

**DAVID CLEMENTS ECOLOGY LTD**

**MERTHYR TYDFIL COUNTY BOROUGH  
SITES OF IMPORTANCE FOR NATURE CONSERVATION**

**SO 00NW/7: CWM GLO**

**SURVEY & ASSESSMENT FOR SINC DESIGNATION**

**May 2006**

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**Site Name: CWM GLO**

<b>Grid Ref(s): SO 034055</b> SO 025053 (W); 039062 (N); 046051 (E); 031049 (S)	<b>Site No.: SO 00NW/7</b>		
<b>Status:</b> July 2002: Provisional site; boundary identified from available desk-top sources only; requires confirmation by survey. Dec 2005: Site surveyed and assessed for designation; designation boundary identified.	Candidate	✓	Date: July 2002
	Proposed	✓	Date: 30 October 2008
	Confirmed		Date:

### Summary - Reasons for Selection/Interest of Site:

The SINC contains the Cwm-glo SSSI.

Extensive mosaic of 'ffridd' (valleyside) habitats supporting a complex of semi-upland and lowland vegetation, in large part developed on old spoil heaps and colliery tips. Mainly unimproved acid grasslands but with extensive areas of wet and dry heathland. Also contains areas of grass-heath, marshy grassland and acid flush, semi-improved neutral grasslands, semi-improved acid grasslands, bracken slopes, small ponds and streams, the latter typically lined by semi-natural broadleaved woodlands mostly of oak (*Quercus* spp) or alder (*Alnus glutinosa*). The habitats intergrade to form a complex mosaic.

Great crested newt occurs in small ponds, especially to the north-west, together with a range of other common amphibians and reptiles. Otter is believed to occur along the watercourses, and water vole has been recorded in the past. The site contains at least one known bat roost, and there are probably others. There is a good nesting bird fauna which includes at least four UK BAP Priority Species, comprising bullfinch, reed bunting, linnet and song thrush, as well as other species of interest such as redstart and wood warbler. Marsh fritillary (*Eurodryas aurinia*) occurs in the SSSI and is very likely to use other suitable habitats in the adjacent cSINC. Up to 11 species of Nationally Scarce invertebrates have been recorded in the area, mainly associated with wetlands, and other local species such as grayling (*Hipparchia semele*) and dingy skipper (*Erynnis tages*) butterflies are also present.

Plant species of interest include regionally scarce species such as fen bedstraw (*Galium uliginosum*), soft-leaved sedge (*Carex montana*), intermediate lady's-mantle (*Alchemilla xanthochlora*), alternate-leaved water milfoil (*Myriophyllum alternifolium*), moonwort (*Botrichium lunaria*) and dwarf elder (*Sambucus ebulus*), as well as local species such as devil's-bit scabious (*Succisa pratensis*), meadow thistle (*Cirsium dissectum*), wavy hair-grass (*Deschampsia flexuosa*), whorled caraway (*Carum verticillatum*), saw-wort (*Serratula tinctoria*), petty whin (*Genista anglica*), greater burnet (*Sanguisorba officinalis*), marsh arrow-grass (*Triglochin palustris*) and southern marsh-orchid (*Dactylorhiza praetermissa*). The nationally scarce moss *Ephemerum serratum* var *serratum* also occurs. The species of interest are distributed throughout the site.

The Cwm Glo/Rhydycar West area, including the Cwm-glo SSSI, is of international significance for waxcap fungi and is collectively the joint 13<sup>th</sup> most significant waxcap grassland site in the British Isles. The Cwm Glo cSINC itself contains 13 known waxcap grasslands which collectively support at least 24 species of waxcap (*Hygrocybe* spp) as well as many other associated species. These include one site for pink meadow waxcap (*Hygrocybe clayptriformis*) and 7 sites for live earthtongue (*Microglossum olivaceum*), both of which are UK BAP Priority Species. The waxcap grasslands within the cSINC itself are collectively of at least national significance.

**Meets SINC Selection Criteria No.s:**

H1, H4, H6, H7, (H9?), H10, H11, H16, H18, H20, H22, (S1?), S2, S4, S6, S8

*Criteria in use: SWWS (2004) county SINC selection guidelines*

<b>UK BAP</b>	<b>Priority Habitats:</b> Wet woodland Lowland dry acid grassland Lowland & Upland Heathlands Purple moor-grass & rush pastures	<b>Priority Species:</b> Great crested newt Pipistrelle bats Bullfinch Linnet Reed bunting Song thrush Water vole (if present) Otter (if present) Marsh fritillary (probably present – occurs in SSSI) Pink meadow waxcap Olive earthtongue  (brown long-eared, noctule & Daubenton's bats are all SoCC)
<b>LBAP</b>	<b>Key Habitats:</b> Ffridd/Bracken slopes Acid grasslands Neutral grasslands Purple moor-grass & rhos pastures Heathland Drystone walls & other boundary features Standing open water Former coal spoil areas	<b>Key Species:</b> Great crested newt Marsh fritillary Otter (if present) Water vole (if present)

**Protected Species:** great crested newt, bats (all species), water vole (if present); otter (if present); marsh fritillary

**Previously identified areas of interest contained within SINC:**

Landscape Survey Site No. 2500 ('Strategic Importance')

CCW Phase 2 Survey Site Nos. 030-034, 035, 047

Key Site identified in LBAP

See continuation sheet:		See Confidential File:	Yes	No
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**Other statutory/non-statutory wildlife sites contained by/adjacent to SINC:**

Cwm Glo SSSI is contained within site

Rhydycar West cSINC in adjacent and continuous to the south

Gethin Woodland Park adjacent to south

**Main sources of data:**

CCW Phase 1 survey (1991-93); Landscape Strategy (TACP 1996); CCW Phase 2 surveys (1993-94) (2003); Merthyr Tydfil LBAP (2001); Wildlife Trust records (2002); Humphries Rowell Associates (2002); Wildlife Trust records (2002); Woods & Hand (2005)

<b>Validation survey(s):</b>	<b>Surveyor</b>	<b>Date</b>
	Paul Hudson	September 2005

**Remarks:**

One of the most significant example of 'ffridd' and coal spoil habitats in the county borough, of major importance to the biodiversity resource. Readily exceeds guidance criteria for designation as a SINC at the county (Glamorgan) level. Contains 'waxcap grasslands' which are of national significance, and forms part of a larger site which is of international significance for this group.

## 1.0 INTRODUCTION

- 1.1 This report has been prepared by David Clements Ecology Ltd (DCE) on the instructions of Merthyr Tydfil County Borough Council (MTCBC). It sets out the results of an ecological survey and assessment of an area of land known as 'Cwm Glo' in the Merthyr Tydfil county borough of Glamorgan, in South Wales. This area was proposed as a *Site of Importance for Nature Conservation* (SINC) by an earlier desk study based on existing records (Clements 2002). The main purpose of this report is to establish the validity (or otherwise) of the proposed SINC designation and to identify a defensible boundary.
- 1.2 The site lies between about 240m AoD to the southeast, rising to about 420m to the north and west, and has a semi-upland character. Much of the site has a post-industrial landscape, in which colliery spoil-heaps form a significant component particularly in the eastern half of the site. Woodland has developed over many of the spoil-heaps, with frequent clearing which support acid grassland and dry heath. To the west the site supports a more open mosaic of acid grasslands and heathland, with wet heathland prominent. Scrub and bracken communities occur locally, especially to the southwest, and locally elsewhere. Semi-improved neutral grasslands occur to the north and east. The site also supports ponds and minor watercourses.
- 1.3 The site overlies Carboniferous mudstones and siltstones of the Middle Coal Measures (CCW 2003). Carboniferous sandstones of the Lower Pennant Series are exposed in a number of quarry faces towards the western boundary of the site. The colliery spoil heaps provide a free draining substrate, whilst in parts of the site not covered by spoil the drainage is often impeded, supporting wet-heath or marshy grassland, often in complex patterns of runnels and ridges.
- 1.4 Cwm Glo SINC encloses the Cwm-glo **Site of Special Scientific Interest** (SSSI), which lies in the northern part of the site. Areas within the SINC which are included within the SSSI are not considered by this report (see Plan 1).
- 1.5 The remainder of this report sets out the results of the ecological survey, together with an assessment of the biodiversity value of the habitats, features and species recorded against the published guidelines for the designation of SINC's in South Wales (SWWSP 2004) and the draft guidelines for Merthyr Tydfil County Borough (MTBP 2005). These attributes are also assessed against the Biodiversity conservation priorities set at the UK, Wales, county and county borough level (UKSG 1995; UKBG 1998-99; WAG 2003; GlamBAG 1999; MTBP 2002).
- 1.6 Following this assessment, any revisions to the draft boundary proposed by Clements 2002 are indicated, and a revised SINC boundary is proposed to enclose all of the land areas which are judged to meet one or other of the SINC designation guidelines.

## 2.0 METHODS AND APPROACH

- 2.1 The study area was surveyed at various times throughout September 2005, and was subject to an Extended Phase 1 survey as recommended by the Institute of Environmental Assessment. (IEA 1995). This is based on the Phase 1 vegetation classification methodology developed by the former Nature Conservancy Council (NCC 1990), a nationally-accepted and standard method for the rapid survey and appraisal of ecological habitats which is based primarily on the recording of vegetation and its classification into defined habitat categories. Dominant and conspicuous flora species are recorded and 'target notes' are prepared for any features of particular interest.
- 2.2 The methodology also requires the recording of conspicuous fauna species such as birds, herptiles (ie amphibians and reptiles), mammals and invertebrates such as butterflies and dragonflies, paying particular attention to the presence (or possible presence) of any rare or protected species.
- 2.3 Where appropriate, the habitats of the site were also characterised against the descriptions provided by the National Vegetation Classification (NVC) as set out by Rodwell (1991 *et seq*).
- 2.4 The methodology for the assessment of the site is given at Section 4.0.

### *Data Trawl*

- 2.5 This report and its conclusions are based primarily on original survey. However, DCE has also had access to the large database of existing data for the county borough assembled for the preliminary SINC identification project which was carried out on behalf of MTCBC in 2002. This database includes information compiled from a wide range of data-holding bodies in the region, including *inter alia*:

- Merthyr Tydfil County Borough Council (MTCBC)
- Countryside Council for Wales (CCW)
- Environment Agency Wales (EAW)
- Wildlife Trust for South & West Wales (WTSWW)

Information from these sources has been evaluated and included within the following account where appropriate.

- 2.6 The whole of the proposed SINC area was recently the subject of a comprehensive Environmental Statement prepared by Merthyr Village Ltd (MVL 2002) with respect to possible development affecting both this and adjacent areas of land to the south. This ES contains summaries of baseline ecological surveys carried out by Humphries Rowell Associates, mainly in 1997 (HRA 2002). Most of the site was also included within a regional survey (at 'Phase 2' level) of lowland grassland sites which was carried out by the Countryside Council for Wales in 2003 (CCW 2003).
- 2.7 Relevant extracts from these and other sources are shown at Appendices 2-8. The SSSI notification details are given at Appendix 9.

### 3.0 SURVEY RESULTS

#### 3.1 Vegetation and Habitats

- 3.1.1 The results of the vegetation and habitats survey are shown on Plan 1 of this report, and are described briefly below. Lists of the species recorded are given at Appendix 1. As far as possible, the species lists give only those species which have been reliably recorded from the site itself.

##### ***Broadleaved Woodland***

- 3.1.2 Mature broadleaved woodland occurs throughout the eastern half of the site, and locally elsewhere, principally associated the major watercourses. Where the watercourses flow through ravines they support large alder (*Alnus glutinosa*) and sessile oaks (*Quercus petraea*). Pedunculate oak (*Quercus robur*), ash (*Fraxinus excelsior*), holly (*Ilex aquifolium*), hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*), rowan (*Sorbus aucuparia*) and downy birch (*Betula pubescens*) also occur with varying degrees of frequency. The ground flora typically includes wood avens (*Geum urbanum*), opposite-leaved golden-saxifrage (*Chrysosplenium oppositifolium*), common valerian (*Valeriana officinalis*), wood sorrel (*Oxalis acetosella*), bluebell (*Hyacinthoides non-scripta*), lesser celandine (*Ranunculus ficaria*), common dog-violet (*Viola riviniana*), bilberry (*Vaccinium myrtillus*) and wavy hair-grass (*Deschampsia flexuosa*), with frequent bracken (*Pteridium aquilinum*) and wavy bitter-cress (*Cardamine flexuosa*).
- 3.1.3 The woodlands of the site collectively support at least 11 of the species which are listed as being indicative of ancient woodlands in the *Guidelines for the Selection of Wildlife Sites in South Wales* (SWWSP 2004). An area of former ancient woodland, subsequently lost, is identified within the site in the *Provisional Ancient Woodland Inventory* for Glamorgan (Sothorn 1986), but it is likely that other remnants too small to be recorded by the inventory also persist alongside watercourses and locally elsewhere on undisturbed soils.

