

# Preliminary Environmental Information Report

**Volume 3: Technical Appendices** Appendix 8.3: Otter and Water Vole Report

## Helios Renewable Energy Project

on behalf of Enso Green Holdings D Limited Technical Appendix 8.3: Otter and Water Vole Survey





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## **1** INTRODUCTION

### 1.1 Background

- 1.1.1 Avian Ecology Ltd. ('AEL') was commissioned by Enso Green Holdings D Limited (the Applicant) to undertake otter *Lutra lutra* and water vole *Arvicola amphibius* surveys, in relation to the proposed development of a renewable energy generating project; consisting of ground-mounted solar photovoltaic arrays, together with on-site energy storage, associated infrastructure and grid connection (the 'Proposed Development'), on land to the south-west of the village of Camblesforth and to the north of the village of Hirst Courtney in North Yorkshire (the 'Site'), as illustrated on **Figures 1** and **2**.
- 1.1.2 This report subsequently provides detailed survey methodology and results and should be read with reference to the Biodiversity Chapter 8 of the Preliminary Environmental Information Report (PEIR) and the corresponding chapter within the Environmental Statement (ES) to be submitted in support of the application for development consent.

#### 1.2 Site Overview

1.2.1 The Site as illustrated by the red-line boundary, shown on **Figures 1** and **2**, predominantly comprising arable fields marked by a series of wet and dry ditches, ponds, hedgerows, and woodlands. In the wider context, the Site is surrounded by further extensive areas of farmland and areas of woodland.

#### 1.3 Legislation

<u>Otter</u>

- 1.3.1 Otters are listed under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended)<sup>1</sup>; they receive further protection under the Conservation of Habitats and Species Regulations 2017 (as amended)<sup>2</sup> and the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019<sup>3</sup>. The Act and Regulations make it an offence to:
  - Deliberately capture, injure, or kill an otter;
  - Damage or destroy a breeding site or resting place;
  - Deliberately disturb an otter, particularly in a way which is likely to:
    - > a) to impair their ability to survive, breed or reproduce, rear or nurture young; or,
    - ➢ b) to significantly affect the local distribution or abundance of the species.

#### Water Vole

- 1.3.2 Water voles are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended); It is an offence to intentionally or recklessly:
  - kill, injure or take them;
  - possess or control them (alive or dead);
  - damage or destroy a structure or place used for shelter or protection;
  - disturb them in a place used for shelter or protection; and,
  - obstruct access to a place used for shelter or protection.

<sup>&</sup>lt;sup>1</sup> Wildlife and Countryside Act 1981. Available at: <u>https://www.legislation.gov.uk/ukpga/1981/69</u>

<sup>&</sup>lt;sup>2</sup> Conservation of Habitats and Species Regulations 2017. Available at: <u>https://www.legislation.gov.uk/uksi/2017/1012/contents/made</u>

<sup>&</sup>lt;sup>3</sup> Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. Available at: <u>https://www.legislation.gov.uk/ukdsi/2019/9780111176573</u>

1.3.3 Both otter and water vole are also listed under Section 41 of the Natural Environment and Rural Communities Act (NERC) Act 2006<sup>4</sup> and are listed as a priority species within the Selby Biodiversity Action Plan<sup>5</sup> and are therefore, a material consideration within the planning process.

## 2 METHODOLOGY

### 2.1 Desktop Study

- 2.1.1 Biological record data regarding protected and notable species (including otter and water voles) was requested from the North and East Yorkshire Ecological Data Centre ('NEYEDC')<sup>6</sup>. A 2km search radius was used from the Site boundary.
- 2.1.2 Only recent records dated from 2005 onwards were used unless historic records (pre-2005) were received from within (or within close proximity to) the Site and/or historic records were considered otherwise pertinent to the Proposed Development.
- 2.1.3 The desktop study also included a data search for records of North American Mink *Neovison vison*; a Wildlife and Countryside Act 1981 (as amended) Schedule 9 non-native invasive species; which is known to be a major predator of water vole.

### 2.2 Field Surveys

#### 2022 Survey Coverage

- 2.2.1 Surveys for both otter and water vole were undertaken on a precautionary basis and focused upon sections of wet (or seasonally wet) ditch networks identified by the Applicant which (however unlikely), at that stage of the project design process, minimal ditch/bankside impacts could not be precluded.
- 2.2.2 The survey of the Site was undertaken on 29<sup>th</sup> and 30<sup>th</sup> September 2022, 1<sup>st</sup> and 2<sup>nd</sup> October 2022, and 15<sup>th</sup> October 2022. Following from subsequent changes to the Site boundary, a number of ditch sections subject to surveys are now located beyond the Site boundary. However, for context, these have been referred to within the report and associated figures.
- 2.2.3 The 2022 survey areas are presented within **Figure 1**.

#### 2023 Survey Coverage

- 2.2.4 Due to confirmation by the Applicant that some ditch networks surveyed in 2022 would not be impacted by the Proposed Development, the survey effort was reduced for both otter and water vole, survey coverage continued to adopt a precautionary approach and focused upon sections of wet (or seasonally wet) ditch networks identified which (however unlikely), at that stage of the project design process, minimal ditch/bankside impacts could not be precluded.
- 2.2.5 The surveys were undertaken between 16<sup>th</sup> and 19<sup>th</sup> May 2023.
- 2.2.6 The 2023 survey areas are presented within **Figure 2**.

<sup>&</sup>lt;sup>4</sup> The Natural Environment and Rural Communities Act 2006. Available at: <u>https://www.legislation.gov.uk/ukpga/2006/16/contents</u>

<sup>&</sup>lt;sup>5</sup> Available at: <u>https://www.northyorks.gov.uk/sites/default/files/2023-05/Selby%20Biodiversity%20Action%20Plan%20Aug%202004.pdf</u> (accessed 16<sup>th</sup> June 2023)

<sup>&</sup>lt;sup>6</sup> Available at: <u>https://www.neyedc.org.uk/</u> (accessed 22<sup>nd</sup> February 2023)

#### **Otter Survey**

- 2.2.7 The survey involved systematically walking within the channel and along the top of the banks of all potentially suitable watercourses/ditches within the Site boundary. Terrestrial habitat was also surveyed, including 30m either side of the watercourses (where access allowed).
- 2.2.8 The surveyors searched for field signs, including spraints, footprints, resting places, pathways, slides, feeding remains, jelly and smears. Otter are mainly nocturnal and sparsely distributed. Any direct observations would also be recorded. A description of otter field signs searched for during the field surveys are provided below:
  - **Spraints**: all raised places like rocks or tree stumps located along the watercourses were checked for spraints. Otter droppings, when fresh, are black and tarry with an oily smell, as they get older they become dry and grey/white/green in colour. Spraints often contain fish bones and scales/exoskeleton/crabs and amphibian bones. They have a distinctive smell often described as jasmine tea, fresh mown hey and are slightly sweet and fishy.
  - **Footprints**: all otter prints are recorded if found, they are a characteristic field sign but can be difficult to find. The best places to look for tracks are muddy riverbanks. Otter have five toes, with their toe prints often tear dropped shape.
  - Resting Sites: these can be below and/or above ground. Below ground resting sites include burrows/ tunnels, cavities in undercut banks, under tree roots, enclosed drainage structures, cavities behind bank protection and other man-made structures such as drains/pipes and jetties. Resting places above ground include dense scrub, flood debris and reed beds. Resting places are generally categorised within the three categories below:
    - Holt: An underground or other fully enclosed shelter, of which the full extent cannot be seen, can range from enlarged rabbit holes and cavities amongst tree roots to rock piles and man-made structures.
    - Hover: An above ground, semi-enclosed resting place, often found under overhanging riverbanks or tree root plates.
    - Couch: A nest-like structure (0.3m-1m in diameter) constructed from nearby vegetation or a depression in a stick pile.

Resting sites also include natal holts, which are inconspicuous with few field signs present. They can be several hundred meters from watercourses and are believed to be located away from areas of other otter activity (off main rivers). Rearing holts are more conspicuous, tending to be located close to food sources with significant number of spraints and field signs nearby, when they are in use. Both natal holts and rearing holts are below ground resting sites.

 Other field signs: other field signs include feeding remains such as fish remains, but they can be difficult to confirm as being otter. They can also create pathways and slides on the riverbanks/ditches, often going in and out of the water or to favoured feeding sites/resting areas, although these are not characteristic and can be used/created by other mammals such as badger and dogs etc. Otters can also deposit anal jelly and smears, but these are rarely found.

#### Water Vole Survey

#### Habitat Suitability Assessment

2.2.9 Habitat suitability assessments were undertaken to determine whether or not habitat likely to be suitable for and preferred by water voles was present and to distinguish any variation of habitat suitability for the species within the survey area.

2.2.10 The habitat assessment was undertaken with reference to '*Habitat survey assessment guidelines*' for water vole prepared by Cheshire Wildlife Trust and adapted from 'A Method for Assessing Water Vole Habitat Suitability' (Harris et al., 2009)<sup>7</sup>. **Table 2.1** (below) provides the water vole habitat suitability assessment scoring methodology.

Habitat score	Habitat Suitability for water Voles	Notes
≤2	Unsuitable	Water voles usually absent.
3-6	Sub-optimal	Occasional field signs for water vole, particularly in late summer when numbers are higher.
7-10	Optimal	Water voles usually present.

Table 2.1: Water Vole Habitat Assessment Scoring Criteria

2.2.11 Detailed habitat assessment results are presented in **Annex 1**.

#### Water Vole Detection Dog Survey

- 2.2.12 Water vole surveys were undertaken on 29<sup>th</sup> and 30<sup>th</sup> September 2022, 1<sup>st</sup> and 2<sup>nd</sup> October 2022, and 15<sup>th</sup> October 2022 by highly trained detection dogs and suitably qualified and Natural England licenced and Land Management and Production, Animal Health and Welfare and Environmental Industries ('LANTRA') registered wildlife detection dog handlers from Conservation K9 Consultancy<sup>8</sup>. A total of two wildlife detection dog handlers and three detection dogs undertook water vole surveys on-Site between 29<sup>th</sup> September and 2<sup>nd</sup> October 2022, and a single handler and 4 dogs on the 15<sup>th</sup> October 2022. The ditch network surveyed Is shown in **Figure 1**.
- 2.2.13 The use of water vole detection dogs for survey purposes is relatively new, this methodology can detect the presence of species in the hardest to reach parts of habitats with minimal disturbance. They are able to search meticulously in a habitat covering large areas quickly, with minimal disturbance to the surrounding wildlife and habitat. The dogs are trained to give a passive indication on their target. They will freeze whilst using their nose to point at the target.
- 2.2.14 Grimm-Seyfarth *et al.* (2001)<sup>9</sup> systematic review examined 611 cases comparing efficacy of conservation dogs to other monitoring methods. The authors found that in 88.71% of cases, conservation detection dogs outperformed other methods such as camera traps, experienced human surveyors, hairs snares and scent stations.

