

Adwick Washland Habitat Creation Scheme

Ecological Surveys Report

October 2010

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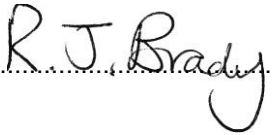
Revision History

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Contract

This report describes work commissioned by Pete Wall, on behalf of the RSPB. Richard Barnard of JBA Consulting carried out this work.

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Purpose

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Abbreviations

BMBC	Barnsley Metropolitan Borough Council
DVGHP	Dearne Valley Green Heart Partnership
ELP	Ecology, Land and People
LBAP	Local Biodiversity Action Plan
RSPB	Royal Society for the Protection of Birds
TPO	Tree Preservation Order
UK BAP	United Kingdom Biodiversity Action Plan

1. Introduction

1.1 Site Location and Description

The proposed Adwick Washlands site is an area of low-lying arable farmland adjacent to the River Dearne in South Yorkshire. A map showing the boundaries of the site is provided in Figure 1.

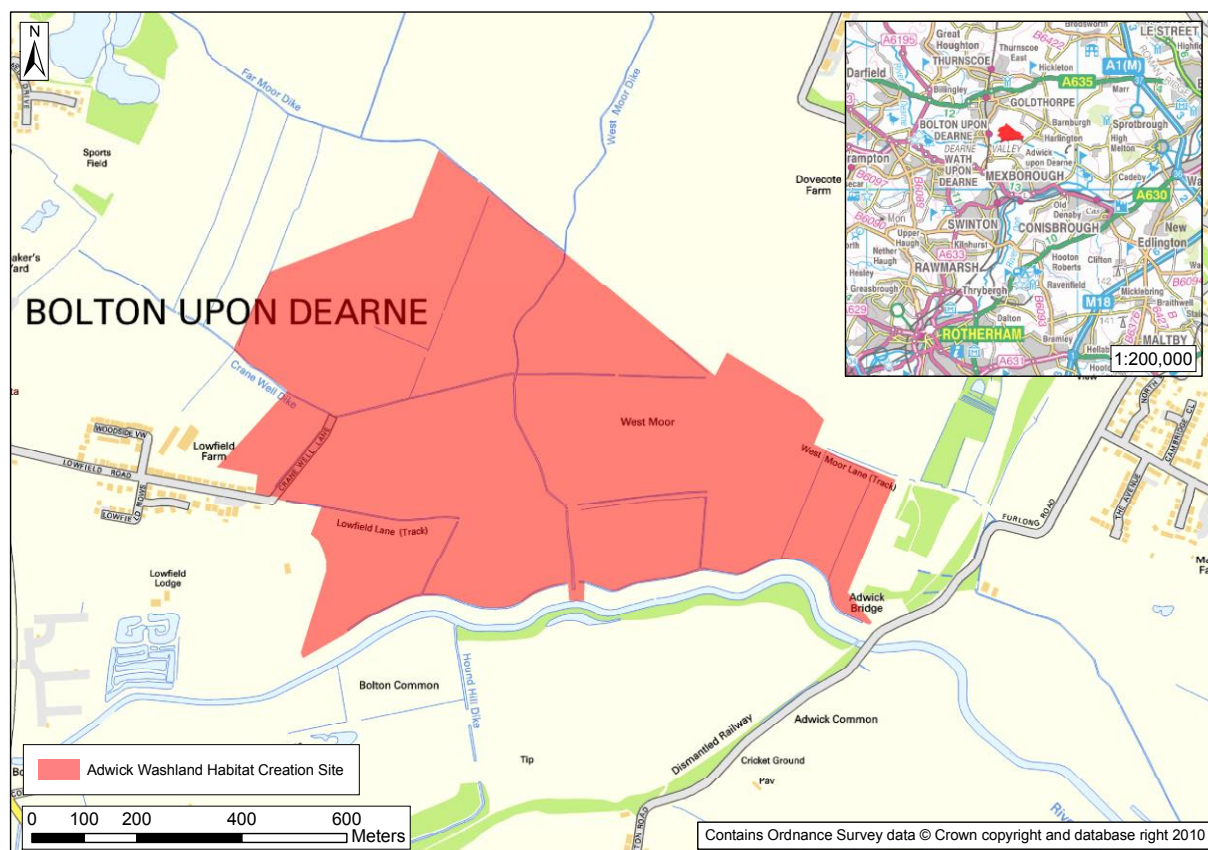


Figure 1: Location of Adwick Washlands Habitat Creation Site

1.2 Proposed Works

It is proposed to create a range of semi-natural wetland habitats. The original proposed outline design presented in the ELP (2009) report was found to be unsuitable and has since been modified. Full details of the new design are presented in the planning application; the target of creating a mosaic of wetland habitats remains.

1.3 Purpose of this Report

This report has been produced to collate the results of various ecological surveys undertaken to inform the development of the habitat design. The majority of the surveys were undertaken in 2009 to 2010 by a variety of surveyors commissioned by the Royal Society for the Protection of Birds (RSPB) and/or the Dearne Valley Green Heart Partnership (DVGHP).

Work undertaken by other surveyors is summarised in Section 2, with the reports appended in full, while survey work undertaken by JBA Consulting in 2010 is described in full in Section 3. An assessment of the effects of this project on both UK Biodiversity Action Plan (UK BAP) and Local Biodiversity Action Plan (LBAP) habitats and species is presented in Section 4.

2. Previous Ecological Surveys

2.1 Introduction

The following sections summarise the results of various ecological surveys undertaken to inform the development of the Adwick Washlands scheme. These were undertaken by various parties and are therefore summarised in the main body of the report, with full versions presented as appendices.

2.2 Tree and Hedgerow Survey

A full tree and hedgerow survey of the site was undertaken as part of the 2009 ELP study (ELP, 2009). Twenty-four trees with circumferences greater than 30cm at 1.5m height were recorded and surveyed; full details of these are provided in ELP, 2009. All hedges recorded were species-poor, with most dominated by Hawthorn *Crataegus monogyna* or Blackthorn *Prunus spinosa*. Other species associated with the hedgerows included Ash *Fraxinus excelsior*, Oak *Quercus robur*, Dog Rose *Rosa canina* agg., Willow *Salix* spp. and Hazel *Corylus avellana*. Both intact and defunct hedgerows were recorded (all previous ELP, 2009).

2.3 Phase 1 Habitat Survey

A Phase 1 Habitat Survey was commissioned by the RSPB and undertaken in June 2009 (Carr, 2009).

Seven habitat types were identified by the 2009 survey, which were:

1. Improved Grassland (B4)
2. Marsh Grassland (B5)
3. Basin Mire (E3.2)
4. Marginal Vegetation (F2.1)
5. Mesotrophic Running Water (G2.2)
6. Arable (J1.1)
7. Defunct Hedgerow (J2.2)

2.4 Breeding Birds

A breeding bird survey was commissioned by the RSPB and undertaken in June 2009 (Carr, 2009). A summary table of results is presented in Table 1 below:

Table 1: Summary of Survey Results - Lowland Wader, Red List or Other Species of Conservation Concern (Carr, 2009)

Species	1st Survey	2nd Survey	Maximum Population
Northern Lapwing	8	1	4 pair
Common Snipe	3 birds	2 birds	2-3 pair
Redshank	2	0	1-2 pair
Kestrel	2 adult birds hunting	1 adult bird hunting	1 territory
Grey Partridge	1 pair	0	1 territory
Stock Dove	8-10 birds feeding	1 bird feeding	0
Kingfisher	0	3 birds	0
Skylark	8 singing males	6 singing males	8 territories
Yellow Wagtail	1 male	0	1 territory
Song Thrush	0	1 singing male	1 territory
Duncock	2 singing males	6 singing males	6 territories
House Sparrow	20+ feeding	8 feeding	0
Linnet	3 pair + 20 in feeding flock	1 pair + fledged family	3 territories
Yellowhammer	9 singing males	7 singing males	9 territories
Reed Bunting	6 singing males	8 singing males	8 territories

The works are currently scheduled for winter 2010 to avoid the bird breeding season and will therefore have no direct impact upon breeding birds. In the event that works do need to be carried out during the bird breeding season (for example due to a delay caused by adverse weather conditions), mitigation will be put in place to ensure that the works do not impact upon breeding birds. This would include checking the site for nests prior to any works starting and maintaining a watching brief during works. In the event that a nest is discovered during works, all work would cease in the immediate area until the chicks have fledged.

2.5 Wintering Birds

A wintering bird survey was commissioned by the RSPB and undertaken in November 2009 to January 2010 (Carr, 2010).

Table 2 provides a list of all species recorded on the site during the three survey visits and totals from each visit, excluding species recorded flying over. It also provides the conservation status of the species recorded, where applicable (Wildlife and Countryside Act 1981 Schedule 1, UK BAP and LBAP, and "Red List" and "Amber List" species from Species of Conservation Concern 2009-2012).

The current proposals would be expected to provide additional wetland habitats for the species listed below. Although there will be loss of existing arable and subsidence flash habitats, the site is surrounded by the former, and additional wetlands will replace the latter.

