

Local Sites Annual Monitoring Report 2010

Merseyside Local Sites Partnership



Final Draft

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Summary

Local Wildlife Sites are an important asset at a district, regional and national level for their nature conservation value. *Making Space for Nature*, Lawton (*et al*) highlights the importance Local Wildlife Sites currently carry out for nature conservation, mitigating against climate change, and improving people's health and prosperity.

In 2006, Defra issued revised guidelines for the identification, selection and management of Local Wildlife Sites. In line with this guidance, the North Merseyside Local Sites Partnership is responsible for the monitoring of the North Merseyside Local Wildlife Sites. Monitoring of North Merseyside Local Sites has been completed annually since 2004. For data consistency purposes, only the monitoring results from 2008, 2009 and 2010 have been compared in this report. In 2010, a total of 24 Local Wildlife Sites across North Merseyside districts were monitored.

Annual monitoring of Local Wildlife Sites can help to provide:

- An indication of any sites that are at risk from negative impacts such as inappropriate management, development and invasive species.
- Information on the condition of designated features
- Recommended management to maintain or bring a site into favourable condition.
- Information for districts to report the current status of Local Wildlife Sites in their Unitary Development Plan Annual Monitoring Reports.
- Data that can be used to measure the effectiveness of policy protection.
- Recommendations to help meet NERC biodiversity duties
- Information and data that can contribute to the Single Data Set

Of the 24 Local Wildlife Sites selected, 4 sites were in Sefton, 11 sites in Knowsley, 5 sites in St. Helens and 4 sites in Liverpool.

Monitoring in 2010 found:

- An increase in the number and variety of sites monitored, with input from a wide range of sources.
- All sites still exist in full as defined by site boundaries in the designation register. Three sites have had adjacent development since designation or previous monitoring.
- A continuing trend of walking and dog walking as the most popular activities on Local Wildlife Sites.
- Tipping and burning continue to be the negative activities recorded most often.
- Some positive management is in place but all sites require some form of management for conservation purposes, especially invasive species control and scrub control.
- A continuation of invasive species presenting a significant threat to designated features. 15 sites have invasive species, with Japanese Knotweed occurring most often (13 sites).
- An increasing loss of native English bluebell populations, as they become hybridised with Spanish bluebells.

- Focussing of management, especially on sites with invasive species will help reduce future management costs.
- An increase in resources needs to be made available for Local Wildlife Site monitoring and surveying if the rolling ten year target for monitoring is to be met.

Comparing the monitoring results from 2008 – 2010 has shown a number of issues:

- Four sites have been reduced in area due to development or land use changes. Equating to 6% of the sites that have been monitored.
- The majority of sites is under some form of management (73%), but only 23% are currently managed for conservation interests.
- An increasing trend over the three years of monitoring towards habitat loss, specifically wetland and grassland habitats. The monitoring indicates these habitats are being lost to undesirable succession.
- Those sites with management for conservation have retained habitats, with very limited losses. Only one habitat has been recorded as lost, although this site has a management plan under implementation that may be working towards reinstating this feature.
- A very high proportion of sites require additional management, with management recommendations being made in over 80% of sites each year.
- A number of sites could have adjacent areas included within the boundaries. Monitoring is required to determine if these meet the requirements of local wildlife sites.

1. Recommendations

- 1.1. Sites should continue to be given the highest protection from development, and further protection is needed to limit encroachment.
- 1.2. The Liverpool City Region Ecological Framework should be fully implemented by the districts and the potential for expanding and linking sites realised. This could come from a variety of mechanisms, including residential/business development, infrastructure improvements or a form of biodiversity offsetting.
- 1.3. With the current financial situation, there should be more cross-boundary projects to manage, enhance, link and protect local wildlife sites. This will spread costs and lead to wider biodiversity improvements, which will benefit more local residents and businesses.
- 1.4. Management resources need to be increased to raise the number of sites with management that is positive for conservation.
- 1.5. Biodiversity should be integrated into all functions of site management. Where management is in place for amenities and recreation, some benefits are accorded to nature conservation. However, by making use of these existing resources, management should be modified to enhance further nature conservation. This will have the added benefit of maximising existing resources at minimal cost.
- 1.6. Councils should include biodiversity in the management of all sites, even if they are not LWSs. This will help meet the biodiversity duty set out in Section 40 of the NERC Act, as well as significantly contributing toward the expansion and improvement of biodiversity across Merseyside. In certain areas it may also work towards linking existing wildlife sites, establishing an ecological framework and meeting recommendations set out in *Making Space for Nature* (Lawton *et al*).
- 1.7. As walking and dog walking continue to be the most popular activities, path maintenance and dog bins should be provided in an attempt to help reduce vegetation damage and nutrient input in habitats where maintaining a low nutrient status is beneficial.
- 1.8. Invasive species control is a high priority and should be improved immediately. Important habitat features are at risk of being lost completely if the presence of invasive species is not controlled in an effective manner. Effective invasive species control will also reduce future management costs.
- 1.9. Currently, monitoring is able to give an indication of sites that are managed with positive effects for conservation. This can help inform Single Data Set reporting. Local Wildlife Site monitoring can further inform reporting through a greater knowledge of sites and recommendations to focus management. In turn, NI197 reporting can help direct the choice of Local Wildlife Sites for monitoring, by highlighting gaps in knowledge.

- 1.10.** Through the Single Data Set, the requirement for more LWSs to be in positive management will increase. This means the number of sites monitored each year will also need to be increased.

2. Introduction

Local Wildlife Sites

Local Wildlife Sites (LWSs) are an important asset at a district, regional and national level for their nature conservation value. They can range in size from as little 0.1 ha to over hundreds of hectares and encompass a wide variety of habitats. LWSs contain valuable nature resources that contribute to biodiversity through their connecting and buffering qualities, supporting habitats and species that are rare or declining, providing good examples of an exceptional population of a more common species, or an exceptional diversity of species or habitats. With over 42,000 sites across England, LWSs are the most numerous nature conservation sites in England and cover 5.2% of the country. Although LWSs are mostly very small, with the most common size being around 4.6 hectares (*Making Space for Nature*, Lawton *et. al.*), across the country they contain 80% of threatened plant species and 100% of BAP priority butterfly species. In certain areas, LWSs provide the bulk of areas designated for nature, both in number and combined area. LWSs are therefore extremely important for nature in these areas. Almost 20% of LWSs are within urban areas, providing over 130,000 hectares of urban green-space, by far the largest contribution of any wildlife sites. (Table 1).

Type of wildlife site/area	Area of overlap (ha)	% of wildlife site series
Sites of Special Scientific Interest (SSSI)	28,793	3.6
Local Nature Reserves	22,106	58.5
Local Wildlife Sites	133,525	19.2
Areas of Outstanding Natural Beauty	41,124	2.1
National Parks	14,966	1.2
Total urban area	2,677,620	N/A

Table 1; Area of Wildlife sites within or near urban areas. *Making Space for Nature* (Lawton *et al.*).

LWSs are identified by a Local Sites Partnership (LSP) and endorsed by a Local Authority in their Unitary Development Plan (soon to be Local Development Framework). In 2006, Defra issued guidance on the identification, selection and management of LWSs. The guidance recommended that countywide partnerships be established to manage Local Site systems for each county.

LWS do not have any statutory status but are afforded protection through the planning system. Planning Policy Statement 9 (PPS9) sets out planning policies on protection of biodiversity and geological conservation through the planning system. But in practice this protection is weak, depending on the

planning policy and decisions of local authorities. Nationally, the loss of LWSs continues to occur.

Lawton Report

In September 2010 the report *Making Space for Nature: a review of England's wildlife sites and ecological network*. Report to Defra, 2010, Lawton, J.H., *et al.*, was published. This report has been produced to assess if England's wildlife and ecological sites "represent a coherent and resilient ecological network" and provide a future direction of travel for nature conservation.

The report stresses that England's current nature sites provide a large range of benefits to the country and the population. This includes well-being and monetary aspects. Currently the sites support the full range of England's biodiversity, although there are notable gaps. It also stresses that the protection afforded to certain areas, such as Sites of Species Scientific Interest (SSSIs), Ramsar Sites, Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) is adequate and is meeting the objective of maintaining these sites. The level of appropriate management mirrors this high level of protection, with 95% of SSSIs now (2010) in favourable condition.

Although certain areas of England's nature conservation are well protected and managed, the report stresses that these alone cannot provide a "coherent and resilient ecological network" into the future. In fact they are not providing this at the time of writing. This is because they were not designed for that purpose. The network of sites is currently; under-managed, under-protected, too small, too fragmented, too pressured by surrounding land uses and not enough in number. The overriding recommendation from this report is that "to enhance the resilience and coherence of England's ecological network" we need a step change in nature conservation, with a focus on; *more, bigger, better* and *joined* nature sites. The immediate priority is to improve the quality of existing nature sites.

LWSs in the Lawton Report

LWSs are heavily discussed in *Making Space for Nature*. They are stated as 'important wildlife sites', being an integral part of England's ecological network. They are shown to support other designated sites due to their number, collective size, range of locations and range of habitats. LWSs are also shown to be important to people's health, well-being and quality of life. Although, the report concludes that overall LWSs "are often neglected and frequently damaged or lost".