##### ***Scrub Communities***

- 3.1.4 Scrub occurs throughout the site, especially to the south and west, often over a colliery shale substrate. The dominant canopy species are alder, grey willow (*Salix cinerea*), goat willow (*Salix caprea*), hawthorn and elder (*Sambucus nigra*). The understorey includes ivy (*Hedera helix*), bramble (*Rubus fruticosus* agg), wood avens (*Geum urbanum*), herb robert (*Geranium robertianum*), foxglove (*Digitalis purpurea*), common nettle (*Urtica dioica*), scaly male-fern (*Dryopteris affinis*), broad buckler-fern (*Dryopteris dilatata*) and male-fern (*Dryopteris filix-mas*).
- 3.1.5 Small areas of scrub dominated by common gorse (*Ulex europaeus*) with occasional bramble occur in scattered locations throughout the site, typically occurring in small stands just a few square metres in diameter. The stands are very dense, with a poorly developed understorey, and generally conform to the **W23 *Ulex europaeus* – *Rubus fruticosus* scrub** community as defined by the National Vegetation Classification (NVC), and which is characteristic of dry, free-draining, base-poor soils.

**Acid Grassland**

- 3.1.6 Acid grassland is present throughout the site, having colonised both the spoil heaps and the natural substrates. Common bent (*Agrostis capillaris*), red fescue (*Festuca rubra*) and sheep's fescue (*Festuca ovina*) are the most frequent grass species, with mat grass (*Nardus stricta*), sweet vernal-grass (*Anthoxanthum odoratum*), heath grass (*Danthonia decumbens*) Yorkshire fog (*Holcus lanatus*), purple moor-grass (*Molinia caerulea*) and early hair-grass (*Aira praecox*) locally frequent. Field wood-rush (*Luzula campestris*) and heath wood-rush (*Luzula multiflora*) both occur occasionally. Pill sedge (*Carex pilulifera*) and green-ribbed sedge (*Carex binervis*) are also both occasional.
- 3.1.7 Frequently occurring broadleaved herbs include mouse-eared hawkweed (*Pilosella officinalis*), heath bedstraw (*Galium saxatile*), common cat's-ear (*Hypochaeris radicata*), tormentil (*Potentilla erecta*), ling heather (*Calluna vulgaris*), bilberry (*Vaccinium myrtillus*), common bird's-foot trefoil (*Lotus corniculatus*) and foxglove (*Digitalis purpurea*). Herbs which are scarce, or only present in small areas of acid grassland within the site, include devils'-bit scabious (*Succisa pratensis*), lousewort (*Pedicularis sylvatica*) and betony (*Stachys officinalis*).
- 3.1.8 The mosses *Dicranum scoparium*, *Polytrichum formosum*, *Pseudoscleropodium purum* and *Rhytidiadelphus squarrosus*, *Pleurozium schreberi*, *Ptilidium ciliare*, *Calliargon cuspidatum* and the lichens *Cladonia* sp. and *Peltigera* sp. are frequent throughout. The moss *Racomitrium ericoides* was recorded in this habitat during a previous survey in 2003 (CCW 2003) but was not found during the current survey.
- 3.1.9 There appear to be two NVC communities present within the site, comprising **U1 *Festuca ovina* - *Agrostis capillaris* - *Rumex acetosella* grassland** and **U4 *Festuca ovina* - *Agrostis capillaris* - *Galium saxatile* grassland**. Four sub-communities of U4 were recorded on the site in 2003, comprising **U4a typical sub-community**, the ***Holcus lanatus* – *Trifolium repens* U4b sub-community**, the **U4c *Lathyrus montanus* – *Stachys betonica* sub-community** and the **U4e *Vaccinium myrtillus* – *Deschampsia flexuosa* sub-community**. The majority of the U1 grassland within the site conforms to the **U1e *Galium saxatile* – *Potentilla erecta* sub-community** (CCW 2003).
- 3.1.10 The U4a grassland of the site is typically species-poor, and dominance is shared by various mixtures of sheep's fescue, common bent, and sweet vernal-grass, with frequent tormentil and heath bedstraw, but few other herbs. The U4b community is more mesotrophic in character, supporting Yorkshire fog, crested dog's-tail (*Cynosurus cristatus*), daisy (*Bellis perennis*), common mouse-ear (*Cerastium fontanum*) and common bird's-foot trefoil. The U4c community is marked by the presence of betony and devil's-bit scabious, whilst the U4e community is characterised by the presence of ling heather and bilberry amongst a grass sward of sheep's fescue, wavy hair-grass and common bent. Other grass species present include heath grass, red fescue and mat grass, with small amounts of purple moor-grass in damper patches.
- 3.1.11 The U1 grassland is restricted to the well-drained sides of colliery spoil heaps, and has an open sward of small, tussocky grasses, amongst which there is also an abundance of broadleaved herbs. Of the grasses, common bent and sheep's fescue



are the most common, with sweet vernal-grass, heath grass and the diminutive ephemeral early hair-grass all occasional. Broadleaved herbs are generally rare except for sheep's sorrel, mouse-eared hawkweed, ling heather, heath bedstraw and tormentil. There is an extensive cover of lichens and/or mosses among the exposed patchwork of bare ground. The mosses *Dicranum scoparium*, *Pleurozium schreberi*, *Polytrichum formosum* and *Rhytidiadelphus squarrosus* are frequent. *Racomitrium ericoides*, which was recorded as frequent in 2003 by CCW, was not recorded during the current survey. *Cladonia* and *Peltigera* lichens are frequent.

- 3.1.12 The dry acid grasslands collectively support at least 31 of the species which are listed as being indicative of species-rich acid grasslands in the *Guidelines for the Selection of Wildlife Sites in South Wales* (SWWSP 2004). These include heath bedstraw, devil's-bit scabious, wavy hair-grass, bilberry, mat-grass, tormentil, sheep's sorrel, early hair-grass, heath-grass, heath speedwell, pill sedge, mouse-eared hawkweed, heath milkwort, betony, heath wood-rush, sheep's fescue, common lousewort and the mosses *Dicranum scoparium*, *Pleurozium schreberi* and *Polytrichum formosum*.
- 3.1.13 The acid (and neutral – see below) grasslands of the Cwm Glo/Rhydycar West area have recently been surveyed for the presence of 'waxcap' and related fungi of the families Clavariaceae, Hygrophoraceae, Entolmataceae and Geoglossaceae (Woods & Hand 2005). Research in recent years has shown that this group can be an important indicator of unimproved grassland soil conditions, and includes many species which are rare and declining both in Britain and the rest of Europe. The UK appears to be an internationally significant location for 'waxcap grasslands' in Europe. Various systems have been drawn up which allow the scoring or ranking of grassland sites on the basis of their waxcap mycota (see Ainsworth 2004). Lists of nationally significant sites have been compiled for England, Scotland and Wales (for the latter, see Evans & Holden 2003).
- 3.1.14 The 2005 survey included 12 sites within the Cwm Glo cSINC (Sites 3-5, 7-10, 12-14, 16-17), comprising various areas of acid grassland, neutral grassland, heathland and marshland. These sites have, to date, collectively yielded a total of at least 24 species of waxcap, including one site for pink meadow waxcap (*Hygrocybe calyptriformis*), a 'Priority Species' of the UK BAP. This indicates significance at the international level according to the criteria of Rald/Vesterholt (see Ainsworth 2004). There are also seven sites for olive earthtongue (*Microglossum olivaceum*), a related species which is also a 'Priority Species' of the UK BAP. The so-called 'CHEG' score (see Evans 2004) of these grasslands is collectively 8-24-4-4, indicating at least national significance for this group. The overall 'Grassland Quality Score' for these sites (using the system of McHugh *et al* 2001) is collectively 53, again indicating at least national significance.
- 3.1.15 A further site identified by Woods & Hand (2005), Site 15, lies just outside of the area put forward as a candidate SINC by DCE (2002). This site supports 11 species of waxcap, has a CHEG score of 1-11-0-0, and an overall Grassland Quality Score of 15, indicating national significance. It is therefore recommended that this area be included within the revised SINC boundary.
- 3.1.16 The larger Cwm Glo/Rhydycar West area, including the Cwm-glo SSSI, is collectively ranked the most significant known waxcap grassland site in Glamorgan. The site as a whole comfortably meets the criteria for significance at the international

level, and is currently the joint 13<sup>th</sup> most significant waxcap grassland site known in the British Isles out of a comparative database of over 2500 sites (Woods 2005).

### ***Neutral Grassland***

- 3.1.17 Large areas of neutral grassland are present towards the eastern and northern boundaries, with smaller areas scattered throughout the study area. Four NVC communities are present within the site comprising **MG1 *Arrhenatherum elatius* grassland**, **MG5 *Cynosurus cristatus* – *Centaurea nigra* grassland**, **MG6 *Lolium perenne* - *Cynosurus cristatus* grassland** and **MG10 *Holcus lanatus* – *Juncus effusus* rush-pasture**.
- 3.1.18 MG1 grassland is present along the northern boundary of the site. In this community coarse-leaved tussock grasses, notably false oat-grass (*Arrhenatherum elatius*), with usually smaller amounts of cock's-foot (*Dactylis glomerata*) and Yorkshire fog, are dominant. Tall herbs including hogweed (*Heracleum sphondylium*), spear thistle (*Cirsium arvense*) and common nettle (*Urtica dioica*) are frequent. Beneath these taller species there is usually a layer of fine-leaved grasses, most frequently red fescue and perennial ryegrass (*Lolium perenne*), and small herbs including white clover (*Trifolium repens*), red clover (*T. pratense*), yarrow (*Achillea millefolium*), dandelion (*Taraxacum officinale* agg), ribwort plantain (*Plantago lanceolata*), bird's-foot trefoil and common sorrel (*Rumex acetosa*). This grassland type is typical of neglected and unmanaged neutral soils.
- 3.1.19 The MG5 grassland within the site has a species-rich, tight, low-growing sward. The fine-leaved grasses red fescue, crested dog's-tail and common bent are most frequent. Sweet vernal-grass, perennial ryegrass, and the coarser cock's-foot and Yorkshire fog, are all infrequent. Broadleaved herbs are prominent, with legumes and rosette plants well represented, the most common of which are bird's-foot trefoil, ribwort plantain, white clover, red clover, common cat's-ear and autumn hawkbit (*Leontodon autumnalis*). Other species which are frequent throughout include meadow buttercup (*Ranunculus acris*), common sorrel, dandelion, yarrow and self-heal (*Prunella vulgaris*).
- 3.1.20 Two sub-communities of MG5 grassland have been identified within the site, comprising the **MG5a *Lathyrus pratensis* sub-community** and the **MG5c *Danthonia decumbens* sub-community**. The MG5a sub-community is defined by its lack of calcicolous or calcifuge indicators and thus probably represents the most neutral of the mesotrophic grassland types. The MG5c sub-community is found on slightly calcareous soils, and is characterised by the presence of heath grass, tormentil and devil's-bit scabious.
- 3.1.21 The MG5a grassland supports all of the species listed above, plus eyebright (*Euphrasia* sp), fairy flax (*Linum catharticum*), glaucous sedge (*Carex flacca*), bulbous buttercup (*Ranunculus bulbosus*), common centaury (*Centaureum erythraea*), great burnet (*Sanguisorba officinalis*), agrimony (*Agrimonia eupatoria*), lesser stitchwort (*Stellaria graminea*) common dog-violet (*Viola riviniana*) and mouse-eared hawkweed (*Pilosella officinalis*). Common knapweed (*Centaurea nigra*) and red clover, both of which are typically frequent in this community, were very rare within the site. The non-native pearly everlasting (*Anaphalis margaritacea*) occurs intermittently throughout.

- 3.1.22 MG5 grassland is the commonest form of species-rich neutral grassland in the UK, occurring on ground with at least moderately good drainage, and under management regimes which prevent the accumulation of nutrients. Traditionally, such grasslands would have been managed as hay meadows, being cut from late July to August and then grazed in the winter months. The extent of MG5 grassland has declined dramatically in the UK in recent decades, however.
- 3.1.23 The MG6 grassland has a short, tight sward which is grass-dominated. Perennial ryegrass is the most abundant grass, with varying amounts of crested dog's-tail, red fescue and common bent. Broadleaved herbs are limited except for white clover, common mouse-ear, ribwort plantain, meadow buttercup, yarrow and daisy. Small numbers of acid grassland species are sometimes present. This community is characteristic of permanent pasture on moist but free-draining soils which have been subject to a degree of agricultural improvement (ie semi-improved), and can be derived from a wide variety of less improved habitats, including traditionally managed MG5 meadow land.
- 2.1.24 Small areas of species-poor marshy grasslands, conforming to **MG10 *Holcus lanatus* – *Juncus effusus* rush pasture** are present within the site, often forming a transition between drier mesotrophic grasslands and marshy grasslands. This community has prominent tussocks of soft rush (*Juncus effusus*) in a generally species-poor and shorter, grassy ground. Yorkshire fog and creeping bent (*Agrostis stolonifera*) are the most frequent grasses. Broadleaved herbs are relatively scarce, although creeping buttercup and meadow buttercup are both abundant, with smaller amounts of cuckooflower, white clover, common sorrel, ribwort plantain, silverweed (*Potentilla anserina*) and common mouse-ear. Poor-fen species such as greater bird's-foot trefoil (*Lotus pedunculatus*), bog stitchwort (*Stellaria uliginosa*) and marsh thistle (*Cirsium palustre*) are all scarce.
- 2.1.25 The neutral grasslands of the site collectively support at least 38 of the species which are listed as being indicative of species-rich acid grasslands in the *Guidelines for the Selection of Wildlife Sites in South Wales* (SWWSP 2004). The most commonly occurring of these species comprise lesser stitchwort, red clover, common dog-violet, glaucous sedge, common knapweed, common centaury, common cat's-ear, heath-grass, field wood-rush, common bird's-foot-trefoil, agrimony, fairy flax, field wood-rush, eyebright, tormentil and mouse-eared hawkweed. These species are, however, mostly associated with the MG5 grassland communities, which support over 20 of the listed indicator species, and it is likely that the MG1, MG10 and much of the MG6 grasslands fail to meet the SINC designation guidelines for neutral grasslands.

