Outer Dowsing Offshore Wind

15.11AdditionalclarificationsrelatingtoNaturalEngland'sRelevantRepresentations(Appendix I Onshore Ornithology)

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15.11 Additional Clarifications Relating to Natural England's Relevant Representations (Appendix I)

Outer Dowsing Offshore Wind Environmental Statement

Outer Dowsing

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Acronyms and Abbreviations

CROME	Crop Map of England
ECC	Export Cable Corridor
EIA	Environmental Impact Assessment
RIAA	Report to Inform Appropriate Assessment
SPA	Special Protection Area

1.0 Additional Clarifications Relating to Natural England's Relevant Representations (Appendix I)

1.1 Crop Types within the Study Area

1. As summarised in Appendix I, Table 1, comment I2 of Natural England's Relevant Representations, Natural England has requested that greater detail and discussion of cropping practices be provided. The season two wintering bird survey addendum [AS1-108] provides additional information on crop types within the survey area and a discussion of crop utilisation by key qualifying species. Natural England highlight that there is "a single unreferenced paragraph within the EIA [APP-077]" regarding crop types. This clarification note provides extra detail on the sample of crop types referenced in the EIA, and how this relates to the distribution of the key qualifying features of The Wash SPA and the mitigation presented within the EIA [APP-077] and RIAA [APP-236].

1.2 Crop Sampling Study within the Order Limits Plus Adjacent Land

A sample of crop types was taken in spring 2023 as part of the geomorphology surveys covering 30% (2,370 ha) of the Order Limits plus 400m. Given that the sample is extensive and covers Grades 1, 2, and 3 land, it is possible to extrapolate the area of different crops to the Order Limits plus 400m. The summary results are provided in Table 1 and the distribution of crop types for individual fields is shown in Figures 1.1-1.26, Annex 2.

Crop type	Area of sample occupied by the crop type (ha)	Percentage of the total sample area (%)	Extrapolated total crop area for the Order Limits + 400m (ha)
Wheat	886.92	37.41	2,915.30
Fallow ¹	281.89	11.89	926.57
Grass	213.00	8.98	700.13
Beans	207.26	8.74	681.26
Barley	139.36	5.88	458.08
Maize	115.62	4.88	380.04
Potatoes	106.14	4.48	348.88
Cauliflower	105.40	4.45	346.45
OSR ²	102.07	4.31	335.50
Cabbage	72.96	3.08	239.82

Table 1: Sample and Extrapolated Areas of Crops within the Order Limits and Adjacent Land

Crop type	Area of sample occupied by the crop type (ha)	Percentage of the total sample area (%)	Extrapolated total crop area for the Order Limits + 400m (ha)
Broccoli	39.59	1.67	130.13
Sugar beet	37.02	1.56	121.68
Peas	31.02	1.31	101.96
Sprouts	12.00	0.51	39.44
Kale	10.35	0.44	34.02
Leek	5.36	0.23	17.62
Daffodils	4.88	0.21	16.04
Orchard	0.02	0.00	0.07
Totals	2,370.86		7,793.00

1.3 Crop Availability and Rotation within Proximity to The Wash SPA

- 3. Crop information was also obtained from the Rural Payment Agency's Crop Map of England (CROME) database³. The CROME is a polygon vector dataset mainly containing the crop types of England, which is updated between October/ January and September each year. The main sources for the crop classification are satellite images from the Sentinel constellation together with ground truth data for land cover types⁴.
- 4. CROME data was extracted to three sample crop polygons for 2019, 2020 and 2021 around the onshore Order Limits and covering up to 18km from The Wash SPA boundary. The sample crop polygons overlap by >90%, but they are not of the same size and shape as they had to be drawn manually and separately for each reference year (Plate 1). The area of the Order Limits plus 400m buffer is less than 10% (7,793 ha) of an average sample crop polygon, i.e., 81,933 ha for 2019, 81,697 ha for 2020 and 82,487 ha for 2021. The data allows for the assessment of available resources, proportion of different crops within each polygon/ year, and for the comparison of these proportions between years (crop rotation).

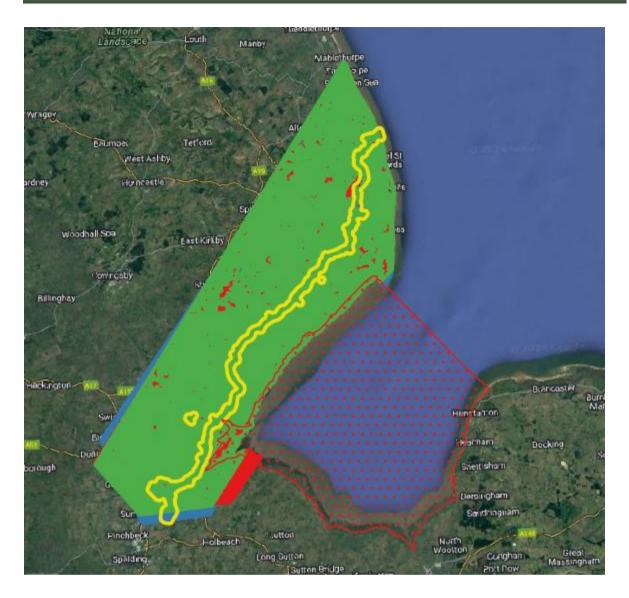


Plate 1: Order Limits plus 400m buffer (yellow line), on the background of three crop sample polygons for 2019 (red), 2020 (blue,) and 2021 (green) in relation to the Wash SPA (red dotted area)

- 5. Plate 2 shows the percentage of the most widespread crops within the sample foraging polygons amounting to between 92% (2020) and 96% (2019, 2021) of all crops recorded. A combined hectarage of all the crops within the three sample polygons is detailed in Annex 1: Total Area of Crops and their Average Cover (ha) within Sample Crop Polygons Taken from CROME Database for 2019, 2020 and 2021.
- 6. Winter wheat and grass are often the most prevalent crop types across this wider area, with 39% (31,646 ha) and 45% (37,359 ha) respectively in 2019 and 2021. Potato and spring barley are the next most prevalent crop types, covering up to 33% (26,657 ha) in 2020. Fallow land fluctuated between 10% (7,928 ha) in 2019, 3% (2,613 ha) in 2020 and 4% (3,023 ha) in 2021. Sugar beet oscillated between 3% (2,366 ha) and 5% (4,429)



ha) of all crops. This demonstrates that cereals are a common crop type in the wider area.

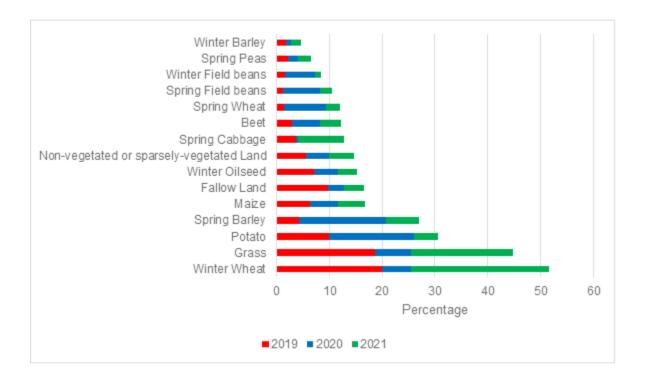


Plate 2: Percentage share of crop types within three crop sample polygons for 2019, 2020, and 2021

7. The proportion of bare ground/ plough and stubble fields would change during the winter and would be much higher in autumn and early winter as potatoes would be harvested from June/July and wheat, spring barley and maize from August. Sugar beet is harvested from September/ October through to March. Drilling of winter wheat and barley starts from September through to November and a large proportion of arable fields will look bare before first plants emerge. Bare ground/ plough, stubble and fallow land is a broad, but important resource for pink-footed goose, lapwing, golden plover and curlew. This category does not provide information on the crop harvested, but we can assume that their percentage cover follows the proportions of crops in the sample crop analyses presented in Table 1 and Plate 2.

1.4 Crop Preference and Availability for the Key Qualifying Species

8. Table 2 summarises the habitat utilisation recorded by the key qualifying species and the availability of those crops.

Table 2: Summary of Observations and Preferred Crop Types and their Availability for Wintering Dark-Bellied Grent Goose, PinkFooted Goose, Lapwing, Golden Plover and Curlew

Species	Summary of observations	Habitat preferences from 2023/24 Winter Bird Survey	Availability of crops within Order Limits plus 400m and a wider area (sample plot polygons)
Dark-bellied brent goose	2022/23: 13 records on eight visits in two ECC segments, with an average peak flock count of 182 (0- 1,100). 2023/24: 24 records on 12 visits in three ECC segments with an average peak flock count of 171 (0- 650).	Dark-bellied brent goose was recorded most frequently on land classed as not farmland (13 registrations, a total of 1,580 bird records); however, most birds were recorded on cereal crops (nine registrations, a total of 1,839 bird records).	Contrary to the rest of the assessed species, dark-bellied brent geese records concentrate around a specific area around the River Haven crossing. This area consists of predominately arable fields with grasslands and riparian habitat associated with The Haven, within the Order Limits plus 400m. Wheat and grass are the first and the third most common crop types within the Order Limits plus 400m with an estimated coverage of 2,915 ha and 700 ha respectively. These crops are evenly distributed along the Order Limits plus 400m (Annex 2: Figure 1.1-1.26: Sample Distribution of Crop Types within the Order Limits plus 400m within the order Limits plus 400m sithin the order Limits plus 400m (Annex 2: Figure 1.1-1.26: Sample Distribution of Crop Types within the Order Limits plus 400m sithin the order Limits plus 400m (Annex 2: Figure 1.1-1.26: Sample Distribution of Crop Types within the order Limits plus 400m Buffer – Spring 2023).
Pink-footed goose	2022/23: 27 records on 12 visits in nine ECC segments with an average peak flock count of 45 (0- 217). 2023/24: 23 records on seven visits in nine ECC segments with an average peak flock count of 533 (0- 5,000).	Majority of pink-footed geese were recorded on bare earth/ ploughed fields (five registrations of a total of 8,122 bird records), followed by stubbles (eight registrations, a total of 2,269), grass (four registrations, a total of 2,157) and cereal crops (five registrations, a total of 1,743).	Sample crop survey within the Order Limits plus 400m shows that fallow land, which includes bare ground/ ploughed and stubble fields is the second most common land use type (after wheat) covering an estimated 926 ha. Wheat and grass are the first and the third most common crop types within the Order Limits plus 400m with an estimated coverage of 2,915 ha and 700 ha respectively. All these crops were evenly distributed along Order Limits plus 400m (Annex 2: Figure 1.1-1.26: Sample Distribution of Crop Types within the Order Limits plus 400m Buffer – Spring 2023). Wheat and grass were also most common within sample crop polygons with an average coverage of 14,141 ha and 12,251 ha respectively for 2019, 2020 and 2021. On average, fallow and non- vegetated or sparsely vegetated land represented a total of 8,149 ha.

Species	Summary of observations	Habitat preferences from 2023/24 Winter Bird Survey	Availability of crops within Order Limits plus 400m and a wider area (sample plot polygons)
Lapwing	2022/23: 230 records on 10 visits in twelve ECC segments with an average peak flock count of 161 (0- 400). 2023/24: 156 records on 15 visits in 14 ECC segments with an average peak flock count of 469 (0- 2,000).	Bare earth/ploughed fields were the most frequently recorded field type utilised by lapwing (81 registrations, a total of 9,505 bird records), followed by cereals (27 registrations, a total of 4,356 bird records) and grassland (42 registrations, a total of 2,727). The latter refers primarily to wetland sites particularly Anderby Marsh.	See the description of crops for pink-footed goose for the summary of bare ground/ ploughed, stubble, fallow land, wheat and grassland availability in the Order Limits plus 400m and sample plot polygons.
Golden plover	2022/23: 79 records on 12 visits in ten ECC segments with an average peak flock count of 71 (0-250). 2023/24: 30 records on six visits in 12 ECC segments with an average peak flock count of 247 (0-2,000).	Field types utilised were predominantly bare earth/ ploughed fields (16 registrations, a total of 2,099) and cereal fields (ten registrations, a total of 1,866), with the largest flock recorded in a recently sown crop field.	See the description of crops for pink-footed goose for the summary of bare ground/ ploughed, stubble, fallow land, wheat and grassland availability in the Order Limits plus 400m and sample plot polygons.
Curlew	2022/23: 255 records on 12 visits in 14 ECC segments with an average peak flock count of 26 (0- 56). 2023/24: 160 records on 14 visits in 13 ECC segments with an average peak flock count of 34 (0- 103).	Grazed and ungrazed grassland (90 registrations, a total of 993 bird records) were the most used habitat, followed by bare earth/ ploughed fields (39 registrations, a total of 410), cereals (19 registrations, a total of 309) and stubbles (10 registrations, a total of 147).	See the description of crops for pink-footed goose for the summary of bare ground/ ploughed, stubble, fallow land, wheat and grassland availability in the Order Limits plus 400m and sample plot polygons.

