Greater Manchester
Ecology Unit

GREATER MANCHESTER
SITES OF BIOLOGICAL IMPORTANCE
SELECTION GUIDELINES

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PART 1

INTRODUCTION & PRINCIPLES

1 Introduction

The principle of identifying and selecting non-statutory sites of importance for nature conservation has been established for over 30 years in Britain. It is well recognised that these second tier sites contribute greatly to the maintenance of the biodiversity of an area, along with internationally designated sites (SPAs & SACs – see Glossary) and national sites (SSSIs).

The Sites of Biological Importance (SBI) system in Greater Manchester was established in the early 1980's and was based primarily on the Ratcliffe criteria (1977). The Greater Manchester Ecology Unit (GMEU) operates the SBI Register for and on behalf of the Local Authorities that comprise Greater Manchester. This system has operated effectively across the 10 Districts of Greater Manchester since its inception, with GMEU providing an overview of the system in the County context, coordinating data sets and maintaining a strategic input. There are currently 531 (2014). sites on the SBI Register.

A major review of the Greater Manchester system took place in 2008 to bring it up-to-date with current guidance and policy. These include:

- Changes in the planning policy background (PPS 9 and the Best Practice Guidance)
- The introduction of the CRoW Act (2000), including the identification of species and habitats of principle importance in England.
- The introduction and formulation of the UK Biodiversity Action Plan (BAP) followed by regional, County and some District Action Plans.
- The publication of a government review; "Local Sites – Guidance on their Identification, Selection and Management" – (Defra - LSS 2006)
- The introduction of the Natural Environment and Rural Communities Act 2006 requiring Local Authorities to have regard to biodiversity (Section 40 & 41).
- Adoption of Local Sites as one of the National Performance Indicators for Local Authorities (May 2008).

This Review was initiated and co-ordinated by GMEU with significant contributions and consultation with Key Partners including nature conservation staff in the Districts, the network of local naturalist's (principally through Wildlife Advisory Groups and key validated specialists) and statutory agencies (Natural England and Environment Agency). The full list of Key Partners and consultees involved in this revision are found at Appendix 1. Particular reference has been made to the Site Selection Guidelines of the Districts and Counties adjacent to Greater Manchester. These include Lancashire (Biological Heritage Sites), Cheshire (Sites of Biological Importance), Derbyshire (Wildlife Sites) and Merseyside & the Wirral and Knowsley Council (Sites of Biological Interest). This resulted in the production of the Greater Manchester, Sites of Biological Importance Selection Guidelines – 2008. This is a revision of that document.

2 Geographical Context of Greater Manchester

Natural England uses National Character Area (NCA) profiles for defining unique combinations of landscape, biodiversity, geodiversity, history, culture and economic activity in the UK.

Central areas of Greater Manchester are covered by Natural England's NCA 55 – Manchester Conurbation, characterised by dense urban and industrial development, interspersed with a network of green infrastructure centred on river valleys, which form important corridors of semi-natural habitats and greenspace linking urban centres with open countryside.

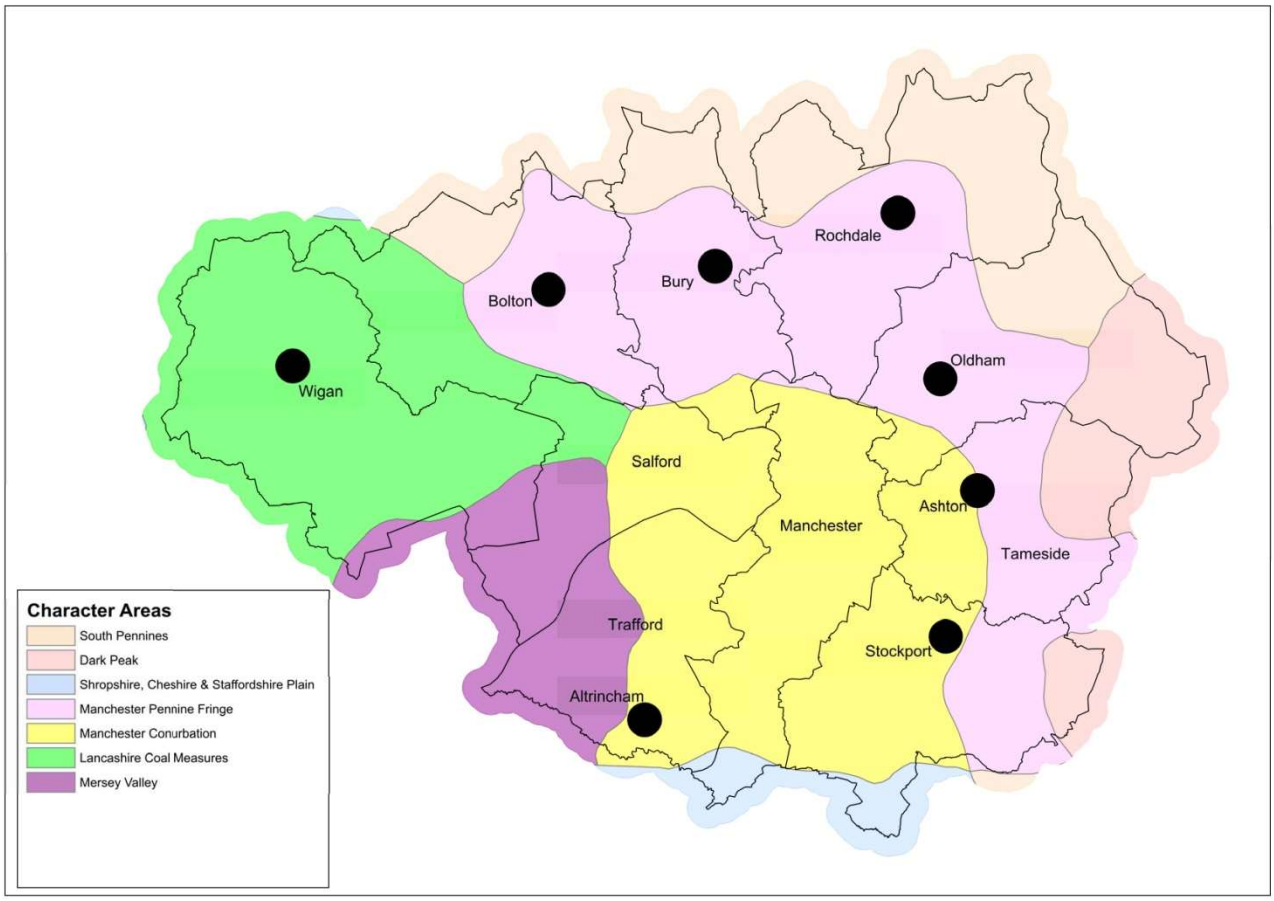
Ongoing environmental improvements, across the County to water and air quality over the last 20 – 30 years have resulted in improvements in the biodiversity, for example evidence of breeding salmon was recorded in 2006 in the River Mersey catchment and recolonisation by otter is also occurring.

The western area of Greater Manchester centred around Wigan is covered by NCA 56 – Lancashire Coal Measures. The landscape is based around its industrial past associated primarily with mining resulting in a complex mosaic of settlement, reclamation and farmland. Mining subsidence has led to the formation of flashes, now nationally important wetland habitats. Other semi-natural habitats include lowland raised bogs and river valleys.

The northern and eastern edge is characterised by the Pennine fringe and includes the steep foothills of the Pennines and the habitats leading up to and including the moorland. This part of the County also falls partly into the South Pennines (NCA 36), Manchester Pennine Fringe (NCA 56) and the Dark Peak (NCA 51). These areas are characterised by steep sided valleys, many of which are wooded cloughs, rivers and their headwaters and areas of traditionally grazed in-bye pastures. The tops of the hills are characterised by moorland, which supports blanket bog habitats and important breeding bird assemblages.

The southern boundary of the County is encompassed by the Mersey Valley (NCA 60) and the edges of the Cheshire Plain (NCA 61), which supports a lowland agricultural landscape with many ponds and important populations of great crested newts and other amphibians. To the west of this area are the mosslands, which have largely been exploited in part by peat extraction and intensive arable agriculture. However, some significant unmodified soil structures still occur, although extensive drainage has resulted in these areas being classified as *modified* lowland bog.

For the purposes of this document plant names follow the nomenclature provided within Stace (2010) for both the generic Latin and common English names.



Greater Manchester – Natural Character Areas

3 Rationale & Principles for SBI Selection

The principles for selection of sites of high nature conservation value are well recognised and established within the Nature Conservation Review (NCR Ratcliffe 1977). The criteria have been used both within the SSSI Selection Guidelines (NCC 1989) and in many second tier site selection systems including that of Greater Manchester.

These criteria are still the principles on which Defra (Defra LSS paragraph 50 & Annex C) recommends second tier site systems are based:

- Size/extent
- Diversity
- Naturalness
- Rarity/exceptional features
- Fragility
- Typicalness/representative value
- Recorded history
- Connectivity within the landscape
- Value for the appreciation of nature
- Value for learning

The definition and understanding of the Nature Conservation Review criteria are well understood, but the Defra Guidance introduces a number of new criteria and issues, which warrant further explanation.

Intrinsic Appeal – appreciation of nature and value for learning

The Defra Guidance suggests that the 'value of sites for the appreciation of nature' and 'value for learning' be considered as criteria for selecting sites. These two criteria can be considered to provide an assessment of the 'intrinsic appeal' of a site's wildlife, the importance of which is well documented within the Defra LSS Guidance (Defra LSS paragraph 51 & 58). The Districts in Greater Manchester have programmes for the designation of Local Nature Reserves, which embody the characteristics of intrinsic appeal. Some of these sites are also selected as SBIs for their ecological value. However, given this change of emphasis in the Defra LSS Guidance, it was agreed that social criteria should be incorporated into the Greater Manchester SBI Guidelines. Some work in this area has already been undertaken in other counties including Leicestershire and Rutland and it is this work that has formed the basis of the approach in this Guidance.

Intrinsic appeal does not form a primary reason for site selection, as SBIs must support wildlife of substantive nature conservation value. However, the following attributes can be used as supplementary characteristics to support the selection of a site which is on the cusp of selection, by almost qualifying under Guidelines within Part 2 or Part 3 of this document. Intrinsic Appeal must include a significant number of the following elements:

- ***Accessibility and usage –*** Assessed by the number of formal or informal access point, formal public rights of way and informal desire lines, provision for less able users (e.g. push chairs, wheel chairs etc) and evidence of 'nature play' (e.g. children's dens, rope swings

etc). The term 'informal' can be clarified as the use of the area which gives an indication that de facto public access actively occurs.

- ***Education –*** This can be assessed from usage by school groups for study, provision of on-site or roving Ranger staff who undertake events on the site, facilities to help understanding/appreciation of the site (e.g. interpretative panels, leaflets, guided walk maps etc) and links with the community to undertake management work (e.g. TCV, local authority clean-ups or tree planting sessions).

- ***Sense of ownership*** **-** This can be assessed by the presence of 'Friends of Groups', community action events or voluntary wardening of site.

At the current time it is not possible to set quantitative values to the features above. GMEU will work with its Key Partners and/or other representatives of the Local Authorities to further refine these attributes. The elements outlined above will provide the framework for the future development of this Guideline.

Where a site is selected with Intrinsic Appeal as supplementary criteria the SBI Designation will clearly identify this both within the site description and the statistics sheets (see below Section 5 SBI Citation).

Geological Conservation

The Introduction to the Defra Guidance indicates that Local Site Systems should also incorporate geological conservation. This principle is also encompassed within NPPF-Biodiversity and Geological Conservation. In Greater Manchester there is now a formal system for identifying Regionally Important Geographical Sites (RIGS) and a register of sites is published. A small group of volunteers are collating and updating the existing historical data on sites of geological value. GMEU will continue to liaise with the group and will incorporate appropriate reference to these criteria within future revisions of this document when they are developed. It is not envisaged that geological interest will contribute to the selection of Sites of *Biological* Importance, but a note will be made within a site description if an SBI also supports geological interest.

Principles of the Selection System

The guidelines and thresholds detailed within Parts 2 & 3 of this document have been developed to select the areas of 'substantive nature conservation importance' within the County of Greater Manchester, its 10 Districts and their parishes/wards. The application of these Guidelines should not be viewed as mechanical or strictly rule-based. They are intended to give a basis on which to make a sound rational decision which incorporates the professional judgement, knowledge and understanding of the individual applying them (Defra LSS paragraph 55).

These Guidelines help to establish a clear, transparent and consistent approach to the selection of SBIs, both over time and between the individuals assessing sites (Defra LSS paragraph 56). The SBI system is designed to establish and highlight to planners, landowners and site managers where areas of high biodiversity interest occur so that appropriate decisions on planning applications, land use and land management can be made. It is not designed to provide a detailed study of the ecological systems or populations of any particular site.

To maintain a level of consistency across the north west region particular emphasis has been placed on studying the existing criteria of adjacent counties: Lancashire, Derbyshire, Cheshire and the metropolitan area of Merseyside (covered by Environmental Advisory Services).

SBIs will continue to be selected on areas which may also have other statutory designations. This is because these sites may support other biodiversity features which are not necessarily included within the reasons for the statutory designation. For example, Red Moss SSSI (Bolton) is designated for its UK Biodiversity Priority raised bog habitat. However, this site also supports significant bird assemblages and Biodiversity Action Plan UK Priority Species (water vole & brown hare) which add to its biodiversity value. The boundary of an SBI which also incorporates a SSSI may therefore be larger than that of the SSSI designation (Defra LSS paragraph 63 & 64).

GMEU will select SBIs on the basis of their ecological value alone, regardless of any other land use designations (e.g. allocated areas within UDPs/LDFs/Local Plans, actively managed agricultural land, country parks etc) they may have. The responsibility for adoption for planning purposes lies with the Local Authority.

4 Processes of Selection, Survey and Evaluation

The Selection process involves:

- The identification of provisional sites for assessment,
- Site survey by field survey,
- Collation of other known data sources.
- Consideration against the Site Selection Guidelines and other reference sources.

Sites may be brought forward for consideration against the Selection Guidelines by a number of mechanisms, including:

- identification as a result of other survey work (e.g. Phase 1 surveys, pond surveys, surveys associated with development and/or Environmental Assessment)
- recommendation by other skilled individuals (e.g. local authority nature conservation staff/rangers, ecologists working for other agencies or local field naturalists)
- suggestions from local residents and other non-skilled individuals.

All sites will be logged and brought forward for survey as soon as possible within the constraints of the field season and GMEU's work programme.

Access Arrangements for Site Survey

GMEU does not presently hold complete landowner information. The Defra LSS Guidance recognises (Defra LSS paragraph 33) that it is not always possible to verify ownership of any individual parcel of land and this is a particularly complex and time-consuming process in the urban environment.

GMEU will endeavour to contact known owners prior to survey visits using a standard contact letter (see Appendix 2). If not known surveys will be conducted using Public Rights of Way and/or open access land. Where an owner denies access for survey, GMEU will consider the use of the Powers of Entry provision provided under the Town & Country Planning Act (Section 280).

Site Survey & Collation of Data

All sites are visited by GMEU staff and are surveyed using a 'walk-over survey' (JNCC Phase 1 Habitat Manual). Habitats will be identified using a combination of Phase 1 classification and Biodiversity Action Plan habitats. A full list of the UK Biodiversity Habitats and Species can be found on the national biodiversity website (jncc.defra.gov.uk/ukbap) and Appendix 3 of this document contains a list of those which currently occur in Greater Manchester. The National Vegetation Classification (NVC) methodology for identifying habitat community types will not be used to select SBIs sites except where this is specifically needed to identify the UK Biodiversity Priority Habitat. Reference to the NVC or other classification systems, may be made within an SBI Site Description where the data is available, as an aid to description.

Field notes on the species composition of the primary habitats are made with records of the abundance of key vegetative species using the DAFOR scale, where appropriate. Notes and records of the presence of key faunal species are made during the survey which may include, as appropriate: egg-search for amphibians, pond netting, observation of presence of birds with breeding status if possible and field signs for other animals (e.g. water vole, badger etc). Detailed and extensive survey

techniques (such as CBC – Common Bird Census or EN amphibian survey methodology) are not generally used, as they demand high levels of resources and cannot be funded within the normal running costs of the GMEU.

'Planning for Biodiversity and Geological Conservation: A Guide to Good Practice' (OPDM, Defra & English Nature 2006) indicates that Local Authorities should base their assessments for planning purposes on the 'best available information'. Therefore, site evaluations are supplemented by consideration of more detailed recent records or surveys conducted by qualified individuals (e.g. local authority staff, ecologists working for consultancies and/or other agencies and the network of local naturalists).

On some occasions unverified records are submitted by non-specialists or members of the public, and they may be referred to in the SBI text as "reported". Reported presence of a species will **not** contribute to the SBI site selection and/or grading decisions unless the record is subsequently verified by GMEU or another recognised local specialist/recorder.

Where a site's selection has been made partially on the basis of a comprehensive data set/survey (e.g. detailed population assessment for amphibians), it may not be possible to repeat the detailed surveys at each Review of the SBI, due to the need for additional resources and/or specialist survey skills/equipment. During the review survey an assessment will be made of the condition of the habitats present and their suitability to support the species/assemblage recorded. The local experts/recorders will be contacted for additional data to try and verify the continued presence of the species/assemblage. Where a specific threat or challenge is made to an individual SBI, additional specific surveys may be commissioned to assess the populations and/or presence of the recorded species/assemblage.

In addition to the Guidelines laid out in Parts 2 and 3 of this Report, site evaluation will make use of local sources of information on the distribution of groups, in addition to national distribution atlases. The data sources available at the time of writing are included within the Bibliography of this report. Information and understanding of the ecological requirements of species and their distribution will change over time. Reports and current ecological knowledge will be incorporated into the evaluation process, as it is developed and/or published.

Site Grading

In Greater Manchester a grading system will be used in the selection of SBIs in order to reflect the range of the geological and landscape characters of the area (see Section 2), the diversity of the habitats that these support and the degree of urbanisation across the 10 Districts that make up the County. The grades, which have been previously used will be retained but will be defined as follows:

Grade A - of Regional or County Importance,
Grade B - of District Importance
Grade C – of importance within the *identified* geographical locality.