#### Visual Searches

2.2.15 In addition to the use of detection dogs, a suitably experienced supervising ecologist from AEL, also accompanied the detection dog team and undertook water vole visual surveys based on methods detailed within Dean *et al* (2016)<sup>10</sup>. In addition, the second survey undertaken between 16<sup>th</sup> and 19<sup>th</sup> May 2023, involved a team of up to six surveyors systematically undertaking visual searches based on methods detailed within Dean *et al* (2016).

<sup>&</sup>lt;sup>7</sup> Harris, J., Markwell, H. & Raybould, B. (2009) A method for assessing water vole habitat suitability. *Ecology and Environmental Management - In Practice*, **65**, pp. 28 -

<sup>&</sup>lt;sup>8</sup> Available at: <u>https://conservationk9consultancy.com/use-of-dogs-in-conservation/</u> (accessed 23<sup>rd</sup> February 2023)

<sup>&</sup>lt;sup>9</sup> Available at: https://besjournals.onlinelibrary.wiley.com/doi/10.1111/2041-210X.13560 (accessed 23rd February 2023)

<sup>&</sup>lt;sup>10</sup> Dean, M., Strachan, R., Gow, D. & Andrews, R. (2016) *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

- 2.2.16 Searches for the following field signs of water vole presence as per Strachan *et al.* (2011)<sup>11</sup> were undertaken along each survey section:
  - Sightings;
  - Latrines;
  - Burrows;
  - Footprints;
  - Pathways;
  - Nests;
  - Feeding stations; and,
  - Lawns.

#### Population Density Estimates

- 2.2.17 The presence of water vole droppings and latrines are the only field signs that can be reliably used to confirm the species presence. Other signs are used as corroborative evidence of small mammal activity such as burrows and paths.
- 2.2.18 The number of latrines recorded during a survey helps provide an indication of relative population densities and identify the most important parts of a survey area for water vole for the purposes of assessing impacts and approach to mitigation.
- 2.2.19 **Table 2.2** outlines an approach to estimating the relative population densities on the basis of latrine counts in accordance with current guidance (Dean *et al.*, 2016).

Relative	Approximate number of latrines per 100m of bankside habitat							
Population Density	First half of survey season (mid-April to end of June)	Second half of survey season (July to September)						
High	10 or more	20 or more						
Medium	3-9	6-19						
Low	≤2 (or non, but with other confirmatory field signs)	≤5 (or non, but with other confirmatory field signs)						

Table 2.2: Relative Water Vole Population Densities on the Basis of Latrine Counts.

<sup>&</sup>lt;sup>11</sup> Strachan, R., Moorhouse, T. & Gelling, M. (2011). *The water vole conservation handbook (3rd edition)*. Wildcru, Oxford.

## **3 BASELINE INFORMATION**

### 3.1 Desk Study Results

#### **Designated Sites**

- 3.1.1 A review of MAGIC identified a total of three statutory designated sites within a 10km radius of Site (i.e., River Derwent SAC and SSSI, and Lower Derwent Valley SAC) which include the presence of otter as qualifying features, the closest being the River Derwent SSSI located approximately 2.2km northeast of the Site boundary.
- 3.1.2 Additionally, a single statutory designated site (i.e., Barlow Common LNR) notable for the presence of water vole was also identified via MAGIC, located approximately 500m north of the Site boundary.
- 3.1.3 Data returned by NEYEDC identified no non-statutory designated sites located within 2km of the Site which feature qualifying features for either otter or water vole.

#### **Species Records**

Otter

- 3.1.4 NEYEDC returned a single recent record in relation to otter from within 2km of the Site; specifically relating to two juveniles observed in association with the Selby Canal approximately 1.7km northwest of the Site boundary.
- 3.1.5 Additionally, a further three historical records for otter were also returned, although none were recorded directly on-Site, with the closest in relation to the Site having been recorded approximately 1.7km northwest of the Site boundary also in association with the Selby Canal.
- 3.1.6 A review of MAGIC identified no European Protected Species mitigation licenses ('EPSML') relating to otter awarded by Natural England within 2km of the Site boundary.

#### Water Vole

- 3.1.7 The data search returned two recent water vole records within 2km of the Site. Records were made during 2009 and 2011, respectively located 1.7km and 1.1km north of the Site. Both records were located north of the neighbouring Drax Power Station in a network of ditches and ponds.
- 3.1.8 Five historical water vole records were also returned in the data search dating between 1977 and 2002. Of these, four were recorded between 2000 and 2002. Records were made in freshwater habitats in the wider environment, such as Selby Canal, various drainage ditches and the River Derwent.

#### North American Mink

3.1.9 NEYEDC returned two recent records relating to American mink; whilst no records were recorded directly on-Site, the closest in proximity was recorded approximately 1.8km north-west, in association with the Selby Canal.

#### 3.2 Field Survey Results: Otter

3.2.1 No otter field signs were recorded throughout the surveys, in addition, no otter field signs were recorded during habitat surveys and other ecological surveys undertaken within and surrounding the Site in 2021, 2022 and 2023.

## 3.3 Field Survey Results: Water Vole

#### Habitat Assessment

- 3.3.1 Aquatic habitats present within the Site have varying suitability for water vole, ranging from unsuitable to optimal habitats. Aquatic habitat connectivity to further watercourses/ditch networks located outside of the Site boundary also provide the species with potential habitat corridors to move between sites and potentially colonise watercourses within the Site.
- 3.3.2 It should be noted that the large majority of ditches located within the Site are currently being intensively managed; with bankside vegetation flailed on at least an annual basis (see photographs within **Annex 2**); this significantly reduces the potential for the habitat to sustain water vole populations during the winter months.
- 3.3.3 **Table 3.1** provides a summary of the assessment for each ditch section surveyed. Detailed results and photographs are presented in **Annex 1**.

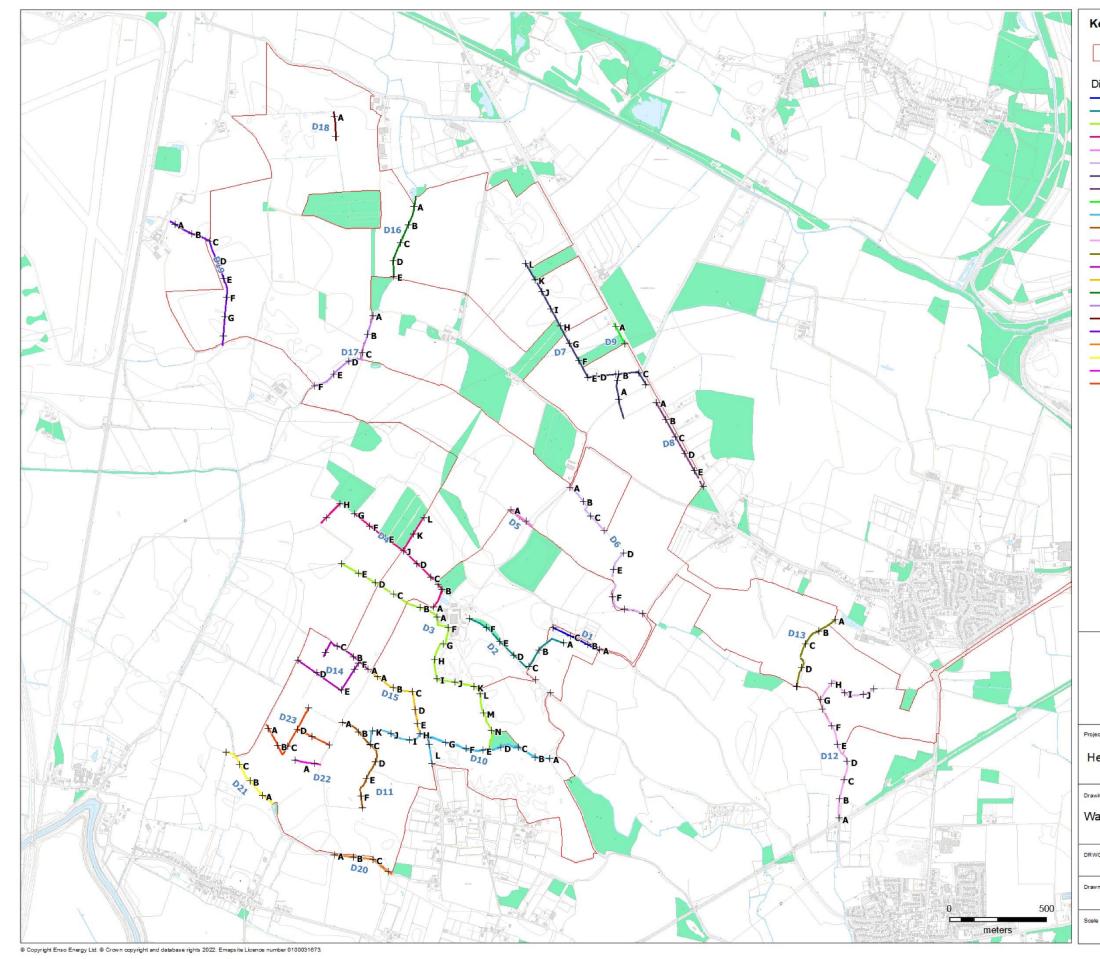
	Ditch Section Habitat Suitability	
Unsuitable	Sub-optimal	Optimal
D3: M, N D4: J, K, L D5: A D14: B, D, E, F D23: A	D1: A, B, C D2: A. B. C, D, E, F D3: A, B, C, D, E, H, I, J, K D4: A, B, C, D, E, F, G, H, I D6: A, B, C, D, E, F, G, H, I, J, K, L D7: A, B, C, D, E, F, G, H, I, J, K, L D8: A, B, C, D, E, F, G, H, I, J, K, L D10: A, B, C, D, E, F, G, H, I, J, K, L D11: A, B, C, D, E, F, G, H, I, J D13: A, B, C, D, E, F, G, H, I, J D13: A, B, C, D, E, F, G, H, I, J D13: A, B, C, D D14: A, C D15: B D16: A D17: A, B, C, D, E, F D18: A D19: A, B, C, D, E, F, G D20: A, B, C D21: A, B, C D22: A D23: B, C, D D24: D	D3: F, G, L D15: A, A, C, D, E D16: B, C, D, E D24: A, B, C
Total: 11	Total: 112	Total: 15