### ***Dry Heathland***

- 3.1.26 Dry heathland is present within the site mainly on the tops and sides of the colliery spoil. Ling heather dominates the vegetation with bilberry also abundant. Western gorse (*Ulex gallii*) is also present occasionally. Grasses are frequent in open areas between heathy shrubs and include common bent, brown bent (*Agrostis vinealis*), red fescue, sheep's fescue, mat-grass, tufted hair-grass, heath-grass and Yorkshire fog. Broadleaved herbs include heath bedstraw, mouse-eared hawkweed, heath speedwell (*Veronica officinalis*), common cat's-ear and the non-native pearly everlasting.

- 3.1.27 Several lower plants were recorded in these habitats by the earlier survey of CCW (2003), including *Dicranum scoparium*, *Diplophyllum albicans*, *Gymnocolea inflata*, *Hypnum jutlandicum*, *Lophozia ventricosa*, *Pleurozium schreberi*, *Polytrichum juniperinum*, *Ptilidium ciliare*, *Racomitrium lanuginosum*, *Cladonia chlorophaea*, *C. ciliata*, *C. gracilis* and *C. uncialis*. The dry heathland appears to conform to the **H12 *Calluna vulgaris* heath** community of the NVC. The regionally uncommon plant moonwort (*Botrychium lunaria*) was also recorded in this habitat type within the site.

#### **Wet Heathland**

- 3.1.28 Wet heath, dominated by purple moor-grass with varying amounts of cross-leaved heath (*Erica tetralix*), deer-grass (*Trichophorum cespitosum*) and ling heather is present locally, and appears to conform to the **M15 *Scirpus cespitosus* – *Erica tetralix* wet heath** community of the NVC. This is characteristic of moist acid and oligotrophic soils. Other plants occurring frequently in such habitats include heath rush (*Juncus squarrosus*), compact rush (*Juncus conglomeratus*), petty whin (*Genista anglica*), common bent, mat-grass, wavy hair-grass, heath bedstraw, common lousewort, devil's-bit scabious and heath milkwort (*Polygala serpyllifolia*).
- 3.1.29 An earlier survey by CCW (2003) also recorded the following bryophytes and lichens in this habitat: *Aulacomnium palustre*, *Cephalozia bicuspidata*, *Dicranum scoparium*, the invasive alien *Campylopus introflexus*, *Diplophyllum albicans*, *Gymnocolea inflata*, *Hypnum jutlandicum*, *Hylocomium splendens*, *Lophozia ventricosa*, *Pleurozium schreberi*, *Polytrichum juniperinum*, *Ptilidium ciliare*, *Pseudoscleropodium purum*, *Rhytidiadelphus squarrosus*, *Scapania nemorea*, *Sphagnum auriculatum*, *Sphagnum papillosum*, *Sphagnum subnitens* *Racomitrium lanuginosum*, *Cladonia chlorophaea*, *C. ciliata*, *C. gracilis* and *C. uncialis*.
- 3.1.30 Two sub-communities of M15 habitats were recorded by the CCW survey of 2003, comprising the **M15b Typical sub-community** and the **M15d *Vaccinium myrtillus* sub-community**.

#### **Marshy grassland**

- 3.1.31 Marshy grassland is present within the site in low-lying areas between the spoil-heaps, and is often associated with watercourses, ditches and seepages. Three NVC communities are represented, comprising **M23 *Juncus effusus/acutiflorus* - *Galium palustre* rush-pasture**, **M24 *Molinia caerulea* – *Cirsium dissectum* fen-meadow** and **M25 *Molinia caerulea* – *Potentilla erecta* mire**.
- 3.1.32 M23 rush-pasture is characterised by the abundance of either soft rush or sharp rush (*Juncus acutiflorus*) (these two species rarely occur together). Yorkshire fog and tussocks of purple moor-grass are both frequent. Sedges include hairy sedge (*Carex hirta*), carnation sedge (*Carex panicea*), star sedge (*Carex echinata*) and oval sedge (*Carex ovalis*), and there is a variety of common broadleaved herbs. Amongst the taller species, marsh thistle (*Cirsium palustre*) is the commonest, with common sorrel, meadowsweet (*Filipendula ulmaria*), wild angelica (*Angelica sylvestris*) and marsh willowherb (*Epilobium palustre*) all frequent, and two sprawling species, marsh bedstraw (*Galium palustre*) and greater bird's-foot trefoil both prominent. Smaller species include water mint (*Mentha aquatica*), lesser spearwort (*Ranunculus flammula*), ragged-robin (*Lychnis flos-cuculi*), creeping buttercup, meadow

buttercup, cuckooflower, marsh pennywort (*Hydrocotyle vulgaris*), marsh violet (*Viola palustris*), whorled caraway (*Carum verticillatum*) and bog stitchwort (*Stellaria uliginosa*). *Calliargon cuspidatum* is the most frequent bryophyte present. Wood horsetail (*Equisetum sylvaticum*), and uncommon species, was also recorded in this community during 2003 (CCW 2003).

- 3.1.33 Two sub-communities of M23 habitat were recorded by the CCW survey of 2003, comprising the **M23a *Juncus acutiflorus* sub-community** and the **M23b *Juncus effusus* sub-community**.
- 3.1.34 Only small areas of M24 are present within the study area. This uncommon community is dominated by purple moor-grass, with velvet bent (*Agrostis canina*), sharp rush, tawny sedge (*Carex hostiana*) and pill sedge (*Carex pilulifera*), greater bird's-foot trefoil, meadowsweet (*Filipendula ulmaria*), meadow thistle (*Cirsium dissectum*) and fen bedstraw (*Galium uliginosum*) all frequent.
- 3.1.35 The M25 mire of the site is characterized by an open cover of purple moor-grass. The associated flora includes sweet vernal-grass, velvet bent, common bent, heath grass, sheep's fescue, red fescue, Yorkshire fog and mat-grass. Sedges include yellow sedge (*Carex viridula* subspecies *oedocarpa*), star sedge and common sedge (*Carex nigra*). Broadleaved herbs include sneezewort (*Achillea ptarmica*), lousewort, devils'-bit scabious, ling heather, saw-wort (*Serratula tinctoria*), tormentil, self-heal, bristle club-rush (*Isolepis setacea*), wild goldenrod (*Solidago virgaurea*), common dog-violet (*Viola riviniana*), marsh ragwort (*Senecio aquaticus*), greater bird's-foot trefoil, lady-fern (*Athyrium filix-femina*), wild angelica, heath milkwort, heath bedstraw and marsh thistle.
- 3.1.36 Flushes occur throughout the marshy grasslands supporting the **M6 *Carex echinata* – *Sphagnum recurvum/auriculatum* mire** community in which small sedges and rushes dominate over a carpet of base intolerant Sphagnum mosses. Higher plants include lesser spearwort, marsh thistle, marsh bedstraw, cuckooflower, square stemmed St John's-wort (*Hypericum tetrapterum*), ragged robin, southern marsh orchid (*Dactylorhiza praetermissa*), marsh violet, tormentil, devil's bit scabious, star sedge, common sedge and carnation sedge. Lower plants recorded by CCW in 2003 in this community include *Drepanocladus exannulatus* and *Polytrichum commune*.
- 3.1.37 The **M10 *Carex demissa* – *Juncus bulbosus/kolchii* mire** community was recorded by the CCW survey in 2003, but was not found during the current study. This community is indicative of base-rich flushing by water with a relatively high pH.
- 3.1.38 The marshy grassland habitats of the site collectively support at least 54 of the species which are listed as being indicative of species-rich examples of this habitats in the *Guidelines for the Selection of Wildlife Sites in South Wales* (SWWSP 2004). The most commonly occurring of these species comprise sneezewort, velvet bent, wild angelica, cuckooflower, star sedge, carnation sedge, yellow sedge, southern marsh-orchid, meadowsweet, marsh bedstraw, fen bedstraw, square-stemmed St John's-wort, bristle club-rush, sharp-flowered rush, jointed rush, greater bird's-foot trefoil, ragged-robin, water mint, purple moor-grass, common lousewort, heath milkwort, tormentil, saw-wort, devils'-bit scabious and marsh violet.

***Exposed Rock***

- 3.1.39 Exposed rock is present on the rock faces of old quarries within the study area. The bryophytes *Diplophyllum albicans* and *Racomitrium* species were recorded in these habitats by the CCW in 2003.

***Streams & Ditches***

- 3.1.40 The watercourses which run through the woodland areas within the site have numerous 'natural' physical features which include vertical earth cliffs, eroding banks, riffles, runs, pools, waterfalls and fallen dead-wood in the water.

***Ponds***

- 3.1.41 Several ponds are present within the study area, often marking out the sites of former bell pits. Ponds are numbered according to the sequence give by HRA (2002). Some of the ponds previously recorded on the site could not be re-found by the present survey.

***Pond 1***

Comprises two ponds separated by a narrow stand of soft rush. Quite shallow and possibly ephemeral, with water starwort (*Callitriche* sp) and lesser spearwort.

***Pond 2***

This pond is situated beneath a large quarry face on the northwestern boundary. The pond has a large draw-down zone, but may not regularly dry out completely. Species recorded include water starwort, alternate-leaved water-milfoil (*Myriophyllum alterniflorum*), floating sweet-grass (*Glyceria fluitans*) and lesser spearwort.

***Pond 3***

A large pond with alternate-leaved water-milfoil abundant, and soft rush locally abundant. Water starwort and water forget-me-not (*Myosotis scorpioides*) present.

***Pond 4***

This pond is situated between small coal tips and is dominated by soft rush at one end. Other species recorded include lesser spearwort, alternate-leaved water-milfoil, brooklime (*Veronica beccabunga*) and round-leaved crowfoot (*Ranunculus omiophyllus*).

***Pond 5***

Contains alternate-leaved water-milfoil and creeping bent (HRA 2002).

***Pond 6***

This is a small flooded bell pit situated towards the southeastern boundary, just to the south of a large colliery tip.

***Pond 7***

This pond is situated to the west of Pond 6 at the base of the colliery tip. It receives water from the watercourse that flows northeast from Gernant Lane and then eastwards along the base of the tip. Both common reedmace (*Typha latifolia*) and soft rush were frequent, with water starwort also recorded.

*Pond 8*

Pond 8 of HRA (2002) could not be found. This was stated to be a hollow for watering cattle created by diverting a watercourse between two small colliery tips. Alternate-leaved water-millfoil was abundant (HRA 2002).

*Pond 9*

This pond is situated immediately south of a small colliery tip located either side of the track that runs east west through this section.

*Pond 10*

A pond with a narrow fringe of curled dock (*Rumex crispus*), soft rush, jointed rush, floating sweet-grass, water forget-me-not, bulbous rush (*Juncus bulbosus*), water starwort, creeping bent, lesser spearwort and small amounts of branched bur-reed (*Sparganium erectum*). It is edged at its southern end by alder and grey willow. Nuttall's pondweed (*Elodea nuttallii*) was the only aquatic species recorded. The pond is fished.

*Pond 11*

A shallow pond holding a swampy vegetation of bog pondweed (*Potamogeton polygonifolius*), floating sweet-grass, bulbous rush, water starwort and lesser spearwort. Edged to the south by alder and grey willow.

*Pond 12*

An ephemeral pond/wetland area dominated by soft rush, with floating sweet-grass also present.

*Pond 13*

A small pond containing tussocks of soft rush, floating sweet-grass, bulbous rush (*Juncus bulbosus*), *Sphagnum* spp and *Aulacomnium palustre*.

**Stone Walls**

- 3.1.42 Small sections of dry-stone wall are present within the site. These typically support black spleenwort (*Asplenium adiantum-nigrum*), polypody (*Polypodium sp.*), herb Robert and a dense carpet of mosses.

**Ruderal Habitats**

- 3.1.43 Ruderal (or 'wasteground') vegetation occurs scattered throughout the site. The ruderal communities fall broadly into three main types:
- **Bracken Community:** This comprises vegetation dominated by bracken, with bramble frequent. Some areas with a species-rich vernal ground flora which includes common dog-violet, bluebell, lesser celandine and wood sorrel. Tall ruderal plants, including common nettle, rosebay willowherb (*Chamerion angustifolium*) and Yorkshire fog, occur locally. This vegetation conforms to the **W25a Pteridium aquilinum – Rubus fruticosus underscrub** community, **Hyacinthoides non-scripta sub-community** of the NVC, which is characteristic of deep, free-draining, neutral to moderately acidic soils. This community

occurs throughout the site, often encroaching upon adjacent grassland communities.