The Defra LSS Guidance does not provide a clear guide on the use of a graded Local Site System, as it neither specifically dismisses nor advocates a graduated site system. However, a number of key points are discussed:

- "Biological and geological features are not evenly distributed across the country, and what may be an important feature in one area might not be seen as very significant in another……This implies that thresholds for features of nature conservation interest will be set differently within one District *[and parish or ward]* or county compared with another" (Defra LSS paragraph 47)

- "…what counts as 'substantive' in one area with substantially less natural space or lacking natural interest, may be much smaller than a site qualifying as substantive in another. The criteria and evaluation of sites within an administrative area will need to reflect such local contrasts ….." (Defra LSS paragraph 48).

- The Guidance clearly identifies that the difference in the natural resources between rural areas and urban areas is a significant feature in determining thresholds (Defra LSS paragraph 42).

Given the diversity of Greater Manchester the grading of SBIs within each criteria is a matter of professional judgement (Defra LSS paragraph 45), particularly for grades B & C, reflecting the geographical position of the site under consideration and the local context. Typical judgements regarding local context may include:

- Sites considered for selection as a Grade B SBI (of District importance), would be evaluated against the distribution or paucity of that habitat/species within the particular District, not the County. The use of the Greater Manchester Biodiversity Action Plan and local District Biodiversity Action Plans will assist in this assessment.

Example: The woodland resource varies greatly between Stockport and Salford. Stockport supports a wide range of Ancient woodlands of a number of community types, which are generally large clough woodlands with good species diversity. In Salford, woodlands are less common and are generally restricted to birch woodlands on the mosslands or mature plantation, few of which are identified as Ancient and they generally support less species rich communities. The selection and grading of sites in these two Districts will be distinctly different. A woodland considered of substantive importance in Salford and graded a B may qualify only as a C in Stockport. This can be exemplified by the selection of Middle Wood (Grade B SBI) in Salford.

- The consideration for selection of a Grade C SBI would include the importance of the habitats/species in the geographical locality (even if not identified as a Greater Manchester Biodiversity Action Plan feature), through reference to Phase 1 maps, aerial photographs and/or the knowledge of GMEU staff or Key Partners of that locality.

Example: The selection of Crompton Fold Wood (Grade C) SBI in Oldham was undertaken within the context of the distribution of secondary semi-natural woodland on the urban fringe of the small town of Shaw, where the topography of the land is beginning to rise to the upland habitats of the Pennines. Whilst undertaking the evaluation consideration was given to the Phase 1 survey, inspection of the OS map and aerial photographs. It was found that the woodland in this area was sparsely distributed and that the majority of them were planted with conifers.

- The site's connectivity to the landscape (Defra LSS Review Annex C & paragraph 57). This is included in the main Selection Guidelines, but it is also important where sites may not in themselves be of sufficient value to merit selection as a Grade A SBI but contribute to the connectivity of features within a landscape.

Example: Poorer quality woodlands within the ancient woodland landscape of clough river valleys. Where this type of site occurs it will be graded according to the quality of species/habitats present at either a C or B. The importance of the role of landscape connectivity in the site's selection will be identified within the SBI Description. This can be demonstrated by the selection of woodland sites along the River Roch and its tributaries in Rochdale and Bury. An important complex of Ancient Woodlands occurs in the Grade A SBIs – Ashworth Valley, Naden Brook and Tack Lee and Gristlehurst Woods. These are supplemented within the landscape by additional adjacent riverine woodlands, which have been selected as SBIs including Smethurst & Elbut Woods (Grade B in Rochdale and a C in Bury) and Lomax Woods (Grade C in Rochdale).

- Grading can reflect the condition of a site. In the urban context habitats may not reflect the exemplary habitat type because other processes may also have an impact. These could be inappropriate human activities such as off-road biking, tipping and garden rubbish. However, the site's condition may also be an indication of inappropriate management such as over-grazing or neglect. Therefore, sites which would be highly ranked in the selection process may be graded lower due to their current condition.

Example: Sites that appear on the Ancient Woodland Inventory are considered of national importance and therefore would warrant an A grade, but in some urban situations with high levels of disturbance some of these sites may be selected as a grade B SBI or exceptionally a C. Coroners Wood (Grade B) SBI in Trafford is identified within the Ancient Woodland Inventory. However, the quality of the habitat has been impacted by the heavy public usage of the site and some antisocial activities, which have resulted in compaction and inhibited to some extent the development of typical Ancient Woodland ground flora.

Conversely, the introduction of more appropriate management, which is reflected in an increase in the abundance and/or diversity of the representative forbs and the quality of the sward, may result in an upgrade of a grassland site.

It is therefore not possible to specify accurate thresholds for the grading of sites as this will be influenced in each particular District by the nature, extent and type of communities which occur in that habitat or for that group of animals and/or plants. The Guidelines outlined in Parts 2 & 3 represent the **minimum** threshold required for a site to be **considered** for selection as a Grade C site, unless otherwise stated. Where a site is graded a C a supporting note will be produced to describe the geographical locality considered whilst undertaking the SBI selection or review of existing grade C sites. This will not form part of the SBI citation but may be presented to the Key Partners (see section 6) and will be held on file, which is publicly accessible.

Where the SBI system is used within the planning system (UDPs/ LDFs/Local Plans), policies reflect the hierarchy of sites from international designations down to the non-statutory sites. The grading of the SBIs is compatible with this approach.

5 SBI Citations

Details of a selected SBI are produced in a standard format (see Appendix 4 for example sheets) which includes:

- **Site Boundary** The site boundary is drawn onto the 1:10 000 Ordnance Survey map base, usually at 1:10 000 scale. Where necessary for large sites (e.g. moorlands or canals) or smaller areas, maps will be provided at an appropriate scale with the use of supplementary maps. Boundaries are defined based on site survey and aerial photographs overlaid on the OS base using GIS. Where possible the boundaries will be taken to an identifiable feature, e.g. field boundary or woodland edge. Where this is not possible, the SBI description, may include a descriptor for the habitat edge for example; 'the habitat extends to the break of slope'. Boundaries will be drawn to include features necessary to support the various life cycle stages of a species and/or features to support the habitat (e.g. a springline or other identifiable hydrological feature). In some cases, fragmented habitats across an area may be incorporated into a larger SBI boundary even where intervening features may not or could not qualify as an SBI alone. For example, on a waterway short built-over, culverted or box-channel sections may be included within a longer stretch of qualifying water course (Defra LSS Review para 57).

- **Site Description** The initial paragraph of the SBI description will summarise the site's status in terms of inclusion in a habitat inventory (e.g. Ancient Woodland Inventory), Biodiversity Action Plan habitats/species, protected species present and the features for which it is selected as an SBI. The description will also give a fuller description of the features that the site supports. Reference to other classification (e.g. NVC) or surveys (e.g. CBC) where available, will be made as an aid to describing the features. The description is not intended to provide full species information and/or population data, but provides an indication of the extent of the features of importance in the SBI's selection and highlights *some* of the key species or habitats. Descriptions of connecting habitats and supplementary species information are also provided, even if these are not the qualifying features for the SBI selection (paragraph 57 Defra LSS Review). It may also give brief notes on current site uses (public footpaths, off-road motorbikes, informal public access etc) and condition, with a broad indication of current management practices where applicable to the habitats present (e.g. whether a site is currently grazed or mown or control measures for undesirable species). This information is not intended to provide a site condition assessment or make any judgement on a landowner's current management practices.

- **Site Statistics** SBI statistics sheets provide more detailed information regarding site survey dates, areas of habitat types and an indication of the changes in total area or habitat areas that have occurred since selection. The statistics sheet indicates under which particular criteria an SBI has been selected. It may also provide details of supplementary/supporting Guidelines; where a site is near to meeting the threshold for other Guidelines but its selection is not currently based on these supporting attributes.

Monitoring Form

The majority of SBIs now have comprehensive citations with full site descriptions and effective boundaries. Therefore since 2012 a new monitoring form has been used to improve the administration of the system; the level of survey effort used has not altered. This form (Appendix 7) is used where following an SBI visit there is no need to adjust boundaries or make substantive changes to site descriptions or statistics. The 3 SBI citation sheets remain the formal definitive SBI documents.

This monitoring form is filled in by hand on site or very shortly after the site visit. Where necessary, additional data will be requested from third party recorders, for example the bird group or amphibian specialists. Records of additional data received will be kept in the normal way on file and specific species changes recorded onto the form. If significant new data is received from external data sources then a full review of the SBI citation will be undertaken.

The form will be scanned electronically and stored within the SBI system with the current SBI designation sheets. The original form will be filed in the SBI folders as a paper copy. GMEU will not issue the SBI monitoring form, as the SBI designation sheets will still be the formal definitive document. Where external bodies request SBI data through the Local Records Centre they will be provided with the definitive SBI designation and an indication that the site has been visited on subsequent occasions (dates provided) and found to still qualify. If necessary the form can be released to third parties and in that instance they would be typed up verbatim from the original form. Any request to release this internal data would be treated in the same way as the release of on-site field notes, which is generally not necessary, although freedom of information and data protection issues still apply.

6 Adoption & Annual Review

GMEU operates a continuing process of review of SBI site selection and reports on this review process to each of the 10 Districts of Greater Manchester on an **annual** basis. The Ecology Unit has an Agreement with all the 10 Local Authorities of Greater Manchester to review SBIs on a rolling programme with a target of 15% SBIs reviewed in each field season. As part of the current Guideline Review GMEU has formed a Key Partnership of the 10 Districts and other qualified naturalists. The 'Terms of Reference' and procedures for operation of the Key Partnership and its Key Partners, including qualifications for membership, are found in Appendix 5. The SBI Key Partners will be integrally involved in the 5 Stages of the SBI Review. As the SBI process is a rolling programme there is an overlap between the end of one year's work and the start of the next season's survey work. Therefore, the Stages span more than one calendar year.

The five Stages of the SBI process are detailed below.

Stage 1 (January-February) - Selection of sites for survey
The SBI Key Partnership (see Appendix 1) will be consulted on a draft list of proposed sites for re-survey in the coming survey season. This Stage may also be in advance of or as part of Stage 3 for the previous year. The draft list will be drawn up by GMEU based on an identified need for resurvey (usually based on the time of last survey or a known significant change in the condition or management of a site). In general terms, sites that may be more vulnerable to natural change e.g. grasslands are targeted for review every 5 - 7 years. Habitats less susceptible to rapid natural change (e.g. woodlands) are reviewed on a 7 - 10 year cycle. The draft list is likely to be longer than the number of sites which will actually be visited in the year, so that site visits can be coordinated with other field survey requirements (e.g. planning application visits) to make effective use of survey effort. Where known landowners/tenants may be contacted via a letter to inform them of the intention to survey the site (see Appendix 2)

During this Stage the Partnership's views will be sought, to:

- Suggest additional sites for survey during that year
- Identify sites on the list which they consider do not need survey that year
- Where possible, provide information concerning land ownership/ management of sites proposed for survey
- Be in a position to collect other information relating to the sites in their District, or in their area of expertise, which could be useful in Stage 3 of the selection and grading process

Circumstances may occur where potential SBI sites are brought forward for urgent consideration as their nature conservation interest is under imminent threat. Where this occurs GMEU will accommodate the site survey as soon as practicably possible. Every effort will be made to contact the relevant members of the Partnership for additional information prior to the visit.

Stage 2 (April - September) - Site survey
Ecologists from the Greater Manchester Ecology Unit carry out field surveys of sites selected in Stage 1 and draw up draft proposals for selection and grading of sites. Some sites may require visits outside of this time. For example, reservoirs which support wintering bird assemblages which will be surveyed during the winter months. To evaluate a site in its optimum condition visits will, wherever possible be

arranged to coincide with the site's principle interest. For example, woodlands & breeding bird sites will be programmed to be visited in early spring and grasslands between June and August.

Stage 3 (October - February) - Site selection and grading

The Partnership will be consulted on the results of the year's surveys and draft proposals for site selection and grading. This may take the form of e-mail correspondence or a meeting with representatives from each District. For each District a list of SBIs which have been surveyed, supported by a **very brief summary** of any major changes in area, quality of habitats and potential change in grade will be tabled by GMEU. Where a major change in the site boundary is proposed a map will be included showing any additional areas. Additional information regarding sites may be brought by others, including landowners to the process at this stage, to help with site selection and grading. This will facilitate discussion about changes between the Key Partners and final decisions regarding site selection and grading. The final decisions on grade and boundaries will be made by GMEU taking into account any discussion. Final boundaries will be determined by using GIS analysis and mapping techniques.

To ensure information on any proposed new sites, identified through the above process, is made more widely available, sites will be added to a GIS layer of Candidate SBIs. This layer will be included in commercial data searches and included on GMLRC MapApp facility once the Districts have been consulted.

Dependant on workloads and timing within GMEU Stages 3 and 4 may be amalgamated.

Stage 4 (November - April) - Sites formally adopted for planning purposes

The results of site survey and selection will be written up. Details of each SBI site review are then sent to the Districts for adoption through the land-use planning system, by the relevant Planning Committee or Panel. Where known, land owners, will be circulated with the SBI details, for their information. In addition, if requested and where possible, GMEU and other members of Local Authority staff will refer site owners to sources of additional funding to support appropriate management or organisations, which can provide additional advice.

Stage 5 April- May - Production of the Annual SBI Review

The publication of the Greater Manchester Annual SBI Review including the Countywide Review and individual District Reviews will be published in late May. This will allow time for District officers to prepare monitoring reports to be submitted to their various committees or panels. This information will also be circulated by GMEU to other local authority departments outside Greater Manchester and partner organisations. Internal circulation of the SBI Register is the responsibility of each individual District. Additional summary information will be supplied to ecologists in adjacent counties where changes to SBIs have occurred along their boundaries.

7 Release of Information

Details of individual SBIs, the Guidelines for Selection and the annual SBI Review are all public documents. SBI Files are publicly available on request. However, on occasion their distribution may be restricted in accordance with current legislation, where they contain data of a sensitive or confidential nature. Site owners, students and some private individuals/groups undertaking study of SBIs can receive copies of the relevant information at little or no cost. Where the information is required by a commercial interest (i.e. for development proposals), an administrative charge is levied for the retrieval of the information. If SBI information is released by a District Planning Authority GMEU requests that they are contacted to provide any additional updates to the requester. Where information is released GMEU requests that a 'Conditions of Use' form (see Appendix 6) is signed indicating that the information will not be passed to unauthorised third persons and used only for the project/purpose for which it was obtained.

GMEU maintains compliance with the Data Protection Act 1998 and the Environmental Information Regulations 2004.

GMEU operates a number of cooperative/reciprocal arrangements with other organisations, where it assists with the operation of the two organisations.

PART 2

GUIDELINES FOR SELECTION – HABITATS

Wd WOODLANDS

Semi-Natural Broad-Leaved Woodland

Ancient Woodland, as identified by the Nature Conservancy Council (now Natural England) in the Ancient Woodland Inventory (AWI), is a nature conservation resource of national importance. Its importance has been well recognised in the National Planning Policy Framework. In addition, Greater Manchester supports a number of woodlands that are not included in the AWI because they fall below the 2ha threshold used in the AWI. These are nevertheless important for the biodiversity resource of the County.

The Biodiversity resources of other woodlands may include woods which are secondary or recent in origin and are also recognised under other UK Biodiversity Priority Habitats including: upland oak woodland, wet woods, lowland mixed deciduous woodland and wood-pasture & parkland (considered under a separate Guideline Wd4).

Two other woodland community types of nature conservation importance in Greater Manchester do not readily fit the Biodiversity definitions. The drier mossland birch-purple moor grass woodlands often occur on unmodified mossland soil structures, but due to surrounding agricultural drainage are predominantly dry rather than wet woodland in character. Some of the more base rich oak-ash woodlands found in the river valley bottoms or the Cheshire Plain, may not be included within Ancient Woodland Inventory, but support a floristically diverse ground flora community.

Wd1 SEMI-NATURAL BROADLEAVED WOODLAND Sites considered for selection will meet one of the following conditions:

Any site on the Ancient Woodland Inventory (AWI) – all such sites will be selected as a Grade A SBI, unless badly degraded. Planted Ancient Woodlands (PAWs) are considered under Wd2

Any site not on the AWI but with one or more of the following features will also be considered:

- ***Supports a ground flora community indicative of Ancient Woodland and supports in the region of 12 woodland species from Table 1 including a significant proportion of those AW indicators, or where map evidence is indicative of an ancient origin.***
- ***Supports a significant component of a Biodiversity Priority Habitat as defined in the UK BAP. This includes wet woodland, upland oak woodland and lowland mixed deciduous woodland.***
- ***A woodland which meets the UK BAP Broad Habitat type – Broadleaved, mixed and yew woodland of greater than 20% broadleaved trees, where it exhibits a variety of woodland community types in the ground flora and supports one of the following:***
  - ***10 dry woodland species***
  - ***7 wet woodland (WW) species from Table 1***
  - ***Mossland birch woodland with 7 woodland species from Table 1.***
- ***A woodland with a significant number of veteran locally native tree species within the canopy***

TABLE 1 WOODLAND INDICTOR SPECIES.