#### Table 3.1: Water Vole Habitat Assessment Results

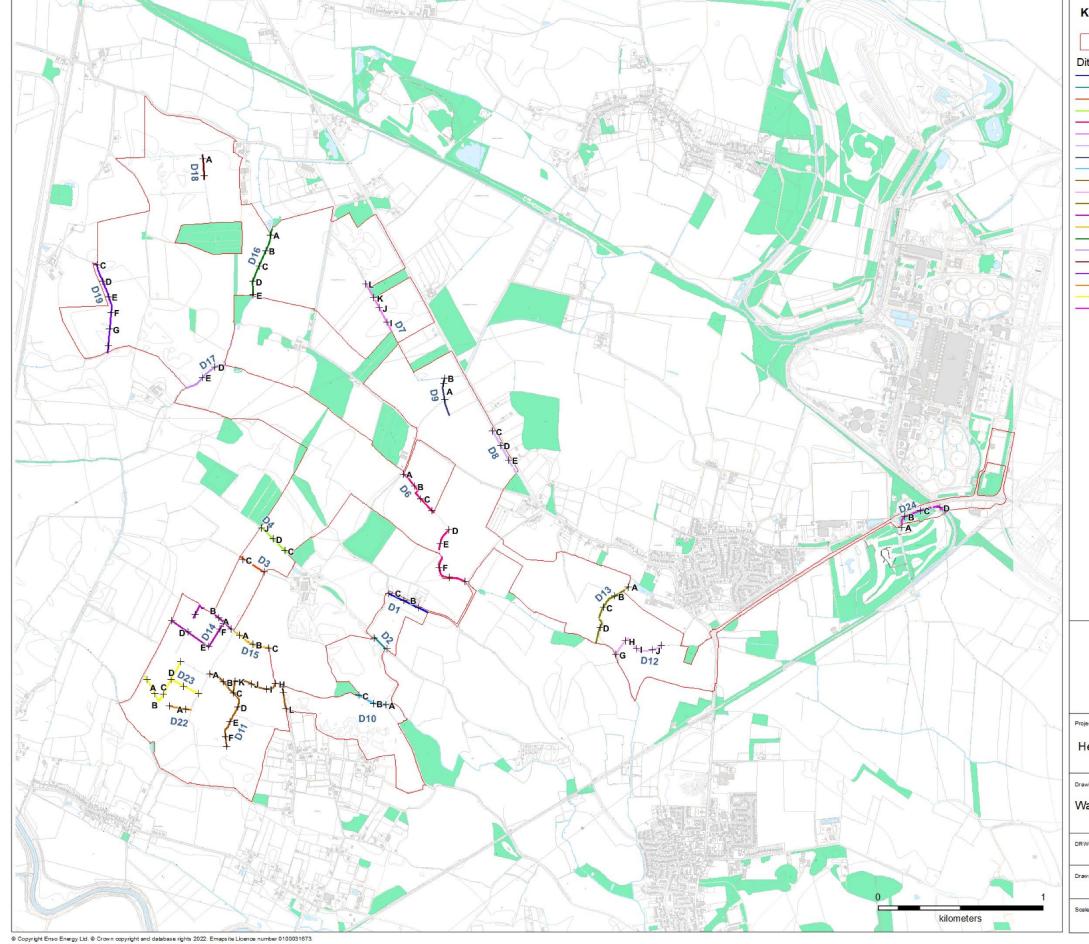
#### Field Survey Results

- 3.3.4 No evidence of water voles (i.e., latrines, feeding remains etc) was found within the Site boundary. A number of rat burrows (with droppings) and field vole/bank vole burrows were noted during the survey, single rat droppings were recorded sporadically throughout the survey area during the surveys.
- 3.3.5 At no point during the surveys did water vole detection dogs indicate that water vole scent and/or field signs had been found.

## FIGURE 1: 2022 WATER VOLE AND OTTER SURVEY LAYOUT



Key	
Site Boundary	
Ditch Survey Area	
D1 D2	
D3 D4	
D5 D6	
D7	
D8 D9	
D10 D11	
D12 D13	
D14	
D15 D16	
D17 D18	
D19	
D20 D21	
D22 D23	
+ 100m Ditch Section	(x)
N	
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HELIOS	ENEWABLE NERGY ROJECT
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Site Boundary           Ditch Survey Area           D1           D2           D3           D4           D6           D7           D8           D9           D10           D11           D12           D13           D14           D12           D13           D14           D15           D16           D17           D18           D19           D22           D23           D24           +           100m Ditch Section (x)		
Ditch Survey Area         D1         D2         D3         D4         D6         D7         D8         D9         D10         D11         D12         D13         D14         D15         D16         D17         D18         D19         D22         D23         D24	Key	
D1 D2 D3 D4 D6 D7 D7 D8 D9 D9 D10 D11 D12 D12 D13 D14 D15 D16 D16 D15 D16 D17 D15 D16 D17 D19 D22 D23 D24		Site Boundary
D1 D2 D3 D4 D6 D7 D7 D8 D9 D9 D10 D11 D12 D12 D13 D14 D15 D16 D16 D15 D16 D17 D15 D16 D17 D19 D22 D23 D24	itch Su	rvey Area
D2 D3 D4 D6 D6 D7 D7 D8 D9 D10 D11 D12 D13 D13 D14 D15 D16 D16 D17 D18 D19 D22 D23 D23 D24		
D4 D6 D7 D8 D9 D9 D10 D11 D12 D13 D14 D15 D16 D16 D17 D17 D17 D18 D19 D22 D23 D24		
D6 D7 D8 D9 D10 D11 D11 D12 D13 D14 D15 D16 D16 D15 D16 D17 D17 D17 D18 D19 D22 D23 D23 D24		— D3
D7 D8 D9 D10 D11 D12 D13 D14 D15 D16 D16 D17 D18 D18 D19 D22 D23 D24		D4
D8         D9         D10         D11         D12         D13         D14         D15         D16         D17         D18         D19         D22         D23         D24		— D6
D9 D10 D11 D12 D13 D14 D15 D16 D16 D17 D18 D19 D19 D22 D23 D23 D24		— D7
D10 D11 D12 D13 D14 D15 D16 D16 D17 D17 D18 D19 D22 D23 D23 D24		- D8
D11 D12 D13 D14 D15 D16 D17 D17 D17 D18 D19 D22 D23 D23 D24		— D9
D12 D13 D14 D15 D16 D17 D17 D18 D19 D22 D23 D24		-D10
D13 D14 D15 D16 D17 D17 D18 D19 D22 D23 D24		— D11
D14 D15 D16 D17 D18 D19 D22 D23 D24		-D12
D15 D16 D17 D18 D19 D22 D23 D24		- D13
D16 D17 D18 D19 D22 D23 D24		— D14
D17 D18 D19 D22 D23 D24		- D15
D18 D19 D22 D23 D24		— D16
D19 D22 D23 D24		— D17
D22 D23 D24		— D18
D23 D24		— D19
D24		- D22
		- D23
+ 100m Ditch Section (x)		- D24
	+	100m Ditch Section (x)





Project Title

#### Helios Renewable Energy Project

Drawing Title

#### Water Vole and Otter Survey Plan (2023)

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## Annex 1

Water Vole Habitat Suitability Assessment

Ditch Section		D1 A, B, C			Date	291	th September 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water		Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Salt m		Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial	af x		Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass	- A N N A -
Marsh/bog Canal		Poached Reinforced		Park/garden Heath Fen Cattle/grazing SH Bank fenced	IEEP		Disturbance:	
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	-
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suit	ability	Assessment (S	core	1 if feature presen	it and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60' food &amp; cover</li> <li>(b) A good variety of foo sources</li> <li>(c) Suitable refuge areas</li> <li>(d) Soft, earth banks suit</li> <li>(e) Water permanently p</li> <li>(f) Open water for swim</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or er</li> <li>(i) Slow flowing current of</li> <li>(j) Non-native invasive p</li> </ul>	%) bank d plant above able fo present ming nt at or osion to or statio lant spe	side <u>and</u> emer s including fav extremes in w r burrowing (3 (does not dry close to water o the banks c water ecies absent (H	rgent oure ater 0 to up) <sup>r</sup> leve IB, Jk	: vegetation providi d plants and winter levels 60 degree slope) el	ng	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT			ITY C	ATEGORY:		3		
		Current – Dry.						
Photograph(s): Append	x 2; Ph	oto 1 & Photo	2.					

Ditch Section		D2 A, B, C, D	), E, F	:	Date	29	th September 2022	
Habitat		Shore/bank		Bordering land u	use		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SP Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	O F N F F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suita	bility	Assessment (S	core	1 if feature prese	nt and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pr</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or error</li> <li>(i) Slow flowing current o</li> <li>(j) Non-native invasive place</li> </ul>	plant blove ble fo resent ing t at or sion to statio	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks c water ecies absent (H	oured ater l 0 to 0 up) · leve	d plants and winte evels 60 degree slope) I , GH etc)	-	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT S			ТҮ С	ATEGORY:		4		
.,		Current - Dry						
Photograph(s): Appendix	2; 20	010 3 & PNOTO	4.					

Ditch Section		D3 A, B, C, D	, E		Date	<b>29</b> <sup>t</sup>	<sup>h</sup> September 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	N F - D F
Canal		Poached Reinforced		Heath Fen Cattle/grazing SH Bank fenced	IEEP			
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	1
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature prese	nt and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas at (d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming)</li> <li>Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive plant</li> </ul>	olant: oove le fo sent ng at or ion to statio	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks water	ouree ater l 0 to c up)	d plants and winte levels 60 degree slope)	U	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC	<u> </u>			. ,		4		
Comment(s): De	pth/	Current – Dry.					1	
Photograph(s): Appendix	· · ·							

**Ditch Section** D3 F, G 1<sup>st</sup> October 2022 Date Shore/bank Bordering land use Vegetation (DAFORN\*) Habitat Upland grass Bankside trees F Permanent/temporary Bushes F grass Herbs F Boulders Mixed broadleaf Submerged weed х Sand Ditch woodland Reeds/sedges 0 Dyke Gravel Conifer wood Tall grass Α Silt Gravel Pit х Peat bog Short grass -Lowland Lake Earth х Arable crop Rock cliffs Upland Loch Reservoir Disturbance: Salt marsh **Running Water** Earth Cliffs Urban/industrial Marsh/bog Canalized Park/garden Canal Poached Heath Reinforced х Fen Cattle/grazing SHEEP Bank fenced Bank Profile (tick) Width (tick) Depth (tick) Current (tick) 1m Rapid 1-2m х х Flat <10° <0.5m 2-5m Fast Shallow <45° 0.5-1m 5-10m Slow Steep >45° х 1-2m 10-20m Sluggish Vertical/undercut >2m 20-40m Static х >40m Water Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absent) (a) Well developed (>60%) bankside and emergent vegetation providing х food & cover (b) A good variety of food plants including favoured plants and winter food х \*DAFORN sources **D**ominant 81-100% (c) Suitable refuge areas above extremes in water levels х Abundant 61-80% (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) х Frequent 41-60% (e) Water permanently present (does not dry up) х Occasional 21-40% (f) Open water for swimming х **R**are 1-20% (g) Ledge or berm present at or close to water level None 0% (h) Lack of damage or erosion to the banks (i) Slow flowing current or static water х (j) Non-native invasive plant species absent (HB, JK, GH etc) HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY: 7 Comment(s): Himalayan balsam present. Photograph(s): Appendix 2; Photo 6.