Table 2: Wintering Bird Survey Results (Carr, 2010)

Species	1st Survey	2nd Survey	3rd Survey	Status
Mute Swan <i>Cygnus olor</i>	2	0	0	
Greylag Goose <i>Anser anser</i>	0	0	7	Amber List
Ross's Goose <i>Anser rossii</i>	0	0	1	
Canada Goose <i>Branta canadensis</i>	33	0	0	
Common Teal <i>Anas crecca</i>	1	0	1	Amber List
Mallard <i>Anas platyrhynchos</i>	4	2	7	Amber List
Tufted Duck <i>Aythya fuligula</i>	0	0	1	Amber List
Goosander <i>Mergus merganser</i>	0	0	1	
Grey Partridge <i>Perdix perdix</i>	13	9	0	Red List; UK BAP; LBAP
Pheasant <i>Phasianus colchicus</i>	2	2	0	
Little Grebe <i>Tachybaptus ruficollis</i>	2	0	0	Amber List
Cormorant <i>Phalacrocorax carbo</i>	0	0	2	
Grey Heron <i>Ardea cinerea</i>	0	0	2	
Sparrowhawk <i>Accipiter nisus</i>	0	0	2	
Kestrel <i>Falco tinnunculus</i>	1	2	0	Amber List
Peregrine Falcon <i>Falco peregrinus</i>	0	0	1	Schedule 1
Moorhen <i>Gallinula chloropus</i>	5	6	0	
Northern Lapwing <i>Vanellus vanellus</i>	6	0	35	Red List; UK BAP; LBAP
Redshank <i>Tringa totatus</i>	1	0	0	Amber List
Black-headed Gull <i>Chroicocephalus ridibundus</i>	0	20	44	Amber List
Stock Dove <i>Columba oenas</i>	8	6	6	Amber List
Woodpigeon <i>Columba palumbus</i>	0	500	24	
Collared Dove <i>Streptopelia decaocto</i>	0	10	0	
Kingfisher <i>Alcedo atthis</i>	3	0	0	Amber List; Schedule 1
Skylark <i>Alauda arvensis</i>	4	1	0	Red List; UK BAP; LBAP
Pied Wagtail <i>Motocilla alba</i>	0	20	20	
Wren <i>Troglodytes troglodytes</i>	1	0	1	

Dunnoch <i>Prunella modularis</i>	2	1	1	Amber List
Robin <i>Erithacus rubecula</i>	1	4	3	
European Stonechat <i>Saxicola rubicola</i>	1	0	0	
Blackbird <i>Turdus merula</i>	8	10	6	
Fieldfare <i>Turdus pilaris</i>	50	130	4	Red List
Song Thrush <i>Turdus philomelos</i>	2	1	0	Red List; UK BAP; LBAP
Redwing <i>Turdus iliacus</i>	4	20	0	Red List
Long-tailed Tit <i>Aegithalos caudatus</i>	0	10	0	
Blue Tit <i>Cyanistes caeruleus</i>	2	4	0	
Great Tit <i>Parus major</i>	0	2	1	
Willow Tit <i>Poecile montanus</i>	0	2	0	Red List; UK BAP; LBAP
Magpie <i>Pica pica</i>	4	5	6	
Carrion Crow <i>Corvus corone</i>	4	10	9	
Starling <i>Sturnus vulgaris</i>	0	2	4	Red List; UK BAP; LBAP
House Sparrow <i>Passer domesticus</i>	4	2	0	Red List; UK BAP; LBAP
Chaffinch <i>Fingilla coelebs</i>	7	0	0	
Goldfinch <i>Carduelis carduelis</i>	2	0	0	
Linnet <i>Carduelis cannabina</i>	0	5	0	Red List; UK BAP; LBAP
Bullfinch <i>Pyrrhula pyrrula</i>	4	2	0	Amber List; UK BAP; LBAP
Yellowhammer <i>Emberiza citrinella</i>	1	1	0	Red List; UK BAP; LBAP
Reed Bunting <i>Emberiza schoeniclus</i>	4	0	2	Amber List; UK BAP; LBAP

2.6 Water Vole

All drains and watercourses in and immediately adjacent to the proposed works area were surveyed for signs of the presence of Water Voles between April 2009 and May 2010 (Environment Agency, 2010). No evidence of the presence of Water Voles was found in any of the survey periods (April 2009, August 2009 and May 2010; Environment Agency, 2010). The report states that:

"the proposals for wetland development at Adwick will probably result in significantly improved habitat for water vole."

2.7 Other Protected Species

There was no evidence from the previous surveys or reports to indicate the presence of any other protected species within the site. The ELP, 2009 study reports that:

"NE [Natural England] has stated that the study area is not particularly suitable for reptiles or great-crested newts and does not warrant a full survey. Furthermore, because no tree removal is planned within the works, there is no need for a bat or barn owl survey."

These conclusions, in relation to reptiles and Great Crested Newts were supported by a site visit by ecologists from JBA Consulting on 2nd July 2010 (see Section 3). The statement relating to tree removal and bat/Barn Owl surveying is, however, no longer accurate.

The removal of three trees will be required in the area of soil excavation. A further five trees in the area of soil deposition may be compromised by raising the land level around their roots. These trees are shown on drawing number 2010s4268-047 Trees and Hedges. These works have the potential to impact upon bats if a roost is present in any of the trees.

Initial examination of the results of the tree and hedgerow survey (ELP, 2009) suggest that the trees present are highly unlikely to support bats or barn owls, showing no obvious features suitable for these species. However this survey is not a bat roost potential survey

therefore does not provide sufficient information for the authority to be satisfied that the development will not impact upon a European protected species.

The optimal time of year for surveying trees for bat roost potential is autumn/winter when trees have lost their leaves as it is easier to see any features which may have potential as a bat roost. It is proposed that a suitably qualified person will carry out a survey for bat roost potential in line with the guidance in the Bat Mitigation Guidelines (2004) within the next few weeks now that the trees are losing their leaves. The surveyor will also assess the potential of the trees to provide barn owl habitat. A survey report, including the results of the survey and any mitigation recommendations will be submitted to the local authority prior to determination of the application.

If any trees display medium or high potential to contain a bat roost then further survey work will be necessary in the appropriate months next year.

It is anticipated that any necessary mitigation will be simple to achieve by modification of the design to avoid excavation/soil deposition at the location of any trees which contain roosts.

Pre-application consultation with Barnsley MBC (formal pre-application advice procedure) with regard to the requirements regarding trees and hedgerows for the planning application did not suggest any of the trees were the subject of Tree Preservation Orders (TPOs). However, before any works affecting trees are undertaken, Barnsley Metropolitan Borough Council (BMBC) will be contacted to determine whether any of the trees to be affected have TPOs. If a relevant TPO is reported, consultation with BMBC will be undertaken to determine the appropriate course of action.

3. Additional Ecological Survey

3.1 Introduction

An initial site visit was made to the Adwick Washlands site on 24th June 2010. This visit identified habitat potentially suitable for Water Vole and Great Crested Newt, as well as a range of non-native plant species. In light of the previous survey work undertaken for these species (see Section 2), it was decided to re-survey the areas with the greatest potential to support such species. A second site visit was therefore made on 2nd July 2010.

The surveys were undertaken by two experienced ecologists, with the necessary Natural England survey licences, from JBA Consulting.

3.2 Water Vole Survey

3.2.1 Method

During the initial site visit, the two main watercourses flowing through the site (West Moor Dike and Crane Well Dike) were identified as holding the greatest potential to support Water Voles; this survey therefore focused on these two drains.

The entire lengths of both watercourses within the proposed works area were surveyed for Water Vole using the standard methodology as laid down in the Water Vole Conservation Handbook (Strachan & Moorhouse, 2006). Detailed searches were made for Water Vole activity, including burrows, latrines/droppings, feeding stations and lawns.

3.2.2 Results

No evidence to suggest the presence of Water Voles was identified. Close examination of the drains showed much of both to be heavily overshadowed by dense riparian vegetation, including various dispersed arable crops. Abundance of food plants was therefore fairly limited. Although Water Voles can utilise such habitat, both West Moor Dike and Crane Well Dike were identified as sub-optimal habitat.

3.2.3 Conclusions

This survey supports the results of the previous 2009 and 2010 surveys (Environment Agency, 2010) in indicating an absence of Water Voles from the proposed works area. As described, the existing habitat, although sub-optimal, holds some potential to support Water Vole colonies. Suitable habitat enhancement, such as in the current works proposal, may therefore be of benefit to Water Voles in this site, given the records of Water Voles from the adjacent main river available on the National Biodiversity Network.

3.3 Great Crested Newt Survey

3.3.1 Method

The initial site visit identified two areas of standing open water within the project area. These sites had previously been assessed as having low potential to support Great Crested Newts (Rennie, *pers. comm.*). A walkover survey of the two waterbodies was therefore undertaken to update the previous surveys and confirm that habitat suitability remained low.

3.3.2 Results

Habitat suitability for both open water areas was identified as being very low. The water in both areas was <0.1m deep and vegetation suitable for egg-laying (e.g. submerged aquatic plants) was extremely limited (Langton *et al.*, 2001). No adult newts, larvae or eggs were seen during the walkovers. Due to the shallowness of the water no netting was undertaken. As the water was clear and vegetation cover limited it is likely that any disturbed newts would have been seen during the walkover.

3.3.3 Conclusions

Although no survey can truly confirm absence, it is deemed extremely unlikely that Great Crested Newts are present in either open waterbody. As described, habitat suitability was extremely poor, with few or no favourable features.

3.4 Non-native Species

3.4.1 Method

During the initial site visit, a number of non-native plant species were identified. Under recent amendments to the Wildlife and Countryside Act 1981, additional plant species were added to Schedule 9. It is an offence to plant or cause to grow any plant species listed on Schedule 9.

In order that the presence and locations of any non-native species could be considered during the design and construction phases, stands of such species were identified and mapped.

3.4.2 Results

Figure 2 shows the results of the surveys for non-native plant species. Three species were identified as occurring on site: Japanese Knotweed *Fallopia japonica*, Himalayan Balsam *Impatiens glandulifera* and an Elodea species, believed to be *Elodea nutallii*.