Species listed in BOLD are either Biodiversity Action Plan Species and/or of very limited distribution in GM and count as 2. AWI – ancient woodland indicators & associates, WW – wet woodland. All other species found in many woodland types

Scientific name	Common name	Woodland type
Adoxa moschatellina	Moschatel	AWI,
Ajuga reptans	Bugle	WW
Allium ursinum	ransoms	AWI, WW
Anemone nemorosa	Wood anemone	AWI, WW
Angelica sylvestris	Wild angelica	WW
Apium nodiflorum	Fools water cress	WW
Aquilegia vulgaris	**Columbine**	
Arctium agg.	Burdock agg	
Arum maculatum	Lords and Ladies	
Athyrium flix-femina	Lady fern	WW
Blechnum spicant	Hard fern	
Brachypodium sylvaticum	False brome	
Bromopsis remosa	Hairy brome	
Calamogrostis epigejos	**Wood small reed**	**AWI**
Calluna vulgaris	Heather	
Caltha palustris	Marsh marigold	WW
Cardamine amara	Large bittercress	AWI, WW
Carex acutiformis	Lesser pond sedge	WW
Carex laevigata	**Smooth stalked sedge**	**AWI**
Carex pallescens	**Pale sedge**	**AWI,**
Carex pendula	Pendulous sedge (where not planted)	AWI, WW
Carex pseudocyperus	Cyperus sedge	WW
Carex remota	Remote sedge	AWI ,WW
Carex riparia	Lesser pond sedge	WW
Carex strigosa	**Thin spiked wood sedge**	**AWI,**
Carex sylvatica	Wood sedge	AWI
Ceratocapnos claviculata	Climbing corydalis	
Chrysosplenuim oppositifolium	Opposite leaved golden saxifrage	AWI, WW
Circaea lutetiana	Enchanter's nightshade (where not a garden escape)	
Conopodium majus	Pignut	AWI
Deschampsia cespitosa	Tufted hair-grass	WW
Deschampsia flexuosa	Wavy hair-grass	
Digitalis purpurea	Foxglove	
Dryopteris affinis	Scaly male fern	
Dryopteris carthusiana	**Narrow buckler fern**	**AWI, WW**
Dryopteris dilatata	Broad buckler fern	
Dryopteris filix-mas	Male fern	
Epipactis helleborine	Broad-leaved helleborine	AWI
Equisetum fluviatile	Water horsetail	WW
Equisetum palustre	Marsh horsetail	WW
Equisetum sylvaticum	Wood horsetail	AWI, WW
Equisetum telemateia	Giant horsetail	WW
Eupatorium cannabinum	Hemp agrimony	WW

Scientific name	Common name	Woodland type
Festuca altissima	**Wood fescue**	**AWI**
Festuca gigantean	Giant fescue	AWI
Filipendula ulmaria	Meadowsweet	WW
Fragaria vesca	Wild strawberry	
Frangula alnus	**Alder buckthorn**	**AWI, WW**
Galium odoratum	Sweet woodruff (where not a garden escape)	AWI
Galium saxatile	Heath bedstraw	
Geranium robertianum	Herb Robert	
Geum urbanum	Wood avens	
Glechoma hederacea	Ground ivy	
Gymnocarpium dryopteris	**Oak fern**	
Helleborus foetidus	**Stinking hellebore**	**AWI**
Holcus mollis	Creeping soft grass	
Hordelymus europaeus	**Wood barley**	**AWI**
Hyacinthoides non-scripta	Native bluebell	AWI
Hydrocotyle vulgaris	Marsh pennywort	WW
Hypericum hirsutum	Hairy St John's wort	
Hypericum pulchrum	Slender St John's wort	AWI
Iris pseudacorus	Yellow flag iris	WW
Lamiastrum galeobdolon	Yellow archangel (where not a garden escape)	AWI
Lathraea squamaria	**Toothwort**	**AWI**
Lathyrus linifolius	**Bitter vetch**	**AWI**
Lonicera periclymenum	Honeysuckle	
Luzula pilosa	Hairy woodrush	AWI
Luzula sylvatica	Greater woodrush	AWI
Lychnis flos-cuculi	Ragged robin	WW
Lysimachia nemorum	Yellow pimpernel	AWI
Lysimachia nummularia	Creeping Jenny	WW
Melampyrum pratense	**Common cow-wheat**	**AWI**
Melica nutans	**Mountain melick**	
Melica uniflorae	Wood melick	AWI
Mercurialis perennis	Dog's mercury	AWI
Milium effusum	Wood millet	AWI
Molinia caerulea	Purple moor grass	
Monotropa hypopitys	**Yellow bird's nest**	
Myosotis sylvatica	Wood forget-me-not	AWI
Oenanthe crocata	Hemlock water dropwort	WW
Orchis mascula	Early purple orchid	AWI
Oreopteris limbosperma	Lemon scented fern	
Oxalis acetosella	Wood sorrel	AWI
Phegopteris connectilis	**Beech fern**	
Phragmites australis	Common reed	WW
Phyllitis scolopendrium	Hart's tongue fern	
Poa nemoralis	Wood meadow grass	AWI
Polypodium vulgare agg	**Polypody fern**	**AWI**
Polypodium interjectum	**Intermediate Polypody**	
Polystichum aculeatum	**Hard shield fern**	**AWI**
Polystichum setiferum	**Soft shield fern**	**AWI**
Potentilla erecta	Tormentil	
Potentilla sterilis	Barren strawberry	AWI

Scientific name	Common name	Woodland type
Primula vulgaris	Primrose	AWI, WW
Ranunculus auricomus	**Goldilocks buttercup**	
Ranunculus ficaria	Lesser celandine	
Ranunculus flammula	Lesser spearwort	WW
Ranunculus lingua	Greater spearwort	WW
Rumex sanguineus var sanguineus	Wood dock (where not planted)	
Rumex sanguineu var viridulus	Wood dock	
Salix aurita	Eared Willow	WW
Salix pentandra	Bay Willow	WW
Sanicula europaea	Sanicle	AWI
Scirpus sylvatica	Wood club rush	AWI
Scrophularia nodosa	Common figwort	
Silene dioica	Red campion	
Sphagnum spp	Sphagnum moss (each species counts as one)	WW
Stellaria holostea	Greater stitchwort	
Stellaria nemorum	Wood stitchwort	
Stellaria alsine	Bog stitchwort	WW
Tamus communis	**Black bryony**	**AWI**
Teucrium scorodonia	Wood sage	
Tilia cordata	**Small leaved lime**	**AWI**
Trollius europaeus	Globe flower	
Valeriana officinalis	Common valerian	WW
Vaccinium myrtillus	Bilberry	
Veronica chamaedrys	Germander speedwell	
Veronica montana	Wood speedwell	AWI
Vicia sylvatica	**Wood vetch**	**AWI**
Viola palustris	Marsh violet	WW
Viola reichenbachiana	Early dog violet	AWI
Viola riviniana	Common dog violet	AWI

Plantation

Wd2 PLANTATION WOODLAND ***Sites may be considered for selection where they support a significant component of semi-natural woodland ground flora (qualifying under the third bullet point of Wd 1) and/or populations of other species of conservation concern (e.g. birds or fungi) or it provides connectivity with other areas of qualifying woodland. This would apply to Planted Ancient Woodlands (PAWs), or other plantations where they do not meet the UK BAP Broad Habitat – Broadleaved mixed and yew woodland description of greater than 20% deciduous tree cover.***

Scrub

Scrub can provide important habitats, providing structural diversity within a woodland or an ecotone between woodland and other habitats. It provides an important resource for birds and invertebrates (Scrub Management Handbook - EN). However, scrub commonly develops on ex-industrial sites and marginal land within the urban conurbation. For example, dense even aged stands of willow species may support only a very poor ground flora. Caution and a careful professional judgement are needed when selecting SBIs solely for their scrub habitats. Generally, scrub habitats are only likely to be included within sites which support other qualifying habitats and species.

***Wd3 SCRUB HABITAT** Scrub communities considered for selection will generally include the following features:*

- ***At least 4 shrub species, where no single species forms dense monocultural stands. Shrub species include:***
  - ***willow - goat/grey willow (count as 1 even if both present), creeping willow, eared willow, other willow species and/or hybrids***
  - ***blackthorn***
  - ***hazel***
  - ***gorse***
  - ***hawthorn***
  - ***elder***
  - ***broom***
  - ***holly***
- ***Complex structure including age-diversity, vertical structure, canopy shape including glades and 'rides' and a developed ground flora (not necessarily woodland).***
- ***Transition zones between the scrub habitat and adjacent habitats whether it be either grassland, heathland or other woodland habitats.***
- ***Supports good representative species groups e.g. scrub bird assemblage from the primary list below (taken from the Scrub Management Handbook).***
  - ***bullfinch****
  - ***common whitethroat***
  - ***corn bunting****
  - ***dunnock****
  - ***grasshopper warbler****
  - ***lesser redpoll****
  - ***lesser whitethroat***
  - ***linnet****
  - ***long eared owl***
  - ***reed bunting****
  - ***sedge warbler***
  - ***song thrush****
  - ***stonechat***
  - ***tree sparrow****
  - ***willow tit****
  - ***yellowhammer****

  Additional breeding species below cannot be used for selection unless found in combination with species from the primary list:
  - ***willow warbler***

- ***blackcap***
- ***chiffchaff***
- ***garden warbler***
- ***greenfinch***

Wintering species include:

- ***fieldfare/redwing flocks***
- ***goldcrest***
- ***firecrest***

* UK Biodiversity Priority Species

Wood-Pasture & Parkland

Very few examples exist of this UK Biodiversity Priority Habitat type within Greater Manchester. Generally, these sites support veteran trees (Veteran Tree Management Handbook EN) in an open-structured habitat, with grazed grassland, heathland or woodland ground flora. This habitat type is internationally important for the dead wood habitat it provides, which may support a wide variety of specialist epiphytic and saproxylic flora and fauna. This Selection Guideline applies to groups of veteran trees in the landscape. Single trees are extremely unlikely to be considered for selection.

Wd4 WOOD-PASTURE & PARKLAND ***Sites which support veteran or very old trees (approx 200 years) even if stunted will be considered for selection. Sites where evidence and/or potential is high for other groups e.g. bat roosts, fungi and dead wood invertebrates, which may or may not qualify under other Selection Guidelines will also be considered for selection as Grade C or B sites.***

Hd HEDGEROWS

Hedgerows are a UK Biodiversity Priority Habitat (BRIG (ed. Ant Maddock) 2008). This document provides a definition of what constitutes a hedgerow and should be used as a reference.

Hedgerows are important habitats in their own right. They are a primary habitat for at least 47 extant species of conservation concern in the UK (UKBAP for species rich hedgerows). They can be locally important for butterflies and moths, farmland birds and bats (providing roost sites and commuting routes). Hedgerows may also act as wildlife corridors for many species, including reptiles and amphibians, allowing dispersal and movement between other habitats. Hedges are important not just for biodiversity, but also for farming, landscape, cultural and archaeological reasons and therefore, contribute to the intrinsic appeal of a site.

In Greater Manchester however, it is unlikely that a hedgerow would be selected as an SBI in isolation. Hedgerows may be included and identified as a **supplementary attribute** – denoted by **Hd** on the SBI statistics sheet - in a site where they act as an important corridor linking different parts of a site, provide shelter for key species within a site (e.g. hibernation site for newts or nesting habitat/shelter for birds or are particularly species rich).

Consideration of the formulation of a detailed Guideline will be kept under review as and when the UK Biodiversity forum produces a more detailed definition.

Gr GRASSLAND

Old traditionally managed species-rich grasslands, which have not been agriculturally improved by ploughing, reseeding or use of herbicides/fertilizers, are increasingly uncommon in Greater Manchester. Older sites might show ridge and furrow or other earthwork features, which indicate that there has been no intensive ploughing in the recent past.

In many cases across Greater Manchester there has been slight to moderate agricultural improvement, which results in semi-improved grasslands. These sites can still support species rich and diverse communities, particularly where they are still managed in a manner sympathetic to the retention of these characteristics.

Other groups, such as fungi – waxcaps (*Hygrocybes*), fairy clubs (*Clavarioid*), earth tongues (*Geoglossaceae*) and *Entoloma* (CHEG grasslands) – can occur in diverse communities and a number of species are particular indicators of unimproved grassland of nature conservation value. At the current time there are no specific guidelines which could be applied to Greater Manchester grasslands for this group. However, sites could be considered on individual merits judged against the relevant literature available at the time (e.g. English Nature Report 555), until suitable guidelines can be adopted.

Other semi-natural grasslands may be found on recolonised sites or on sites where the management has changed considerably or agricultural use has been abandoned. Recolonised post-industrial sites or road verges may have good species-diversity and may be rich in orchids, sedges and bryophytes (see also Urban Habitats Guideline - Ur). Sites supporting high species diversity of ephemeral species at the early stages of recolonisation will not generally be selected as SBIs, unless this character type is sustained in the longer term by site conditions and is associated with notable species/species assemblages, such as characteristic invertebrates of waste or disturbed ground. The assessment of longer-term sustainability will be assessed by site visits over a number of seasons. Recreated/reseeded sites will only be considered where they have maintained their species diversity for over 5 years.

Grasslands may often support a variety of grassland communities including neutral, acidic, flushes, marshy grassland according to the pH of the underlying substrate and/or hydrology.

Neutral The UK Biodiversity Priority Habitat – Lowland Meadows – includes both grasslands which are either grazed and/or cut for hay.

Acid Lowland dry acid grassland is a UK Biodiversity Priority Habitat. The Greater Manchester acid grassland Biodiversity Habitat also includes the Pennine fringe acid grassland communities. Unimproved acid grassland is often not species rich; in some cases it may support less than 5 species per $4m^2$. Good examples will however, support representative species such as: wavy hair grass, mat grass, sheep's fescue, sheep's sorrel, heath rush and heath bedstraw. Often acid grassland will occur within a matrix of heath and may therefore qualify under the Heathland & Bog Guideline (HB). Acid grassland sites on the Pennine fringe may support small but diverse flush communities. Other more lowland sites may also include species of a more neutral character.

Marshy grassland This is a term used to classify areas under the Phase 1 Habitat Survey system. The NVC categorises these communities principally under grassland types (mesotrophic) or rush pasture

and some under mire communities, for example flush communities. There is no direct relationship between the Phase 1 type 'marshy grassland' and the UK Biodiversity Action Plan. Purple moor grass–rush pasture is identified as a UK Priority Biodiversity Habitat, although generally only relatively species poor examples of this habitat type occur in Greater Manchester. Marshy grassland, is considered a useful category for SBI selection, however, and is identified as a Greater Manchester Biodiversity Habitat.

Marshes and/or flushes may be selected under either grassland (Gr) or Reedbed, Fen and swamp (Fw1) dependent on the dominant species and hydrology.

Calcareous grassland habitats do not occur on natural substrates in Greater Manchester, however, lowland calcareous grassland is a UK Biodiversity Priority Habitat. They only occur on man-made substrates such as waste from previous industrial processes. This includes Le Blanc waste, Pulverised Fuel Ash (PFA) and limestone ballast usually on disused railways. The best example of this habitat type, Nob End (Bolton), is also designated as a SSSI.

***Gr1 OLD GRASSLAND** All 'old' traditionally managed species rich grassland sites which are unimproved or semi-improved but retaining much of their semi-natural character, will be selected as grade A SBIs. They will support good representative communities of UK Biodiversity Priority Habitats (lowland meadows, lowland dry acid grassland and upland hay meadows) and will often include other non-ecological features which indicate their origins.*

***Gr2 SEMI-NATURAL GRASSLANDS** Sites will be considered for selection for their grassland communities where they exhibit 2 or more of the following features:-*

- ***A site supporting 9 or more species from Table 2.***
- ***Where more than one type of grassland occurs, the site will support in the region of 15 species listed from Table 2.***
- ***The grass species component will not be dominated by rye grass, Yorkshire fog, cock's-foot, false oat-grass or black bent.***
- ***The sward will include a number of fine grass species, which are well distributed within the sward and not forming extensive near mono-specific stands. Grasses may include: wavy hair-grass, sweet vernal grass, crested dog's-tail, sheep's fescue, red fescue, brown and/or common bents and mat grass.*** *[These grasses do not appear in Table 2.]*
- ***Forbs will be well distributed within the sward, although the field unit or grassland area may not be consistently diverse (see notes on boundary definition Part 1 Section 5).***
- ***Areas of marshy grassland considered for selection may qualify under either the Grassland Guidelines or those for the Fen or Swamp Guidelines (Fw1).***
- ***Sites regularly supporting a population of those species marked with * in Table 2 will be considered for selection, even if the survey unit does not qualify on the number of species. These species have extremely limited distribution in Greater Manchester.***

***Gr3 CALCAREOUS GRASSLAND** All examples of this grassland type, which exhibit calcareous conditions and support representative calcareous grassland species, will be considered for selection. Grading will depend on the species-richness and diversity of each site.*

TABLE 2 GRASSLAND SPECIES.

Species listed in bold are Biodiversity Action Plan species and Count as 2. Species marked * refer to Gr2.