Ditch Section		D3 H			Date	1st	October 2022	
Habitat		Shore/bank		Bordering land us	e		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tempo grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHE Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	F F - 0 A -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suital	oility /	Assessment (S	core	1 if feature present	and 0 if	fabs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently profif (f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> </ul>	plant: bove ble fo esent ing at or sion to statio	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks water	oureo ater l 0 to 0 up)	d plants and winter t evels 60 degree slope) I , GH etc)	•	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive pla			TVC	ATEGORY		Λ		
HABITAT ASSESSMENT SC	ORE	AND SUITABILI				4		

Ditch Section		D3 -I, J, K,			Date	1st	October 2022	
Habitat		Shore/bank		Bordering land u	use		Vegetation (DAFORM	V*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SI Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	- - - 0 A A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suital	bility	Assessment (S	core	1 if feature prese	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erose</li> <li>(i) Slow flowing current or</li> </ul>	plant bove ble fo esent ng at or ion to	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks	oure ater l 0 to up)	d plants and winte levels 60 degree slope)	-	x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive pla			B, JK	, GH etc)		x		
HABITAT ASSESSMENT SC	-		-			3		
.,			vs ob	served, attributed	to field v	ole.		
Photograph(s): Appendix	2; Ph	oto 8.						

Ditch Section		D3 L			Date	1st	October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	- F - A A
Bank Profile (tick)	-	Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suital	bility /	Assessment (S	core	1 if feature presen	t and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pridice</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erost</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive pla</li> </ul>	) bank plant: bove ble fo esent ing at or sion to static nt spe	side <u>and</u> emen s including fav extremes in w r burrowing (3 (does not dry close to water o the banks water ecies absent (H	rgent oured ater   0 to   up) r leve IB, JK	: vegetation providi d plants and winter levels 60 degree slope) el	ng	x x x x x x x x 7	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
I	OKE /	AND SUITABIL		ATEGURY:		/		
Comment(s): Photograph(s): Appendix	<u> </u>							

Photograph(s): Appendix 2; Photo 9.

Ditch Section		D3 M, N		Date	1st	t October 2022
Habitat		Shore/bank		Bordering land use		Vegetation (DAFORN*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	. x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temporary grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced	×	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass Disturbance:
Bank Profile (tick)		Width (tick)		Depth (tick)		Current (tick)
Flat <10° Shallow <45° Steep >45° Vertical/undercut	×	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		Rapid Fast Slow Sluggish Static
Water Vole Habitat Su	uitability	Assessment (S	core	1 if feature present and (	if abs	ent)
sources (c) Suitable refuge are (d) Soft, earth banks si (e) Water permanenth	ood plant as above uitable fo y present mming	s including favo extremes in wa r burrowing (3) (does not dry t close to water	oured ater l 0 to 6 up)	d plants and winter food evels 50 degree slope)	x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%
.,	erosion to t or statio	water	B, JK	, GH etc)		
(g) Ledge or berm pres (h) Lack of damage or (i) Slow flowing curren	erosion to it or station plant spe	: water ecies absent (H		· · · · · · · · · · · · · · · · · · ·	2	

Ditch Section		D4 A, B, C, D	, E, F	, G, H, II	Date	29 <sup>t</sup>	h September 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	(*۱
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	A O A A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitab	oility /	Assessment (S	core	1 if feature presen	t and 0 i	fabs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> <li>(i) Slow flowing current or</li> </ul>	plants bove ble for esent ing at or ion to	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks	oured ater l 0 to ( up)	d plants and winter evels 60 degree slope)	0	x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(,, =:=::			B, JK	· · ·		x		
(j) Non-native invasive plan								
(j) Non-native invasive plan HABITAT ASSESSMENT SC		AND SUITABILI	тү с	ATEGORY:		3		

Ditch Section		D4 J, K, L		Date	29	TH September 2022	
Habitat		Shore/bank		Bordering land use		Vegetation (DAFORM	1*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temporary grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced	x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass Disturbance:	- - - 0 A A
Bank Profile (tick)		Width (tick)		Depth (tick)		Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suita	bility	Assessment (S	core	1 if feature present and	) if abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pr</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eroo</li> <li>(i) Slow flowing current of</li> </ul>	plant: bove ble fo esent ing at or sion to	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks swater	oured ater l 0 to ( up) · leve	d plants and winter food evels 60 degree slope)	x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive pla	nt spe	ecies absent (H	B, JK	, GH etc)	x		
	OPE		ту с	ATEGORY	2		
HABITAT ASSESSMENT SO	JUNE /	AND SUTTABLE		AILGONI.			

Ditch Section		D5 A			Date	29 <sup>t</sup>	<sup>h</sup> September 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	0 D - - 0 -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suita	bility	Assessment (S	core	1 if feature presen	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pr</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erost</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive plage</li> </ul>	) bank plant: ble fo esent ing at or sion to static nt spe	side <u>and</u> emen s including fav extremes in w r burrowing (3 (does not dry close to water o the banks water ecies absent (H	rgent oure ater 0 to up) · leve IB, JK	vegetation providi d plants and winter levels 60 degree slope) d , GH etc)	ing	x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC	ORE	AND SUITABIL	ITY C	ATEGORY:		2		
Comment(s): D	epth/	Current – Dry						
Photograph(s): Appendix	2; Ph	oto 13.						

Photograph(s):	Appendix 2; Photo	o 13.

Ditch Section		D6 A, B, C			Date	29 <sup>t</sup>	<sup>h</sup> September 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFORM	1*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	С - - - С
Bank Profile (tick)		Width (tick)	1	Depth (tick)			Current (tick)	
Flat <10° Shallow <45°		1m 1-2m 2-5m	x	<0.5m 0.5-1m			Rapid Fast	
Steep >45° Vertical/undercut	x	5-10m 10-20m 20-40m >40m		1-2m >2m			Slow Sluggish Static	×
Vertical/undercut Water Vole Habitat Suital	oility /	10-20m 20-40m >40m Assessment (S		1-2m >2m 1 if feature preser		fabs	Sluggish Static	×
Vertical/undercut Water Vole Habitat Suital (a) Well developed (>60%) food & cover (b) A good variety of food sources (c) Suitable refuge areas a (d) Soft, earth banks suital (e) Water permanently pro- (f) Open water for swimm (g) Ledge or berm present (h) Lack of damage or eros	pility a bank plant: bove ble fo esent ing at or ion to	10-20m 20-40m >40m Assessment (S side and emer s including favo extremes in wa r burrowing (3 (does not dry not close to water o the banks	rgent oured ater l 0 to d up)	1-2m >2m 1 if feature preser vegetation provid d plants and winter evels 60 degree slope)	ing	f abs	Sluggish Static	×
Vertical/undercut Water Vole Habitat Suital (a) Well developed (>60%) food & cover (b) A good variety of food sources (c) Suitable refuge areas a (d) Soft, earth banks suital (e) Water permanently pro (f) Open water for swimm (g) Ledge or berm present	pility a bank plant: bove ble fo esent ing at or sion to statio	10-20m 20-40m >40m Assessment (S side and emer s including favo extremes in wa r burrowing (3 (does not dry not close to water to the banks water	rgent oured ater l 0 to d up)	1-2m >2m <b>1 if feature preser</b> vegetation provid d plants and winter evels 50 degree slope) I	ing	x	Sluggish Static ent) *DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	×
Vertical/undercut Water Vole Habitat Suital (a) Well developed (>60%) food & cover (b) A good variety of food sources (c) Suitable refuge areas a (d) Soft, earth banks suital (e) Water permanently pre (f) Open water for swimm (g) Ledge or berm present (h) Lack of damage or eros (i) Slow flowing current or	pility a bank plant: bove ble fo esent ing at or statio statio	10-20m 20-40m >40m Assessment (S side and emer s including favo extremes in wa r burrowing (3) (does not dry not close to water to the banks water eccies absent (H	rgent oured ater l 0 to d up) · leve IB, JK	1-2m 22m <b>1 if feature preser</b> vegetation provid d plants and winter evels 50 degree slope) I , GH etc)	ing	x x	Sluggish Static ent) *DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	ĸ

Ditch Section		D6 D, E, F			Date	301	th September 2022	
Habitat		Shore/bank		Bordering land	ıse		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SI Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	F O F - F -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suita						f abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas</li> <li>(d) Soft, earth banks suit</li> <li>(e) Water permanently p</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or end</li> <li>(i) Slow flowing current of</li> <li>(j) Non-native invasive p</li> </ul>	d plant above able fo resent ning t at or osion to r statio ant spe	s including fav extremes in w r burrowing (3 (does not dry close to water o the banks c water ecies absent (H	oure ater l 0 to up) r leve IB, JK	d plants and winte levels 60 degree slope) I I	-	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT S	CORE	AND SUITABIL	ІТҮ С	ATEGORY:		4		
Comment(s):	epth/	Current – Dry.						
Photograph(s): Appendi	c 2; Ph	oto 15.						

