

DAVID CLEMENTS ECOLOGY LTD

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

SO 00SW/2: RHYDYCAR WEST

SURVEY & ASSESSMENT FOR SINC DESIGNATION

May 2006

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Site Name: RHYDYCAR WEST

Grid Ref(s): SO 045047 SO 033050 (W); 038053 (N); 053036 (E); 034031 (S)	Site No.: SO 00SW/2		
Status: 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:
	Confirmed		Date:

Summary - Reasons for Selection/Interest of Site:

Very extensive mosaic of 'ffridd' habitats and former mine spoil supporting complex of semi-upland and lowland habitats, partly contained within conifer plantation. Main components are ancient semi-natural woodland fragments, other semi-natural woodlands (mainly upland oak, *Quercus* sp) together with wet woodlands of alder (*Alnus glutinosa*), wet heathland, dry heathland, marshy grassland and semi-improved neutral grasslands. Also there are some bracken slopes, scrub, small ponds, streams and sections of dismantled railway. There are areas of semi-improved acid grasslands to the south especially. The habitats intergrade to form a complex mosaic, and may therefore also include some small areas of improved or low diversity semi-improved grassland, but any such areas are a very minor component.

Great crested newt occurs in small pools within the SINC, and noctule and pipistrelle bats have both been recorded. Water vole may occur and a small badger sett is present. Marsh fritillary (*Eurodryas aurinia*) is likely to occur in marshy grassland areas in the SINC, since it occurs in similar habitats in nearby areas. Twelve Nationally Scarce invertebrates have been recorded from the area and are thought to occur on the site, mainly associated with the wetlands. Local butterflies include dark green fritillary (*Argynnis aglaja*), small pearl-bordered fritillary (*Boloria selene*) and grayling (*Hipparchia semele*). There is a good nesting bird fauna which includes four UK BAP Priority Species, comprising bullfinch, reed bunting, linnet and song thrush, as well as marsh tit, which is on the Welsh Red List. Regionally uncommon and local species include redstart, woad warbler, and pied flycatcher.

Plant species of interest include regionally scarce species such as fen bedstraw (*Galium uliginosum*), moonwort (*Botrychium lunaria*), bladder sedge (*Carex vesicaria*), soft-leaved sedge (*Carex montana*) and intermediate lady's-mantle (*Alchemilla xanthochlora*), as well as local species such as saw-wort (*Serratula tinctoria*), deer-grass (*Trichophorum cespitosum*), petty whin (*Genista anglica*), devil's-bit scabious (*Succisa pratensis*), meadow thistle (*Cirsium dissectum*), whorled caraway (*Carum verticillatum*). The Nationally Scarce moss *Ephemerum serratum* var *serratum* is also present.

The site also contains a known 'waxcap grassland' which is of regional significance in itself, and which supports the UK BAP Priority Species *Hygrocybe calyptriformis*. The larger Rhydyrcar West/Cwm Glo area, including the Cwm-glo SSSI, is of international significance for these species, and is collectively the joint 13th most significant waxcap grassland site in the British Isles.

Meets SINC Selection Criteria No.s: H1;H4; H6; H7; H9; H10; H11; (H15?); H16; H18; H20; (H21?); H22; S1; S2; S4; S6; S7; S8 <i>Criteria in use: SWWS (2004) county SINC selection guidelines</i>			
UK BAP	Priority Habitats: Upland oak woodland Wet woodland Upland/lowland heathland Purple moor-grass & rush pastures Lowland acid grasslands	Priority Species: Great crested newt Pipistrelle bat Otter (if present) Water vole (if present) Reed bunting Bullfinch Linnet Song thrush Marsh fritillary possible Pink meadow waxcap (Noctule, badger and most of the other birds and butterflies mentioned are SoCC)	
LBAP	Key Habitats: Upland oak woodland Wet woodland Ffridd/Bracken slopes Acid grasslands Neutral grasslands Purple moor-grass & rhes pastures Heathlands Drystone walls & other boundary features Standing open water River, streams & floodplain	Key Species: Great crested newt Marsh fritillary (if present) Water vole (if present) Otter (if present)	
Protected Species: great crested newt; bats (all species), badger; water vole (if present), marsh fritillary (if present)			
Previously identified areas of interest contained within SINC: Landscape Strategy Site No. 2900 ('Strategic Importance') (part) CCW Phase 2 Survey site No.s 025-027, 029-031 Key Site identified in LBAP Cwm Pit & Cwm Woodlands SINC (MT Local plan 1999)			
See continuation sheet:		See Confidential File:	Yes <input type="checkbox"/> No <input type="checkbox"/>
Other statutory/non-statutory wildlife sites contained by/adjacent to SINC: Cwm Glo cSINC adjacent and continuous to north Blaen-canaid cSINC adjacent to west Cwm Woods cSINC adjacent and continuous to south Abercanaid Fields cSINC adjacent and continuous to south-east Graig Gethin cSINC adjacent and continuous to south Adjacent to and partly within the Gethin Woodland Park TRANSBOUNDARY SITE: narrowly continuous in RCTCBC with RCT SINC 34, Cwmbach Slopes			

Main sources of data: CCW Phase 1 survey (1991-93); Landscape Strategy (TACP 1996); Ancient Woodland Inventory (Southern 1986); CCW Phase 2 survey (1993-94), (2003); Humphries Rowell (2002); Wildlife Trust records (2002); Woods & Hand (2005)		
Validation survey(s):	Surveyor	Date
	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 'Rhydycar West' 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 200m AoD to the east, rising to about 300m to the north and west, and has a semi-upland character. The northern and north-western parts of the site have a post-industrial landscape, in which colliery spoil-heaps form a significant component. Woodland has developed over many of the spoil-heaps but elsewhere they support acid grassland and dry heath. The southern part of the site has more natural soils, and supports large tracts of woodland. In more open parts, neutral or acidic grassland and bracken is present in free-draining areas, and marshy grassland occurs in areas with impeded drainage.
- 1.3 The site overlies Carboniferous mudstones and siltstones of the Middle Coal Measures (CCW 2003). A dismantled railway is present within the site, including a long section of underground tunnel.
- 1.4 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 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).
- 1.5 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 give 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 northern part 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 north. This ES contains summaries of baseline ecological surveys carried out by Humphries Rowell Associates, mainly in 1997 (HRA 2002). 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.

