Preliminary Ecological Appraisal

Installation of wind pump

Land at Waterblean Farm, The Hill, Millom

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Report 0925/4

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EXECUTIVE SUMMARY

A Habitat survey was carried out on and around coastal pasture near to The Hill, Millom (part of Waterblean Farm). It is proposed that a small wind turbine is erected to power a water pump to provide drinking water for sheep in the pasture and nearby shelter, to be taken from the nearby ditch network. The turbine would stand 4m tall, and be on a 1.4m x 2.3m base.

The purpose of the survey was to identify protected and/or notable habitats and species which may be impacted by the proposed scheme, to determine the likelihood of these impacts and suggest whether further surveys are required to quantify these impacts or to propose mitigation to compensate for these impacts.

A desktop search for records and information, a field survey, and a protected species data search were undertaken to establish species and habitats present on and in the near vicinity of the proposed turbine.

A total of 4 broad habitat types were recorded along in the survey area, and these were mapped and described in their local context. Of notable consideration were coastal & flood plain grazing marsh and salt marsh – both priority habitats.

The proposed location is immediately adjacent to Duddon Estuary SSSI, Morecambe Bay SAC and Morecambe Bay & Duddon Estuary SPA. Natural England will need to be consulted by Cumberland Council about the potential impacts of this project on these protested sites, and there may be a requirement to carry out a Habitat Regulations Assessment.

Numerous records of notable and protected species were collected. Most notable of these within the context of this project were nearby records of breeding amphibians, and records of wintering/ roosting waders and wildfowl.

The features of ecological interest or concern which could be affected by the proposed works are:-

- **Wintering and roosting aggregations of waders and wildfowl (disturbance).**
- **Nesting passerines and swallows, and foraging bats (impact strike).**
- **Statutory sites (SSSI, SAC and SPA)**
- **Aquatic life (fish, amphibians and invertebrates)**
- **Coastal & floodplain grazing marsh.**

After analysing records in the context of this project, no detailed ecological surveys are required to assess the likely impacts on notable and/or protected species.

Several mitigation measures are recommended to minimise impacts on notable species and habitats including:

- Time constraints on the construction phase for the turbine to avoid peak wintering and migratory waders and wildfowl numbers (avoiding September to March inclusive)
- Careful placement of the turbine as far from habitat features as practicable (hedges and ditch)
- Install and maintain a fine filter for the inflow pipe to avoid impacts on aquatic life
- Minimise vehicle movements over the priority habitat, particularly in wet and severely waterlogged conditions.

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1. INTRODUCTION

1.1 The aim of the survey

The aim of the survey was to identify any habitat or protected species issues or potential ecological constraints or concerns that would result from the installation of a small wind powered water pump on land at Waterblean Farm, The Hill, Millom.

The survey was carried out following technical guidelines provided by CIEEM (Chartered Institute of Ecology and Environmental Management) and mapped following UK Habitat Classification guidance (see Appendices for full references).

1.2 Proposed works

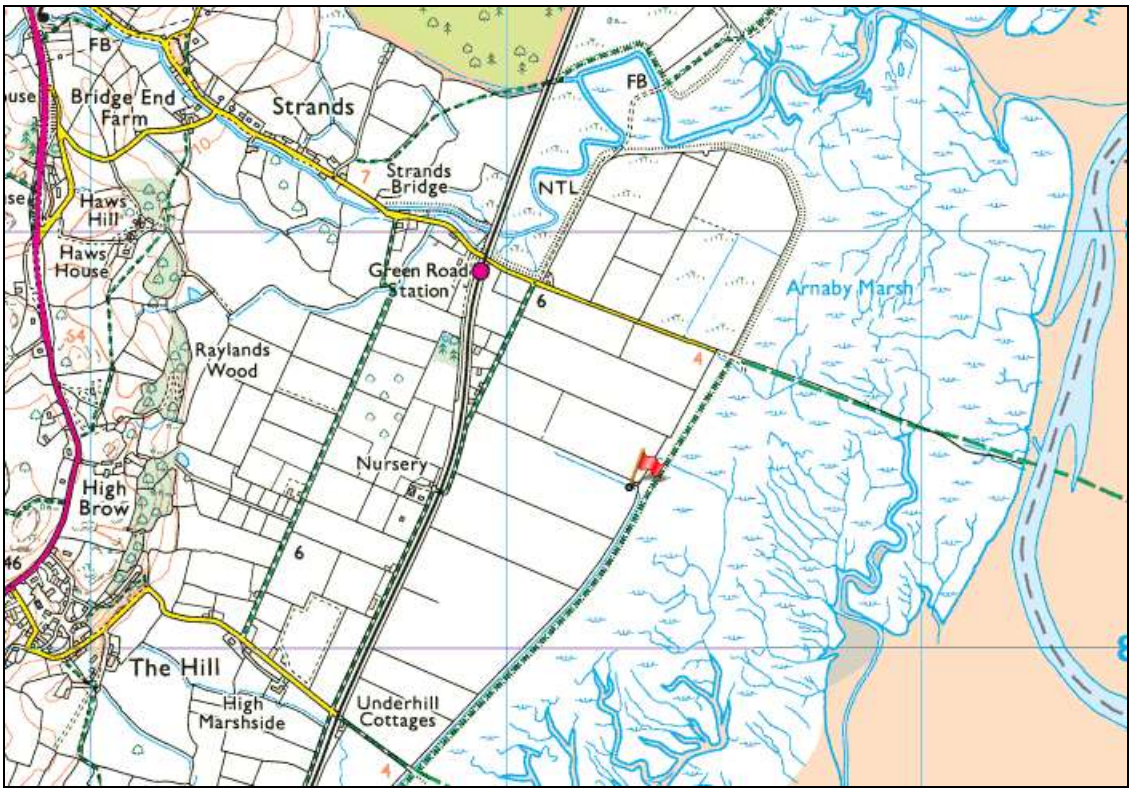
The proposed works involve constructing a small base (140cm x 234cm) to erect the wind turbine. The turbine will have a 4m maximum height and will be used to bring clean drinking water from the ditch to the covered sheep pens and drinking troughs nearby.