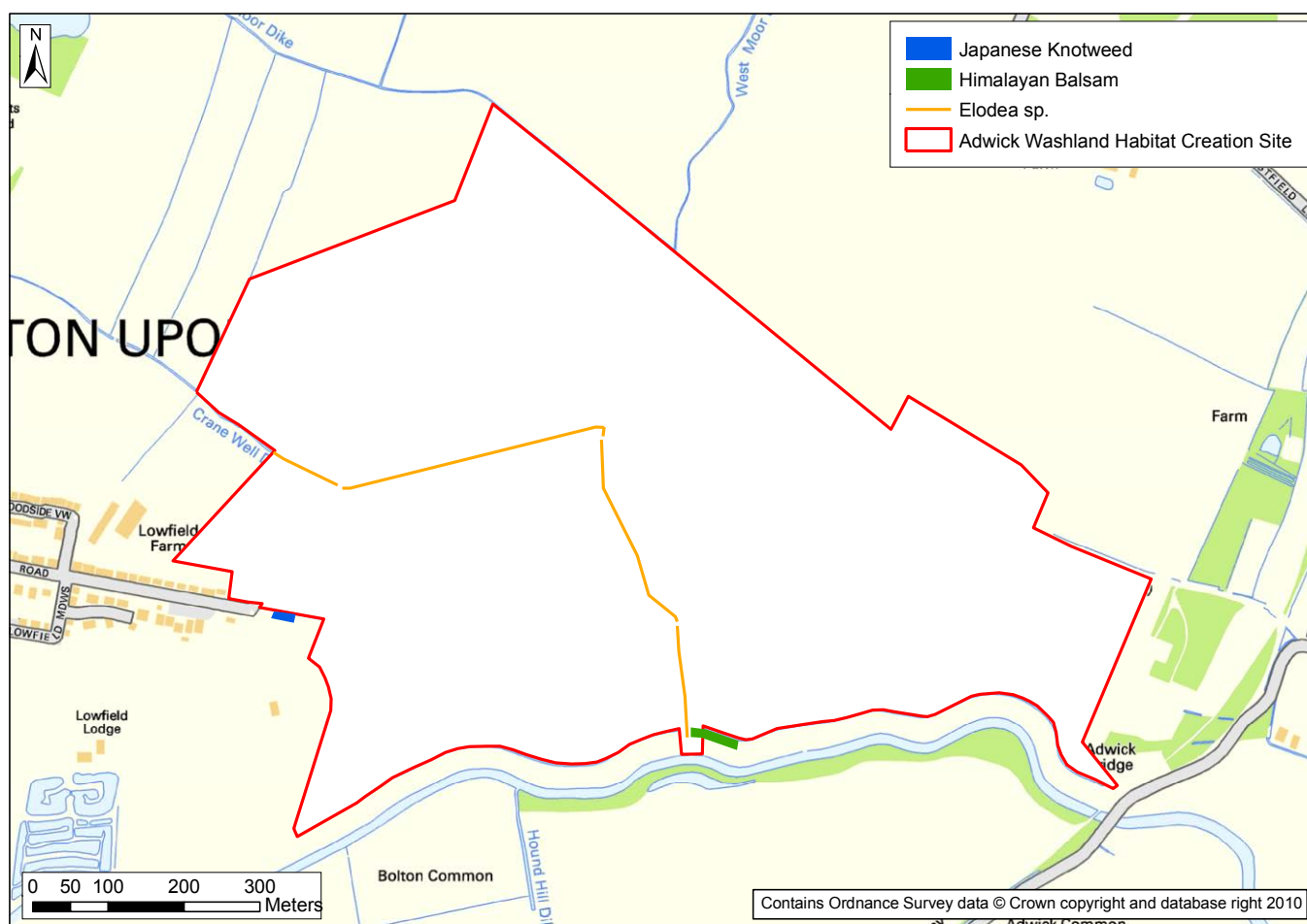


Figure 2: Locations of Non-native Species

3.4.3 Conclusions

As can be seen from the map, the stand of Japanese Knotweed is mostly outside of the proposed works area; it does, however, lie immediately adjacent to a likely access route for the works.

Himalayan Balsam is spread extensively along the banks of the River Dearne. The majority of the works area appears to be free of this species, although there are stands immediately adjacent to the southern boundaries, which encroach into the works area to a small degree.

The submerged aquatic plant communities of both West Moor Dike and Crane Well Dike are dominated by *Elodea*. The plant is established and extensive, and this is likely to be reflected in all watercourses holding sufficient standing water.

Basic mitigation measures will be needed to ensure that there is no spread of the species described above. This is likely to take the form of avoiding works within the areas holding these species; if works are required in these areas then these will be controlled to ensure minimal movement of material. This will be particularly important to avoid the spread of the *Elodea* species into the new drains, as this could constitute an offence under the Wildlife and Countryside Act 1981. A control programme for the Japanese Knotweed is currently being implemented (Rennie, 2010 *pers. comm.*).

4. Biodiversity Action Plan Habitats and Species

4.1 Existing UK BAP and LBAP Habitats

4.1.1 UK BAP Habitats

Based on the information provided in Section 1 (Carr, 2009), and the revised UK BAP habitat definitions, the only UK BAP habitat currently present on the site is 'Hedgerows' (Maddock, 2008). These are defined as 'any boundary line of trees or shrubs over 20m long and less than 5m wide, and where any gaps between the trees or shrub species are less than 20m wide' (Maddock, 2008). Although not considered in the ELP hedgerow survey (ELP, 2009), it is likely that this definition is applicable to the hedgerows recorded as being intact, but not those recorded as 'derelict' or 'gappy' (ELP, 2009).

4.1.2 Local BAP Habitats

The Adwick Washlands site lies within the coverage of the Barnsley BAP (Barnsley Biodiversity Trust, 2010). Based on the information above and the habitat definitions provided (Barnsley Biodiversity Partnership, 2002), there are currently two LBAP habitats within the site: 'Hedgerows' and 'Ponds & Canals & Other Areas of Standing Water'. As described in both Sections 2 and 3 above, both of these habitat types are currently of relatively low quality

4.2 Existing UK BAP and LBAP Species

4.2.1 UK BAP Species

There is evidence of the following UK BAP species occurring within the proposed works area (Carr, 2009 and 2010):

- Skylark *Alauda arvensis*
- Linnet *Carduelis cannabina*
- Yellowhammer *Emberiza citrinella*
- Reed Bunting *E. schoeniclus*
- Yellow Wagtail *Motacilla flava*
- House Sparrow *Passer domesticus*
- Grey Partridge *Perdix perdix*
- Willow Tit *Poecile montanus*
- Bullfinch *Pyrrhula pyrrhula*
- Starling *Sturnus vulgaris*
- Song Thrush *Turdus philomelos*
- Lapwing *Vanellus vanellus*

4.2.2 LBAP Species

The following LBAP species have been recorded within the works area (Carr, 2009 and 2010):

- Skylark
- Grey Partridge
- Kestrel *Falco tinnunculus*
- Lapwing

In addition, there is habitat present suitable for the following LBAP species:

- Hedgehog *Erinaceus europaeus*
- Barn Owl *Tyto alba*

- Bats

4.3 Habitat Creation and Enhancement

Under the revised habitat creation scheme (JBA Consulting, 2010), the following quantifiable extents of UK BAP and LBAP habitats are proposed for creation:

- 1.65ha of Reedbed (UK BAP and LBAP habitat), principally within the margins of feeder ditches
- 16.97ha of wet grassland (UK BAP habitat - Coastal and Floodplain Grazing Marsh; LBAP habitat - Floodplain Grazing Marsh)
- 0.88ha of open water in one central area of approximately 0.45m depth (LBAP habitat - Ponds & Canals & Other Areas of Standing Water)
- 0.58ha of fen (UK BAP habitat - Lowland Fen) in one principle area in the east of the site

In addition to these extents, the proposal aims to create additional UK BAP and LBAP habitats, although the nature of these makes the extents more difficult to quantify (e.g. due to seasonality):

- Lowland Fen (UK BAP habitat) - the design has been developed to include gradual microtopographic undulations. These undulations will lead to a range of hydrological conditions, maximising the potential to encourage establishment of fen communities. Quantification of the extent of this habitat across the site as a whole is not practical at this stage, but in addition to the target area of 0.58ha there is potential for fen, or at least fen-type communities, to occur throughout the lower areas of the engineered microtopography.
- Open water (LBAP habitat - Ponds and Canals and Other Areas of Standing Water) - in order to supply water to the proposed wet grassland areas it will be necessary to cut a number of footdrains. The extent of footdrains in a given area varies with seasonal changes in water levels. Quantification of the extent of this habitat can therefore be misleading; however, the proposed density is 200m/ha. This is lower than the reported optimal density for breeding waders to allow incorporation of the open water area described above, without compromise to flood storage.

As described above, reedbed will be created within the margins of the various feeder ditches. To accommodate this, and to return the existing drains and ditches to more natural profiles, it is proposed to reprofile the existing watercourses to include shelved margins. This will allow improved establishment of emergent wetland plant species, and create improved habitat for Water Voles.

4.4 Habitat Loss

Clearly in areas where habitat creation is undertaken, there will be a commensurate loss in arable farmland. Under the current proposals, there may also be the need to remove some lengths of hedgerow, as described in the ELP proposal (ELP, 2009), where soil is to be excavated and deposited. The maximum length of hedgerow that may be removed is predicted to be 1260m; this is, however, expected to be an overestimate. All hedgerow to be removed is species-poor and therefore of limited conservation value. Despite this, hedgerows on site will be retained wherever possible.

In addition, the planning application reports that there will be hedge reinforcement and hedgerow tree planting to provide enhanced hedgerow habitat, to screen areas of the wetland which could be sensitive to disturbance and encourage the public to remain on the rights of way and paths. It is expected that the enhancement and creation of hedgerows will mitigate for any losses associated with the ground works. Drawing 2010s4268-047 Trees and Hedges shows the trees and hedges to be removed and the areas of new hedgerow and tree planting.

As described in Section 2.7, if any works are to affect trees, appropriate ecological surveying and mitigation will be undertaken, as will investigation in to the applicability of any TPOs.

4.5 Predicted BAP Species

As described in Section 4.2, a number of UK BAP and LBAP species currently use the site; all of which are species of wetlands or farmland. Predicting the species that will be present following works must, by definition, be somewhat speculative. However, given the existing species, the lack of habitat removal (with the exception of arable land), the extent of surrounding arable habitats and the consideration of the requirements of breeding waders in the design (ELP, 2009), it is expected that the number of UK BAP and LBAP species using the site will increase, as the diversity of habitats on the site is improved by the habitat creation.

4.6 Conclusions

As described above, it is proposed to create a minimum of 20ha of new UK BAP and LBAP habitats, with further unquantifiable extents of additional BAP habitats. Habitat loss will be restricted to commensurate extent of arable farmland and c1.3km of hedgerow (an expected overestimate mitigated for by replanting). The creation of the BAP habitats will favour a range of BAP species including lapwing and water voles, without detrimentally affecting species currently present on site.

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ADWICK WASHLANDS

PHASE 1 HABITAT SURVEY BREEDING BIRD SURVEY – 2009

Picture ?

by Geoff Carr, MA; C Env; MIEEM; FRGS

ADWICK WASHLANDS
PHASE 1 HABITAT SURVEY
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Picture ?

1. Introduction

The Adwick Washlands Survey, which includes a Phase 1 Habitat Survey and Breeding Bird Survey, was commissioned by the RSPB to evaluate a baseline of the present habitat and breeding birds using the area.

The Phase 1 Habitat Survey was done on two dates in June when habitats were at their most productive and all the plant species found were identifiable.

The Breeding Bird Survey followed the Smith and O'Brien methodology of concentrating on wader species but to include other "Red List" or important lowland, wetland species.

The breeding bird survey part was due to start in April to cover the early breeding birds but due to certain factors, both breeding bird survey dates were in June when most of the wader species had young or had failed but at least this provided an outcome of success or failure and a baseline of species populations.

