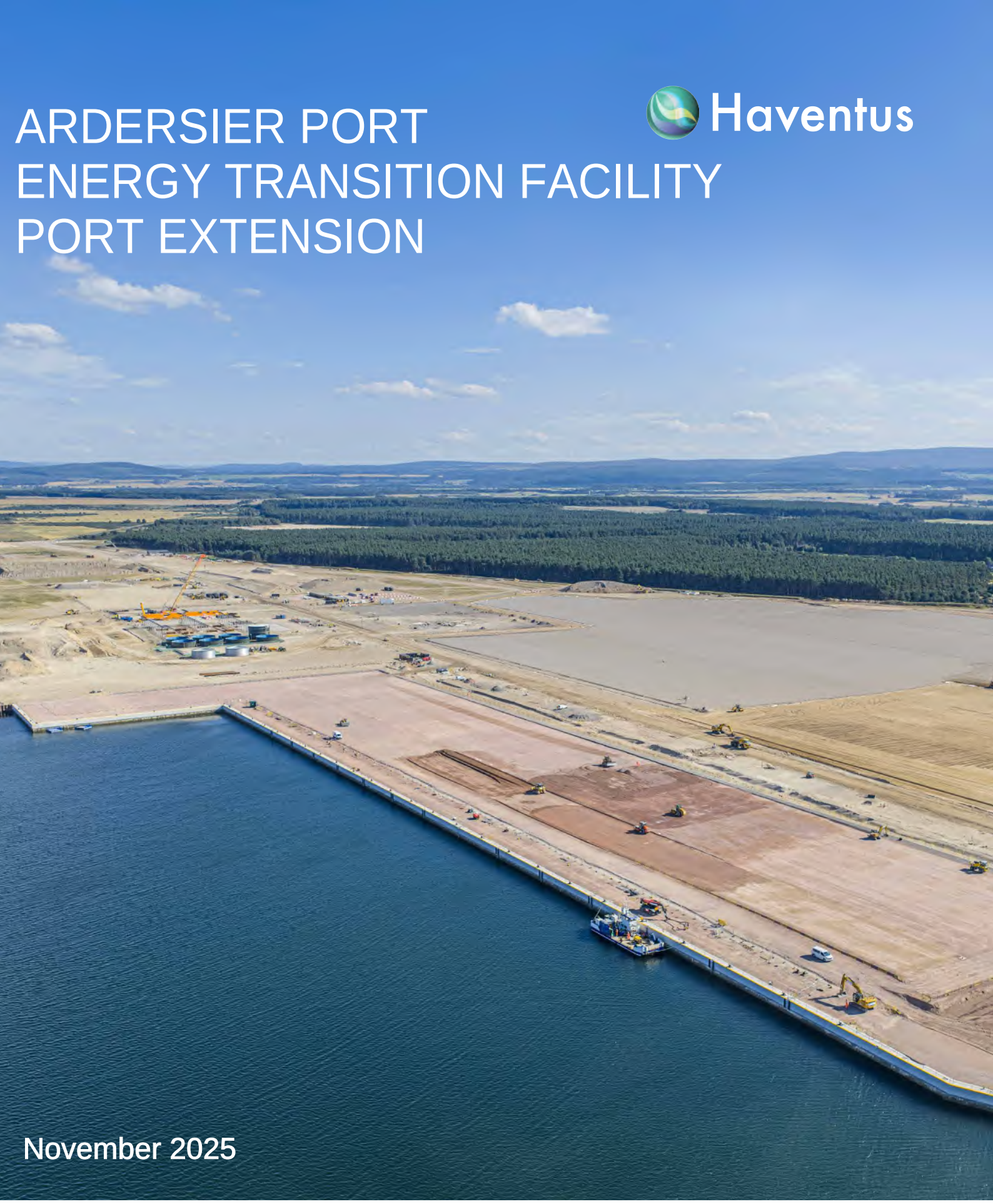
ARDERSIER PORT ENERGY TRANSITION FACILITY PORT EXTENSION

Haventus



November 2025

Appendix 12.7 Red Squirrel

Haventus Ardersier Port

Technical Appendix: Red Squirrels

JULY 2025 FOR HAVENTUS

Highland Ecology and Development Limited, Office 1, Mayfield Building, Dingwall, IV15 9ST. Tel 01381 610313, E mail: admin@hedltd.com Web: www.hedltd.com

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Document prepared by:

Mhairi Duncan BSc (Hons)

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Contents

1.0 Background

This Technical Appendix (TA) was commissioned by Haventus in respect of proposals for the expansion of the Ardersier Port redevelopment area. As part of a suite of Protected Species Surveys (PSS), a red squirrel survey was carried out to establish the presence of red squirrels within the site area and surrounding 50m. The purpose of this red squirrel survey was to provide baseline data to inform a comprehensive assessment of the predicted impact on red squirrels during the construction and operation phases of the facility. The survey findings are provided within this document along with industry-approved guidance on licensing requirements, recommended mitigation and compensation initiatives.

2.0 Methodology

2.1 Red Squirrel Survey Methodology

This survey adopted industry approved methods by Gurnell., 2009 involving a walkover of the site boundary and a suitable buffer out with, where safe access allowed (50m buffer allocated). The survey was undertaken by an experienced ecologist from HED Ltd over five days in Spring 2025 under fair weather conditions.

A drey counting survey method was undertaken as a proxy of red squirrel presence whereby suspected active dreys/tree dens were numbered and geo-tagged. Other field signs such as feeding perches and incidental sightings were also noted to gather evidence on the activity status and purpose of dreys identified. All field signs were recorded and georeferenced using the mobile application *Avenza Maps* and later mapped digitally using QGIS (*version 3.36.1*).

The purpose of this survey was to collect baseline data on red squirrel presence and drey mapping to inform pre-felling surveys at a later stage. An assumption of drey activity status was recorded based on the appearance of the drey from a ground level assessment. If the drey appeared unkempt (loose/falling twigs with daylight passing through gaps) it was deduced that the drey was likely inactive at the time of the survey, in line with survey guidance. A conclusive assessment of drey activity status via ground-level surveillance or climbed inspection was not required at this stage.

2.2 Limitations

Ecological surveys are limited by several factors that affect the presence of flora and fauna (weather, climate, animal behaviour, etc). Evidence of protected species and/or invasive species is not always found during a survey. This does not confirm that species are absent from an area or will not be present in the future. Squirrel dreys are semi-permanent in nature, therefore the number of dreys counted within one survey season is not a direct reflection of the density of red squirrels within a single season.

3.0 Results

3.1 Red Squirrel Survey

The survey area offers favourable red squirrel habitat supported by an abundance of dreys (many of which assumed to be active at the time of visit), fresh feeding signs, and incidental red squirrel sightings. A public road separates the plantation proposed for re-development and another Scot's pine plantation to the South, however both areas of plantation are considered to support healthy populations of red squirrels, evidenced by the abundance of field signs suggesting adequate connectivity between the plantations. Table 1 below outlines the dreys recorded within the survey area.