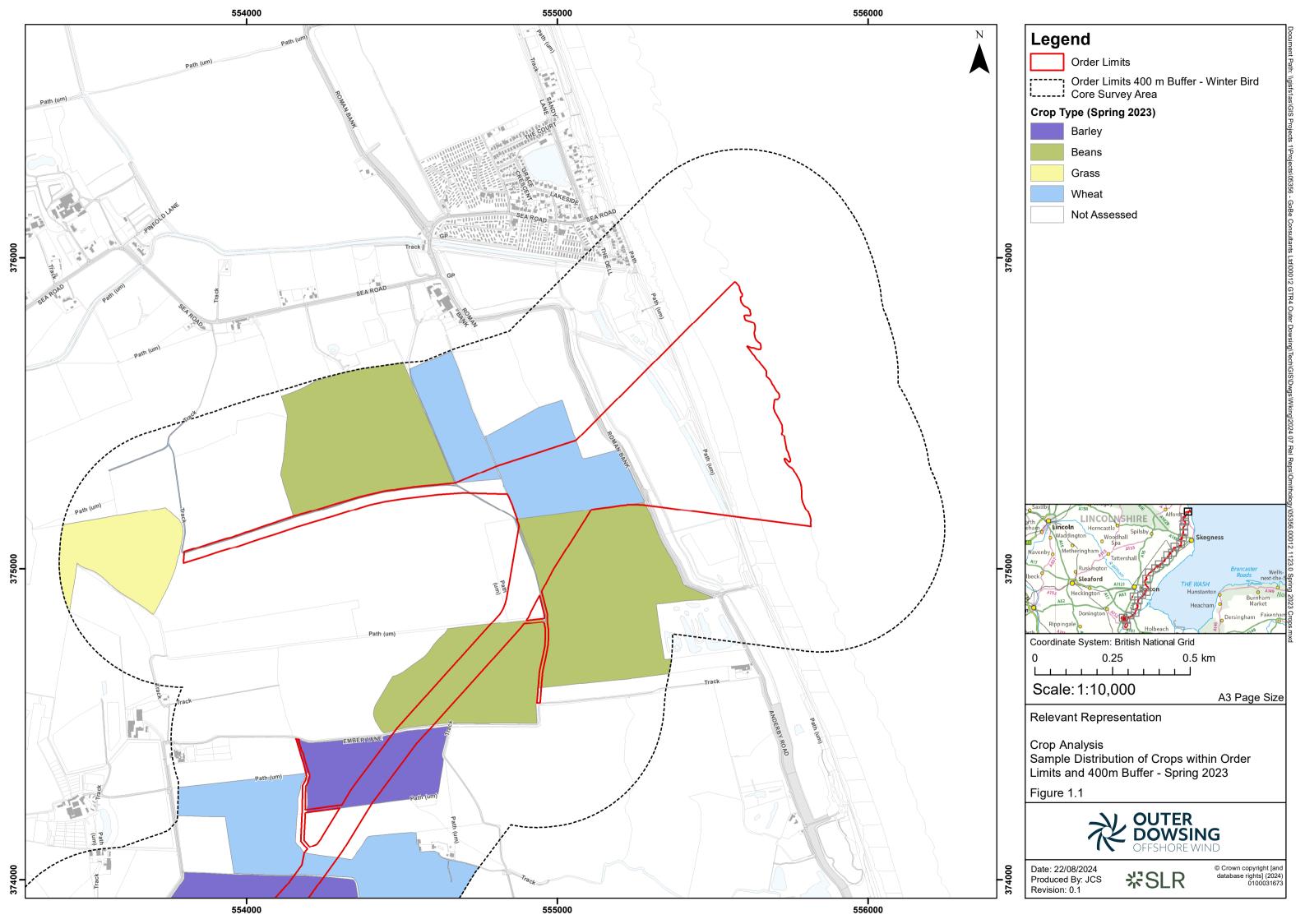
- 9. As shown in the season two wintering bird survey addendum [AS1-108] and summarised in Table 2, the most common crop types utilised by the five key qualifying species were found to be bare/ ploughed land, cereal crops, grass and stubble (fallow land). Table 1 and Figures 1.1-1.26 demonstrate that these crops are common and widespread within the Order Limits plus 400m buffer, which is reflected in the widespread distribution of pink-footed goose, lapwing, golden plover and curlew.
- 10. As shown in Plate 2, crops rotate between years within a wider area of the Order Limits, however, wheat and grass are the most common crops overall across the three years sampled, followed by potatoes and spring barley. The average proportion of sugar beet in the sample crop polygons for 2019, 2020 and 2021 was four percent and 1.5% for the crop sample from the Order Limits plus 400m.
- 11. Therefore, the mitigation set out in the EIA and RIAA specifically regarding a localised working restriction is appropriate, as alternative foraging resource will remain available. They also show that sugar beet forms a relatively small proportion of the cropping within the study area.

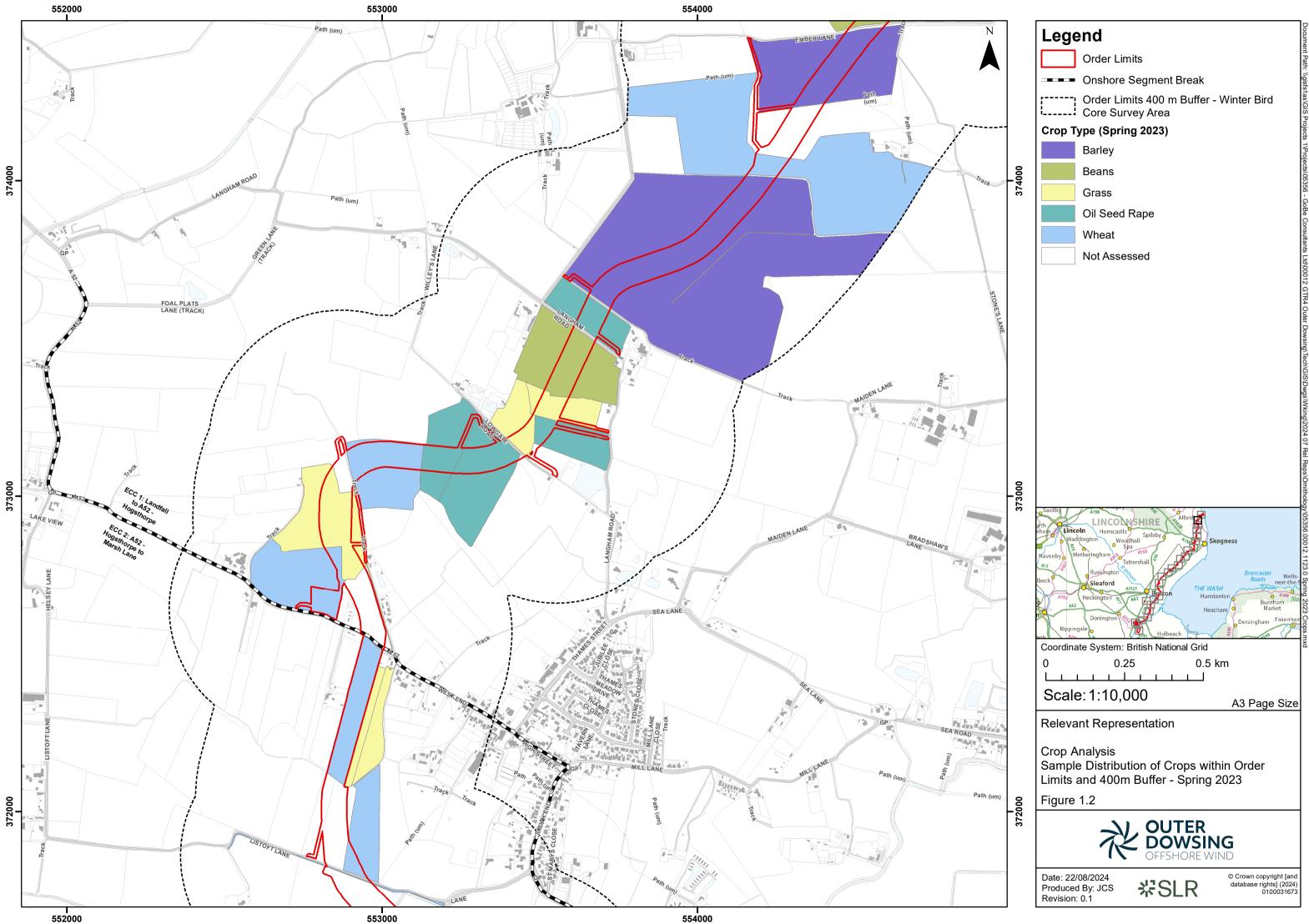
Annex 1: Total Area of Crops and their Average Cover (ha) within Sample Crop Polygons Taken from CROME Database for 2019, 2020 and 2021

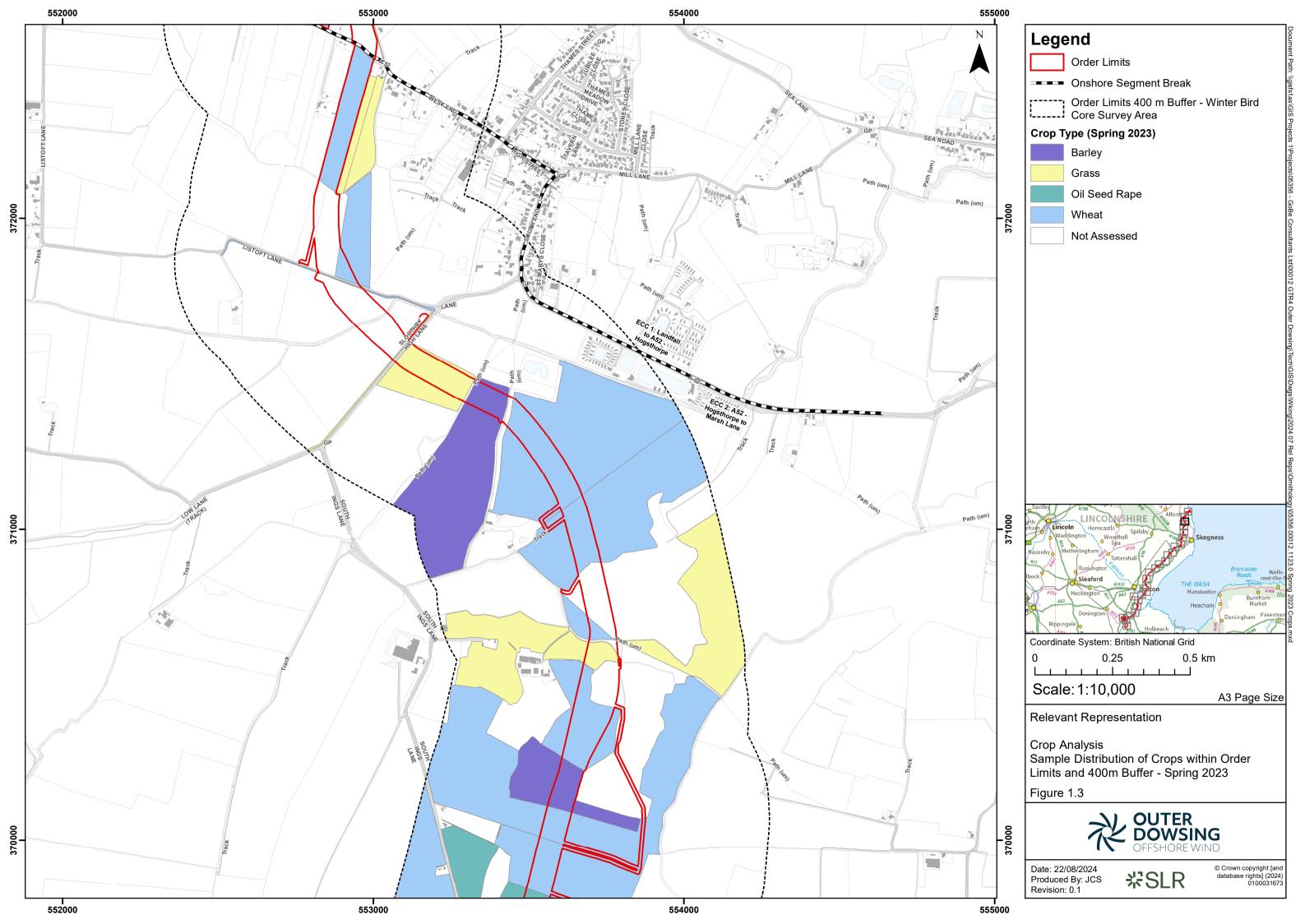
Crop Type		Area (ha)		Average Area
	12. 2019	13. 2020	14. 2021	[ha]
Winter Wheat	16,341	4,581	21,501	14,141
Grass	15,306	5,591	15,858	12,251
Potato	8,142	13,165	3,658	8,322
Spring Barley	3,485	13,492	5,057	7,345
Maize	5,135	4,345	4,231	4,570
Fallow Land	7,928	2,613	3,023	4,521
Winter Oilseed	5,824	3,696	2,927	4,149
Non-vegetated or sparsely vegetated Land	4,549	3,524	3,927	4,000
Spring Cabbage	3,097	187	7,238	3,507
Beet	2,366	4,429	3,289	3,362
Spring Wheat	1,146	6,563	2,108	3,273
Spring Field beans	966	5,816	1,894	2,892
Winter Field beans	1,388	4,643	808	2,280
Spring Peas	1,800	1,492	2,030	1,774
Perennial Crops and Isolated Trees	1,008		2,137	1,572
Winter Barley	1,453	756	1,630	1,280
Lucerne		1,165		1,165
Lettuce		749		749
Trees and Scrubs, short Woody plants, hedgerows	503	1,506	226	745
Spring Oats	374	1,164	425	654
Spring Linseed	54	1,148	112	438
Winter Rye	539	271	108	306
Winter Oats	123	253	175	184
Water	262	158	121	180
Heather	2	222		112

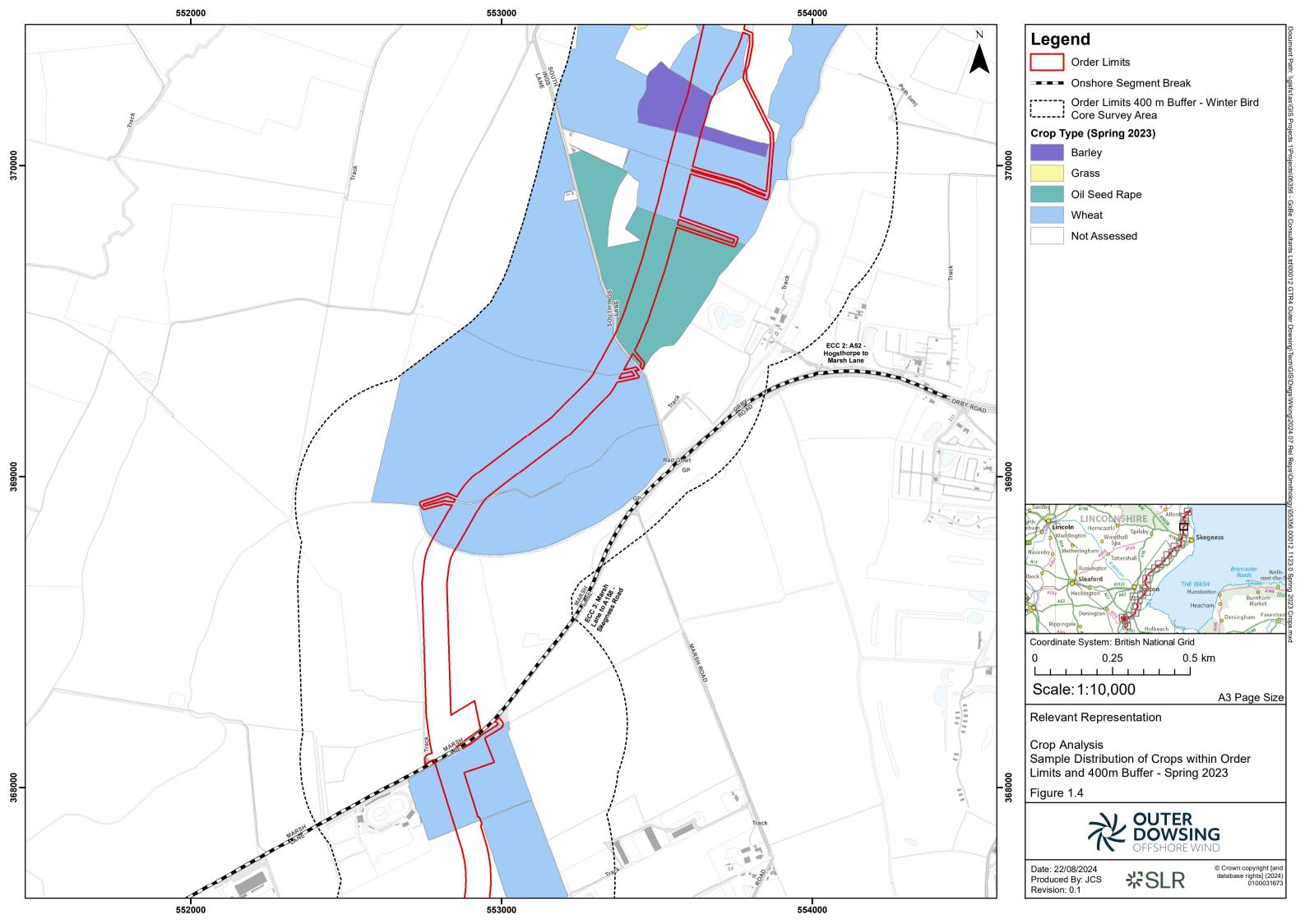
Crop Type		Average Area		
	12. 2019	13. 2020	14. 2021	[ha]
Daffodil	86			86
Onions	20	138		79
Clover		32		32
Winter Cabbage	24			24
Mixed Crop- Group 1	9		2	6
Winter Triticale	1			1
Heathland and Bracken	1	1		1
Carrot	0			0
Totals	81,933	81,697	82,487	