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.

Conifer Plantation

- 3.1.2 Coniferous plantation is present in the north-western and southern parts of the site. Sitka spruce (*Picea sitchensis*) is the most frequently planted species, although deciduous species including pedunculate oak (*Quercus robur*) and rowan (*Sorbus aucuparia*) are also present. The majority of these plantations have very high stocking densities and consequently a very poorly developed field layer. Where the canopy is more open, however, a relatively species-rich field layer is present, including heathland and acid grassland species such as wavy hair-grass (*Deschampsia flexuosa*), wood-sorrel (*Oxalis acetosella*), bilberry (*Vaccinium myrtillus*), lady-fern (*Athyrium filix-femina*) and broad buckler-fern (*Dryopteris dilatata*). Bryophytes are abundant, including *Polytrichum formosum*, *Mnium hornum* and *Sphagnum* species.

Broadleaved Woodland

- 3.1.3 Riverine woodland is present within the site bordering the streams and watercourses, the canopy of which is dominated by alder (*Alnus glutinosa*), together with sessile oak (*Quercus petraea*), pedunculate oak (*Quercus robur*) and ash (*Fraxinus excelsior*). Sycamore (*Acer pseudoplatanus*), a fast-growing non-native species, is also frequent. Goat willow (*Salix caprea*), grey willow (*Salix cinerea*) and rowan (*Sorbus aucuparia*) are the most frequent understorey species.
- 3.1.4 The ground flora is moderately species-rich, including common valerian (*Valeriana officinalis*), wood-sorrel, bluebell (*Hyacinthoides non-scripta*), lesser celandine (*Ranunculus ficaria*), common dog-violet (*Viola riviniana*), wood sedge (*Carex sylvatica*), remote sedge (*Carex remota*), opposite-leaved golden-saxifrage (*Chrysosplenium oppositifolium*), three-nerved sandwort (*Moehringia trinervia*) and meadowsweet (*Filipendula ulmaria*). Ferns are well represented, including hart's-tongue (*Phyllitis scolopendrium*), soft shield-fern (*Polystichum setiferum*), lady-fern (*Athyrium filix-femina*), broad buckler-fern, hard-fern (*Blechnum spicant*) and scaly male-fern (*Dryopteris affinis*). Bilberry, wavy hair-grass, creeping soft-grass (*Holcus mollis*) and bracken (*Pteridium aquilinum*) are locally frequent.
- 3.1.5 Large areas of the mature semi-natural woodland within the site can be classed as 'Upland Oak Woods' as defined by the UK Biodiversity Action Plan (UK BAP: UKSG 1995; UKBG 1998-1999). Sessile oak is the most dominant species within a very open woodland canopy, with rocks and boulders scattered throughout. Downy birch (*Betula pubescens*), silver birch (*Betula pendula*), rowan and holly (*Ilex aquifolium*) are also frequent. Ash and beech (*Fagus sylvatica*) occur locally. The field layer supports frequent ivy (*Hedera helix*), bramble (*Rubus fruticosus* agg) and

bracken, with wood avens (*Geum urbanum*), wood speedwell (*Veronica montana*), wood-sorrel, wood anemone (*Anemone nemorosa*), bilberry, common dog-violet and broad buckler-fern, also present. Grasses are frequent, including wavy hair-grass, creeping soft-grass, brown bent (*Agrostis vinealis*) and tufted hair-grass (*Deschampsia cespitosa*). The epiphytic species common polypody (*Polypodium vulgare*) is frequent on some of the larger trees, and bryophytes are well represented with *Isoetecium myurum*, *Thuidium tamariscinum*, *Mnium hornum*, *Rhytidiadelphus loreus* and *Dicranum majus* being the most frequently occurring species.

- 3.1.6 The woodlands of the site collectively support at least 18 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). Some small areas of extant and/or former ancient woodland, the latter subsequently lost, is identified 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 persist alongside watercourses and locally elsewhere on undisturbed soils.

Scrub Communities

- 3.1.7 Scrub and scrub-woodland dominated by downy and silver birch is frequent throughout the site. This vegetation has colonised extensively into areas of acid grassland, marshy grassland and heathland habitats, and remnants species which are typical of these habitats are also typically present at varying frequencies. In addition to the two birch species, grey willow, goat willow, common hawthorn (*Crataegus monogyna*) and elder (*Sambucus nigra*) are also locally frequent.
- 3.1.8 Small areas of scrub dominated by gorse (*Ulex europaeus*) with occasional bramble occur in scattered locations throughout the site, typically occurring in small stands of just a few square metres in area. The stands are typically 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, and which is characteristic of dry, free-draining, base-poor soils.