Throughout *Making Space for Nature*, the future potential LWSs could provide to England's ecological network is stressed. "LWSs are important to future ecological networks, because they not only provide wildlife refuges in their own right but can act as stepping stones and corridors to link and protect nationally and internationally designated sites" (Lawton *et al*). *Making Space for Nature* also comments that this will only be achieved through improvements to the current sites, "(LWSs) have considerable potential to make a greater contribution towards England's ecological network, if the habitats within them were better managed and more secure".

The improvement and protection of LWSs is very important to establishing and maintaining an ecological framework. Reporting against National Indicator 197 in 2010 has shown that only 33% of LWSs are currently in positive management, although this figure was 29% for Liverpool City Region during the same period. Better management of wildlife sites has been shown to increase local populations of targeted species, by as much as two orders of magnitude. It also presents an opportunity to make more efficient use of scarce space to conserve biodiversity.

Recommendation 12, within *Making Space for Nature*, is that Local Authorities take responsibility for the identification and monitoring of LWSs. **Within North Merseyside this is already being undertaken with the Merseyside Local Sites Partnership and monitoring being conducted since 2008 through 'The status of Local Wildlife Sites in Merseyside, Local Sites Annual Monitoring Reports'.**

2.1. Defra guidelines

In 2006 Defra issued guidelines based around the principle that:

"whilst Local Sites may also provide other benefits, they contain features of substantive nature conservation value and that the purpose of selection is to provide recognition of this value and to help conserve those features by affording the sites an appropriate degree of protection."

The guidelines recommend that the term **Local Sites** be used which corresponds to the term used in the Government's new planning policy advice at the time. Defra also advise that the general condition of Local Sites is monitored every five to ten years to enable the reporting of the current state of Local Sites and ensure the features for which the site was originally designated are still present.

2.2. Local Wildlife Sites in Liverpool City Region

Liverpool City Region has around 400 LWSs. To designate Local Wildlife Sites, all sites for which records exist are assessed against the guidelines. Any sites, which meet the designation guidelines, are recommended for designation as Local Wildlife Sites. The designation guidelines are based on Ratcliffe (1977) A Nature Conservation Review, and take account of protected species and Biodiversity Action Plan species and habitats.

2.3. Local Sites Partnership (LSP)

Following Defra's 2006 guidelines, the North Merseyside LSP was established. This covers the districts of Knowsley, Liverpool, Sefton and St. Helens. Halton and Wirral are aligned with Cheshire's Local Sites system, as a result of being within the Cheshire Vice County for biological recording purposes.

Formed in June 2006, with Merseyside EAS as its chair, the main aims were to establish standard Merseyside-wide Local Site selection and evaluation guidelines. A business plan was agreed for the first three years of the Partnership. So far the LSP has (1) agreed Local Wildlife Site selection guidelines which are now implemented, (2) delivered a Local Wildlife Site monitoring system and (3) prepared 4 annual monitoring reports covering 5

years. A new business plan is now being set out. During 2009, focus shifted to organising and delivering NI 197 reporting requirements.

The partnership has responsibility for 265 Local Sites in the partner districts. Contrary to the general trend over the last 10 years, in North Merseyside only 4 sites (1%) have been lost, or have had developments approved, which will cause them to lose their LWS status. **This shows the priority and commitment the districts are giving to nature conservation, and the work that the LSP are doing to secure and maintain Local Wildlife Sites.**

2.4. Monitoring functions

The annual monitoring of LWSs performs several functions. As well as meeting the needs of the LSP, information obtained can also be of use to departments in local authorities and external bodies. Typically monitoring can provide:

- Information on sites that are at risk from development, inadequate land management and invasive species.
- An overview of the condition of the site (i.e. Are the features of importance still present and in good condition?).
- Any management actions that are required
- Information for districts to report the current status of LWSs in their Annual Monitoring Reports.
- Data that can be used to measure the effectiveness of policy protection.
- Data can be used to help the Local Authorities report on the National Biodiversity Indicator (NI 197)
- Recommendations to help meet NERC duties under Section 40.
- Information to meet Recommendation 12 as set out in *Making Space for Nature* (Lawton *et al*).

2.5. NI197

National indicators (NIs) measure the performance of local authorities against national policy that has been agreed by government. NI197 is the biodiversity indicator that measures a Local Authority's performance for biodiversity. The performance is assessed by considering how many LWSs have had positive management implemented for the features for which they were originally designated. Local authorities are expected to provide this information for the last five years by the end of March for each reporting year. This report can assist in collection of data for the national indicator by providing an account of management activities across a selected number of sites for each year. Two monitoring rounds have been conducted during 2009 and 2010. During 2010 Defra reviewed its business plan. The information previously provided through NI197 will still be required in 2011, but through the Single Data Set.

2.6. Natural Environment and Rural Communities Act (2006)

Local authorities across England have a statutory duty towards the conservation of biodiversity. The Natural Environment and Rural Communities Act (NERC) 2006, places a duty on public bodies to have regard to biodiversity conservation. Section 40 of the act states:

Section 40 Duty to conserve biodiversity.

“Every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity.”

The recommendations from the Local Sites monitoring report can help departments within local authorities meet their NERC duties. Further advice and guidance can be found in the leaflet:

“Merseyside Local Authorities & the Biodiversity Duty” available at: <http://www.merseysidebiodiversity.org.uk/index.asp?content=v2content\progress.xml>

In May 2010 the report ‘Review of the Biodiversity Duty contained in Section 40 of the NERC Act 2006’ was published. The report reviewed the impact of this duty since its implementation. A number of Local Authorities were questioned on their experiences of Section 40. The report found that a wide range of work has been implemented relating to conservation of biodiversity, although there is considerable variation in the awareness of the duty and in the biodiversity action that has been undertaken.

3. Methodology

3.1. Type of sites monitored

A wide variety of sites was monitored during 2010 (Appendix 1). The majority of sites had a variety of habitats present. There was a focus on monitoring grassland and wetland sites during 2010.

3.2. The monitoring of Local Sites has four stages.

3.2.1. Desktop analysis

Desktop analysis of sites performed the initial stage of data collection. Each site has a citation that details the reasons why a site was originally designated. Habitat and species data from the citation was transferred to the monitoring form that was used during the site visit to validate if original designation features were still present. Species records from previous surveys of the areas were obtained from Merseyside BioBank. Other information that has been carried out for a number of functions, such as planning applications, was also consulted to gather as much data as possible. Boundary maps and the most recent aerial photography for sites were also reviewed. Desktop analysis takes approximately 30 minutes per site.

3.2.2. Contact land managers

Where sites are in private ownership, permission was sought for access to the land. For sites that are in public ownership, information was sent to council departments informing them that surveys will be taking place during the 2010 monitoring period. Owners or land managers were informed if any damage to the site was discovered during monitoring.

3.2.3. Site visits

Walkover surveys were conducted for each site. Site visits were undertaken between April and August 2010. The habitat features of a site dictate the timing of surveys. For example, woodland sites require surveys to be completed before the end of June when ground flora is still visible. Surveys inspect site boundaries, habitat features and species, current activities and management practices, and suggest management and enhancement that would be of benefit to biodiversity. Photographs may be taken of sites to provide an additional visual record. The time required for each visit was between 40 minutes and five hours depending on the site.

3.2.4. Completion of monitoring forms

The monitoring forms (Appendix 2) were completed on site visits as part of walkover surveys. Phase 1 habitat survey target note records were also completed on site. Copies of the phase 1 target notes were then passed to Merseyside BioBank for data capture. Data was extracted from the forms and input into a spreadsheet to assist with analysis and results.

3.3. North West Lowlands Water Vole Project (NWLWVP)

As part of the water vole project, 14 LWSs were monitored for the presence of water voles (Appendix 5). The results of 4 have been included within the results analysis as the presence of water voles is the sole reason for designation. Acornfield Plantation was also surveyed and the

results combined with the habitat surveys. More detail on these sites can be found in the discussion under Section 6.8.

4. Results

4.1. Sites monitored

24 sites were monitored in 2010 (Appendix 1), with 4 sites in Sefton, 11 sites in Knowsley, 5 sites in St. Helens and 4 sites in Liverpool. The majority of sites monitored in 2010 was in Knowsley. This can be afforded to the concerted effort by a number of groups to monitor a range of sites.

4.2. Ownership

Of the 24 sites surveyed, 17 are in council ownership and 7 are in private ownership. The local authorities own 71% of LWS surveyed in 2010.

4.3. Sites exist in full

All sites were found to be in the full extent as per the boundaries set out at the time of designation or since last monitoring.

Liverpool has recently reviewed its LWSs and had boundaries redrawn. This has applied to Cressington Heath where the south-eastern area has been removed from the citation. A housing development has been built on this area. As the site has been designated again with different boundaries, it has been classed that this site has had an adjacent development (see below), not reduced in size.

4.4. Adjacent development/change of land use

Since designation, 3 sites (12.5%) have had adjacent land that has been developed. These are; Acornfield Plantation in Knowsley, where an industrial unit has been built; Cressington Heath in Liverpool, where a housing development has been built; and River Alt, Seth Powell Way in Knowsley, which has had an adjacent area turned into a play area with tree planting.

Since designation of West Lancs Golf Course, an area adjacent has been used to place sandy spoil from a nearby development. Recently, this has been planted to recreate dune grassland habitat. This is not classed as development or land use change.