Table 1: Summary of Red Squirrel Drey Counts

Ref	Tree Tag	Feature	Status	Grid Reference
001	Tag 0129	Drey	Active	NH 81125 57382
002	Tag 0131	Drey	Active	NH 81034 57245
003	Tag 0132	Drey	Active	NH 80867 57295
004	Tag 0134	Drey	Active	NH 80806 57200
005	Tag 0135	Drey	Active	NH 80637 56805
006	Tag 0140	Drey	Active	NH 80779 57319
007	Tag 0145	Drey	Active	NH 80736 57322
008	Tag 0146	Drey	Active	NH 80768 57387
009	Tag 0411	Drey	Active	NH 80872 57410
010	Tag 0142	Drey	Active	NH 80933 57481
011	Tag 0414	Dreys (x2)	Active	NH 80835 57492
012	Tag 0417	Drey	Active	NH 80666 57444
013	Tag 0444	Drey	Active	NH 81384 57315
014	Tag 1146	Drey	Active	NH 81250 57289
015	Tag 0445	Drey	Inactive	NH 81245 57297
016	Tag 0447	Drey	Active	NH 81211 57260
017	Tag 0452	Drey	Active	NH 81137 57269
018	Tag 0449	Drey	Active	NH 81140 57293
019	Tag 0453	Drey	Active	NH 80975 57507
020	Tag 0457	Drey	Active	NH 80405 57441
021	Tag 0457	Drey	Active	NH 80358 57418

022	Tag 0459	Drey	Inactive	NH 80359 57417
023	Tag 0183	Drey	Active	NH 80185 57430
024	Tag 0184	Drey	Active	NH 80313 57554
025	Tag 0188	Drey	Active	NH 81707 56485
026	Tag 0187	Drey	Active	NH 81576 56535
027	Tag 0186	Drey	Active	NH 81503 56568
028	Tag 0443	Drey	Active	NH 81380 57341
029	Untagged	Drey	Active	NH 81148 57140
030	Untagged	Drey	Active	NH 81010 57104
031	Untagged	Drey	Active	NH 81042 56933
032	Untagged	Drey	Active	NH 80753 56806
033	Tag 0194	Drey	Active	NH 80743 56711
034	Tag 0189	Drey	Active	NH 79688 57621
035	Tag 0190	Drey	Active	NH 79694 57626
036	Tag 0192	Drey	Active	NH 82798 55540

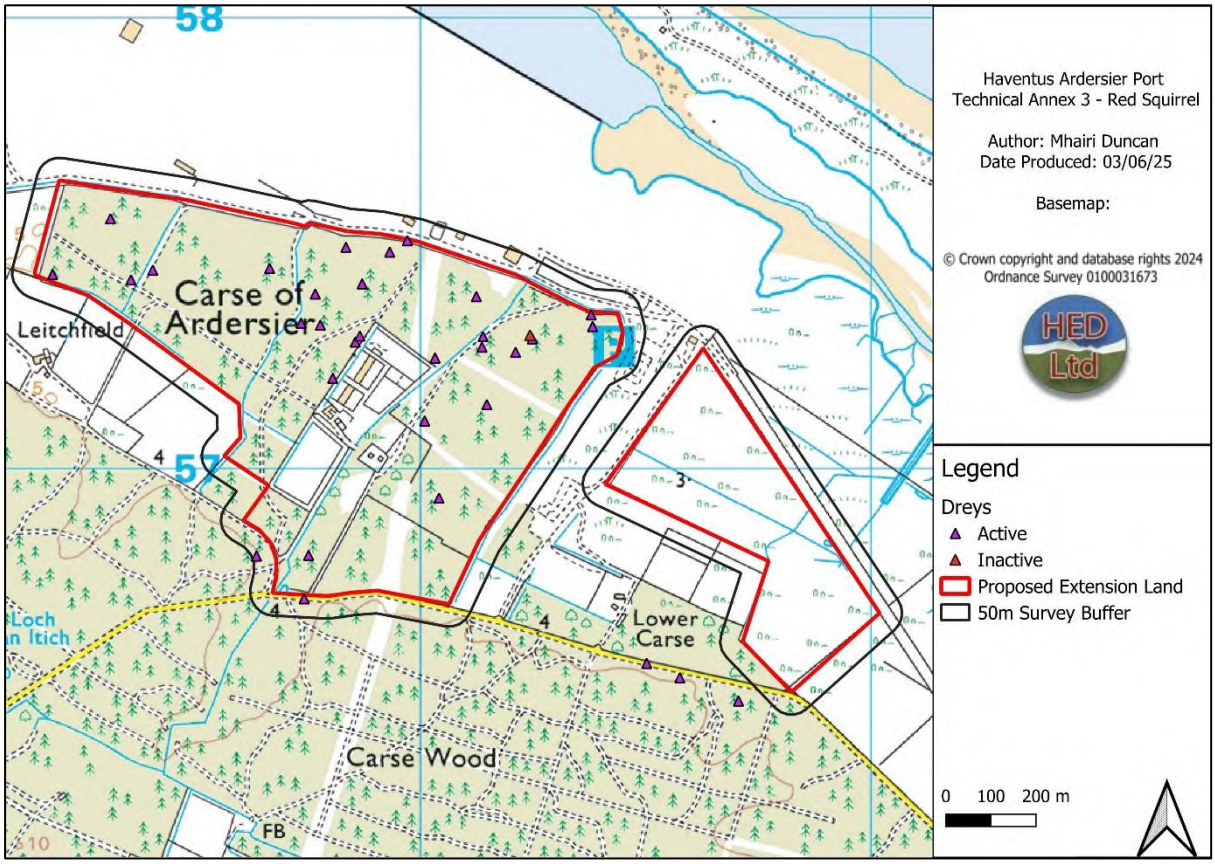

Figure 1: Technical Appendix 3 Red Squirrel Drey Map

4.0 Survey Images

Table 2: Examples of red squirrel dreys recorded during the survey

Ref	Description	Image
001	Active drey (Tag 0129) Located next to stem. Approx. >5m high. Well-provisioned drey (no gaps or light passing through) Feeding stations nearby indicate activity.	
002	Active dreys (Tag 0414) 2x situated on neighbouring trees (<3m apart). Both are well provisioned.	
003	Inactive drey (Tag 0445) Unkempt in appearance (light showing through gaps, fallen branches on top) Potentially the previous year's drey.	

004	Active drey (Untagged). Located at NH 81148 57140. Well consolidated appearance with a well-used feeding station at the base of the tree.	

5.0 References

Gurnell, J (2009). FCS Guidance Note 33: Practical techniques for surveying and monitoring squirrels

NatureScot, (2024). Standing advice for planning consultations - Red Squirrels. Available at: Standing advice for planning consultations - Red Squirrels | NatureScot [Accessed 26.05.25]