2. PHASE 1 HABITAT SURVEY

Site Name Adwick Washlands	Location Lowfield Lane, Bolton Upon Dearne
Site Code None	Grid Reference SE468026
Surveyor Geoff Carr	Date of Survey 09/06/09 and 24/06/09
Geology/Soil Type Yorkshire Coalfield/ Southern Magnesian Limestone and Floodplain alluvial	Designation None

Phase 1 Habitat Types Improved grassland B, Marsh grassland B5, Basin Mire E3.2, Marginal vegetation F2.1, Running Water (mesotrophic) G2, Arable J1 and Defunct hedge J2.2.
NVC Communities M3, S5, S14 and S23
Protected Species None
Red List Species Grey Partridge, Skylark, Yellow Wagtail, House Sparrow, Linnet, Reed Bunting and Yellowhammer.
Local Biodiversity Species Brown Hare, Northern Lapwing, Grey Partridge, Kestrel, Skylark and Linnet

Introduction

The survey area known as the Adwick Washlands straddles the Natural England Natural Areas of the Southern Magnesian Limestone to the east of the site and the extension of the Nottingham, Derbyshire and Yorkshire Coalfield to the west. The Agricultural Land Classification is of grade 2-3, good quality farmland. The survey area covers the lowland farmland to the east of Bolton upon Dearne with the northern boundary Far Moor Dike, the southern boundary the River Dearne and then tapering to Adwick Bridge. (see appendix map).

Most of this area is arable farmland but there are a couple of remnant mires and dikes which are important wildlife habitats and also contain interesting plant communities. The Phase 1 Habitat Survey was conducted on two dates, 9th and 24th June, 2009 and consisted of a walk-over of the whole area excluding the large cereal fields.

Methodology

A detailed ecological assessment of the site a Phase 1 Habitat Survey was carried out using the criteria in the Handbook for Phase 1 Habitat Survey (JNCC). This includes a walkover survey of the site, listing the habitat classifications, recording plant species on site and making target notes of any important zones. Additionally in this case, to provide base records of any Schedule 1 Species, Red List Species and Biodiversity Species and to offer guidance to retain or expand any species found.

Habitat Description

During the survey it was found that there are **7 zones of Phase 1 Habitat character** and these were, **Improved grassland B, Marsh grassland B5, Basin Mire E3.2, Marginal vegetation F2.1, Running water (mesotrophic) G2, Arable J1 and Defunct hedge J2.2.** (shown on the appendix map).

A small field of **Improved grassland (B)** is located at the western side of the site and near to Bolton upon Dearne. This field is Perennial Ryegrass *Lolium perenne*, Cocksfoot *Dactylis glomerata* and Timothy *Phleum pratense* dominant.

The **Marsh grassland (B5)** field is on the eastern side of the survey area and contains mainly Soft Rush *Juncus effusus* and Floating Sweet-grass *Glyceria fluitans*.

The two **Basin mires (E3.2)** contained Grey Willow *Salix cinerea*, Common Cotton-grass *Eriophorum angustifolium*, *Sphagnum*, Soft Rush *Juncus effusus* and Lesser Water Parsnip *Berula erecta* as the dominant species with Bulrush *Typha latifolia* and Water Mint *Mentha aquatica* around the fringes. **Marginal vegetation zones (F2.1)** were the dikes bordering Lowfield Lane and Crane Well Dike and west moor Dike. Here there were linear stretches of various vegetation dominated by Reed Sweet Grass *Glyceria maxima*, Branched Burr-reed *Sparganium erectum*, Meadowsweet *Filipendula ulmaria*, Greater Willowherb *Epilobium hirsutum*, Lesser Water Parsnip *Berula erecta*, with other zones of Lesser Bulrush *Typha angustifolia* Common Water Crowfoot *Ranunculus aquatilis* and a patch of Common Meadow-rue *Thalictrum flavum* which is currently the only record for Barnsley.

Running water (G2) contains Bulrush *Typha latifolia*, Reed Sweet Grass *Glyceria maxima*, Branched Burr-reed *Sparganium erectum*, Meadowsweet, Lesser Water Parsnip *Berula erecta* and Common Water Crowfoot *Ranunculus aquatilis* as the main species.

Arable (J1) is of cereal and rape throughout but some of the fields close to Lowfield Lane have depressions which contain seasonal water and provide an important breeding habitat for wader bird species.

Defunct hedge (J2.2) habitat occurs along Lowfield Lane and a short stretch on the western boundary of the survey area. This is mainly Hawthorn *Crataegus monogyna* dominant but with occasional Field Maple *Acer campestre* and Sycamore *Acer pseudoplatanus*.

Target Notes

The survey did find Brown Hare *Lepus europaeus* -UK BAP species, Grey Partridge *Perdix perdix*, Skylark *Alauda arvensis*, Yellow Wagtail *Motacilla flava*, House Sparrow *Passer domesticus*, Linnet *Carduelis cannabina*, Yellowhammer *Emberiza citrinella*, Reed Bunting *Emberiza schoeniclus* “Red List” species and Northern Lapwing *Vanellus vanellus*, Common Snipe *Gallinago gallinago*, Redshank *Tringa totanus* and Kestrel *Falco tinnunculus* “Amber” species

No other Schedule 1 Species, Red List Species and Biodiversity Species were found on the proposed area of development during the time of the survey although it is known that Otter *Lutra lutra* uses the River Dearne and it is possible Water Vole *Arvicola terrestris* may be present on some of the dikes within the survey area.

The important target note areas are the two mires, the various dikes and the depressions on the farmland which could be part of a Stewardship Scheme to further expand the habitats to increase the biodiversity of the site.

Phase 1 Habitat Recommendations

Ideally, and if possible time-wise then there should be a survey in the spring/early summer for the presence/absence of Water Vole as any future work would have, by law, to take account of this species.

Obviously any development will change the farmed character of the present area but there would be many gains for biodiversity within the survey area if the whole area was part of a Stewardship Scheme or improvement attracting other grants.

The recommendation would be to;

- deepen and widen some of the dikes to create a manageable flow of water on the site and to use sluices if needed but this would need to be a decision for a drainage engineer. This would need to take account of any Water Vole (if found) and the already rich floral content of the dikes.
- To use the existing depressions on the land and expand these to create a mosaic and larger area that would be attractive to breeding wader and Yellow Wagtail.
- To increase, improve and manage the two mire habitats on the site.
- Retain the zone of Common Meadow-rue *Thalictrum flavum* in the dike alongside Lowfield Lane at map ref SE472026. This is currently the only known record for Barnsley. Before any ditch clearing is done the exact site of this plant needs identifying.

3. Breeding Bird Survey

The breeding bird survey was started quite late due to other factors but never the less provided good baseline information on the breeding diversity and population for Adwick Washlands.

The dates for the two survey visit dates were the 9th and 24th June, 2009 and followed the Smith and O'Brien methodology as set out below.

The whole of the survey area was surveyed using the O'Brien and Smith methodology which is a generic method for lowland wader species but there are differences between species in what to record (pairs, displaying males etc) and the interpretation of this data. Whilst the O'Brien and Smith methodology is designed for surveying lowland wader species other key species can also be recorded.

- Northern Lapwing peak numbers of pairs
- Common Snipe peak number of drumming plus chipping birds

- Redshank
- Other species number of breeding/territorial birds

Visits were done during the period – three hours after dawn.

The survey avoided cold, wet and windy conditions (not to survey when the wind exceeded Beaufort force 3).

The whole of the survey area was walked over and any bird records collected and then entered onto a field survey form.

Each field surveyed was walked within 100m of each point and this was mainly done from public rights of way and in some cases permission was obtained to enter some fields for information. Records were written on the site maps and recording form using standard BTO codes.

Birds were recorded where they were first observed or in the case of display flights, the field over which they were displaying. Locations of many birds were done 200 + metres ahead in most cases and therefore represented a true record of location before they were disturbed and flew around the wider area.

O'Brien and Smith Survey Analysis

Northern Lapwing *Vanellus vanellus*

Record the total number of birds seen in each field. Report the maximum number of individuals recorded on the site between mid-April and late May and divide by two to estimate the total number of pairs.

Common Snipe *Gallinago gallinago*

Record the total number of birds heard drumming or chipping in each field and report the maximum number for the site over the visits as the number of pairs using the site. However, if no snipe were recorded during May the figures were not included.

To give the total number of pairs, the maximum number of snipe is multiplied by 1.74

Redshank *Tringa totanus*

Record the total number of birds seen in each field on each visit. Report the mean number of birds found on the site over both visits. This is taken as the number of breeding pairs.

Survey Results - Lowland Wader, Red List or other species of Conservation Concern:

Table 1

Species	1st Survey	2nd Survey	Maximum Population
Northern Lapwing	8	1	4 pair
Common Snipe	3 birds	2 birds	2-3 pair
Redshank	2	0	1-2 pair
Kestrel	2 adult birds hunting	1 adult bird hunting	1 territory
Grey Partridge	1 pair	0	1 territory
Stock Dove	8-10 birds feeding	1 bird feeding	0
Kingfisher	0	3 birds	0
Skylark	8 singing males	6 singing males	8 territories
Yellow Wagtail	1 male	0	1 territory

Song Thrush	0	1 singing male	1 territory
Duncock	2 singing males	6 singing males	6 territories
House Sparrow	20+ feeding	8 feeding	0
Linnet	3 pair + 20 in feeding flock	1 pair + fledged family	3 territories
Yellowhammer	9 singing males	7 singing males	9 territories
Reed Bunting	6 singing males	8 singing males	8 territories

Species Accounts

The following species accounts are for lowland wader species and “Red List” or other species of conservation concern recorded on the Adwick Washlands.

Northern Lapwing *Vanellus vanellus*

On the date of the first survey 4 pairs were still tending young and a group of 17 birds were resting which were all post breeding adults. These may be birds from elsewhere but it is possible that they were birds still lingering from failed breeding and this would account for 8 failed breeding pair. This would give a total of 12 breeding or attempting breeding pair on the site earlier in the year.

Common Snipe *Gallinago gallinago*

Three birds were seen on site and possibly account for up to 3 pair on site.

Redshank *Tringa totanus*

Two birds were alarming and guarding young on the first survey date and these were some 100m apart and while they may have been well-spaced young there could have been 2 pair.

Kestrel *Falco tinnunculus*

Two adult birds hunting on the first survey date and could possibly have been nesting on the electricity pylons on site or from a site outside the survey area.

Grey Partridge *Perdix perdix*

A bird was calling in cover on the first survey date and likely to be one of a pair that was breeding or attempting to breed on the site.

Stock Dove *Columba oenas*

Between 8 and 10 birds feeding on site on the first survey but no nest habitats are available on the site.

Kingfisher *Alcedo atthis*

3 birds recorded on site during the second survey and these would be from the River Dearne as no suitable breeding sites exist within the survey area.

Skylark *Alauda arvensis*

Some eight singing males were recorded on the first survey date to give a maximum of at least 8 territories on the site.