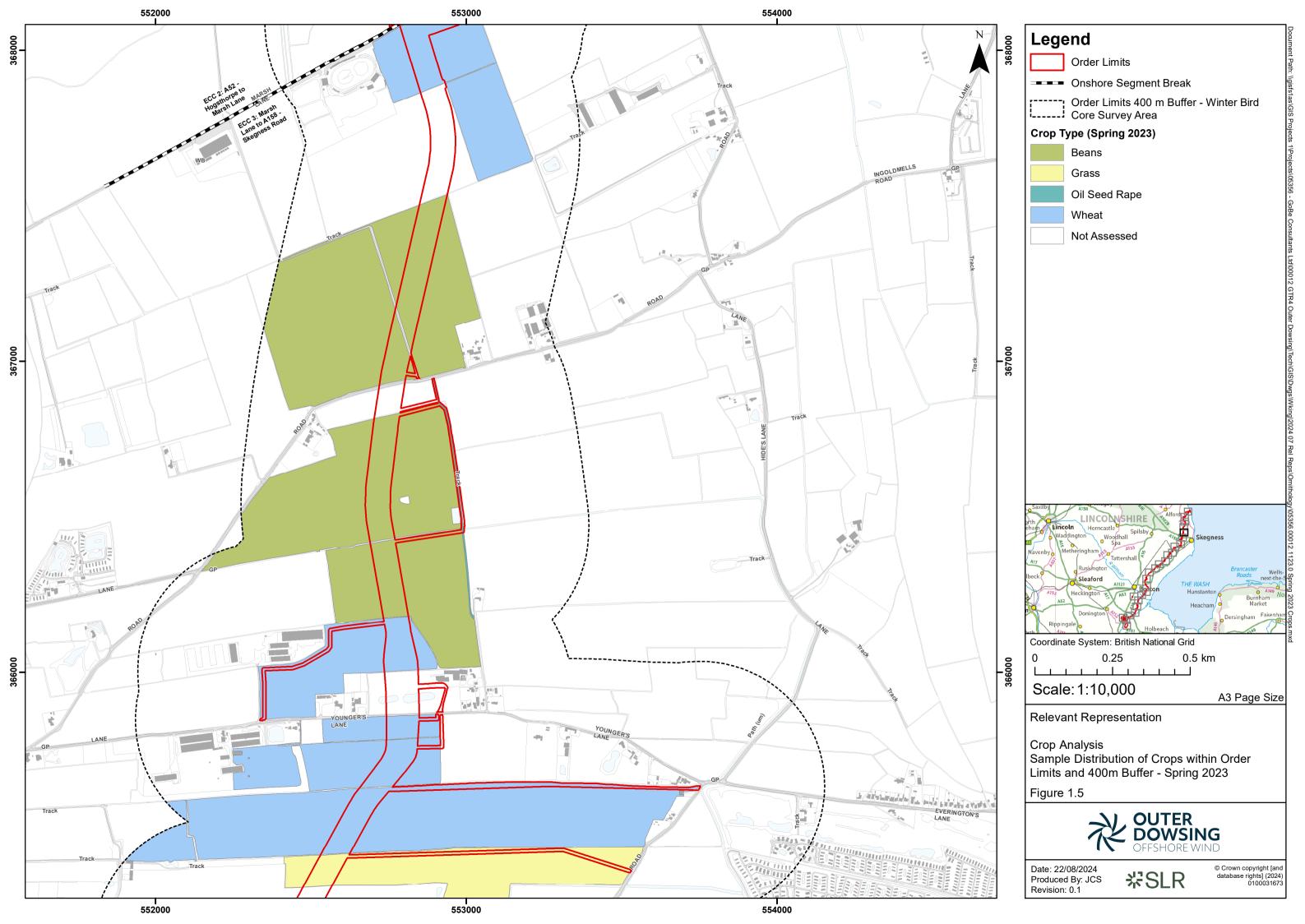
Annex 2: Figure 1.1-1.26: Sample Distribution of Crop Types within the Order Limits plus 400m Buffer – Spring 2023