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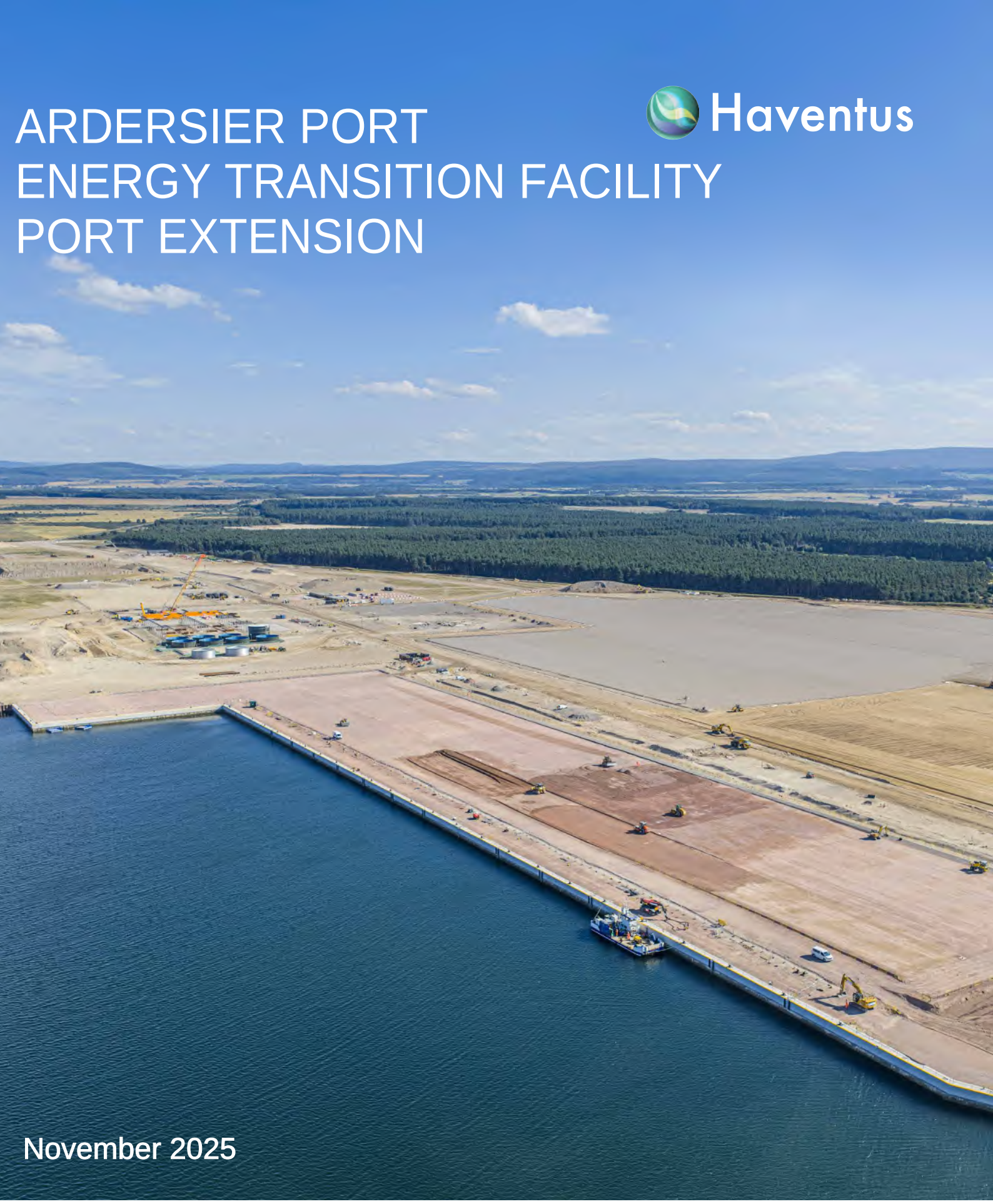

November 2025

Appendix 12.8 Pine Marten

Haventus Ardersier Port

Technical Appendix: Pine Marten

JULY 2025 FOR HAVENTUS

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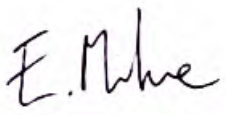

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Eilidh Milne BSc (Hons) MSc

Contents

1.0 Background

This Technical Appendix (TA) was commissioned by Haventus in respect of proposals for the expansion of the Ardersier Port redevelopment area. As part of a suite of Protected Species Surveys (PSS), a pine marten survey was carried out to establish the presence of pine marten within the site area and surrounding 50m. The purpose of this pine marten survey was to gather baseline data to inform a comprehensive assessment of the predicted impact the construction and operation phase of the port facility will have on pine marten populations. The survey findings are provided within this document along with industry-approved guidance on licensing requirements, recommended mitigation and compensation initiatives.

2.0 Methodology

2.1 Pine Marten Survey Methodology

The survey methodology was informed by guidance from Birks (2012) in *UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation* (The Mammal Society), which outlines appropriate field techniques for detecting pine martens and assessing the impacts of development on the species.

The purpose of this survey was to collect baseline data on pine marten presence within the port expansion area to inform further pre-felling surveys at a later stage. The survey was undertaken by an experienced ecologist from HED Ltd over five days in Spring 2025 under fair weather conditions. The port extension area and a 50m buffer zone out with it were surveyed (where accessible). The following field signs were searched for.

- **Scat:** Systematic searches were conducted along tracks, trails, forest rides, and stone walls, where pine martens will typically territory.
- **Dens/resting sites:** Pine marten use a wide variety of features for denning such as tree cavities, rock crevices or old birds' nests or red squirrel dreys. They can be challenging to positively identify due to the range of features used. Where accessible and without disturbance, potential den sites such as large tree cavities, disused setts, and dense brash were visually assessed for evidence of use as a den (e.g., scats, prey remains, bedding).
- **Feeding remains:** Pine marten often leave partially eaten small mammals, birds or eggs. They may also leave caches of food hidden near dens.
- **Prints:** Around 4 – 5cm in length, with 5 toes although often only 4 show clearly. Claw marks may also be visible due. Their 'T' shaped interdigital pad may also be visible.

All field signs were recorded and georeferenced using the mobile application *Avenza Maps* and later mapped digitally using QGIS (*version 3.36.1*).

2.2 Limitations

Ecological surveys are limited by several factors that affect the presence of flora and fauna (weather, climate, animal behaviour, etc). Evidence of protected species and/or invasive species is not always found during a survey. This does not confirm that species are absent from an area or will not be present in the future.

Pine martens are known to use a wide variety of structures for denning, including tree cavities, rock crevices, disused badger setts, and red squirrel dreys. Many of these features, particularly those located high in the canopy or within dense woodland, are difficult to access or inspect directly during ground-based surveys. As such, the absence of confirmed den sites during the survey does not rule out their presence within the site.

It is noted that the surveys were not conducted during the optimal season for pine marten, as it advised that surveys take place in July or August when scat is typically most abundant (NatureScot, 2024). As scat was identified during the survey, this is not anticipated to have impacted the efficacy of the survey effort. Further, some sections of the survey area were inaccessible at the time of survey due to access constraints. These are shown in Figure 1. Since the areas were not observed to contain suitable denning habitat, this is not expected to have had a substantial impact on the efficacy of the survey.