Yellow Wagtail *Motacilla flava*

A male was recorded on the edge of the permanent pond on the first survey date and evaluates to a possible breeding territory.

Song Thrush *Turdus philomelos*

One male singing on Lowfield Lane at the Bolton upon Dearne end of the site to account for 1 breeding territory.

Dunnock *Prunella modularis*

Six singing males on the second visit gave a maximum of at least 6 territories.

House Sparrow *Passer domesticus*

Up to 20 birds were feeding on insects along Lowfield Lane on the first survey date and were visiting from breeding territories off site as no breeding exist within the survey area. It shows an important summer feeding site and supporting nearby breeding birds.

Linnet *Carduelis cannabina*

On the first survey date there were 3 pairs collecting food and feeding young on site and on the second visit one pair with fledged young and a feeding flock of 15 birds, mostly adults.

Yellowhammer

Nine singing males were recorded on site during the first survey and this gives a maximum of at least 9 breeding territories.

Reed Bunting *Emberiza schoeniclus*

Eight singing males were recorded on site on the second survey date and this gives a maximum of at least 8 breeding territories.

4. Breeding Bird Survey Recommendations

Due to the late start of this breeding bird survey the key recommendation would be to complete another survey next spring, if funds are available, to provide the full picture of breeding wader on the site and other important species.

Then from these two surveys a conclusion can be formed on a way forward to enhance and manage Adwick Washlands.

From this survey it has emerged that this is an important area for breeding wader and this could be further expanded to increase the number of breeding species.

The recommendation would be to;

- deepen and widen some of the dikes to create a manageable flow of water on the site and to use sluices if needed but this would need to be a decision for a drainage engineer. This would need to take account of any Water Vole (if found) and the already rich floral content of the dikes. Widening would help to prevent access and disturbance to the site.
- To use the existing depressions on the land and expand these to create a mosaic and larger area that would be attractive to breeding Wader and Yellow Wagtail.
- To increase in size, improve and manage the two mire habitats on the site. The main mire in the field at map ref SE469027 could be expanded by a fringing shallow scrape to provide more habitat for Lapwing, Snipe and Redshank.

The mire at SE473025 could be kept and managed much as it is with dominant

Grey Willow *Salix cinerea*, Common Cotton-grass *Eriophorum angustifolium*, *Sphagnum*, Soft Rush *Juncus effusus* and Lesser Water Parsnip *Berula erecta* with Bulrush *Typha latifolia* and Water Mint *Mentha aquatica* around the fringes. This mire is dissected by the bridleway and too close for alternative management to benefit Wader species but would be ideal for Grasshopper Warbler, Sedge Warbler and Reed Bunting.

- Depending on water quality and following the advice of a drainage engineer, there may be an opportunity for a bolder scheme using the existing flow of water from the West Moor Dike to keep the depressions on the land to the north of Lowfield Lane wet.

4. Appendix

A complete list of the species recorded on the Adwick Washlands site over the two visits.

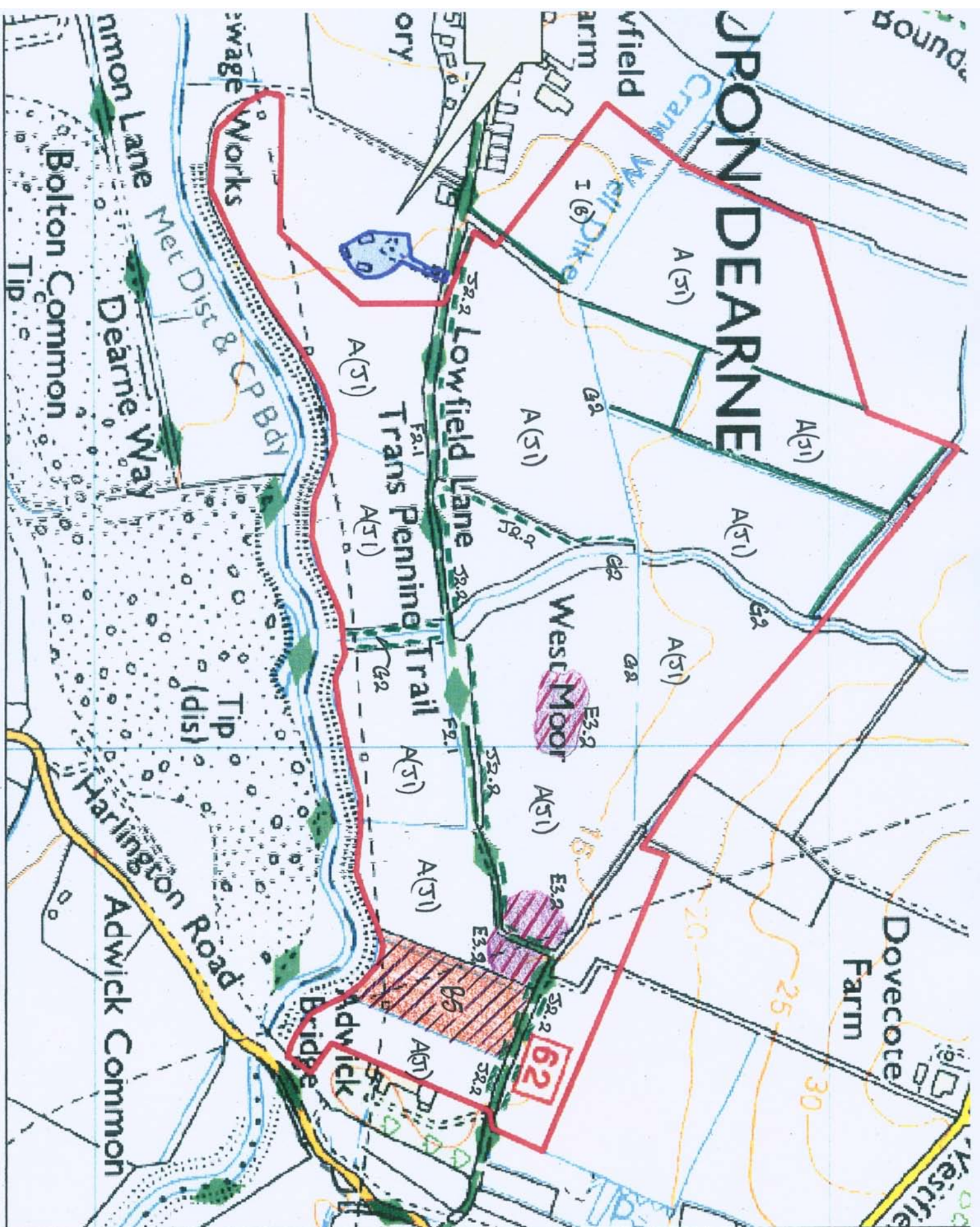
Table 2: Full list of all species recorded within the survey area and status from Birds of Conservation Concern 2002-2007. These are birds using the survey area for breeding, feeding, resting or roosting and were not birds that were seen flying over.

Species	Status
Mallard <i>A. platyrhynchos</i>	
Grey Partridge <i>Perdix perdix</i>	Red List
Pheasant <i>Phasianus colchicus</i>	
Heron <i>Ardea cinerea</i>	
Sparrowhawk <i>Accipiter nisus</i>	
Kestrel <i>Falco tinnunculus</i>	Amber List
Moorhen <i>Gallinula chloropus</i>	
Stock Dove <i>Columba oenas</i>	Amber List
Woodpigeon <i>C. palumbus</i>	
Collared Dove <i>Streptopelia decaocto</i>	
Skylark <i>Alauda arvensis</i>	Red List
Swallow <i>Hirundo rustica</i>	Amber List
House Martin <i>Delichon urbica</i>	Amber List
Meadow Pipit <i>Anthus pratensis</i>	Amber List
Yellow Wagtail <i>Motacilla flava</i>	Amber List
Wren <i>Troglodytes troglodytes</i>	
Dunnock <i>Prunella modularis</i>	Amber List
Blackbird <i>Turdus merula</i>	
Song Thrush <i>T. philomelos</i>	Red List
Sedge Warbler <i>Acrocephalus schoenobaenus</i>	
Whitethroat <i>S. communis</i>	
Long-tailed Tit <i>Aegithalos caudatus</i>	
Blue Tit <i>Parus caeruleus</i>	
Great Tit <i>P. major</i>	
Magpie <i>Pica pica</i>	
Carrion Crow <i>C. corone</i>	
Starling <i>Sturnus vulgaris</i>	Red List
House Sparrow <i>Passer domesticus</i>	Red List
Chaffinch <i>Fringilla coelebs</i>	

Greenfinch <i>Carduelis chloris</i>	
Goldfinch (<i>C. carduelis</i>)	
Linnet <i>C. cannabina</i>	Red List
Yellowhammer <i>Emberiza citrinella</i>	Red List
Reed Bunting <i>E. schoeniclus</i>	Red List