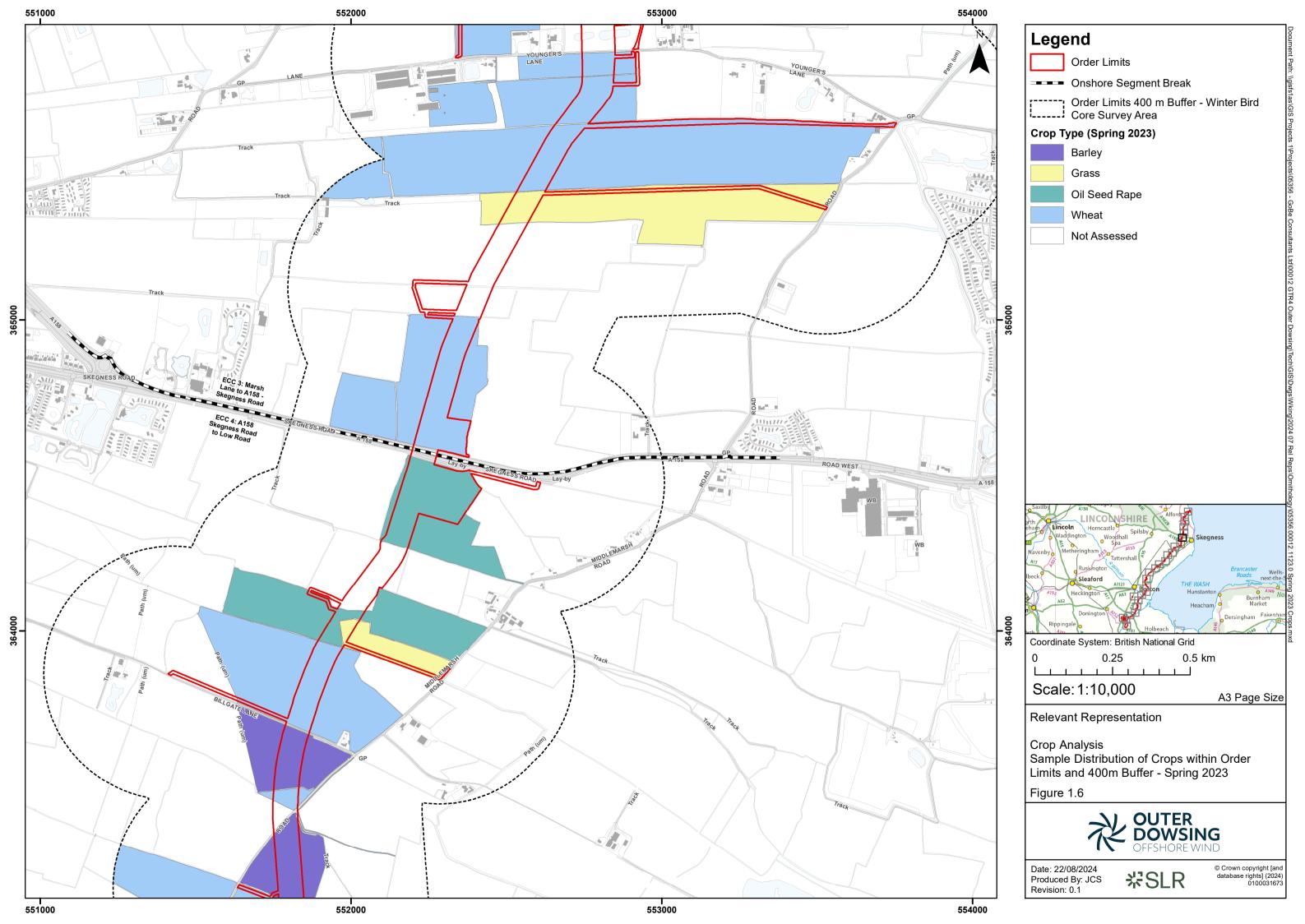


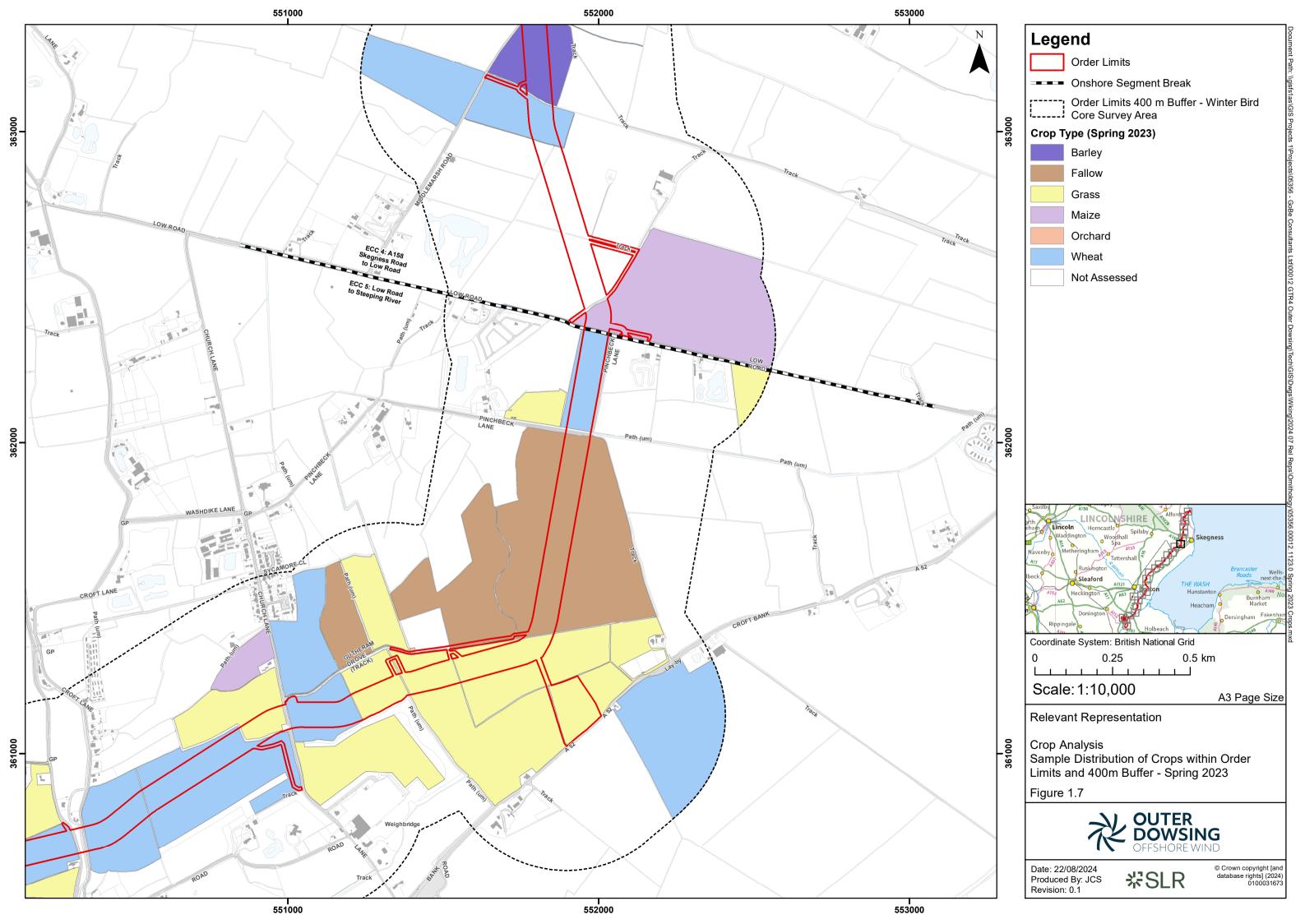


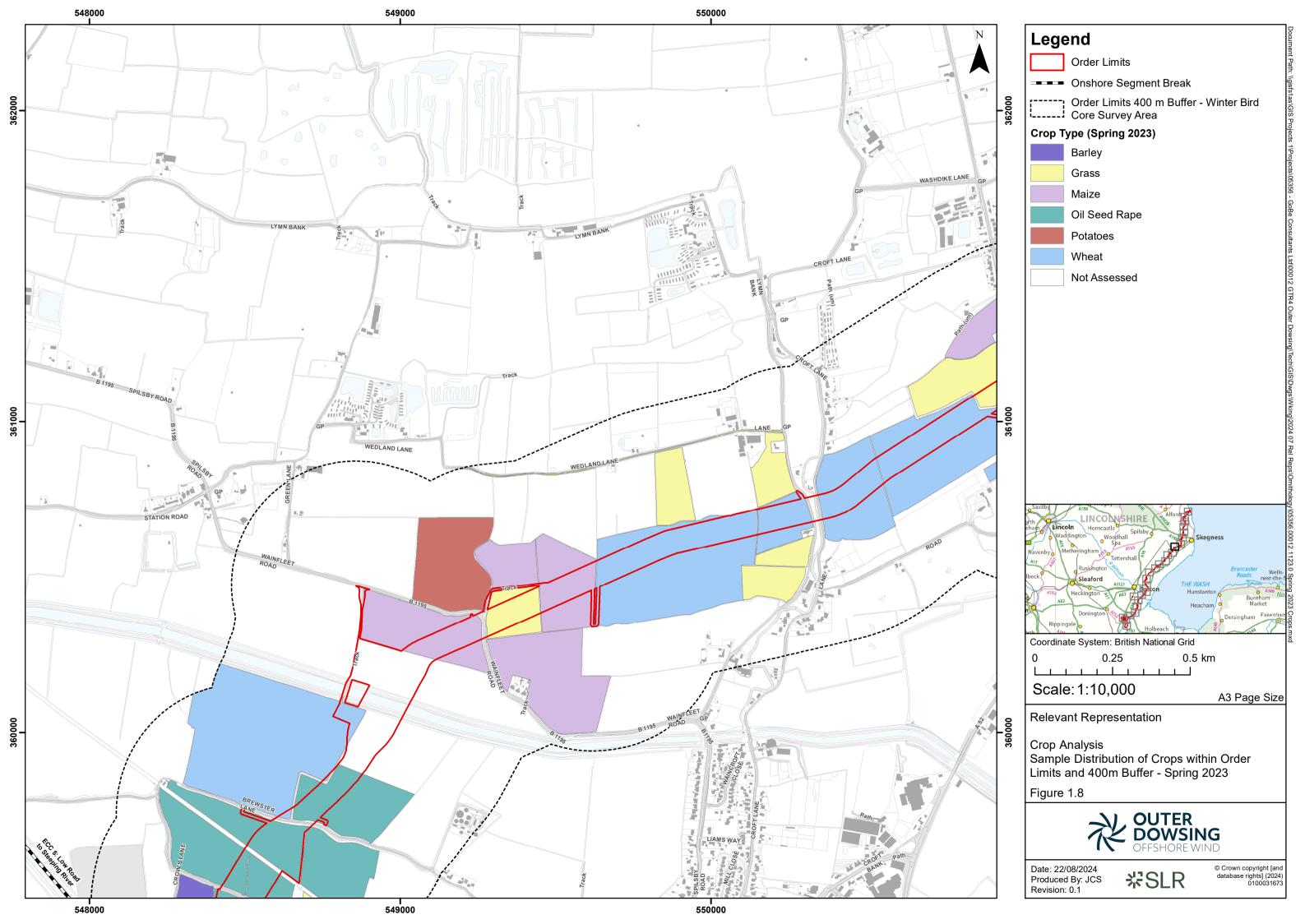


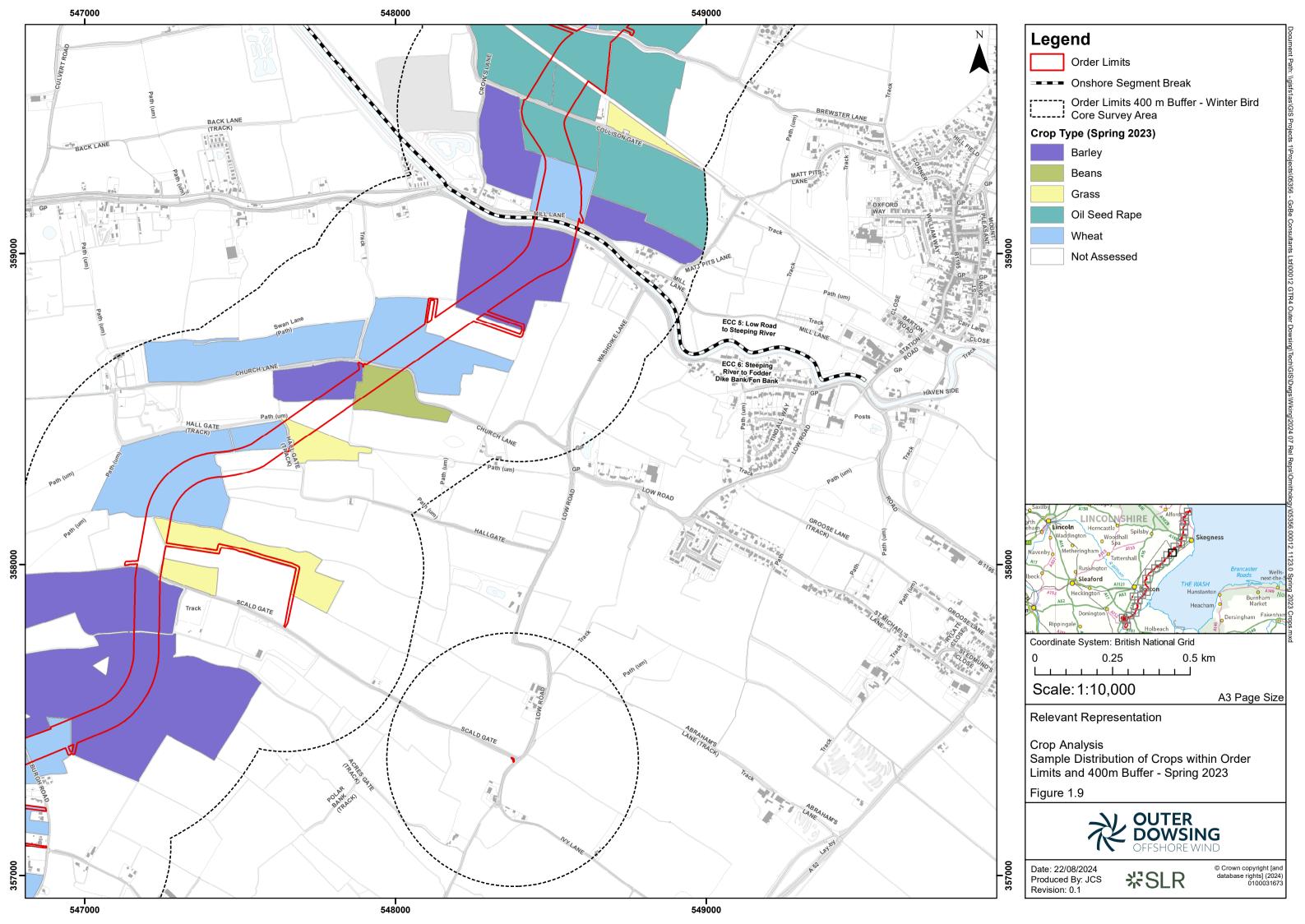


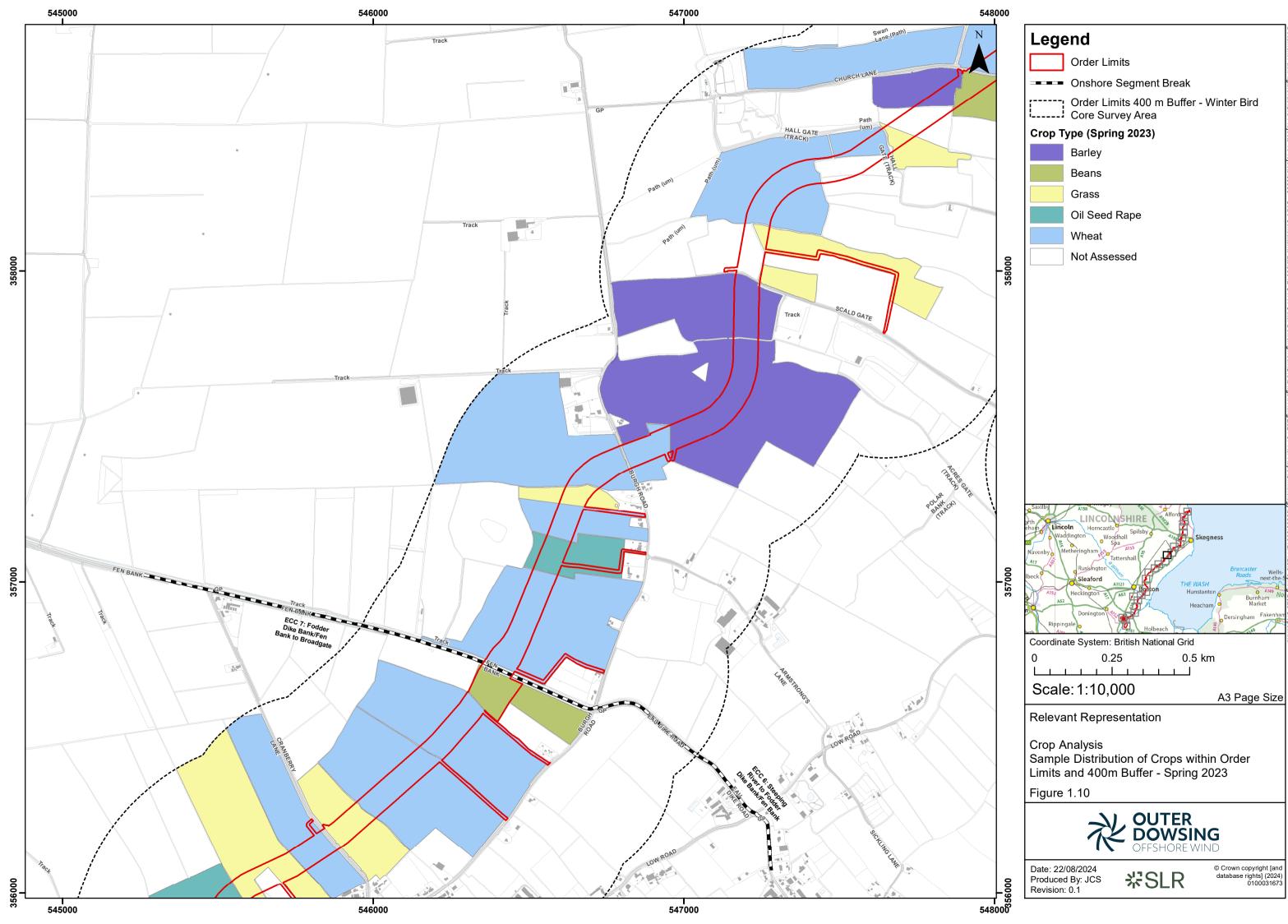