Ditch Section		D7 A			Date	29	<sup>rH</sup> September 2022
Habitat		Shore/bank		Bordering land	use		Vegetation (DAFORN*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industria Park/garden Heath Fen Cattle/grazing SI Bank fenced	F	x	Bankside trees Bushes - Herbs I Submerged weed - Reeds/sedges 0 Tall grass I Short grass I Disturbance:
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static
Water Vole Habitat Su	itability	Assessment (S	core	1 if feature prese	nt and O i	if abs	ent)
<ul> <li>(a) Well developed (&gt;6 food &amp; cover</li> <li>(b) A good variety of for sources</li> <li>(c) Suitable refuge area</li> <li>(d) Soft, earth banks su</li> <li>(e) Water permanently</li> <li>(f) Open water for swind</li> <li>(g) Ledge or berm pression</li> <li>(h) Lack of damage or</li> <li>(i) Slow flowing currention</li> <li>(j) Non-native invasive</li> </ul>	od plan as above itable for presen nming ent at o erosion t or stat plant sp	ts including fav e extremes in w or burrowing (3 t (does not dry r close to water to the banks ic water pecies absent (H	oure ater 0 to up) r leve	d plants and winte levels 60 degree slope) el	-	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%
HABITAT ASSESSMEN	SCORE	AND SUITABIL	ITY C	ATEGORY:		3	
Comment(s):	-	/Current – Dry.					
Comment(s): Photograph(s): Appen	-	-					

Ditch Section		D7 B, C			Date	<b>29</b> <sup>t</sup>	h September 2022	
Habitat		Shore/bank		Bordering land u	ıse		Vegetation (DAFORM	V*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SI Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	0 - F F F
Bank Profile (tick)		Width (tick)	<u> </u>	Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suit	ability	-	core	1 if feature prese	nt and O i	if abs	ent)	
<ul> <li>(a) Well developed (&gt;60' food &amp; cover</li> <li>(b) A good variety of foo sources</li> <li>(c) Suitable refuge areas</li> <li>(d) Soft, earth banks suit</li> <li>(e) Water permanently p</li> <li>(f) Open water for swim</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or er</li> <li>(i) Slow flowing current of</li> <li>(j) Non-native invasive p</li> </ul>	6) bank d plant above able fo present ming nt at or osion to or statio lant spe	side <u>and</u> emer s including fav extremes in w r burrowing (3 (does not dry close to water o the banks c water ecies absent (H	rgent oure ater 0 to up) <sup>r</sup> leve IB, Jk	vegetation provid d plants and winte levels 60 degree slope) d	ing	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY:						4		
.,		ace and duckw	reed	present.				
Photograph(s): Append	x 2; Ph	oto 17.						

Ditch Section		D7 D, E			Date	30 <sup>t</sup>	<sup>h</sup> September 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing Sł		×	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	С - F С Д А F
Bank Profile (tick)		Width (tick)		Bank fenced Depth (tick)			Current (tick)	
Bank Prome (lick)	1	1m	1	Беріп (ціск)			Current (lick)	1
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suital	oility /	Assessment (S	core	1 if feature prese	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently produced</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erose</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive planet</li> </ul>	plant bove ble fo esent ing at or sion to statio nt spe	s including fav extremes in w r burrowing (3 (does not dry close to water o the banks water ecies absent (H	oure ater l 0 to up) · leve IB, JK	d plants and winte levels 60 degree slope) el	-	x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
	ORE	AND SUITABIL	ТҮ С	ATEGORY:		6		
HABITAT ASSESSMENT SC								

Ditch Section		D7 F, G, H, I,	J, К		Date	<b>30</b> <sup>t</sup>	h September 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	<b>I</b> *)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitab	ility	Assessment (S	core	1 if feature presen	t and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> </ul>	plant pove ple fo esent ng at or ion to	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks	oured ater l 0 to ( up)	d plants and winter levels 60 degree slope)		x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(i) Slow flowing current or			IB. JK	. GH etc)		x		
(i) Slow flowing current or (i) Non-native invasive play			-,	,,				
(i) Slow flowing current or (j) Non-native invasive plan HABITAT ASSESSMENT SC	<u> </u>		ТҮ С	ATEGORY:		3		

Ditch Section		D7 L		Dat	е 3	0 <sup>th</sup> September 2022	
Habitat		Shore/bank		Bordering land use		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temporar grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced	y x	Reeds/sedges Tall grass Short grass Disturbance:	A F - F -
Bank Profile (tick)		Width (tick)		Depth (tick)		Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m	x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suita	bility /	Assessment (S	core	1 if feature present an	d 0 if al	osent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pr</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erod</li> <li>(i) Slow flowing current or</li> </ul>	plants bove ble for esent ing t at or sion to	extremes in w extremes in w r burrowing (3 (does not dry close to water o the banks c water	oured ater l 0 to up) r leve	d plants and winter foo levels 60 degree slope)	d x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(i) Non-native invasive pla					5		
(j) Non-native invasive pla	ORF 4					1	
(j) Non-native invasive pla HABITAT ASSESSMENT SC Comment(s):	ORE /	AND JOILADIE					

Ditch Section		D8 A, B, C, D	), E		Date	30 <sup>t</sup>	h September 2022	
Habitat		Shore/bank		Bordering land u	ıse		Vegetation (DAFOR	۷*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	0 - - 0 A F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut Water Vole Habitat Suita (a) Well developed (>60% food & cover (b) A good variety of food sources (c) Suitable refuge areas a (d) Soft, earth banks suita (e) Water permanently pr (f) Open water for swimm (g) Ledge or berm present (h) Lack of damage or ero (i) Slow flowing current of (j) Non-native invasive pla	) bank plant bove ble fo esent ing at or sion to statio	side <u>and</u> emen s including fav extremes in w r burrowing (3 (does not dry close to water o the banks c water	rgent oure ater   0 to   up) · leve	e vegetation provid d plants and winte levels 60 degree slope)	ing	f abs x x	Rapid Fast Slow Sluggish Static ent) *DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SO	<u> </u>			. ,		3		
Comment(s): D	epth/	Current – dam	p, bu	t no standing wate	er. Small i	nami	mal burrows present.	
Photograph(s): Appendix	2; Ph	oto 21.						

Ditch Section		D9 A		Date	30	th September 2022	
Habitat		Shore/bank		Bordering land use	_	Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temporary grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced	x x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b> Located adjacent to	F F F F F
Bank Profile (tick)		Width (tick)		Depth (tick)		Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m	x	<0.5m 0.5-1m 1-2m >2m		Rapid Fast Slow Sluggish Static	
		>40m					
Water Vole Habitat Suita	bility	>40m	core	1 if feature present and 0	if abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a (d) Soft, earth banks suita (e) Water permanently p</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm presen</li> <li>(h) Lack of damage or erection</li> </ul>	b) bank I plant: above able fo resent ning t at or ision to	>40m Assessment (S iside and emer s including fav extremes in w r burrowing (3 (does not dry close to water o the banks	rgent oured ater l 0 to 0 up)	vegetation providing d plants and winter food levels 60 degree slope)	if abs x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently p</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> </ul>	b) bank l plant: above able fo resent hing t at or sion to r statio	>40m Assessment (S side and emer s including fav extremes in w r burrowing (3 (does not dry close to water o the banks water	rgent oured ater l 0 to ( up) r leve	vegetation providing d plants and winter food levels 60 degree slope)	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a (d) Soft, earth banks suita (e) Water permanently p</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm presen</li> <li>(h) Lack of damage or erec</li> <li>(i) Slow flowing current o</li> </ul>	b) bank l plant: above able fo resent ning t at or sion to r statio ant spe	>40m Assessment (S iside and emer s including fav extremes in w r burrowing (3 (does not dry close to water the banks water ecies absent (H	rgent oured ater I 0 to 0 up) r Ieve IB, JK	vegetation providing d plants and winter food levels 60 degree slope) d	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	

Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog CanalxBoulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached ReinforcedBushes Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedBushes Herbs-Bank Profile (tick)Width (tick)Depth (tick)Current (tick)Flat <10° Shallow <45° Steep >45°Vidth (tick)Depth (tick)Current (tick)x10-20m >2m>2mSame Parkx	Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal Bank Profile (tick) Flat <10° Shallow <45° Steep >45° Vertical/undercut Water Vole Habitat Suitabili (a) Well developed (>60%) ba	<ul> <li>Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced</li> <li>Width (tick 1m 1-2m 2-5m</li> </ul>	x	Upland grass Permanent/temporar grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced <b>Depth (tick)</b>		Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	V*) 0 - 0 - A - A
Ditch       Sand       Mixed broadleaf       Submerged weed       A         Oyke       Gravel Pit       Sit       Sand       Mixed broadleaf       Submerged weed       A         Lowland Lake       Gravel Pit       Earth       X       Arable crop       Salt marsh       Disturbance:       Disturban	Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal Bank Profile (tick) Flat <10° Shallow <45° Steep >45° Vertical/undercut Water Vole Habitat Suitabili (a) Well developed (>60%) ba	<ul> <li>X Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced</li> <li>Width (tick 1m 1-2m 2-5m</li> </ul>	x	Permanent/temporar grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced <b>Depth (tick)</b>		Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	- 0 - A -
Running Water Marsh/bog CanaliEarth Cliffs Canalized Poached ReinforcedSalt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedSalt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedSalt Urban Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedSalt Urban Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedSalt Urban Park/garden Heath Fen Cattle/grazing SHEEP Bank fencedSalt Urban Park/garden Heath Fen Co.5m 0.5-1m 1-2m >2mCurrent (tick)Flat <10° Staticx11x<0.5-1m 1-2m >2mxRapid Fast Slog Sluggish StaticxWater Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absent) (a) Well developed (>60%) bankside and emergent vegetation providing food & cover (b) A good variety of food plants including favoured plants and winter food sources (c) Suitable refuge areas above extremes in water levels (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) (e) Water permanently present (does not dry up) (f) Open water for swimming (g) Ledge or berm present at or close to water level (h) Lack of damage or erosion to the banks (j) Slow flowing current or	Running Water Marsh/bog Canal Bank Profile (tick) Flat <10° Shallow <45° Steep >45° Vertical/undercut Water Vole Habitat Suitabili (a) Well developed (>60%) ba	Earth Cliffs Canalized Poached Reinforced <b>Width (tick</b> 1m 1-2m 2-5m	)	Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced Depth (tick)			
Flat <10° Shallow <45° Steep >45° Vertical/undercut1m 1-2m 2-5m 5-10m 20-40m >40mx<0.5m 0.5-1m 1-2m 2mRapid Fast Sluggish StaticRapid Fast Slow Sluggish StaticxWater Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absent)xMappin PasticNote that the second state of the s	Flat <10° Shallow <45° Steep >45° Vertical/undercut <b>Water Vole Habitat Suitabili</b> (a) Well developed (>60%) ba	1m 1-2m 2-5m				Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut1-2m 5-10m 20-40m >40mRapid Fast Slow Sluggish StaticRapid Fast Slow Sluggish StaticWater Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absention a0m </th <th>Shallow &lt;45° Steep &gt;45° Vertical/undercut <b>Water Vole Habitat Suitabili</b> (a) Well developed (&gt;60%) ba</th> <th>1-2m 2-5m</th> <th>x</th> <th>&lt;0.5m</th> <th></th> <th></th> <th></th>	Shallow <45° Steep >45° Vertical/undercut <b>Water Vole Habitat Suitabili</b> (a) Well developed (>60%) ba	1-2m 2-5m	x	<0.5m			
(a) Well developed (>60%) bankside and emergent vegetation providing food & cover (b) A good variety of food plants including favoured plants and winter food sources (c) Suitable refuge areas above extremes in water levels (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) (e) Water permanently present (does not dry up) (f) Open water for swimming (g) Ledge or berm present at or close to water level (h) Lack of damage or erosion to the banks (i) Slow flowing current or static water (j) Non-native invasive plant species absent (HB, JK, GH etc) <b>x</b> <b>x</b> <b>x</b> <b>x*DAFORN</b> Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY:6	(a) Well developed (>60%) ba	<b>x</b> 10-20m 20-40m		0.5-1m 1-2m	x	Fast Slow Sluggish	x
(a) Well developed (>60%) bankside and emergent vegetation providing food & cover (b) A good variety of food plants including favoured plants and winter food sources (c) Suitable refuge areas above extremes in water levels (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) (e) Water permanently present (does not dry up) (f) Open water for swimming (g) Ledge or berm present at or close to water level (h) Lack of damage or erosion to the banks 	(a) Well developed (>60%) ba	ity Assessment (	Score	1 if feature present and	d 0 if abs	sent)	
HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY:     6       Comment(s):	sources (c) Suitable refuge areas abo (d) Soft, earth banks suitable (e) Water permanently prese (f) Open water for swimming (g) Ledge or berm present at (h) Lack of damage or erosion	ants including fav ove extremes in w e for burrowing (i ent (does not dry g t or close to wate on to the banks	vouree vater 30 to up)	d plants and winter food levels 60 degree slope)	x x x x	Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	
Comment(s):							
	HABITAT ASSESSMENT SCOP	RE AND SUITABII	ITY C	ATEGORY:	6		
	.,						