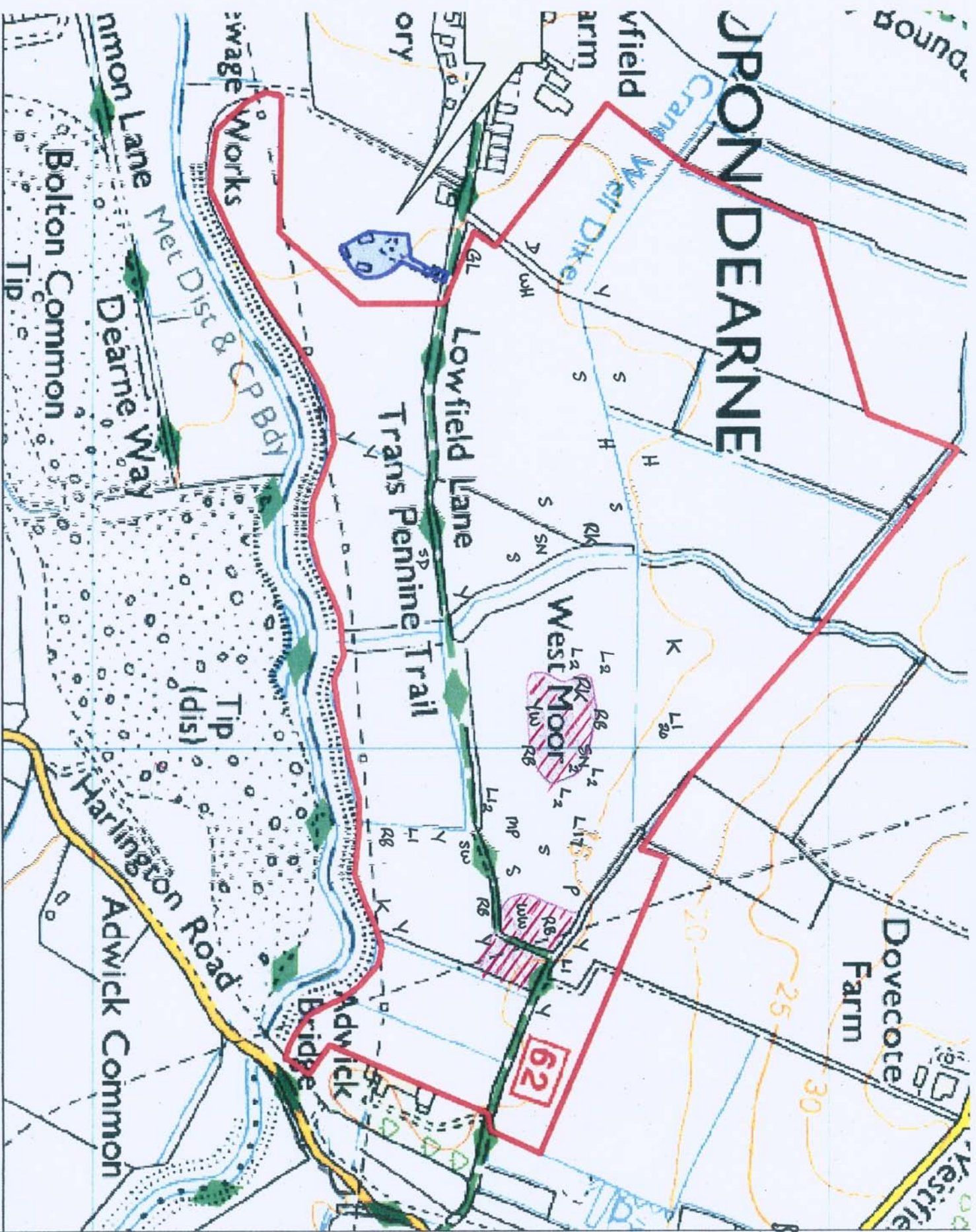
Geoff Carr
17/10/09.

PHASE 1
HABITAT
MAP



Bound

JRPN DEARNE



09/04/09
BREEDING
BIRD
SURVEY
RECORDS.

enhancing... improving... cleaning... restoring...
changing... tackling... protecting... reducing...
creating a better place... influencing...
inspiring... advising... managing... adapting...

Adwick Washlands Water Vole Survey Report 2009 - 2010

August 2010

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Adwick Washlands

Water Vole Survey Report 2010

This report presents the findings of water vole (*Arvicola terrestris*) surveys undertaken at Adwick Washlands, near Goldthorpe in South Yorkshire. All watercourses and drainage ditches within and adjacent to the application site were subject to an assessment for their suitability to support water vole. The majority of drainage ditches were surveyed for signs of water vole presence in April 2009. Follow-up surveys on the remainder took place in August 2009 and May 2010.

No evidence of water vole were found during any surveys. No water vole latrines or feeding stations were identified. A number of burrows were identified, but these were presumed to be caused by rats.

The absence of water vole is not entirely surprising. Surveys at Adwick in 2002 suggested they were only present in a single drain, and anecdotal evidence suggests that North American mink (*Mustela vison*) are now locally common.

The proposals for wetland development at Adwick will probably result in significantly improved habitat for water vole. If water voles do re-invade the site from adjacent sites it is recommended that a programme to control mink is implemented.

Andrew Virtue Biodiversity Officer

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1 Introduction

Environment Agency ecologists undertook water vole surveys on a site at Adwick, near Bolton-Upon-Deerne, South Yorkshire (centred on OS Grid Reference SE 468 025). All watercourses within and adjacent to the application site were surveyed to assess for signs of water vole presence. The surveys were undertaken in April and August 2009. A follow-up survey was undertaken in May 2010.

The location of all these watercourses can be found on **Figure 1 (page 8)**.

1.1 Background information

The water vole is Britain's fastest declining mammal. It is now estimated that the species has been lost from 95% of the sites where it occurred earlier in the twentieth century, with the remaining populations fragmented and under serious threat from local extinction. There are a number of factors contributing to this decline including the loss of habitat, changes in land management and predation by the North American mink.

Local knowledge suggests that water voles were previously common along the River Deerne, but they now appear to be fragmented. Surveys at Adwick in 2002 suggested they were only present in a single drain (Bowler 2002). Populations are known to exist 3.5 km to the west at Old Moor RSPB reserve (Wall 2009), and also at Houghton Washlands, 7 km to the west.

1.2 Legislation

The water vole is now fully protected under the Wildlife and Countryside Act (1981). It is therefore illegal to take, kill or injure water voles, or to damage, destroy or obstruct access to any structure or place which water voles use for protection or shelter. It is also unlawful to disturb water voles while they are using such a place.

1.3 UK Biodiversity Action Plan

The UK Biodiversity Action Plan is the product of the Convention on Biological Diversity or the Rio Convention in 1992. The Convention sought to produce the first treaty that provided a legal framework for biodiversity conservation. The treaty is for the creation and enforcement of national strategies and action plans to conserve, protect and enhance biological diversity. In response to its international commitment to the conservation of

biodiversity, the UK Government set up the UK Biodiversity Steering Group, which published the UK Biodiversity Action Plan (UKBAP) in 1994. The overall aim stated in the UK BAP is:

"To conserve and enhance biological diversity within the UK, and to contribute to the conservation of global biodiversity through all appropriate mechanisms" (Biodiversity: The UK Steering Group Report 1995).

The UK BAP sets objectives and targets for the conservation of individual habitats and species and identifies actions that are required to meet those targets. It provides the strategic framework for local biodiversity action in the UK.

The water vole is listed as a Priority Species within the UK BAP and has been the subject of a Species Action Plan (SAP). The action plan aims to maintain the existing range and population status, as well as increasing the number of populations through re-colonisation. The SAP calls for a wide range of actions to further the conservation of this species including further surveys, monitoring and the favourable management of water vole sites.

2 Methodology

2.1 Desk study

A desk based data study was conducted in 2009 to support the field survey findings. This search involved contacting relevant organisations to collate any existing protected species records that lie within the site boundary and a 5 km search area around the site.

Organisations contacted included:

Natural England;

RSPB;

The Environment Agency.

2.2 Water vole survey

Surveys were undertaken in April and August 2009, and May 2010. All ditches were surveyed during the April 2009 survey, and the methodology followed Strachan (2006).

During the April 2009 survey the following evidence of water vole was searched for:

Sightings of water vole;

Water vole tunnel entrances;

Water vole "lawns";

Water vole feeding stations;

Water vole latrines (droppings);

Waterside paths;

Runs in vegetation;

Water vole footprints, and:

Sounds of water vole 'plopping' into the water.

An adapted survey technique was used during the August 2009 and May 2010 surveys. Here, floating rafts were baited with apple and checked after a two-week period. This survey technique has been used successfully in the past by Brian Lavelle at the Yorkshire Wildlife Trust. These surveys were restricted to one ditch system where previous records of water vole existed (2002).

The weather conditions were considered good on all three occasions - dry and warm. No significant rain had fallen on at least three days preceding each survey.

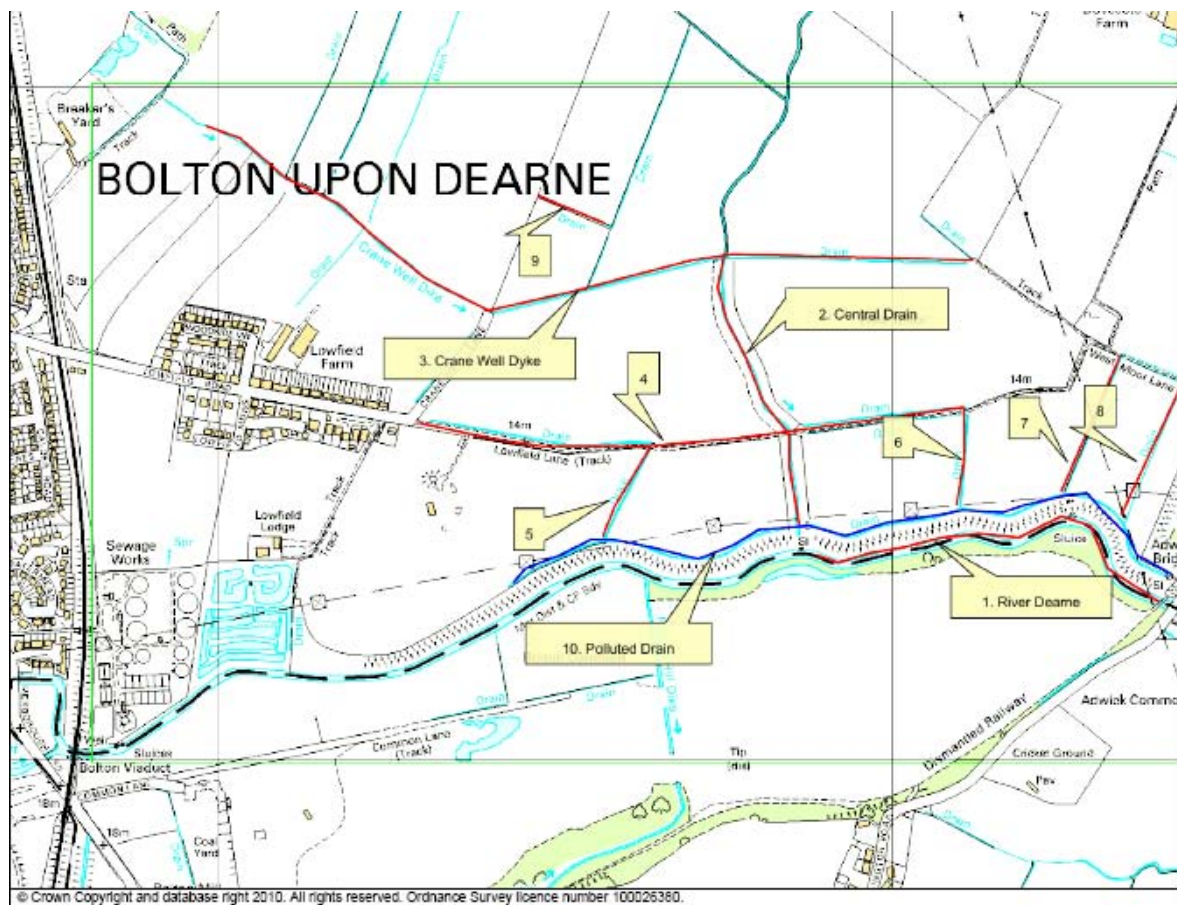


Figure 1: Surveyed watercourses / ditches



Figure 2: Photo of typical drain (number 5)

3. Results

3.1 Desk study

Table 1 – Desk study summary

Consultee	Response
Natural England	Do not hold protected species records.
RSPB	2009: Multiple records at Old Moor RSPB reserve (SE 423 058) 3.5 km to the west.
Environment Agency	2002: Multiple water vole records from Adwick site in along ochre-filled ditch adjacent to River Dearne (from SE 4647 0228 to 4726 0238). 2009: Records exist for Houghton Washlands (SE 421 053). 7 km to west. Population estimate using Morris <i>et al</i> (1998) of around 20 water voles at 4ha site.