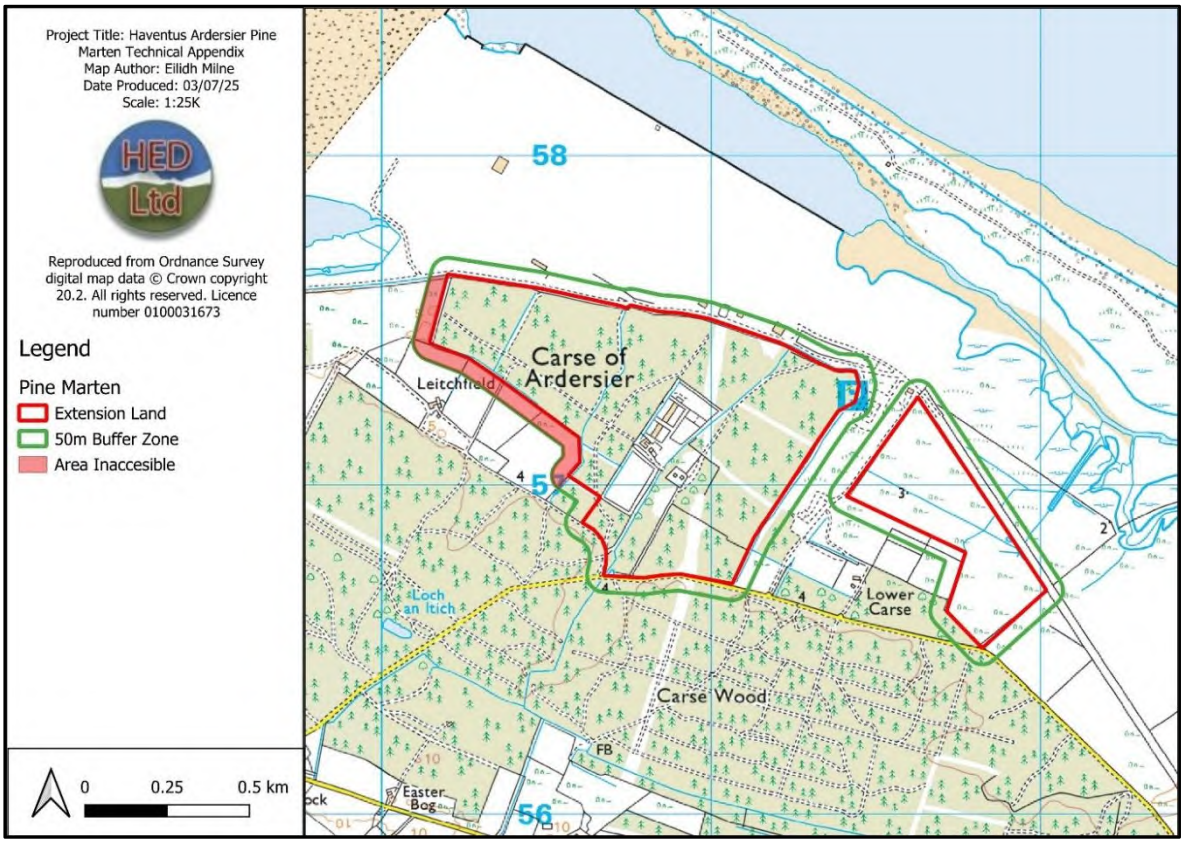


Figure 1: Access constraints

3.0 Results

The proposed expansion area provides high-quality habitat, suitable for pine marten occupation. Pine marten presence within the area was confirmed through the following observations:

- Pine marten scat was identified at NH 80990 57106.
- Camera trap monitoring of a badger sett captured incidental footage of an individual pine marten foraging (NH 80725 57563).

x6 observations of pine marten scat were also recorded by HED Ltd ecologists during a protected species survey in 2024. The location of these observations is given in Figure 2.

No pine marten dens were identified on the site, however the survey area, and particularly the Scots pine plantation, contains numerous features suitable for pine marten denning. These include red squirrel dreys, badger setts, tree cavities and brash piles. The location of squirrel dreys and badger setts are presented in Appendix 2.

