



Land at Clywedog Rd North (Site 2) Wrexham Industrial Estate

Outline Habitat Management Plan

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1 Introduction

1.1 Background

Kingdom Ecology have produced an Outline Habitat Management Plan to support the proposed development of 'Site 2' which is an approximate 0.8ha area of land located adjacent to Unit 50, Clywedog Road North, Wrexham Industrial Estate, LL13 9XN (National Grid Reference- SJ 374 496). Figure 1 in the Appendix shows the Site location.

This document identifies areas of land that will be subject to long term management to promote their biodiversity value and provides outline prescriptions for management of this habitat.

This management plan includes proposals associated with this specific site and also shows how these will tie-in with a wider strategy of long-term habitat management proposals to be located throughout the south western quarter of the industrial estate within other areas of FI-REM owned land.

The outline recommendations within this document should be used to inform the preparation of detailed management prescriptions and method Statements to support any future development of the site.

1.2 Habitat and Wildlife Summary

1.2.1 Habitats

An initial desk study and an Extended Phase 1 Habitat Survey of the Site was carried out on the 19th September 2017. Further surveys comprising of botanical, butterfly and reptile surveys were completed in Spring/Summer 2018.

To summarise, the Site was found to principally comprise of regularly mown, semi-improved grassland habitat located adjacent to a large industrial unit. There are scattered, young ornamental trees and scrub within the grassland.

A band of young scrubby, broadleaved woodland runs along the northern boundary of the site. There is a patch of dense thorn scrub extending from the woodland into the site.

The short-sward grassland is relatively diverse and flower-rich. Regular mowing of the site has controlled the development of scrub and allowed the maintenance of the grassland habitats. The site has suffered some limited nutrient input through the regular mowing regime as the mown arisings are left on site as a thin layer of thatch.

There is a 5m wide band of infrequently mown, unimproved grassland located at the northern end of the site, adjacent to the area of thorn scrub.

The grassland habitats present are considered to be of locally important biodiversity value comprising of species-rich, unimproved and semi-improved, neutral grassland.

The scrub habitats present are of low botanical interest and are commonly occurring throughout the UK within similar neglected agricultural and industrial sites.

The young woodland habitats running along the northern boundary of the site are of low botanical interest and are commonly occurring throughout the UK. Mixed broadleaved woodland is listed under Section 7 of the Environment (Wales) Act 2016 as a habitat of 'principal importance' in Wales.

Further surrounding landuses largely comprise of industrial units with associated areas of hardstanding and patches of amenity grassland.

1.2.2 Key Species

The Wrexham Industrial Estate is acknowledged as maintaining important populations of the dingy and grizzled skipper butterfly. Both of these butterflies are 'Species of Principal Importance' as listed under Section 7 of the Environment (Wales) Act 2016.

A review of existing data and site surveys did not record the presence of either of these butterflies at the proposed development site. In addition, the habitat assessments of these sites did not indicate that they were potentially viable for the presence of these species.

Although neither species was recorded within the study site, the adoption of habitat creation and management within and outside of the site has the potential to provide additional resources and contribute to the maintenance and enhancement of the butterfly and other invertebrate populations within the Wrexham Industrial Estate.

Other wildlife that could use the site include small mammals, common bat species plus farmland and woodland bird assemblages.

2 Outline Habitat Management Plan

2.1 Overview

2.1.1 Development Proposals

Development proposals are to construct an industrial unit at the site with associated areas of hardstanding. This will result in the loss of approximately 0.9ha of scrub plus semi-improved and unimproved grassland habitats. The proposed development would include the retention of a 0.37ha area of grassland which would be managed principally for its conservation benefit.

A further off-site area of habitat located at Site 6 would also be managed for its conservation benefit. Site 6 measures approximately 1.2ha in area and is located approximately 100m to the northwest of the Site on the opposite side of Clywedog Road North.

Habitats at Site 6 include areas of semi-improved grassland, broadleaved woodland and dense scrub.