Scientific Name	English Name
Achillea millefolium	Yarrow
Achillea ptarmica	Sneezewort
Agrimonia eupatoria	Agrimony
Aira praecox	**Early hair-grass**
Ajuga reptans	Bugle
Alchemilla sp	Lady's mantle (where not a garden escape)
Alopercurus aequalis	**Orange foxtail**
Anacamptis pyramidalis	**Pyramidal orchid***
Anemone nemorosa	Wood anemone
Angelica sylvestris	Wild Angelica
Anthyllis vulneraria	Kidney vetch
Arabis hirsuta	**Hairy rock-cress**
Blackstonia perfoliata	**Yellow wort**
Botrychium lunaria	**Moonwort***
Briza media	Quaking grass
Bromopsis erecta	**Upright brome**
Bromus racemosus	Smooth brome
Calluna vulgaris	Heather
Caltha palustris	Marsh marigold
Campanula rotundifolia	Harebell
Cardamine pratensis	Cuckooflower
Carex acutiformis	Lesser pond sedge
Carex caryophyllea	Spring sedge
Carex demissa	Yellow sedge
Carex disticha	**Brown sedge**
Carex echinata	Star sedge
Carex flacca	Glaucous sedge
Carex hirta	Hairy sedge
Carex hostiana	**Tawny sedge**
Carex laevigata	**Smooth-stalked sedge**
Carex nigra	Common sedge
Carex otrubae	False fox sedge
Carex ovalis	Oval sedge
Carex panicea	Carnation sedge
Carex pilulifera	Pill sedge
Carex pulicaris	Flea sedge
Carex remota	Remote sedge
Carlina vulgaris	**Carline thistle***
Centaurea nigra	Common knapweed
Centaurium erythraea	Common centaury
Cerastium arvense	**Field mouse-ear**
Cirsium dissectum	**Meadow thistle***
Cirsium heterophyllum	**Melancholy thistle***
Cirsium palustre	Marsh thistle
Clinopodium vulgare	**Wild basil**
Conopodium majus	Pignut
Crepis paludosa	Marsh hawk's beard
Dactylorhiza fuchsii	Common spotted orchid
Dactylorhiza incarnata	**Early marsh orchid**
Dactylorhiza maculata	**Heath spotted orchid**
Dactylorhiza praetermissa	Southern marsh orchid

Scientific Name	English Name
Dactylorhiza purpurella	Northern marsh orchid
Dactylorhiza hybrids	Hybrid orchids
Danthonia decumbens	Heath grass
Deschampsia cespitosa	Tufted hair grass
Digitalis purpurea	Foxglove
Eleocharis palustris	Common spike rush
Epilobium palustre	Marsh willowherb
Epilobium parviflorum	Hoary willowherb
Epilobium hirsutum	Great hairy willowherb
Epipactis palustris	**Marsh helleborine***
Equisetum palustre	Marsh horsetail
Equisetum sylvaticum	Wood horsetail
Equisetum telmateia	Giant horsetail
Erica cinerea	Bell heather
Erica tetralix	Cross-leaved heath
Erigeron acer	Blue fleabane
Eupatorium cannabinum	Hemp agrimony
Euphrasia agg	Eyebright
Festuca filiformis	**Fine-leaved sheep's fescue**
Filago vulgaris	**Common cudweed**
Filipendula ulmaria	Meadowsweet
Fragaria vesca	Wild strawberry
Gallium cruciata	Crosswort
Galium palustre	Common marsh bedstraw
Galium saxatile	Heath bedstraw
Gaium uliginosum	Fen bedstraw
Galium verum	Lady's bedstraw
Genista anglica	**Petty whin ***
Genista tinctoria	**Dyer's greenweed ***
Gentianella amarella	**Autumn gentian ***
Gentian pneumonanthe	**Marsh gentian ***
Geranium columbinum	**Long-stalked crane's bill**
Geranium pusillum	**Small-flowered crane's bill**
Geum rivale	Water avens
Gnaphalium sylvaticum	**Heath cudweed**
Gymnadenia conopsea	**Fragrant orchid ***
Helianthemum nummularium	Common rock rose
Heiracium spp	Hawkweed species
Hippocrepis comosa	**Horseshoe vetch**
Hordeum secalinum	Meadow barley
Hyacynthoides non-scripta	Bluebell
Hydrocotyle vulgaris	Marsh pennywort
Hypericum hirsutum	Hairy St John's wort
Hypericum humifusum	**Trailing St John's wort**
Hypericum maculatum	Imperforate St John's wort
Hypericum perforatum	Perforate St John's wort
Hypericum pulchrum	Slender St John's wort
Hypericum tetrapterum	Square stalked St John's wort
Hypochaeris radicata	Cat's ear
Inula conyzae	**Ploughman's spikenard**
Isolepis setacea	Bristle club rush
Jasione montana	**Sheep's bit**
Juncus acutiflorus	Sharp flowered rush
Juncus articulatus	Jointed rush
Juncus compressus	Round fruited rush
Juncus squarrosus	Heath rush

Scientific Name	English Name
Knautia arvensis	Field scabious
Lathyrus linifolius	**Bitter vetch**
Lathyrus nissolia	**Grass vetchling**
Lathyrus pratensis	Meadow vetchling
Leontodon autumnalis	Autumn hawkbit
Leontodon hispidus	Rough hawkbit
Leontodon saxatilis	Lesser hawkbit
Leucanthemum vulgare	Oxeye daisy
Linum bienne	**Pale flax**
Linum catharticum	Fairy flax
Listera ovata	**Common twayblade** *
Lotus corniculatus	Common bird's-foot-trefoil
Lotus pedunculatus	Greater bird's-foot-trefoil
Luzula campestris	Field wood-rush
Luzula multiflora	Heath wood-rush
Lychnis flos-cuculi	Ragged robin
Lysimachia nummularia	Creeping Jenny
Medicago lupulina	Black medick
Mentha aquatica	Water mint
Monotropa hypopitys	Yellow Bird's-nest
Myosotis discolor	Changing forget-me-not
Myosotis ramosissima	Early forget-me-not
Myosotis scorpioides	Water forget-me-not
Myosotis secunda	Creeping forget-me-not
Ononis repens	Common restharrow
Ononis spinosa	Spiny restharrow
Ophioglossum vulgatum	**Adder's tongue fern** *
Ophrys apifera	Bee orchid
Oreopteris limbosperma	Lemon scented fern
Ornithopus perpusillus	**Bird's-foot**
Orobanche sp	Broomrape sp
Pedicularis sylvatica	Lousewort
Persicaria bistorta	Common bistort
Pilosella officinarum	Mouse ear hawkweed
Pimpenella major	**Greater burnet-saxifrage** *
Pimpenella saxifraga	Burnet-saxifrage
Plantago lanceolata	Ribwort plantain
Poa compressa	**Flattened meadow grass**
Poa humilis	Spreading meadow grass
Polygala serpyllifolia	**Heath milkwort**
Polygala vulgaris	**Common milkwort**
Potentilla anglica	Trailing tormentil
Potentilla anserina	Silverweed
Potentilla erecta	Tormentil
Potentilla palustris	Marsh cinquefoil
Potentilla reptans	Creeping cinquefoil
Potentilla sterilis	Barren strawberry
Primula vulgaris	Primrose
Prunella vulgaris	Selfheal
Pulicaria dysenterica	Common fleabane
Ranunculus auricomus	**Goldilock's buttercup**
Ranunculus bulbosus	Bulbous buttercup
Ranunculus ficaria	Lesser celandine
Ranunculus flammula	Lesser spearwort
Rhinanthus minor	Yellow rattle
Rumex acetosa	Common sorrel
Rumex acetosella	Sheep's sorrel

Scientific Name	English Name
Sanguisorba minor	Salad burnet
Sanguisorba officinalis	Great burnet
Saxifraga granulata	**Meadow saxifrage** *
Scutellaria galericulata	Skullcap
Senecio aquaticus	Marsh ragwort
Senecio erucifolius	Hoary ragwort
Serratula tinctoria	Saw-wort
Silaum silaus	**Pepper-saxifrage**
Stachys officinalis	Betony
Stachys palustris	Marsh woundwort
Stellaria graminea	Lesser stitchwort
Stellaria palustris	**Marsh stitchwort**
Stellaria alsine	Bog stitchwort
Succisa pratensis	Devil's-bit scabious
Thalictrum flavum	**Common meadow-rue**
Thalictrum minus	**Lesser meadow-rue**
Thymus polytrichus	**Wild thyme**
Tragopogon pratensis	Goat's beard
Trifolium arvense	Hare's-foot clover
Trifolium striatum	Knotted clover
Trifolium subterraneum	**Subterranean clover**
Triglochin palustre	Marsh arrowgrass
Trisetum flavescens	**Yellow oat grass**
Trollius europaeus	**Globe flower** *
Vaccinium myrtillus	Bilberry
Valeriana officinalis	Common valerian
Valeriana dioica	**Marsh valerian**
Veronica chamaedrys	Germander speedwell
Veronica officinalis	Heath speedwell
Veronica scutellata	**Marsh speedwell**
Vicia cracca	Tufted vetch
Vicia sativa	Common vetch
Vicia sepium	Bush vetch
Vicia tetrasperma	**Smooth tare**
Viola canina	Heath dog violet
Viola hirta	Hairy violet
Viola palustris	Marsh violet
Viola reichenbachiana	Early dog violet
Viola riviniana	Common dog violet

HB HEATHLAND & BOG

Greater Manchester supports examples of a range of these types of habitat, including examples of all the UK Biodiversity Priority Habitats: Upland heath, Lowland heath, Upland blanket bog, Lowland raised bog or mossland. The North West of England, including Greater Manchester, holds a significant proportion of the British resource of these habitats, with some of the examples being important in an international context. The definition of lowland and upland is taken from the categorisation within the UK BAP. Upland heathlands generally occur above approximately 300m.

The majority of the examples of bog in the County should be regarded as modified or degraded; as a consequence of drainage, pollution or changes in surrounding land management including peat extraction or agricultural use. The Selection Guidelines are designed to select semi-natural examples of these habitats for each District.

In terms of the species present in these habitats, there is considerable overlap with the fen, swamp and flush habitats (see also Guideline Fw 1). In addition, examples of these habitat types will often be located within a matrix of other habitats including fen and swamp and a variety of dry and wet grassland types (see also Gr 1 – 3).

HB1 HEATHLAND & BOG Sites will be considered for selection if they meet one or more of the following conditions:

- ***Where dwarf shrubs, either individually or in combination, form more than 25% cover. Dwarf shrubs include heather (Calluna vulgaris), bilberry (Vaccinium myrtillus) and crowberry (Empetrum nigrum).***
- ***Any site which supports one or more of the following species – even where the habitat quality appears poor:***

Bearberry	***Arctostaphylos uva-ursi***
Sundew species	***Drosera spp***
Bell heather	***Erica cinerea***
Cross-leaved heath	***Erica tetralix***
Stag's-horn clubmoss	***Lycopodium clavatum***
Bog myrtle	***Myrica Gale***
Bog asphodel	***Narthecium ossifragum***
Cloudberry	***Rubus chamaemorus***
Deergrass	***Trichophorum cespitosum***
Cranberry	***Vaccinium oxycoccus***
Cowberry	***Vaccinium vitis-idaea***

- ***Sites which support more than 25% Sphagnum cover.***
- ***Sites which support 6 or more species of Sphagnum.***
- ***Lowland mossland on peat over 0.5m deep, which supports semi-natural vegetation particularly where this occurs on unmodified mossland soils (as discussed in text above).***
- ***Upland blanket bog on peat over 0.5m deep, which supports semi-natural vegetation particularly where this occurs on unmodified substrates. Areas dominated by 'white moor' will generally not be included within this category.***
- ***Upland or lowland vegetation of UK Biodiversity Priority Habitat purple-moor grass and rush pasture which supports 9 or more grassland species from Table 2.***
- ***Heathland vegetation that occurs within a matrix of acid grassland, which also supports 6 or more grassland species from the Table 2.***

Fw FRESHWATER HABITATS

Reedbed, Swamp & Fen

These habitats are typically dominated by large grasses and/or sedges and are often found in a complex of habitats as a transition zone between aquatic and terrestrial habitats. The habitats are permanently or seasonally waterlogged and may be associated with drawdown zones or inundation communities.

Reedbed is a UK Priority Biodiversity Habitat and is botanically species poor being dominated by common reed (*Phragmites australis*). Its distribution in Greater Manchester is very restricted and all the examples of this habitat are a significant nature conservation resource.

Swamp habitat dominated by reed canary-grass (*Phalaris arundinacea*) may be selected where it forms part of a true inundation community, but not where it forms a near monocultural stand, for example on abandoned land.

Fen is a UK Biodiversity Priority Habitat, which has been split into Lowland Fens and Upland Flushes, Fens and Swamps (Review 2007). Although they are peat based systems they are included here as they do not generally support ericaceous dwarf shrubs. Fens receive their hydrological supply from either sub-surface water (e.g. soils and rock) or groundwater, in addition to rainfall. Generally, the fen habitats of Greater Manchester are classified as 'poor-fen'.

Often these habitat types will be associated with other habitats, which qualify for SBI selection. The swamp/fen/reedbed may be included within SBI boundaries as a supplementary habitat, even if it does not qualify on its own grounds.

Marshes and/or flushes may be selected under either grassland (Gr) or Reedbed, Fen and swamp (Fw1) dependent on the dominant species and hydrology.

Fw1 REEDBED, SWAMP & FEN Sites considered for selection will include one of the following:

- ***Any ecologically sustainable reedbed of common reed. Sustainability can be indicated where the reedbed is of sufficient size to support other species typical of this habitat e.g. sedge or reed warbler or where small reedbeds provides connectivity within the landscape.***
- ***Examples of swamps generally greater than 0.5ha and/or greater than 20m wide (from bank to water's edge), where the species assemblage is dominated by one or a mixture of the following: common or lesser bulrush, horsetail, branched bur-reed or reed-sweet grass.***
- ***Swamps or lowland fen of smaller extent where the predominant species are one of the following: lesser pond sedge, greater pond sedge, bottle sedge, common spike rush and accompanied by 6 or more species from Table 3. These types of swamp are generally smaller in extent than other types and are less frequent in Greater Manchester.***
- ***Upland fens or flushes which support 8 or species from the Table 3.***

TABLE 3 SPECIES OF REEDBED, FEN AND SWAMP.

Species listed in bold are Biodiversity Action Plan species and count as 2.

Scientific Name	English Name
Achillea ptarmica	Sneezewort
Ajuga reptans	Bugle
Alisma plantago-aquatica	Water-plantain
Anagalis tenella	**Bog pimpernel**
Angelica sylvestris	Angelica
Athyrium filix-femina	Lady fern
Caltha palustris	Marsh marigold
Cardamine pratensis	Cuckoo flower
Carex acutiformis	Lesser pond sedge
Carex curta	White sedge
Carex demissa	Yellow sedge
Carex dioica	Dioecious sedge
Carex disticha	Brown sedge
Carex echinata	Star sedge
Carex flacca	Glaucous sedge
Carex hostiana	Tawny sedge
Carex laevigata	**Smooth-stalked sedge**
Carex nigra	Common sedge
Carex paniculata	Greater tussock sedge
Carex pendula	Pendulous sedge
Carex pulicaris	Flea sedge
Carex rostrata	Bottle sedge
Crepis paludosa	Marsh hawk's beard
Dactylorhiza incarnate	**Early marsh orchid**
Dactylorhiza maculata	**Heath spotted orchid**
Dactylorhiza pratemissa	Southern marsh orchid
Dactylorhiza purpurella	Northern marsh orchid
Eleocharis sp	Spike rush
Epipactis palustris	**Marsh helleborine**
Epilobium hirsutum	Great hairy willowherb
Epilobium palustre	Marsh willowherb
Epilobium parviflorum	Hoary willowherb
Equisetum fluviatile	Water horsetail
Equisetum palustre	Marsh horsetail
Equisetum sylvaticum	Wood horsetail
Equisetum telmateia	Giant horsetail
Eriophorum angustifolium	Common cotton grass
Eriophorum vaginatum	Hare's tail cotton grass
Filipendula ulmaria	Meadowsweet
Galium palustre	Marsh bedstraw
Hypericum tetrapterum	Square stalked St John's wort
Hydrocotyle vulgaris	Marsh pennywort
Iris pseudacorus	Yellow flag
Isolepsis setacea	Bristle club-rush
Juncus compressus	Round fruited rush
Lathyrus linifolius	**Bitter vetch**
Lotus corniculatus	Common bird's foot trefoil
Lotus pedunculatus	Greater bird's foot trefoil
Lycopus europeaus	Gypsywort
Lynchis flos-cuculi	Ragged robin
Lysimachia nemorum	Yellow pimpernel
Lysimachia nummularia	Creeping Jenny
Lythrum portula	**Water purslane**
Lythrum salicaria	Purple loosestrife
Mentha aquatica	Water mint
Menyanthes trifoliate	Bog bean
Molinea caerulea	Purple moor grass

Scientific Name	English Name
Myosotis sp	Water-forget-me-not
Oreopteris limbosperma	Lemon scented fern
Pedicularis sp	Lousewort
Persicaria bistorta	Amphibious bistort
Persicaria hydropiper	Water pepper
Phragmites australis	Common reed
Potamogeton polygonifolius	**Bog pondweed**
Potentilla anserina	Silverweed
Potentilla erecta	Tormentil
Potentilla palustris	Marsh cinquefoil
Pulicaria dysenterica	Common fleabane
Ranunculus flammula	Lesser spearwort
Rorippa palustris	Marsh yellow-cress
Salix repens	Creeping willow
Sanguisorba officinalis	Great burnet
Scirpus sylvaticus	Wood club-rush
Schoenoplectus nigricans	Black club-rush
Scutellaria galericulata	Skullcap
Sparganium emersum	Unbranched bur-reed
Sparganium erectum	Branched bur-reed
Sphagnum spp	Sphagnum moss species (each species counts as one)
Stachys palustris	Marsh woundwort
Stellaria palustris	**Marsh stitchwort**
Stellaria alsine	Bog stitchwort
Succisa pratensis	Devil's bit scabious
Triglochin palustris	**Marsh arrowgrass**
Valeriana dioica	**Marsh valerian**
Valeriana officinalis	Common valerian
Vaccinium oxycoccos	Cranberry
Veronica beccabunga	Brooklime
Veronica scutellaria	Marsh speedwell
Viola palustris	Marsh violet

Ponds and Small Mill Lodges

The category of Ponds & Small Mill Lodges covers any permanent or seasonal standing water body up to 1ha in extent. There are relatively high numbers of ponds and lodges in Greater Manchester, particularly for an urban area. Many of these are man-made in origin, having been formed as a result of mineral extraction, predominantly marl for agricultural uses, in the 15th and 16th centuries. Lodges are man-made waterbodies, with most examples originating from the industrial revolution. These were created to hold water for industrial processes - notably in Greater Manchester for the textile industry.

Ponds as defined by the UK BAP Panel are a UK Biodiversity Priority Habitat. This incorporates and expands on the previous category Ponds of High Ecological Quality/Ponds of High Conservation Value.

Plant populations in ponds and small mill lodges have been relatively well surveyed within the region under the Pond*Life* Project in the mid-1990s. This included a survey of over 1000 ponds within Cheshire, Lancashire and Greater Manchester. Analysis of the data from these surveys was reported in 'Ponds & Pond Landscapes in Europe' (Editor John Boothby 1999). Guidelines for selection of ponds and small mill lodges are based on this work.

Site boundaries may also include adjacent area of semi-natural terrestrial habitat as well as the water body itself. Reference should also be made to the other criteria on aquatic invertebrates, amphibians, dragonflies and mammals found within Part 3.

Fw2 PONDS & SMALL LODGES Sites considered for selection will include one of the following:

- ***Any pond or small mill lodge that qualifies as a Pond of High Ecological Quality/of High Conservation Value, as defined by the UK BAP will be considered for selection as a Grade A or B site.***

- ***Sites will be considered for selection if they support either species diverse populations or numbers of species, referring to the table below and the list of Species in Table 4.***

Conservation Value	*Plant Species numbers*	*Grading*
Very High	***>40***	***A***
High	***23-39***	***B***
Moderate	***9-22***	***C***

Taken from D Gledhill in Ponds & Pond Landscapes of Europe 1999

- ***Several ponds that lie within 500m of each other, forming a 'pond cluster' will be considered for selection if they meet the qualifying criteria in combination.***

The plant species recorded should be within the outer boundary of the waterbody. For ponds this is defined as the upper level at which water stands in winter.