No timescale has been confirmed yet.

1.3 The survey area/ zone of influence

The habitat survey was carried out on the proposed works area (site grid reference SD1993 833) and on all open land and field parcels defined in the buffer zone (within 100m of the proposed development). A zone extending to 250m from the development footprint was surveyed from public rights of way and access land to establish whether any ponds likely to support great crested newts were present.

Figure 1: Location of proposed turbine



OS Map copied under licence (No. 100055725)

2. SURVEY METHOD

2.1 Desktop study

Aerial photographs (Google Earth) and Ordnance Survey maps were used to assess the likely habitat types in and around the site, and to search for waterbodies that could host protected species such as natterjack toads. Natural England and JNCC websites were used to obtain boundaries of any statutorily designated sites in the area.

Cumbria Biodiversity Data Centre was consulted and a data search requested for protected species within 2 km radius of the centre of the site.

2.2 Habitat survey

The habitat survey was carried out by Tamsin Douglas MCIEEM (South Lakes Ecology) on September 9th 2025.

The area was walked over, and habitats within the study area were described and mapped using standard UK Habitats Classification methodology (UKHab 2020). The Professional edition of the UKHab guidance was followed, and habitats classed to level 5 of the hierarchy were applicable. Secondary codes were used with regard to land management, origin and habitat mosaics only. The minimum mappable unit was 25m², with target notes used to describe smaller features.

2.3 Protected species survey

Evidence of and potential for protected species was assessed on the site on 9th September 2025. In particular, the potential for the following species/ animal groups was assessed:-

Birds

The site was assessed for its potential to support notable bird species, or important assemblages of wintering or passage birds. In particular the habitats on site were assessed for their potential and likelihood to support breeding birds, and any evidence/ sightings noted.

Reptiles

The site was assessed for its potential to support reptiles such as common lizard, slow-worm and adder, following guidance issued in the 'Herpetofauna Workers Manual'.

Amphibians

A search of the site was made to identify and assess any possible breeding ponds for amphibians, notably natterjack toad *Epidalea calamita* and great crested newt *Triturus cristatus*. An assessment was also made of the quality of the habitat for foraging and potential for hibernation sites. Survey was carried out following guidance published in the 'Herpetofauna Workers Manual'.

Bats

The site was assessed for its suitability for roosting, foraging and commuting bats. Trees, buildings and other structures were appraised for likelihood of hosting roosting and/or hibernating bats, and topographical features of interest to commuting bats were noted. Survey followed methods described in the BCT Good Practice Guidelines (4th edition).

Terrestrial mammals

The potential of the site to support other protected terrestrial mammals, notably badger *Meles meles*, otter *Lutra lutra* hedgehog *Erinaceus europaeus* and water vole *Arvicola amphibius* was assessed. Evidence of activity such as badger setts/ otter holts, paths,

latrines, droppings/ spraints and feeding signs were noted and appropriate guidance followed.

Other species

Presence of and potential for other protected and/ or notable species was recorded.