3.2 Field surveys

3.2.1 Water vole survey

The general habitat is considered good for water vole, with an abundance of potential food and steep-sided banks providing good burrowing habitat. However, no confirmed water vole evidence was identified from within or adjacent to the application area during the survey. A number of burrows were noted in some of the ditches and along the River Dearne, but these are either relic water vole holes (not considered active) or are in use by rat. The following text should be read in conjunction with Figure 1, which shows the ditches surveyed. Those marked in red (numbers 1-9) were surveyed in 2009 only, and those in blue (number 10) surveyed in 2009 and 2010.

River Dearne (number 1 on Figure 1)

Multiple rat or water vole burrows were noted on the far bank of the River Dearne adjacent to the site but no latrines were seen.

Central Drain (West Moor Dike - 2 on Figure 1)

No burrows or latrines seen. One dead rat found on bank.

The habitat was considered generally good for water voles from the junction with the River Dearne northwards until the intercept with Crane Well Dike, and then it was heavily shaded by scrub. Between the river and Crane Well Dike the drain contained extensive populations of bog pond weed (*Potamogeton polygonifolius*), in addition to water starwort (*Callitriche* sp.), water cress (*Rorippa nasturtium-aquaticum*) and Canadian waterweed (*Elodea Canadensis*). Water crowfoot (*Ranunculus* sp.) was also present.

Crane Well Dike (3 on Figure 1)

Multiple burrows located west of Crane Well Dike. No latrines were seen. Between Crane Well Lane and West Moor Lane Track there were very few burrows seen.

Drains adjacent to Lowfield Lane (both labelled 4 on Figure 1)

Occasional burrows, but no latrines identified. Water voles are unlikely as there was very little standing water present (very deep sludge). Good populations of reed canary grass (*Phalaris*) and reed sweet grass (*Glyceria maxima*) present. Water crowfoot was also present.

Drain connecting west Lowfield Lane Track to polluted drain (5 on Figure 1)

Good potential habitat. Populations of reed sweet grass, reed canary grass present, which would provide potential cover and food for water voles. However, no burrows or latrines seen.

Drain connecting east Lowfield Lane to polluted drain (6 on Figure 1) - Dry.

Drain connecting polluted drain to west of West Moor Lane (7 on Figure 1)

Heavily over-shaded and very little standing water.

Drain connecting polluted drain to east of West Moor Lane (8 on Figure 1) - Dry.

Drains connecting to Crane Well Dike at far NW of site (9 on Figure 1) - Dry.

Polluted drain (10 on Figure 1)

This drain runs parallel with the River Dearne, being located on the southern boundary of the washland and on the 'dry' (northern) side of the washland embankment. The ditch was surveyed in April 2009 and then again in August 2009 and May 2010. The additional surveys were due to the presence of historical records of water vole (2002 survey). The habitat is considered generally good for water vole, with steep sided banks and extensive stands of branched bur-reed (*Sparganium erectum*) and reed canary grass.

During the August 2009 survey twenty floating rafts were placed along the entire stretch of this ditch at 40-50m intervals, and baited with apple. No water vole latrines were subsequently identified. Bank vole droppings were located on two of the rafts.

A follow-up survey by RSPB volunteers in October 2009 apparently identified a single water vole latrine along this stretch of ditch (Wall 2009). As a result, a further survey was undertaken by Environment Agency staff in May 2010. Ten rafts were placed at 40 m intervals in the region where the latrine was identified. No evidence was found.

4. Conclusions

Surveys undertaken in 2009 and 2010 failed to reveal any evidence of water vole from within or adjacent to the application site. As water voles were not found, it is considered very unlikely that this species is present within the study area.

The absence of water vole is not entirely surprising. Surveys in 2002 (Bowler 2002) suggested they were only present in a single drain, and anecdotal evidence suggests that mink are now locally common. Mink are known to be a major predator of water voles (Strachan 2006). Whilst water voles are present at Old Moor RSPB Reserve three kilometres to the west, the extensive reed-bed habitat at this reserve is more suited to predator avoidance by water voles (see Carter & Bright 2002). At Adwick the available habitat is dominated by a system of linear ditches, which probably favour mink.

Mink were recorded along the main (Central Drain) during the 2002 survey, and there are no known mink management programmes currently operating in the area. It is therefore possible that the presence of mink has led to a localised extinction of water vole populations at the site. However, a survey of the site by RSPB volunteers in October 2009 apparently identified a single water vole latrine along this stretch of ditch (Wall 2009). This sighting has not been confirmed by further survey. It can only be concluded that this was a single individual that was not alive by the 2010 survey. The relatively close proximity of the site to known populations of water vole means that re-invasion is an ongoing possibility.

The proposed works would not be expected to impact upon water vole (as they are not thought to be currently present). However, if during works on the banks of the drainage ditches active water vole burrows were found or suspected, works should stop and an ecologist and Natural England should be consulted for further advice. Where possible, the current ditches should be retained in their present state. In addition, the design of any new ditches should incorporate water vole-friendly features, such as the creation of steep-sided banks, the provision of a continual supply of water and the introduction of a range of aquatic and marginal plant species from other ditches within the site. An ongoing mink eradication programme should also be considered.

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ADWICK WASHLANDS

WINTER BIRD SURVEY

2009/2010

Picture ?

by Geoff Carr, MA; C Env; MIEEM; FRGS

ADWICK WASHLANDS
WINTER BIRD SURVEY – 2009/2010

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1. Introduction

The Adwick Washlands Survey was commissioned by the RSPB to evaluate a baseline of the various species of birds using the area and their populations. The survey area known as the Adwick Washlands straddles the Natural England Natural Areas of the Southern Magnesian Limestone to the east of the site and the extension of the Nottingham, Derbyshire and Yorkshire Coalfield to the west. The Agricultural Land Classification is of grade 2-3, good quality farmland. The survey area covers the lowland farmland to the east of Bolton upon Dearne with the northern boundary Far Moor Dike, the southern boundary the River Dearne and then tapering to Adwick Bridge. (see appendix map).

Most of this area is arable farmland and grassland but there is a couple of permanent fen areas, a number of seasonal flooded areas, hedgerows and dikes bordered by the River Dearne.

The objective of the survey was as follows.

- To carry out a winter bird survey for the presence of all species but particularly Schedule 1 species, Red List species, Amber List species and Species from the Barnsley Biodiversity Action Plan 2008-2012
- To provide details of winter bird populations from the above categories within the survey area.

Site Name Adwick Washlands	Location Lowfield Lane, Bolton Upon Dearne
Site Code None	Central Grid Reference SE468026
Surveyor Geoff Carr	Date of Surveys 13/11/09; 10/12/09 and 20/01/10
Geology/Soil Type Yorkshire Coalfield/ Southern Magnesian Limestone and Floodplain alluvial	Designation None

2. Methodology

The Winter Bird Survey was conducted over three separate visits during the months of November, December and January with morning visits in November and January and an afternoon visit in December. This was to give a broader perspective of any species feeding habits or movement. The morning visits were started after first light and ran for around 3 hours with the afternoon session starting after lunch and up to dusk.

Binoculars and a telescope were used throughout the survey visits in order that views could be gained across farmland and a GPS was used to provide any detail of locations for some species of note.

The whole of the survey area was walked within 100m of any point and any bird records collected were then entered onto the site maps and recording form using standard BTO codes.

3. Winter Bird Survey

All species of birds that were found on or using the survey area for hunting were recorded and any species flying over and continuing away were discounted.

During the surveys some Cormorant and skeins of Pink-footed Goose flew over but were not recorded.

There was some disturbance from dog-walkers along a general route beside the River Dearne and along Lowfield Lane but away from this line other disturbance is minimal other than occasional poaching for Brown Hare using dogs.

This particular winter was quite severe with snow as early as the 17th December and on a number of dates into 2010 with frosts most days. There was a period in mid-January when the River Dearne nearly overflowed its banks due to snowmelt and the surrounding land was quite wet.

Due to a more severe winter many species suffered or moved out of the country nationally and this is possibly mirrored at the Adwick site.

There were very few berries on the Hawthorn hedges throughout the survey as most had been taken earlier and therefore little food available for Thrush species. However, the River Dearne, the dikes and the rape fields offered food and shelter and because of this mix the survey produced a wide selection of important species.

Survey Results.

The following table gives a list of all species recorded on the site during the three surveys and totals from each visit. The list discounts any species flying over. It also gives the status of the species which fit into the following category: Schedule 1, UK BAP and LBAP, and “Red List” and “Amber List” species from Species of Conservation Concern 2009-2012.