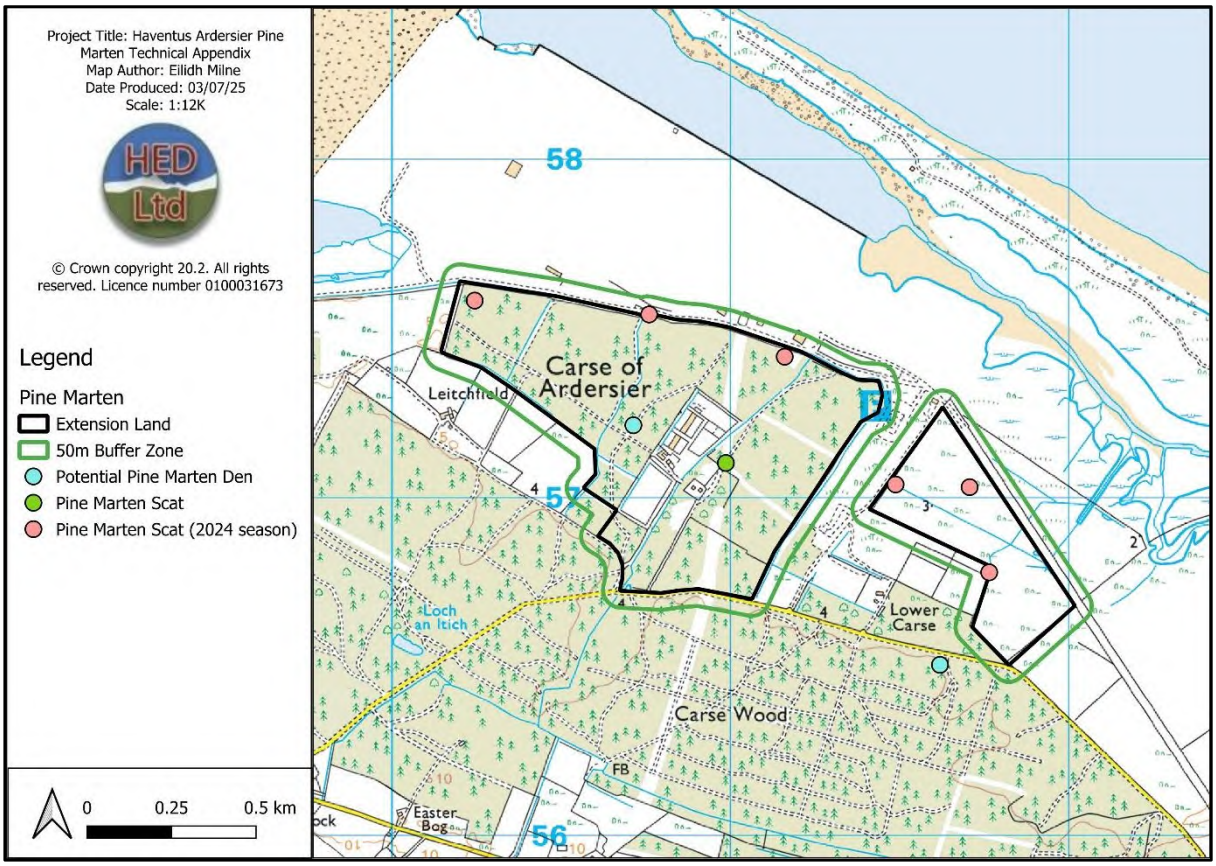


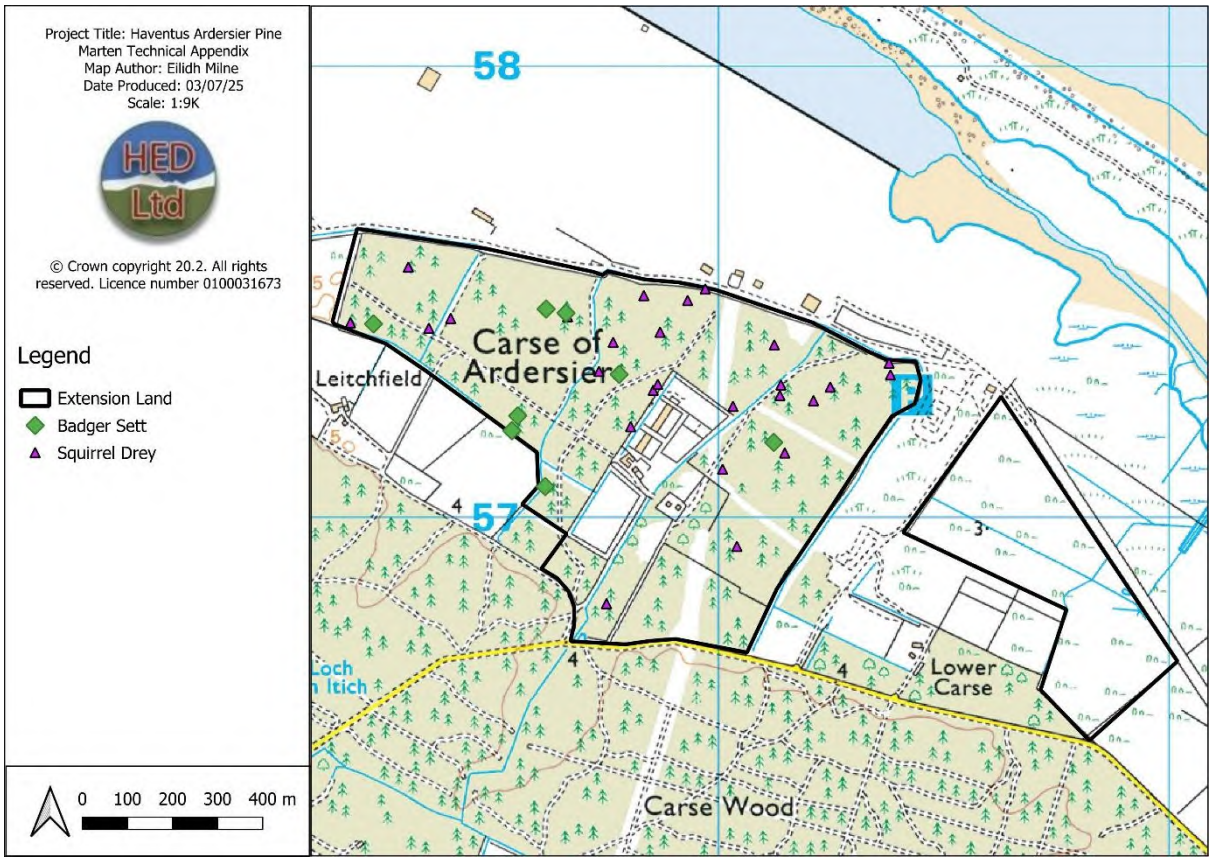
Figure 2: Survey results

Appendix 1: Survey Images

Table 1: Examples of red squirrel dreys recorded during the survey

Ref	Description	Image
1	Pine marten scat. 280985, 857099.	
2	Pine marten foraging around sett, caught on camera trap. 280725 857563.	
3	Possible pine marten den, identified at 280719 857205.	

Appendix 2: Suitable Denning Features



4.0 References

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Halliwell, E.C. and Macdonald, D.W. (1996) *A Review of the Status and Distribution of Pine Martens Martes martes in Britain*. Biological Conservation, 71(2), pp. 153–164. https://doi.org/10.1016/0006-3207(94)00043-7

Croose, E., Birks, J.D.S. and Schofield, H.W. (2013) *Expansion Zone Survey of Pine Martens in Scotland*. Scottish Natural Heritage Commissioned Report No. 520.

UK Government (1994) *The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended)*. Available at: https://www.legislation.gov.uk/uksi/1994/2716/contents/made

UK Government (1981) *Wildlife and Countryside Act 1981 (as amended)*. Available at: https://www.legislation.gov.uk/ukpga/1981/69

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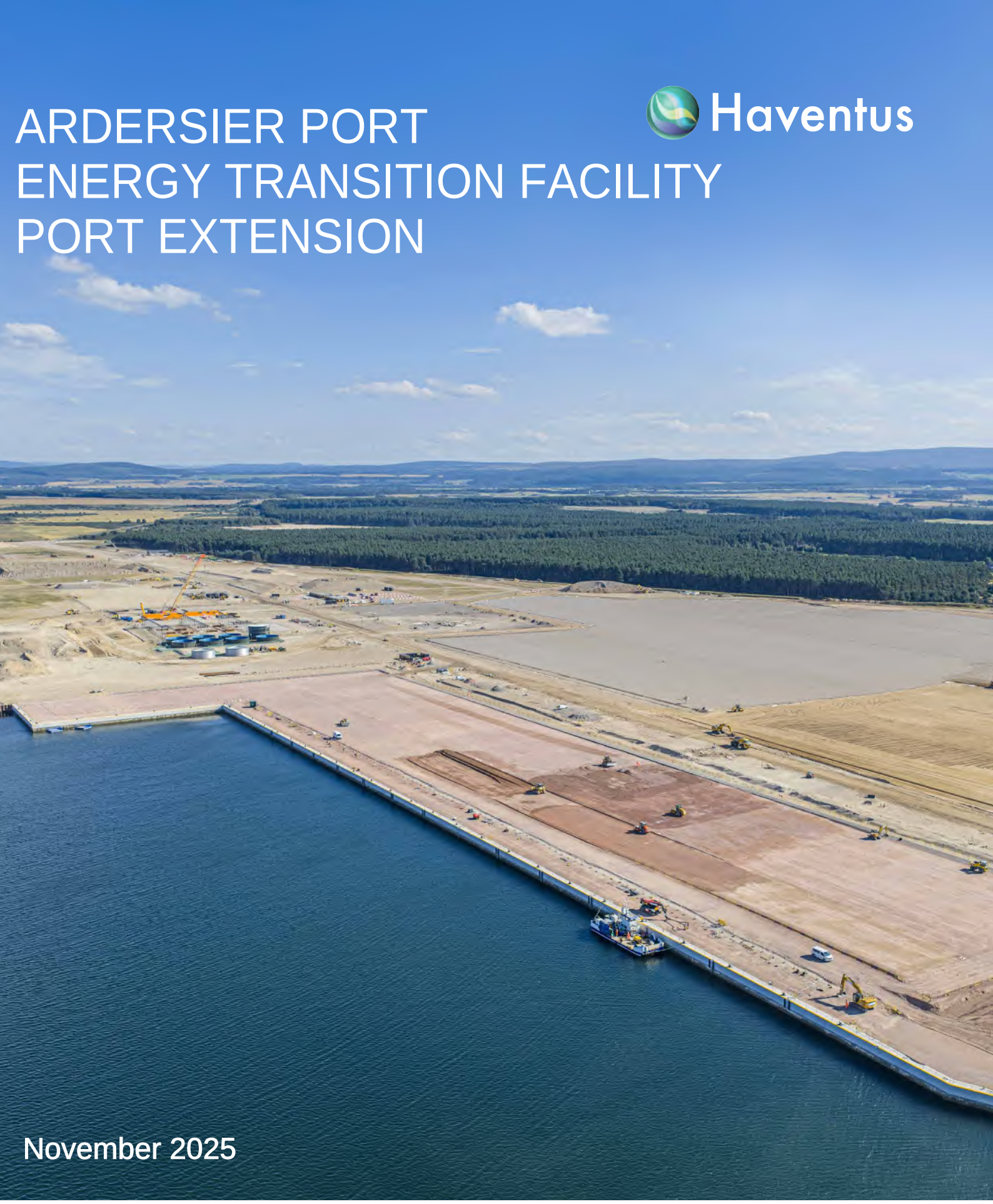

November 2025

Appendix 12.9 Otter

Haventus Ardersier Port

Technical Appendix: Otter

JULY 2025 FOR HAVENTUS

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Document prepared by:

Phil Hempborough BSc (Hons)

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Contents

1.0 Background

This Technical Appendix was commissioned by Haventus in respect of proposals for the expansion of the Ardersier Port redevelopment area. As part of a suite of Protected Species Surveys (PSS), an otter survey was carried out to establish the presence of otter within the site area and surrounding 250m. This was to provide baseline data to inform a comprehensive assessment of the predicted impact on otters during the construction and operation phases of the facility.