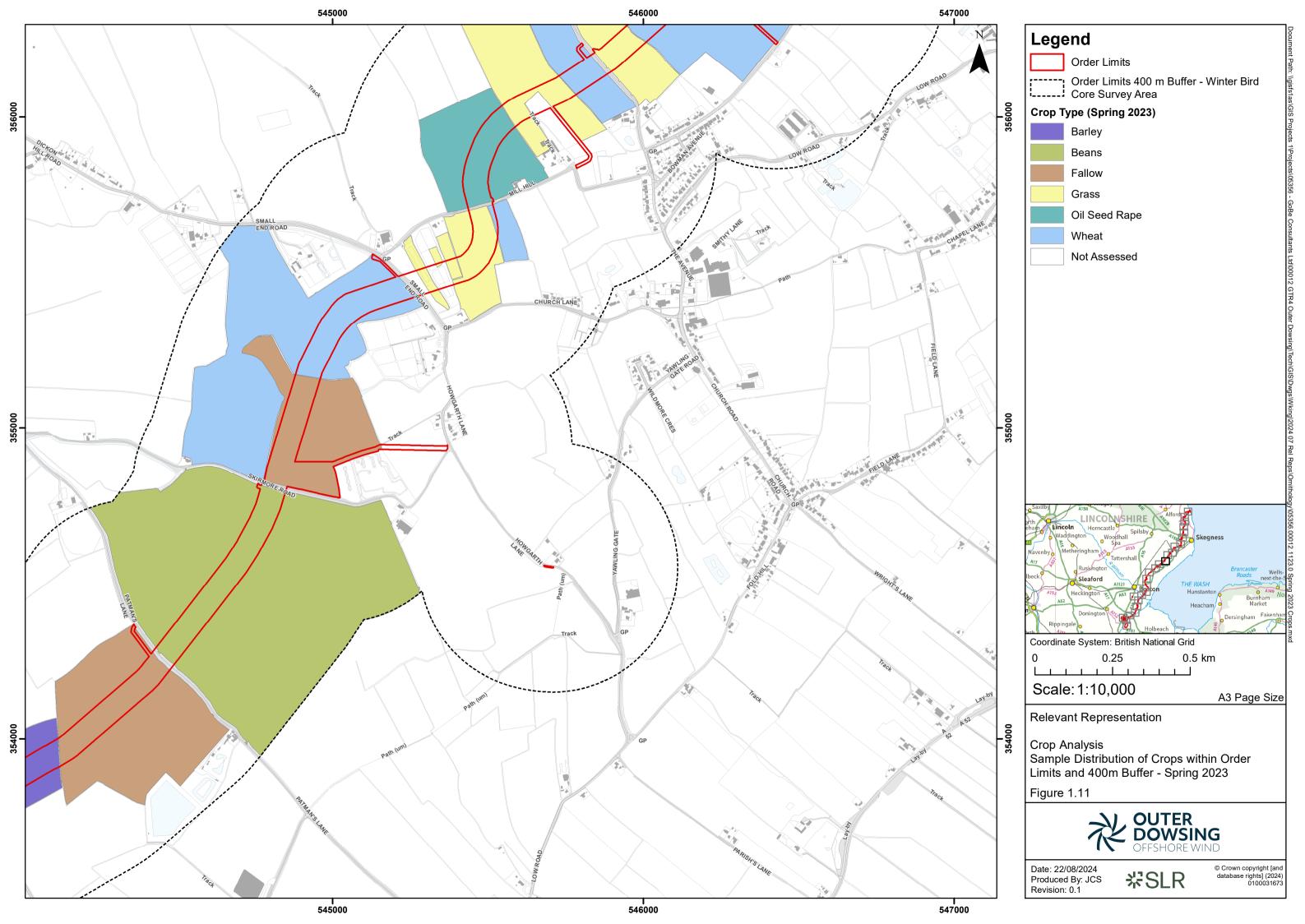


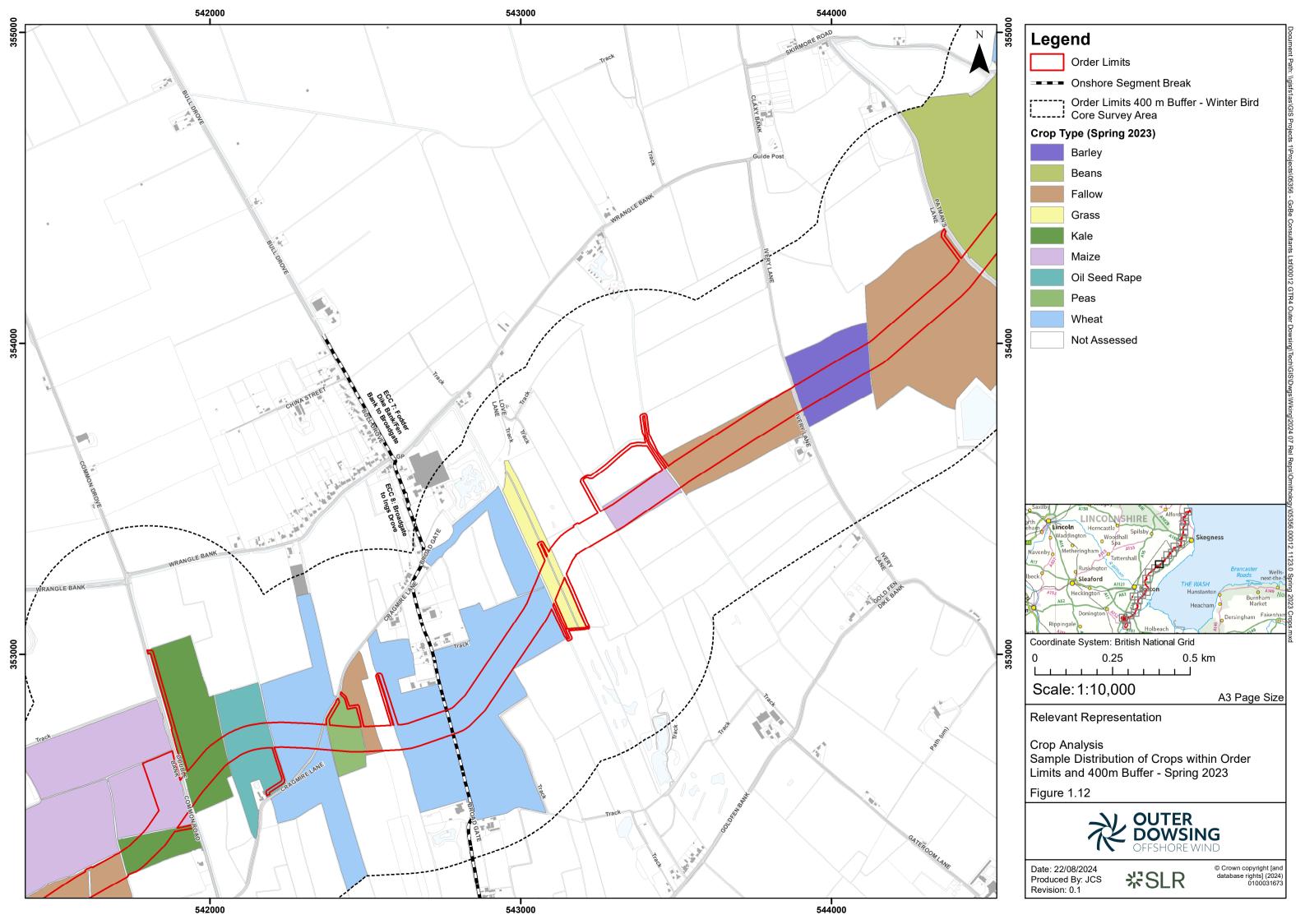


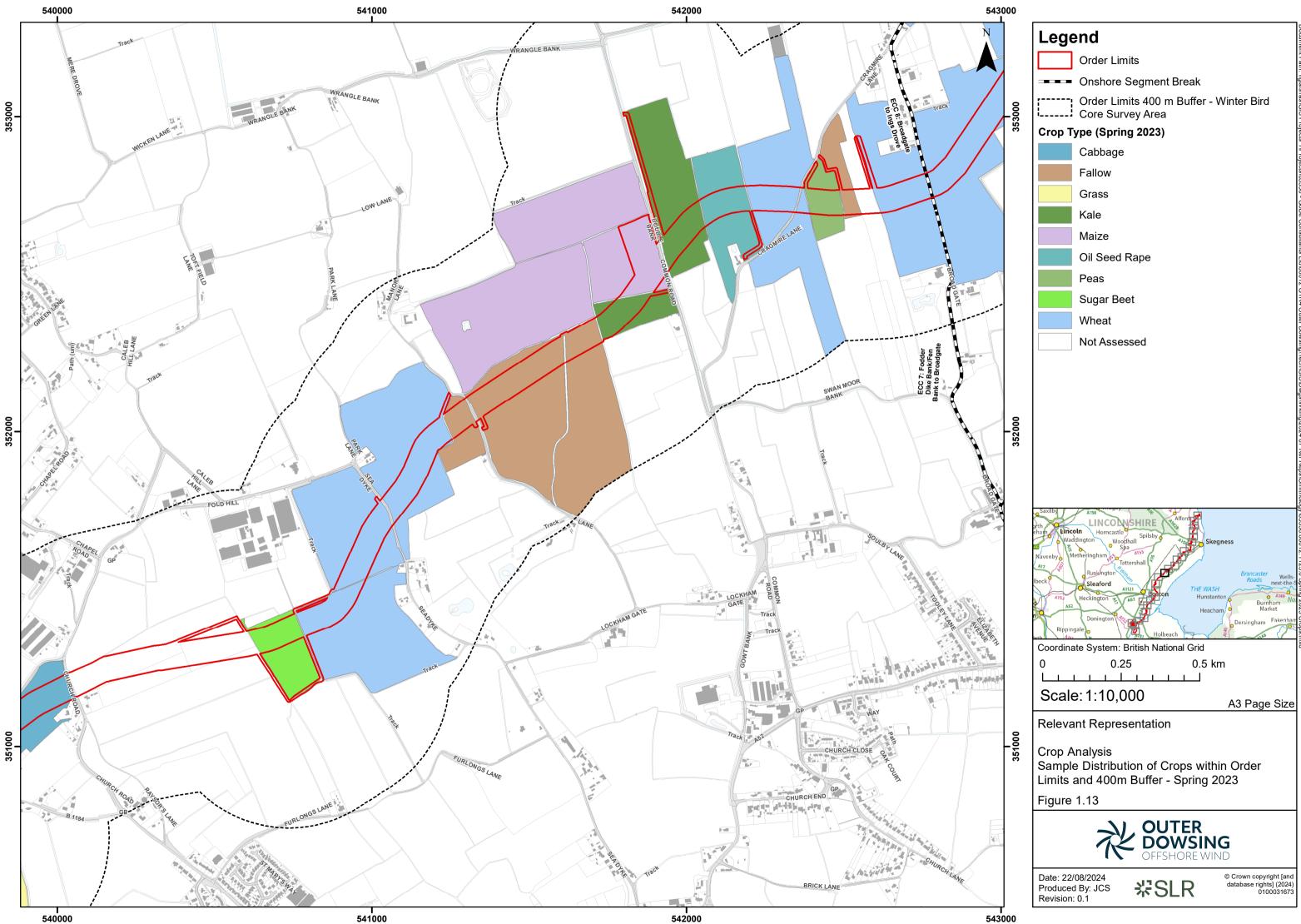


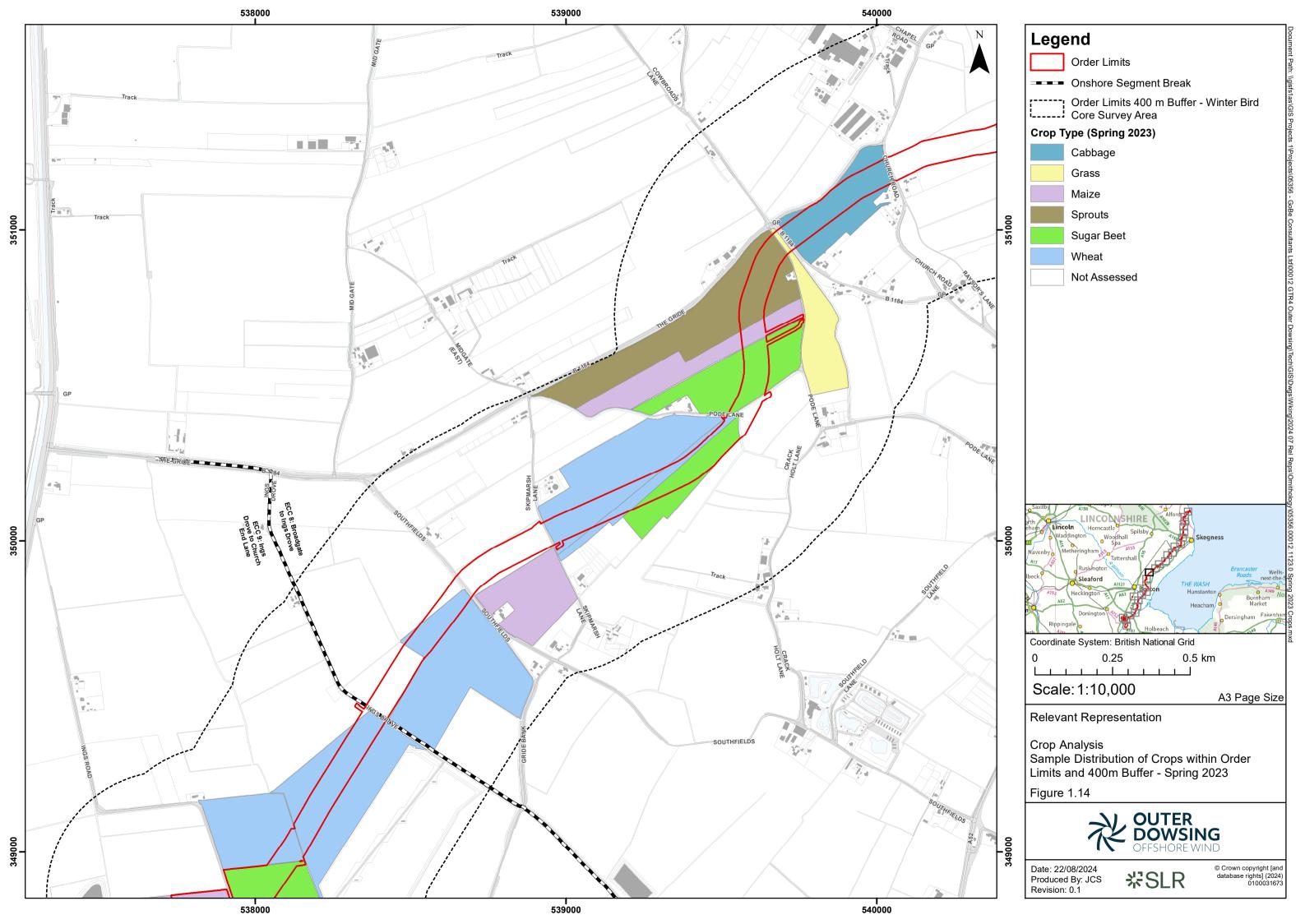