Acid Grassland

- 3.1.9 Acid grassland is present throughout the site, occurring on both the natural soils and having colonised the spoil-heaps extensively. 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*), wavy hair-grass, crested dog's-tail (*Cynosurus cristatus*) and early hair-grass (*Aira praecox*) all locally frequent. Field wood-rush (*Luzula campestris*) and heath wood-rush (*Luzula multiflora*) both occur occasionally. Pill sedge (*Carex pilulifera*), green-ribbed sedge (*Carex binervis*), common sedge (*Carex nigra*) and spring sedge (*Carex caryophyllea*) are all occasional.
- 3.1.10 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, common bird's-foot trefoil (*Lotus corniculatus*), eyebright (*Euphrasia* sp) and

foxglove (*Digitalis purpurea*). Herbs which are generally scarce, or which are only present in small areas of the acid grassland within the site, include heath milkwort (*Polygala serpyllifolia*), devils'-bit scabious (*Succisa pratensis*), common lousewort (*Pedicularis sylvatica*) and betony (*Stachys officinalis*). Wild thyme (*Thymus polytrichus*) is present on the tops of some of the yellow meadow-ant nest hills.

- 3.1.11 The bryophytes *Dicranum scoparium*, *Polytrichum formosum*, *Pseudoscleropodium purum*, *Rhytidiadelphus squarrosus*, *Pleurozium schreberi*, *Ptilidium ciliare* and *Calliergon cuspidatum*, and the lichens *Cladonia* sp and *Peltigera* sp are frequent throughout. Additional bryophytes which were previously recorded in these habitats during surveys in 2003 included *Racomitrium ericoides*, *Thuidium tamariscinum*, *Lophocolea bidentata*, *Eurhynchium praelongum*, *Hypnum jutlandicum*, *Hylocomium splendens*, *Plagiomnium undulatum* and *Brachythecium rutabulum*. Lichens included *Peltigera lactucifolia*, *Peltigera hymenina* and *Cladonia impexa* (CCW 2003).
- 3.1.12 There appear to be two main NVC communities present within the site, comprising the **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 by the CCW in 2003 (CCW 2003) comprising the **U4a typical sub-community**, the **U4b *Holcus lanatus* – *Trifolium repens* 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).
- 3.1.13 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 broadleaved herbs. The U4b is more mesotrophic in character, supporting Yorkshire fog, crested dog's-tail, 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. 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. Mat-grass and small amounts of purple moor-grass are frequent in damp patches within this sub-community. The bryophyte *Thuidium tamariscinum* is frequent in all of the sub-communities.
- 3.1.14 The U1 grassland is restricted to the well-drained sides of the 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 and the diminutive ephemeral species early hair-grass and heath-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, with the mosses *Dicranum scoparium*, *Pleurozium schreberi*, *Polytrichum formosum* and *Rhytidiadelphus squarrosus* being frequent. *Racomitrium ericoides*, which was recorded as frequent in 2003 by CCW, was not re-recorded during the present surveys. *Cladonia* and *Peltigera* lichens are frequent throughout.

- 3.1.15 The dry acid grasslands of the site 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*.
- 3.1.16 The acid (and neutral) grasslands of the Rhydycar West/Cwm Glo 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).
- 3.1.17 The 2005 survey included one site wholly within the Rhydycar West SINC ('Site 11'), an area of acid grasslands and neutral marshy grassland. This site has, to date, yielded 9 species of waxcap, including pink meadow waxcap (*Hygrocybe calyptiformis*), a 'Priority Species' of the UK BAP. This is just one species short of national significance according to the Rald/Vesterholt criteria (see Ainsworth 2004). The so-called 'CHEG' score (see Evans 2004) of this grassland is 2-9-0-2, making it a regionally significant for this group. The overall 'Grassland Quality Score' for Site 11 (using the system of McHugh *et al* 2001) is 15, again indicating at least regional significance.
- 3.1.18 The Rhydycar West site also contains parts of two other waxcap grassland sites identified by Woods & Hands (2005), comprising Sites 10 and 16. These have CHEG scores of 1-9-0-1 and 0-7-0-1, and Grassland Quality Scores of 17 and 10 respectively, indicating at least regional significance (probably national significance) in the case of Site 10, and approaching regional significance in the case of Site 16. Collectively these three sites support at least 13 species of waxcap, indicating national significance according to the Rald/Vesterholt criteria. These grasslands all lie in the northern part of the Rhydycar West site where it abuts the adjacent Cwm Glo proposed SINC. It is very likely that other acid and neutral grassland within the Rhydycar West site which have not been surveyed to date will also be found to support significant waxcap populations in the future.
- 3.1.19 The larger Rhydycar West/Cwm Glo area, including the Cwm-glo SSSI, is collectively ranked as 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 it is currently the joint 13th most significant waxcap grassland site known in the British Isles, out of a comparative database of over 2500 sites (Woods 2005).