A leisure centre has been built adjacent to Huyton Lane Wetland since designation. This was noted during the 2008 surveys and has not been included in 2010. It was surveyed again in 2010 due to concerns from local residents that the development was causing the wetland to dry out. This survey was inconclusive, possibly due to the dry spring experienced in 2010.

4.5. On site activities

Walking was found to be the most common activity recorded, on 19 sites (79%) (Appendix 3). Dog walking followed very closely, at 18 sites (75%).

Evidence of negative activities, such as tipping, burning and motor scrambling was recorded at 4 sites (16.5%) across the districts.

4.6. Non-native Invasive species

17 sites (71%) had non-native invasive species present (Appendix 4). Nine different non-native invasive species were found to be present. Japanese Knotweed was the most recorded species at 13 sites. Himalayan balsam was recorded at 7 sites and rhododendron at 5 sites. Spanish/Hybrid bluebell was confirmed at 3 sites, but the possibility of hybrid bluebells was recorded at 4 other sites.

Childwall Wood and Fields and Fazakerley Woods and Field, contained the highest number of invasive species (5 recorded). Two sites had an area greater than 25% covered in non-native invasive species. These are Hospital Grounds, Eccleston and Hollins Hey Wood.

Key Park, Blundellsands is a Coastal Dune habitat and the invasive species identified included Japanese Rose, Gorse and Sycamore. Although the latter two are not strictly non-native invasive species, their impacts to this priority habitat can be severe if allowed to get out of control.

4.7. Designated features

LWSs across North Merseyside can be designated for a variety of features. The sites surveyed in 2010 reflected this (Appendix 1). During the site surveys the condition of the designated features was assessed. The designated features may not have been recorded during the surveys, but this does not mean they have been lost. Due to a number of factors such as, time of year, survey time, surveyor experience, habitats and species can be missed.

4.7.1. Designated Habitat Features

All the habitats that are classed as designated features were assessed in 2010. Of the 24 sites surveyed, 16 have a habitat feature as part of their designation; the other 8 sites are designated for the presence of particular species (Appendix 5). To maintain continuity with the previous two years of monitoring, the assessment of designated habitat features has been summarised in Figure 1 below, and figure 3 which can be found in Appendix 5.

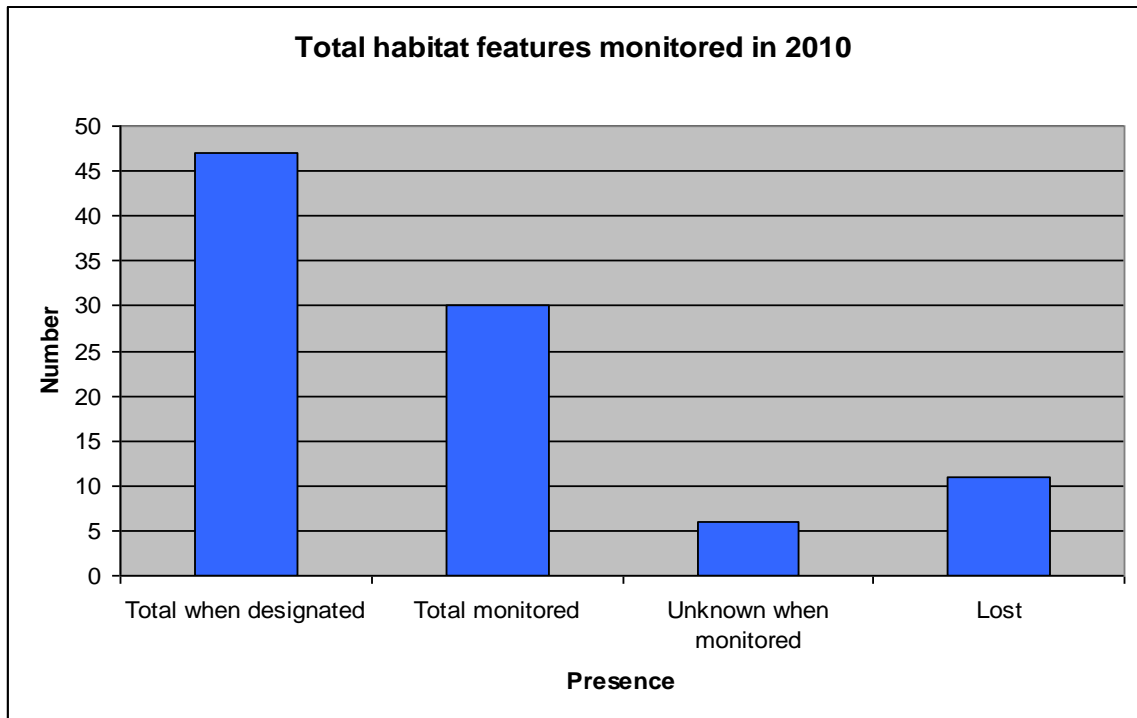


Figure 1, Total habitat features monitored in 2010

Around 64% of designated habitat features are still present, 13% were unknown and 23% were recorded as lost since designation/previous monitoring.

The habitat groups which lost the largest number of sites were grassland and wetland habitats. Both these habitat groups were recorded to lose 4 features. All the areas of Swamp, Dune scrub and Lowland heath were recorded to have been lost. As only one area of Dune scrub and Lowland heath was monitored in 2010, this finding should not be used as a trend for other equivalent habitat features across North Merseyside.

A total of 7 LWS were recorded to lose a designated habitat feature (Appendix 5). Only Hospital Grounds Eccleston lost more than one, recording the loss of 4 designated habitat features. This means all the designated habitats have been lost at this site.

During the monitoring 6 features were recorded as unknown. This was either due to the information not being included on the monitoring form, the time of year/conditions were not appropriate, or the experience of the surveyor.

Huyton Lane Wetland was surveyed in 2008, with all the habitats recorded, but the unimproved acid grassland was not recorded during 2010. It is useful to highlight that a habitat can disappear within two years.

4.7.2. Designated Species Features

Of the 24 sites surveyed in 2010, 22 are designated for the presence of a Nationally, Regionally or Locally Rare species, or an exceptional population of a common species. In some sites this is in addition to Habitat Features, in other sites the species is the only designated feature (Appendix 5). During the 2010

monitoring, some species were not recorded. This was primarily due to time constraints, limited survey effort or limited knowledge. To allow the data to be analysed, only species that are either the sole designation feature, or those that can be easily identified by a wide range of surveyors (e.g. water voles, bluebells), have been included in the results and analysis.

4.7.2.1 Designated Plant Features

Plant species are designation features in 16 sites monitored in 2010. Many of these were not monitored due to reasons set out above. Therefore, 15 of these sites require specialist plant surveys. English bluebell is the most commonly designated plant species, at 9 sites.

Only one site was recorded to have English bluebells definitely present. This was Hospital Ground, Eccleston. At 5 sites (Hollins Hey Wood; Little Wood; Fazakerley Woods and Fields; Childwall Woods and Fields; and Mill Wood and Alder Plantation), some bluebells appeared to be Spanish or hybrid bluebells. More detailed surveys were recommended to clarify which plants were Spanish or hybrid bluebells, therefore requiring control. At Stadt Moers Q4, Crank Caverns and Former Rainhill Hospital Site, the presence or absence of bluebells were not included on the monitoring form.

Westcliffe Road Verge is designated for the presence of Smooth rupturewort, this was still present in 2010.

4.7.2.2 Designated Animal Features

Animal species are designation features at 16 site monitored in 2010. At 4 sites a number of species were not recorded during the monitoring. These are Edge Farm Rookery, where the rooks were recorded at another location; River Alt Seth Powell Way, where water voles were not recorded; red squirrels were not recorded at Fazakerley Woods and Fields; and the introduction of natterjack toads to West Lancs Golf Course was reported to have failed.

The surveyor of Fazakerley Woods and Fields stated that there have been anecdotal sightings of red squirrels on site, but they were not seen during the survey. Therefore, another survey is recommended to clarify this. The desk study of Key Park, Blundellsands also highlighted that a sand lizard survey should be undertaken to bring the records up to date.

A low number of water vole signs was recorded at Acornfield Plantation. The surveyor recorded that the habitat for water voles is extremely limited along the ditches, which are becoming overgrown with scrub and trees. Management was recommended to remove this.

4.8. Current site management

16 sites (66%) had some management being undertaken, even if minor (Appendix 6). The management at 11 sites (46%) was found to be having a positive effect for the conservation interest(s). The management at the other 4 sites was found to be neutral to the conservation interest(s).

Of the sites that are managed, 8 had conservation specific management. These are; Childwall Woods and Fields; Huyton Lane Wetland; Little Wood; Ten Acre Pits; Mill Wood and Alder Plantation; Key Park, Blundellsands;

Fazakerley Woods and Fields; and Crank Caverns. This is 33% of the total sites monitored in 2010.

It was evident that the banks of Dog Clog Brook had been cut before monitoring. But it is not know how often this is conducted and over what proportion of the site.

As a result of the monitoring, Knowsley Council are progressing plans to implement more and targeted management at Ten Acre Pits, Halewood Triangle and Little Wood.

4.9. Management recommendations

It was found that 20 sites (83%) require some form of management; this includes sites that are currently being managed (Figure 2). The majority of management is recommended on sites in Knowsley, but this is due to the high proportion of sites surveyed in comparison to the other districts.