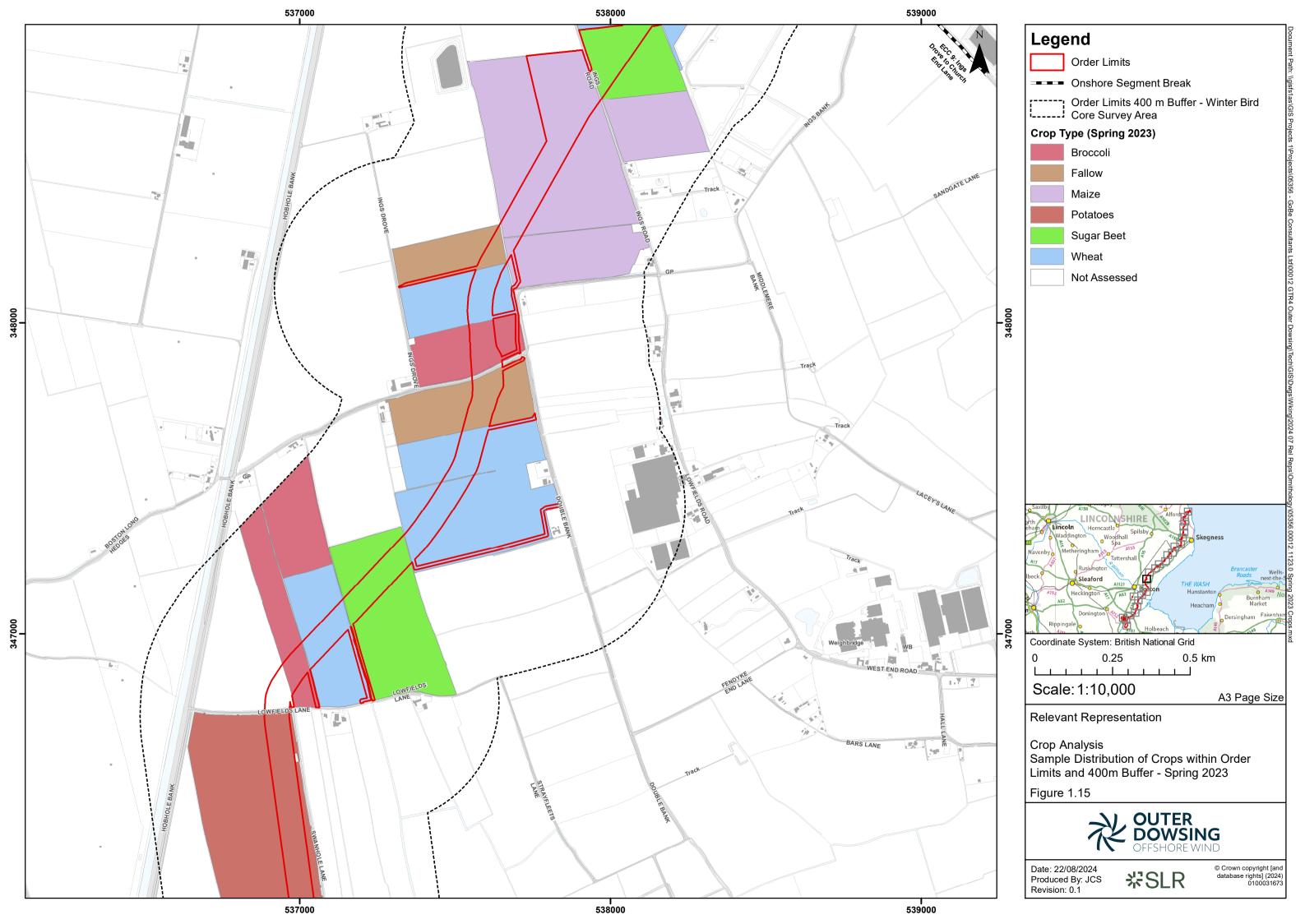


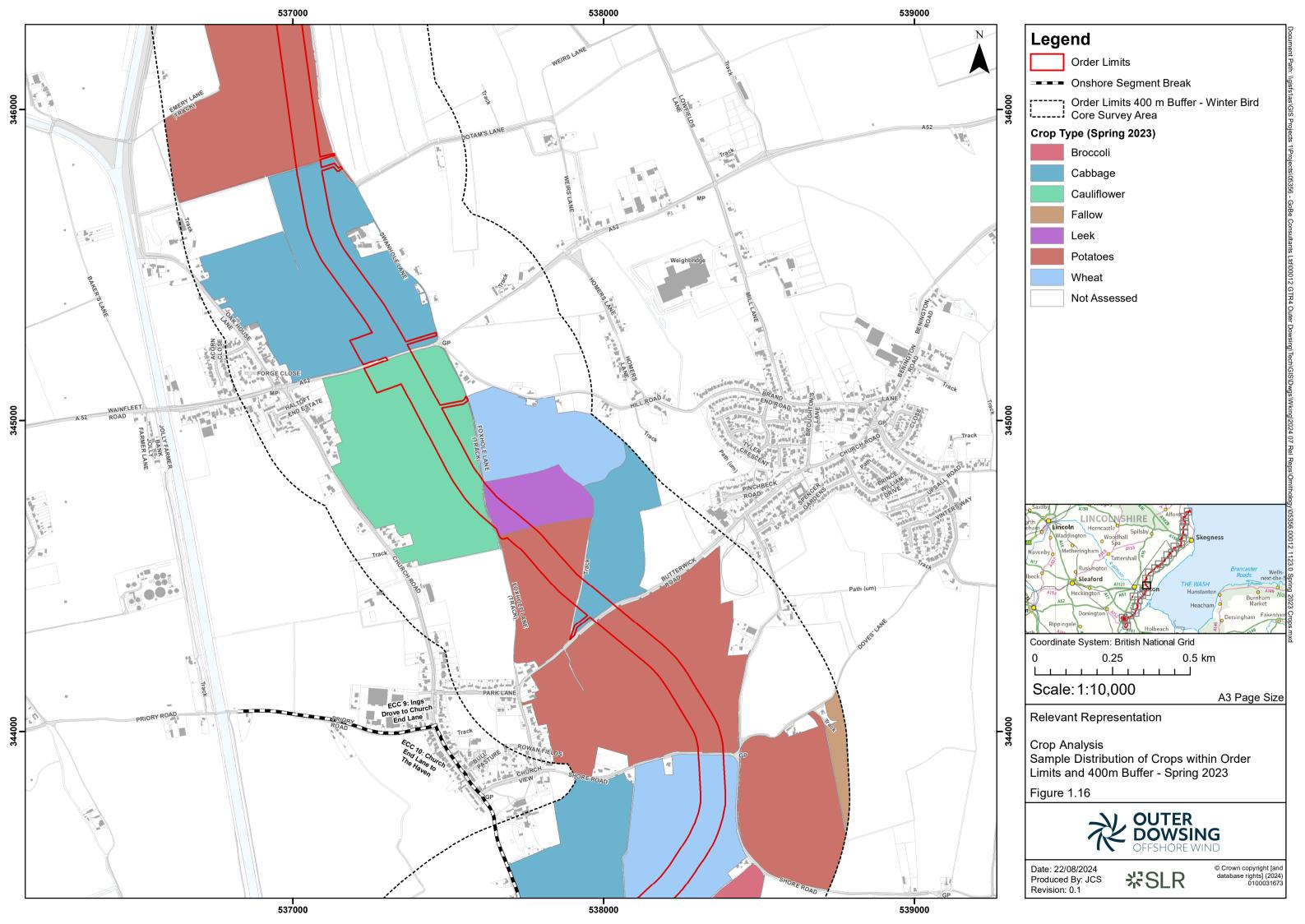


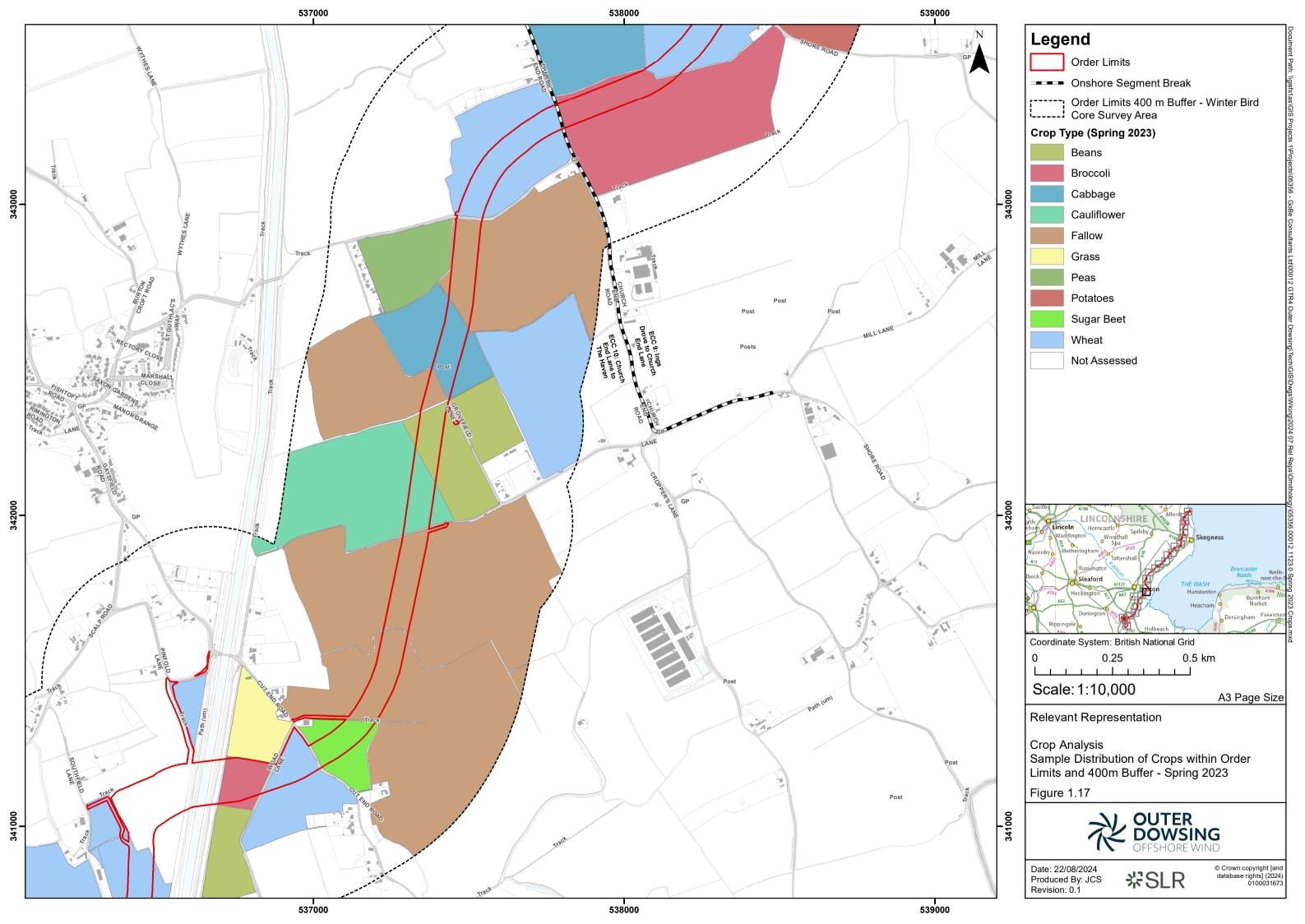


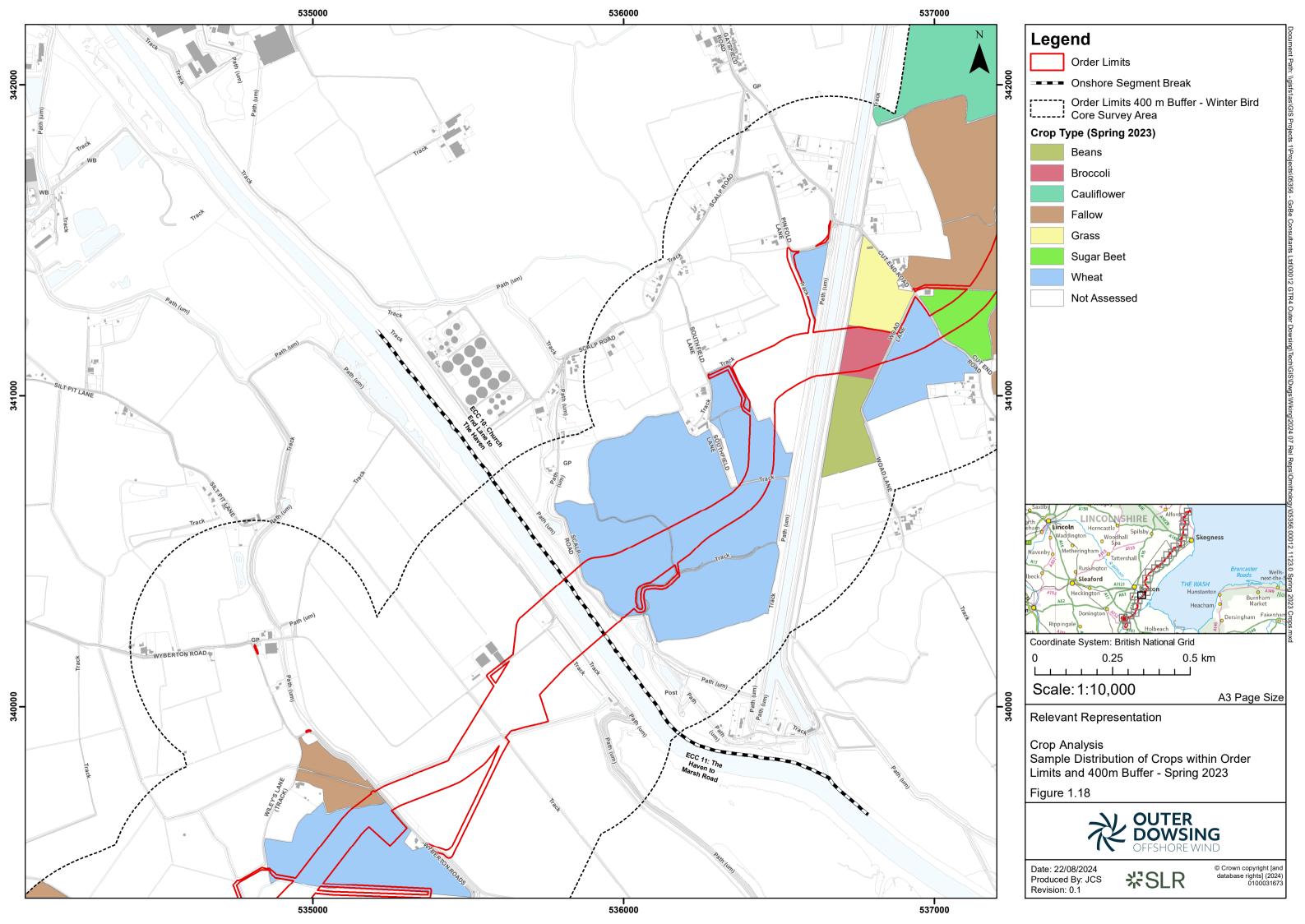


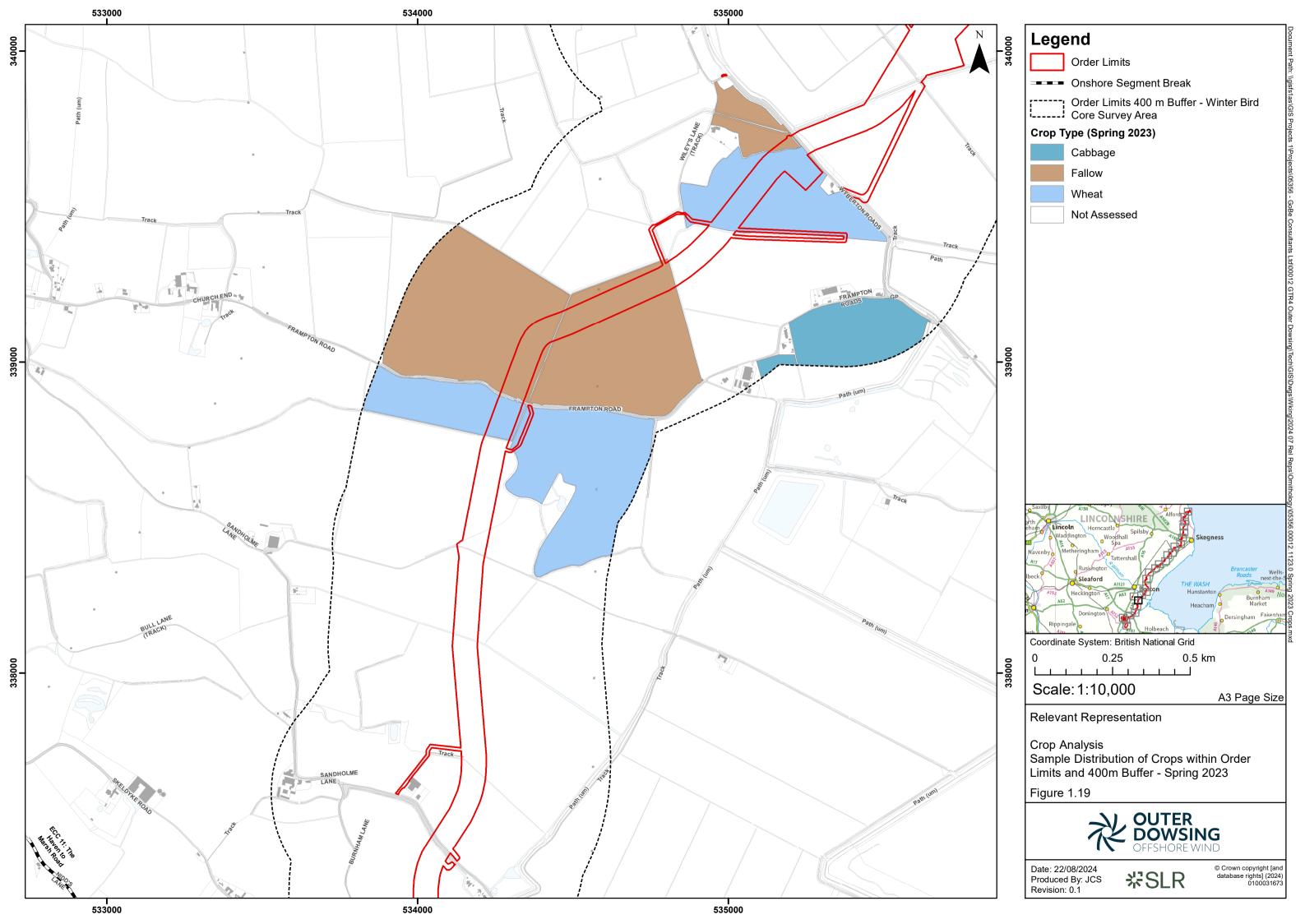