Potential of the site to support important invertebrate assemblages was assessed following the Invertebrate Habitat Potential (IHP) rapid assessment categories and interim guidance outlined by Dobson and Fairclough (2022, awaiting publication of full toolbox). Any invertebrate sightings were recorded.

2.4 Invasive species survey

The presence of any invasive species within the survey area was recorded and mapped.

2.5 Survey constraints

The weather and time of year were suitable for assessing the botanical quality of habitats and observing any wildlife that is active in daylight.

It is late in the season for amphibian activity, but it is not unusual to still find some tadpoles in ponds (especially of natterjack toads) at this time of year (especially after the dry spring earlier on leading some to breed late). Adult amphibians would still be actively foraging.

The bird nesting season has ended, so habitats around the proposed development were scoped for their potential to support nesting birds.

The likely presence of protected species described in 2.3 above was inferred from the potential of the habitat to support them, any incidental sightings or evidence, biological records from the data search and professional judgement of the ecologist carrying out the survey.

3. BASELINE ECOLOGICAL CONDITIONS

3.1 Desktop survey results

3.1.1 Protected and statutory sites search

The site is not within any protected sites, but is immediately adjacent to Duddon Estuary SSSI, Morecambe Bay SAC and Morecambe Bay & Duddon Estuary SPA. These sites were designated for their inter-tidal and estuarine flora, fauna and habitats, including internationally important aggregations of breeding, migratory and wintering waterfowl.

Due to the location adjacent to these protected sites, Natural England will need to be consulted by the LPA about potential impacts of the proposals on these sites. The LPA may also be required to carry out a Habitat Regulations Assessment (HRA) with regard to potential impacts on SAC and SPA features of the sites.

There are several other protected sites within 5km of the site (but more than 2km away).

Table 1: Protected sites within 5km of proposed development

Protected area/ site	Description of interest	Distance from site
Duddon Estuary SSSI	Coastal habitats, breeding and wintering birds, natterjack toads	Adjacent
Morecambe Bay SAC	Coastal and estuarine habitats, and great crested newt	Adjacent
Morecambe Bay & Duddon Estuary SPA	Breeding, migratory and wintering bird species and assemblages	Adjacent
Duddon Mosses SSSI, NNR and SAC	Botanical, as well as some wetland species (birds, reptiles and invertebrates)	2.5km
Ironworks LNR	Brownfield site – flora and herptiles (including natterjack toad)	3km
Kirkby Moor SSSI	Botanical (heath and wetland)	5km

3.1.2 Non-statutory sites and notable habitats search

No search was carried out for non-statutory sites as the project has such as small zone of influence.

Notable habitats listed under section 41 of the NERC Act (previously known as BAP habitats) that are within 1km of the site include; coastal saltmarsh, coastal & floodplain grazing marsh, purple moor grass & rusk pasture, lowland raised bog, lowland fen, deciduous woodland and ancient woodland. The site is on coastal & floodplain grazing pasture priority habitat, and coastal saltmarsh is adjacent (on the Duddon Estuary SSSI).

Other notable habitats found within 2km of the site include traditional orchards.

3.1.3 Protected and notable species search

The data search from Cumbria Biodiversity Data Centre provided detailed records of protected, rare, scarce and alien species within 2km radius of the proposed turbine.

A search was carried out on the Magic website, which shows all EPS (European Protected Species) licences, and records from great crested newt pond surveys. There are nearby positive records of great crested newt in several sites between 3.4 and 5km to the west (on

the opposite side of the estuary. There are negative (absence) survey results 3.4km to the east.

The EPS licence search provided records of natterjack toads 2km north, and there are others within 5km (on the opposite side of the estuary). There was also one record for bats (of common pipistrelle, soprano pipistrelle, brandt's bat and daubenton's bat) 3.5km to the north.

A total of over 3000 records were produced by the data search, the vast majority of which were records of birds (over 2800 bird records). A table of key species which are of notable consideration within the context of this project is shown in Table 2 below.

Notable bird species have not been included in the table below, unless they are of specific interest to this project (i.e. listed on the SPA designation and recorded in the locality) or have further legislative protection, as all species of bird are protected whilst nesting. It should be noted that bird records are usually recorded at a tetrad (2km square) scale, so are over-represented in the data search as it will pick up records from up to 4 adjacent tetrads.

Invertebrate, reptile and amphibian records are only included if they are within 500m of the site and likely to occur on habitats present on site.

