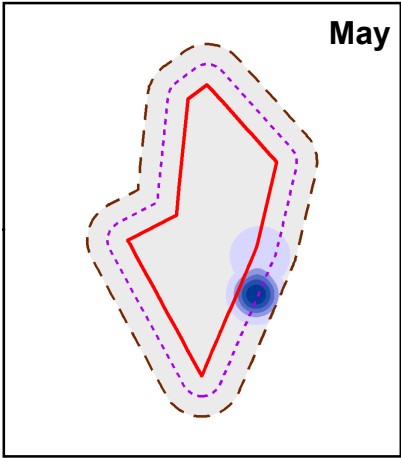
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

## 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.

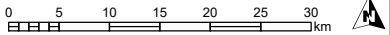
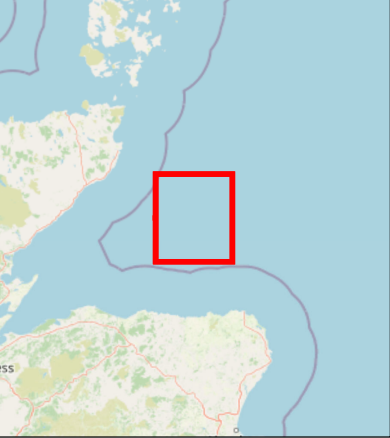


- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site



**Arctic tern Relative Density**

- 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00396

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-21: Distribution of arctic tern  
between May 2021 and April 2022