- **Japanese Knotweed Community:** Japanese knotweed (*Fallopia japonica*) is present within the site, tending to occur in single-species stands or intermixed with bramble. This plant is a vigorously-growing alien perennial which spreads rapidly on wet ground. It is a pest species which suppresses other vegetation, although it can be of some value in supporting nesting birds.
- **Nettle Community:** This comprises species-poor tall-herb vegetation dominated by common nettle. Rough meadow-grass (*Poa trivialis*) is frequent and extensive, growing as a thin carpet of shoots over the ground and among the nettle stools. Cleavers (*Galium aparine*) and creeping thistle (*Cirsium arvense*) are both occasional. This vegetation conforms to the **OV24 *Urtica dioica* – *Galium aparine*** community of the NVC, which is characteristic of neglected pastures, poorly-managed recreational areas, verges and roadsides.
- **Rosebay Willowherb Community:** This comprises localised vegetation dominated by dense rosebay willowherb, with very few other associated species. This vegetation conforms to the **OV27 *Chamerion angustifolium*** community of the NVC, which is typical of disturbed damp, fertile soils.

### **Notable Plant Species**

- 3.1.44 Seven regionally uncommon plant species have been recorded from the site to date, comprising fen bedstraw, intermediate lady's-mantle (*Alchemilla xanthochlora*, moonwort, soft-leaved sedge (*C. montana*), alternate-leaved water milfoil and the non-native dwarf elder (*Sambucus ebulus*). The scarce moss *Ephemerum serratum* var *serratum* has also been recorded. The six higher plant species are all listed as contributory species in the *Guidelines for the Selection of Wildlife Sites in South Wales* (SWWSP 2004). Several of the other plant species recorded from the site can be regarded as being local or uncommon in the Glamorgan regional context.

## **3.2 Fauna**

### **Mammals**

- 3.2.1 Badger was recorded in the southern part of the site during an earlier survey in 1997 (HRA 2002), including setts, and evidence of this protected species was also recorded during the present study. Of the other specially protected mammal species, water vole has been recorded on the site previously (WTSWW data) and may still be present within the site, although no sign of this species was found by the present study or by the 1997 surveys. Otter is also likely to be present, ranging along the stream courses, although no evidence of this species has been recorded to date. Otter is, however, known to be present along the River Taff, which the streams of the site empty into (Jones & Jones 2002). Bat species recorded during flight surveys undertaken by HRA in 1997 included pipistrelle, soprano pipistrelle, Daubenton's bat and noctule.



- 3.2.2 Several old buildings are present on the site, some of which have limited potential for use by roosting bats. However, a bat roost was detected within masonry on a section of the old Cyfarthfa Canal within the site (HRA 1997). An underground tunnel on the adjacent Rhydcycar West cSINC to the south also has high potential for use by roosting bats, and recent surveys commissioned by MTCBC found evidence of roosting by brown long-eared and pipistrelle bats (MTCBC data).
- 3.2.3 The site is considered potentially suitable for dormouse, with large amounts of woodland present within the site although hazel (*Corylus avellana*), a favoured foodplant, appears to be absent. No evidence of this species was found during the present or earlier surveys.

### ***Birds***

- 3.2.4 Detailed bird surveys were undertaken by HRA in 1997 for the Merthyr Village Environmental Statement (MVL 2002), which included the northern part of the site, a summary of which was consulted as part of this study. Fifty species were recorded within the Merthyr Village project area, 38 of which appeared to be breeding. A total of 22 bird species were recorded within the Cwm Glo site during the present study. Species recorded within the site include bullfinch, reed bunting, linnet and song thrush, all of which are listed as Priority Species in the UK BAP.

### ***Reptiles***

- 3.2.5 Grass snake was recorded within the Merthyr Village project area by HRA (2002). The site is assessed as being potentially suitable for all four of the common native reptile species. All reptile species are afforded legal protection against direct harm under current legislation.

### ***Amphibians***

- 3.2.6 Surveys undertaken in 1997 recorded great crested newt in several of the ponds and bell pits within the site. These included Ponds P3, P4, P5 and P7 (HRA 2002). Other waterbodies on the site could potentially also support this species. Palmate newt, smooth newt and common frog were also recorded on the site.

### ***Fish***

- 3.2.7 It is likely that fish are present in some the ponds and other water features within the site. However, no fish records are available for the site at this time.

### ***Invertebrates***

- 3.2.8 A total of 432 invertebrate species were recorded in the Merthyr Village project area during surveys carried out by HRA (2002), which included the Cwm Glo site within a larger area. The invertebrates recorded from the Merthyr Village site included one Red Data Book species and a further twelve other species which are listed as being 'Nationally Scarce' in the UK. It is not possible to be certain which of these species were recorded in the Cwm Glo site area on the basis of the information currently available. However, the habitat and foodplant requirements of the notable species have been assessed from published information and compared with the habitats

known to occur on the site, in order to give an estimate of probability of the species being present. The notable species are as follows:

<i>Species</i>	<i>Status</i>	<i>Requirements</i>	<i>Likelihood of Presence</i>
<i>Phytobius olssoni</i> A weevil	RDB	Wetlands with <i>Peplis portula</i> (not recorded from the site)	Unlikely
<i>Bagous lutulentus</i> A weevil	NS	Wetland with <i>Equisetum fluviatile</i> (several <i>Equisetum</i> spp recorded from the site, but not <i>E. fluviatile</i> although it may well occur)	Possible
<i>Gymnetron beccabungae</i> A weevil	NS	Wetland with <i>Veronica</i> spp	Probable
<i>Gymnetron veronicae</i> A weevil	NS	Wetland with <i>Veronica</i> or <i>Scrophularia</i> spp	Probable
<i>Magdalis carbonaria</i> A weevil	NS	Broad-leaved woodland with birch, and birch scrub	Very Probable
<i>Chaetarthria seminulum</i> A water-beetle	NS	Moss and mud in bog pools and fens	Probable
<i>Helophares lividus</i> A waterbeetle	NS	Eutrophic ponds	Probable
<i>Helophares punctatus</i> A waterbeetle	NS	Sphagnum ponds in peatlands	Probable
<i>Eledona agricola</i> A darkling beetle	NS	Old semi-natural woodland with bracket fungi	Probable
<i>Gabrieus keysianus</i> A rove beetle	NS	Mainly coastal habitats; also sandy heathland, peatlands and wetlands	Possible
<i>Molophilus propinquus</i> A crane fly	NS	Moist, sandy stream banks and ditches	Probable
<i>Opomyza lineatopunctata</i> A fly	NS	Mainly bogs, heaths and fens, probably associated with <i>Molinia caerulea</i>	Probable
<i>Psacadina verbecki</i> A snail-killing fly	NS	Wetlands with aquatic snails ( <i>Lymnaea</i> etc)	Probable

- 3.2.9 The rare and protected marsh fritillary butterfly (*Eurodryas aurinia*) was recorded within the Cwm Glo SSSI on 28 June 1994, and the large Cwm Glo areas is included within a Priority 'cluster' landscape area for this species (Smith 2005). Marsh fritillary is fully protected under the Wildlife and Countryside Act 1981 and is a 'Priority Species' in both the UK BAP and its Welsh equivalent. It is also a key species of the Merthyr Tydfil Local Biodiversity Action Plan (MTBP 2002).
- 3.2.10 Marsh fritillary normally occurs in a 'metapopulation' pattern, whereby a number of separate sites within a larger area or region are occupied with varying degrees of permanence, and there is some annual migration by individuals between these sites. This 'network-like' structure of sites appears to be essential for the long-term survival of this species in any given area. Some sites within the network, usually the larger, more complex sites, are typically occupied by marsh fritillary in every year, but some smaller and outlying sites may only be occupied periodically. Population numbers can vary wildly from year to year on any given site, or on all the sites, within a metapopulation area.
- 3.2.11 Current interpretation of the law affords protection to any site which is known to support marsh fritillary, whether or not the species is present in any given year. This has implications for any site which contains suitable habitats and which occurs in an area where the species has been recorded in the past: a situation which applies to the site currently under consideration.

- 3.2.12 Other notable butterfly species recorded from the site include grayling (*Hipparchia semele*) and dingy skipper (*Erynnis tages*) (HRA 2002).
- 3.2.13 Yellow meadow-ant (*Lasius flavus*) nest-mounds are frequent throughout the site.

## **4.0 ASSESSMENT OF THE SITE**

- 4.1 There is currently no nationally accepted system for the categorising of sites or features of biodiversity significance below the level of national value, criteria for which are set out by the former Nature Conservancy Council (1989, as amended). However, guidelines for the identification of non-statutory sites of county significance (ie SINC) are available for south Wales (SWWSP 2004), and there is also emerging guidance for the identification of SINC in the Merthyr Tydfil county borough context which is based closely on the South Wales guidance (MTBP 2004).
- 4.2 The following assessment of the biodiversity significance of the habitats and species of the Cwm Glo site is therefore based on comparison against the county and county borough SINC guidelines (SWWSP 2004; MTBP 2005), and also has reference to the conservation priorities listed in the Biodiversity Action Plans which have been produced for the UK (UKSG 1995; UKBG 1998-99), Wales (WAG 2003) and at the local level. The latter comprise published action plan priorities for both Merthyr Tydfil County Borough (MTBP 2002) and the former Glamorgan county area (GlamBAG 1999), within which the majority of Merthyr Tydfil County Borough falls.
- 4.3 The assessment results are summarised in the following section and refer to the site as a whole. During the assessment process, however, all parts of the site were individually assessed, and where included within the revised cSINC boundary were judged to meet at least one of the qualifying guidelines.
- 4.4 The revised cSINC is shown at Plan 2. This boundary is considered to represent the definitive minimum boundary for any SINC designation in accordance with the survey data which is currently available.

#### 4.4 Habitats

- 4.4.1 The habitats identified to date on the site are assessed against the UK, Welsh and local Biodiversity Action Plan priorities, and any qualifying habitats are indicated together with any qualifications or notes. Where a Habitat Action Plan (HAP) is given for the habitat concerned in the Merthyr Tydfil Local Biodiversity Action Plan (LBAP), the reference number of this is also given.
- 4.4.2 The habitats are then assessed for qualification against the relevant habitat designation guidelines for SINC's in South Wales and Merthyr Tydfil County Borough.

**Table 1: Assessment Against BAP Priorities**

Habitats Represented on the Site	UK BAP Priority Habitat		Wales BAP Priority habitat		Glamorgan BAP Priority		Merthyr Tydfil LBAP Habitat Action Plan	
Broadleaved woodland			Yes	A				
Wet Woodland	Yes		Yes				Yes	HAP 3
Scrub Communities							No	
Acid Grasslands	Yes	B	Yes	B	Yes	B	Yes	HAP 8
Neutral grassland							Yes	HAP 10
Heathland	Yes	C	Yes	C	Yes	B	Yes	HAP 12
Marshy Grasslands/Flushes	Yes	D	Yes	D	Yes	D	Yes	HAP 11
Ponds					Yes	E	Yes	HAP 15
Streams and Ditches							Yes	HAP 16
Open Rock Habitats							Yes	HAP 18
Mineral Spoil Areas							Yes	HAP 16
Fridd/Bracken Slopes							Yes	HAP 7
Drystone Walls							Yes	HAP 14

A Lowland mixed deciduous

B Lowland examples only

C Small eutrophic ponds

D Purple moor-grass & rush pastures

E Small eutrophic ponds

## 4.5 Assessment Against SINC Designation Guidelines

- 4.5.1 The following section sets out the relevant SINC selection guidelines for each of the habitats identified at the Rhydycar West site, together with an assessment of the degree of qualification by the site. The guidelines are assumed to be the same for both South Wales and Merthyr Tydfil County Borough unless otherwise indicated. Where the latter are different, the additional, modified guidelines are set out separately below the South Wales guidelines.