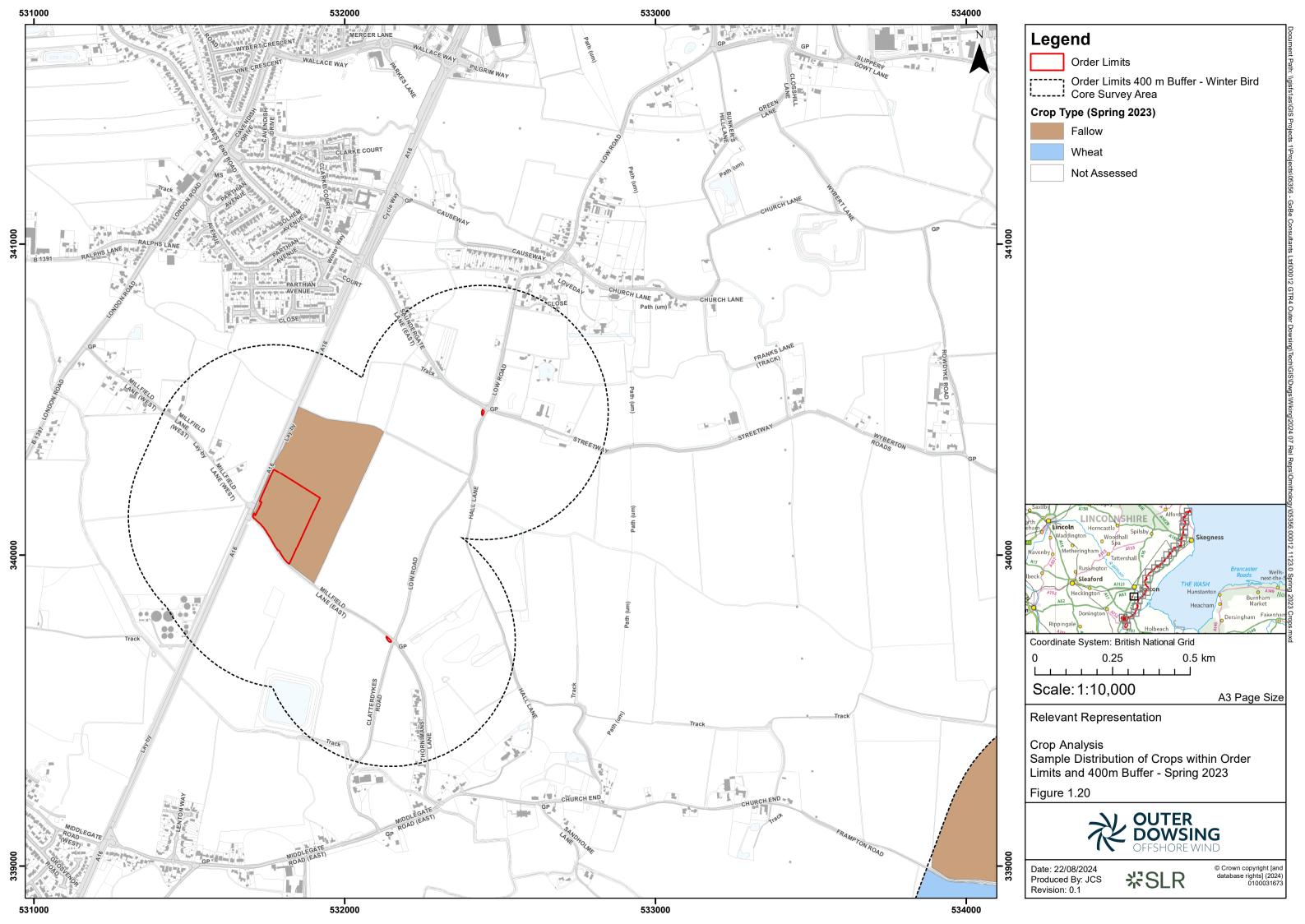


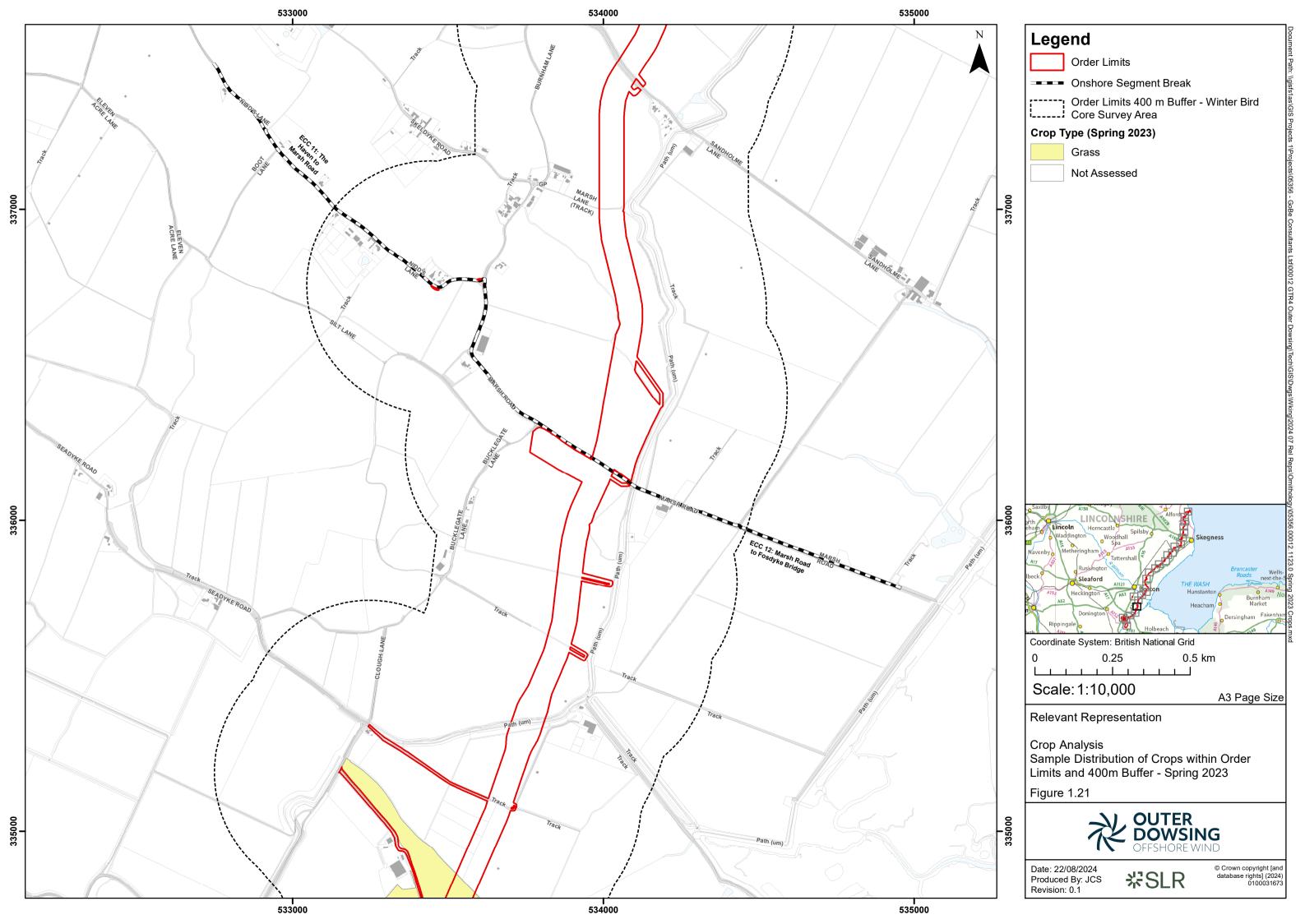


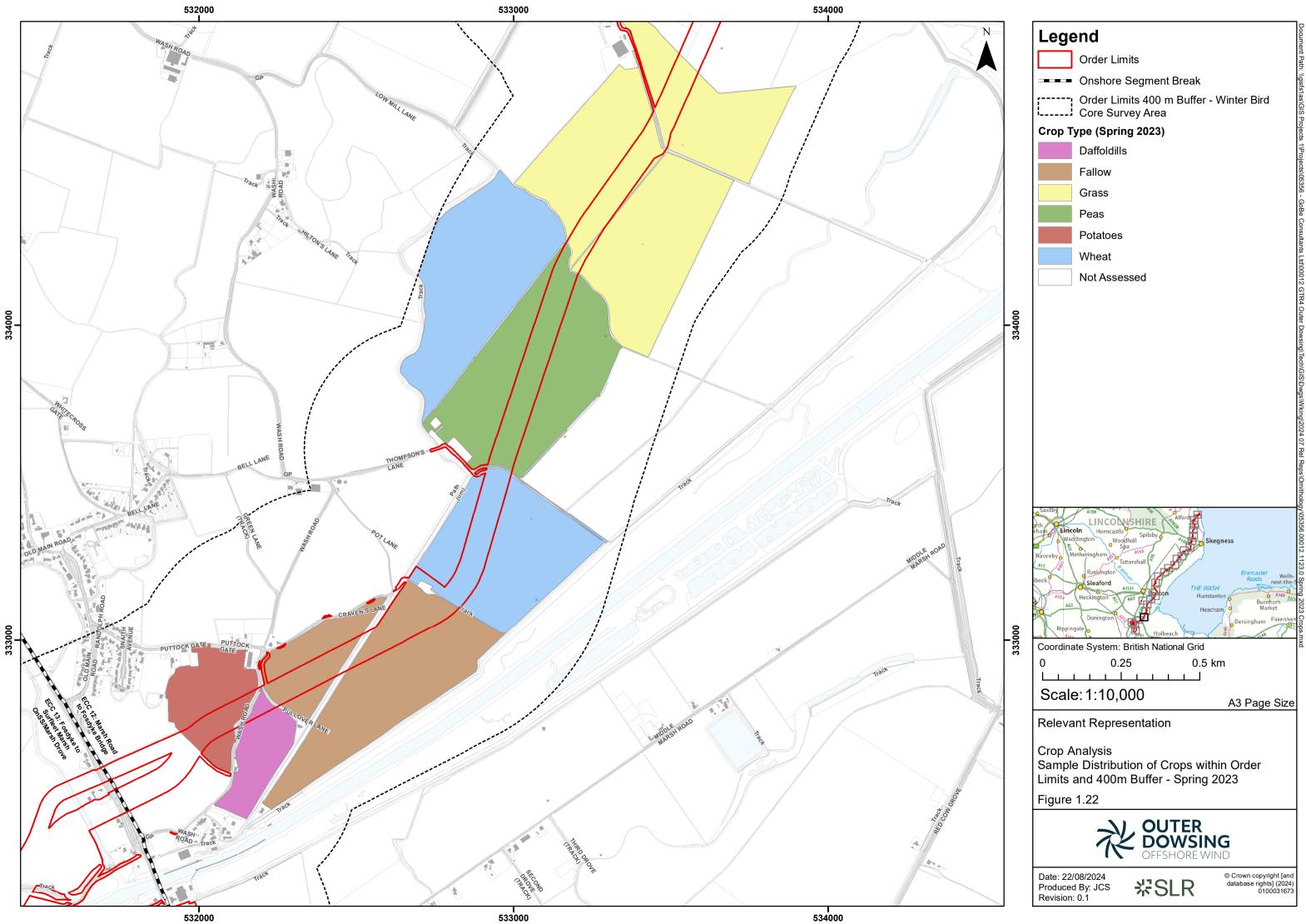


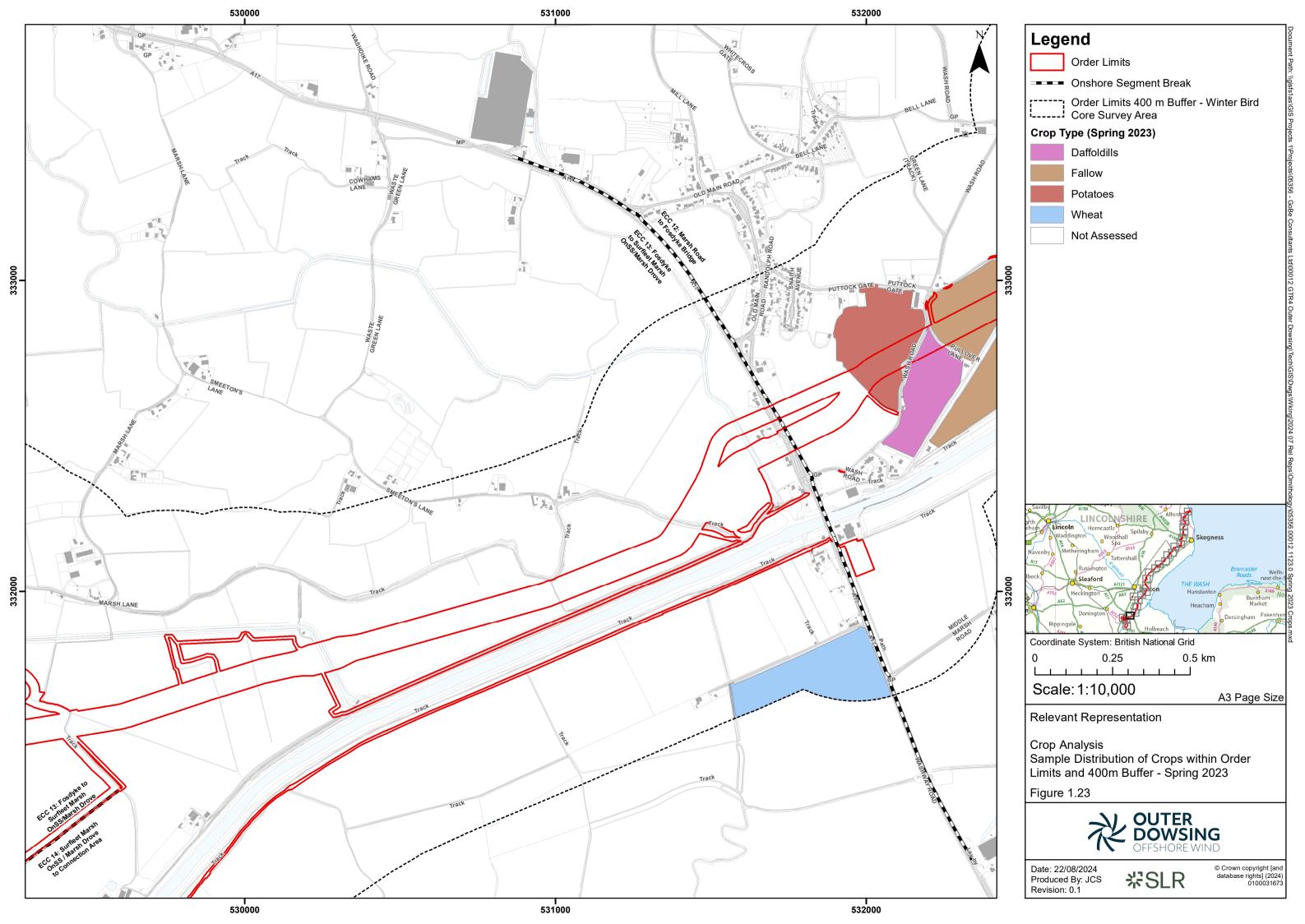


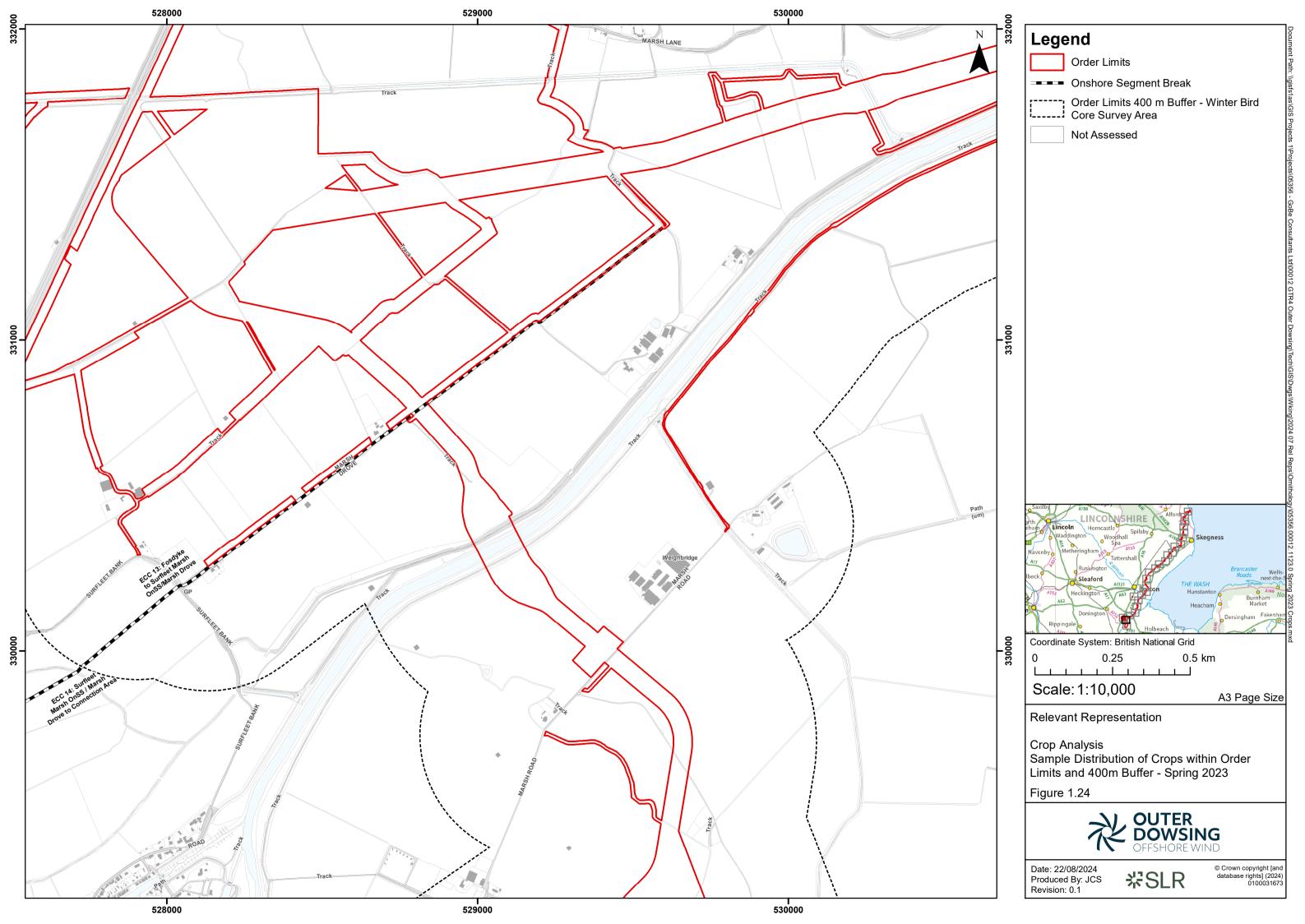