Habitat					Date	150	October 2022	
		Shore/bank		Bordering land u		Vegetation (DAFOR	N*)	
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	A F O - A O A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	nallow <45° 2-5m 0.5-1m eep >45° 5-10m 1-2m						Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitability Assessment (Score 1 if feature present and C							ent)	
<ul> <li>(a) Well developed (&gt;60%) bankside and emergent vegetation providing food &amp; cover</li> <li>(b) A good variety of food plants including favoured plants and winter food sources</li> <li>(c) Suitable refuge areas above extremes in water levels</li> <li>(d) Soft, earth banks suitable for burrowing (30 to 60 degree slope)</li> <li>(e) Water permanently present (does not dry up)</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present at or close to water level</li> <li>(h) Lack of damage or erosion to the banks</li> <li>(i) Slow flowing current or static water</li> <li>(j) Non-native invasive plant species absent (HB, JK, GH etc)</li> </ul>							*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY:								
Comment(s):								

Ditch Section		D10 G			Date	1st	October 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	0 - 0 - A - A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suita	bility	Assessment (S	core	1 if feature preser	nt and 0 i	fabs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> <li>(e) Water permanently pi</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm presen</li> <li>(h) Lack of damage or erco</li> <li>(i) Slow flowing current o</li> <li>(j) Non-native invasive place</li> </ul>	plant above ble fo resent ning t at or sion to r statio	extremes in w extremes in w r burrowing (3 (does not dry close to water o the banks c water	ouree ater l 0 to e up)	d plants and winter levels 60 degree slope)	-	x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT S	CORE	AND SUITABIL	тү с	ATEGORY:		5		
Comment(s):	imala	yan balsam pre	esent					
Photograph(s): Appendix	2; Ph	oto 25.						

Ditch Section		D10 J, K, L			1st October 2022			
Habitat		Shore/bank		Bordering land u		Vegetation (DAFOR	N*)	
DitchxBouldersUpland grassDitchxBouldersPermanent/temporaryDykeGravelSandWixed broadleafGravel PitSiltEarthxLowland LakeEarthxPeat bogUpland Loch ReservoirRock cliffsEarth CliffsSalt marshMarsh/bogCanalizedPoachedPark/gardenCanalPoachedReinforcedFenCattle/grazing SHEEPBank Profile (tick)Vidth (tick)Depth (tick)						x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b> Evidence of human disturbance (i.e., tyre tracks).	0 - F F F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10°							Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suita	bility	Assessment (S	core	1 if feature prese	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) bankside and emergent vegetation providing food &amp; cover</li> <li>(b) A good variety of food plants including favoured plants and winter food sources</li> <li>(c) Suitable refuge areas above extremes in water levels</li> <li>(d) Soft, earth banks suitable for burrowing (30 to 60 degree slope)</li> <li>(e) Water permanently present (does not dry up)</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present at or close to water level</li> <li>(h) Lack of damage or erosion to the banks</li> <li>(i) Slow flowing current or static water</li> <li>(j) Non-native invasive plant species absent (HB, JK, GH etc)</li> </ul>							*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY:								
Comment(s): D	epth/	Current – Dam	p.					
Photograph(s): Appendix	2; Ph	oto 26.						

Ditch Section		D11 A, B, C,	D, E,	F	Date	1st	t October 2022	
Habitat		Shore/bank		Bordering land u	ıse		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SI Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	0 - F 0 A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suital	oility .	Assessment (S	core	1 if feature prese	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently pre- (f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive pla</li> </ul>	bank plant bove ble fo esent ing at or ion to station	side <u>and</u> emer s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks c water ecies absent (H	gent oure ater   0 to   up) · leve  B, JK	: vegetation provid d plants and winte levels 60 degree slope) l ;, GH etc)	ing	x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC	-		TY C	ATEGORY:		3		
.,		Current – Dry.						
Photograph(s): Appendix	2; Ph	oto 27.						

Photograph	(s	): Appenc	dix 2; P	hoto 27.
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Ditch Section		D12 A, B			Date	2 <sup>nd</sup>	October 2022	
Habitat		Shore/bank		Bordering land us	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	- - - A A F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suital	bility /	Assessment (S	core	1 if feature presen	t and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently prof</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> </ul>	plant: bove ble for esent ing at or sion to static	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks swater	oured ater l 0 to ( up) leve	d plants and winter evels 50 degree slope) I		x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(i) Non-native invasive pla			2, 51	,				
(j) Non-native invasive pla	<u> </u>	AND SUITABILI	TY C	ATEGORY:		5		
HABITAT ASSESSMENT SC	ORE /	AND SUITABILI				5		

Ditch Section		D12 C, D, E,	F		Date	2nd	d October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	C F - A F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature preser	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab (d) Soft, earth banks suitable (e) Water permanently present (f) Open water for swimmi (g) Ledge or berm present (h) Lack of damage or eros</li> </ul>	olant: oove le fo sent ng at or	s including favo extremes in wa r burrowing (3 (does not dry close to water	oure ater l 0 to l up)	d plants and winter levels 60 degree slope)	0	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(i) Slow flowing current or (j) Non-native invasive plar	statio	water	В <i>,</i> JК	, GH etc)		x x		
HABITAT ASSESSMENT SCO						6		
Comment(s):							-	
Photograph(s): Appendix 2		-+- 20						

Ditch Section		D12 G, H			Date	2nd	d October 2022	
Habitat		Shore/bank		Bordering land us	se		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHI Bank fenced		×	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	F F - F F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature present	t and 0 i	if abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab</li> <li>(d) Soft, earth banks suitab</li> <li>(e) Water permanently pre</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present a</li> <li>(h) Lack of damage or erosi</li> <li>(i) Slow flowing current or s</li> <li>(j) Non-native invasive plan</li> </ul>	olants le foi sent ng at or on to statio t spe	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks water ecies absent (H	oured ater I 0 to 6 up) f leve B, JK	d plants and winter evels 50 degree slope) I , GH etc)	0	x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
Comment(s):	) NE /	SUL SULADILI				5	<u> </u>	
Photograph(s): Appendix 2	; Pho	oto 30.						

Ditch Section		D12 I, J		D	ate	2nd	d October 2022	
Habitat		Shore/bank		Bordering land use			Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tempor grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEE Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	F F F F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	2
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature present a	and 0 if	abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> </ul>	plant pove ple fo esent ng at or ion to	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks	oured ater l 0 to ( up)	d plants and winter fo evels 60 degree slope)		x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive plan	<u> </u>			· /		x		
HABITAT ASSESSMENT SC	ORF	AND SUITABILI	TYC	ATEGORY		4		
HADITAT ASSESSIVIENT SC	01127					-		

Photograph(s): Appendix 2; Photo 31.

Ditch Section		D13 A, B, C		Dat	e 2	nd October 2022	
Habitat		Shore/bank		Bordering land use		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temporar grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEEP Bank fenced	y x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	- F - C F
Bank Profile (tick)		Width (tick)		Depth (tick)		Current (tick)	
Flat <10° Shallow <45°		1m 1-2m 2-5m 5-10m	x	<0.5m 0.5-1m	×	Rapid Fast Slow	
Steep >45° Vertical/undercut	x	10-20m 20-40m		1-2m >2m		Sluggish Static	x
Vertical/undercut Water Vole Habitat Suitab	ility A	10-20m 20-40m >40m		>2m 1 if feature present and	d 0 if al	Sluggish Static	x
Vertical/undercut	bank bank blants bove e ble for esent ng at or ion to static	10-20m 20-40m >40m Assessment (S side <u>and</u> emer including favo extremes in wa burrowing (3) (does not dry not close to water the banks water	gent oured ater l 0 to ( up)	>2m <b>1 if feature present and</b> vegetation providing d plants and winter food evels 50 degree slope) I		Sluggish Static sent) *DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	x
Vertical/undercut Water Vole Habitat Suitab (a) Well developed (>60%) food & cover (b) A good variety of food p sources (c) Suitable refuge areas at (d) Soft, earth banks suitab (e) Water permanently pre- (f) Open water for swimmi (g) Ledge or berm present (h) Lack of damage or eros (i) Slow flowing current or	bank bank blants bove e ble for esent ng at or ion to static	10-20m 20-40m >40m Assessment (S side and emer including favo extremes in wa burrowing (3) (does not dry not close to water the banks water cies absent (H	gent oured ater I 0 to 0 up) leve B, JK	>2m <b>1 if feature present and</b> vegetation providing d plants and winter food evels 50 degree slope) I , GH etc)	x x x x x x	Sluggish Static sent) *DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	×