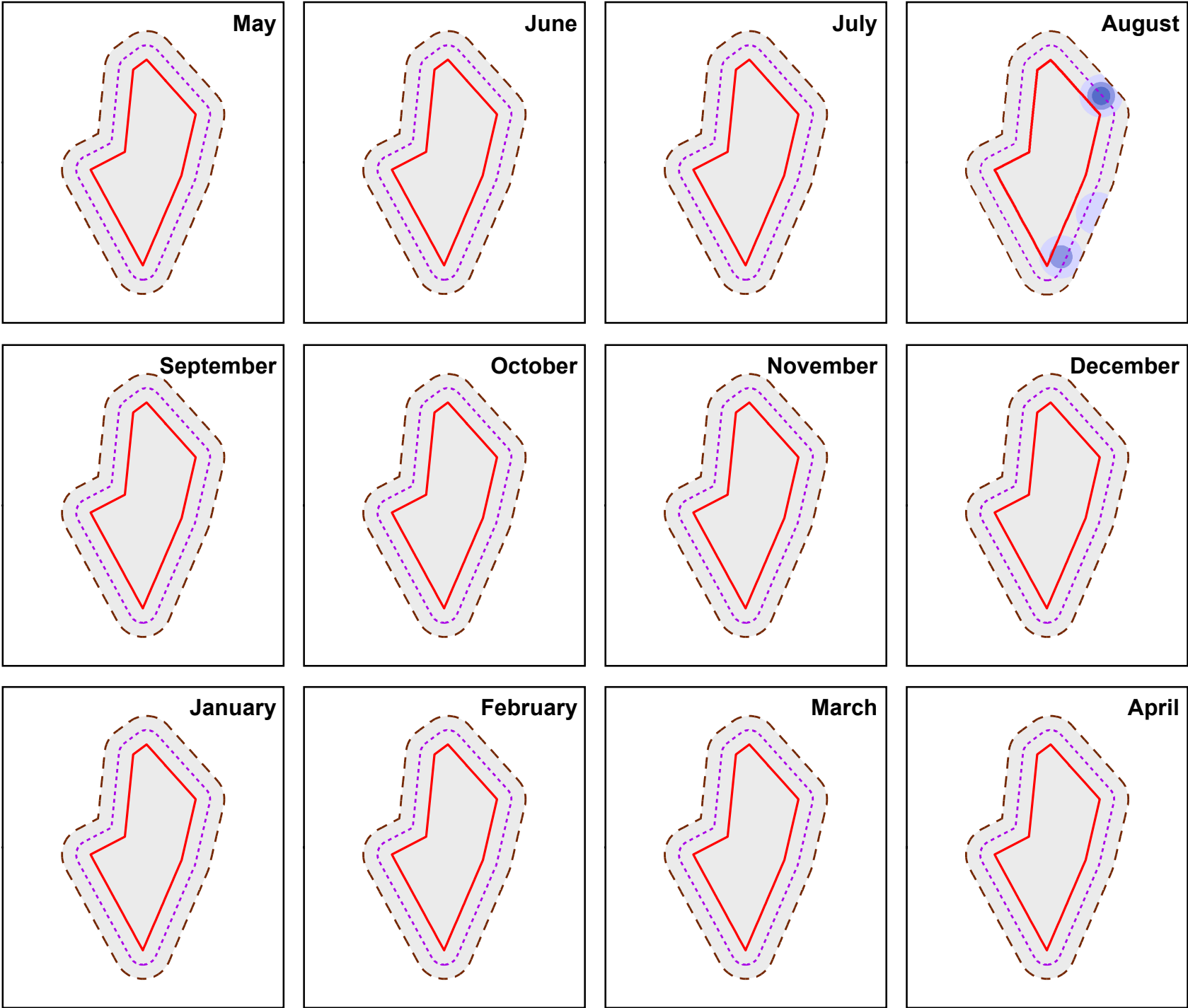
STATUS  
Approved

SCALE  
1:750,000

DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

**Arctic tern Relative Density**

- 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00397