Table 2: Species of conservation concern which have been recorded within 2km of the proposed site

Species	Priority species listed under s41 of NERC Act 2006?*?	Wildlife and Countryside Act 1981 (as amended) Sch 1,5 or 8.	Proximity to site	Number of records (most recent)
Natterjack toad	Yes	Yes	0.1km	34 (2010)
Common toad	Yes	Yes	0.1km	47 (2013)
Common frog		Yes	0.1km	40 (2013)
Hedgehog	Yes		0.6km	5 (2022)
Bats (pipistrelles)	Yes	Yes	0.5km	12 (2013)
Otter	Yes	Yes	1km	10 (2009)
Barn owl		Yes	0.6km	12 (2024)
Pink footed goose**			0.4km	15 (2020)
Little egret**			Tetrad	24 (2017)
Shelduck**			Tetrad	46 (2011) #
Oystercatcher**			Tetrad	45 (2021) #
Grey plover**			Tetrad	1 (2007)
Lapwing	Yes		Tetrad	38 (2011) #
Herring gull**			Tetrad	48 (2011) #
Lesser black-backed gull**			Tetrad	41 (2022) #
Dunlin**			Tetrad	5 (2011)
Curlew**	Yes		Tetrad	44 (2011) #
Redshank**			Tetrad	30 (2017)#

**Previously BAP (Biodiversity Action Plan) priority species*

*** Featured species on SPA citation – non-breeding bird assemblage*

 # Also breeding records in tetrad

3.2 Habitat survey results

The habitats were mapped, following UKHab methodology (see methods section and references), as shown in Figure 2 in the appendices. Descriptions of the major habitats are given in section 3.2.2 below, and detailed target notes on habitats or species of interest included as appendices to this report.

3.2.1 Habitats recorded within survey area

- h2 Hedgerows
- g4 Improved pasture
- t2a Coastal saltmarsh
- r2b Other rivers and streams (ditch)

3.2.2 Habitat descriptions

h2 – Hedgerows (priority habitat)

Hedgerows (boundary line of shrubs over 20m long) are of intrinsic value, aesthetically, ecologically and functionally. They have value as stock proofing, but also for birds and small mammals as they provide food and shelter/ nesting opportunities. Hedgerows that aren't as intensively managed (not flailed annually) are of higher value as they offer more nesting potential for birds and generally produce more berries. Hedges can also form important flightlines (navigational tools) for bats, and can provide sheltered foraging areas for them. Hedgerows can also be of importance as 'wildlife corridors', linking larger areas of habitat such as woodlands.

Low, gappy hedgerows were present along the eastern and northern edge of the land parcel in which the turbine is proposed. The hedge is predominantly hawthorn, with some bramble and rose. There is evidence of previous hedge laying, and the eastern hedge is adjacent to the ditch for part of its length.

Low hedgerow and ditch along the eastern field boundary (between pasture and salt marsh).

There are no foreseen impacts on this habitat from the proposal. The turbine will be above the height of the hedgerow, and it will not require any additional management of the hedge to function.

g4 – Modified grassland (priority habitat)

This is grassland that is regularly and intensively managed – such as lowland grazing pasture, silage fields, or amenity grassland. Typically these grasslands are subject to frequent fertiliser and pesticide application and intense grazing pressure, and have been seeded - supporting a limited diversity of widespread agricultural or amenity species. Modified grasslands such as these are usually of very limited value to wildlife, though surrounding good habitat, including hedgerows, can increase their value.

On this site, contrary to above, the grassland is coastal and floodplain grazing pasture – and is priority habitat. This habitat can be of high importance to nesting and wintering birds species, and also of value to natterjack toads.

A very small area of this habitat (less than 4m²) will be lost for the construction of the base for the turbine, and some of the habitat could be temporarily impacted by vehicles accessing the construction location. The area chosen for the turbine is currently fenced off and used as a sheep holding area – so the ground is severely poached and compacted with little vegetation.

Looking east over the temporary sheep holding area to the low hedge and salt marsh beyond. Turbine proposed for this location.

Looking west over the temporary sheep holding area and surrounding pasture. Turbine proposed for this location.

t2a – Coastal saltmarsh (priority habitat)

Adjacent to the land parcel is grazed coastal salt marsh. The vegetation is tight grazed by sheep throughout the year. One area to the north has been fenced off (though still with stock access at one end) with some shallow scrapes dug for natterjack toads. It has

been little grazed and is tussocky (tall and dense soft rush), and many of the scrapes have vegetated over.

The construction of the turbine is highly unlikely to impact on the quality of this habitat.