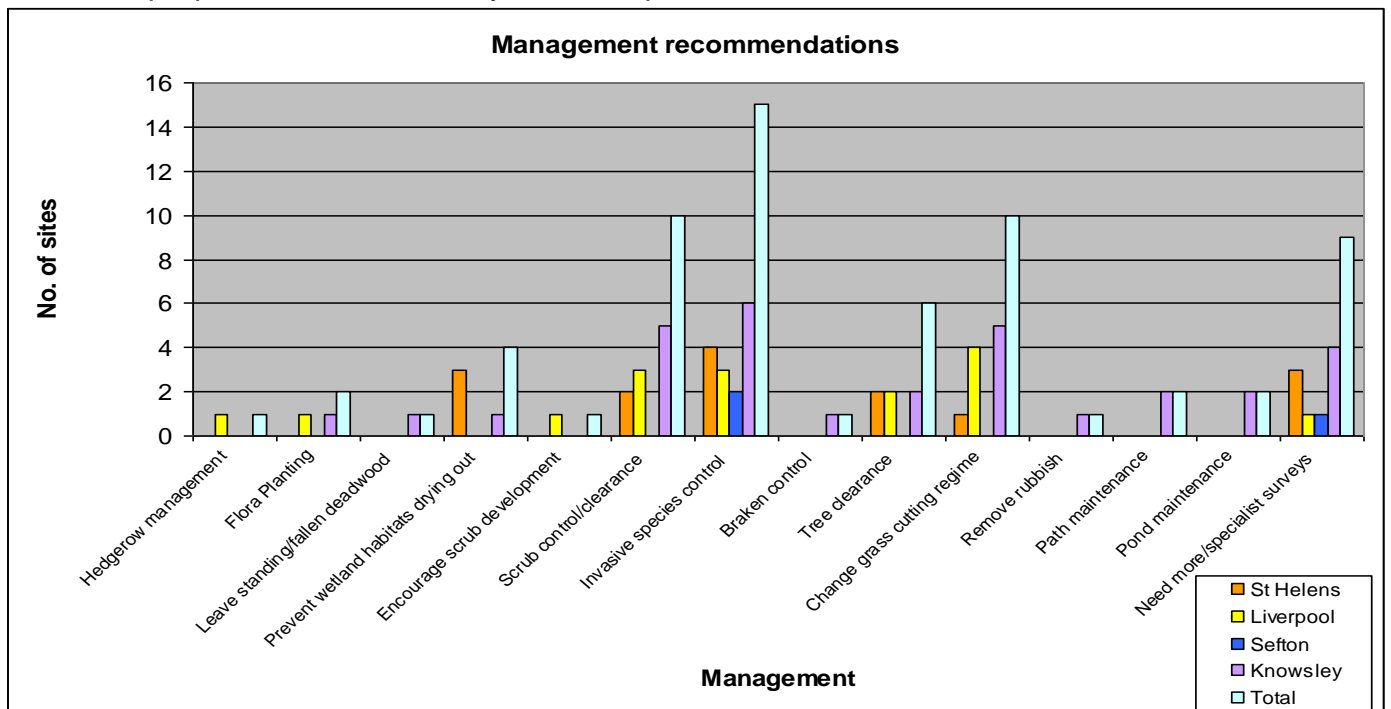


Figure 2. Overall management recommendations

As is evident from Figure 2, the most common form of management recommendation is invasive species control, with 15 sites (62%) requiring this. Scrub control and implementing an appropriate grass cutting regime are both recommended at 10 sites (41%).

There are only 2 (8%) sites that do not require any different management. Westcliffe Road Verge is mown regularly, which is maintaining the designated feature (Smooth Rupturewort). Key Park, Blundellsands has a management plan that is being implemented.

Due to lack of information River Alt, Kirkby and Kirkby Brook need further investigation to determine the current management and any future recommendations. Similarly, Dog Clog Brook would benefit from an investigation into the current management regime.

5. District Summaries

5.1. Knowsley

- The majority of sites surveyed in 2010 was in Knowsley, with 11 sites. A significant effort was made to survey these sites with surveys being conducted by the North West Lowland Water Vole Project, the Forever Meadows Project and staff at Merseyside Environmental Advisory Service.
- All were in the full extent as set out in the citations. Knowsley Council owns 10 of the sites surveyed, only Dog Clog Brook is owned privately.
- An area adjacent to Acornfield Plantation has recently been developed as an industrial unit. An area to the south-west of River Alt, Seth Powell Way has been developed into a playground area.
- Huyton Lane Wetland was surveyed again in 2010. This was due to concerns from local residents that the recently constructed Leisure Centre, next to the wetland, is causing the site to dry up. The results were inconclusive, possibly due to the unusual weather during early 2010.
- Walking and dog walking are the most popular activities, occurring at 9 sites surveyed. The other sites are a golf course and farmland.
- Little Wood was the only site to have destructive activities recorded (tipping, motor-scrubbing and burning). It was also the site with the most recorded activities (6).
- It was found that 6 sites had invasive species present. The most commonly found were Japanese Knotweed and Spanish/Hybrid Bluebell, found at 5 and 4 sites respectively. Acornfield Plantation and Little Wood had the most number of invasive species recorded (4).
- The site that has the most coverage of invasive species is Acornfield Plantation. The coverage was recorded as between 6 – 25% of the site. This figure could increase with the inclusion of water fern (*Azolla*), but this requires further surveys.
- It was found that 2 sites had lost designated habitat features, these were Neutral Grassland at Acornfield Plantation and Marshy Grassland at Halewood Triangle. The presence of designated habitats at Huyton Lane Wetland, Stadt Moers Q4 and Ten Acre Pits was undetermined during monitoring.
- River Alt, Seth Powell Way is designated for the presence of water voles. No signs were recorded during the monitoring, although management is recommended to prevent scrub encroachment. Water vole populations fluctuate so this could be due to a dip in the local population.
- Only two sites were not recorded as being in active management. These were Kirkby Brook and River Alt, Kirkby. This does not mean they are not managed, but it was not recorded on the monitoring forms. All the other 9

sites had some form of management; no management was having a negative impact. Three sites were found to have conservation specific management; these are Huyton Lane Woodland, Little Wood and Ten Acre Pits.

- All sites would benefit from some form of management for conservation (Table 2). The mostly commonly recommended management was found to be invasive species control and scrub clearance, at 6 sites each. Grass cutting was also recommended at 4 sites. Halewood Triangle and Little Wood have the highest number of recommendations.
- The additional surveys recommended are; confirmation of bluebell species at Stadt Moers Q4 and Little Wood, an additional survey to assess if the unimproved acid grassland is still present at Huyton Lane Wetland, and an assessment if Acid or Neutral grassland are present at Ten Acre Pits.

	Acornfield Plantation	River Alt, Kirby	River Alt, Seth Powell Way	Dog Clog Brook	Halewood Triangle	Huyton Lane Wetland	Kirkby Brook	Kirkby Brook, Northwood	Little Wood	Stadt Moers Q4	Ten Acre Pits
Flora Planting					✓						
Prevent wet land habitats drying out					✓						
Leave standing deadwood									✓		
Scrub control	✓		✓		✓			✓		✓	
Invasive species control	✓			✓	✓				✓	✓	✓
Bracken Control	✓										
Tree clearance	✓				✓						
Change Grass cutting regime			✓	✓				✓		✓	✓
Path maintenance					✓				✓		✓
Pond management									✓		
Needs more/specialist surveys						✓			✓	✓	✓
Remove Rubbish	✓								✓		

Table 2. Recommended management on Knowsley LWSs

Liverpool

- Four sites were surveyed in Liverpool. Only Cressington Heath is in private ownership. Fazakerley Woods and Fields is owned by the council and Aintree NHS Trust.
- Since the reassessment of LWSs within Liverpool, all sites are in the full extent as set out in the citations. Cressington Heath has had an adjacent area developed into a housing estate.
- All sites were recorded as being used for walking and dog walking. Motor-scrubbing was recorded at Fazakerley Woods and Fields, and burning was recorded at Mill Wood and Alder Plantation.
- All sites had invasive species present. Japanese knotweed and Spanish/hybrid bluebell were present at the most sites (3 sites). Childwall Woods and Fields, and Fazakerley Woods and Fields both had 5 species of invasive species present, while Cressington Heath and Mill Wood and Alder Plantation only had one species recorded.
- Only one habitat feature was recorded as lost across the sites in Liverpool. This was the Lowland Heath at Cressington Heath. The surveyor of Cressington Heath stated that, although heather is present on site, the cover is currently limited and therefore cannot be classed as heath. It has been identified prior to the monitoring that the site requires grassland and heath restoration.
- All other habitats were recorded to be present still. Although a number were noted to be in poor condition.
- The bluebells at all sites where they are a designation feature, were recorded as a mix of English and Spanish/hybrid. More surveys are required to identify specific plants or areas which require removal.
- Water voles are still present at Fazakerley Woods and Fields, but red squirrels were not recorded during the monitoring. There may have been anecdotal sightings, but specific surveys are advised.
- Only Cressington Heath is not, notably, managed. All other sites have conservation specific management covering the sites, although it was estimated that only 20% of Fazakerley Woods and Fields is actively managed. It should be highlighted that the sites which are managed have not lost habitat features.
- All sites require management, changing the grass cutting regime is recommended at all sites. This is followed by invasive species control and scrub control. Mill Wood and Alder Plantation has the most recommendations. The additional survey is to ascertain the true species of bluebell.