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-22: Distribution of arctic tern  
between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

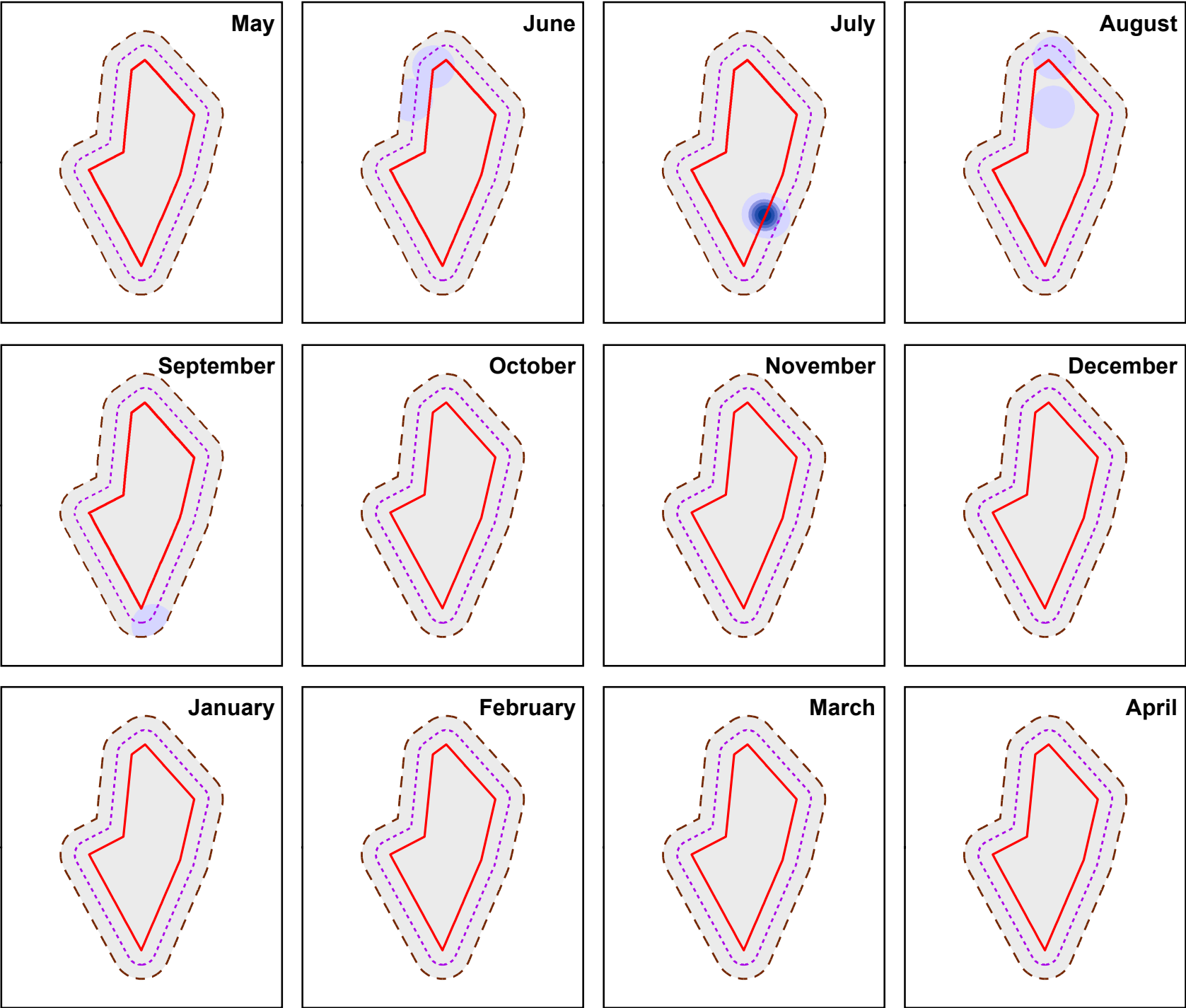
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