Neutral Grassland

- 3.1.20 Large areas of neutral grassland are present towards the eastern and northern boundaries of the survey area, with smaller areas scattered elsewhere throughout. Three NVC communities are present within the site comprising **MG5 *Cynosurus cristatus* – *Centaurea nigra* grassland**, **MG6 *Lolium perenne* – *Cynosurus cristatus* grassland** and **MG10 *Holcus lanatus* – *Juncus effusus* rush-pasture**.
- 3.1.21 The MG5 grassland within the site has a species-rich, tight, low-growing sward, with the fine-leaved grasses red fescue, crested dog's-tail and common bent being the most frequent. Sweet vernal-grass, perennial rye-grass (*Lolium perenne*), and the coarser grasses cock's-foot (*Dactylis glomerata*) and Yorkshire fog, are comparatively infrequent. Spring sedge, glaucous sedge (*Carex flacca*) and slender rush (*Juncus tenuis*) are all frequent.
- 3.1.22 Broadleaved herbs are prominent, with legumes and rosette plants being well represented, the most common of which are bird's-foot trefoil, ribwort plantain (*Plantago lanceolata*), white clover (*Trifolium repens*), red clover (*Trifolium pratense*), common cat's ear, smooth hawk's-beard (*Crepis capillaris*), autumn hawkbit (*Leontodon autumnalis*) and lesser hawkbit (*Leontodon saxatilis*). Other species which are frequent throughout include meadow buttercup (*Ranunculus acris*), common sorrel (*Rumex acetosa*), dandelion (*Taraxacum officinale* agg), yarrow (*Achillea millefolium*) self-heal (*Prunella vulgaris*), eyebright, fairy flax (*Linum catharticum*), bulbous buttercup (*Ranunculus bulbosus*), common centaury (*Centaureum erythraea*), agrimony (*Agrimonia eupatoria*), lesser stitchwort (*Stellaria graminea*), common dog-violet, barren strawberry (*Potentilla sterilis*), common knapweed (*Centaurea nigra*) and mouse-eared hawkweed. The non-native pearly everlasting (*Anaphalis margaritacea*) is locally frequent, and great burnet (*Sanguisorba officinalis*) also is also present occasionally.
- 3.1.23 Two sub-communities of MG5 grassland are present within the site, comprising the **MG5a *Lathyris 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 represents the most neutral of the mesotrophic grassland communities. The MG5c sub-community is often found on slightly calcicolous soils, and is characterised by the presence of heath-grass, tormentil and devil's-bit scabious.
- 3.1.24 MG5 grassland is the most frequently occurring 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 often 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.
- 3.1.25 The MG6 grassland has a short, tight sward that is grass-dominated. Perennial rye-grass is the most abundant grass, along with varying amounts of crested dog's-tail, red fescue, Yorkshire fog and common bent. Broadleaved herbs are limited, except for white clover, common mouse-ear, ribwort plantain, meadow buttercup, yarrow and daisy. 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.

- 3.1.26 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.
- 3.1.27 Small areas of species-poor marshy neutral grasslands, conforming to the **MG10 *Holcus lanatus* – *Juncus effusus* rush-pasture** community of the NVC, are present within the site, often forming a transition between mesotrophic and more obviously marshy grasslands. This community has prominent tussocks of soft rush (*Juncus effusus*) in a generally species-poor and shorter, grassy sward. Yorkshire fog, crested dog's-tail and creeping bent (*Agrostis stolonifera*) are the most frequent grasses. Broadleaved herbs are relatively scarce, although creeping bent and meadow buttercup are both abundant, together with smaller amounts of cuckooflower (*Cardamine pratensis*), 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 present but scarce. Tufted hair-grass is locally frequent.

Dry Heathland

- 3.1.28 Dry heathland is present within the site mainly on the tops and sides of the colliery spoil-heaps. Ling heather dominates the vegetation, with bilberry also abundant. Western gorse (*Ulex gallii*) is also occasionally present. Grasses are frequent in the open areas between the heathy shrubs, and include common bent, brown bent, 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, common cat's-ear and the non-native pearly everlasting.
- 3.1.29 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.

Wet Heathland

- 3.1.30 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, common bent, mat-grass, wavy hair-grass, heath bedstraw, common lousewort, devil's-bit scabious and heath milkwort (*Polygala serpyllifolia*).

- 3.1.31 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*.
- 3.1.32 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

- 3.1.33 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**.
- 3.1.34 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 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 and bog stitchwort (*Stellaria uliginosa*). *Calliergon cuspidatum* is the most frequent bryophyte present.
- 3.1.35 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**.
- 3.1.36 Only very 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 and pill sedge, greater bird's-foot trefoil, meadowsweet, meadow thistle (*Cirsium dissectum*) and fen bedstraw (*Galium uliginosum*) all frequent.
- 3.1.37 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* ssp *oedocarpa*), star sedge and common sedge (*Carex nigra*). Broadleaved herbs include sneezewort (*Achillea ptarmica*), lousewort,

devils'-bit scabious, ling heather, saw-wort, tormentil, self-heal, bristle club-rush (*Isolepis setacea*), goldenrod (*Solidago virgaurea*), common dog-violet, marsh ragwort (*Senecio aquaticus*), greater bird's-foot trefoil, lady-fern (*Athyrium filix-femina*), wild angelica, heath milkwort, heath bedstraw and marsh thistle

- 3.1.38 Flushes occur throughout the marshy grasslands of the site, 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 in these areas 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 (*Viola palustris*), 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*.
- 3.1.39 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 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, lousewort, heath milkwort, tormentil, saw-wort, devils'-bit scabious and marsh violet.

Exposed Rock

- 3.1.40 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

- 3.1.41 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

- 3.1.42 A number of ponds are present within the study area, the main ones of which are individually described below:
- **Pond 1** is relatively deep, with very clear water through which a small stream flows, surrounded by a larger area of shallowly flooded grassland, with goat willow and grey willow standing in the flooded area on the southern margin. This pond has more than 50% cover of emergent swamp vegetation, the most frequent species of which are bladder-sedge and common spike-rush (*Eleocharis palustris*).
 - **Pond 2** was formerly a reservoir, but is no longer in use as such. The western side supports a narrow fringe of water horsetail (*Equisetum fluviatile*), whilst

branched bur-reed (*Sparganium erectum*), common reedmace (*Typha latifolia*) and broad-leaved pondweed (*Potamogeton natans*) are frequent towards the centre. An abandoned car was present in the pond at the time of survey.