### ***Guideline H1: Woodlands***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***All ancient woodlands as recorded in the Ancient Woodland Inventories, apart from those felled and replanted with non-native species and which have also entirely lost their ancient features such as characteristic ground flora***

No areas recorded as ancient woodland, although some fragments may exist alongside watercourses

***Semi-natural woodlands, of whatever size, which support as assemblage of ancient woodland indicator species*** [referred to in Table 1 of the Guidelines: no threshold is set, but the number should be 'significant']

Most of the site woodlands are semi-natural, and support at least 11 indicator species, which is considered moderately significant

***All semi-natural beech and yew woodlands***

None present

***All semi-natural upland woodlands***

None present

***All semi-natural wet woodlands***

Areas of riparian wet woodlands are present

***Planted/re-planted wet woodland with semi-natural ground flora or other areas of interest such as ditches, pools and marshy areas***

None present

**Site qualifies under this guideline?**

**Yes**

### ***Guideline H3: Scrub Communities***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Structurally-diverse and species-rich mixed scrub sites*** [a minimum of six scrub species is suggested]

Mixed scrub forms a fairly minor component of the site; probably insufficient to qualify

***Significant stands of gorse***

Small areas of gorse scrub are present, insufficient to qualify

**Site qualifies under this guideline?**

**No**

### ***Guideline H4: Neutral Grasslands***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***All examples of MG4, MG5, MG11, MG12 and MG13 grasslands***

MG5 grasslands are present

***All relatively species-rich examples of other neutral grasslands (which could include MG1, MG6 and MG10 grasslands) of any significant extent*** [the presence of at least 8 indicator species is suggested as a threshold, from Table 2 of the Guidelines]

MG6 and MG10 grasslands are present; neutral grasslands on the site collectively support at least 38 of the listed indicator species

**Site qualifies under this guideline?**

**Yes**

### ***Guideline H6: Acid Grasslands***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***All examples of unimproved acid grasslands***

Most of the acid grassland of the site is unimproved

***All examples of semi-improved acid grasslands which retain a relatively high diversity of indicator species*** [the presence of at least 7 indicator species is suggested as a threshold, from Table 4 of the Guidelines]

The acid grasslands of the site collectively support at least 31 of the listed indicator species

**Site qualifies under this guideline?**

**Yes**

### ***Guideline H7: Marshy Grasslands***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***All examples of M22, M24 and M27 grasslands***

Small areas of M24 grassland are present

***All species-rich examples of other marsh and marshy grassland communities, including M23 rush pasture and M25 mire*** [the presence of at least 12 indicator species is suggested as a threshold, from Table 5 of the Guidelines]

The marshy grasslands of the site collectively support at least 53 of the listed indicator species

**Site qualifies under this guideline?**

**Yes**

### ***Guideline H9: Bracken Communities***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Stands of bracken with a species-rich ground flora***

The site contains extensive stands of bracken with a moderately species-rich vernal ground flora

**Site qualifies under this guideline?    **Borderline/Yes?****

- 4.5.4 The draft Merthyr Tydfil County Borough SINC guidelines also specify that ‘ffridd’ habitats (ie semi-upland valleyside habitats containing complex mosaics of heathland, bracken, woodland, wet flushes, acid grasslands and scree) should also be considered for selection. The site contains some areas, mainly to the south and west, which can be considered to comprise ‘ffridd’ vegetation.



### ***Guideline H10: Heathlands & Grass-Heath Communities***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All examples of unmodified wet heathland and wet grass-heath, and where cross-leaved heath is still present even though reduced in its cover due to grazing pressure*

The site contains numerous areas of unmodified wet heathland

*All examples of unmodified dry heathland*

The site contains some large areas of unmodified dry heathland

*Examples of degraded heathland, secondary heathland and grass-heath mixtures which either meet the guidelines for designation as acid grassland (and are thus designated as such) or which have at least 10% dwarf shrub heath cover*

Any other heathland on the site not falling in the categories above would fall into this category

**Site qualifies under this guideline?**

**Yes**

### ***Guideline H11: Bog Habitats & Flushes***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All examples of undegraded bog habitats, and degraded bog habitats which still show some remaining distinctive features of the habitat type*

None present

*Individual neutral, basic or acid flushes of any size, provided they are not grossly modified by agricultural improvement*

The site contains small acid flushes

**Site qualifies under this guideline?**

**Yes**

### **Guideline H15: Watercourses**

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All examples of stretches of main river where the river bed and banks remain comparatively unmodified and the water is not grossly polluted by long term sources*

None present

*All examples of stretches of smaller watercourses (ie streams, canals, brooks etc) which are comparatively unmodified, which support good aquatic, emergent or bankside plant communities, and the water is not grossly polluted by long term sources* ['good' plant communities are defined in the Guidelines]

Site contains some small semi-natural watercourses which qualify

*All examples of sections of watercourse (regardless of scale) with exposed sediment and/or erosion features such as soft cliffs*

Site contains several minor natural watercourses with exposed sediments

*All examples of systems of reens and/or ditches with a diverse aquatic flora and/or fauna (including the associated habitat, eg field system on coastal levels or river floodplains)*

None present

**Site qualifies under this guideline?      Borderline/No?**

### **Guideline H16: Standing Open Water**

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All examples of lakes and ponds which have largely unmodified, semi-natural beds and banks, good water quality and/or which support good aquatic, emergent or bankside communities* ['good' plant communities are defined in the Guidelines]

Site contains at least 10 known ponds, possibly 13 or more, at least 9 of which qualify under the guideline

*All examples of ponds which score 'High' or 'Very High' when assessed using the methodology set out in the National Pond Survey (Pond Action 1998)*

Not assessed

**Site qualifies under this guideline?      Yes**

### ***Guideline H18: Post-Industrial land***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All examples of post-industrial land that has revegetated with a diverse range of native and archaeophyte non-woody plant species* [the presence of at least 20 indicator species is suggested as a threshold, from Tables 2-6 of the Guidelines]

The site contains large areas of revegetated colliery spoil which supports at least 25 indicator species

**Site qualifies under this guideline? Yes**

### ***Guideline H20: Mosaic Habitats***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*Any coherent site which has represented at least three distinct habitats where at least one is approaching SINC selection status in its own right, providing that improved species-poor or degraded elements of low or negligible conservation interest do not form a significant proportion (ie >25%) of the total site area*

The whole site readily qualifies under this guideline. Non-qualifying habitats (eg, scrub habitats, species-poor neutral grasslands, ponds) collectively comprise less than 25% of the site

*'block designations' of extensive areas of open countryside where semi-natural upland features predominate*

Site is only semi-upland, although the highest areas have a distinct upland quality

**Site qualifies under this guideline? Yes**

### ***Guideline H21: Rock Exposures***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*All occurrences of limestone pavement, especially where supporting a rich gryke flora (ie mixtures of species characteristic of calcareous woodlands and grasslands, living within the cracks and furrows)*

None present

*Inland cliffs, crags and associated scree, where these support species of interest*

Several small exposures of native acid rocks are present supporting mosses, but probably not qualifying

**Site qualifies under this guideline? No**

***Guideline H22: Other Features***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Continuous sections of disused railway lines supporting semi-natural vegetation***

The site contains sections of disused railway line which qualify under this guideline

***Continuous sections of green lanes and other linear features which have either more-or-less continuous semi-natural woody boundaries on both sides, or wide flowery verges and/or unsurfaced trackways***

Site contains sections of disused canal

***All examples of areas where there are significant populations of ant hills and/or where several are estimated to be in excess of 50 years old***  
[estimated by volume at 1litre of soil/year]

None known, although yellow meadow-ant is present and abundant in places

**Site qualifies under this guideline?**

**Yes**

## 4.6 Species

### ***Guideline S1: Mammals***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Any sites supporting breeding (or probable breeding) species (other than bats) which are listed as fully or partially protected on Schedule 5 of the Wildlife & Countryside Act 1981 (WCA), together with any areas which are critical for nesting, foraging, roosting (laying up), territorial or other significant use, where this has been determined by survey. These species currently comprise water vole, otter, pine marten, dormouse and red squirrel***

Water vole has been recorded in the past, but was not re-found by recent surveys. However, it may still be present on the site. It is likely that otter is present, but there is no recent survey evidence to confirm this. Both these species are likely to be primarily associated with the watercourses and wetland areas

***Any sites supporting established breeding of the following species which are nationally declining, regionally important or UK/Local BAP Priority Species, together with any areas which are critical for nesting, foraging, territorial or other significant use, where this has been determined by survey and providing they are not the result of recent deliberate introductions which do not form part of a recognised species recovery programme. These species comprise brown hare, harvest mouse, water shrew and yellow-necked mouse***

None found to date

***The presence of breeding badgers is not, in itself, considered a valid reason for site selection. However, the presence of badger setts should be considered to be an additional supporting reason for the selection of sites which also qualify under other guidelines, ie on habitat grounds or for species other than badger.***

There are badger setts on the site

***Any significant roosting sites [for bats] including vital flight and commuting routes and priority feeding areas attached to roosts. Also included should be any structures such as tunnels, icehouses, basements, gunnery emplacements, pill boxes etc which are used as roosts***

There is a known bat roost in an old section of canal

***Also for consideration are any significant winter roosts (hibernation roosts) of any of the species listed in Table 8 [of the Guidelines]***

None found to date

**Site qualifies under this guideline?    Borderline/?Yes**

### ***Guideline S2: Birds***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Sites supporting breeding populations, of any size, of species marked with an 'A' in Table 9*** [of the Guidelines]

None recorded to date

***Sites supporting wintering or passage refuelling populations, of any size, of species marked with an 'A' in Table 10*** [of the Guidelines]

Insufficient data

***Sites supporting a predetermined number (to be agreed by the LBAP partnerships) of those species marked 'B' in Tables 9 & 10*** [of the Guidelines], ***or identified as additions to the tables by the LBAP partnership, that collectively designate a site and/or contribute towards its designation*** [MTBP 2005 indicates the number 8-10]

5 such species are recorded to date

***Any site with 100 or more bird species recorded in the previous five years***

Not applicable

**Site qualifies under this guideline?**

**No**

### ***Guideline S3: Reptiles***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Sites supporting three or more reptile species***

Only one species identified to date, therefore not qualifying. However, further survey would be considered very likely to reveal the presence of other species

***Sites supporting good populations of any reptile species*** ['good' populations are defined in the Guidelines]

Insufficient data available at present: probably not qualifying

**Site qualifies under this guideline?**

**No**

#### ***Guideline S4: Amphibians***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Sites supporting four or more species of amphibian***

Four species are recorded from the site, including great crested newt

***Sites supporting good populations [as defined in the Guidelines] of three or more species of amphibian***

Insufficient data available at present (but considered unlikely)

***Sites supporting exceptional populations [as defined in the Guidelines] of any single species of amphibian***

Insufficient data available at present (but considered unlikely)

***Sites supporting good populations [as defined by the Guidelines] of great crested newt, defined as 10 or more individuals counted by torchlight*** [The Guidelines go on to state that the occurrence of great crested newt in any numbers should be considered a supporting reason for a site which also qualifies under other criteria]

Great crested newt is present in at least four ponds on the site, but population data is not available

**Site qualifies under this guideline?**

**Yes**

- 4.6.1 The Guidelines note that any pond sites selected for their use by amphibians should also include a surrounding context of terrestrial habitat which is suitable for foraging, commuting and wintering. A typical minimum area of 0.5ha is recommended. The Guidelines also note that groups of ponds, where commuting is likely, can be selected together.
- 4.6.2 The Merthyr Tydfil County Borough SINC designation guidelines also suggest that any site which forms part of a known metapopulation for great crested newt should be considered for selection. It is considered likely that the known great crested newt ponds of the site would also qualify under this guideline.

#### ***Guideline S6: Invertebrates***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

***Any site which supports a species which is listed in the UK Red Data Book [ie in the 'threatened' categories] or on the 'Section 74' list (WAG 2003)***

Marsh fritillary occurs on the SSSI within the site, and is very likely to occur elsewhere within the SINC

***Any site which supports an important assemblage or population(s) of 'Nationally Scarce' species.***

11 Nationally Scarce species recorded in the vicinity are assessed as being probable or very probable on the site

*Any site which supports a species recorded from 10 or fewer 10km grid squares in Wales (where the distribution is well known)*

Insufficient data

*Any site which supports a species that breeds in four or fewer sites within a vice-county*

Insufficient data

*Any site which supports a significant population or assemblage of Local Priority Species listed in a Local Biodiversity Action Plan*

Insufficient data

*Any site which supports a butterfly or moth species which fulfils the criteria for a 'High Priority Species' (in Britain or Wales) in Butterfly Conservation's National Action Plan for Wales (1998) [Listed in Tables 12a and 12b of the Guidelines]*

Site probably supports marsh fritillary

*Sites which support significant populations or assemblages of butterfly species which fulfil the criteria for a 'Medium Priority Species' (in Britain or Wales) in Butterfly Conservation's National Action Plan for Wales (1998) [Listed in Table 12a of the Guidelines]. Their presence should also contribute towards the designation of sites that qualify under other Guidelines*

Site supports grayling and dingy skipper

*Sites which support significant populations or assemblages of moth species which fulfil the criteria for a 'Medium Priority Species' (in Britain or Wales) in Butterfly Conservation's National Action Plan for Wales (1998), or are considered to be of conservation importance in SE Wales. [Listed in the Guidelines]. Their presence should also contribute towards the designation of sites that qualify under other Guidelines*

Insufficient data

*Any site which supports a dragonfly species which is 'Nationally Scarce'*

None recorded to date

*Any site which supports an assemblage of 9 or more dragonfly species*

Insufficient data

*Any site which supports any dragonfly species which in list 'A' of Table 13 [of the Guidelines]*

None recorded to date

*Sites which support significant populations or assemblages of dragonfly species in list 'B' of Table 13 [of the Guidelines]. Their presence should also contribute towards the designation of sites that qualify under other Guidelines*

Insufficient data



*Any site which supports an orthopteran species which is 'Nationally Scarce'*

None recorded to date

*Any site which supports an assemblage of 7 or more orthopteran species*

Insufficient data

*Any site which supports any orthopteran species which in list 'A' of Table 14 [of the Guidelines]*

Insufficient data

*Sites which support significant populations or assemblages of orthopteran species in list 'B' of Table 14 [of the Guidelines]. Their presence should also contribute towards the designation of sites that qualify under other Guidelines*

None recorded to date

**Site qualifies under this guideline?**

**Yes**

### ***Guideline S7: Vascular Plants***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*Any site with one or more 'primary' species present* [Listed in Table 15 of the Guidelines]

None recorded to date

*Any site with 5 or more contributory species present* [listed in Table 16 of the Guidelines]