One of the clearer (less vegetated) pools in the fenced natterjack area on the salt marsh. Vegetation little grazed and no longer especially suitable for natterjack toads.

r2b – Rivers and streams (ditch) non- priority habitat

There are two slow flowing shallow ditches near to the proposed turbine location. One forms the field boundary to the immediate north of the proposed turbine site (between that and the new sheep shelter), the other follows the edge of the salt marsh. The banks have more vegetation diversity and structure than the adjacent pasture and salt marsh, though are not notable. There are no aquatic plants present other than some duckweed (*Lemna* spp), and grasses and rush tussocks have established along the margins and base of the ditches. Small fish were noted in the ditch to the north of the proposed turbine location.

The construction of the turbine is unlikely to impact this habitat, and the volume of water taken for the sheep to drink is also unlikely to impact the ditch habitat and species – though a filter will be needed to ensure that no fish or aquatic invertebrates are transported into the drinking troughs.

The ditch alongside the two pastures (running east-west), with the proposed turbine to the left of shot, and sheep shelter to the right.

A summary table of the habitats described above and their importance in the context of British conservation and the legal framework is shown below (Table 3).

Table 3: Habitats of conservation concern

Habitat	Priority habitat listed under s41 of NERC Act 2006?*	Is habitat a notable consideration?
Hedgerows	Yes	Yes
Improved pasture (coastal & floodplain grazing marsh)	Yes	Yes
Coastal saltmarsh	Yes	Yes
Ditch	No	

***** *Previously UK Biodiversity Action Plan (BAP) habitat*

3.2.3 Ponds within 250m of the proposed development

Ground surveys, online aerial images and OS maps were used to identify any potential amphibian breeding ponds within 250m of the proposals. There are several scrapes in the fenced area to the north-east of the proposed turbine. Many of these had dried out over the summer, and were partially vegetated over. Some held water at the time of the survey, but no amphibian life was seen.

As there are no records of great crested newts within 2km and the pools are in the upper salt marsh (and subject to tidal incursions on spring tides), they are considered unsuitable for great crested newts (so no Habitat Suitability Index was calculated) – but they were instead assessed for suitability for natterjack and common toads.

There were no other ponds found within 250m of the proposed turbine.

3.3 Protected and notable species survey results

3.3.1 Birds

Nesting birds are likely within the low hedgerows around the field margins, and also within the small brick structure in the fenced natterjack area. Swallows could use the new sheep shelter once completed.

The pastures are very tightly grazed throughout the year, and unlikely to be suitable for any breeding waders. A 2021 Breeding bird survey of the marsh area (carried out by South Lakes Ecology for Natural England) found only probable breeding by oystercatcher and shelduck in the local area.

Wintering birds use the marsh and pasture in varying numbers. The tetrad (2km square) had peak wintering/ migratory counts of over 300 dunlin, 95 redshank, 12 curlew, 64 oystercatcher, 96 shelduck and 1000 pink footed geese. The exact locations used by these birds is not described, but the geese and curlew in particular would use the upper salt marsh and pasture.

The turbine is unlikely to impact on the quality of the habitat for these waders and wildfowl while feeding and loafing. The low height of the turbine, proximity to another structure (sheep shelter) and compact nature of the turbine head (in comparison with larger electricity generating turbines) make bird strike of these larger birds relatively unlikely. Smaller species such as swallows and passerines which could nest in the vicinity are more likely to be at risk, and this should be a consideration in the placement of the turbine (relative to the hedges and sheep shelter).

Some disturbance to wintering/ migratory and/or breeding birds is likely during construction of the turbine – which will require some mitigation.

3.3.2 Reptiles

The habitat is unsuitable for common lizard, adder and slow worm as the pasture is flat and tight grazed. Adjacent salt marsh is unsuitable as it is inter-tidal. There are no nearby records of these species (closest record is of common lizard on Arnaby Moss 1km away).

There are no likely impacts on reptiles from these proposals.

3.3.3 Amphibians

There are no waterbodies suitable for breeding amphibians in the immediate vicinity of the proposed turbine. There are numerous pools in the fenced 'natterjack area' 40m to the north-east. There is no indication these have been used recently by natterjacks (most recent record 2010, subsequent natterjack survey data from 2013 found common toad and common frog only). Habitat immediately around the pools is not especially suitable for natterjack toads as the vegetation is tall and tussocky, and the pools are becoming congested with vegetation. This area is suitably distant from the turbine that it would not be directly affected by the development. The ditch network alongside the pools and the pastures could be used by dispersing amphibians.

The surrounding pasture and salt marsh is broadly suitable for foraging natterjack toads – though the intensity of grazing on the pasture means that the ground is quite compacted and less suited for a burrowing species like the natterjack. The chosen location of the turbine is in an area currently used for holding sheep (temporarily until the shelter is complete)– which has little ground vegetation. Vehicle access to the turbine site will be over grazing pasture from the access road to the west.