REV  
N/A

## 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.

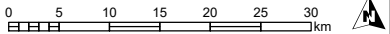


- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site



Great skua Relative Density

- 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5

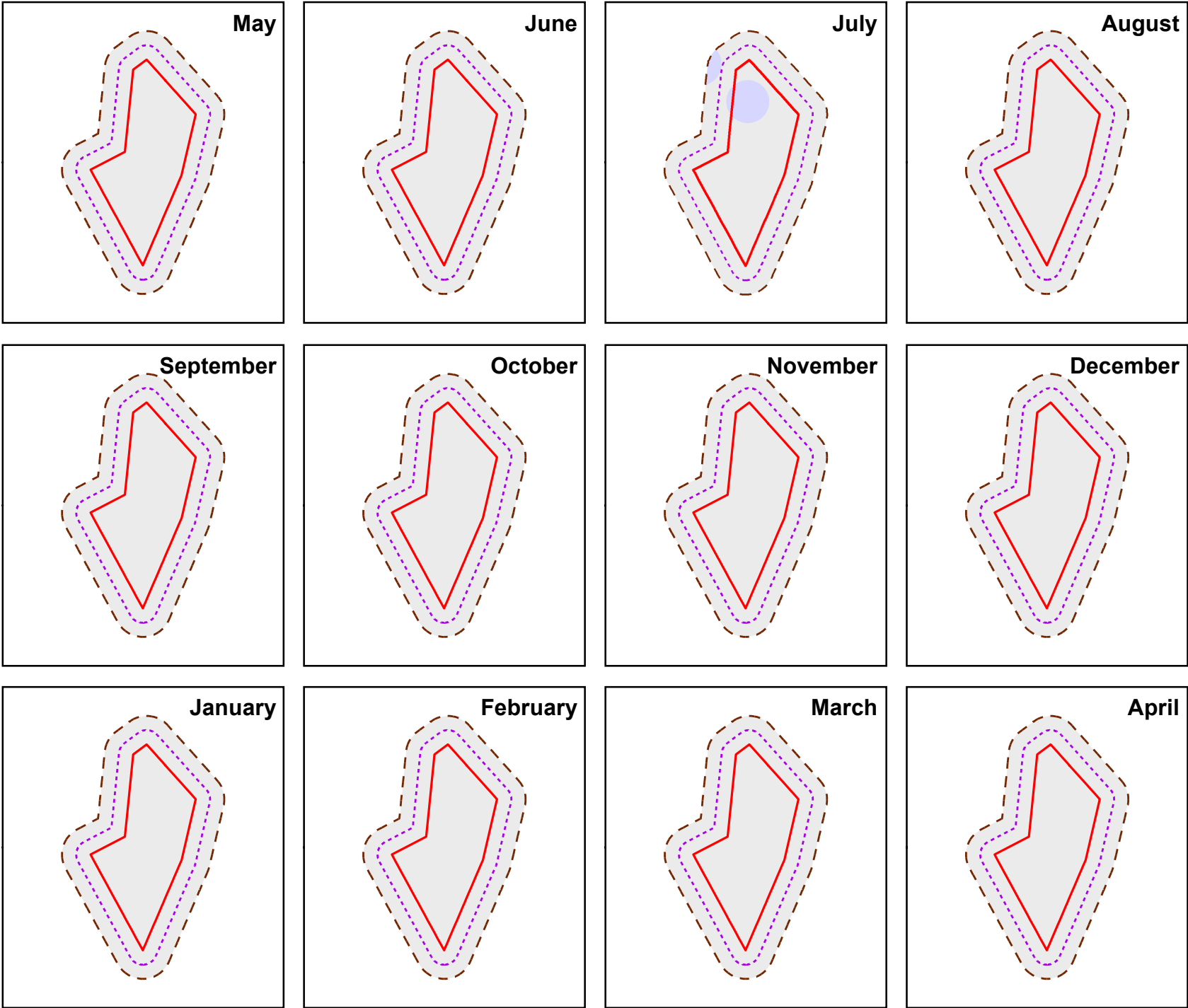
Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO UKCAL1_GO_WNF_ORN_MAP_00402		CONTRACTOR REV 01	
GEOGRAPHIC PARAMETERS WGS 84 / UTM zone 30N (EPSG: 32630)			
DRAWING TITLE Figure 1-23: Distribution of great skua between May 2021 and April 2022			
STATUS Approved		SCALE 1:750,000	
DRAWING NUMBER N/A		SHEET NO 01 of 01	REV N/A