2.0 Methodology

2.1 Otter Survey Methodology

The survey methodology was informed by guidance from The Mammal Society, which outlines appropriate field techniques for detecting otters.

The purpose of this survey was to collect baseline data on otter presence to inform further pre-development surveys at a later stage. The survey was undertaken by an experienced ecologist from HED Ltd in Spring 2025 under fair weather conditions. The port extension area and a 250m buffer zone around it were surveyed (where accessible). The surveyor followed the banks of known waterways through the site in search of the following field signs:

- **Footprints:** Otter tracks can often be found in mud and sand close to waterbodies. They are roughly 40-80mm across and show four or five toes. Claw marks are not always present and sometimes the webbing between the toes can also be seen.
- **Feeding signs:** Otters will drag fish onto the bank to feed and leave the head behind. Remains of mussels and crabs with bite marks can also be found, as well as grayfish claws.
- **Holts:** On riverbanks, holts are found amongst tree roots, underbrush, bushes, piles of boulders, or small holes in the bank. A good indicator is the presence of spraints, tracks and the characteristic smooth wear at entrances and smell.
- **Spraints:** Spraints are the droppings of otters, which they use to mark their territories. They have minimal ‘goo’ and are typically packed with fish scales, fish bones, hollow frog bones, and similar remains. This makes the droppings very crumbly. They smell like fish with a hint of jasmine tea. The colour is black but can be pink if they consume a lot of crayfish.

All field signs were recorded and georeferenced using the mobile application *Avenza Maps* and later mapped digitally using QGIS (*version 3.38.3*).

2.2 Limitations

Ecological surveys are limited by several factors that affect the presence of flora and fauna (weather, climate, animal behaviour, etc). Evidence of protected species and/or invasive species is not always found during a survey. This does not confirm that species are absent from an area or will not be present in the future.

Further some sections of the survey area were inaccessible at the time of survey due to access constraints. These are shown in Figure 1. Since the areas were not observed to contain suitable denning habitat, this is not expected to have impacted the efficacy of the survey.

3.0 Results

3.1 Otter Survey

Though the survey area provides suitable otter habitats, no signs of otter activity were found during the survey. Several distinct aquatic habitats were present throughout the survey area, detailed in Figure 1 below.

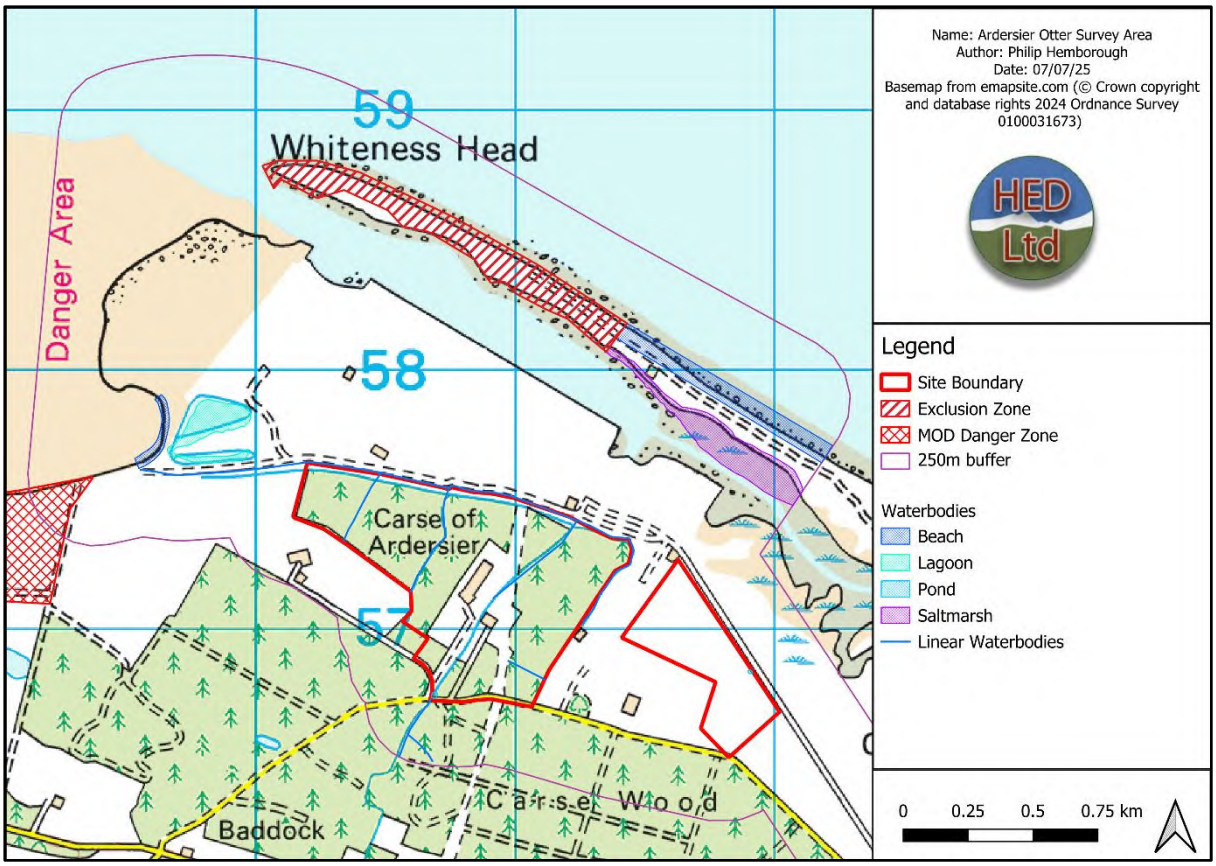

Figure 1: Map detailing the aquatic habitats surveyed.

4.0 Conclusion and Recommendations

Due to the lack of noted otter activity, there is likely to be little impact to otters directly onsite or in the immediate area. However, a search of online records show that historically otters have been observed in the area. It is recommended that an otter Species Protection Plan (SPP) be in place during works in the event that an otter or holt is discovered during the works period. The otter survey should be repeated no more than 3 months prior to the works to confirm there has been no substantial change regarding otter presence.

4.1 Legislation

Otters are designated as European Protected Species and are thus protected in European Law under the Habitats Directive (Annex II and IV of EC Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora).