The locations of the two sites are shown on Figure 1 in the Appendix.

2.1.2 Mitigation Plan Aims

The habitat management plan for Site 2 and Site 6 has been designed around the following key principles and aims:-

- Where possible, retain blocks of interlinked habitat as opposed to isolated pockets of habitat;
- Maximise the biodiversity value of retained habitats at the site;
- Promote botanical interest within grassland habitats;
- Where possible include suitable habitat for notable invertebrate species;
- Ensure the long-term viability of the proposed ecology sites by appropriate, long-term management and long-term protection of the sites;
- Allow for a flexible and iterative process with regards to the management of the habitats through an annual review of the habitats present and the management plan to allow biodiversity opportunities to be explored and promoted.

2.1.3 Management Plan Delivery

FI-REM will make provision to allow the appointment of an appropriate managing organisation who will be responsible for the maintenance and management of the FI-REM owned habitat compensation areas across the Wrexham Industrial Estate. The detail of this will be arranged at an appropriate stage in the future.

Detail on areas of habitat creation, management prescriptions and timetabling would be provided within detailed Habitat Management Method Statements to be produced at a later stage.

Funding for the ongoing management of the site would be secured ideally through a unilateral undertaking. This amount paid would need to include for the following:-

- Initial habitat preparation and creation
- Ongoing management and maintenance over a 20 year period
- Wardening and monitoring of the site
- Production of an annual report for the site
- A contingency fund to allow for any modifications to the habitat management plan or ad-hoc remediation works

2.2 Proposals

2.2.1 Overview

There are two proposed mitigation areas one is located immediately adjacent to the proposed development site and the other is located approximately 100m to the northwest of Site 2 at Site 6. Both areas support habitats of value which would benefit from long term management.

Habitats management proposals for the two areas will aim to maintain areas of species-rich grassland including flower-rich neutral grassland and south facing calcareous grassland on proposed butterfly banks and mounds. There are further proposals to manage woodland and scrub habitats to optimise their conservation value.

There are further recommendations to provide a bat and bird box scheme within woodland habitats.

Proposed habitat management prescriptions are shown on Figures 2 and 3 in the Appendix.

2.2.2 Proposed Mitigation Area at Site 2

The proposed mitigation area adjacent to Site 2 comprises of an existing 0.37ha patch of land located at the north corner of the site.

The area principally comprises of regularly mown, semi-improved grassland. The grass is cut several times a year and the arisings are left in situ. The grass sward is therefore generally short throughout the year. The grassland supports a diverse range of mesotrophic grasses with sedges and herbs throughout.

Grasses present comprise of frequent red fescue, crested dog's-tail, rough meadow-grass and common bent, with occasional Yorkshire fog, perennial rye-grass and sweet vernal grass. Sedges present include occasional hairy sedge, common sedge and false-fox sedge.

Creeping cinquefoil, ox-eye daisy and creeping buttercup were found to be frequent throughout the sward with occasional red clover, white clover, selfheal, ribwort plantain, meadow vetchling, common knapweed, black meddick and dandelion.

There is a patch of dense thorn scrub located at the northern edge of the site. The scrub comprises principally of hawthorn with willow, oak and blackthorn.

Between the scrub and the mown grassland is a 5m wide strip of unimproved grassland. The grassland in this area is infrequently mown and consequently supports a taller, more flower-rich sward.

Grasses present include frequent crested dog's tail with occasional tufted hair-grass, timothy and red fescue. Herbs present include frequent creeping cinquefoil and common knapweed with occasional selfheal, bird's-foot trefoil, hoary ragwort, broadleaved willowherb and ox-eye daisy. Common spotted orchid, dyer's greenweed, yellow wort, common centaury and pepper saxifrage were also recorded within this grassland strip.

2.2.3 Proposed Mitigation Area at Site 6

Site 6 measures approximately 1.2ha in area and is located approximately 100m to the northwest of Site 2 on the opposite side of Clywedog Road North. Erlas Lane runs along the northern boundary of the site.