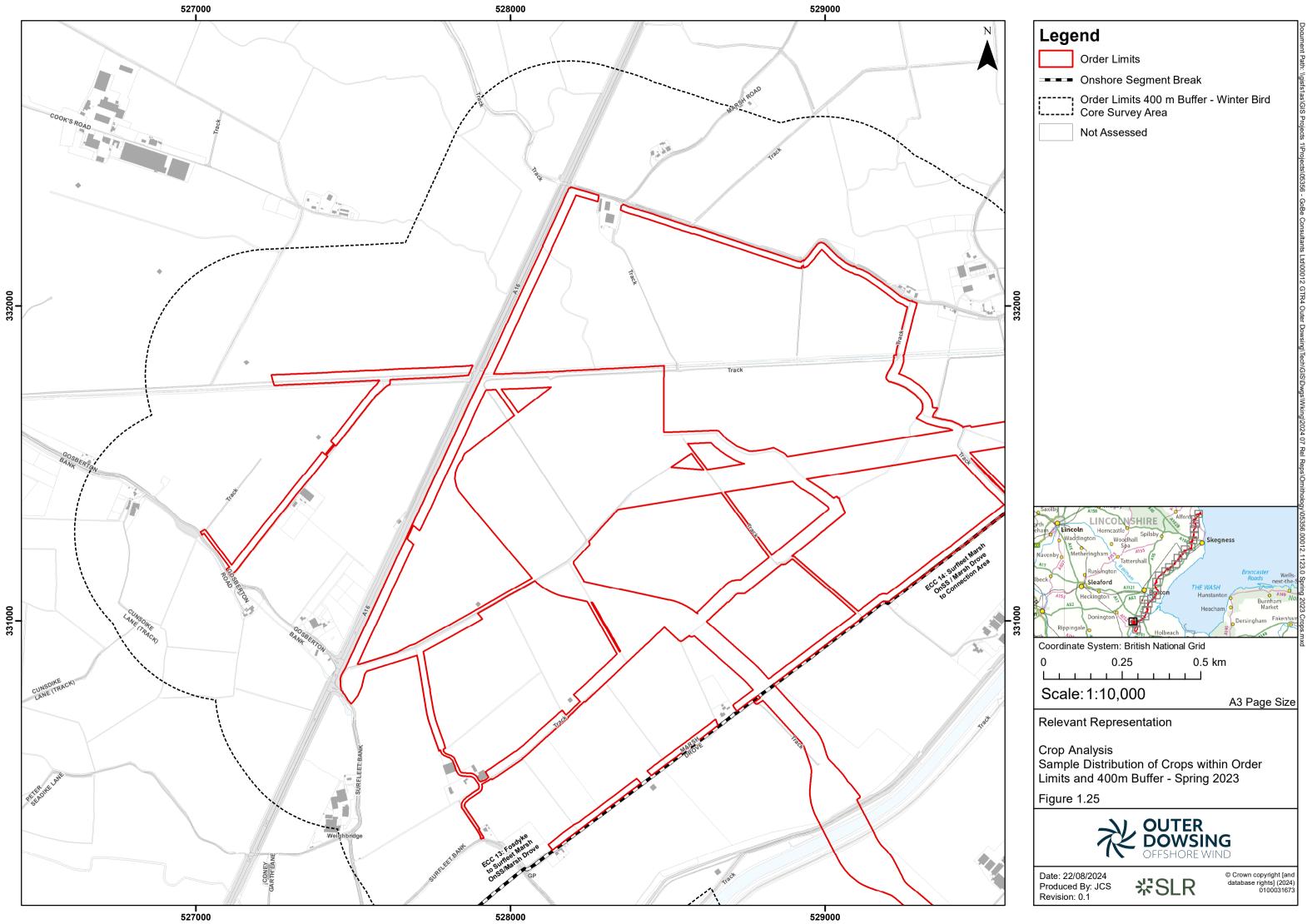


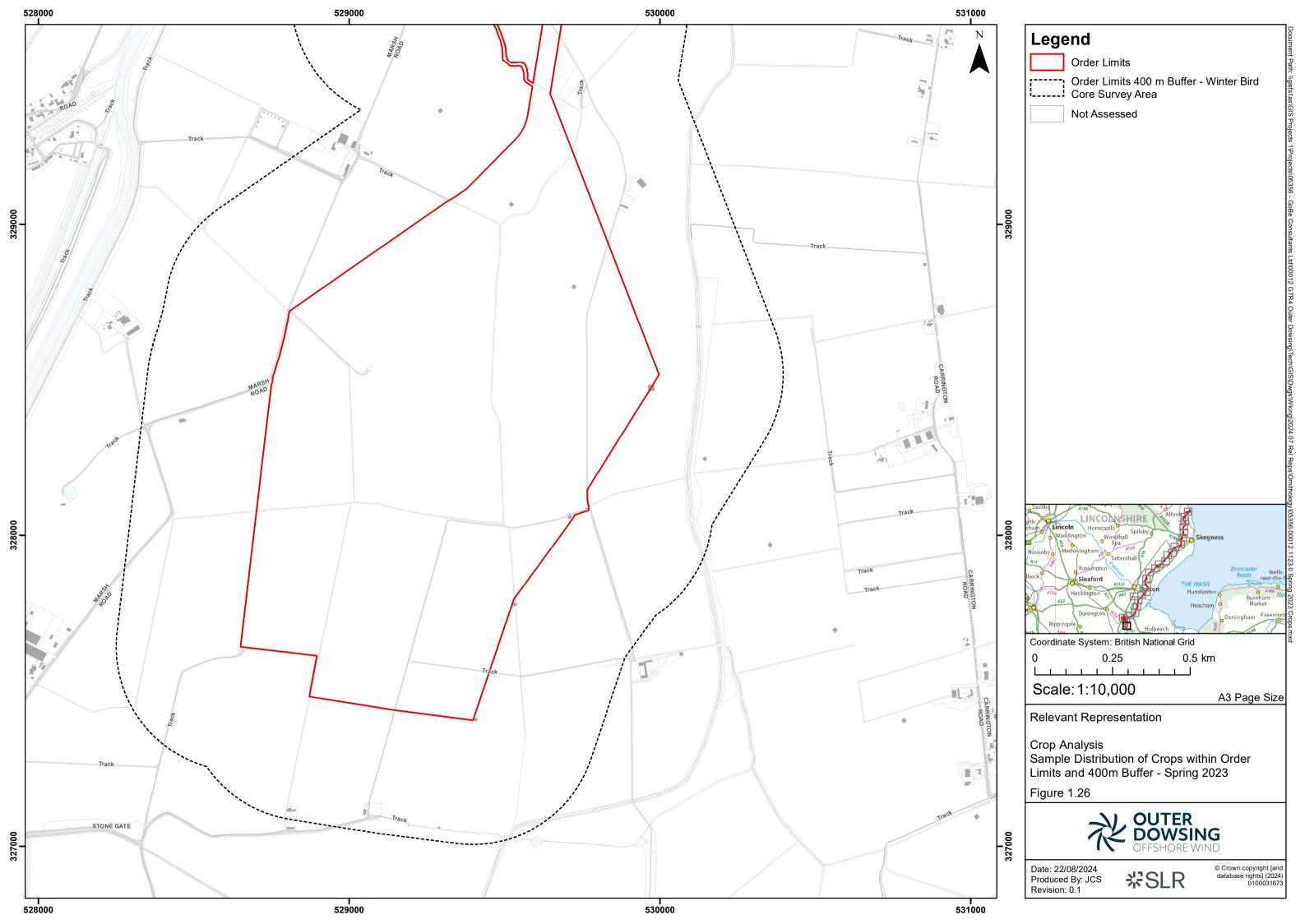


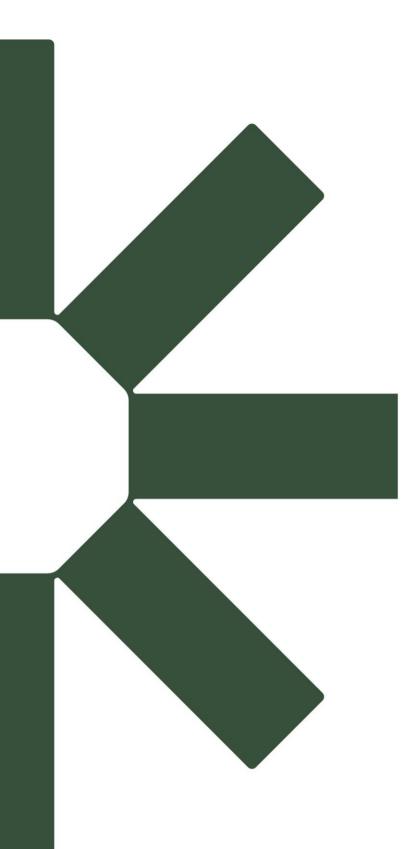












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