Species that are not locally native to the waterbody or are classed as invasive species should not be included within the total count. Garden ponds are excluded from these Guidelines.

In addition, ponds and small mill lodges may occur within a cluster – a number of ponds occurring within 500m of each other. Individual waterbodies within the cluster may not support the qualifying number of species but taken as a whole the collection of waterbodies may provide an important biodiversity resource, particularly where different successional stages are represented within the cluster or where metapopulations of amphibians or invertebrates are present.

Large Areas of Standing Open Water

This category includes areas of open water greater than 1ha in size. It includes reservoirs used for public water supply, those associated with industrial workings, or for ornamental purposes and waterbodies created as the incidental result of mining activity. Mining subsidence has resulted in large areas of standing water being created, particularly in Wigan where they are known as flashes. Canals are also included within the category. Greater Manchester does not have any naturally occurring lakes and the majority of the waterbodies are Eutrophic. The main exceptions to this are the canals, which are mesotrophic.

In many cases large waterbodies will be selected for inclusion in the Register due to the population of species supported, e.g. wintering waterfowl or floating water plantain, or habitats present around the margins. Many of the flashes in Wigan, for example, are associated with large reedbeds.

Eutrophic Standing Waters are a UK Biodiversity Priority Habitat and include artificial waterbodies and reservoirs. GMEU holds a GIS layer of such waterbodies, compiled nationally as part of the UK BAP.

Fw3 LARGE AREAS OF STANDING OPEN WATER Sites should be considered for selection if they support populations of the following:

Nutrient poor standing waters over 1ha that score 6 or more from nutrient poor water quality (Column A Table 4) or 12 from either nutrient poor or nutrient rich water quality (Table 4 Columns A and B).

Nutrient rich standing waters over 1ha that score 12 or more from the species listed in Column B (Table 4) with at least one species recorded from two of the following habitats:

- ***Aquatic***
- ***Submerged***
- ***Marginal***

Sites supporting a good population of those species marked with * in Table 4 should be considered for selection, even if the unit does not qualify on the number of species as these species either have extremely limited distribution in Greater Manchester or are UK Biodiversity Priority species

Species that are not locally native to the waterbody or are classed as invasive species should not be included within the total count. In addition, the majority of species recorded should be well represented within the vegetation communities. Due to their length, canals should be assessed in sections (e.g. bridge to bridge) but each section may not necessarily support the qualifying number of species.

Running Water Habitats

This category includes all rivers, streams, ditches or similar watercourses that are flowing or semi-flowing. The rivers and streams of Greater Manchester are an important biodiversity resource and numerous watercourses cross the County. Major rivers include the Mersey, Bollin, Goyt, Etherow, Medlock, Irk, Irwell, Croal, Tame, Douglas and Roch. Associated with these are a number of small streams such as Timperley Brook, Lady Brook and Whittle Brook. The rivers and their tributaries vary in character. The upper reaches tend to have steep gradients and run over stony or rocky strata. Many streams originate in the Pennine hills, although the flow of these has largely been altered by the construction of reservoirs. Lower reaches tend to have gentler gradients and flow over mainly sand or silt strata such as the Mersey in Trafford. Geological and geomorphological characteristics of running water habitats are important in determining their biodiversity value and therefore, some of these characteristics have been used within the Guideline below.

Ditches are mainly concentrated in areas with remnant mossland such as Chat Moss and Carrington Moss, although they occur throughout the County.

Rivers have been identified as a UK Biodiversity Habitat (BRIG (ed. Ant Maddock) 2008. (Updated 2011))

***Fw4 RUNNING WATER HABITATS** Sites considered for selection will be one of the following:*

Any watercourse that qualifies as a UK Biodiversity Priority River Habitat will be considered for selection as a Grade A or B site.

Watercourses considered for selection will support two or more of the criteria listed below. Ditches should be considered under point v only:

- ***i) Headwaters which have a natural character***
- ***ii) A site used by salmon as a breeding or nursery/juvenile area.***
- ***iii) Stretches of a water course where water-crowfoot beds are abundant***
- ***iv) Regularly supports a high to good Ecological Quality as determined by the Water Framework Directive River Basin Management Plans used by the Environment Agency.***
- ***v) A score of 12 or more from the species listed in Table 4 Column C.***
- ***vi) Three or more natural river habitat features from the list below:***
  - ***river terraces***
  - ***cascades***
  - ***islands***
  - ***oxbows***
  - ***pools***
  - ***rapids***
  - ***riffles and runs***
  - ***sand, mud, shingle or gravel banks***
  - ***unmodified bank profiles***
  - ***point bars – vegetated or unvegetated***
  - ***flood plain connectivity.***

Table 4 – Indicative species list for Freshwater Habitats

Species listed in bold are Biodiversity Action Plan Species and Count as 2. Species marked with * refer to Fw3.

Scientific Name	Common Name	A - Nutrient poor standing water (Oligotrophic to Mesotrophic)	B - Nutrient rich standing water (Eutrophic to Mesotrophic)	C- Running water (including ditches)
Achillea ptarmica	Sneezewort		✓	
Alisma plantago-aquatica	Water plantain		✓	✓
Alopercurus geniculatus	Marsh Foxtail	✓	✓	✓
Angelica sylvestris	Wild angelica		✓	
Apium inundatum	**Lesser marshwort**		✓	
Apium nodiflorum	Fool's watercress		✓	✓
Athyrium filix-femina	Lady fern	✓	✓	✓
Berula erecta	Lesser water-parsnip		✓	✓
Bidens cernua	Nodding Bur-marigold		✓	
Bidens tripartita	Trifid Bur-marigold		✓	
Butomus umbellatus	Flowering rush		✓	✓
Callitriche brutia	**Pedunculate water starwort**	**?**	**?**	✓
Callitriche hermaphroditica	**Autumnal water-starwort**		✓	✓
Callitriche hamulata	Intermediate water starwort	✓	✓	✓
Callitriche obtusangula	**Blunt-fruited water starwort**	✓	✓	✓
Callitriche platycarpa	Various-leaved water starwort		✓	✓
Callitriche stagnalis	Common water starwort		✓	✓
Caltha palustris	Marsh marigold *(where not introduced)*	✓	✓	✓
Cardamine amara	Large Bittercress	✓	✓	✓
Cardamine pratensis	Cuckooflower		✓	
Carex acuta	Slender tufted sedge		✓	✓
Carex acutiformis	Lesser pond sedge		✓	✓
Carex curta	White sedge		✓	
Carex disticha	**Brown sedge**		✓	
Carex otrubae	False fox sedge		✓	
Carex paniculata	Greater Tussock Sedge	✓	✓	✓
Carex pseudocyperus	**Cyperus sedge**		✓	✓
Carex remota	Remote sedge	✓	✓	✓
Carex riparia	**Greater pond sedge**			✓
Carex rostrata	Bottle Sedge	✓	✓	
Ceratophyllum demersum	**Rigid Hornwort**		✓	✓
Chara sp.	**Stoneworts (each species counting as 2*)**	✓	✓	✓
Cirsium palustre	Marsh thistle	✓	✓	✓

Scientific Name	Common Name	A - Nutrient poor standing water (Oligotrophic to Mesotrophic)	B - Nutrient rich standing water (Eutrophic to Mesotrophic)	C- Running water (including ditches)
Cyperus longus	**Galingale (where not introduced)**	**?**	✓	✓
Dryopteris carthusiana	Narrow buckler fern	✓	✓	✓
Dryopteris dilatata	Broad buckler fern	✓	✓	✓
Dryopteris filix-mas	Male fern	✓	✓	✓
Eleocharis acicularis	**Needle spike-rush**		✓	
Eleocharis palustris	Common spike-rush	✓	✓	✓
Epilobium hirsutum	Great hairy willowherb		✓	✓
Epilobium obscurum	Short-fruited willowherb		✓	✓
Epilobium palustre	Marsh willowherb	✓		
Epilobium parvilflorum	Hoary willowherb	✓	✓	✓
Equisetum fluviatile	Water horsetail	✓	✓	
Equisetum palustre	Marsh horsetail	✓	✓	
Equisetum telmateia	Great horsetail			
Eriophorum sp.	Each species counting as 1	✓		
Eupatorium cannabinum	Hemp agrimony		✓	✓
Filipendula ulmaria	Meadowsweet	✓	✓	✓
Galium palustre	Common marsh bedstraw		✓	
Glyceria declinata	Small sweet-grass		✓	✓
Glyceria fluitans	Floating sweet-grass		✓	✓
Glyceria maxima	Reed sweet-grass		✓	✓
Glyceria notata	Plicate sweet-grass		✓	✓
Hippuris vulgaris	**Marestail**	✓	✓	✓
Hottonia palustris	**Water Violet**	✓	✓	✓
Hydrocharis morsus-ranae	**Frogbit**		✓	
Hydrocotyle vulgaris	Marsh pennywort	✓	✓	
Iris pseudacorus	Yellow flag iris	✓	✓	✓
Juncus acutiflorus	Sharp-flowered rush	✓	✓	✓
Juncus articulatus	Jointed rush	✓	✓	✓
Juncus bufonius	Toad rush	✓	✓	
Juncus bulbosus	Bulbous rush	✓		
Juncus conglomeratus	Compact rush	✓	✓	✓
Juncus effusus	Soft rush	✓	✓	✓
Juncus inflexus	Hard rush		✓	✓
Lemna gibba	**Fat duckweed**		✓	✓
Lemna minor	Common duckweed	✓	✓	✓
Lemna trisulca	Ivy-leaved duckweed		✓	✓
Lotus pedunculatus	Greater birds foot trefoil	?	✓	
Luronium natans	**Floating water-plantain***	✓	✓	
Lychnis flos-cuculi	Ragged robin	✓	✓	✓
Lycopus europaeus	Gypsywort		✓	✓
Lythrum portula	**Water-purslane**	**?**	✓	✓
Lythrum salicaria	Purple loosestrife		✓	✓
Mentha aquatica	Watermint		✓	✓
Menyanthes trifoliate	Bog bean	✓	✓	✓
Myosotis laxa	Tufted forget-me-not		✓	✓
Myosotis scorpioides	Water forget-me-not		✓	✓
Myosotis secunda	Creeping forget-me-not		✓	✓
Myosoton aquaticum	**Water chickweed**			✓
Myriophyllum alterniflorum	Alternative water-milfoil	✓	✓	✓

Scientific Name	Common Name	A - Nutrient poor standing water (Oligotrophic to Mesotrophic)	B - Nutrient rich standing water (Eutrophic to Mesotrophic)	C- Running water (including ditches)
Myriophyllum spicatum	Spiked water-milfoil		✓	✓
Myriophyllum verticillatum	**Whorled water-milfoil**		✓	✓
Nitella sp	**Stonewort- each species counting as 2**	✓	✓	
Nuphar lutea	Yellow water lily		✓	✓
Nymphaea alba	White water lily		✓	✓
Nymphoides peltata	Fringed water lily – where not introduced		✓	
Oenanthe crocata	Hemlock water dropwort		✓	✓
Persicaria amphibia	Amphibious bistort		✓	✓
Petasites hybridus	Butterbur			✓
Phalaris arundinacea	Reed canary grass		✓	✓
Phragmites australis	Common reed		✓	✓
Potamogeton alpinus	**Red pondweed**	✓	✓	✓
Potamogeton berchtoldii	**Small pondweed**	✓	✓	✓
Potamogeton compressus	**Grasswrack pondweed***	✓	✓	✓
Potamogeton crispus	Curled pondweed		✓	✓
Potamogeton epihydrus	American pondweed*	?	✓	✓
Potamogeton friesii	Flat stalked pondweed		✓	
Potamogeton gramineus	Various-leaved pondweed			
Potamogeton lucens	**Shining pondweed**		✓	✓
Potamogeton natans	Broadleaved pondweed	✓	✓	✓
Potamogeton obtusifolius	Blunt-leaved pondweed	✓	✓	✓
Potamogeton pectinatus	Fennel pondweed	✓	✓	✓
Potamogeton perfoliatus	Perfoliate pondweed	✓	✓	✓
Potamogeton polygonifolius	Bog pondweed	✓	✓	✓
Potamogeton praelongus	**Long-stalked pondweed**	✓	✓	✓
Potamogeton pusillus	**Lesser pondweed**		✓	✓
Potamogeton trichoides	**Hair-like pondweed**		✓	
Potentilla palustris	Marsh cinquefoil	✓	✓	
Ranunculus aquatilis	Common water crowfoot	✓	✓	✓
Ranunculus flammula	Lesser spearwort	✓		✓
Ranunculus fluitans	**River water crowfoot**			✓
Ranunculus hederaceus	Ivy-leaved crowfoot	✓	✓	✓
Ranunculus omiophyllus	Round-leaved crowfoot	?	✓	✓
Ranunculus peltatus	**Pond water crowfoot**	✓	✓	✓
Ranunculus sceleratus	Celery-leaved buttercup		✓	✓
Ranunculus trichophyllus	**Thread-leaved water crowfoot**	✓	✓	✓
Riccia fluitans	**A liverwort**		✓	✓
Rorippa amphibian	**Great yellow-cress**		✓	✓
Rorippa nasturtium-aquaticum	Water-cress		✓	✓
Rorippa palustris	Marsh Yellow-cress	✓	✓	✓
Rumex hydrolapathum	Water dock		✓	✓
Sagittaria sagittifolia	Arrowhead		✓	✓
Schoenoplectus lacustris	**Common club-rush**		✓	✓

Scientific Name	Common Name	A - Nutrient poor standing water (Oligotrophic to Mesotrophic)	B - Nutrient rich standing water (Eutrophic to Mesotrophic)	C- Running water (including ditches)
Schoenoplectus tabernaemontani	**Grey club rush**	✓	✓	✓
Scutellaria galericulata	Skullcap		✓	✓
Senecio aquaticus	Marsh ragwort		✓	
Solanum dulcamara	Bittersweet	?	✓	
Sparganium emersum	Unbranched bur-reed		✓	✓
Sparganium erectum	Branched bur-reed		✓	✓
Spirodela polyrhiza	**Greater Duckweed**		✓	✓
Stachys palustris	Marsh woundwort			✓
Sphagnum sp	Bog moss (- each species counting as 1	✓		
Stratiotes aloides	**Water solider**		✓	
Stachys palustris	Marsh woundwort		✓	✓
Stellaria uliginosa	Bog stitchwort	✓		
Tortula freibergii	**A moss* - occurs on canal walls**		✓	
Typha angustifolia	Lesser reedmace		✓	✓
Typha latifolia	Bulrush		✓	✓
Valeriana officinalis	Common valerian			✓
Veronica beccabunga	Brooklime		✓	✓
Veronica palustris	Marsh violet	✓		
Zanichellia palustris	**Horned pondweed**		✓	✓

HM HABITAT MOSAICS

In the urban/urban fringe environment, there are many areas of land that are not intensively managed, including areas of semi-natural vegetation with little or no active management, or areas which have naturally regenerated following other land uses. Such areas support examples of natural habitat mosaics but which may not be typical of more recognised habitat types in their composition or character (i.e. acid grassland-heath or heath – bog habitats). Therefore, some of these areas support a number of habitats that do not naturally fit into the classification systems described within the Part 2 Guidelines and include sites with many different habitat types within a single area for example; areas of scrub succeeding into woodland maybe associated with connecting semi-improved grasslands or wetland habitats such as disused lodges or areas of impeded drainage. These habitats can be important both for the assemblages of birds and invertebrates they support and/or for the connectivity they provide between other areas of high quality habitat. In addition, examples of these habitat mosaics may exhibit artificially arrested early successional stages of habitat development, due to the prevailing ground conditions (e.g. contaminated, unstable/loose and/or extreme nutrient poor substrates).

It is recognised that these types of habitat have considerable value in maintaining the biodiversity resource. Careful consideration and professional judgement will be needed to select sites under this Guideline. The citation for an SBI selected under this Guideline should include sufficient detail to make clear the justification for selection and the attributes which contribute to the site qualifying for selection.

HM1 HABITAT MOSAICS *Sites considered for selection under this Guideline will exhibit 2 or more of the following features:*

- ***Will support two or more habitat types where individually each attribute will almost qualify for selection on either Habitat (Part 2) Species or Species Assemblage (Part 3) Guidelines.***
- ***The site is greater than 5ha in size and each of the main habitats will be of a size that is sustainable (generally greater than 0.3 ha), though some supplementary habitats may be present in smaller areas.***
- ***The site contributes to the connectivity of other habitats of value in the locality (e.g. District or geographical locality see Part 1).***
- ***The site is in a locality which has a significant deficit of other semi-natural habitats of recognised value***.
- ***Supports other important features which contribute to habitat diversity and ecological functioning, which add structural diversity:***
    - ***Linear features crossing and connecting parts of the site and adjacent habitats e.g. hedgerows/ walls/ ditches/ road verges/ disused railway tracks.***
    - ***Features that provide a variety of substrates for colonisation e.g. loose substrate/ scree/ bare ground/ small steep banks.***
    - ***Features which provide a variety of micro-topographical or micro-climatic conditions e.g. tussocky grassland/ anthills/ hummocky ground in quarries/ spoil heaps.***
    - ***A variety of hydrological conditions e.g. ditches/ temporary or seasonal pools/ scrapes/ impeded drainage.***

Ur URBAN HABITATS

It is recognised that many sites within urban areas will be selected as SBIs because they fulfil the criteria for the selection of other habitat types, particularly habitat mosaics. However some habitats in urban areas display characteristics that do not easily fit into other habitat descriptions in these Guidelines. Some of these 'urban' habitat types are known to support important populations of invertebrates. Open Mosaic Habitats of Previously Developed Land has been identified as a UK Biodiversity Priority Habitat BRIG (ed. Ant Maddock) 2008, (Updated 2011)

The definition of what constitutes the Priority Habitat is by necessity complex and detailed. The Selection of SBIs under the Urban Habitats Guideline will necessitate a high degree of professional judgement and a justification of the sites selection should be placed on the GMEU SBI file.

Buddleia can support significant butterfly and moth species (Lepidoptera) and willow species are known to support large numbers of invertebrates. But they can have a negative impact on other site features if present as the dominant shrub. Therefore a high level of professional judgement is required for site selection as described above.