- Caledonia South Site
- 2km Buffer from Caledonia South Site
- 4km Buffer from Caledonia South Site

**Great skua Relative Density**

- 0
- 0 - 1
- 1 - 2
- 2 - 3
- 3 - 4
- 4 - 5

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA

© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CONTRACTOR DRAWING NO  
UKCAL1\_GO\_WNF\_ORN\_MAP\_00403

CONTRACTOR REV  
01

COORDINATE PARAMETERS  
WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE  
Figure 1-24: Distribution of great skua between May 2022 and April 2023

STATUS  
Approved

SCALE  
1:750,000

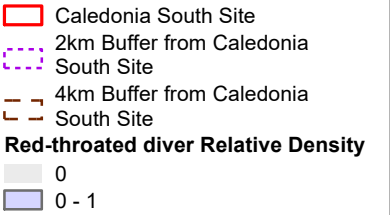
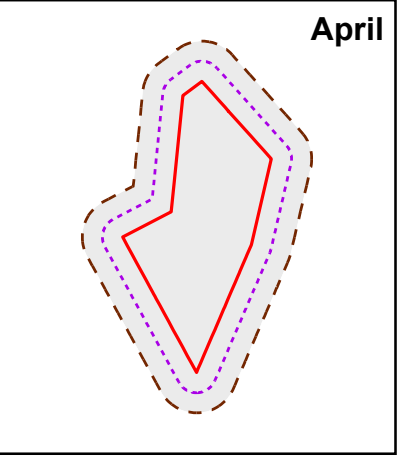
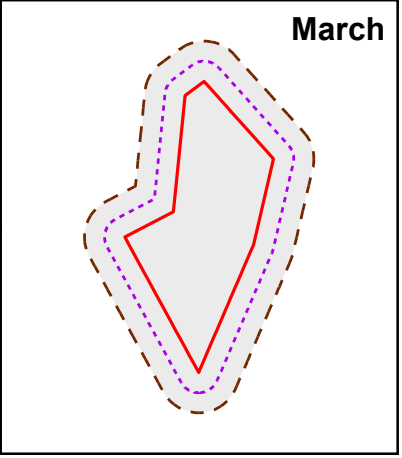
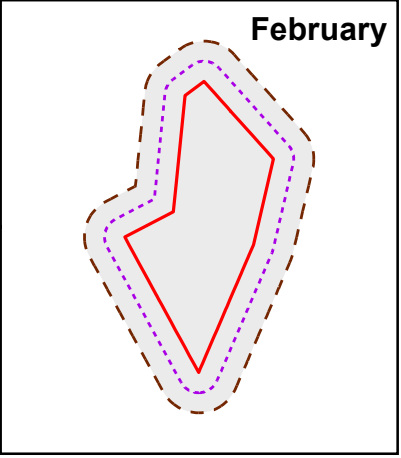
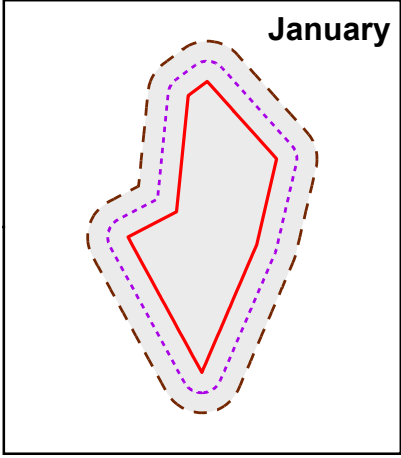
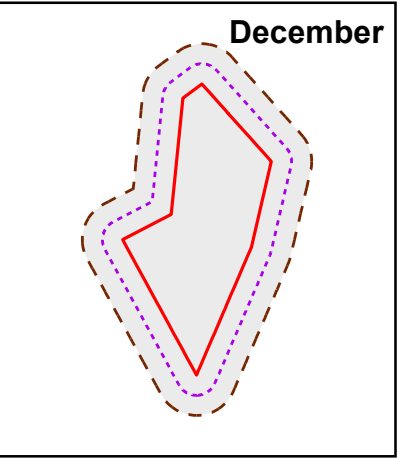
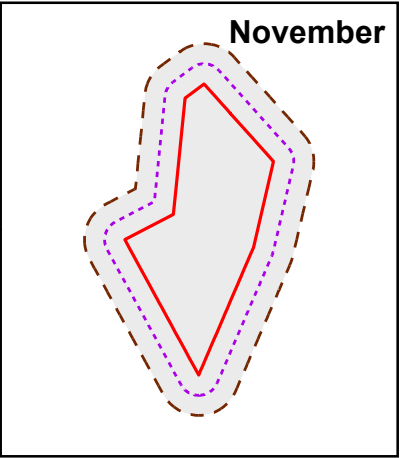
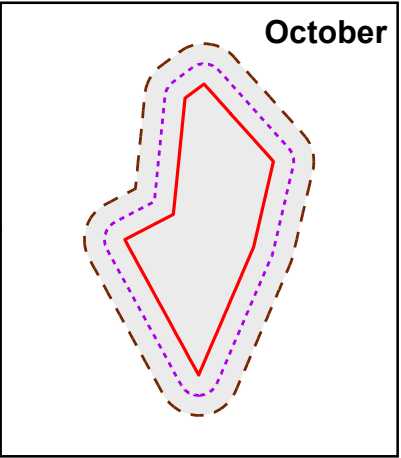
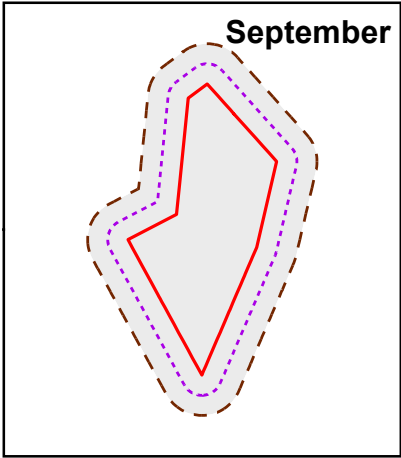
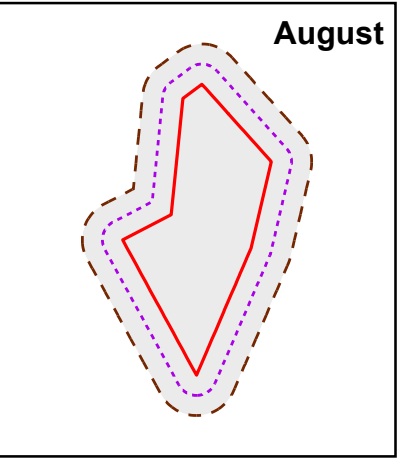
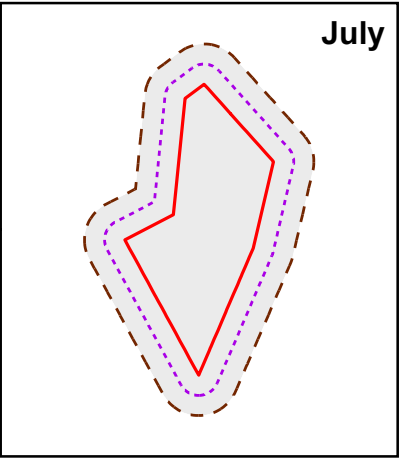
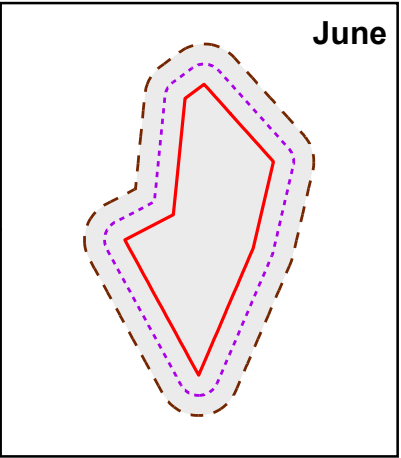
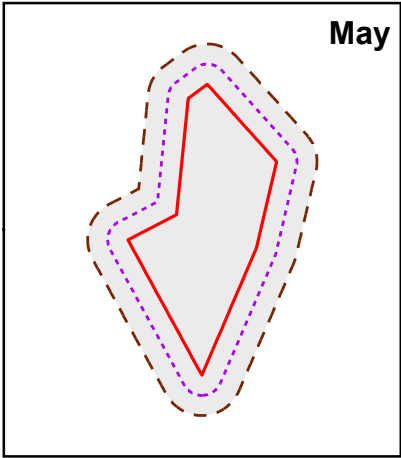
DRAWING NUMBER  
N/A