Six Contributory Species have been recorded

*Any site that supports a species listed in either the Red Data Books (NCC 1987) [ie in the 'threatened' categories] or on the 'Section 74' list (WAG 2003), or is recorded as Nationally Scarce*

None recorded to date

*Any site with a population of a contributory species (or other species not yet included on the list) that further research shows has suffered a significant decline nationally in subsequent years*

None recorded to date

**Site qualifies under this guideline?**

**Yes**

### ***Guideline S8: Fungi***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*Any site supporting 8 or more species of waxcap (Hygrocybe spp)*

Site supports 24 species of *Hygrocybe*

*Any site which supports a species which is listed in the UK Red Data Book or in the 'Section 74' list (WAG 2003)*

Site supports pink meadow waxcap (*Hygrocybe calyptriformis*) and olive earthtongue (*Microglossum olivaceum*)

*Any site which supports a species recorded from 10 or fewer 10km grid squares in Wales (where the distribution is well known)*

Insufficient data available

*Any site which supports a species which is recorded from 3 or fewer sites within a Watsonian vice-county (where the distribution is well known)*

Insufficient data available

*Any site which supports a significant population of a National or Local Priority Species as listed in a Local Biodiversity Action Plan*

Site supports pink meadow waxcap (*Hygrocybe calyptriformis*) and olive earthtongue (*Microglossum olivaceum*)

**Site qualifies under this guideline?**

**Yes**

### ***Guideline S9: Mosses & Liverworts***

The SINC designation guidelines for South Wales state that the following should be considered for SINC selection:

*Any site which supports a species which is listed in the UK Red Data Book for Mosses & Liverworts (Church et al 2001) [ie in the 'threatened' categories] or on the 'Section 74' list (WAG 2003)*

None recorded to date

*Any site which supports a species which is recorded from three or fewer sites within a Watsonian vice-county (where the distribution is well known)*

Insufficient data

*Any site which supports a significant population of a National or Local Priority Species listed in a Local Biodiversity Action Plan*

Insufficient data

**Site qualifies under this guideline?**

**No**

## 4.7 Summary of Compliance with Guidelines

4.7.1 The following table summarises the compliance of the habitats and features of the site with the Guidelines for South Wales against which they have been tested.

<b>Guideline</b>	<b>Subject</b>	<b>Compliance</b>
H1	Woodlands	Yes
H3	Scrub Communities	No
H4	Neutral Grasslands	Yes
H6	Acid Grasslands	Yes
H7	Marshy Grasslands	Yes
H9	Bracken Communities	Borderline/?Yes
H10	Heath & Grass-Heath Habitats	Yes
H11	Bog Habitats & Flushes	Yes
H15	Watercourses	Borderline/?No
H16	Standing Open Water	Yes
H18	Post-Industrial Land	Yes
H20	Mosaic Habitats	Yes
H21	Rock Exposures	No
H22	Other Features	Yes
S1	Mammals	Borderline/?Yes
S2	Birds	Yes
S3	Reptiles	No
S4	Amphibians	Yes
S6	Invertebrates	Yes
S7	Vascular Plants	Yes
S8	Fungi	Yes
S9	Mosses & Liverworts	No

## 5.0 REFERENCES

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## APPENDIX 1: SPECIES RECORDED

All species recorded by DCE 2005 unless otherwise indicated:

CCW: Countryside Council for Wales 2003

HRA: Humphries Rowell Associates 2002

WH: Woods & Hand 2005

Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
Trees and Shrubs								
<i>Alnus glutinosa</i>	Alder							
<i>Betula pendula</i>	Silver birch							
<i>Betula pubescens</i>	Downy birch							
<i>Crataegus monogyna</i>	Hawthorn							
<i>Fraxinus excelsior</i>	Ash							
<i>Ilex aquifolium</i>	Holly							
<i>Lonicera periclymenum</i>	Honeysuckle							
<i>Quercus petraea</i>	Sessile oak			W				
<i>Quercus robur</i>	Pedunculate oak							
<i>Salix caprea</i>	Goat willow							
<i>Salix cinerea</i>	Grey willow							
<i>Sambucus ebulus</i>	Dwarf elder		CS					
<i>Sambucus nigra</i>	Elder							
<i>Symphoricarpos albus</i>	Snowberry		Alien					
<i>Ulex europaeus</i>	Common gorse							
<i>Ulex gallii</i>	Western gorse		Local					
<i>Ulmus minor</i>	Small leaved elm							
Herbs								
<i>Achillea millefolium</i>	Yarrow							
<i>Achillea ptarmica</i>	Sneezewort				NG			MG
<i>Agrimonia eupatoria</i>	Agrimony				NG			
<i>Agrostis canina</i>	Velvet bent							MG
<i>Agrostis capillaris</i>	Common bent							
<i>Agrostis stolonifera</i>	Creeping bent							
<i>Agrostis vinealis</i>	Brown bent						AG	
<i>Aira praecox</i>	Early hair-grass		Local				AG	
<i>Ajuga reptans</i>	Bugle				NG			
<i>Alchemilla filicaulis</i> ssp. <i>vestita</i>	Lady’s mantle	CCW						
<i>Alchemilla</i> sp.	Lady’s-mantle							
<i>Alchemilla xanthochlora</i>	Intermediate lady’s-mantle	CCW	CS		NG			
<i>Anaphalis margaritacea</i>	Pearly everlasting		IA					
<i>Angelica sylvestris</i>	Wild angelica							MG
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass							
<i>Arenaria serpyllifolia</i>	Thyme leaved sandwort							
<i>Asplenium adiantum-nigrum</i>	Black spleenwort							
<i>Athyrium filix-femina</i>	Lady-fern							
<i>Bellis perennis</i>	Daisy							
<i>Blechnum spicant</i>	Hard-fern			W				
<i>Botrychium lunaria</i>	Moonwort		CS		NG		AG	
<i>Briza media</i>	Quaking grass				NG	CG		MG

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Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Calluna vulgaris</i>	Ling heather			W			AG	
<i>Cardamine pratensis</i>	Cuckooflower				NG			MG
<i>Carex binervis</i>	Green-ribbed sedge							MG
<i>Carex caryophyllea</i>	Spring sedge				NG	CG	AG	
<i>Carex echinata</i>	Star sedge		Local					MG
<i>Carex flacca</i>	Glaucous sedge				NG	CG		MG
<i>Carex hostiana</i>	Tawny sedge	CCW	Local					MG
<i>Carex montana</i>	Soft-leaved sedge	CCW	NS, CS		NG	CG		MG
<i>Carex nigra</i>	Common sedge	CCW			NG			MG
<i>Carex ovalis</i>	Oval sedge							
<i>Carex panicea</i>	Carnation sedge				NG			MG
<i>Carex pilulifera</i>	Pill sedge						AG	
<i>Carex pulicaris</i>	Flea sedge	CCW/HRA	Local					MG
<i>Carex sylvatica</i>	Wood sedge			W				
<i>Carex viridula</i> ssp	Yellow sedge		Local					MG
<i>oedocarpa</i>								
<i>Carum verticillatum</i>	Whorled caraway		Local					MG
<i>Centaurea nigra</i>	Common knapweed				NG	CG		
<i>Centaureum erythraea</i>	Common centaury				NG	CG		
<i>Cerastium fontanum</i>	Common mouse-ear							
<i>Chrysosplenium oppositifolium</i>	Opposite leaved golden saxifrage							
<i>Cirsium dissectum</i>	Meadow thistle		Local		NG		AG	MG
<i>Cirsium palustre</i>	Marsh thistle							
<i>Cirsium vulgare</i>	Spear thistle							
<i>Crepis capillaris</i>	Smooth hawk's-beard							
<i>Cynosurus cristatus</i>	Crested dog's tail							
<i>Dactylis glomerata</i>	Cocksfoot							
<i>Dactylorhiza praetermissa</i>	Southern marsh orchid		Local		NG			MG
<i>Danthonia decumbens</i>	Heath-grass		Local		NG		AG	
<i>Deschampsia caespitosa</i>	Tufted hair grass							
<i>Deschampsia flexuosa</i>	Wavy hair grass			W			AG	
<i>Digitalis purpurea</i>	Foxglove							
<i>Dryopteris affinis</i>	Scaly male-fern			W				
<i>Dryopteris carthusiana</i>	Narrow buckler fern		Local					MG
<i>Dryopteris dilatata</i>	Broad buckler fern							
<i>Dryopteris filix-mas</i>	Male fern							
<i>Elodea nuttallii</i>	Nuttal's pondweed		Alien					
<i>Epilobium obscurum</i>	Short-fruited willowherb							
<i>Epilobium palustre</i>	Marsh willowherb							
<i>Equisetum arvense</i>	Field horsetail							
<i>Equisetum palustre</i>	Marsh horsetail		Local					MG
<i>Equisetum sylvaticum</i>	Wood horsetail	CCW	Local	W				MG
<i>Erica tetralix</i>	Cross-leaved heath							MG
<i>Eriophorum angustifolium</i>	Common cottongrass	HRA	Local					MG
<i>Eriophorum vaginatum</i>	Hare's tail cotton grass	HRA	Local					
<i>Euphrasia cf. nemorosa</i>	Eyebright							
<i>Euphrasia rostkoviana</i>	Eyebright							
<i>Festuca ovina</i>	Sheep's fescue					CG	AG	
<i>Festuca rubra</i>	Red fescue							
<i>Filipendula ulmaria</i>	Meadowsweet							MG

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Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Fragaria vesca</i>	Wild strawberry	HRA						
<i>Galium palustre</i>	Marsh bedstraw							MG
<i>Galium saxatile</i>	Heath bedstraw						AG	
<i>Galium uliginosum</i>	Fen bedstraw	CCW	CS					MG
<i>Genista anglica</i>	Petty whin		Local					
<i>Geranium molle</i>	Dove's foot crane's bill							
<i>Geranium robertianum</i>	Herb Robert							
<i>Geum urbanum</i>	Wood avens							
<i>Glyceria fluitans</i>	Floating sweet-grass							MG
<i>Gnaphalium uliginosum</i>	Marsh cudweed							
<i>Hedera helix</i>	Ivy							
<i>Heracleum sphondylium</i>	Hogweed							
<i>Hieracium sp.</i>	Hawkweed						AG	
<i>Holcus lanatus</i>	Yorkshire fog							
<i>Holcus mollis</i>	Creeping soft grass							
<i>Hyacinthoides non-scripta</i>	Bluebell		W&CA	W				
<i>Hypericum tetrapterum</i>	Square stemmed St John's-wort							MG
<i>Hypochaeris radicata</i>	Common cat's-ear				NG			
<i>Iris pseudacorus</i>	Yellow flag-iris							MG
<i>Isolepis setacea</i>	Bristle club-rush		Local					MG
<i>Juncus acutiflorus</i>	Sharp-flowered rush							MG
<i>Juncus articulatus</i>	Jointed rush							MG
<i>Juncus bufonius</i>	Toad rush							
<i>Juncus bulbosus</i>	Bulbous rush							
<i>Juncus conglomeratus</i>	Compact rush							MG
<i>Juncus effusus</i>	Soft rush							
<i>Juncus inflexus</i>	Hard rush							
<i>Juncus squarrosus</i>	Heath rush						AG	MG
<i>Lathyrus linifolius</i>	Bitter vetch	HRA	Local		NG		AG	
<i>Leontodon autumnalis</i>	Autumn hawkbit							
<i>Leontodon saxatilis</i>	Lesser hawkbit				NG	CG		
<i>Linum catharticum</i>	Fairy flax				NG	CG		
<i>Lolium perenne</i>	Perennial rye grass							
<i>Lotus corniculatus</i>	Common bird's-foot-trefoil				NG	CG		
<i>Lotus pedunculatus</i>	Greater bird's-foot-trefoil							MG
<i>Luzula campestris</i>	Field wood-rush				NG			
<i>Luzula multiflora</i>	Heath wood-rush						AG	MG
<i>Lychnis flos-cuculi</i>	Ragged robin							MG
<i>Mentha aquatica</i>	Water mint							MG
<i>Molinia caerulea</i>	Purple moor-grass							MG
<i>Myosotis scorpioides</i>	Water forget-me-not							MG
<i>Myriophyllum alterniflorum</i>	Alternate-leaved water milfoil	HRA	CS					
<i>Nardus stricta</i>	Mat grass						AG	
<i>Nitella sp.</i>	Stonewort sp.							
<i>Odontites vernus</i>	Red bartsia							
<i>Oxalis acetosella</i>	Wood sorrel			W				
<i>Pedicularis sylvatica</i>	Lousewort		Local		NG		AG	MG
<i>Persicaria hydropiper</i>	Water pepper							