There is no suitable hibernation habitat nearby, as the upper salt marsh is likely to be subject to tidal incursion during winter storms.

It is not considered that the operation or construction of the turbine will have any impacts on amphibian species, or amphibian breeding habitat (including that of natterjack toads).

3.3.4 Bats

There are no suitable features on site for roosting bats. The nearby small brick structure could be used – though it is unlikely to provide a regular roost site. Bats are likely to forage over the grassland in suitable conditions, but the site is unlikely to be of key importance due to its size and lack of features of interest, and exposure to prevailing winds.

The issue of impact strike from the turbine is a potential concern, and this should be reflected in the careful placement of the turbine away from key foraging and dispersal features (such as the hedgerow).

3.3.5 Terrestrial mammals

No signs of terrestrial mammals were seen. The site is open, with no habitat features to provide shelter. It is possible that the site and ditch network could be used by otter whilst foraging/ dispersing – though there is no suitable habitat for holts for breeding or resting.

No impacts are likely on any terrestrial mammal species.

3.3.6 Other species

Small fish were seen in the ditch network, along with some aquatic invertebrates. A filter should be provided and maintained over the inlet flow for the pump, to ensure no impacts on small fish, amphibians and invertebrates from the operation of the turbine.

3.3.7 Protected and notable species summary

Within 50m of the proposed development :

No signs or sightings of protected or notable species were seen during the survey within 50m of the site footprint.

The potential for protected and notable species identified during the survey within 50m of the site was:-

- potential for amphibians in the ditch network (as well as small fish and invertebrates): moderate.
- Potential for nesting birds in hedgerow: high
- Potential for notable winter bird roosts and feeding: high
- Potential for ground nesting birds: low
- Potential for foraging bats: low
- Potential for transitory otter: low/ moderate

Within the broader survey area (further to those features listed above):

- potential for breeding amphibians in fenced area to NE: moderate (low for natterjack toad)

3.4 Invasive species survey results

No invasive species were seen or recorded during the survey, or any records provided by the data search.

4. SURVEY CONCLUSIONS

The features of ecological interest or concern which could affect, or be affected by the proposed works are:-

- **Wintering and roosting aggregations of waders and wildfowl (disturbance).**

  The proposed location for the turbine is alongside Arnaby and Millom marshes - which host some large numbers of waders and wildfowl through the migratory and wintering period, including species listed on the citation for protected sites (see below). Timing constraints on the construction of the turbine are recommended to ensure minimal impacts on these birds.

  Once operational, it is considered unlikely that the turbine would cause any ongoing disturbance to these birds due to its low height and proximity to another building. The low height and clear visibility of the turbine head (with 4 broad blades) make it unlikely that larger birds such as waders and wildfowl would be subject to a significant risk of bird strike.

- **Nesting passerines and swallows, and foraging bats (impact strike).**

  Swallows are likely to nest in the sheep shelter and in the nearby small building, and passerines (such as lesser whitethroat and sedge warbler) nest in the low hedge. As such these birds would potentially be at risk of impact strike from the small turbine – as would any bats foraging along the ditch and hedges. The risk is likely to be slight – as the turbine is so visible in daylight (and the broader blades are more likely to be detected by foraging bats than the faster moving thin blades of larger turbines).

  Some mitigation to minimise this risk is recommended – such as installing the turbine at a distance from the hedge and ditch.

- **Statutory sites (SSSI, SAC and SPA)**

  As discussed above, the area is host to roosts and feeding areas for waders and wildfowl listed as qualifying features of Duddon Estuary SSSI and Morecambe Bay and Duddon Estuary SPA. Impacts beyond disturbance during construction are considered unlikely – but the LPA will need to consult Natural England about the potential this project has to impact on the designated sites, and there may be a requirement to produce a HRA (Habitat Regulations Assessment) with regard to potential impacts on internationally important sites (Morecambe Bay SAC and Morecambe Bay & Duddon Estuary SPA).

- **Aquatic life (fish, amphibians and invertebrates)**

  Small fish and aquatic invertebrates are present in the ditch network, and amphibians could potentially use them whilst dispersing to/ from breeding sites – putting them at risk of being taken into the pipework for the pump. Although these are not legally protected species, they are still of importance in the local ecology and measures should be taken to ensure they are not impacted by the proposals. A fine filter over the inlet pipe should be in place (and maintained) to ensure that they cannot be taken up into the intake pipe.

- **Coastal & floodplain grazing marsh priority habitat**

  The proposed turbine will be constructed on priority habitat grassland, and the access route for vehicles to construct the turbine will also be over this habitat.