	Childwall Woods and Fields	Cressington Heath	Fazakerley Woods and Fields	Mill Wood and Alder Plantation
Hedgerow Management				✓
Flora Planting	✓			
Encourage scrub development				✓
Scrub control	✓	✓	✓	
Invasive species control	✓	✓	✓	
Tree clearance			✓	✓
Change grass cutting regime	✓	✓	✓	✓
Needs more/specialist surveys				✓

Table 3. Recommended management at Liverpool LWSs

5.2. Sefton

- Three of the sites surveyed in 2010 are privately owned, only Westcliffe Road Verge is owned by the council. All sites were found to be in the full extent as set out in the citations.
- No site has had adjacent developments. The area of sandy spoil left adjacent to West Lancs Golf Course has recently undergone habitat restoration as part of the mitigation for the dumping of the spoil.
- The most common form of use was walking and dog walking, occurring at 2 sites.
- Three sites had invasive species recorded; Edge Farm Rookery, Key Park Blundellsands and West Lancs Golf Course. Japanese Knotweed is the most common invasive species, present at 2 sites. The site with the most invasive species was Key Park Blundellsands. Japanese Rose, Gorse and Sycamore were recorded.
- Only Key Park Blundellsands and West Lancs Golf Course are designated for habitat features. The dune slack habitat at Key Park Blundellsands and the dune scrub habitat at West Lancs Golf Course were not recorded during the monitoring. The acid grassland habitat at West Lancs Golf Course was undetermined during the monitoring. The surveyor noted that the designation of this habitat could have been a mistake, as dune grassland could be mixed with the type of acid grassland listed as present on site.
- The Rooks at Edge Farm were recorded to have moved to another location. This site will require future monitoring to assess if the rooks return.
- Only Edge Farm Rookery is not managed within the sites surveyed. The other 3 sites' management was neutral. Key Park Blundellsands is the only site being actively managed for conservation interests, with a management plan implemented.
- Only two of the sites require additional management, these are Edge Farm Rookery and West Lancs Golf Course. Japanese knotweed control is recommended at both sites. The current management at Key Park Blundellsands and Westcliffe Road Verge should be maintained.

5.3. St. Helens

- Five sites were surveyed in St. Helens during 2010. The council owns Hollins Hey Wood, Former Rainhill Hospital Ground and Grassland south of towpath, Sankey Valley Park. Hospital Grounds, Eccleston and Crank Caverns are privately owned. All exist in their full extent and none have had adjacent developments.
- The most popular activities recorded were cycling, walking and dog walking, occurring at 3 sites. The only activities evident at Hospital Grounds Eccleston were burning and tipping. Vandalism has been reported at Crank Caverns.
- All sites, except Crank Caverns, had invasive species recorded. Japanese knotweed was recorded most, at Former Rainhill Hospital Site, Hollins Hey Wood and Hospital Ground Eccleston.
- Hollins Hey Wood and Hospital Grounds Eccleston had 2 invasive species recorded, with coverage of between 26-50%.
- All the designated habitats were recorded as lost in Hospital Grounds Eccleston, although English bluebells were still recorded. The loss of these habitats can be attributed partly to the highly successional nature of the habitats and the extensive coverage of invasive species. There is an express need for management at this LWS.
- The area of Acid Rock Exposure and Standing Water at Former Rainhill Hospital were undetermined during the monitoring.
- The only sites with current management are Crank Caverns, where the Merseyside and West Lancashire Bat Group have installed bars to prevent vandalism, and Grassland South of Towpath Sankey Valley Park, where the paths are maintained. The other three sites had no sign of management.
- All sites require additional management (Table 4). The most common management recommendation is invasive species control. Bluebell surveys are recommended at Crank Caverns, Hollins Hey Wood and Former Rainhill Hospital site. An assessment is also recommended to ascertain if the habitats that were not recorded are still present.

	Crank Caverns	Former Rainhill Hospital	Hospital Ground Eccleston	Hollins Hey Wood	Grassland south of towpath, Sankey CP
Invasive species control		✓	✓	✓	✓
Change grass cutting regime		✓			
Scrub control		✓	✓		
Anti-vandalism bars	✓				
Prevent wetland habitat drying out			✓	✓	✓
Tree clearance		✓		✓	
Needs more/additional surveys	✓	✓		✓	

Table 4. Recommended management at St. Helens LWSs

6. Discussion

6.1. LWS Extent and Ownership

Over the last 3 years 63 sites have been monitored. It has been found that only 4 LWSs have been reduced in size because of development or changes in land use. In three sites this was due to development, while in the remaining site agricultural land expansion/change was the reason. This number is only 6% of the total site monitored. An extremely low figure compared to figures stated in *Making Space for Nature* (Lawton *et al*), which states that in Derbyshire alone 62 LWS were reduced in size between 1984 and 2008.

69% of sites were found to be within public ownership in 2010. Across North Merseyside around 42% of LWSs are owned by public sector organisations. These sites provide a valuable resource to wildlife and the local community. Although there is large potential for these sites to provide a far wider range of benefits for the local population and contribute towards the establishment of England's ecological network.

6.2. Adjacent development

During the 2010 monitoring, 3 sites were recorded as having had adjacent developments or land use changes. This is 12.5% of the total sites surveyed. This is down on the percentage in 2009 (21%) and very similar to 2008 (12%).

Over the three years of monitoring, 11 sites (6.6%) have had adjacent developments or land use changes. Although not affecting the boundaries of all sites', developments and some changes in land use can affect a site's ability to support species and maintain habitats. A development or change in land use can remove buffering areas around sites, therefore reducing the size and diversity of habitats within an area. It can also reduce the ability of some species to move between sites, affecting the ability of those species to maintain strong, robust populations.

6.3. Local Wildlife Site uses and activities

Walking and dog walking continue to be the most popular activities in Local Wildlife Sites. Walking and dog walking occurs in 79% of the sites monitored in 2010. Although this is a decrease from the previous year's figure of 85%, there has been an increase in the number of sites monitored in 2010.

6.4. Invasive species

It was found that 70% of sites contained invasive species during 2010. Compared to 2009 (85%) there has been a small drop, but this figure is still higher than 2008 (60%).

In common with monitoring during 2008 and 2009, Japanese knotweed continues to be the most encountered invasive species in 2010. This is followed by Spanish/hybrid bluebell and Himalayan balsam.

Along with lack of management, invasive species continue to be the most damaging factor to sites in North Merseyside. These impacts are strongly linked, as a lack of management allows invasive species to grow and spread. An abundance of invasive species can also discourage management from being undertaken due to increased cost and complexity. Future management

needs to have a strong focus on invasive species control to reduce the negative impacts on habitats and ensure the designated features of LWSs are maintained.

6.5. Habitat loss

During 2010, 12 designated habitats (23%) were recorded as lost. Compared to the previous two years, this is a large increase. For example, 8% of the designated habitat features were lost in 2008, and 6% was lost in 2009. In 2010, only 64% of designated habitats were still present, compared to 73% in 2008 and 77% in 2009. Although these habitat features have been classed as lost, no designated features have been permanently lost. None of the sites surveyed has been destroyed beyond repair.

Compared to the previous two years, there has also been a small increase in the number of sites affected by habitat loss. In 2010, 8 sites were affected, compared to 4 in 2009 and 6 in 2008. Taken as a percentage of the total sites monitored, each year there has been an increase. In 2008, 24% of sites were affected, in 2009 – 28% and in 2010 – 33%.

Following trends from the previous two years, the habitat groups experiencing the largest declines are grassland and wetland habitats, with a total of 8 areas lost in 2010. Combined over the last three years, a total of 18 areas of wetland and grasslands habitats have been lost from the surveyed sites. The habitats experiencing the largest declines over these three years have been Standing Water and Marshy Grassland. In total there has been a loss of 5 areas of Standing Water and 6 areas of Marshy Grassland. No other designated habitat features have been recorded to have such high losses.

Unlike 2008 and 2009, no Acid Grassland was classified as lost in 2010, but two areas were classified as unknown during the monitoring. Two areas of Neutral Grassland were recorded as lost during 2010 surveys, in line with overall patterns of grassland loss.

The 2010 monitoring shows there has been an expansion in the types of habitats lost. In 2008 and 2009 between 3 and 4 types of habitat feature were lost, with the habitats fitting broadly into either grassland or wetland, but in 2010 this had increased to 7, including the loss of an area of Lowland Heath and Dune Scrub.

The habitats with the highest losses over the last 3 years can be highly prone to succession. Without management to maintain the habitat, they will eventually become overgrown or dry out. This can be demonstrated in a number of LWS during the 2010 monitoring. For example, the Hollins Hey Wood surveyor commented that the Standing Water habitat feature was not present, but an area of boggy ground was. It needs to be taken into account that the loss of such high numbers of wetland sites could be down to decreased rainfall. In 2010 a number of surveyors commented that a wetland feature was not present, but this may be due to the low rainfall.

With regard to species loss, it has already been stated that some plants and animals were not surveyed due to a variety of reasons. This does not mean they have been lost from sites. Generally 'good habitats', maintained in

optimum conditions, result in the retention of species. Although this is not always the case, resources do not allow for in-depth monitoring of designated species, therefore an assessment of habitat quality is most effective. As stated in Section 4.7.2.1 many sites require specialist surveys, but this should not be the priority. Overall site monitoring should be conducted on all LWSs first, then as resources/opportunities arise more in depth surveys can be undertaken.