DAVID CLEMENTS ECOLOGY LTD

Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Phleum bertolonii</i>	Small timothy grass	CCW			NG			
<i>Pilosella officinalis</i>	Mouse-ear hawkweed				NG	CG	AG	
<i>Plantago lanceolata</i>	Ribwort plantain							
<i>Plantago major</i>	Greater plantain							
<i>Poa humilis</i>	Spreading meadow grass	CCW			NG	CG		
<i>Polygala serpyllifolia</i>	Heath milkwort		Local				AG	MG
<i>Polygonum aviculare</i>	Knotgrass							
<i>Polypodium sp.</i>	Polypody species							
<i>Potamogeton natans</i>	Broad-leaved pondweed	HRA						
<i>Potamogeton polygonifolius</i>	Bog pondweed	HRA	Local					
<i>Potentilla anglica</i>	Trailing tormentil	CCW			NG		AG	
<i>Potentilla anserina</i>	Silverweed						AG	
<i>Potentilla erecta</i>	Tormentil				NG		AG	MG
<i>Potentilla reptans</i>	Creeping cinquefoil							
<i>Potentilla sterilis</i>	Barren strawberry			W		CG		
<i>Prunella vulgaris</i>	Self heal							
<i>Ranunculus acris</i>	Meadow buttercup							
<i>Ranunculus bulbosus</i>	Bulbous buttercup				NG	CG		
<i>Ranunculus flammula</i>	Lesser spearwort							MG
<i>Ranunculus ompiophyllus</i>	Round-leaved crowfoot	HRA						
<i>Ranunculus repens</i>	Creeping buttercup							
<i>Rubus fruticosus</i> agg.	Bramble							
<i>Rumex acetosa</i>	Common sorrel							
<i>Rumex acetosella</i>	Sheep's sorrel						AG	
<i>Rumex crispus</i>	Curled dock							
<i>Rumex obtusifolius</i>	Broad-leaved dock							
<i>Sagina procumbens</i>	Procumbent pearlwort							
<i>Sanguisorba officinalis</i>	Great burnet		Local		NG			
<i>Senecio aquaticus</i>	Marsh ragwort							MG
<i>Serratula tinctoria</i>	Saw-wort		Local		NG	CG		MG
<i>Solanum dulcamara</i>	Bittersweet							
<i>Solidago virgaurea</i>	Goldenrod						AG	
<i>Sparganium erectum</i>	Branched bur-reed							
<i>Stachys officinalis</i>	Betony				NG		AG	MG
<i>Stellaria graminea</i>	Lesser stitchwort				NG			
<i>Stellaria uliginosa</i>	Bog stitchwort							MG
<i>Succisa pratensis</i>	Devils'-bit scabious		Local		NG		AG	MG
<i>Taraxacum officinalis</i> agg.	Dandelion							
<i>Thymus polytrichus</i>	Wild thyme		Local			CG		
<i>Trichophorum cespitosum</i>	Deer grass		Local					MG
<i>Trifolium pratense</i>	Red clover				NG			
<i>Trifolium repens</i>	White clover							
<i>Triglochin palustre</i>	Marsh arrowgrass	HRA	Local					MG
<i>Typha latifolia</i>	Greater reedmace	HRA						
<i>Urtica dioica</i>	Common nettle							
<i>Vaccinium myrtillus</i>	Bilberry		Local	W			AG	
<i>Valeriana officinalis</i>	Common valerian							MG
<i>Veronica beccabunga</i>	Brooklime							MG

DAVID CLEMENTS ECOLOGY LTD

Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Veronica officinalis</i>	Heath speedwell		Local		NG		AG	
<i>Viola palustris</i>	Marsh violet		Local					MG
<i>Viola riviniana</i>	Common dog-violet				NG	CG		
<b>Bryophytes</b>								
<i>Aneura pinguis</i>		CCW						
<i>Atrichum undulatum</i>								
<i>Aulacomnium palustre</i>		CCW						
<i>Brachythecium rutabulum</i>								
<i>Bryum pseudotriquetrum</i>		CCW						
<i>Calliergon cuspidatum</i>								
<i>Campylium stellatum</i> var <i>protensum</i>		CCW						
<i>Campylopus introflexus</i>								
<i>Campylopus paradoxus</i>		CCW						
<i>Cephalozia bicuspidata</i>		CCW						
<i>Cratoneuron filicinum</i>		CCW						
<i>Ctenidium molluscum</i>		CCW						
<i>Dicranum scoparium</i>							AG	
<i>Diplophyllum albicans</i>		CCW						
<i>Drepanocladus exannulatus</i>		CCW						
<i>Ephemerum serratum</i> var <i>serratum</i>		CCW	NS					
<i>Eurhynchium praelongum</i>								
<i>Fissidens adianthoides</i>		CCW						
<i>Fossombronia wondraczekii</i>		CCW						
<i>Gymnocolea inflata</i>		CCW	Local					
<i>Hypnum cupressiforme</i>								
<i>Hypnum jutlandicum</i>		CCW						
<i>Jungermannia gracillima</i>		CCW						
<i>Lophocolea bidentata</i>		CCW						
<i>Lophozia ventricosa</i>		CCW						
<i>Pellia endiviifolia</i>		CCW						
<i>Pellia</i> sp.		CCW						
<i>Philonotis fontana</i>		CCW						
<i>Pleurozium schreberi</i>							AG	
<i>Polytrichum formosum</i>							AG	
<i>Polytrichum juniperinum</i>								
<i>Polytrichum piliferum</i>		CCW						
<i>Pseudoscleropodium purum</i>								
<i>Ptilidium ciliare</i>		CCW						
<i>Racomitrium ericoides</i>		CCW						
<i>Racomitrium lanuginosum</i>		CCW						
<i>Rhizomnium punctatum</i>		CCW						
<i>Rhytidiadelphus squarrosus</i>								
<i>Riccardia multifida</i>		CCW						
<i>Riccardia</i> sp.		CCW						

Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Scapania nemorea</i>		CCW						
<i>Sphagnum auriculatum</i>		CCW						
<i>Sphagnum papillosum</i>		CCW						
<i>Sphagnum recurvum</i>		CCW						
<i>Sphagnum subnitens</i>		CCW						
<i>Thuidium tamariscinum</i>								
<b>SWWSP 2004 'Indicator Species' Totals</b>				<b>11</b>	<b>38</b>	<b>17</b>	<b>31</b>	<b>53</b>
<b>Lichens</b>								
<i>Cladonia ciliata</i>		CCW						
<i>Cladonia furcata</i>		CCW						
<i>Cladonia gracilis</i>		CCW						
<i>Cladonia impexa</i>		CCW						
<i>Cladonia uncialis</i>		CCW						
<i>Cladonia</i> sp		CCW						
<i>Peltigera hymenina</i>		CCW						
<i>Peltigera lactucifolia</i>		CCW						
<i>Peltigera</i> sp.		CCW						
<b>Fungi</b>								
<i>Clavaria fumosa</i>		WH 2005						
<i>Clavaria straminea</i>		WH 2005						
<i>Clavaria vermicularis</i>		WH 2005						
<i>Clavulinopsis corniculata</i>		WH 2005						
<i>Clavinulopsis fusiformis</i>		WH 2005						
<i>Clavinulopsis helvola</i>		WH 2005						
<i>Clavinulopsis laeticolor</i>		WH 2005						
<i>Ramariopsis kunzei</i>		WH 2005						
<i>Hygrocybe aurantiosplendens</i>		WH 2005						
<i>Hygrocybe calyptriformis</i>	Pink meadow waxcap	WH 2005	BAP					
<i>Hygrocybe cantharellus</i>		WH 2005						
<i>Hygrocybe ceracea</i>		WH 2005						
<i>Hygrocybe chlorophana</i>		WH 2005						
<i>Hygrocybe coccinea</i>		WH 2005						
<i>Hygrocybe colemanniana</i>		WH 2005						
<i>Hygrocybe conica</i>		WH 2005						
<i>Hygrocybe flavipes</i>		WH 2005						
<i>Hygrocybe fornicata</i>		WH 2005						
<i>Hygrocybe glutinipes</i>		WH 2005						
<i>Hygrocybe insipida</i>		WH 2005						
<i>Hygrocybe irrigata</i>		WH 2005						
<i>Hygrocybe laeta</i>		WH 2005						
<i>Hygrocybe miniata</i>		WH 2005						
<i>Hygrocybe mucronella</i>		WH 2005						
<i>Hygrocybe ovina</i>		WH 2005						
<i>Hygrocybe pratensis</i>		WH 2005						
<i>Hygrocybe psittacina</i>	psittacina	WH 2005						
<i>Hygrocybe psittacina</i>	perplexa	WH 2005						
<i>Hygrocybe punicea</i>		WH 2005						
<i>Hygrocybe quieta</i>		WH 2005						

Group/Species	Common Name	Source	Status	Indicator Species (SWWSP 2004)				
				W	NG	CG	AG	MG
<i>Hygrocybe reidii</i>		WH 2005						
<i>Hygrocybe virginea</i>	<i>fuscescens</i>	WH 2005						
<i>Hygrocybe virginea</i>	<i>ochraceopallida</i>	WH 2005						
<i>Hygrocybe virginea</i>	<i>virginea</i>	WH 2005						
<i>Entolma sp.</i>		WH 2005						
<i>Entolma jubatum</i>		WH 2005						
<i>Entolma</i>		WH 2005						
<i>porphyrophaeum</i>								
<i>Porpaloma metapodium</i>		WH 2005						
<i>Geoglossum fallax</i>		WH 2005						
<i>Geoglossum glutinosum</i>		WH 2005						
<i>Geoglossum umbratile</i>		WH 2005						
<i>Microglossum olivaceum</i>	Olive earthtongue	WH 2005	BAP					
<i>Clitocybe sp.</i>		WH 2005						
<i>Cordyceps militaris</i>		WH 2005						
<i>Hygrophoropsis auratiaca</i>		WH 2005						
<i>Psilocybe semilanceata</i>		WH 2005						
<i>Cystoderma amianthinum</i>		WH 2005						
<i>Galerina hypnorum</i>		WH 2005						
<i>Lepiota procera</i>		WH 2005						
<i>Lepista nudum</i>		WH 2005						
<i>Lycoperdon nigrescens</i>		WH 2005						
<i>Lycoperdon perlatum</i>		WH 2005						
<i>Mycena sp.</i>		WH 2005						

#### Key

#### Status

RDB - Red Data Book

NS - Nationally Scarce

W&CA 1991 – Wildlife and Countryside Act: confers protection in UK context

BAP – UK Biodiversity Action Plan ‘Priority Species’

PS - Primary Species in SWWSP (2004)

CS - Regionally Uncommon - Contributory Species in SWWSP (2004)

IA - Invasive Alien

#### Indicator Species

W - Woodland, NG - Neutral Grassland, CG - Calcareous Grassland, AG – Acid Grassland, PIL – Post Industrial Land

#### SINC Selection

Sites which support 1 primary species, 5 contributory species or 8 neutral grassland, 8 calcareous grassland, 7 acid grassland or 12 marshy grassland indicator species should be considered for selection as a SINC. Post Industrial sites should be considered for selection as SINC's if they support 20 or more indicator species from the combined post industrial land and acid, neutral, calcareous and marshy grassland lists.

Birds		Status on Site/Notes							
		EU Birds Directive	Wildlife & Countryside Act	UK BAP	Wales BAP	UK BOCC	Wales BOCC	SINC Status	LBAP Species
<i>Turdus merula</i>	Blackbird	G							
<i>Sylvia atricapilla</i>	Blackcap	G	C						HRA
<i>Pyrrhula pyrrhula</i>	Bullfinch	G	P	W	R	R	C	MT	
<i>Emberiza schoeniclus</i>	Bunting, reed	G	P	W	R	A	C	MT	
<i>Buteo buteo</i>	Buzzard	G	C						
<i>Fringilla coelebs</i>	Chaffinch	G							
<i>Prunella modularis</i>	Dunnock	G	C		A				
<i>Clangula hyemalis</i>	Flycatcher, pied	G	C						HRA
<i>Regulus regulus</i>	Goldcrest	G	C		A				
<i>Carduelis carduelis</i>	Goldfinch	G	C						
<i>Carduelis chloris</i>	Greenfinch	G	C						
<i>Garrulus glandarius</i>	Jay	V							
<i>Falco tinnunculus</i>	Kestrel	G	C		A	A			
<i>Carduelis cannabina</i>	Linnet	G	P	W	R	A		MT	HRA
<i>Pica pica</i>	Magpie	V							
<i>Columba palumbus</i>	Pigeon, wood	V							
<i>Anthus pratensis</i>	Pipit, meadow	G	C		A				
<i>Anthus trivialis</i>	Pipit, tree	G	C		A				HRA
<i>Corvus corax</i>	Raven	G							HRA
<i>Phoenicurus phoenicurus</i>	Redstart	G	C		A	A	C		
<i>Erithacus rubecula</i>	Robin	G							
<i>Sturnus vulgaris</i>	Starling	V			R	R			
<i>Turdus philomelos</i>	Thrush, song	G	P	W	R	A	C	MT	
<i>Parus caeruleus</i>	Tit, blue	G	C						
<i>Parus major</i>	Tit, great	G	C						
<i>Parus palustris</i>	Tit, marsh	G	C		R	R			HRA
<i>Picus viridis</i>	W/pecker, green	G	C		A	A	C		
<i>Sylvia borin</i>	Warbler, garden	G	C						HRA
<i>Phylloscopus sibilatrix</i>	Warbler, wood	G	C		A	X			HRA
<i>Troglodytes troglodytes</i>	Wren	G							

#### Key

##### EU Birds Directive 1979:

- 1 : Annex 1 species: special conservation measures apply  
 1<sup>1</sup> : Selected subspecies only

##### Wildlife & Countryside Act 1981: confers protection in UK context

- G : Species protected under general provisions of WCA against killing, injury, capture and disturbance while nesting: protection extends to nests, eggs and young  
 S : Special cases: identified 'game' species which may be killed under licence in certain circumstances  
 V : 'Pest' species: may be killed or taken under licence in special circumstances  
 1 : Schedule 1: additionally protected by special penalties

##### UK BAP (Biodiversity Action Plan, 1995; 1998)

- P : Priority Species  
 C : Species of Conservation Concern

**Wales BAP**

W : List of Species & Habitats of Principle Importance for Conservation of Biological Diversity (2003)

**UK Birds of Conservation Concern:** lists compiled by the bird conservation agencies (2002)

R : Red List: species of greatest concern

A : Amber List: birds of moderate concern

**Wales Birds of Conservation Concern:** lists compiled by the bird conservation agencies (2002)

R : Red List: species of greatest concern

A : Amber List: birds of moderate concern

**Local Status**

P : Primary species. Sites supporting breeding populations or wintering or regular passage refuelling populations of these species should be considered for selection as SINC's.