- **Pond 3** is heavily shaded by trees. Species present include floating sweet-grass (*Glyceria fluitans*), soft rush and an unidentified *Sphagnum* species.
- **Pond 4** is a seasonal pool which may dry up in some years. It supports small amounts of floating sweet-grass and an unidentified sedge species.
- **Pond 5** comprises a ponded area of a slow-flowing stream. Wetland species include brooklime (*Veronica beccabunga*), floating sweet-grass and soft rush.
- **Pond 6** comprises a ponded area of a slow-flowing stream, directly in front of a culvert. No wetland plants were present at the time of survey.
- **Pond 7** is very small, and was largely devoid of vegetation at the time of survey except for small amounts of creeping bent, floating sweet-grass and soft rush.

Several former bell pits are present within the marshy grassland areas. Typically these are dominated by *Sphagnum* species.

Artificial Structures

- 3.1.43 The embankment walls of the dismantled railway line, and the walls of derelict buildings, support open and fragmentary crevice vegetation in which the ferns wall-rue (*Asplenium ruta-muraria*) and maidenhair-spleenwort (*Asplenium trichomanes*), and the herbs wild strawberry (*Fragaria vesca*) and herb-robert (*Geranium robertianum*), are the most frequent components. Sheep's fescue and thyme-leaved sandwort (*Arenaria serpyllifolia*) are both occasional.

Stone Walls

- 3.1.44 Small sections of dry-stone wall are present within the site. These typically support scaly male-fern, navelwort (*Umbilicus rupestris*), harts-tongue fern, foxglove and a variety of mosses.

Ruderal Habitats

- 3.1.45 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 a species-rich vernal ground flora which includes common dog-violet, bluebell, lesser celandine and wood sorrel. 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 and heathland 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.
- **Perennial and Ephemeral Weed Community:** Ephemeral and short perennial vegetation lacking any clearly dominant species occurs towards the easternmost part of the site. The vegetation consists of a mixture of low-growing plants and some taller species. Low-growing species include greater plantain (*Plantago major*), creeping buttercup, white clover, black medick (*Medicago lupulina*), procumbent pearlwort (*Sagina procumbens*), marsh cudweed (*Gnaphalium uliginosum*), annual meadow-grass (*Poa annua*) and knotgrass (*Polygonum aviculare*). Taller-growing species include creeping thistle, spear thistle (*Cirsium vulgare*), bristly oxtongue (*Picris echioides*) and broad-leaved dock (*Rumex obtusifolius*).

Notable Plant Species

- 3.1.46 Six regionally scarce plant species have been recorded from the site to date, comprising fen bedstraw, intermediate lady's-mantle, moonwort, bladder sedge, soft-leaved sedge and the lower plant *Ephemerum serratum* var *serratum*. The five 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 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 northern part of the site during an earlier survey in 1997 (HRA 2002), 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. The embankment walls of the dismantled railway line have a large number of cracks and drainage holes which have good potential for use by roosting bats.
- 3.2.2 The underground tunnel within the site 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). Several of the mature trees within the site also appear suitable for supporting roosting bats, although no evidence of this has been found to date.

- 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 21 bird species were recorded within the Rhydycar West 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 Rhydycar West 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 the rare and protected great crested newt in Ponds 1 and 2 of the site (HRA 2002). Several of the wet flushes within the marshy grasslands and wet heath areas could also potentially support this species. Palmate and smooth newts were also recorded in 1997. Common toad was recorded underneath refugia during the present surveys.

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 Rhydycar West 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 Rhydycar West 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>	Probable
<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>Helophorus lividus</i> A waterbeetle	NS	Eutrophic ponds	Probable
<i>Helophorus 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 close to the study area on 28 June 1994, and the site has been 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 dark green fritillary (*Argynnis aglaja*), small pearl bordered-fritillary (*Boloria selene*) and grayling (*Hipparchia semele*) (HRA 2002).
- 3.2.13 Yellow meadow-ant (*Lasius flavus*) nest-mounds are frequent throughout the site, particularly in parts of the site supporting dry acid grassland.

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)s are available for south Wales (SWWSP 2004), and there is also emerging guidance for the identification of SINC)s 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 Rhydycar West 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	
Conifer Plantations							Yes	HAP 6
Wet Woodland	Yes		Yes				Yes	HAP 3
Upland Oak Woods	Yes		Yes		Yes		Yes	HAP 1
Scrub Communities							No	
Acid Grasslands	Yes	a	Yes	a	Yes	a	Yes	HAP 8
Neutral grassland							Yes	HAP 10
Heathland	Yes	b	Yes	b	Yes	d	Yes	HAP 12
Marshy Grasslands/Flushes	Yes	c	Yes	c	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 dry acid grasslands only
c Purple moor-grass & rush pastures
e Small eutrophic ponds

- b Upland and lowland examples
d Lowland examples only

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

Small area of ancient woodland at southern end of the site, and a replanted area to the north, both contained within larger areas of secondary woodland. However, there are almost certainly other fragments of ancient woodland within the site which are not recorded in the Inventory, especially along the streamcourses.

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 18 indicator species, which is considered 'significant'

All semi-natural beech and yew woodlands

None present

All semi-natural upland woodlands

Extensive areas of semi-natural upland oak woodlands are present

All semi-natural wet woodlands

Extensive 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

- 4.5.2 ***Conifer Plantations*** form only a small part of the site. On ancient woodland sites may continue to support remnant ancient woodland species, but this is not believed to be a significant factor at Rhydycar West. Their main interest lies in the ability to support certain rare and declining fauna species, particularly specialist breeding birds (eg hawfinch), and mammals such as red squirrel and pine marten. They may also support other specialised species groups such as fungi and invertebrates. In the

absence of such species, however, the inclusion of large tracts of conifer woodland in a SINC on habitat grounds alone would normally be difficult to justify. Some conifer woodland could be included in a SINC where it forms part of an intimate mosaic with other habitats of greater interest, or for the purpose of obtaining a coherent boundary.

