

## **WILDLIFE HABITAT CONSERVATION AND MANAGEMENT PLAN**

### **Cooperating Agency Information**

Name:

Contact:

### **Subject / Land Information**

Authority: Wrexham County Borough Council

Site Area: Clyweddog Road South, Wrexham Industrial Estate, Wrexham

## **EXISTING PHYSICAL FEATURES, USES, AND WILDLIFE HABITATS**

### **Overview**

The application site is located off Clyweddog Road South, to the south west region of Wrexham Industrial Estate, Wrexham. Clyweddog Road South borders the site to the east and industrial developments lie to both the north and the south. Agricultural land consisting of improved pasture and arable fields adjoin the site to the west.

The site comprises unmanaged neutral grassland with tall ruderal and scrub vegetation. Young trees including grey willow *Salix cinerea* and oak *Quercus robur* are scattered across the grassland area. A ditch enters the application site at the north-west corner and extends part way across the application site before entering a culvert. The banks of the ditch are heavily vegetated with trees and dense scrub vegetation, notably hawthorn *Crataegus monogyna*, bramble *Rubus fruticosus*, grey willow and blackthorn *Prunus spinosa*. The site boundaries are marked in most cases by post and wire or pallisade fence lines. The western boundary separating the application site and the adjacent agricultural land is marked by a strip of trees and scrub vegetation.

Due to its location within Wrexham Industrial Estate, it is considered that the current vegetation structure had likely formed on previously developed land that had been cleared within the last 20 years.

### **Species Rich Neutral Grassland**

The site appraisal produced by Marches Ecology describes the site as comprising of neutral grassland with tall-herb vegetation and states that '*broadly, much of the grassland resource is similar in structure and composition, being species rich and with an approximate average sward height of between 0.5m and 0.75m. It is unmanaged and could be described as rank; despite this the grassland is species rich.*' (Marches Ecology 2010). This habitat covers the majority of the 2.4ha site as it currently stands.

### **Streams, other natural waterways and riparian areas**

The on-site section of the ditch runs for approximately 100m along the western site boundary before entering a culvert. A section of the channel within the application site is concrete lined up to a height of approximately 1.5m. The ditch in its current condition is heavily shaded by bank side trees and scrub vegetation and the channel dominated by duckweed *Lemna minor*.

### **Ponds and other water bodies**

There are no ponds or other water bodies within the application site.

## **SPECIES AND HABITATS OF SIGNIFICANCE**

### **Habitats of Principle Importance**

The key habitat within the project site is neutral species rich grassland.

### **Sensitive, Threatened, or Endangered Plant Species**

#### **Common Name / Scientific Name**

The 2009 site survey identified seven plant species thought to be locally scarce:

- cherry plum *Prunus cerasifera*;
- adder's tongue *Ophioglossum vulgatum*
- prickly lettuce *Lactuca serriola*;
- grass vetchling *Lathyrus nissolia*;
- bristly ox-tongue *Picris echioides*;
- pepper saxifrage *Silaum silaus*; and,
- hoary ragwort *Senecio erucifolius*.

### **Sensitive, Threatened, or Endangered Wildlife**

#### **Common Name / Scientific Name**

The following species are known to occur within Wrexham Industrial Estate and have the potential to occur within the project area:

- great crested newt *Triturus cristatus*;
- badger *Meles meles*;
- bats *Chiroptera*.

Detailed surveys were undertaken in 2009 for the following species but no evidence indicating presence was found:

- otter *Lutra lutra*;
- water vole *Arvicola amphibius*;
- reptiles.

## **CONSERVATION AND MANAGEMENT PRACTICES**

The above identifies the key habitats and species on-site by review of the most up to date results from survey work undertaken in 2009 and 2010. An area of the project site will be set-aside and managed for the purpose of nature conservation in mitigation/compensation for impacts of the proposed project. Management practices have been proposed that will enhance and safeguard key habitats and benefit sensitive or threatened species that may occur on site. The design and long-term management of the land seeks to maintain and enhance the functionality of the site using the principles of landscape ecology, identifying and protecting potentially important wildlife corridors and enhancing these with the inclusion of new linear habitat features such as native species rich hedgerows.

Within the project site; the key habitat was identified as species rich grassland; the grassland would appear to have formed on previously developed land. Although extensive across much of the project site, the grassland is currently unmanaged and is becoming increasingly rank with an approximate average height of 0.5m and 0.75m across the whole stand. A survey in 2009 found that the grassland contained seven plant species considered to be locally scarce.

Management is required if this grassland is to retain its current value. Currently there is no requirement for management; however absence of management, grassland will over time naturally revert to less valuable scrub vegetation. This will result in the reduction of species diversity and the loss of sensitive and threatened plant species currently noted at this site.