Table 1

Species	1 st Survey	2 nd Survey	3 rd Survey	Status
Mute Swan <i>Cygnus olor</i>	2	0	0	
Greylag Goose <i>Anser anser</i>	0	0	7	Amber List
Ross's Goose <i>Anser rossii</i>	0	0	1	
Canada Goose <i>Branta canadensis</i>	33	0	0	
Common Teal <i>Anas crecca</i>	1	0	1	Amber List
Mallard <i>Anas platyrhynchos</i>	4	2	7	Amber List
Tufted Duck <i>Aythya fuligula</i>	0	0	1	Amber List
Goosander <i>Mergus merganser</i>	0	0	1	
Grey Partridge <i>Perdix perdix</i>	13	9	0	Red List; UK BAP; LBAP
Pheasant <i>Phasianus colchicus</i>	2	2	0	
Little Grebe <i>Tachybaptus ruficollis</i>	2	0	0	Amber List
Cormorant <i>Phalacrocorax carbo</i>	0	0	2	
Grey Heron <i>Ardea cinerea</i>	0	0	2	

Sparrowhawk <i>Accipiter nisus</i>	0	0	2	
Kestrel <i>Falco tinnunculus</i>	1	2	0	Amber List
Peregrine Falcon <i>Falco peregrinus</i>	0	0	1	Schedule 1
Moorhen <i>Gallinula chloropus</i>	5	6	0	
Northern Lapwing <i>Vanellus vanellus</i>	6	0	35	Red List; UK BAP; LBAP
Redshank <i>Tringa totatus</i>	1	0	0	Amber List
Black-headed Gull <i>Chroicocephalus ridibundus</i>	0	20	44	Amber List
Stock Dove <i>Columba oenas</i>	8	6	6	Amber List
Woodpigeon <i>Columba palumbus</i>	0	500	24	
Collared Dove <i>Streptopelia decaocto</i>	0	10	0	
Kingfisher <i>Alcedo atthis</i>	3	0	0	Amber List; Schedule 1
Skylark <i>Alauda arvensis</i>	4	1	0	Red List; UK BAP; LBAB
Pied Wagtail <i>Motocilla alba</i>	0	20	20	
Wren <i>Troglodytes troglodytes</i>	1	0	1	
Dunnock <i>Prunella modularis</i>	2	1	1	Amber List
Robin <i>Erithacus rubecula</i>	1	4	3	
European Stonechat <i>Saxicola rubicola</i>	1	0	0	
Blackbird <i>Turdus merula</i>	8	10	6	
Fieldfare <i>Turdus pilaris</i>	50	130	4	Red List
Song Thrush <i>Turdus philomelos</i>	2	1	0	Red List; UK BAP; LBAP
Redwing <i>Turdus iliacus</i>	4	20	0	Red List
Long-tailed Tit <i>Aegithalos caudatus</i>	0	10	0	
Blue Tit <i>Cyanistes caeruleus</i>	2	4	0	
Great Tit <i>Parus major</i>	0	2	1	
Willow Tit <i>Poecile montanus</i>	0	2	0	Red List; UK BAP; LBAP
Magpie <i>Pica pica</i>	4	5	6	
Carrion Crow <i>Corvus corone</i>	4	10	9	
Starling <i>Sturnus vulgaris</i>	0	2	4	Red List; UK BAP; LBAP
House Sparrow <i>Passer domesticus</i>	4	2	0	Red List; UK BAP; LBAP
Chaffinch <i>Fingilla coelebs</i>	7	0	0	
Goldfinch <i>Carduelis carduelis</i>	2	0	0	

Linnet <i>Carduelis cannabina</i>	0	5	0	Red List; UK BAP; LBAP
Bullfinch <i>Pyrrhula pyrrula</i>	4	2	0	Amber List; UK BAP; LBAP
Yellowhammer <i>Emberiza citrinella</i>	1	1	0	Red List; UK BAP; LBAP
Reed Bunting <i>Emberiza schoeniclus</i>	4	0	2	Amber List; UK BAP; LBAP

4. Survey Analysis

The surveys were completed as follows:

The 1st visit was done on 13th November, 2009 between 0730 and 1015 in fine, dry weather; the 2nd visit on 10th December, 2009 between 1330 and 1615 in fine, dry weather and the 3rd visit on 20th January, 2010 between 0900 and 1145 in fine, dry weather.

Species Accounts

The following species accounts are for Schedule 1 species, UK BAP and LBAP species and “Red List” and “Amber List” species of Species of Conservation Concern recorded on the Adwick Washlands.

Greylag Goose *Anser anser*

7 birds were grazing on one of the seasonal flooded areas on the northern side of Lowfield Lane on the 20th January survey date. A Ross’s Goose was present with these birds and appeared fairly tame, concluding it was a feral bird.

Common Teal *Anas crecca*

Single birds were present on the seasonal flooded area and on the Fen Mire on two separate survey dates.

Mallard *Anas platyrhynchos*

Up to several birds using the seasonal flooded areas, the Fen Mire and the River Dearne for feeding and resting.

Tufted Duck *Aythya fuligula*

One bird recorded on the River Dearne.

Grey Partridge *Perdix perdix*

A strong covey of 13 birds recorded on the first survey date and probably the same covey with 9 birds on the second survey date in kale in the western part of the survey area between Lowfield Lane and the River Dearne.

Little Grebe *Trachybaptus ruficollis*

Two birds recorded on the River Dearne on the first survey.

Kestrel *Falco tinnunculus*

Up to two birds using the uncultivated areas of the farmland for hunting during the surveys.

Peregrine Falcon *Falco peregrinus*

A bird recorded hunting the survey area during the survey on the 20th January and probably one of the birds seen frequently at RSPB Old Moor.

Northern Lapwing *Vanellus vanellus*

Up to 35 birds using the survey site for both feeding and resting.

Redshank *Tringa totanus*

One bird recorded feeding on the edge of the Fen Mire during the first survey.

Black-headed Gull *Chroicocephalus ridibundus*

Up to 44 birds recorded feeding and resting on the survey site during the surveys.

Stock Dove *Columba oenas*

Up to eight birds feeding in the survey area during the three surveys.

Kingfisher *Alcedo atthis*

Three birds recorded along the dikes to the north of Lowfield Lane on the first survey date.

Skylark *Alauda arvensis*

A surprisingly low maximum of only 4 birds recorded during the three surveys.

Dunnock *Prunella modularis*

Up to two birds recorded in the hedgerows at the western end of Lowfield Lane.

Fieldfare *Turdus pilaris*

A maximum of 130 birds recorded feeding in the fields within the survey area.

Song Thrush *Turdus philomelos*

Two birds feeding under the hedgerows near to the cottages and within the survey area on the first survey date.

Redwing *Turdus iliacus*

Up to 20 birds feeding on the fields during the three surveys.

Willow Tit *Poecile montana*

Two birds recorded together in the hedge which runs alongside the dike between Lowfield Lane and the River Dearne.

Starling *Sturnus vulgaris*

Up to 4 birds recorded on Lowfield Lane towards the cottages.

House Sparrow *Passer domesticus*

Up to 4 birds recorded on Lowfield Lane towards the cottages.

Linnet *Carduelis cannabina*

A small flock of 5 birds recorded on the edge of the Fen Mire on one survey date.

Bullfinch *Pyrrhula pyrrhula*

Up to 4 birds recorded along the hedgerows of Lowfield Lane during the three surveys.

Yellowhammer *Emberiza citrinella*

Only one bird recorded on two survey dates within the survey area.

Reed Bunting *Emberiza schoeniclus*

Up to 4 birds recorded within the survey area.

5. Winter Bird Survey Recommendations

From these three surveys recommendations can be formed on a way forward to enhance and manage Adwick Washlands for the future benefit of winter birds.

From this survey it has emerged that this is a small but important area for various winter species and this could be further expanded to increase the number of winter species.

The recommendation would be to;

- deepen and widen some of the dikes to create a manageable flow of water on the site and to use sluices to manage the levels. Any work would need to take account of any Water Vole (if found) and the already rich floral content of the dikes. Widening would be important in minimising access and disturbance to the site.
- To use the existing depressions on the land and expand these to create a mosaic and larger, shallow water area that would be attractive to feeding and resting wildfowl and wader.
- To increase in size, improve and manage the two Fen Mire habitats on the site. The main Mire in the field at map ref SE469027 could be expanded by a fringing shallow scrape to provide an improved feeding habitat for wildfowl and wader.

The Mire at SE473025 could be kept and managed much as it is with dominant Grey Willow *Salix cinerea*, Common Cotton-grass *Eriophorum angustifolium*, *Sphagnum*, Soft Rush *Juncus effusus* and Lesser Water Parsnip *Berula erecta* with Bulrush *Typha latifolia* and Water Mint *Mentha aquatica* around the fringes. This Mire is dissected by the bridleway and too close for alternative management to benefit wader species but would be ideal for wintering Water Rail and for Reed Bunting.

- Depending on water quality and following the advice of a drainage engineer, there may be an opportunity for a bolder scheme using the existing flow of water from the West Moor Dike to keep the depressions on the land to the north of Lowfield Lane wet.

6. Appendix

A complete list of the species recorded on the Adwick Washlands site over the three visits.

Table 2:

Full list of all species recorded within the survey area. These are birds using the survey area for feeding, resting or roosting and were not birds that were seen flying over.

Mute Swan <i>Cygnus olor</i>
Greylag Goose <i>Anser anser</i>
Ross's Goose <i>Anser rossii</i>
Canada Goose <i>Branta canadensis</i>
Common Teal <i>Anas crecca</i>
Mallard <i>Anas platyrhynchos</i>
Tufted Duck <i>Aythya fuligula</i>
Goosander <i>Mergus merganser</i>
Grey Partridge <i>Perdix perdix</i>
Pheasant <i>Phasianus colchicus</i>
Little Grebe <i>Tachybaptus ruficollis</i>
Cormorant <i>Phalacrocorax carbo</i>
Grey Heron <i>Ardea cinerea</i>
Sparrowhawk <i>Accipiter nisus</i>
Kestrel <i>Falco tinnunculus</i>
Peregrine Falcon <i>Falco peregrinus</i>
Moorhen <i>Gallinula chloropus</i>
Northern Lapwing <i>Vanellus vanellus</i>
Redshank <i>Tringa totatus</i>
Black-headed Gull <i>Chroicocephalus ridibundus</i>
Stock Dove <i>Columba oenas</i>
Woodpigeon <i>Columba palumbus</i>
Collared Dove <i>Streptopelia decaocto</i>
Kingfisher <i>Alcedo atthis</i>
Skylark <i>Alauda arvensis</i>
Pied Wagtail <i>Motocilla alba</i>
Wren <i>Troglodytes troglodytes</i>
Dunnock <i>Prunella modularis</i>
Robin <i>Erithacus rubecula</i>
European Stonechat <i>Saxicola rubicola</i>
Blackbird <i>Turdus merula</i>
Fieldfare <i>Turdus pilaris</i>
Song Thrush <i>Turdus philomelos</i>
Redwing <i>Turdus iliacus</i>
Long-tailed Tit <i>Aegithalos caudatus</i>
Blue Tit <i>Cyanistes caeruleus</i>
Great Tit <i>Parus major</i>
Willow Tit <i>Poecile montanus</i>
Magpie <i>Pica pica</i>
Carion Crow <i>Corvus corone</i>

Starling <i>Sturnus vulgaris</i>
House Sparrow <i>Passer domesticus</i>
Chaffinch <i>Fingilla coelebs</i>
Goldfinch <i>Carduelis carduelis</i>
Linnet <i>Carduelis cannabina</i>
Bullfinch <i>Pyrrhula pyrrula</i>
Yellowhammer <i>Emberiza citrinella</i>
Reed Bunting <i>Emberiza schoeniclus</i>

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16/03/10