This site supports unmanaged, semi-improved grassland habitats plus areas of broadleaved woodland and areas of dense scrub.

The woodland habitats support some mature oak trees which would have historically represented standard trees along agricultural hedges. The surrounding woodland is partly of plantation origin and includes sycamore, Scots pine, ash, hawthorn, holly, elm, silver birch and rowan.

The woodland has an understorey of ivy with occasional lords and ladies, male fern and bramble.

A band of scrubby woodland continues along Erlas Lane. This woodland comprises of ash, sycamore and alder with hazel, elm, elder, hawthorn and blackthorn scrub. Dense blackthorn scrub extends from this band of woodland into the grassland habitats.

Grassland habitats comprise of frequent cock's-foot, tufted hair-grass, common bent, meadow-foxtail, false oat-grass, common couch, Yorkshire fog and red fescue with forbs comprising of occasional ox-eye daisy, broad-leaved dock, common knapweed, cow parsley, hedge parsley, hoary ragwort, yarrow, cowslip and creeping cinquefoil.

Common knapweed, ox-eye daisy and creeping cinquefoil are species that occur in less intensively managed grassland with soils that are not overly nutrient rich.

The presence of these species indicates that the botanical value of the grassland can be improved by sensitive management practices that will aim to further reduce soil nutrient levels, to help to control the vigour of coarse grasses and to promote a greater density of herbs within the grassland sward.

2.2.4 Initial Habitat Preparation/ Habitat Creation

Proposals within the two mitigation area will include:-

- Creation of south facing butterfly banks/mounds
- Management of existing areas of grasslands
- Management of areas of scrub and woodland habitat

It is recommended that an Ecological Clerk of Works (EcOW) is appointed to produce detailed Method Statements for the initial habitat creation works and to oversee and advise on sensitive stages of the initial ground works.

It is advised that the mitigation areas are prepared in advance of the wider site clearance as this will allow opportunities to identify and translocate flower-rich grassland turves into the mitigation areas from the proposed development area. The strip of unimproved grassland located at the northern end of Site 2 supports such high value, flower-rich turves.

It is recommended that south facing butterfly banks and butterfly mounds are constructed within each of the mitigation areas.

The banks and mounds should be constructed from a medium-coarse aggregate material with a limestone or other high pH material preferable as it facilitates the development and maintenance of an open, species-rich sward.

The banks should be sown with an appropriate wildflower mix (e.g. Emorsgate Seeds EM6F) and supplemented with a translocation of flower-rich turves.

Timing of grassland translocation is of critical importance. Ideally, grassland turves should be moved in the autumn when soils are warm and moist and immediately prior to rainfall. This timing will also allow opportunity for some root growth prior to winter and will limit the risk of roots under developing prior to the dry summer weather.

Turves should be cut to a depth of approximately 40cm and transported immediately to the donor site. Turves must be planted immediately after harvesting and cannot be stored. If no rainfall is forthcoming then turves will require supplementary watering.

These works should be overseen by the EcOW who will ensure that turves are correctly cut, transported and planted.

Patches of bare ground should be retained on the butterfly banks.

2.2.5 Habitat Management

Habitat management at the site should seek to encourage a diverse range of habitats.

This will be achieved within grassland habitats through the maintenance of low nutrient soils, through the control of scrub encroachment and by careful timing of cuts to allow grasses and herbs to flower and set seed.

No fertiliser should be applied to the mitigation grasslands.

The grassland habitats at the site should be mown just twice a year, with the first cut carried out in early April and the second cut in September/October.

Following mowing, all arisings must be removed from the site.

It may not be necessary to frequently cut the vegetation from the butterfly banks. The banks should be monitored by an appropriate ecologist in the summer and they will determine whether parts of the bank will require strimming during the autumn.

The biodiversity value of the woodland and scrub habitats at Site 6 should be enhanced.