5. RECOMMENDATIONS

5.1 Recommendations for further survey

No further surveys are required for the proposal to erect a small turbine for a water pump in fields at Waterblean Farm.

5.2 Recommended avoidance and mitigation measures for ecological impacts not requiring further survey

Wintering and migratory bird assemblage

- Construction work for the base and turbine should take place outside of the key wintering and migration period (September to March inclusive) to avoid any disturbance impacts on waders and wildfowl.

Impact strike (small birds and bats)

- Install the turbine unit as far as practicable from the line of the hedgerow and ditch network, without compromising the viability of the pumping system. This should reduce the risk of impact strike on small birds and bats using the hedge and ditch for feeding and shelter.

Protected sites

- Natural England will need to be consulted by Cumberland Council about potential impacts of this project on the adjacent SSSI, SAC and SPA. There may be a requirement for the council to produce a Habitat Regulations Assessment to assess potential impacts in internationally important sites (SAC and SPA).

Aquatic life

- Install (and maintain) a fine filter to prevent uptake of small animals and invertebrates into the pump mechanism.

Priority habitat

- Minimise the number of vehicle movements across the pasture (particularly when severely waterlogged), as this is priority habitat.
- Minimise the footprint of the development. Ensure that any contractors employed are aware of the wildlife value of the site

General

- Ensure that no dangers are left for wildlife overnight/weekends during the works (such as holes that could trap and potentially kill amphibians and mammals).

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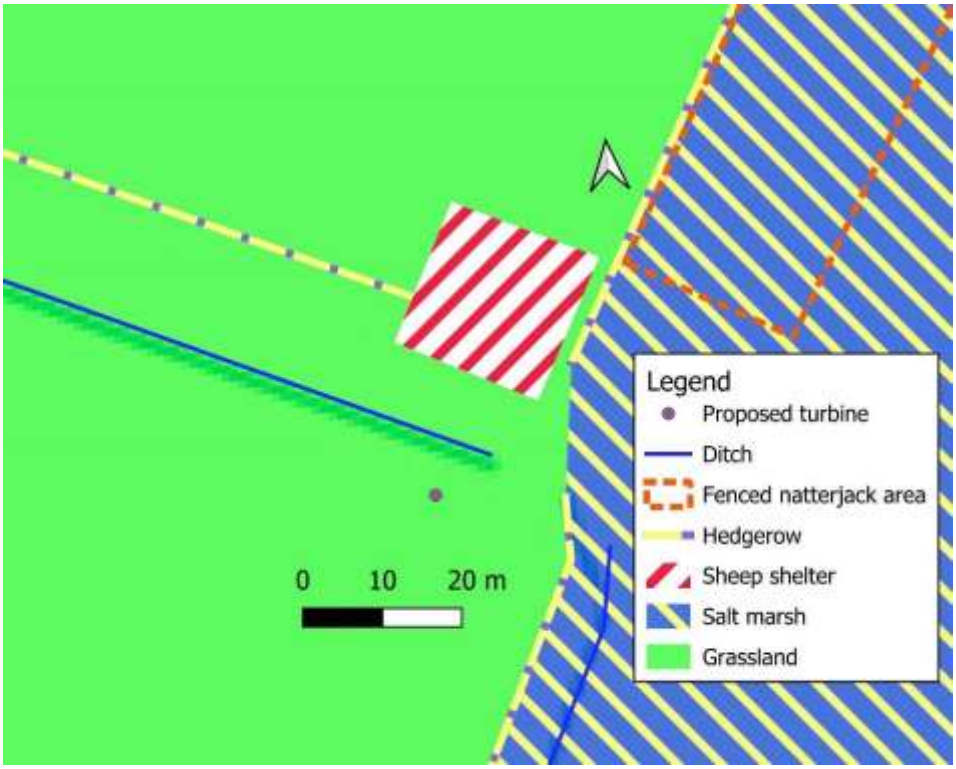
APPENDICES

Figure 3: Habitat map



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Description of Wildlife Law and Legislation referred to in this document

National Planning Policy Framework & Biodiversity Net Gain
Current guidance recommends that planners ensure that all new developments:

- minimise impacts on biodiversity and protected sites
- safeguard wildlife-rich habitat and wider ecological networks
- promote conservation/ restoration and enhancement of priority habitats and ecological networks
- promote protection/ recovery of priority species

Biodiversity net gain is a way of creating and improving biodiversity by requiring development to have a positive impact ('net gain') on biodiversity.

In England, biodiversity net gain is required under a statutory framework introduced by Schedule 7A of the Town and Country Planning Act 1990 (inserted by the Environment Act 2021). This statutory framework is referred to as 'biodiversity net gain' in Planning Practice Guidance to distinguish it from other or more general biodiversity gains.