6.6. Management

Over the three monitoring years a total of 46 sites (73% of those monitored) experienced some form of management. There is no trend towards an increase or decrease in the sites managed generally between the years. Similarly there is no trend towards an increase or decrease of sites being managed for conservation over the last three years.

Over the last three years, only 17 sites (27% of the sites monitored) have management for conservation interests. This is a comparative figure to those stated in the 2010 reporting for NI197, but it does reinforce the need for more conservation specific management. It is interesting to note that within the 17 sites with management for conservation, there are 49 designated habitat features. Through the monitoring, only 1 area has been recorded as lost, and only 5 recorded as unknown, (although, some retained habitats have been recorded as not in optimum condition). In the sites which are not managed for conservation, 22 habitat areas have been lost and 10 recorded as unknown.

Even though a number of sites were recorded as managed in 2010, 83% still require additional management. This continues the trend of a high proportion of sites requiring management through the three years. Invasive species management is the most recommended site management, being recommended at 26 sites. There is also another trend of preventing succession, specifically scrub control and changing the grass cutting regime, which is evident. These recommendations have been made 25 and 21 times respectively. The LWSs in North Merseyside contain a large number of grassland, wetland and coastal habitats, as well as large water vole populations. As succession occurs these species/habitats become less in size and number.

Between the monitoring years, there has been an increase in number of management recommendations made. For example in 2008 – 49 were made, 2009 – 54 and in 2010 – 67. This is particularly interesting when you take into account in 2008 the most sites were monitored (25), while in 2009 only 14 sites were monitored. It is unclear why this is, but it may be due to a greater scrutiny of site by surveyors; a proactive approach by surveyors to improve sites; an actual need for more management; or a variety of scrutiny level of the monitoring forms during analysis. It will be interesting to see the management recommendations which are made following monitoring in 2011.

6.7. Monitoring

In 2009 5% of LWSs were monitored, this has increased in 2010 to 9%. There was a concerted effort to carry out the monitoring in 2010, with 7 groups providing information towards this report.

Although there has been an increase in the number of sites monitored, if the target of all sites to be monitored in the rolling ten-year period is to be met, an increase in resources needs to be made available for LWS monitoring and surveying.

A number of sites could not be surveyed in 2010 because of access problems, for example, Switch Island was highlight for survey, but could not be done because of issues with access. If these sites are to remain as LWSs then surveys will be needed in the future. Closer working with partner organisations will be needed to secure access and conduct, effective and complete monitoring.

6.8. North West Lowlands Water Vole Project (NWLWVP)

As stated in section 3.2.5, 5 sites were surveyed as part of the NWLWVP, and the results used within this report. The project also surveyed a number of other LWSs, which were not included within this report. This was because the other designation features were not surveyed. 4 sites have the presence of water voles as part of their designation, and 6 do not feature water voles as part of their designation. A summary of the results can be found in Table 8 in Appendix 7.

Of the sites that do not have water voles as part of their designation, Kirkby Brook, Inc. Mill Brook was recorded as having a large number of water vole signs. 38 latrines and one animal were sighted during the survey. Although water vole populations fluctuate, this site is bounded by other LWSs which are designated for water voles. This site will require further monitoring to assess if the water vole population is a long-term feature and can be included as part of the designation.

7. Conclusions

With the implementation of standard LWS selection guidelines across the districts within North Merseyside, a range of sites have been selected that form the basis of an ecological network. This network of sites currently provides an important facility for the provision of greenspace and the protection of biodiversity across North Merseyside. The sites are also an important resource for the future enhancement of biodiversity, forming the core areas of any improvements to the ecological network.

Local Wildlife Sites within North Merseyside continue to be a valuable asset to wildlife and local populations. For three years the most popular activity within LWSs has been walking and dog walking. It is widely regarded that people who have access to greenspaces lead healthier, happier and more productive lives. A large number of LWSs within North Merseyside is contributing towards this. *Making Space for Nature* (Lawton *et al*) shows that almost 20% of LWSs across the England are within urban areas, providing valuable green space for local residents.

Over the last 5 years only 4 LWSs have been totally lost to development. During monitoring, 3 sites have been recorded to lose area to development and only one site to changes in land use. The councils and Local Sites Partnership should be satisfied in the work conducted to safeguard and maintain LWSs. Although, these figures do highlight the main impact on LWSs within Merseyside is development. The districts should continue to implement policies set out in their Unitary Development Plans to protect LWSs. The future Core Strategies should also highlight the importance of LWSs and ensure they are safeguarded, maintained and enhanced into the future.

Generally over the last three years of monitoring, it is evident that sites are not in the best condition they could be, and the loss of habitats within LWSs continues to put pressure on biodiversity across North Merseyside. There is an increasing trend of habitat losses and the major reason for this is the lack or misdirection of management. This loss of habitat will have a large affect on the species present with LWSs.

It is very evident from surveys that all sites require targeted and planned management, to maintain, reinstate or improve the designated features to some extent. It can be shown that those sites that are managed for conservation have retained habitat features. If more management resources were targeted and planned towards conservation, there could be a significant increase in the condition and ecological value of LWSs. A major problem continues to come from invasive species and the undesirable success of habitats.

The continued monitoring and assessment of LWSs is needed across North Merseyside to inform councils, land managers and owners of the requirements of the sites. Although an increased effort is needed to ensure all the LWSs are monitored on a rotational basis, great strides have already been made with over 60 sites monitored in the past three years.

These conclusions parallel the findings in *Making Space for Nature* (Lawton *et al*), which found that the majority of LWSs are under-managed and currently not

meeting their potential. If the LWS within North Merseyside are to support England's ecological framework, an increased effort is needed to facilitate their improvement. *Making Space for Nature* also states that management of a site for conservation can increase targeted species populations drastically. In a country with limited space, this provides a cost effective and more efficient use of space. This is even more significant in Merseyside with the high human population density and the relatively small size.

Merseyside is also shown to be an area of high habitat fragmentation in *Making Space for Nature*. The Liverpool City Region Ecological Framework has been put in place to provide the foundations to link remaining areas of wildlife habitat. As stated previously LWSs are an integral part of this. They act as reservoirs of species and habitats that can extend into new areas when given the opportunity, but the established LWSs have to be in good condition and large enough to provide the best results.

Making Space for Nature and the NERC Act Review 2010, both recommend that there is further potential for work in LWSs. Both recommend that LWSs owned by local authorities should have management plans implemented and their potential fully realised. A number of sites across North Merseyside are already meeting these recommendations, but to reach their full potential this needs to be encouraged across all sites.

The current work to; establish an Ecological Framework, to protect, manage, and monitor LWSs, means North Merseyside is in a good position to meet the achievements of maintaining and improving biodiversity across the area.

Bibliography

Bennett, C (2009) "National indicator sub-regional report" Merseyside Environmental Advisory Service.

Department for Environment, Food and Rural Affairs (2006) "Local Sites Guidance on their Identification, Selection and Management." Available at <http://www.defra.gov.uk/wildlife-countryside/ewd/local-sites/localsites.pdf>

Entec Uk Ltd (2010) "Review of the Biodiversity Duty contained in Section 40 of the NERC Act 2006"

Hartley, A (2008) "The status of Local Wildlife Sites in Merseyside 2008". Merseyside Environmental Advisory Service.

Hartley, A (2009) "The status of Local Wildlife Site in Merseyside 2009". Merseyside Environmental Advisory Service

Lawton et al (2010). *Making Space for Nature: A review of England's Wildlife Sites and Ecological Network.*

Merseyside Biodiversity Group (2008) "Merseyside Local Authorities and the Biodiversity Duty"
<http://www.merseysidebiodiversity.org.uk/index.asp?content=v2content\la-resources.xml>

Merseyside Biodiversity Group (2008) "NI197: Data Guidance". Available at <http://www.merseysidebiodiversity.org.uk/index.asp?content=v2content\la-resources.xml>

Rhodes, R (2007) "The status of Local Wildlife Sites in Merseyside 2007". Merseyside Environmental Advisory Service.

Rhodes, R (2008) "North Merseyside Local Wildlife Sites Selection Guidelines". Merseyside Environmental Advisory Service.

Royal Commission on Environmental Pollution, 2007

The Wildlife Trusts (2008) "Status of English Local Wildlife Sites systems"

Appendix 1

Sites monitored during 2010

Knowsley

Acornfield Plantation

River Alt, Kirkby

River Alt, Seth Powell Way

Dog Clog Brook

Halewood Triangle

Huyton Lane Wetland

Kirkby Brook

Kirkby Brook, Northwood

Little Wood

Stadt Moers Q4

Ten Acre Pits

Liverpool

Childwall Woods and Fields

Cressington Heath

Fazakerley Wood and Fields

Mill Wood and Alder Plantation

Sefton

Edge Farm Rookery

Key Park, Blundellsands

Westcliffe Road Verge

West Lancs Golf Course

St Helens

Crank Caverns

Former Rainhill Hospital Site

Grassland south of towpath, Sankey Valley Park

Hollins Hey Wood

Hospital Grounds, Eccleston

Appendix 2

Example of Local Wildlife Site monitoring forms and target notes.