SHEET NO  
01 of 01

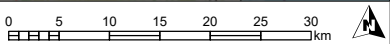
REV  
N/A

## **1.14 Red-throated Diver**

- 1.14.1.1 Spatial distribution maps, generated using design-based estimates, for red-throated 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.



Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



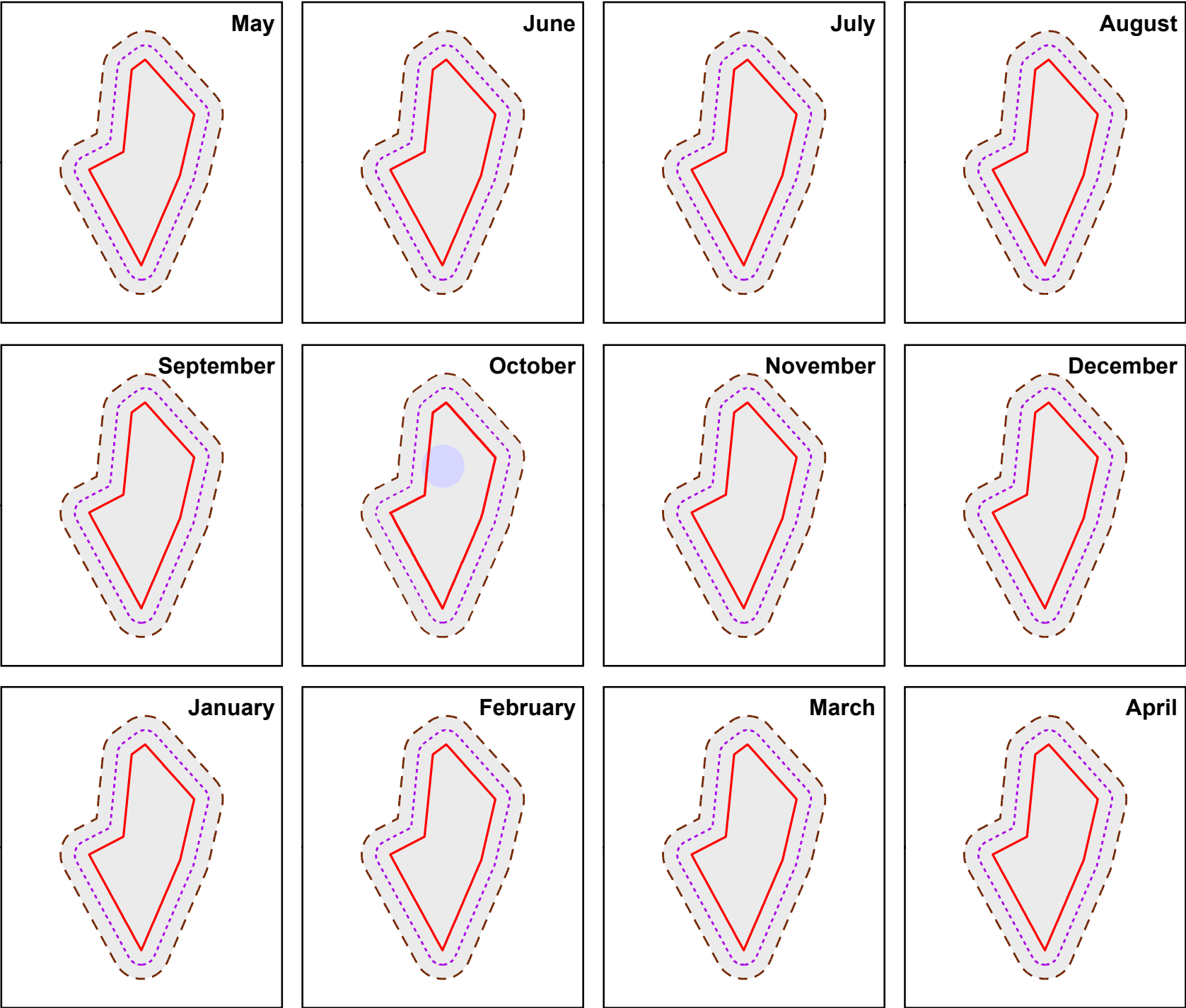
01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP



CONTRACTOR DRAWING NO	CONTRACTOR REV
UKCAL1_GO_WNF_ORN_MAP_00406	01
GEOGRAPHIC PARAMETERS	
WGS 84 / UTM zone 30N (EPSG: 32630)	
DRAWING TITLE	

Figure 1-25: Distribution of Red-throated diver between May 2021 and April 2022

STATUS	SCALE
Approved	1:750,000
DRAWING NUMBER	SHEET NO
N/A	01 of 01
	REV
	N/A



Caledonia South Site

2km Buffer from Caledonia South Site

4km Buffer from Caledonia South Site

Red-throated diver Relative Density

0

0 - 1

Service Layer Credits: © OpenStreetMap (and) contributors, CC-BY-SA  
© Caledonia Offshore Wind Farm Ltd © 2024. This document is the property of contractors and sub-contractors and shall not be reproduced nor transmitted without prior written approval.



01	20/09/2024	Approved	BB	EV	DH
REV	DATE	DOC STATUS	ORIGIN	REVIEW	APP

CALEDONIA

Offshore Wind Farm

GoBe

APEM Group

CONTRACTOR DRAWING NO

UKCAL1\_GO\_WNF\_ORN\_MAP\_00406

CONTRACTOR REV

01

COORDINATE PARAMETERS

WGS 84 / UTM zone 30N (EPSG: 32630)

DRAWING TITLE

Figure 1-26: Distribution of Red-throated diver between May 2022 and April 2023

STATUS

Approved

SCALE

1:750,000

DRAWING NUMBER

N/A

SHEET NO

01 of 01

REV

N/A

Caledonia Offshore Wind Farm  
5th Floor, Atria One  
144 Morrison Street  
Edinburgh  
EH3 8EX

[www.caledoniaoffshorewind.com](http://www.caledoniaoffshorewind.com)