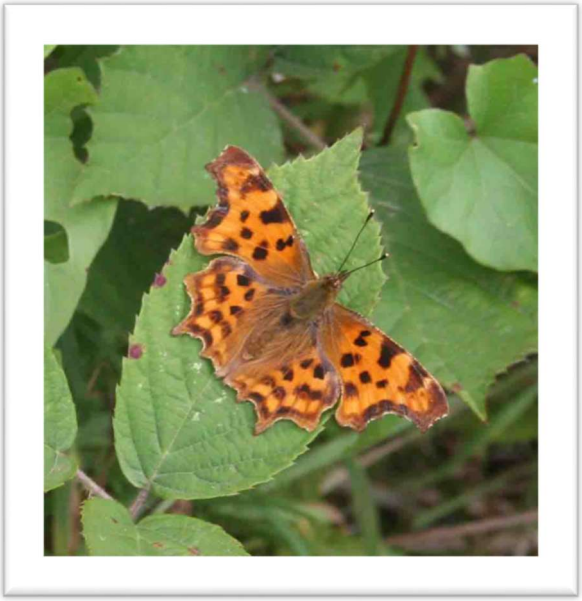
Since a lack of resources and/or specialist knowledge may preclude an intensive survey of these sites for invertebrates, and therefore their selection as SBIs under faunal guidelines, certain habitat types will be used as indicators of significant invertebrate interest.

Ur1 URBAN HABITATS – The following habitat types and sites within urban areas will be considered for selection as SBIs because of their potential contribution to the conservation of invertebrates [*following English Nature Research Report no 651 and BRIG 2011*]:

- ***Any site that supports the UK Biodiversity Priority Habitat Open Mosaic Habitat on Previous Developed Land.***
- ***Scrub - Mixtures of buddleia, grey willow, goat willow and silver birch on infertile substrates.***

PART 3
GUIDELINES FOR SELECTION

SPECIES & SPECIES ASSEMBLAGES



Introduction

Sites of Biological Importance selected under Guidelines in Part 2 represent the best examples of their habitat types and it is highly probable that they will support populations or assemblages of other important groups of flora and fauna, which contribute to the biodiversity of Greater Manchester. However, there may be cases where sites are not necessarily selected for their habitats but support assemblages of species of importance within the County, District or geographical locality (see Part 1).

Within Greater Manchester some groups are quite well surveyed and there is good information on numbers and/or distribution across the County, for example birds and aquatic invertebrates. Other groups have only partial information or information restricted to only a few Districts. For such groups it is not possible to generate meaningful thresholds or guidelines for individual groups (e.g. grasshoppers and crickets or moths). Where detailed information does not exist more general guidelines have been formulated. As further information is gathered and collated for Greater Manchester this will be incorporated within the SBI Guidelines.

The same reasoning applies to the analysis of species assemblages. Where well recognised systems exist these will be used, for example the amphibian assemblage scoring system (SSSI Selection Guidelines) and species diversity indices for aquatic invertebrates (Species Rarity Index Pond Action 1994 & Pond*Life* survey 1998). As scientific knowledge and theory advances and new systems are established, they will be incorporated within the SBI Guidelines with appropriate adjustments for the Greater Manchester context.

For groups of fauna which are mobile it is important to establish that the species and/or assemblages uses the habitats on more than a casual basis. The site under consideration will be used 'regularly' by the species/group for a critical stage of its life cycle. Reference to technical literature will be used to assist in the identification of what is considered the appropriate life stage and interpretation of the term 'regularly' unless it is stated within the Guidelines. This is not applicable for birds on passage during the spring and autumn migration.

Sites brought forward for consideration should have data available from the recent past (e.g. within the last 5 years), although historic data may be used to assist in the grading of a site.

Where a site's selection has been made partially on the basis of a comprehensive data set/survey (e.g. detailed survey for moths), it may not be possible to repeat the detailed surveys at each Review of the SBI, due to the need for additional resources and/or specialist survey skills/equipment. During the review survey an assessment will be made of the condition of the habitats present and their suitability to still support the species/assemblage recorded. The local experts/recorders will be contacted for additional data to try and verify the continued presence of the species/assemblage. Where a specific threat or challenge is made on individual SBIs, additional specific surveys may be commissioned to assess the populations and/or presence of the recorded species/assemblage. The same criteria as described in Part 1 (section 4 - Site survey & data collation) will be used by the Partnership in accepting records from unverified sources.

Some priority species may utilise features which it may not be practicable to select as SBIs, e.g. active industrial premises (barn owls, bats, little ringed plover), domestic dwellings (bats, house martins, swifts, black redstarts) and private gardens (e.g. garden ponds supporting amphibians). In the majority of cases such sites will not be selected and many of these species will be protected by the

provisions of legislation. Consideration will be given to the selection of sites supporting these types of features where the site is either **critical** to that species' survival in the Greater Manchester context, or supports exceptional numbers. Sites will also be selected where they qualify, even if they may have other land use designations (e.g. allocated areas within UDPs/LDFs, actively managed agricultural land, country parks etc).

Where a site supports habitats which are necessary for several stages of the species/groups' lifecycle, the boundary of the selected SBI will include sufficient areas of each habitat type. This is important for invertebrates (egg laying sites, larval food plants/conditions, adult food sources), amphibians (breeding/terrestrial/hibernation sites) and some groups of birds. Where sites qualify under the mammal Guidelines for bats, consideration will be given to identifying critical commuting routes and/or feeding areas of significant importance to the roost (e.g. a specific known feeding area close to a maternity roost).

GSG GENERAL SPECIES GUIDELINES

These General Guidelines are applicable to the following groups:

- Vascular plants
- Lichens
- Bryophytes – mosses & liverworts
- Stoneworts and other algae
- Fungi (for wax caps see grasslands in Part 2)
- Terrestrial invertebrates (not an exhaustive list but including: moths (*Lepidoptera*), grasshoppers & crickets (*Orthoptera*), slugs & snails (*Mollusca*), beetles (*Coleoptera*), true flies (*Diptera*), bees & wasps (*Hymenoptera*), nemertean worms, crustaceans, bugs (*Hemiptera*), lacewings (*Neuropteran*), spiders (*Arachnida*).
- White-clawed crayfish
- Small mammals e.g. yellow-necked mouse, harvest mouse and water shrew (excluding water vole which is discussed separately)
- Mustelids e.g. stoats, weasels & polecats (excluding badger which is discussed separately)

GSG1 GENERAL SPECIES Sites will be considered for selection where they regularly support a population of any species on one of the following:

- ***Schedules 1,5 or 8 of the Wildlife & Countryside Act 1981 (as amended)***
- ***the most recent relevant Red Data Book for the UK or England***
- ***Nationally scarce species list (incorporating invertebrate and other taxa Nationally Notable A & B classifications).***
- ***Recorded from 3 or fewer localities in the County or holds a population considered to be a stronghold for the region***
- ***Where the species under consideration occurs in greater than 3 localities is a UK Priority species or a Greater Manchester Biodiversity Action Plan Species (with reference to Appendix 3).***

Or where:

- ***The site supports a significant proportion of the Greater Manchester population of the species' or contributes significantly to the species' range in the County, and the species may be at risk because of very small populations, recent rapid decline, or habitat loss or change***
- ***Supports an assemblage of the group that significantly contributes to the overall flora/fauna for the County or District.***
- ***Supports a 'characteristic' assemblage for the habitat or seral stage of habitat development (e.g. ancient woodland hoverflies/molluscs, deadwood invertebrates or invertebrates for ponds with seasonal water levels)***

AI AQUATIC INVERTEBRATES

Aquatic invertebrate populations have been relatively well surveyed within the Region with the Pond*Life* Project in the mid-1990s. This included a survey of over 1000 ponds within Cheshire, Lancashire and Greater Manchester. Analysis of the data from these surveys were reported in 'Ponds & Pond Landscapes in Europe' (Editor John Boothby 1999). The identification of the criteria for selection of aquatic invertebrate assemblages is based on this work. In general terms, this work applies to ponds and small lodges, but may be adapted to fit larger water bodies. Other pond evaluation systems, such as Oxford Pond Survey System (Chadd & Extense) and PSYMs may be used to supplement the PondLife ones if required

AI1 AQUATIC INVERTEBRATES ***Sites will be considered for selection if they support either high species numbers or species-diverse populations with reference to the table below and with reference to the listing of aquatic invertebrates in the North West (to be compiled by a local specialist in conjunction with Lancashire County Council). Until such time as this has been established the UK listings for invertebrate status will be used.***

Potential SBI Grade	*Conservation Value*	*Species no. invertebrates*	*Species Rarity Index (SRI) Invertebrates*
A	*Very High*	*>50*	*>1.5* *One or more Nationally Scarce or RDB*
B	*High*	*31-50*	*1.2 – 1.49* *No nationally notables or RDB species*
C	*Moderate*	*11-30*	*1.01 – 1.19*

Taken from D Gledhill in Ponds & Pond Landscapes of Europe 1999

The calculation of the SRI is based on that used in Pond Action (1994), according to the following categories:

Species Rarity	***Score***
Common	***1***
Local	***2***
Regionally Notable	***3***
Nationally Notable B	***4***
Nationally Notable A	***8***
RDB 2	***32***
RDB1	***64***

Using the following formulae:-

$$SRI = \frac{\text{sum of Species Rarity Score}}{\text{number of species recorded}}$$

Dr DRAGONFLIES (ODONATA)

The distribution of this group of animals is not well recorded within Greater Manchester, but some understanding of their distribution exists informally. Figures for SSSI selection are also well recognised (SSSI Guidelines for Site Selection), for Lancashire and counties to the north it is 10 species and for Cheshire and counties to the south it is 12 species. Breeding is considered if records exist within the previous 3 years as evidenced either by:

- mating activity
- ovipositing females
- juvenile aquatic larvae
- exuviae/very newly emerged young.

***Dr1 DRAGONFLIES** Sites considered for selection will regularly support 7 or more breeding species of Odonata.*

Bu BUTTERFLIES (LEPIDOPTERA)

The distribution of butterflies in Greater Manchester has been documented in 'Butterflies in Greater Manchester' (PB Hardy 1998). This indicates that 24 of the UK species can be considered to occur in Greater Manchester on more than an occasional basis. The Selection Guidelines below are based on this body of work. Updates to this survey or any evidence produced in future will be used to supplement these Guidelines. Where the Guideline includes 'regularly supports breeding' this is taken to mean that breeding is either confirmed or probable in 2 out of the last 5 years. Breeding can be considered as probable if both of the following features are recorded:

- Presence of any pre-adult – caterpillars, pupae, eggs
- Repeated records of adult imagos at the site

Or one of the above is supplemented with both of the following:

- Suitable adult nectar sources
- Presence of larval food plants

Sites which will be considered for selection are as follows:

***Bu1 BUTTERFLIES - Local Distribution** Sites which regularly support populations of species with very localised distribution and scarce in Greater Manchester:*

- ***Green hairstreak***
- ***Purple hairstreak***
- ***White-letter hairstreak****
- ***Holly blue (consideration will be given to the colony size)***
- ***Brimstone***

Bu2 BUTTERFLIES – Limited Geographical Range ***Sites which regularly support breeding populations of species with distribution limited by geographical range:***

- ***Small Heath****
- ***Wall****

Bu3 BUTTERFLIES – Assemblages ***Sites, including habitat matrices, which regularly support populations of 9 or more species, of which 6 are breeding. This applies to all other species recorded within Greater Manchester, excluding migrants and the ubiquitous large and small whites:***

- ***Small skipper***
- ***Large skipper***
- ***Green-veined white***
- ***Orange tip***
- ***Small copper***
- ***Common blue***
- ***Small tortoiseshell***
- ***Peacock***
- ***Comma***
- ***Speckled wood***
- ***Meadow brown***
- ***Gatekeeper***
- ***Ringlet***

* UK BAP Priority Species

Rp REPTILES

The distribution of reptiles in Greater Manchester is not at all well known. But records from the recognised recording centres (i.e. GMEU, Bolton Museum and Record – Cheshire) indicate that they are not at all common.

Sites where these species have been deliberately released (e.g. discarded pets) should not be considered for selection unless it is part of a recognised nature conservation programme.

***Rp1 REPTILES** Sites which regularly support a population of any of the reptiles found in Greater Manchester will be considered for selection. This includes:*

- ***Adder***
- ***Slow worm***
- ***Grass snake***
- ***Common lizard***

Am AMPHIBIANS

Techniques for estimating amphibian populations have become well established over the recent past (NCC 1989, Great Crested Newt Mitigation Guidelines English Nature 2001). For development purposes Natural England require a minimum of 4 surveys to establish presence/absence or 6 surveys for population estimates. This is required to allow a sufficient survey window to cover the seasonal variability of newts returning and breeding in ponds. For the purposes of these Guidelines it may not be necessary to undertake several visits, although they may be useful for the establishment of maximum counts.

Some SBIs have been selected under older assessment systems (e.g. egg counts) and have not subsequently been resurveyed using the more recently accepted techniques. As already indicated GMEU does not, at the present time, have the resources to undertake full reassessments of these sites. Therefore, unless the habitat has become unsuitable for breeding amphibians in the intervening period between selection and review, it will be assumed that the species/group still qualifies the site for selection.

The distribution patterns of amphibians across Greater Manchester are variable and there are particularly high numbers of pond clusters. This in combination with the variability of breeding from year to year, means that if great crested newts or other amphibians have been previously/historically recorded on a site, one season's data of absence of breeding is not considered sufficient to conclude that the site is no longer suitable for that species.

Amphibians are not evenly distributed in the Districts of Greater Manchester. For example the eastern districts of Rochdale and Oldham on the Pennine fringe, although not comprehensively surveyed, appear to support very few great crested newt breeding ponds, but have in some cases been found to support moderate to good populations of palmate newts. Areas near or on the Cheshire Plain have been found to support higher densities of great crested newt breeding ponds. This variation in distribution will be taken into account when applying the Guidelines and grading selected sites.

***Am1 AMPHIBIANS** Sites, either single ponds or clusters[†], will be considered for selection if they meet one of the following, with reference to Table 5 below:*

- ***Supports a 'good'/'medium' population of great crested newt***
- ***Supports an 'exceptional'/'large' population of any amphibian species***
- ***Supports 5 breeding species of amphibian (4 in Rochdale & Oldham)***
- ***Supports a species assemblage score of 7 or more (or 5 in Rochdale & Oldham) according to the scoring system shown in Table 5 below.***

Table 5 Scoring System for Amphibian Assemblages (NCC 1989/EN 2001)

		'low'/'small' * population **score 1**	'good'/'medium'* population **score 2**	'exceptional'/'large'* population **score 3**
Great crested newt	Netted/seen daytime	<5	6 - 50	> 51
	Torched/bottled	< 10	11 - 100	> 101
Smooth newt	Counted day/night	< 10	11 -100	> 101
Palmate newt	Counted day/night	< 10	11 - 100	> 101
Common Toad	Estimated	< 500	501 - 5000	> 5001
	Counted	< 100	101 - 1000	> 1001
Common Frog	Spawn– clumps counted	< 50	51 - 500	> 501
Add 1 to assemblage score for 4 species				
Add 2 to assemblage score for 5 species				

* terms from either NCC1989 or EN 2001 respectively

[†] A cluster of ponds should be considered as all the ponds within 500m of each other, whether or not they all support each breeding species of amphibians.

B BIRDS

Br Breeding Birds

For the purposes of these Guidelines acceptable evidence of breeding bird species follows the British Trust for Ornithology approach using the criteria of probable and possible breeding which includes:

- the presence of a territorial male
- repeated sightings of the species concerned in suitable habitat during the breeding season
- pair behaviour during the breeding season
- birds seen nest building or carrying nesting material
- birds seen carrying feeding material or faecal sacs
- fledgling birds seen or an occupied nest is found.

A breeding population is defined as one pair. The use of the term 'regularly' in these Guidelines means that the species should have been recorded for the site concerned for a minimum of two separate years during the last five years.

Boundaries of sites selected for their breeding bird interest will reflect all of the necessary habitat for breeding, including specific habitat requirements for feeding juveniles.

The use of the term 'rare' in these Guidelines means that there are less than 10 records of the species each year, or that records are restricted to specific habitat types. The use of the term 'scarce' means that the species occurs in only small numbers. The Annual Bird Report for Greater Manchester or the bird database will supplement this assessment.

Account is taken in these Guidelines of the fact that birds are generally far more mobile than other fauna. This means that sites other than breeding sites are also essential for species survival. Such areas may include those regularly used for major pre- and post-breeding gatherings, migration staging posts, moulting and during different stages of the winter.

The SBI Guidelines regarding birds will not generally be applied to occupied domestic dwellings or active industrial buildings. However, consideration will be given to the selection of sites in these types of premises, where the site is either critical to that species' survival in the Greater Manchester context, or supports high species numbers or exceptional populations

The following will be considered for selection as Grade A SBIs

Br1 BIRDS – Significant Breeding Population ***Sites that regularly support more than 0.5% of the total British breeding population of any native bird species.***

Br2 BIRDS – Schedule 1 ***Any site which regularly supports a breeding population of any bird species included in Schedule 1 of the Wildlife and Countryside Act (1981), as amended.***

Species to which this Guideline may be applied in Greater Manchester include, but may not be exclusive to:

> ***peregrine, black redstart, barn owl, little ringed plover, kingfisher, black necked grebe, merlin, hobby, quail, Mediterranean gull,***

Br3 BIRDS – Rare Breeders ***Any site which regularly supports a significant proportion of the breeding population of a bird species regarded as a rare breeding bird in Greater Manchester.***

Species to which this Guideline may be applied in Greater Manchester will include, but may not be exclusive to:

> ***cuckoo*, long-eared owl, short-eared owl, lesser spotted woodpecker*, yellow wagtail*, wood warbler*, spotted flycatcher*, pied flycatcher, twite*, redshank, ring ouzel*, gadwall, pochard, shoveler, goosander, teal, redstart, marsh tit****

The following will be considered for selection as SBIs

Br4 BIRDS – Scarce Breeders ***Any site which regularly supports a significant proportion of the breeding population of a bird species regarded as a scarce breeding bird in Greater Manchester.***

Species to which this Guideline may be applied in Greater Manchester will include, but may not be exclusive to:

> ***water rail, golden plover, snipe, woodcock, curlew*, green woodpecker, grasshopper warbler*, willow tit*, tree sparrow*, corn bunting*, whinchat, stonechat, raven, lapwing*, ringed plover, common sandpiper, common tern***

Br5 BIRDS – UK Priority Species ***Any site of significant importance for birds listed as UK Priority Species, which have not been included in the previous Guidelines (marked above with *). These are species included in Section 41 of the NERC Act 2006 and were previously known as CRoW Act Section 74 species.***

Br6 ***BIRDS – Assemblages*** ***Any site from which the following have been recorded in the last five-year period for which data is available. Regard will be given when applying this Guideline to the status (e.g. red/ amber list of breeding concern etc) of all the species under consideration for the assemblage.***

10 or more regular breeding bird species
20 or more regular breeding and wintering bird species
30 or more regular breeding, wintering and passage bird species

These figures are the **minimum** for consideration for site selection. Account needs to be taken when allocating grades to a site of the distribution of breeding birds within similar habitats in that District.