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 small 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

- 4.5.3 As with conifer plantations, the main interest in scrub communities tends to lie in the ability to support fauna species, particularly breeding birds and mammals such as dormouse. They may also support other specialised species groups such as invertebrates. In the absence of such species, however, the inclusion of large tracts of scrub in a SINC on habitat grounds alone would normally be difficult to justify. Some scrub could be included in a SINC, however, where it forms part of an intimate mosaic with other habitats of greater interest, or for the purpose of obtaining a coherent boundary (see Guideline H20: Mosaic Habitats).

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 over large areas; 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

Much 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 54 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 species-rich vernal ground flora

Site qualifies under this guideline?

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 extensive areas 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 small 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 several large 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]

None present

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 7 ponds, 3 of which would 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 conifer plantations, 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 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 screes, where these support species of interest

Small exposures of native acid rocks and screes are present and support heathland and unimproved acid grassland species

Site qualifies under this guideline?

Borderline/Yes?

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

None present

*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 present

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 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 is evidence of badger on the site, but no setts have been recorded

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

The disused railway tunnel is a known bat roost

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?

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]

One such species (marsh tit) is present

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]

7 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?

Yes

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 Ponds 1 and 2, 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 Ponds 1 and 2 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)***

None recorded or likely to date

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

12 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 possibly 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 dark green fritillary and grayling

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]

Five 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 9 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*)

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*)

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.

Guideline	Subject	Compliance
H1	Woodlands	Yes
H3	Scrub Communities	No
H4	Neutral Grasslands	Yes
H6	Acid Grasslands	Yes
H7	Marshy Grasslands	Yes
H9	Bracken Communities	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	Borderline/Yes
H22	Other Features	Yes
S1	Mammals	Yes
S2	Birds	Yes
S3	Reptiles	No
S4	Amphibians	Yes
S6	Invertebrates	Yes
S7	Vascular Plants	Yes
S8	Fungi	Yes
S9	Mosses & Liverworts	No

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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>Acer pseudoplatanus</i>	Sycamore							
<i>Alnus glutinosa</i>	Alder							
<i>Betula pendula</i>	Silver birch							
<i>Betula pubescens</i>	Downy birch							
<i>Crataegus monogyna</i>	Hawthorn							
<i>Fagus sylvatica</i>	Beech							
<i>Fraxinus excelsior</i>	Ash							
<i>Ilex aquifolium</i>	Holly							
<i>Lonicera periclymenum</i>	Honeysuckle							
<i>Picea sitchensis</i>	Sitka spruce							
<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 nigra</i>	Elder							
<i>Ulex europaeus</i>	Common gorse							
<i>Ulex gallii</i>	Western gorse							
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>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>Anagallis tenella</i>	Bog pimpernel	HRA	Local					MG
<i>Anaphalis margaritacea</i>	Pearly everlasting		IA					
<i>Anemone nemorosa</i>	Wood anemone			W				
<i>Angelica sylvestris</i>	Wild angelica							MG
<i>Anthoxanthum odoratum</i>	Sweet vernal-grass							
<i>Arenaria serpyllifolia</i>	Thyme leaved sandwort							
<i>Asplenium ruta-muraria</i>	Wall-rue							
<i>Asplenium trichomanes</i>	Maidenhair 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	HRA	CS		NG		AG	

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<i>Briza media</i>	Quaking grass				NG	CG		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 caryophylla</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 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 pallescens</i>	Pale sedge	CCW	Local	W				MG
<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 remota</i>	Remote sedge			W				
<i>Carex spicata</i>	Spiked sedge	CCW	Local		NG			
<i>Carex sylvatica</i>	Wood sedge			W				
<i>Carex vesicaria</i>	Bladder-sedge		CS					
<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</i>	Opposite leaved			W				
<i>oppositifolium</i>	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</i>	Southern march orchid		Local		NG			MG
<i>praetermissa</i>								
<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 dilatata</i>	Broad buckler fern							
<i>Dryopteris filix-mas</i>	Male fern							
<i>Eleocharis palustris</i>	Common spike-rush							MG
<i>Epilobium palustre</i>	Marsh willowherb							
<i>Equisetum arvense</i>	Field horsetail							
<i>Equisetum palustre</i>	Marsh horsetail	CCW	Local					MG
<i>Equisetum sylvaticum</i>	Wood horsetail	CCW	Local	W				MG
<i>Erica tetralix</i>	Cross-leaved heath							MG
<i>Eriophorum</i>	Common cottongrass	HRA	Local					MG
<i>angustifolium</i>								
<i>Euphrasia cf. nemorosa</i>	Eyebright	CCW 2003						
<i>Euphrasia rostkoviana</i>	Eyebright	CCW 2003	Local					
<i>Festuca ovina</i>	Sheep's fescue					CG	AG	
<i>Festuca rubra</i>	Red fescue							
<i>Filipendula ulmaria</i>	Meadowsweet							MG
<i>Fragaria vesca</i>	Wild strawberry	HRA						
<i>Galium palustre</i>	Marsh bedstraw							MG

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<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>Juncus tenuis</i>	Slender rush						
<i>Lathyrus linifolius</i>	Bitter vetch	HRA/CCW	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>Melampyrum pratense</i>	Common cow-wheat	HRA	Local	W			
<i>Mentha aquatica</i>	Water mint						MG
<i>Moehringia trinervum</i>	Three-nerved sandwort			W			
<i>Molinia caerulea</i>	Purple moor-grass						MG
<i>Myosotis scorpioides</i>	Water forget-me-not						MG
<i>Nardus stricta</i>	Mat grass					AG	
<i>Narthecium ossifragum</i>	Bog asphodel	CCW	Local				MG
<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						
<i>Phleum bertolonii</i>	Small timothy grass	CCW			NG		
<i>Phyllitis scolopendrium</i>	hart's-tongue fern						
<i>Pilosella officinalis</i>	Mouse-ear hawkweed				NG	CG	AG