C : Contributory Species. Sites supporting 8-10 of these species should be considered for selection as SINC's.

**LBAP**

MT : Species listed in the Merthyr Tydfil Local Biodiversity Action Plan.

Mammals		European Protected Species	1981 Wildlife & Countryside Act	UK BAP	Welsh BAP Priority	Status on Site/Notes
<i>Apodemus sylvaticus</i>	Mouse, wood					Inferred from feeding remains
<i>Arvicola terrestris</i>	Vole, water		5 (pt)	Prio	*	Presence not confirmed
<i>Clethrionomys glareolus</i>	Vole, bank					Inferred from feeding remains
<i>Meles meles</i>	Badger		PB	SoCC		Setts present on site
<i>Myotis daubentoni</i>	Bat, Daubenton's	Yes	5	SoCC		HRA
<i>Nyctalus noctula</i>	Bat, noctule	Yes	5	SoCC		HRA
<i>Pipistrellus pipistrellus</i>	Bat, pipistrelle	Yes	5	Prio	*	HRA
<i>Plecotus auritus</i>	Bat, brown long-eared	Yes	5	SoCC		HRA
<i>Sciurus carolinensis</i>	Squirrel, grey					Seen on site
<i>Sorex araneus/ minutus</i> <sup>1</sup>	Shrew sp.		6	SoCC		Inferred from calls
<i>Vulpes vulpes</i>	Fox					Inferred from droppings

**Key**

**European Protected Species:** *Habitats Regulations 1994*: highest level of protection

**Wildlife & Countryside Act 1981:** confers protection in UK context

5 : Schedule 5: full protection which includes places used for shelter and protection

5(pt) : Protection of places used for shelter and against disturbance whilst in such a place

6 : Schedule 6: may not be killed or captured without a licence

All other mammals are protected against killing by certain specified means

PBA : *Protection of Badgers Act 1992*: full protection which includes places used for shelter and protection

DA : *Deer Acts (various)*: generally protected against killing or capture, except under specified conditions

**UK BAP (Biodiversity Action Plan)**

Prio : Priority Species

SoCC : Species of Conservation Concern

**Welsh BAP Priority**

\* : List of Species & Habitats of Principle Importance for Conservation of Biological Diversity (2003).

<sup>1</sup> Species not confirmed. Identified from vocalisations.

Reptiles & Amphibians		European Protected Species	1981 Wildlife & Countryside Act	UK Red Data Book/Nationally Scarce	UK BAP	Welsh BAP Priority	Staus on Site/Notes
<i>Rana temporaria</i>	Frog, common				SoCC		HRA
<i>Triturus cristatus</i>	Newt, great crested	Yes	5	LV/R	Prio	*	HRA
<i>Triturus vulgaris</i>	Newt, smooth				SoCC		HRA
<i>Triturus helveticus</i>	Newt, palmate			LV	SoCC		HRA
<i>Natrix natrix</i>	Snake, grass		5 (pt)		SoCC		HRA

### Key

**European Protected Species:** *Habitats Regulations 1997*: highest level of protection

**Wildlife & Countryside Act 1981:** confers protection in UK context

5 : Schedule 5: full protection which includes places used for shelter and protection

5(pt) : Protection against killing, injury and sale

**UK Red Data Book/Nationally Scarce:** various sources - requires revision

R : Rare (Red Data Book)

V : Vulnerable (Red Data Book)

L : Locally (status varies depending on geographical location)

**UK BAP (Biodiversity Action Plan)**

Prio : Priority Species

SoCC : Species of Conservation Concern

**Welsh BAP Priority**

\* : List of Species & Habitats of Principle Importance for Conservation of Biological Diversity in Wales (2003).

### Invertebrates

Group/Species	Common Name	Status	Source
<b>Lepidoptera</b>	<b>Butterflies</b>		
<i>Polyommatus icarus</i>	Common blue		
<i>Erynnis tages</i>	Dingy skipper	C	
<i>Hipparchia semele</i>	Grayling	C	
<i>Pieris brassicae</i>	Large white		
<i>Euphydryas aurinia</i>	Marsh fritillary	P	HRA
<i>Inachis io</i>	Peacock		
<i>Vanessa atalanta</i>	Red admiral		
<i>Aglais urticae</i>	Small tortoiseshell		
<i>Pararge aegeria</i>	Speckled wood		

### Local Status

P : Primary species. Sites supporting these species should be considered for selection as SINC's.

C : Contributory Species. Their presence should contribute towards the designation of sites that qualify as SINC's under other guidelines.

**Merthyr Tydfil County Borough SINC's  
Survey & Assessment for SINC Designation**

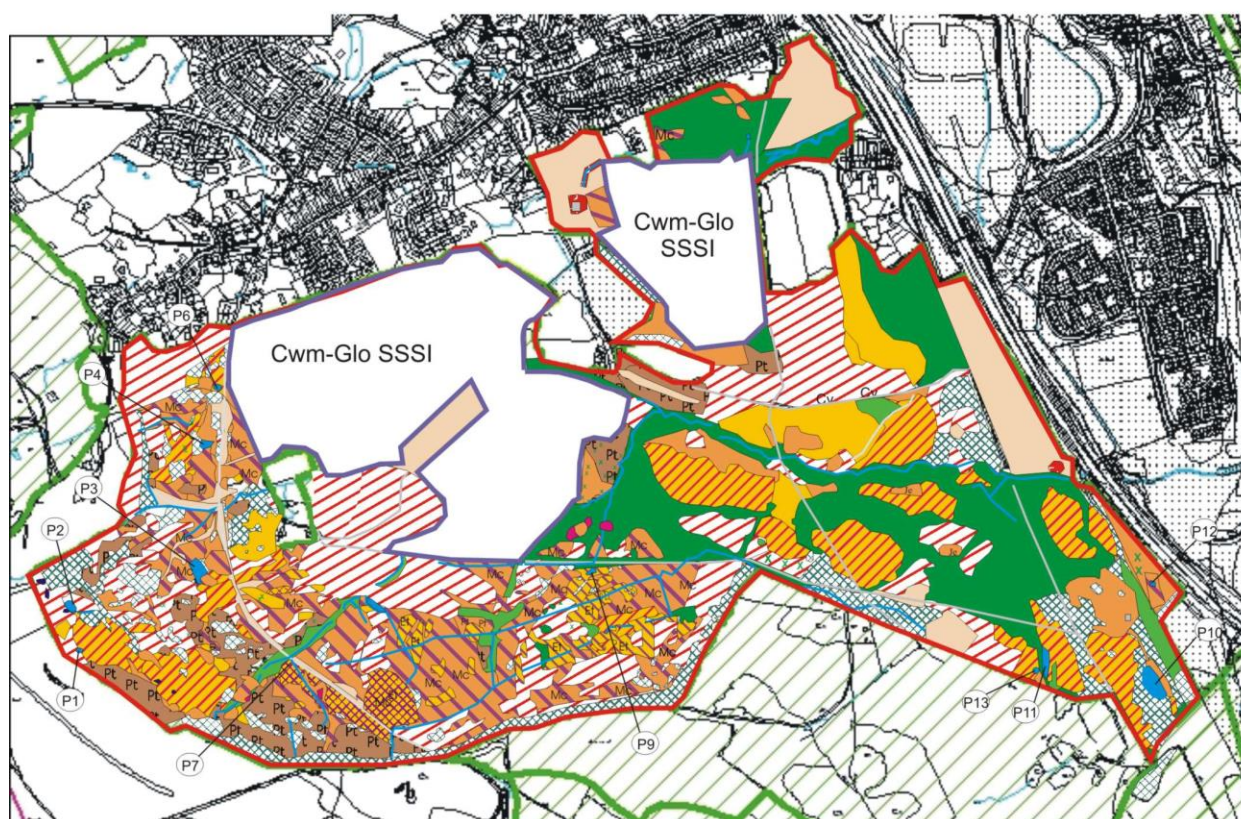
**SO 00NW/7: Cwm Glo**

**Plan 1: Habitat Survey, 2005**


















DCE 297

NTS

May 2006



**Key**

	Broadleaved Woodland		Semi-natural marshy grassland		Japanese Knotweed (dense stand)
	Dense scrub		Dense bracken		Open water / stream
	Scattered scrub		Dry acidic heath		Exposed Rock face
	Acid Grassland		Dry heath/acid grassland mosaic		Path / hard standing
	Semi-improved neutral grassland		Wet dwarf shrub heath	ET	<i>Erica tetralix</i>
	Species-poor semi-improved grassland		Wet heath/acid grassland mosaic	JE	<i>Juncus effusus</i>
			Acidic flush	MC	<i>Molinia caerulea</i>
				Pt	Scattered Bracken



**Merthyr Tydfil County Borough SINCs  
Survey & Assessment for SINC Designation**

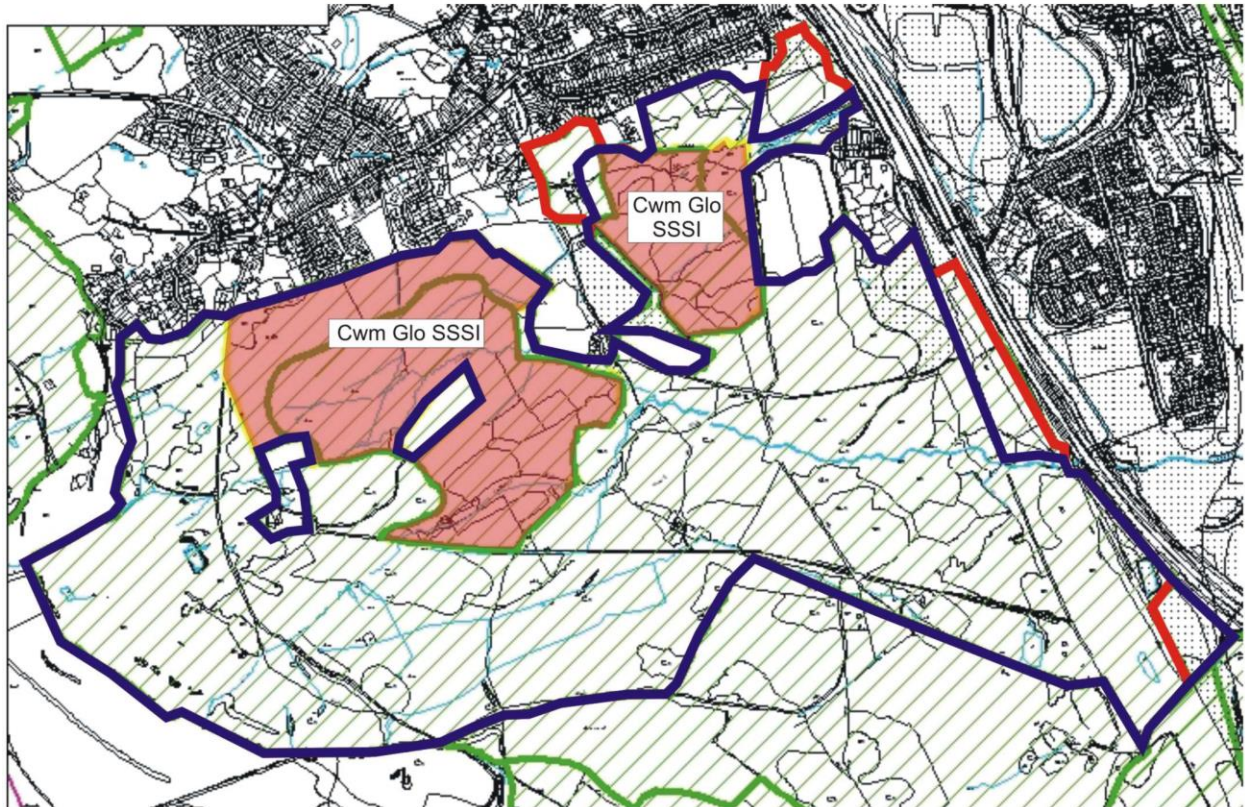
**SO 00NW/7 Cwm Glo**

**Plan 2: Proposed SINC Boundary**

DCE 297

NTS

May 2006



- Draft Proposed Boundary, 2002
- Revised Proposed Boundary, 2006