Only species making regular active use of site should be included. Those simply flying over should be excluded.

Br7 BIRDS – Colonial Breeders **Any site that supports a significant population of a colonial nesting bird.**

Species to which this Guideline may be applied in Greater Manchester will include, but may not be exclusive to:

sand martin, grey heron, common tern and house martin

* UK BAP Priority Species

WB Wintering Birds

The primary source of data for wintering bird populations in Greater Manchester is the Wetland Bird Survey (WeBS) a joint scheme of the British Trust for Ornithology, The Royal Society for the Protection of Birds and the Joint Nature Conservation Committee in association with the Wildfowl and Wetlands Trust. Data used in these assessments will be the most recent five year period for which data are available.

The winter period is defined as September to March.

The following will be considered for selection as Grade A SBIs:

WB1 BIRDS – Significant Wintering Population of an Individual Species. ***Sites that regularly support a significant proportion (more than 10%) of the total Greater Manchester wintering population (based on WeBS counts) of an individual native water bird species (as defined by Wetlands International).***

For other wintering bird sites the following guidelines may be used:

WB2 BIRDS – Wintering Schedule 1 ***Any site which regularly supports a wintering population of any bird species included in Schedule 1 of the Wildlife and Countryside Act (1981), as amended.***

Species to which this Guideline may be applied in Greater Manchester include, but may not be exclusive to:

> ***Bittern, peregrine, black redstart, barn owl, kingfisher, black necked grebe, merlin, Mediterranean gull.***

WB3 BIRDS – Wintering UK Priority Species ***Any site of significant importance for wintering birds listed as UK Priority Species, which have not been included in the previous Guidelines. These are species included in Section 41 of the NERC Act 2006***

WB4 ***BIRDS – Wintering Assemblages*** ***Any site which supports a significant proportion of the total Greater Manchester wintering population (based on WeBS counts) of all recorded waterbird species (as defined by Wetlands International). The following figures should be used to determine the grading of the site:***

- ***Grade A - supports 3% or more***
- ***Grade B – supports between 1% and 2.99%***
- ***Grade C - supports between 0.5% and 0.99%***

Some sites whilst not regularly supporting high numbers of water birds may occasionally be of key importance, particularly in very harsh winter weather (freezing conditions), in enabling species to survive. Sites that may qualify include rivers and large reservoirs which may retain areas of open water whilst all other still water bodies in the area have frozen over. Avoiding disturbance at such sites may be vital to the survival of water birds in freezing conditions. For sites such as these the following guideline should be used:

WB5 ***BIRDS – Wintering Harsh Weather Sites*** ***Sites that occasionally (during harsh weather conditions) support a significant proportion (more than 10%) of the total Greater Manchester wintering population (based on WeBS counts) of any native water bird species (as defined by Wetlands International).***

Thresholds – With the exception of Schedule 1 species all percentages relate to a minimum of 20 birds of an individual species. Definitions: “Regularly” is defined as being recorded in three out of the last five years for which data are available.

Further information on the interpretation of the Bird Guidelines may be sought from the Greater Manchester Bird Recording Group in the determination of how significant a site may be for a particular species in the sub-region or in the district concerned.

Mm MAMMALS

Bats

All species of bats are UK and European Protected Species and UK Biodiversity Priority Species (except common pipistrelle, which was removed in the 2007 UK BAP Review).

The distribution and population sizes of bats in Greater Manchester are not well understood. In addition, the number of species present in the County is not truly known. To date validated records for eleven species are known and all are considered of conservation importance. These species are:

- Common Pipistrelle
- Soprano Pipistrelle
- Brown long-eared
- Daubenton's
- Whiskered
- Brandt's
- Noctule
- Natterer's
- Nathusius's Pipistrelle
- Leisler's
- Serotine

The Bat SBI Guidelines will not generally be applied to occupied domestic dwellings or active industrial buildings. However, consideration will be given to the selection of sites in these types of premises, where the site is either **critical** to that species' survival in the Greater Manchester context, or supports high species numbers or exceptional populations. The boundaries of any site selected may include key feedings areas and/or commuting routes to feeding areas where they can be identified.

Mm1 BATS Sites qualifying for consideration for selection will include one or more of the following:

- ***Hibernation sites that are regularly used in one of the following ways:***
  - ***at least 5 individuals of 1 or more species***
  - ***solely Pipistrelle sp. hibernation sites of more than 7 individuals.***
- ***A breeding roost site that regularly supports more than:***
  - ***100 Pipistrelle sp***
  - ***15 for Brown Long-ear***
  - ***10 Brandt's/whiskered***
  - ***20 of any other species currently known to occur in Greater Manchester***
  - ***Of any size for other species not currently recorded with maternity roosts in Greater Manchester (e.g. Leisler's or Serotine or colonisation by Barbastelle).***
- ***Any site which regularly supports roosting by 3 or more species of bat. (Temporary night roosts and feeding roosts are not included within this categorisation).***
- ***Any site which is of known importance for feeding bats either due to species numbers or numbers of individuals, will be considered for selection, even where it is not necessarily associated with a known roost.***

Further consultation on the interpretation of the final bullet point of this Guideline may be sought from the bat specialists within the Greater Manchester Partnership (Appendix 1) on the determination of how significant a site may be for a particular species in the sub-regional or District context.

Other Mammals

The distribution of many mammal species in Greater Manchester are not well documented, but work by organisations such as the Environment Agency on water voles has contributed to the increasing understanding of species' distributions. The principle species which will be considered for use as Site Selection Guidelines are those on either Annex 2 of the Habitats Directive, Schedule 5 of the Wildlife & Countryside Act or are UK Biodiversity Priority Species. In Greater Manchester these include:

- **Red squirrel –** At the time of publication this species is only recorded from a very small number of sites in a restricted area within Wigan.

- **Otter –** At the time of publication there have been records or sightings for this species but no confirmation of breeding territories. There is evidence of the species increasing its range in all surrounding counties and it is likely that colonisation of Greater Manchester will occur.

- **Water vole –** This species is more widely distributed in Greater Manchester, but continues to suffer population losses and/or local extinctions due to loss of habitat and predation by mink. Its distribution is variable across the County, with the Douglas catchment in the north west holding a high density of populations (Water Vole Handbook ed 2 2006). The mosslands of Salford and Wigan also hold significant populations. The results of the 3 year North West Water Vole Project will be used to inform future assessments of this species.

- **Brown Hare –** This UK Biodiversity Priority Species appears to be sparsely distributed across the County, which is typical of its social ecology. However, there are some areas where the species has a stronghold and numbers/density is high, for example but not exclusively south Stockport. It is these areas that will be considered for SBI site selection.

- **Mountain Hare –** The distribution of this UK Biodiversity Priority Species (UK Biodiversity Review 2007) is restricted to the Pennines, where localised populations occur. A detailed survey was undertaken in 2000 coordinated by Derbyshire Wildlife Trust. The Greater Manchester Pennine population forms part of this wider population.

- **Hedgehog -** This species is believed to be widespread and ubiquitous across Greater Manchester. Therefore, at the current time it is not envisaged that sites will be selected for this species in isolation. Domestic gardens or grounds to dwellings are unlikely to be considered for selection at any stage even when the distribution of the hedgehog is known in more detail.

Boundaries for sites selected for the species listed above, should include the key habitat for breeding territory requirements. In addition, other areas of habitat should be considered for inclusion where it is utilised at other times of year.

***Mm2 MAMMALS** Sites will be considered for selection where the site regularly supports a breeding population of a qualifying mammal species, which is either: a significant proportion of the County's known population or contributes significantly to the known range in the County of the species, but where the species and its range could be at risk because of very small populations, recent rapid decline, or habitat loss/ change in that location.*

Badgers

Badgers are protected from abuse and disruption by the Badger Protection Act and are considered as a material consideration within the planning system. They are not deemed as a sufficient reason for considering a site for selection as an SBI. However, where a sett or significant foraging areas are recorded within a site being considered for selection on other Guidelines, this may influence the site's boundary or grade.

APPENDIX 1

KEY PARTNERS &CONSULTEES

The list below incorporates the organisations and experts who were consulted on the document and form the Local Sites Partnership. The terms of reference for the partnership can be found in Appendix 5. Those listed in bold will form the Key Partners who will be consulted on the annual SBI review process as detailed at Section 6. Other individuals may be asked to comment on specific SBI selections or reviews according to their key skills or specialism.

Greater Manchester Local Authorities
Bury
Rochdale
Oldham
Tameside
Stockport
Manchester
Trafford
Salford
Wigan
Bolton

Birds
Greater Manchester Bird Recording Group
RSPB Regional Office

Invertebrates & Amphibians
ARGSL – David Orchard
Rick Parker

Bats
South Lancashire Bat Group
Cheshire Bat Group

Botanists – Higher & Lower Plants
Alan Bamforth
Norman Bamforth

Butterflies
Peter Hardy

Wildlife Trusts & Naturalist Groups
Bolton Museum - Don Stenhouse
Oldham Museum – Patricia Francis
The Wildlife Trust for Lancashire, Greater Manchester & North Merseyside
Cheshire Wildlife Trust
Cheshire Wildlife Trust North Group (Trafford) - Liz Blackman
City of Trees, Andy Long

Local Government Ecologists in adjacent counties
Derbyshire
Lancashire
EAS – for Merseyside & the Wirral
Cheshire West and Chester
Cheshire East
Peak District National Park

Statutory Agencies
Natural England
Environment Agency
United Utilities
Forestry Authority

APPENDIX 2

SITE VISIT LETTER TO SITE OWNERS

Greater Manchester Ecology Unit
[ADD IN CURRENT ADDRESS]

Email: gmeu@tameside.gov.uk

Principal Ecologist:
Derek Richardson

Greater Manchester Ecology Unit

X

Your ref :
Our ref :
Doc ref :
Contact :
Phone:
Date :

Dear

ECOLOGICAL SURVEYS IN GREATER MANCHESTER

As part of the council's continuing commitment to nature conservation and Biodiversity the Greater Manchester Ecology Unit, on behalf of the 10 districts in Greater Manchester is carrying out ecological surveys of land in the County in the near future. This is to assist in monitoring the state of the environment and to provide important information for forward planning and to assist on reporting to central government on Performance Indicators. As a Local Planning Authority, each council is required and given powers under the Town & Country Planning Act to carry out such surveys.

Land which we believe may be wholly or partly in your ownership has been selected for survey, because either we have no survey information for the area, or it is old and is in need of updating. Please see the attached map for the location of the land in question, outlined in a thick black line and named as 'SITE NAME' (grid reference).

Experienced surveyors will visit the site between April – September to carry out this survey, which will take between 1 to 3 hours to complete. The survey work will be carried out by GMEU staff, who will carry identification. Once the survey has been written up, usually in the autumn following the survey visit, a copy will be sent to you.

Owners of land surveyed in previous years have told us that these surveys can be very interesting and can be of use in the management of the land or for gaining additional funding to manage the site.

I attach a form which I would be very grateful if you could fill in and return to me in the prepaid envelope, to either confirm you own some/all of the land or that you do not own any of the land in question. There is room on the form for you to let us know if there are conditions which you may require in connection with the survey, particularly regarding the means and day/time of the visit, so that all care can be taken not to inconvenience you in any way.

Thank you in anticipation of your cooperation in this important survey work. If you require any further information in connection with the survey, please contact me as soon as possible at the address shown above.

Yours sincerely

Ecologist

Important Notes

Local Planning Authorities are required under Section 13 of the Planning & Compulsory Purchase Act 2004 to undertake surveys in order to ensure that forward plans are based on fully adequate information. Planning Policy Statement (PPS 9) published by the Department of Food and Rural Affairs, makes it clear that these surveys should include biodiversity issues.

In pursuance of the Council's powers under Sections 324 of the Town and Country Planning Act 1990 as amended the Council has authorised GMEU staff to enter the land in the County in connection with the carrying out the survey work as described above.

Adapted from letter used by Stoke-on-Trent City Council

APPENDIX 3
UK BIODIVERSITY PRIORITY SPECIES & HABITATS IN GREATER MANCHESTER
February 2015

ter manchester
iversity project

UK BIODIVERSITY PRIORITY SPECIES & HABITATS IN GREATER MANCHESTER

BIRDS

*Arctic Skua**
Bittern
*Black-tailed Godwit**
Black-throated Diver
Bullfinch
Common Scoter
Corn Bunting
Cuckoo
Curlew
*Dark-bellied Brent Goose**
Dunnock (Hedge Accentor)
*Eurasian Wryneck **
Grasshopper Warbler
Greater Scaup
Greenland Greater White-fronted Goose
Grey Partridge
Hawfinch
Herring Gull
House Sparrow
Lapwing
Lesser Redpoll
Lesser Spotted Woodpecker
Linnet
*Marsh Warbler**
Nightjar
*Red-backed Shrike**
Red Grouse
Reed Bunting
Ring Ouzel
Roseate Tern
Skylark
Song Thrush
Spotted Flycatcher
Starling
Tree Pipit
Tree Sparrow

Tundra/Bewick Swan
Turtle Dove
Twite
Willow Tit
Wood Warbler
Yellow Wagtail
Yellowhammer

** Rare passage migrants*

AMPHIBIANS & REPTILES
Slow Worm
Common Toad
Grass Snake
Great Crested Newt
Adder
Common Lizard

MAMMALS
Water Vole
Hedgehog
Brown Hare
Mountain Hare
Otter
Noctule
Soprano Pipistrelle
Brown Long-eared
Red Squirrel

FISH
River Lamprey?
European Eel
Atlantic Salmon
Brown/Sea Trout

INVERTEBRATES

Beetles
Early Sunshiner (*Amara famelica*)
Ten-spotted Pot Beetle (*Cryptocephalus decemmaculatus*)
Tansy Beetle (*Chrysolina graminis*)

Dragonflies & Damselflies
None known at this time

Flies
Southern Silver Stiletto Fly (*Cliorismia rustica*)

Bees & Wasps
None known at this time

Butterflies
Small Heath
Wall
White Letter Hairstreak

Moths
Anomalous
August Thorn
Autumnal Rustic
Beaded Chestnut
Blood-vein
Brown-spot Pinion
Buff Ermine
Centre-barred Sallow
Cinnabar
Dark Spinach
Dark-barred Twin-spot Carpet
Deep-Brown Dart
Dot Moth
Double Dart

Dusky Thorn
Dusky-lemon Sallow
Ear Moth

Figure of Eight
Flounced Chestnut
Galium Carpet
Garden Dart
Garden Tiger
Green-brindled Crescent
Grey Dagger
Haworth's Minor
Heath Rustic
Hedge Rustic
Knot Grass
Lackey
Minor-Shoulder-knot
Mottled Rustic
Mouse Moth
Neglected Rustic
Oak Hook-tip
Oak Lutestring
Olive Crescent

Pale Eggar
Powdered Quaker
Red Carpet
Rosy Minor
Sallow
September Thorn
Shoulder-Striped Wainscot
Small Phoenix
Small Square-spot
Spinach
Sprawler
V-moth
White Ermine

Molluscs
The Shining Ram's-horn Snail
Mud Pond Snail (*Omphiscola (Lymaria) glabra*)

Other Invertebrates
White clawed crayfish
Lophopus crystallinus (a byrozoan)

LICHENS
None known at this time

FUNGI
Hiericium erinaceus
Olive Earth Tongue (*Microglossum olivaceum*)

BRYOPHYTES
Knowlton's Thread-moss (*Bryum knowltonii*)
Freiberg's Screw-moss (*Tortula freibergii*)

VASCULAR PLANTS
Floating water plantain
Yellow Bird's-nest
Grasswrack Pondweed
Corn buttercup
Greater Water Parsnip
Marsh Stitchwort

HABITATS

Arable Field Margins
Blanket Bog
Eutrophic Standing Waters
Hedgerows *(those comprising 80% or more cover, excluding archaeopyhtes and sycamore, of at least 1 woody species)*
Inland Rock outcrop and Scree Habitats?
Lowland Dry Acid Grassland
Lowland Fens
Lowland Heathland
Lowland Meadows
Lowland Mixed Deciduous Woodland
Lowland Raised Bog
Open Mosaic Habitats on Previously Developed Land
Ponds

- *Ponds that meet the criteria under Annex 1 of the Habitats Directive*
- *Ponds supporting species of high conservation importance*
- *Ponds supporting exceptional assemblages of key biotic groups*
- *Ponds of high ecological quality*
- *Other important ponds*

Reedbeds
Rivers *(all natural or near-natural running waters)*
Upland Flushes, Fens and Swamps
Upland Hay Meadows
Upland Heath
Upland Oakwood
Wet Woodland
Wood-Pasture & Parkland*)*

APPENDIX 4 SBI CITATION

SITES OF BIOLOGICAL IMPORTANCE IN GREATER MANCHESTER
Greater Manchester Ecology Unit
Council Offices, Clarence Arcade, Stamford Street, Ashton-Under-Lyne
Tameside OL7 PT
(*Private & Confidential*)

Greater Manchester Ecology Unit

Site Name : x		**District** : X
Location : x	**Grid Ref** : x	**Grade** : x

SITE LOCATION MAP (1:10000)
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EXAMPLE MAP SHEET

SITES OF BIOLOGICAL IMPORTANCE IN GREATER MANCHESTER
Greater Manchester Ecology Unit
Council Offices, Clarence Arcade, Stamford Street, Ashton-Under-Lyne
Tameside OL7 PT
(*Private & Confidential*)

Greater Manchester Ecology Unit

SITE NAME :		**District** : Bolton
LOCATION :	**GRID REF** :	**GRADE** :

SITE DESCRIPTION

EXAMPLE SITE DESCRIPTION

The habitat figures given are an approximation and are only intended to give an indication of the relative proportions of each habitat.