Under the statutory framework for biodiversity net gain, subject to some exceptions, every grant of planning permission is deemed to have been granted subject to the condition that the biodiversity gain objective is met ("the biodiversity gain condition"). This objective is for development to deliver at least a 10% increase in biodiversity value relative to the pre-development biodiversity value of the onsite habitat. This increase can be achieved through onsite biodiversity gains, registered offsite biodiversity gains or statutory biodiversity credits.

The biodiversity gain condition is a pre-commencement condition: once planning permission has been granted, a Biodiversity Gain Plan must be submitted and approved by the planning authority before commencement of the development.

Nesting birds
Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), wild birds are protected from being killed, injured or captured. Under this legislation their nests and eggs are also protected from being damaged, destroyed or taken (this includes nests in the process of being built as well as those with eggs and/or chicks in).

Birds which are listed in Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) are protected by special penalties at all times. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Bats have declined in numbers dramatically across the UK and Western Europe in recent decades. Key factors linked to their decline are loss of roosting places due to building works and woodland destruction. Other factors implicated in their decline are changes in the countryside resulting in habitat loss and greater fragmentation of foraging habitats, and severing of commuting flightlines due to transport developments and hedgerow destruction.

As a consequence of these significant declines, bats and their roosts are protected under British and European law.

All bats are listed under Annexe IV of the EU Habitats Directive, and some under Annexe II. This law is transposed into English law into the Conservation of Habitats and Species Regulations (2010). Bats are also protected in the UK under the Wildlife and Countryside Act 1981 (as amended).

As a result of the above legislation it is an offence to;

- Deliberately capture, injure or kill a bat,
- Disturb a bat such that their survival, reproductive capacity, or the well being of the local population is affected
- Intentionally or recklessly disturb a roosting bat, or block access to its roost.

Barn owl
Under Section 1 of the Wildlife and Countryside Act 1981 (as amended), all wild birds are protected from being killed, injured or captured. Under this legislation their nests and eggs are also protected from being damaged, destroyed or taken (this includes nests in the process of being built as well as those with eggs and/or chicks in).

Barn owl receive additional protection under schedule 1 of the above legislation, where they, their nests, eggs and chicks are protected against harm and also against disturbance whilst at the nest site.

Amphibians
The four widespread species of amphibian (common frog, common toad, smooth newt and palmate newt) receive partial protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) in respect of Section 9(5). It is an offence to sell or possess (dead or alive) these species. Further enforcement has been provided by The Countryside and Rights of Way Act 2000.

Great crested newts and natterjack toads are a European Protected Species, and their breeding sites or resting places are protected under Regulation 41 of the Conservation of Habitats and Species Regulations 2010 and Section 9 of the Wildlife and Countryside Act 1981.

It is an offence for anyone intentionally to kill, injure or disturb a great crested newt or natterjack toad, to possess one (whether live or dead), or sell or offer for sale without a licence. It is also an offence to damage, destroy or obstruct access to any place used by great crested newt for shelter.

Otter
Otter, their breeding sites and resting places are protected under Schedule 5 of the WIldlie and Countryside Act 1981 (as amended). They are also a European Protected Species - under the EC Habitats Directive, (transposed into domestic law through the Conservation (Natural Habitats &c) Regulations 1994 (as amended).

It is an offence to disturb, harm or kill an otter, or damage their breeding or resting places.

Biodiversity Action Plans – Species and Habitats
The UK Biodiversity Action Plan (UK BAP) was published 1994, in response to the Convention on Biological Diversity (CBD), which the UK signed up to in 1992 in Rio de Janeiro. National and Local action plans were developed for the most threatened species and habitats.

The plans, and species and habitats to which they related are reviewed and updated regularly. The current lists can be found on the JNCC website. These have now been succeeded by NERC Act 2006 (see below) but are still commonly used for guidance.

Natural Environment and Rural Communities (NERC) Act 2006

Section 41 of the NERC Act 2006 requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act. This purpose of this list is to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under section 40 of the Natural Environment and Rural Communities Act 2006, to have regard to the conservation of biodiversity in England, when carrying out their normal functions.

56 habitats of principal importance are included on the S41 list. These are all the habitats in England that were identified as requiring action in the UK Biodiversity Action Plan (UK BAP) and continue to be regarded as conservation priorities in the subsequent UK Post-2010 Biodiversity Framework. There are 943 species of principal importance included on the S41 list. As above, these are the species found in England which were identified as requiring action under the UK BAP and which continue to be regarded as conservation priorities under the UK Post-2010 Biodiversity Framework.