DAVID CLEMENTS ECOLOGY LTD

<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						
<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 dubium</i>	Lesser trefoil						
<i>Trifolium pratense</i>	Red clover			NG			
<i>Trifolium repens</i>	White clover						
<i>Umbilicus rupestris</i>	Navelwort						
<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
<i>Veronica montana</i>	Wood speedwell			W			
<i>Veronica officinalis</i>	Heath speedwell		Local	NG		AG	
<i>Veronica serpyllifolia</i>	Thyme-leaved speedwell						
<i>Viola palustris</i>	Marsh violet		Local				MG
<i>Viola riviniana</i>	Common dog-violet			NG	CG		

Bryophytes

<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>Calypogeia arguta</i>	CCW		
<i>Calypogeia fissa</i>	CCW		
<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 majus</i>			
<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>Ephemerum sessile?</i>			
<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>Isoetecium myurum</i>			
<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>Plagiomnium affine</i>	CCW		
<i>Plagiomnium undulatum</i>			
<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 loreus</i>			
<i>Rhytidiadelphus squarrosus</i>			
<i>Riccardia multifida</i>	CCW		

<i>Riccardia</i> sp.	CCW
<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>	

SWWSP 2004 'Indicator Species' Totals

18 38 17 31 54

Lichens

<i>Cladonia ciliata</i>	CCW
<i>Cladonia furcata</i>	CCW
<i>Cladonia gracilis</i>	CCW
<i>Cladonia impexa</i>	HRA/CCW
<i>Cladonia uncialis</i>	CCW
<i>Cladonia</i> sp	CCW
<i>Peltigera lactucifolia</i>	CCW
<i>Peltigera</i> sp.	CCW

Fungi

<i>Clavaria fumosa</i>		WH 2005	
<i>Clavulniopsis helvola</i>		WH 2005	
<i>Hygrocybe caliptriformis</i>	Pink meadow waxcap	WH 2005	BAP
<i>Hygrocybe ceracea</i>		WH 2005	
<i>Hygrocybe chlorophana</i>		WH 2005	
<i>Hygrocybe coccinea</i>		WH 2005	
<i>Hygrocybe conica</i>		WH 2005	
<i>Hygrocybe irrigata</i>		WH 2005	
<i>Hygrocybe laeta</i>		WH 2005	
<i>Hygrocybe pratensis</i>		WH 2005	
<i>Hygrocybe psittacina</i>	<i>psittacina</i>	WH 2005	
<i>Hygrocybe psittacina</i>	<i>perplexa</i>	WH 2005	
<i>Hygrocybe punicea</i>		WH 2005	
<i>Hygrocybe quieta</i>		WH 2005	
<i>Hygrocybe reidii</i>		WH 2005	
<i>Hygrocybe virginea</i>	<i>virginea</i>	WH 2005	
<i>Geoglossum glutinosum</i>		WH 2005	
<i>Geoglossum umbratile</i>		WH 2005	
<i>Cystoderma amianthinum</i>		WH 2005	
<i>Psilocybe semilanceata</i>		WH 2005	
<i>Galerina hypnorum</i>		WH 2005	
<i>Lycoperdon nigrescens</i>		WH 2005	

Key

Status

RDB - Red Data Book

BAP – UK Biodiversity Action Plan Priority Species (UKSG 1995; UKBG 1998)

NS - Nationally Scarce

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

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 HRA
<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 chloris</i>	Greenfinch		G	C					
<i>Garrulus glandarius</i>	Jay		V						
<i>Falco tinnunculus</i>	Kestrel		G	C		A	A	C	
<i>Carduelis cannabina</i>	Linnet		G	P	W	R	A	C	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	HRA
<i>Erithacus rubecula</i>	Robin		G						
<i>Turdus philomelos</i>	Thrush, song		G	P	W	R	A	C	MT
<i>Parus caeruleus</i>	Tit, blue		G	C					
<i>Parus ater</i>	Tit, coal		G	C					
<i>Parus major</i>	Tit, great		G	C					
<i>Parus palustris</i>	Tit, marsh		G	C		R	R	P	HRA
<i>Aegithalos caudatus</i>	Tit, long-tailed		G						
<i>Sylvia borin</i>	Warbler, garden		G	C					HRA
<i>Phylloscopus sibilatrix</i>	Warbler, wood		G	C		A			HRA
<i>Dendrocopos major</i>	W/pecker, great spt		G	C					
<i>Picus viridis</i>	W/pecker, green		G	C		A	A	C	
<i>Troglodytes troglodytes</i>	Wren		G						

Key

EU Birds Directive 1979:

1 : Annex 1 species: special conservation measures apply

1¹ : 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>Meles meles</i>	Badger		PB	SoCC		Footprints recorded on site.
			A			Setts recorded by HRA
<i>Plecotus auritus</i>	Bat, brown long-eared	Yes	5	SoCC		HRA; roosts 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; roosts on site
<i>Dama dama</i>	Deer, fallow		DA	SoCC		Occasional on site
<i>Vulpes vulpes</i>	Fox					Inferred from droppings
<i>Apodemus sylvaticus</i>	Mouse, wood					Inferred from feeding remains
<i>Sorex araneus/ minutus</i> ¹	Shrew sp.		6	SoCC		Inferred from calls
<i>Sciurus carolinensis</i>	Squirrel, grey					Seen on site
<i>Clethrionomys glareolus</i>	Vole, bank					Inferred from feeding remains
<i>Arvicola terrestris</i>	Vole, water		5 (pt)	Prio	*	Presence not confirmed

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).