Ditch Section		D13 D			Date	2no	d October 2022	
Habitat		Shore/bank		Bordering land us	e		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tempo grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHI Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	0 0 - - 0 A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitab						f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> </ul>	olant: oove ole fo esent ng at or ion to	extremes in wa r burrowing (3) (does not dry to close to water o the banks	oureo ater l 0 to 0 up)	d plants and winter levels 60 degree slope)	-	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(i) Slow flowing current or						x		
(j) Non-native invasive plan HABITAT ASSESSMENT SC						х 6	<u> </u>	
	UNE /	AND SUITABILI	110	AILOUNI.		0		
Comment(s):								

Ditch Section		D14 A, C			Date	2nd	d October 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b> D14.A featured oil in ditch water – pollutio evident.	
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitab	ility /		core	1 if feature preser	nt and O i	f abs	ent)	-
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab (d) Soft, earth banks suitable (e) Water permanently present (f) Open water for swimming)</li> <li>Ledge or berm present (h) Lack of damage or erosities (i) Slow flowing current or structure (j) Non-native invasive plant</li> </ul>	olant: le foi sent ng at or con to statio	s including favo extremes in wa r burrowing (3 (does not dry r close to water o the banks water ecies absent (H	oured ater l 0 to 0 up) · leve IB, JK	d plants and winter evels 60 degree slope) I , GH etc)	-	x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SCO	DRE /	AND SUITABILI	TY C	ATEGORY:		6		
Comment(s): Photograph(s): Appendix 2								
	.,							

Ditch Section		D14 B, D, E,	F		Date	2n	d October 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFORM	V*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	R F - - F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitab						f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas all</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently prediction of the second second</li></ul>	plants pove ble fo esent ng at or ion to station	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks water ecies absent (H	oured ater l 0 to ( up) • leve IB, JK	d plants and winter levels 60 degree slope) I I , GH etc)	-	x x 2	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC				ATEGORY:		2		
.,		Current – Dry.						
Photograph(s): Appendix	z; Ph	oto 35.						

Ditch Section		D15 A, C, D,	E		Date	2n	d October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORI	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	C F - F A F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suital	oility /	Assessment (S	core	1 if feature presen	nt and O	if abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently prof</li> <li>(f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or prosting invasive pla</li> </ul>	plants bove ble for esent ing at or sion to statio nt spe	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks water ecies absent (H	oured ater l 0 to 0 up) · leve IB, JK	d plants and winter evels 60 degree slope) I , GH etc)	0	x x x x x x x x x 7	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
I	ORE A	AND SUITABILI		ATEGORY:		7		
Comment(s): Photograph(s): Appendix	2; Ph	oto 36.						

Ditch Section		D15 B		1	Date	2n	d October 2022	
Habitat		Shore/bank		Bordering land use	e		Vegetation (DAFORM	(*۱
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tempo grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHE Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	6 F F <i>J</i> F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suit	tability	Assessment (S	core	1 if feature present	and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60 food &amp; cover</li> <li>(b) A good variety of foo sources</li> <li>(c) Suitable refuge areas</li> <li>(d) Soft, earth banks sui</li> <li>(e) Water permanently</li> <li>(f) Open water for swim</li> <li>(g) Ledge or berm prese</li> <li>(h) Lack of damage or en</li> <li>(i) Slow flowing current</li> <li>(j) Non-native invasive p</li> </ul>	od plant: above table fo present ming nt at or rosion to or static	extremes in w extremes in w r burrowing (3 (does not dry close to water o the banks water	oured ater   0 to 0 up)	d plants and winter f levels 60 degree slope)	0	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
			ту с	ATEGORY:		5		
HABITAT ASSESSMENT	SCORE /	ND JOILADIE				-		_

Ditch Section		D16 A		D	ate	15 <sup>t</sup>	h October 2022	
Habitat		Shore/bank		Bordering land use	!		Vegetation (DAFOR	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/tempor grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHEE Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	F  F F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suital	bility /	Assessment (S	core	1 if feature present a	and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suital</li> <li>(e) Water permanently profif Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive pla</li> </ul>	plant: bove ble for esent ing at or sion to static	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks swater	oured ater l 0 to ( up)	d plants and winter fo evels 50 degree slope) I		x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC						5		
	-		-			-		
Comment(s): De	epth/(	Current – wet i	mud.	Himalayan balsam.				

Ditch Section		D16 B, C, D,	E		Date	151	th October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	- - F D F
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitab	oility /	Assessment (S	core	1 if feature presen	t and 0 i	fabs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> <li>(i) Slow flowing current or</li> </ul>	plant: bove ble fo esent ing at or static	s including favo extremes in wa r burrowing (3 (does not dry close to water o the banks water	oured ater l 0 to ( up) · leve	d plants and winter evels 50 degree slope) I	0	x x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive plan				ATECODY		-		
(j) Non-native invasive plan HABITAT ASSESSMENT SC Comment(s):			ITY C	ATEGORY:		7		

Ditch Section		D17 A, B, C,	D, E,	F	Date	151	th October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFOR	V*)
Ditch Dyke Gravel Pit Lowland Lake	x	Boulders Sand Gravel Silt Earth	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog	oorary		Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass	
Upland Loch Reservoir Running Water Marsh/bog Canal		Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced	IEEP	x	<b>Disturbance:</b> D17 C-F sections use for horse jumping.	d
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suital	oility /	Assessment (S	core	1 if feature presen	it and O i	fabs	ent)	
(a) Well developed (>60%)	bank	side <u>and</u> emer	gent	vegetation providi	ng	x		
food & cover (b) A good variety of food sources (c) Suitable refuge areas a (d) Soft, earth banks suital (e) Water permanently pro (f) Open water for swimm (g) Ledge or berm present	bove ble foi esent ing	extremes in wa r burrowing (3 (does not dry )	ater l 0 to ( up)	evels 60 degree slope)	food	x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20%	
<ul> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive pla</li> </ul>	sion to statio	o the banks water				x x	<b>N</b> one 0%	
						5		
HABITAT ASSESSMENT SC	OKL A	AND SOTTABLE						
		an balsam pre				-		

Ditch Section		D18 A Date				151	th October 2022	
Habitat		Shore/bank		Bordering land us	e		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake	x	Boulders Sand Gravel Silt Earth	x	Upland grass Permanent/tempo grass Mixed broadleaf woodland Conifer wood Peat bog	orary		Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass	- - - - - - -
Upland Loch Reservoir Running Water Marsh/bog Canal		Rock cliffs Earth Cliffs Canalized Poached Reinforced		Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SHI Bank fenced	EEP	x	Disturbance:	
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitat	ility /	Assessment (S	core	1 if feature present	and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently present</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or erose</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive plant</li> </ul>	plants pove ble for esent ng at or ion to static	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks	oured ater l 0 to 6 up) 1 leve	d plants and winter evels 50 degree slope) I		x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(J) Non-native invasive plat HABITAT ASSESSMENT SC	<u> </u>			· ,		х 4		
HADHAT ASSESSIVENT SC		AND JOILADILI	110	AILGONI.		*		
Comment(s): De	nth /	Current – Dry.						

•	Static	Vertical/undercut		20-40m >40m		>2r
bs	ent)	Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if fo
	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	<ul> <li>(a) Well developed (&gt;60%) food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab</li> <li>(d) Soft, earth banks suitab</li> <li>(e) Water permanently pre</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present at</li> <li>(h) Lack of damage or erosi</li> <li>(i) Slow flowing current or state areas and an an</li></ul>	olant: le foi sent ng at or con to statio	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks water scies absent (H	ourec ater l 0 to 6 up) leve B, JK	d plar evels 50 de I
ł		HABITAT ASSESSMENT SCO	JRE A	AND SUITABILI	IY C	ATEG

Ditch Section		D19 A, B, C, D, E, F, G Date				15th October 2022			
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFORI	N*)	
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs	x	Upland grass Permanent/tem grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	R A - - - -	
Marsh/bog Canal		Canalized Poached Reinforced		Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced					
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)		
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x	
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature preser	nt and 0 i	fabs	ent)		
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab</li> <li>(d) Soft, earth banks suitab</li> <li>(e) Water permanently pre</li> <li>(f) Open water for swimmin</li> <li>(g) Ledge or berm present a</li> <li>(h) Lack of damage or erosi</li> <li>(i) Slow flowing current or s</li> <li>(j) Non-native invasive plan</li> </ul>	olants oove o le foi sent ng at or on to static it spe	s including favo extremes in wa burrowing (3 (does not dry s close to water the banks water cles absent (H	ourec ater l 0 to 6 up) f leve B, JK	d plants and winter evels 50 degree slope) I , GH etc)	U	x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%		
		an balsam pre							
Photograph(s): Appendix 2	-		Jent						

Ditch Section D20 A,		D20 A, B, C	, B, C Date			151	th October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	0 - - 0 A
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suital	bility /	Assessment (S	core	1 if feature preser	nt and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas a</li> <li>(d) Soft, earth banks suita</li> </ul>	plant: bove	s including favo	oureo ater l	d plants and winter evels	0	x x x	*DAFORN Dominant 81-100% Abundant 61-80%	
<ul> <li>(e) Water permanently priving (f) Open water for swimm</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eros</li> <li>(i) Slow flowing current or</li> </ul>	ing at or sion to statio	close to water the banks water	leve			x	Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
(j) Non-native invasive pla	<u> </u>			· /		x		
HABITAT ASSESSMENT SC	ORE /	AND SUITABILI	TY C	ATEGORY:		5		
Comment(s): De		Current – Dry.						