*[The following practices list all vegetation management practices that will be conducted on the project site necessary to achieve Plan Objectives, including but not limited to cutting regime, pond developments, recreational activities, hedgerow planting and trimming and vegetation clearance / felling]*

The management plan covers a minimum period of 21 years. In order to preserve, restore, and diversify wildlife habitat on the project site, the following conservation and management practices will be implemented:

The nature conservation area extends to approximately 1ha.

## **Initial Works**

### Scrub Vegetation Clearance

Initial habitat management works will involve the removal of scrub vegetation from the area of land set-aside for nature conservation. The vegetation clearance is proposed for the months of September or October (although is subject to planning permission and licence agreements). This will avoid the breeding bird season and will allow late flowering plant species to set seed.

### Hedgerow Planting

Hedgerows will be planted along the site boundaries (northern, western and southern boundaries). Initial investigation indicates that the site lies on clay based soils; therefore, to minimise the risk of root damage resulting from frozen or water logged conditions the hedgerows are to be planted during the months of February and March (subject to planning approvals and licence agreements).

The hedgerow should be formed using a double staggered row to provide a dense and well-structured hedgerow of value to wildlife. Species to be planted are of local provenance and are recommended by Wrexham County Borough Council. It is recommended that between four and six whips are planted per metre of hedgerow.

The following species are recommended by Wrexham County Borough Council (WCBC) for use in hedgerow planting.

- Hawthorn *Crataegus monogyna*
  - Blackthorn *Prunus spinosa*
  - Hazel *Corylus avellana*
  - Dog rose *Rosa canina* spp
- } should form approximately  
} 80% of hedgerow planting

- Black current *Ribes nigrum*
- Gooseberry *Ribes uva-crispa*
- Bramble *Rubus fruticosus* spp
- Crab apple *Malus sylvestris*
- Wild cherry *Prunus padus*
- Field maple *Acer campestre*

### Aquatic Habitats

Two ponds will be created within the area of set-aside land. The first will be linked to a Sustainable Urban Drainage (SUDs) scheme while the second will be purposely designed as a wildlife feature. The ponds will be constructed to give a surface area of between 100m<sup>2</sup> and 300m<sup>2</sup> (e.g. SUDs pond 15m x 12m and wildlife pond 10m x 10m).

To reduce contaminants entering the SUDs pond, preventative filtering techniques will be incorporated, to include permeable surfaces and filter drains. The drainage system will provide an amphibian friendly drainage scheme. The SUDs pond will also be planted with vegetation such as reeds, which assist in treating pollutants.

The possibility of removing the concrete lining from within the ditch to create a more natural channel will be explored. If achievable this will benefit a wide variety of wildlife including amphibians.

### Other works

#### Amphibian Hibernacula

Two artificial hibernacula will provide wintering refuge for amphibian species. These will follow the standard design as detailed in Figure 1 below.

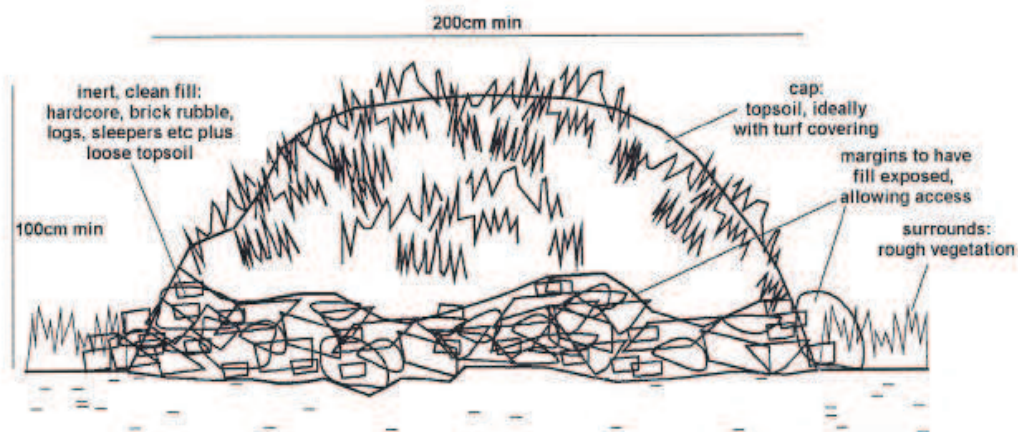


Figure 1 Suggested hibernaculum design as depicted in the Great Crested Newt Mitigation Guidelines (English Nature 2001).