In the Scottish legal framework, they are protected under the Conservation of Habitats and Species Regulations 2017. Regulation 41 of this legislation affords otter and their shelters legal protection. It is an offence to:

· Deliberately or recklessly kill, injure or take (capture) an otter;

· Deliberately or recklessly disturb or harass an otter;

· Damage, destroy or obstruct access to a breeding site or resting place of an otter. (Protected Species - Otters, 2023

5.0 References

Otter (2025). Mammal Society. [online] Mammal Society. Available at: https://mammal.org.uk/british-mammals/otter [Accessed 07.07.25]

Protected Species - Otters. (2023). Retrieved from NatureScot: https://www.nature.scot/professional-advice/protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-otters

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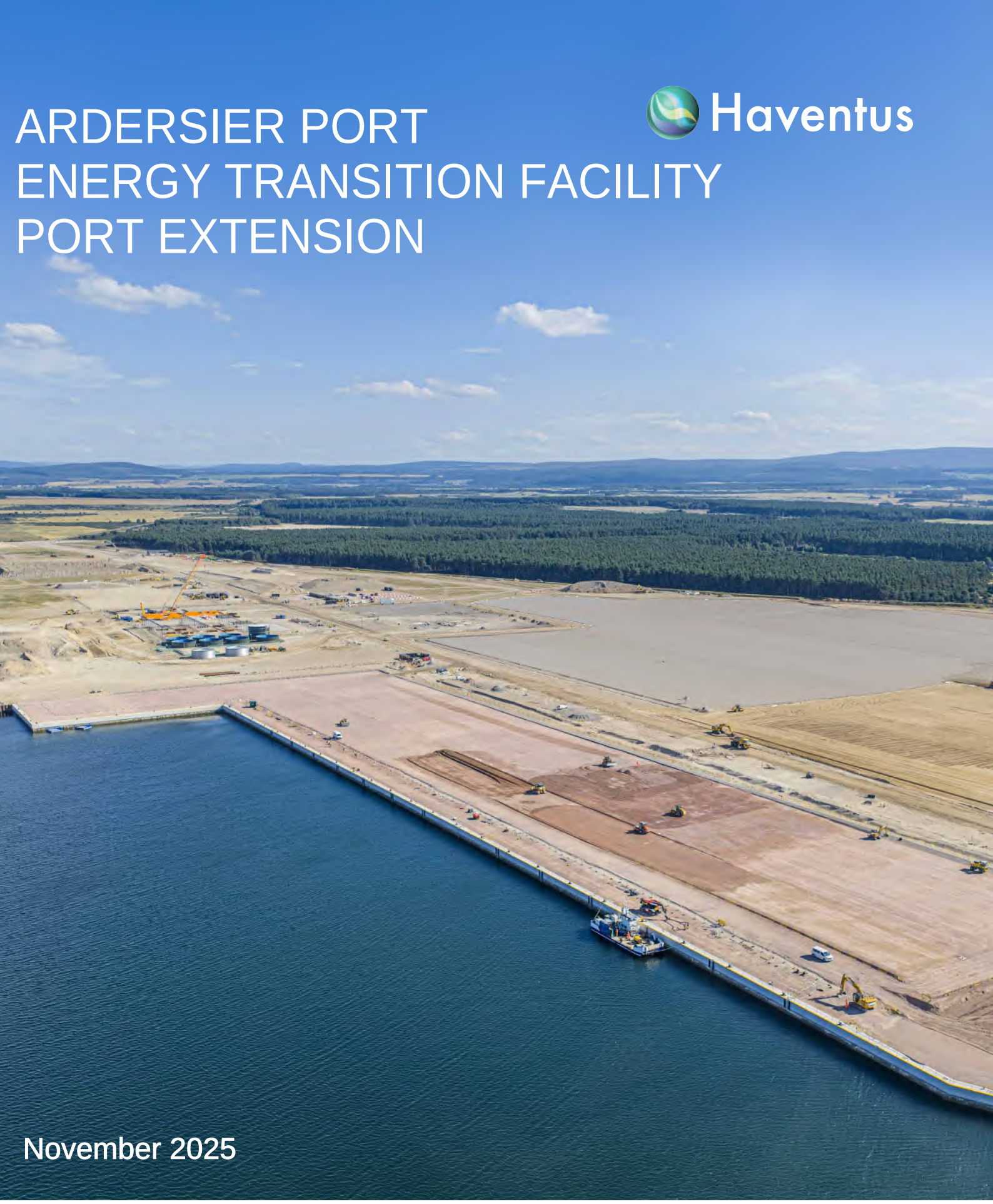

November 2025

Appendix 12.10 Great Crested Newt eDNA Report

Haventus Ardersier Port

Technical Appendix: Great Crested Newt

JULY 2025 FOR HAVENTUS



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Document prepared by:

Phil Hempborough BSc (Hons)

Ecologist

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Contents

1.0 Background

This Technical Appendix is commissioned by Haventus in respect of proposals for the expansion of the Ardersier Port redevelopment area. As part of a suite of Protected Species Surveys (PSS), a Habitat Suitability Index (HSI) and subsequent Environmental DNA (eDNA) analysis was carried out on bodies of freshwater within 500m of site (Figure 1) in order to establish the possible presence of Great Crested Newts (GCN). The findings from the HIS and eDNA analysis are intended to inform a comprehensive assessment of the predicted impact on GCN populations associated with the proposed development.

2.0 Methodology

2.1 Habitat Suitability Index

In order to establish the habitat suitability of each of the sampled ponds for GCN, a HSI survey was undertaken. Developed by Oldham et al. (2000), it is widely accepted by the Amphian and Reptile Groups of the UK (ARGUK) to be a viable method for estimating the habitat suitability of a pond for GCN (ARGUK, 2010). The survey consists of assigning a numerical value to ten environmental factors, including location, pond ephemeralness, fish and bird populations, to produce a habitat suitability score for GCN.

2.2 Environmental DNA analysis

In conjunction with HSI, an eDNA analysis of each of the identified ponds was undertaken on 23rd May 2025. eDNA surveys ideally need to be undertaken during the breeding season (15th April – 30th June) in order to have the greatest likelihood of detecting GCN presence. eDNA surveys works by analysing the DNA found within the local environment for specific species, if GCN are using the ponds for breeding purposes, then their DNA will be detected by this survey. During the survey, water samples were collected from around the perimeter of the ponds in order to maximise the chances of collecting GCN DNA. Once these samples are collected together, they are mixed and decanted into six tubes filled with preservative solution, this provides six replicants for the laboratory to analyse and confirm their findings (Surescreen Scientifics, 2023).

2.3 Limitations

Ecological surveys are limited by several factors that affect the presence of flora and fauna (weather, climate, animal behaviour, etc). Evidence of protected species and/or invasive species is not always found during a survey; this does not confirm that species are absent from an area or will not be present in the future.