**Ditch Section** D21 A, B, C Date 15th October 2022 Habitat Shore/bank Bordering land use Vegetation (DAFORN\*) Upland grass Bankside trees Α Permanent/temporary Bushes grass Herbs Boulders Mixed broadleaf Submerged weed х Sand Ditch woodland Reeds/sedges -Dyke Gravel Conifer wood Tall grass ο Gravel Pit Silt Peat bog Short grass D Lowland Lake Earth х Arable crop Rock cliffs Upland Loch Reservoir Disturbance: Salt marsh **Running Water** Earth Cliffs Urban/industrial Marsh/bog Canalized Park/garden Canal Poached Heath Reinforced Fen Cattle/grazing SHEEP Bank fenced Bank Profile (tick) Width (tick) Depth (tick) Current (tick) 1m Rapid 1-2m Flat <10° <0.5m 2-5m х Fast Shallow <45° 0.5-1m 5-10m Slow Steep >45° 1-2m 10-20m Sluggish х Vertical/undercut >2m 20-40m Static >40m Water Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absent) (a) Well developed (>60%) bankside and emergent vegetation providing х food & cover (b) A good variety of food plants including favoured plants and winter food \*DAFORN sources **D**ominant 81-100% (c) Suitable refuge areas above extremes in water levels х Abundant 61-80% (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) х Frequent 41-60% (e) Water permanently present (does not dry up) Occasional 21-40% (f) Open water for swimming **R**are 1-20% (g) Ledge or berm present at or close to water level х None 0% (h) Lack of damage or erosion to the banks х (i) Slow flowing current or static water (j) Non-native invasive plant species absent (HB, JK, GH etc) х 6 HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY: Comment(s): Depth/Current – Dry. Photograph(s): Appendix 2; Photo 44.

Ditch Section		D22 A			Date	151	h October 2022	
Habitat		Shore/bank		Bordering land u	se		Vegetation (DAFORM	N*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance</b> :	R - - D -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suitab	ility /	Assessment (S	core	1 if feature presen	it and O i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas al</li> <li>(d) Soft, earth banks suitable</li> <li>(e) Water permanently presends</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present</li> <li>(h) Lack of damage or eross</li> <li>(i) Slow flowing current or</li> <li>(j) Non-native invasive plant</li> </ul>	plants pove ble for esent ng at or ion to static	extremes in war burrowing (3 (does not dry close to water the banks	oured ater l 0 to ( up)	d plants and winter evels 50 degree slope) I	-	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC	<u> </u>			· ·		^ 5		
	-	Current – Dry.				-		
Photograph(s): Appendix								

**Ditch Section** D23 A Date 15th October 2022 Bordering land use Habitat Shore/bank Vegetation (DAFORN\*) Upland grass Bankside trees F Permanent/temporary Bushes grass Herbs 0 Boulders Mixed broadleaf Submerged weed х Sand Ditch woodland Reeds/sedges -Dyke Gravel Conifer wood Tall grass R Gravel Pit Silt Peat bog Short grass D Lowland Lake Earth х Arable crop Rock cliffs Upland Loch Reservoir Disturbance: Salt marsh **Running Water** Earth Cliffs Urban/industrial Marsh/bog Canalized Park/garden Canal Poached Heath Reinforced Fen Cattle/grazing SHEEP Bank fenced Bank Profile (tick) Width (tick) Depth (tick) Current (tick) 1m х 1-2m Rapid Flat <10° <0.5m 2-5m Fast Shallow <45° 0.5-1m 5-10m Slow Steep >45° 1-2m х 10-20m Sluggish Vertical/undercut >2m 20-40m Static >40m Water Vole Habitat Suitability Assessment (Score 1 if feature present and 0 if absent) (a) Well developed (>60%) bankside and emergent vegetation providing х food & cover (b) A good variety of food plants including favoured plants and winter food \*DAFORN sources **D**ominant 81-100% (c) Suitable refuge areas above extremes in water levels Abundant 61-80% (d) Soft, earth banks suitable for burrowing (30 to 60 degree slope) Frequent 41-60% (e) Water permanently present (does not dry up) Occasional 21-40% (f) Open water for swimming **R**are 1-20% (g) Ledge or berm present at or close to water level None 0% (h) Lack of damage or erosion to the banks (i) Slow flowing current or static water (j) Non-native invasive plant species absent (HB, JK, GH etc) х 2 HABITAT ASSESSMENT SCORE AND SUITABILITY CATEGORY: Comment(s): Depth/Current – Dry. Photograph(s): Appendix 2; Photo 46.

Ditch Section		D23 B, C, D			Date	15	th October 2022	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFOR	V*)
Ditch Dyke Gravel Pit Lowland Lake Upland Loch Reservoir Running Water Marsh/bog Canal	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	R O - F A -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	×	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m			Rapid Fast Slow Sluggish Static	
Water Vole Habitat Suita	oility /	Assessment (S	core	1 if feature preser	nt and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60% food &amp; cover</li> <li>(b) A good variety of food sources</li> <li>(c) Suitable refuge areas at (d) Soft, earth banks suitative) Water permanently privile (f) Open water for swimming Ledge or berm present (h) Lack of damage or ero (i) Slow flowing current or (j) Non-native invasive plate</li> </ul>	plants bove ole fo esent ing at or sion to statio nt spe	s including favo extremes in wa r burrowing (3 (does not dry close to water the banks water ecies absent (H	oured ater l 0 to ( up) • leve IB, JK	d plants and winter levels 60 degree slope) I I , GH etc)	-	x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SC	ORE /	AND SUITABILI	ITY C	ATEGORY:		5		
Comment(s): D	epth/	Current – Dry.						
Photograph(s): Appendix	2; Ph	oto 47.						

Ditch Section		D24 A, B, C,			Date	17th May 2023		
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFOR	N*)
F	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		X x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	F O - - -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	x
Water Vole Habitat Suitab	ility	Assessment (S	core	1 if feature preser	nt and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food p</li> <li>sources</li> <li>(c) Suitable refuge areas ab</li> <li>(d) Soft, earth banks suitab</li> <li>(e) Water permanently pre</li> <li>(f) Open water for swimming</li> <li>(g) Ledge or berm present at</li> <li>(h) Lack of damage or erosit</li> <li>(i) Slow flowing current or statistic planetic invasive planetic planetic invasive planetic invasiv</li></ul>	olant oove le fo sent ng at or on to statio	s including favo extremes in wa r burrowing (3 (does not dry s close to water o the banks water ecies absent (H	oured ater l 0 to 0 up) leve B, JK	d plants and winter evels 60 degree slope) I , GH etc)	U	x x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
HABITAT ASSESSMENT SCO	DRE /	AND SUITABILI	тү с	ATEGORY:		7		
.,		es/field vole s	igns	present				
Photograph(s): Appendix 2	2; Ph	oto 47.						

Ditch Section		D24 D			Date	171	th May 2023	
Habitat		Shore/bank		Bordering land u	ise		Vegetation (DAFOR	N*)
F	x	Boulders Sand Gravel Silt Earth Rock cliffs Earth Cliffs Canalized Poached Reinforced	x	Upland grass Permanent/temp grass Mixed broadleaf woodland Conifer wood Peat bog Arable crop Salt marsh Urban/industrial Park/garden Heath Fen Cattle/grazing SH Bank fenced		x	Bankside trees Bushes Herbs Submerged weed Reeds/sedges Tall grass Short grass <b>Disturbance:</b>	- - -
Bank Profile (tick)		Width (tick)		Depth (tick)			Current (tick)	
Flat <10° Shallow <45° Steep >45° Vertical/undercut	x	1m 1-2m 2-5m 5-10m 10-20m 20-40m >40m	x	<0.5m 0.5-1m 1-2m >2m		x	Rapid Fast Slow Sluggish Static	×
Water Vole Habitat Suitabi	ility /	Assessment (S	core	1 if feature presen	nt and 0 i	f abs	ent)	
<ul> <li>(a) Well developed (&gt;60%)</li> <li>food &amp; cover</li> <li>(b) A good variety of food p sources</li> <li>(c) Suitable refuge areas ab</li> <li>(d) Soft, earth banks suitab</li> <li>(e) Water permanently present a</li> <li>(f) Open water for swimmir</li> <li>(g) Ledge or berm present a</li> <li>(h) Lack of damage or erosi</li> <li>(i) Slow flowing current or s</li> <li>(j) Non-native invasive plan</li> </ul>	ove le fo sent ng at or on to static t spe	s including favo extremes in wa r burrowing (3 (does not dry close to water the banks water ecies absent (H	oured ater l 0 to d up) • leve IB, JK	d plants and winter levels 60 degree slope) I , GH etc)	0	x x x x x x	*DAFORN Dominant 81-100% Abundant 61-80% Frequent 41-60% Occasional 21-40% Rare 1-20% None 0%	
Comment(s): Bar	nkvo	es/field vole s	igns	present				
	nkvo	es/field vole s				0	<u></u>	

## Annex 2

## Annex 2: Habitat Assessment Photograph Panel







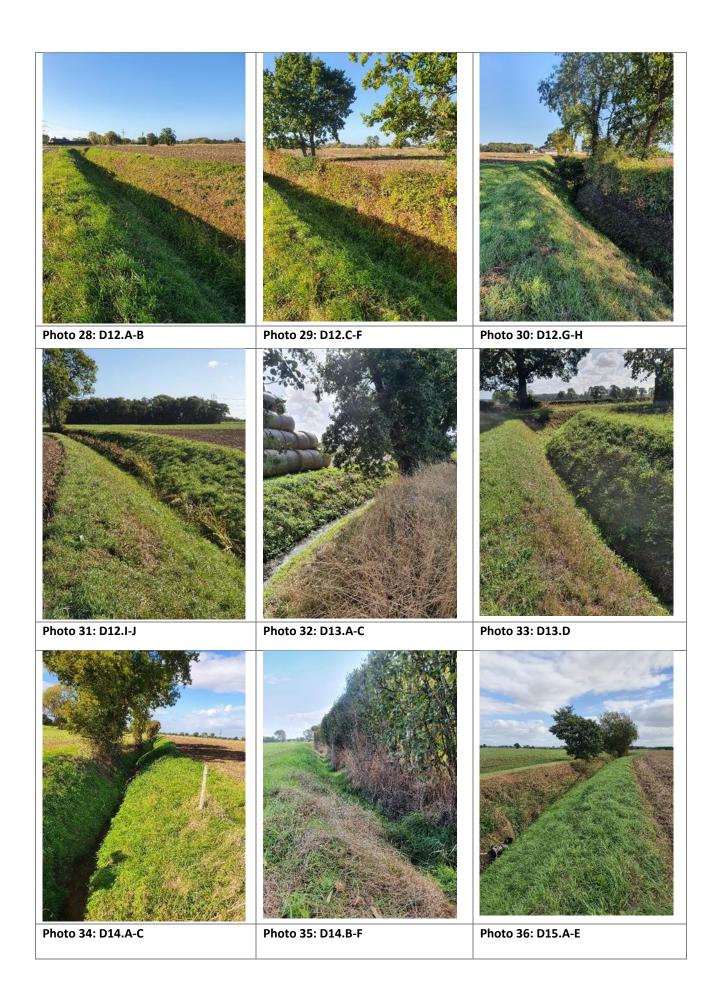




Photo 46: D23.A	Photo 47: D23.B-C	Photo 48: D24 A-C
When the second secon		