¹ 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; breeds on site
<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
Lepidoptera	Butterflies		
<i>Aglais urticae</i>	Small tortoiseshell		
<i>Argynnis aglaja</i>	Dark Green Fritillary	C	HRA
<i>Boloria selene</i>	Small Pearl-bordered fritillary	C	
<i>Euphydryas aurinia</i>	Marsh fritillary	Possible, P	HRA
<i>Hipparchia semele</i>	Grayling	C	
<i>Inachis io</i>	Peacock		
<i>Pararge aegeria</i>	Speckled wood		
<i>Pieris brassicae</i>	Large white		
<i>Polyommatus icarus</i>	Common blue		
<i>Vanessa atalanta</i>	Red admiral		

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 SINCs
Survey & Assessment for SINC Designation**

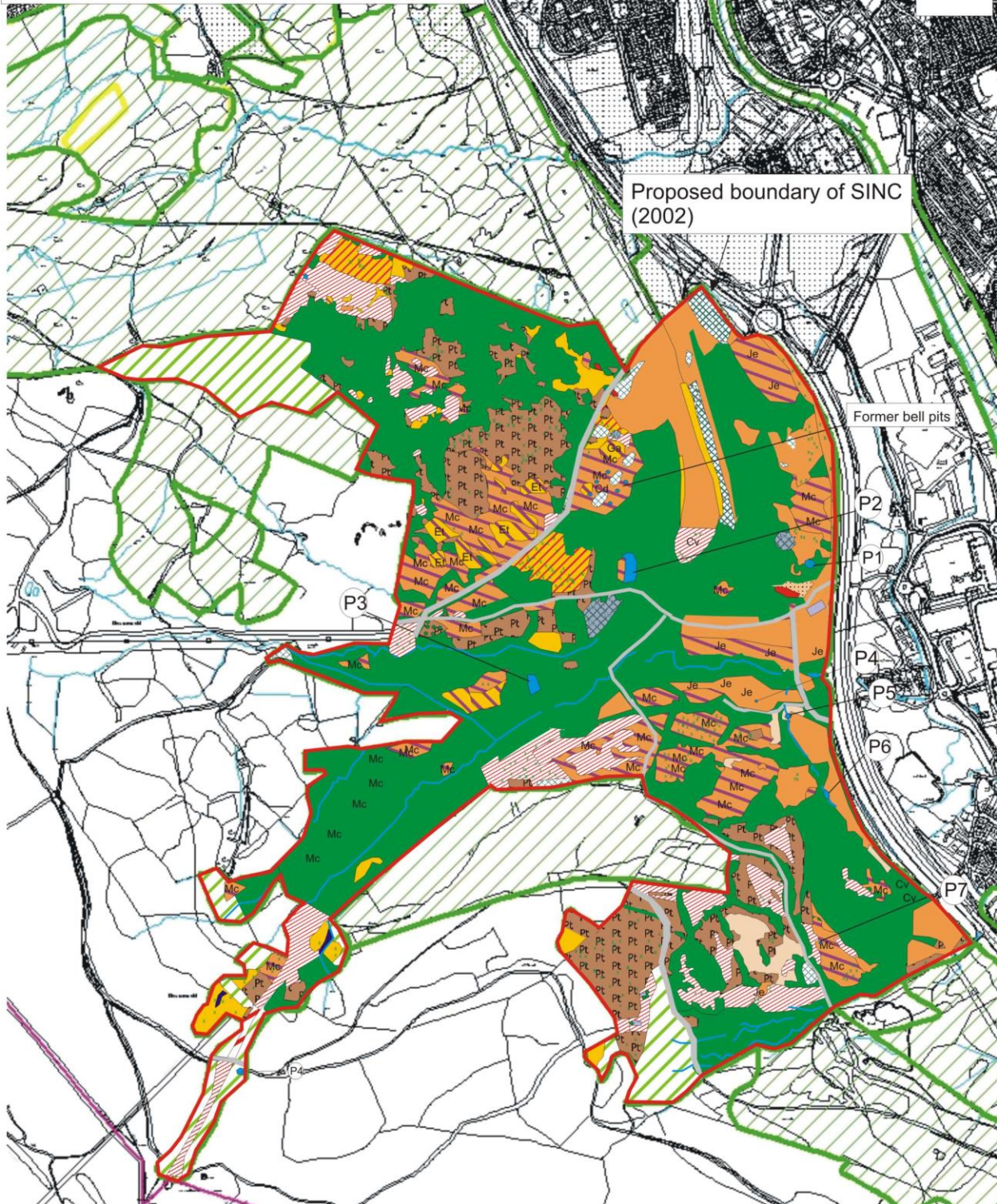
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Plan 1: Habitat Survey, 2005

DCE 297

NTS

May 2006



	Broadleaved Woodland		Disturbed and sparsely vegetated ground / ephemeral / short perennial		Path / Hard standing
	Coniferous Plantation		Semi-natural marshy grassland	Cd	<i>Cirsium dissectum</i>
	Dense scrub		Bracken (dense stand)	Cv	<i>Calluna vulgaris</i>
	Gorse scrub		Dry acidic heath	Et	<i>Erica tetralix</i>
	Scattered scrub		Dry heath/acid grassland mosaic	Ga	<i>Genista anglica</i>
	Mature tree		Wet dwarf shrub heath	Je	<i>Juncus effusus</i>
	Acid grassland		Japanese Knotweed (dense stand)	Mc	<i>Molinia caerulea</i>
	Semi-improved neutral grassland		Open water / stream	Pt	Scattered Bracken
	Species-poor semi-improved grassland		Exposed Rock face		