SITES OF BIOLOGICAL IMPORTANCE IN GREATER MANCHESTER
Greater Manchester Ecology Unit
Council Offices, Clarence Arcade, Stamford Street, Ashton-Under-Lyne
Tameside OL7 PT (*Private & Confidential*)

Greater Manchester Ecology Unit

SITE NAME :			**District** : Wigan
LOCATION :			**GRID REF** :
GRADE :	**AREA (HA)** :	**ALTITUDE (M)** :	**DATE** :
STATUS :	**SURVEYOR** :		**INITIAL SURVEY DATE** :
NO OF REVISIONS :	**OWNER** :		**District REF** :

HABITATS PRESENT	**Area (ha)**	**HABITATS PRESENT**	**Area (ha)**
Woodland broadleaved (semi-nat)		Woodland plantation	
Scrub		Acid grassland	
Neutral grassland – species rich		Neutral grassland – species poor	
Marshy grassland/flush		Calcareous grassland	
Tall ruderal		Ericaceous heath lowland/upland	
Bog		Swamp/Fen/Reedbed	
Pond/small lodge		Reservoir/large area of open water	
Canal		Running water - River/stream/ditch	
Quarry/cliff/rock/wall		Other	
Areas of habitat covering less than 0.1ha recorded as 0.01			

Qualifying Features Code *(taken from Part 2 or Part 3 of the Greater Manchester SBI Selection Guidelines 2008).*

Supplementary Features Code - *for other features that are not the primary reason for SBI selection, but are identified either as a supplementary attribute (taken from Part 1) and/or by almost reaching the Guideline threshold (Parts 2 & 3).*

COMPLETE FOR GAINS AND PARTIAL LOSSES ONLY

Loss since Last Survey :	Loss since First Survey :
Primary cause :	Secondary cause :
Gain since Last Survey :	Gain since First Survey :
Primary cause :	Secondary cause :
Net change since Last Survey :	Net change since First Survey :

APPENDIX 5

SBI MONITORING FORM

SITES OF BIOLOGICAL IMPORTANCE MONITORING FORM

Site code	Site Name	Grid reference of site OS Base	District

Date first selected	Size (ha)	Ownership (private/public)	Dominant Habitat Type(s) when selected

Date of Monitoring Survey	Names of surveyors

General site description (dominant habitat types and land use):

List any notable features / species / habitats present not already cited

Approximately what proportion of the site was visited (%)?

Are there any signs of active management on the site? If yes, what are they?

Qualifying features code(s) under current SBI guidelines

Supplementary features:

Recommendations:

Deletion / part deletion ☐

Extension ☐

Change of Grade ☐

Substantive change to site description ☐

Only if one or more of the above is ticked as 'yes' should the master citation and/or the boundary map be changed

Greater Manchester Ecology Unit
Council Offices, Clarence Arcade,
Stamford Street, Ashton-under-Lyne
Tameside OL6 7PT

Greater Manchester Ecology Unit

APPENDIX 6

TERMS OF REFERENCE OF LOCAL SITES PARTNERSHIP

SBI SELECTION PARTNERSHIP

Membership of the Partnership

- GMEU staff
- A representative of each local authority with an appropriate level of understanding of the system and biodiversity policy; usually from within the planning department. These will form the core membership of the Selection Panel and be termed Key Partners.
- Additional local authority staff may join the panel to provide a more detailed ecological perspective. This member may be from the warden/ranger service, countryside and leisure or be a biodiversity officer.
- Members of the voluntary sector (as shown in Appendix 1) may be co-opted to the Selection Panel as a Key Partner depending on the sites under consideration.
- Members of statutory organisations such as Natural England and the Environment Agency. These organisations are also considered Key Partners

The collective role of the Partnership is to:

1. Set, publish, monitor and review guidelines for the selection of SBIs
2. Co-ordinate the SBI system, ensuring consistent application of the Guidelines
3. Promote the importance of SBIs at all levels
4. Promote and support site management of SBIs, providing broad advice to landowners/managers where appropriate and possible.
5. Promote educational use of SBIs where appropriate.
6. Co-ordinate funding provision for the SBI system and seek funding opportunities for those activities not currently fully resourced e.g.
    - Landowner identification and liaison
    - Social criteria
    - Provision of management advice to landowners

GMEU's role:

1. Provide day-to-day management of the SBI system, including survey and monitoring of sites (Target: 15% of all sites will be reviewed each year).
2. Agree with Key Partners a broad list of sites to be reviewed each year, including any new sites recommended for consideration.
3. Consult Key Partners on proposed changes to existing sites and any deletions or additions to the Register of Sites.

4. Produce an annual review of changes to the SBI Register (The SBI Review).

5. After consultation with the Partnership, ensure the SBI Selection Guidelines are updated as necessary.

The role of individual Key Partners of the SBI selection panel:

1. To represent their organisation or group on the panel, in respect to the organisation's biodiversity functions.

2. Scrutinise, and where possible contribute to, the information used in the SBI selection.

3. Assess whether the Selection Guidelines have been applied correctly and consistently.

4. Provide GMEU with details, including any relevant survey information, of any sites considered to require:
    - Revision
    - Deletion from the Register
    - Addition to the Register

5. Ensure all SBI citation sheets and the SBI Review are distributed to relevant departments/individuals within their organisation.

6. Local authority representatives in addition, will submit the final revised or new SBI citation sheets to the appropriate committee or cabinet for adoption for planning purposes.

APPENDIX 7

CONDITIONS OF USE FORM

SITES OF BIOLOGICAL IMPORTANCE IN GREATER MANCHESTER
Conditions of Use of Information from the Register

1. The Greater Manchester Ecology Unit and the ten Metropolitan Boroughs of Greater Manchester are committed to the conservation of wildlife and wildlife habitats. Persons or organisations requesting information from the Register of Sites of Biological Importance (SBIs) are required to inform the Ecology Unit of the purpose and location of their enquiry and the use to which information from the SBI register will be put. Release of information from the SBI register may be refused if it is believed that access to the information could be used against the interests of nature conservation.

2. A charge will be made for the release of SBI information and this will vary according to the quantity and detail of information requested. The information is provided pursuant to Section 141 of the Local Government Act 1972.

3. The SBI record is, unless stated otherwise, the copyright of the Greater Manchester Ecology Unit. Data supplied for a specific purpose must not be disseminated or used for a purpose other than that specified without the express permission of GMEU.

4. Users of SBI information are asked to inform the Unit of new data which may come to light as a result of their work.

5. The use of information from the SBI register should be acknowledged, with reference to the date of survey, in any publication or report in which the information has been used.

6. The Greater Manchester Ecology Unit accepts that in certain cases enquiries will be made in confidence. Users are expected to use the information responsibly.

7. The Ecology Unit attempts to ensure that all the information contained in the SBI register is accurate and relevant, but no responsibility is accepted for the accuracy of specific items of information within the register.

✂……

SITES OF BIOLOGICAL IMPORTANCE IN GREATER MANCHESTER I accept the conditions of use of information from the SBI register	
Signed:	Date:
Name of organisation:	Address:
Subject and purpose of enquiry:	
Please return to: Greater Manchester Ecology Unit, Council Offices, Clarence Arcade, Stamford Street, Ashton-under-Lyne, Tameside OL7 7PT Tel: 0161 342 4409 Email: gmeu@tameside.gov.uk *Please mark any written communication for the attention of the Principal Ecologist.*	

GLOSSARY

Ancient Woodland – Woodlands that are assessed to have been present since 1600. NCC developed criteria which included woods greater than 2ha, present on maps since first edition maps and support other features such as boundary banks, boundary with parish boundary, names etc.
Ancient Woodland Indicator Species – A series of plant species which have been found to be associated with Ancient Woodland. The work was undertaken in the south-east of England and needs some interpretation for the Greater Manchester area.
ANGSt – Accessible Natural Greenspace Standards established by English Nature, as set out in English Nature's Report R153 – 'Accessible natural greenspace in towns and cities: review of appropriate size and distance' 1995.
Archaeophytes – A plant of non-native origin but which has become established in the wild in Britain prior to 1500.
AWI - Ancient Woodland Inventory A national process of identifying **Ancient Woodland,** undertaken by NCC in the 1980's and revised in 2007.
Base rich Soils which are derived from alkali rich material. This may be as a result of fluvial soils such as boulder clay or are fed with water derived from alkali rich substrata such as in base rich flushes.
Cascade – River feature including fast moving flow usually over boulders within the river channel.
CBC – Common Bird Census Nationally recognised method for surveying breeding birds. Organised by the British Trust for Ornithology (BTO).
Commuting routes Bats of several species use certain routes habitually to 'commute' from roosts to feeding areas. Features such as hedgerows or woodland edges can be used.
CRoW – Countryside and Rights of Way Act 2000 Conferred the biodiversity on Central Government and identified habitats and species of principle importance for nature conservation in England.
DAFOR scale Nationally recognised scale for recording the abundance of plant species used in the Phase 1 Survey (JNCC). The initials stand for Dominant, Abundant, Frequent, Occasional and Rare.
Defra – Department of the Environment, Food and Rural Affairs Government department which has responsibility for the natural environment.
Dwarf shrubs Small shrubs generally less than 0.5m high usually ericaceous, but may also include willows.
Ecotone The boundary between two different habitat types, which often supports very different microclimatic conditions where specialist species may find a niche.
English Nature Superseded by Natural England in 2006. Was the statutory body with responsibility for SSSIs, SACs and protected species?
Environmental Impact Assessment Carried out under the T&CP Act EIA Regulations for developments of specific types and/or sizes. The EIA is published in an Environmental Statement.
Ephemeral habitats Communities of plants, bryophytes and lichens which are characterised by their colonisation of bare sites. The communities are short lived and usually succeed to more well established community types. Often but not always dominated by annual weed species.
Epiphytic A species which lives upon another species, but where the host usually only provides support or substrate and not nutrition.
Ericaceous dwarf shrubs dwarf shrubs of heather family including heathers, bilberry, crowberry and cranberry etc.
Eutrophic Usually referring to a water body which has a very high nutrient content, often caused by run-off from surrounding land where the use of fertilizers and/or organic inputs are high.

Exuviae The shed exoskeleton of a dragonfly or damselfly (and other species e.g. spiders) when they have metamorphosed (transformed) into their adult terrestrial form from their aquatic larval stage.
Fine-leaved grasses Term used to collectively identify grasses which do not usually dominate a grass sward. Generally abundant in grasslands of high biodiversity value as they do not form a dense thatch thereby herbs can occur in high numbers.
Flash Local term for a waterbody formed by ground subsidence, generally as a result of underground mining. Common in Wigan in the Greater Manchester area
Flush A hydrological feature where subsurface water comes to the surface on a springline. The water is usually base rich.
Forbs Flowering plants that occur within a grassland. Does not include grasses, sedges or rushes. See also herbs.
GIS – Geographical Information System Computer systems for mapping – common programs are MapInfo and ArcView.
Habitat community Term used to refer to the collection of plants and animals which occur in certain physical conditions such as soil type, hydrology, aspect and altitude etc. Ecological classification systems such as NVC breakdown the generally recognised habitats into community and sub community types.
Habitat matrix Term used to identify an area where no single habitat is dominant, but where two or more habitats occur within an intermingled structure of closely associated habitat types. Changes between the habitats can occur across distances of metres.
Habitat Regulations The UK legislation which implemented the European Regulations and the identification of European nature conservation sites SACs.
Herbs Another term used to identify flowering species in a grassland. See Forb above.
Imago Adult sexual form of insects that metamorphose e.g. butterflies and dragonflies.
Invasive species Generally non-native species that have been introduced into the region or country. They have an invasive habit and often become dominant to the detriment of the native flora or fauna. Species include Japanese knotweed, New Zealand pygmyweed, Himalayan balsam, signal crayfish and Harlequin ladybird.
Larval food plant Specific plant used by the larva/pupae of species such as caterpillars of butterflies and moths. Example; nettle is the food plant for the tortoiseshell butterfly.
LDF – Local Development Framework Strategic planning documents which are replacing UDPs. Each Unitary Authority, which in Greater Manchester are the District or City Councils, produces an LDF to identify the policies which govern the planning decision making process. These are now (2015) called Local Plans.
Local As used in the aquatic invertebrate Guideline is a species confined to limited geographical area and/or specialist habitats that are wide spread but nowhere assessed as common.
Locally native Term used to identify species which occur within a given geographical location. E.g. field maple is only locally native in the south and midlands of England. It does not occur naturally in the northern part of Greater Manchester but does to the south of the County on the Cheshire Plain.
Lodge A local term referring to an artificial waterbody usually made to provide power or water source for industrial purposes e.g. textile mills.
Mesotrophic Refers to moderate inherent fertility. Usually used in reference to soils or waterbodies.
Metapopulation Where a metapopulation of a species occurs within a landscape of individual populations found within a locality. Individuals will ‘mix’ with other individuals from an adjacent population over an extended period of time. Often used in connection with amphibians which occur in metapopulations across a number of ponds.

Modified lowland bog Natural (unmodified) bogs are altered by a number of external factors such as drainage in the surrounding countryside, eutrophication (nutrient enrichment) from fertilization of adjacent fields and changes in pH of rainfall.
Nationally Notable A (Nb A) Species recorded in 16 – 30 10km squares.
Nationally Notable B (Nb B) Species recorded in 31 –100 10km squares.
Nationally Rare Species recorded in less than 15 10km squares. Also equates to RDB3 (Red Data Book 3).
Nationally Scarce A species recorded in 16 – 100 10km squares. The category is subdivided into Nb A and Nb B.
National Planning Policy Framework (NPPF) - National government guidance within the strategic planning process. Used to guide the formulation and interpretation of Local Plan policies.
Natural England The statutory body with responsibility for statutory sites such as SSSIs, SACs and protected species. Formed in 2006 from the amalgamation of English Nature, Countryside Commission and the Rural Development Agency.
NCC – Nature Conservancy Council Predecessor of the statutory agencies English Nature and Natural England.
NVC – National Vegetation Classification A detailed system for identifying plant communities and sub communities of habitats by extensive quadrat survey and use of ordination computer programmes. Developed in the 1980s.
Oligotrophic Refers to very low natural fertility within waterbodies.
OS – Ordnance Survey The organisation which publishes the maps for the United Kingdom.
Oxbow A river feature where a small curved linear pond is formed when the natural processes of erosion and deposition of silts isolates a bend in a river.
Passage Refers to birds which are in the process of migrating from summer breeding territories to wintering grounds, or vice-versa. Routes and staging posts for resting and feeding are used habitually by certain species.
Phase 1 Habitat Survey A vegetation survey technique developed by NCC in 1970s to allow consistent identification of broad habitat types. A standard methodology and handbook are used produced by JNCC 1990.
Point bars A river feature of natural watercourses formed from the deposition of sediments on the inside of a river bend.
Pond cluster A group of ponds which all occur within 500m of each other.
Pool A slow moving area of water within a watercourse, which has been created by scouring out a deeper section of channel by the downward force of water.
PPS 9 – Planning Policy Statement 9 Biodiversity and Geological Conservation Former national government guidance within the strategic planning process. Used to guide the formulation and interpretation of UDP/LDF policies.
Propagule Mechanism by which plants spread or colonise new ground. Can either be sexual mechanisms such as seed or asexual such as grass tillers, budding etc.
Pupae The life stage of an insect which is undergoing metamorphosis from a larvae to imago/adult. Also termed a chrysalis in butterflies.
Rapids Area of fast flowing water in a watercourse where water turbulence is high and is usually associated with a rocky substrate. Usually associated with pools.
RDB – Red Data Book Species recorded within the RDBs are subdivided into

- RDB1 – Endangered – only single population in 1 10km square
- RDB 2 – Vulnerable – species selected on the basis of population decline
- RDB3 – Rare – see Nationally Rare

Riffles & runs Terms used in combination when defining river characteristics. Riffles are shallow turbulent fast moving bodies of water and runs are deeper but still fast flowing areas with little or no turbulence.
River terrace The old floodplain of a river where active erosion has changed the course of the river and a new deeper channel has left the terrace at a higher level.
RIGs Regionally Important Geographical Sites, the geological equivalent of the second tier nature conservation sites.
SAC – Special Area of Conservation Sites of European nature conservation importance designated under the Habitats Regulations 1994.
Saproxylic An organism which is totally dependent on dead organisms to obtain its nutrition e.g. certain species of fungi.
Semi-natural Most habitats which are found in England are no longer considered natural, as they have been modified by man-made processes.
Sett The series of underground passages and chambers used for shelter by badgers.
SPA - Special Protection Area A European site selected for its important bird assemblages. Designated under the EC Directive on the Conservation of Wild Birds.
SRI - Species Rarity Index A ratio of the number of species found against the sum of the score for the relative rarity of each species. Used by entomologists to evaluate various sites against each other where different assemblages of species occur.
SSSI – Site of Special Scientific Interest Statutory site designation for the UK. Designated under the Wildlife & Countryside Act 1981(as amended).
Substantive nature conservation importance Term used in planning legislation referring to a site which has nature conservation value as assessed against a recognised system of analysis.
Succession The natural process of change which occurs as habitats change from one type to another over a period of time. For example open grassland habitats will eventually succeed to woodland communities.
Sward The vegetation of grassland including all elements of grasses/sedge/ rushes and forbs/herbs.
UDP – Unitary Development Plan Strategic planning documents which are being replaced by LDFs. Each Unitary Authority, which in Greater Manchester are the District or City Councils, produces an LDF to identify the policies which govern the planning decision making process.
Unmodified soil structures Soils which have not been disturbed by ploughing, fertilization or introduction of artificial changes in drainage.
Unverified records Biological recording term referring to a record which has not be verified by a *recognised* professional/amateur recorder.

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