Merseyside Local Sites Partnership**Local Wildlife Sites Monitoring Form**

Site name	Rainhill Hospital		Borough	St. Helens
Survey Date DD/MM/YYYY	13.7.10	National grid reference:	SJ495924	Surveyor/s Rick Rogers Mike Roberts
Ownership	Public Y / N	Private Y / N	Time spent on site (Hours : mins) :	Photographs taken?
St. Helens Council	Y	N	90 mins	No

Does the site, as defined by the register still exist in full? **YES**

Does only part of the site exist? **N/a**

If the site boundary has changed amend the site boundary on the plan to show changes and type of land use on developed part of the site.

Please list the land uses adjacent to the site below: **Residential / Highway**

Has any land adjacent to the site been developed since this site was last monitored? Y / N

If yes, show changes on the plan.

Site activities

Please circle any of the following activities undertaken on site:

Burning, tipping, motorscrambling, walking, **dog walking**, horse-riding, shooting, rearing game, cycling, livestock grazing (specify below), other grazing (e.g rabbit, deer), other activities (specify below).

BMX Track constructed but doesn't compromise the woodland**Invasive species**

Are there any non-native invasive species present? Yes

Please circle any of the following that are present:

Japanese knotweed, Himalayan balsam, Rhododendron, Giant hogweed / Hybrid knotweed, Giant Hogweed, Spanish or hybrid bluebell, Water fern (*Azolla*), Parrots feather, Floating pennywort, Australian swamp stonecrop (*Crassula*) others (please specify).

What percentage of the site is colonised by non-native invasive species?

More than 75%, 51-75%, 26-50%, 6-25%, **5%** or less

Condition of features for which the site has been designated

Please list the habitats, plant species and animal species for which the site has been designated in the left hand column of the tables below.

Habitats	Present? Y / N Please indicate extent of habitats on the plan	Comments on condition, damage, management requirements, enhancement opportunities, any further survey required.
Woodland	Yes	Woodland structure has improved under its own processes. The woodland is generally in good condition. Management of the extensive regeneration –reduction by 50% is recommended. Long-term aim of development towards Oak /Ash woodland with an element of “parkland ornamental” reflecting its origins.

Plants	Present? Y / N	Comments on condition, damage, management requirements, enhancement opportunities, any further survey required.

N.B. If it is not possible to check the presence of all species for which the site has been designated due to large number of species or difficulties in identification you should indicate this in the comments box field.

Animals	Species Present / suitable habitat present (please indicate below)	Comments on condition, damage, management requirements, enhancement opportunities, any further survey required.

0.1 Site management

Is the site currently managed? **No**

Who is responsible? St. Helens Council

Has a management plan been drawn up for the site, and by whom?

UKWAS plan in place

Estimate what proportion (%) of the site is managed:.....**0%**

Is all or part of the site in Environmental Stewardship ((O)ELS / HLS), Woodland Grant or other scheme? **No**

Please give a brief description of the current management. Is it undertaken to maintain / enhance features of interest for which the site was designated and/or to meet BAP targets or for other purposes? If the site is not managed give an estimate of when management last took place. If in ELS/HLS, are the options known?

Woodland Structure has improved without any intervention. Future management is needed guide development.

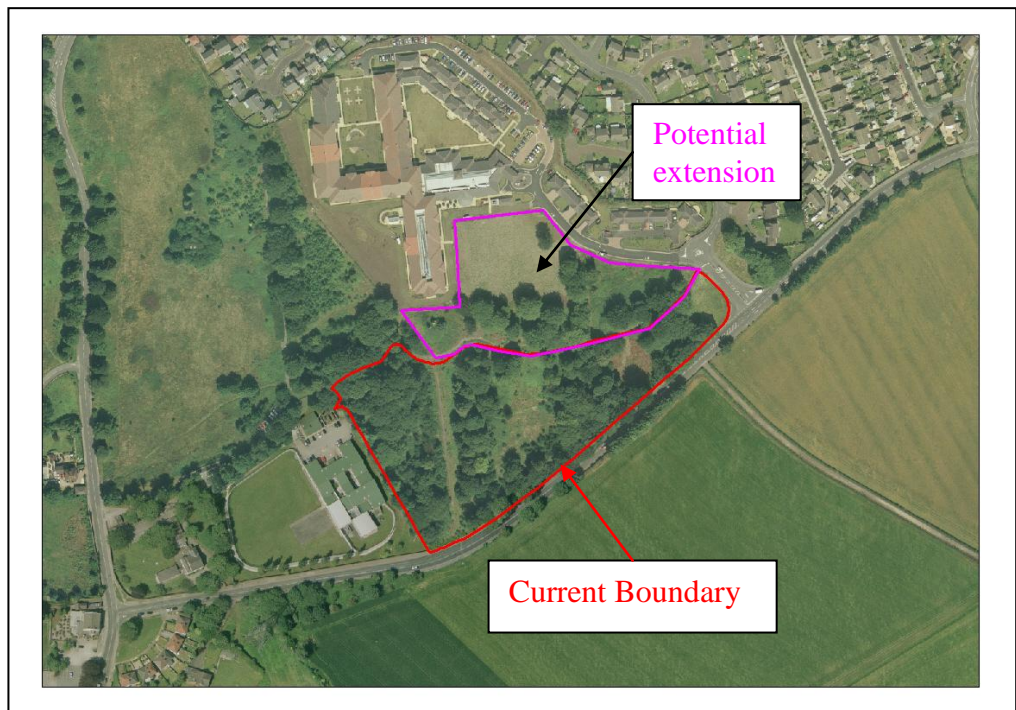
Please describe briefly any management required on the site and any potential enhancement opportunities (note that for some sites no management may be a valid answer):

- Eradication of Japanese knotweed
- Mowing of grass rides alongside footpaths
- Tree Safety Inspection / Works
- Rationalisation of regeneration.

Review of the LWS boundary should be undertaken to assess if the adjacent grassland and tall herb areas should be included:

Grassland Sample Species:

- Yarrow
- Meadow vetchling
- Ragwort
- Birdsfoot trefoil
- Hemp agrimony
- Gtr Willowherb
- Ribwort plantain
- Silverweed
- Hypericum perforatum
- Hairy tare
- Fennel
- Weld
- Tansy
- Burdock
- Hogweeed
- Hairgrass?
- Broom
- Gorse
- Spearmint
- Colts foot
- Mugwort
- Cinnabar moth
- Burnet Moth
- Gatekeeper
- Rabbit



Appendix 3

On site activities

	Rubbish	Burning	Tipping	Motor scrambling	Walking	Dog walking	Cycling	Sports	Fishing	Car Parking	Educational work	Total
Crank Caverns												
Former Rainhill Hospital Site					1	1	1					3
Grassland south of towpath, Sankey Valley Park.					1	1	1					3
Hollins Hey Wood					1	1	1					3
Hospital Ground, Eccleston		1	1									2
Childwall Woods and Fields					1	1	1				1	4
Cressington Heath					1	1						2
Fazakerley Wood and Fields				1	1	1						3
Mill Wood and Alder Plantation		1			1	1						3
Edge Farm Rookery					1							1
Key Park, Blundellsands					1	1						2
Westcliffe Road Verge					1	1				1		3
West Lancs Golf Club								1				1
Acornfield Plantation					1	1			1			3
River Alt, Kirkby								1				1
River Alt, Seth Powell Way					1	1	1					3
Dog Clog Brook												
Halewood Triangle					1	1	1		1			4
Huyton Lane Wetland					1	1						2
Kirkby Brook					1	1						2
Kirkby Brook, Northwood					1	1		1				3
Little Wood		1	1	1	1	1	1					6
Stadt Moers Q4					1	1	1					3
Ten Acre Pits					1	1	1					3

Table 4, Activities at each site

Appendix 4

Invasive species present

	Invasive species / % coverage	Japanese Knotweed	Himalayan balsam	Rhododendron	Spanish/hybrid bluebell	Rosa rugosa	Other	Total
Crank Caverns								
Former Rainhill Hospital Site	<5%	1						1
Grassland south of towpath, Sankey Valley Park	<5%		1					1
Hollins Hey Wood	26-50%	1	1					2
Hospital Ground, Eccleston	26-50%	1		1				2
Childwall Woods and Fields	6-25%	1	1	1	1		Giant Hogweed	4
Cressington Heath	<5%	1						1
Fazakerley Wood and Fields	6-25%	1	1	1	1		New Zealand pygmyweed (<i>Crassula</i>)	4
Mill Wood and Alder Plantation					1			1
Edge Farm Rookery	<5%	1						1
Key Park, Blundellsands						1	Gorse and Sycamore	1
Westcliffe Road Verge								
West Lancs Golf Club	<5%	1						1
Acornfield Plantation	6-25%		1	1	1		Water fern (<i>Azolla</i>)	3
River Alt, Kirkby								
River Alt, Seth Powell Way								
Dog Clog Brook	?	1	1					2
Halewood Triangle	<5%	1			1		Parrot's feather	2
Huyton Lane Wetland								
Kirkby Brook								
Kirkby Brook, Northwood								
Little Wood	<5%	1	1	1	1			4
Stadt Moers Q4	<5%	1						1
Ten Acre Pits	<5%	1			1			2
Total		13	7	5	7	1	0	33