2.4 Pond

Locations

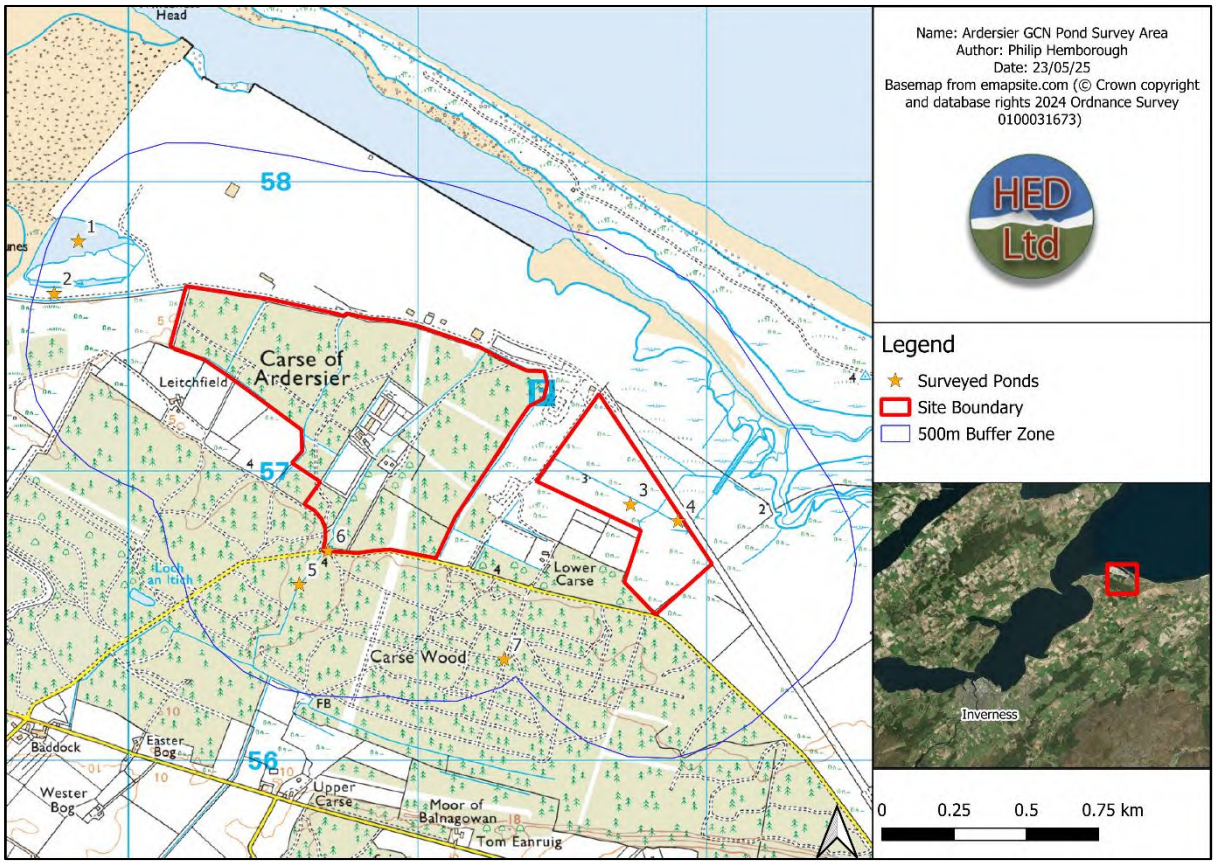

Figure 1: Map detailing the locations of surveyed ponds for GCN presence.

3.0 Results

3.1 Pond 1 (NH 79809 57790)

Description: A large brackish lagoon west of site, open water with a periphery of reeds and marshy grassland, leading onto a perimeter of trees on the embankment.

HSI: See Table 1 below.

Table 1: Habitat Suitability Index Pond 1

Factor	Score	Suitability Index
1) Geographic location	Zone C	0.01
2) Pond area	N/A	-
3) Permanence	Never dries	0.9
4) Water Quality	Good	1.0
5) Shade	<10%	1.0

6) Waterfowl	Major	0.01
7) Fish	Possible	0.67
8) Pond Count	0.32 ponds/km^2	0.45
9) Terrestrial Habitat	Good	1.0
10) Macrophytes	20%	0.5
Result	**Poor**	**0.29**

eDNA Result: Negative

3.2 Pond 2 (NH 79778 57627)

Description: A subsection of pond 1, this area is shallow and partially shaded. This area is considered distinct from pond 1 due to the cover provided by reeds and grasses, despite being connected.

HIS: See Table 2 below.

Table 2: Habitat Suitability Index Pond 2

Factor	Score	Suitability Index
1) Geographic location	Zone C	0.01
2) Pond area	N/A	-
3) Permanence	Never dries	0.9
4) Water Quality	Good	1.0
5) Shade	20%	1.0
6) Waterfowl	Minor	0.67
7) Fish	Possible	0.67
8) Pond Count	0.32 ponds/km^2	0.45
9) Terrestrial Habitat	Good	1.0
10) Macrophytes	80%	1.0
Result	**Below Average**	**0.50**

eDNA Result: Negative

3.3 Pond 3 (NH 81737 56886)

No results, pond unsuitable for GCN. During the survey this pond was completely dry when surveyed for HSI and eDNA.

3.4 Pond 4 (NH 81905 56833)

Description: A deep, peat-stained pond surrounded by marshy grassland, scrub and woodland. This area was once drained for grazing and has since begun to recover, with the drainage channels in a state of disrepair. The perimeter of the pond is partially shaded with gorse scrub and no floating plants were present, a significant population of tadpoles was noted during the survey.

HSI: See Table 3 below.

Table 3: Habitat Suitability Index Pond 4

Factor	Score	Suitability Index
1) Geographic location	Zone C	0.01
2) Pond area	~193m^2	0.4
3) Permanence	Rarely Dries	1.0
4) Water Quality	Moderate	0.67
5) Shade	40%	1.0
6) Waterfowl	Absent	1.0
7) Fish	Absent	1.0
8) Pond Count	<0.1 ponds/km^2	0.1
9) Terrestrial Habitat	Good	1.0
10) Macrophytes	0%	0.3
Result	**Poor**	**0.39**

eDNA Result: Negative

3.5 Pond 5 (NH 80629 56655)

Description: A large, linear, near stagnant pond. This appears to be a large drainage channel roughly 3m across. It is shaded by Scot's Pine plantations but has no floating plants or boundary plants for cover, very little invertebrate activity was noted during the survey.

HSI: See Table 4 below.

Table 4: Habitat Suitability Index Pond 5

Factor	Score	Suitability Index
1) Geographic location	Zone C	0.01
2) Pond area	~2000m^2	0.8

3) Permanence	Never Dries	0.9
4) Water Quality	Poor	0.33
5) Shade	80%	0.6
6) Waterfowl	Absent	1.0
7) Fish	Possible	0.67
8) Pond Count	0.32 ponds/km^2	0.45
9) Terrestrial Habitat	Good	1.0
10) Macrophytes	0%	0.3
Result	**Poor**	**0.41**

eDNA Results: Negative

3.6 Pond 6 (NH 80687 56731)

Description: Well sheltered and shallow, this pond seemed to be partially dried out but is fed by pond 5. The surrounding terrestrial habitat would be capable of supporting GCN.

HSI: See Table 5 below.

Table 5: Habitat Suitability Index Pond 6

Factor	Score	Suitability Index
1) Geographic location	Zone C	0.01
2) Pond area	~150m^2	0.3
3) Permanence	Sometimes Dries	0.5
4) Water Quality	Good	1.0
5) Shade	80%	0.6
6) Waterfowl	Minor	0.67
7) Fish	Absent	1.0
8) Pond Count	0.32 ponds/km^2	0.45
9) Terrestrial Habitat	Good	1.0
10) Macrophytes	80%	1.0
Results	**Poor**	**0.44**

eDNA Result: Negative

3.7 Pond 7 (NH 81295 56354)

No results, pond unsuitable for GCN. During the survey this pond was completely dry when surveyed for HSI and eDNA.

3.8 Results Summary

A summary of the HSI scores and eDNA results for all ponds sampled is provided in Table 6 below.

Table 6: Overall Survey Results

Pond Number	Habitat Suitability	eDNA Results
1	Poor	Negative
2	Below Average	Negative
3	N/A	N/A
4	Poor	Negative
5	Poor	Negative
6	Poor	Negative
7	N/A	N/A

Despite the high habitat suitability of several of the ponds surveyed, eDNA analysis shows that no breeding GCN were present in or around these ponds during, or up to several weeks prior to (Biggs, 2024), the surveys. However, a search of available online resources shows several records of GCN within the surrounding area, particularly to the south-east of site with the latest record being from 2018. Given the historical presence and habitat suitability for GCN, it is recommended that a Species Protection Plan (SPP) be put in place prior to the proposed development taking place.

4.0 References

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