### Bird and bat boxes

It is proposed that bird nest / bat roost boxes be installed within the area set-aside for nature conservation to encourage breeding birds and bats. These will be situated either in trees or where these features are lacking, attached to posts. It is proposed to include eight bird nest boxes and six bat roost boxes.

### **Long-term Annual Management**

#### Grassland Cutting Regime

A cutting regime will be implemented to develop species rich grassland with a varied structure across the area of set-aside land, thus maximising its value as an ecological resource.

The set-aside land will be divided into two distinct management areas, Area A and Area B (see Habitat Management Plan for indicative areas).

Area A will be subject to two cuts per year. Each cut will reduce the sward height to approximately 100mm. The first cut will be undertaken in February with a second cut undertaken in July. Every third year the period between cuts will be extended, with the second cut undertaken in August to support late flowering species.

Area B will be cut once per year in October to a height of 150mm. This will provide increased cover and will benefit a variety of fauna including amphibian species, invertebrates and small mammals.

The grassland management will take a flexible approach and the exact dates will be dependent upon weather conditions.

All cutting will take place using powered hand strimmers with cut material raked and removed from site. Cutting will work in a systematic method; Area A will be cut from east to west, working towards Area B, while Area B will be cut from the centre of the site outwards, this systematic cutting will allow fauna such as invertebrates, amphibians, birds and small mammals to vacate the area temporarily.

Two paths (mown strips within the grassland) will be maintained by regular cuts throughout the main growing season (anticipated to be one cut per month between the periods April to October inclusive). Paths will be created by a phased cut where necessary, gradually reducing the height of the vegetation to ground level to minimise any risk to wildlife. All cut vegetation will be raked and removed from site.

#### Hedgerow

In years one to three after planting, light trimming of hedgerows should encourage a dense growth. After this period it is recommended that the hedgerows should be maintained on a two or three year cycle, with cutting undertaken in late January or February.

#### Aquatic Habitats

The ponds will be monitored annually (July) following creation to assess colonisation by vegetation and any accumulation of sediment or debris. Annual routine management will include removal of debris and rubbish.

Any build up of sediment requiring removal may require a licence from the Welsh Assembly Government (WAG). WCBC and CCW should be contacted prior to any such works commencing. Sediment build up will vary with local conditions but removal may be anticipated once every 10 years on a SUDs pond (Highways Agency 2006).

Overly vigorous or invasive plant species may need to be cutback or removed from the ponds. Management of aquatic vegetation should be undertaken annually (little and often) with vegetation thinned rather than removed. Aquatic vegetation management should avoid the amphibian breeding season when amphibians are most active at ponds, the optimum time is likely to be September to November. Removed vegetation should be hand sorted to ensure no animals are caught up in the vegetation. A licence from the Welsh Assembly Government (WAG) may be required if protected species such as great crested newts are present, therefore WCBC and CCW should be contacted prior to any such works commencing.

### Scrub Vegetation

An area of scrub vegetation will be retained along the western site boundary. This will be monitored and managed on a two or three year cycle to prevent encroachment into the ditch and grassland habitats. Cutting of scrub vegetation will be undertaken simultaneously with hedgerow management with cutting undertaken in late January or February.

## **MANAGEMENT RESPONSIBILITIES & MONITORING**

### **Submittal of Yearly Status Reports**

The landowner or approved agent shall submit annual reports detailing progress and status of the conservation plan and implementation schedule. Reports will be submitted yearly in the month of December to WCBC and CWW. Reports will be accompanied by photographic documentation and shall detail all works undertaken during that current year. Photos will be taken facing the same direction from fixed, GPS referenced points. WCBC and CCW staff will be allowed access to the site to monitor habitat management at regular intervals to ensure compliance is met.

### **Recreational Activities**

Recreation within wildlife habitat such as wildlife viewing, photography, plant identification, and walking provide enjoyment of the surroundings with little impact on habitat integrity and are encouraged. Other uses such as evening activities may interfere and reduce wildlife utilisation of the area. Destruction of vegetation, soil disturbance, erosion and wildlife disturbance are potential problems associated with unmanaged types of recreation. Recreation that damages habitat or otherwise reduces habitat quality is not approved under this plan.

If the landowner/manager decides that some of the practices listed will not be conducted, or if the landowner/manager decides that other practices will be conducted on the property that are not listed here, the landowner must contact WCBC and the CCW representatives prior to taking actions. A plan amendment approved by both parties will be necessary to add or delete the changes to the wildlife habitat plan.

## REFERENCES

English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough

Highways Agency (2006) *Design Manual for Roads and Bridges Volume 4 Geotechnics and drainage, Section 2, Drainage Part 1 HA103/06 Vegetated Drainage Systems for Highway Runoff*. Highways Agency.