Table 5, Invasive species present at each site

Appendix 5

Local Wildlife Sites and the presence/absence of designation features

Knowsley Site	Designation Features	Recorded in 2010
Acornfield Plantation	Acid unimproved grassland Neutral unimproved grassland Basin mire Standing water Valley mire Water vole	Yes No Yes Yes Yes Yes
River Alt, Kirkby	Water vole	Yes
River Alt, Seth Powell Way	Water vole	Yes
Dog Clog Brook	Water vole	Yes
Halewood Triangle	Neutral grassland unimproved Mixed semi-natural woodland Standing water Marshy grassland Great crested newt	No Yes Yes No Yes
Huyton Lane Wetland	Unimproved neutral grassland Marshy grassland Unimproved acid grassland	Yes Yes Undetermined
Kirkby Brook	Water vole	Yes
Kirkby Brook, Northwood	Water vole	Yes
Little Wood	Standing water English bluebell	Yes Undetermined
Stadt Moers Q4	Unimproved neutral grassland Marshy grassland English bluebell	Yes Undetermined Undetermined
Ten Acre Pits	Unimproved acid grassland Mixed semi-natural woodland	Undetermined Yes
Liverpool Sites	Designated Features	Recorded in 2010
Childwall Woods and Fields	Unimproved acid grassland Mixed semi-natural woodland Unimproved neutral grassland English bluebell	Yes Yes Yes Yes
Cressington Heath	Lowland heathland Acid grassland	No Yes
Mill Wood and Alder Plantation	Mixed semi-natural woodland Unimproved neutral grassland	Yes Yes
Fazakerley Woods and Fields	Mixed semi-natural woodland Unimproved acid grassland Standing water Marshy grassland English bluebell	Yes Yes Yes Yes Yes

	Water vole Red squirrel	Yes Undetermined
Sefton Sites	Designated Features	Recorded in 2010
Edge Farm Rookery	Rooks	No
Key Park, Blundellsands	Unimproved Neutral Grassland Grey Dune Dune Slack Dune Grassland Sand Lizard Red Squirrel	Yes Yes No Yes Yes Yes
Westcliffe Road Verge	Smooth Rupture-wort	Yes
West Lancs Golf Course	Unimproved acid grassland Dune Slack Dune grassland Dune Scrub Natterjack Toad	Undetermined Yes Yes No No
St. Helens Sites	Designation Features	Recorded in 2010
Crank Cavern	Daubenton's Bat Brown Long-eared bat English bluebell	Yes Yes Undetermined
Former Rainhill Hospital Site	Standing water Acid rock exposure Non-ruderal herb or fern English bluebell	Undetermined Undetermined Undetermined Undetermined
Grassland south of towpath, Sankey Valley Park.	Mixed semi-natural woodland Unimproved neutral grassland Swamp	Yes Yes No
Hollins Hey Wood	Standing Water English Bluebell	Yes Undetermined
Hospital Grounds, Eccleston	Unimproved neutral grassland Marshy grassland Swamp Standing water English Bluebell	No No No No Yes

Table 6, Sites and habitat/species features.

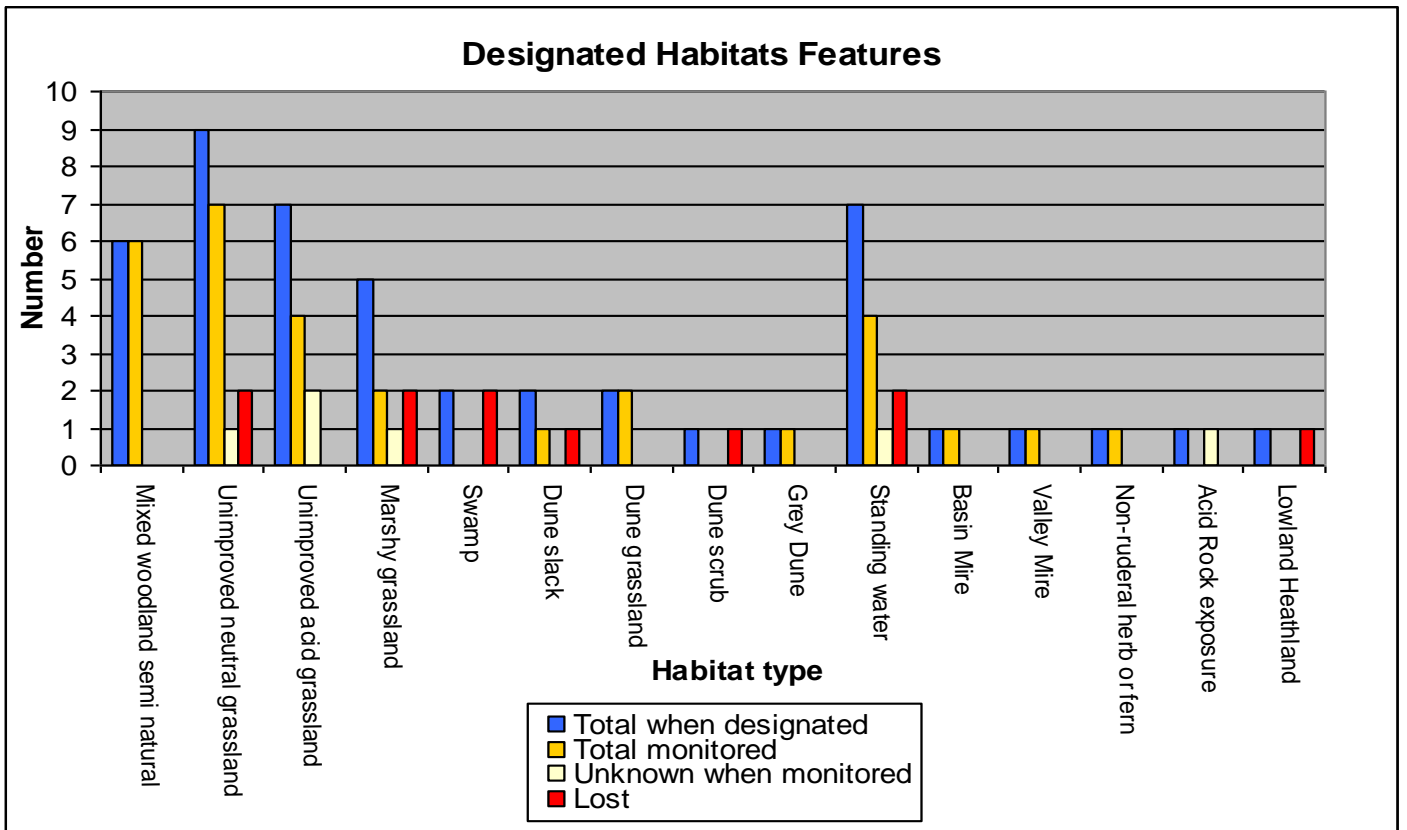


Figure 3, Designated Habitat Features

Appendix 6

Management on Local Wildlife Sites

	Currently Managed	For Conservation	Positive for conservation	Area Managed
Crank Caverns	✓	✓	✓	<5%
Former Rainhill Hospital Site				
Grassland, south of towpath, Sankey VP	✓		✓	10%
Hollins Hey Wood				
Hospital Ground, Eccleston				
Childwall Woods and Fields	✓	✓	✓	70%
Cressington Heath				
Fazakerley Woods and Fields	✓	✓	✓	20%
Mill Wood and Alder Plantation	✓	✓	✓	100%
Edge Farm Rookery				
Key Park, Blundellsands	✓	✓	✓	100%
Westcliffe Road Verge	✓		✓	100%
Wast Lancs. Golf Club	✓		✓	100%
Acornfield Plantation	✓			100%
River Alt, Kirkby				
River Alt, Seth Powell Way	✓			100%
Dog Clog Brook	✓			?
Halewood Triangle	✓			100%
Huyton Lane Wetland	✓	✓	✓	100%
Kirkby Brook				
Kirkby Brook, Northwood				
Little Wood	✓	✓	✓	90%
Stadt Moers Q4	✓			5%
Ten Acre Pits	✓	✓	✓	100%

Table 7. Current management on LWSs

Appendix 7

Results from LWSs surveyed by the North West Lowlands Water Vole Project.

Site	District	Water vole part of designation?	Presence?	Comments
Dog Clog Brook	Knowsley	Sole designation feature	Yes	Banks recently cut
River Alt, Kirkby	Knowsley	Sole designation feature	Yes	Animals seen in Sept 2010
Kirkby Brook, Northwood	Knowsley	Sole designation feature	Yes	
Kirkby Brook	Knowsley	Sole designation feature	Yes	
Knowsley Park	Knowsley	Other designation features as well	No	
Acornfield Plantation	Knowsley	Other designation features as well	Yes	Very low numbers along the ditches due to tree/scrub encroachment
Kirkby Brook, inc Mill Brook	Knowsley	Not a designation feature	Yes	Large number of signs and one animal seen
Croxteth Country Park	Liverpool	Other designation features as well	Yes	
Marshside Road (part of Ribble Estuary)	Sefton	Not a designation feature	No	Habitat suitable, but banks heavily poached by livestock
Rimrose Valley	Sefton	Other designation features as well	No	Could only survey a small area due to hazardous conditions and dense reed beds
Birkdale LNR	Sefton	Not a designation feature	Possibly	Possible feeding remains
Eccleston Mere	St Helens	Not a designation feature	Possibly	Small number of burrows present
St Helens Canal, south of Haresfinch Burgy Bank	St Helens	Not a designation feature	No	
Goyt Hey Wood	St Helens	Not a designation feature	Possibly	Burrows appeared old and disused
Sankey Brook	St Helens	Other designation features as well	Possibly	Burrows appeared old and disused

Table 8