To increase the value of this woodland it is recommended that it is thinned out and that any higher value trees are encouraged to come through. This can be achieved through 'haloing' (haloing involves the felling and pruning back of surrounding low-value trees and scrub so that they do not shade out and stunt the development of the more valuable adjoining trees). The thinning out of the woodland should allow more light through to the field layer potentially enhancing conditions for woodland ground flora.

Thinning of the woodland should be completed once every 10 years.

Some log piles and areas of dead wood should be retained within the woodland to provide additional habitat for invertebrates.

Dense blackthorn and hawthorn scrub at Site 6 should be cut back on a 10-year rotation. With half the scrub cleared in years 1 and 10 the other half in years 5 and 15. Hawthorn and blackthorn scrub can be rich in insects and birds in the early and middle stages of growth. This cycle of cutting will retain early stage scrub habitats.

Annual monitoring of the sites will be undertaken to assess the success of the management regimes. The ecologist will also determine whether parts of the site will require patches of earth scraped back to provide areas of bare ground and to encourage early successional grassland

Management of habitats should be carried out for at least 20 years, following the completion of construction.

2.2.6 Bat and Bird Boxes

A bat and bird box scheme should be implemented within woodland habitats at Target Note 6.

It is recommended that the following models and numbers of bat and bird boxes are installed on mature trees at the site:-

- 8 x Schwegler 1B Bird boxes with 32mm entrances
- 4 x Schwegler 1B Bird boxes with 26mm entrances
- 8 x Schwegler 1FS Bat boxes
- 4 Schwegler 2FN Bat boxes
- 2 x Schwegler 2FN Bat boxes

Bat boxes should be positioned to face in a more-or-less southerly direction; should be located at a minimum height of 4m and should be located so that flight lines to the bat box are not obstructed by vegetation.

Bird boxes should be located at a minimum height of 3m and should be positioned in a sheltered location.

2.2.7 Wardening, Monitoring and Reporting

Land at Wrexham Industrial Estate can suffer some anti-social behaviour including fly tipping, unauthorised use of off-road vehicles and use of land by unauthorised gypsy and traveller encampments.

The Ecology area at Site 2 is set back from the road and behind the proposed industrial unit. Consequently, vehicular access is restricted and the risk of the described undesirable activities are considered to be low.

Nevertheless, some infrequent wardening of the site should be carried out at least once every three months.

The Ecology Area at Site 6 is in a more vulnerable location. Fencing around the site should be maintained and monthly wardening should be carried out.

Where identified during wardening visits, remediation works should be promptly carried out at each site. This could include repair of fencing, clearance of fly-tipped debris, litter picking etc.

Monitoring of the site should be carried out annually during the summer to assess the success of the habitat management plan, to allow for any refinement of management practices and to check on the integrity of bat and bird boxes. The monitoring works should be completed by an appropriately qualified ecologist.

Monitoring should comprise of an assessment of the botanical value of the site and also an assessment of the suitability of habitats for dingy and grizzled skipper butterflies.

The ecologist will determine whether any additional works to the standard mowing regime are required in the following Autumn including any strimming of the butterfly bank and whether any patches of earth should be scraped back to provide areas of bare ground habitat.

An annual monitoring report with management recommendations (where relevant) would be produced and submitted to the council.

2.2.8 Wider Habitat Management Strategy

A wider habitat management strategy has been produced for other areas of FI-REM land located around the southwest corner of the industrial estate.

This wider plan aims to provide inter-connected blocks of semi-natural habitat that are managed to maximise their biodiversity value.

Where possible, areas of land have been allocated where they adjoin other patches of semi-natural habitat both outside and inside of FI-REM's ownership, to provide large continuous blocks of valuable wildlife habitat.

This wider management strategy will include areas of managed woodland and managed grassland habitats. Bat and bird boxes will also be installed within the managed woodland habitats,

The habitat compensation areas associated with Sites 2 and 6 are located on the western edge of the Industrial Estate and so are in relative proximity to areas of open countryside.

Figure 4 in the Appendix shows the proposed layout of the wider habitat compensation strategy along with proposed habitat types to be managed.

3 Appendix







