GUIDELINES FOR THE SELECTION OF LOCAL WILDLIFE SITES

Newcastle-upon-Tyne, North Tyneside, and Northumberland

March 2021

The Local Sites system is administered by
Northumberland Wildlife Trust
on behalf of
Northumberland Local Sites Partnership

Northumberland Wildlife Trust

Northumberland County Council

Newcastle City Council

North Tyneside Council

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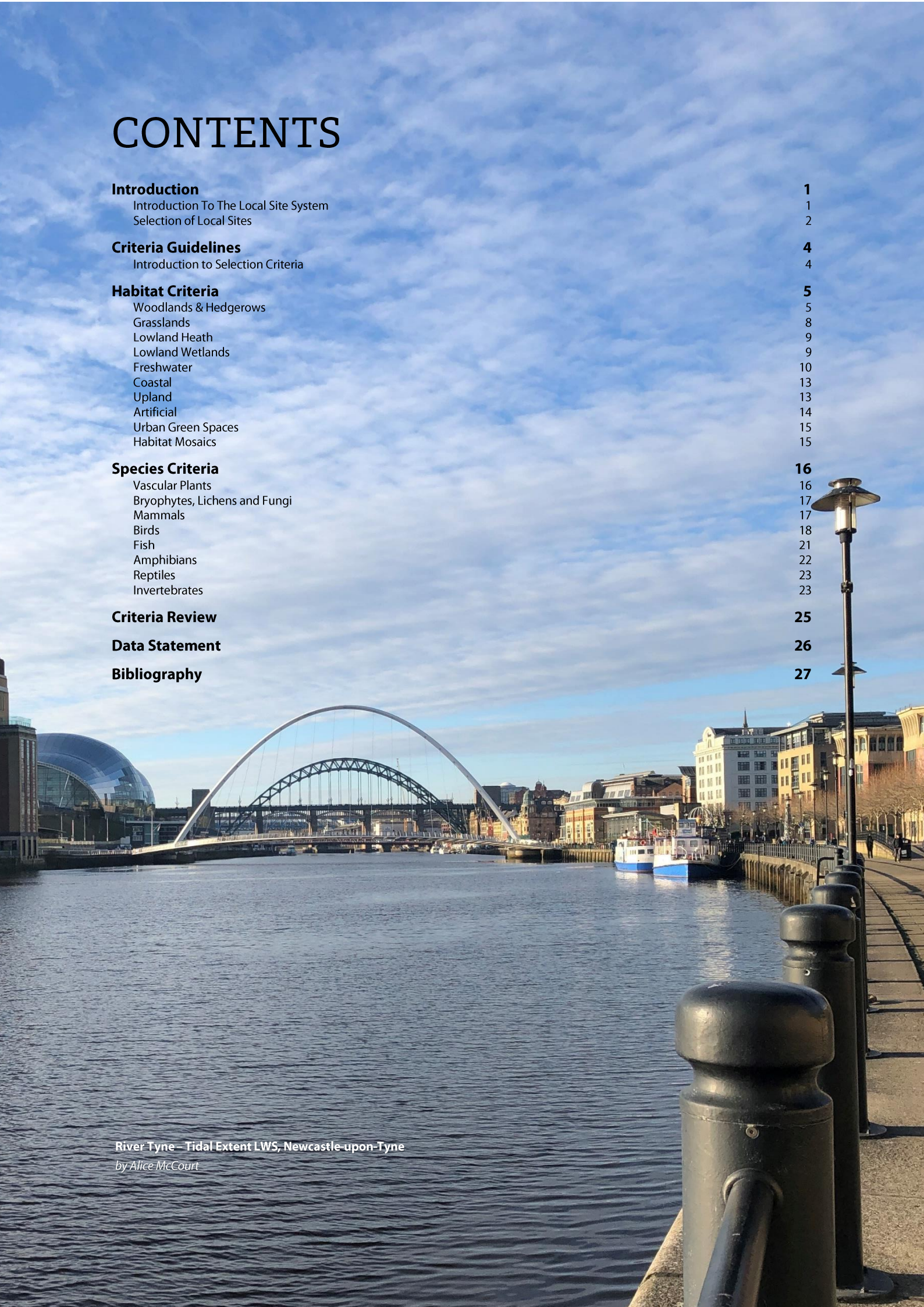

River Tyne – Tidal Extent LWS, Newcastle-upon-Tyne
by Alice McCourt

INTRODUCTION

INTRODUCTION TO THE LOCAL SITE SYSTEM

WHAT ARE LOCAL SITES?

A Local Site can be either a Local Wildlife Site (LWS), formerly known as a Site of Nature Conservation Importance (SNCI), or a Local Geological Site (LGS), formerly known as a Regionally Important Geological Site (RIGS). They are defined as a discrete area of land, which is considered to be of significance for its wildlife and/or its geological/geomorphological features in at least a county context. For the purposes of this document, 'County' and 'Northumberland' are taken to include the administrative districts of Northumberland, North Tyneside and the City of Newcastle-upon-Tyne, unless otherwise stated.

The overall aim of the Local Site system is to provide a strategic approach to the identification and protection of sites with substantive nature conservation value throughout Northumberland. The system aims to identify those areas of the county which, together with SSSI and other measures, best display the range of variation in biodiversity across Northumberland, including features which are unique and characteristic. As a result, some Local Sites may be of similar quality to SSSIs.

These sites play a vital role in conserving our natural heritage by providing essential wildlife refuges, stepping-stones, corridors and buffers linking and protecting other designated sites and open spaces both in urban areas and the wider countryside. Conservation of high-quality habitats has been highlighted as being critical in the fight against climate change, both through the provision of dispersal habitat, and through carbon sequestration.

By identifying and designating these sites, the ability of Northumberland Wildlife Trust (NWT) and others to safeguard our natural heritage is enhanced. This is because the system facilitates:

i. developing an understanding amongst decision makers and developers of the importance of the county's biodiversity and through the consideration of strategic protection of nature conservation resources

ii. informing landowners of the interest of their sites, and through liaison to encourage sympathetic management

iii. providing a focus for the monitoring and recording of biodiversity targets.

HISTORY OF LOCAL SITES IN NORTHUMBERLAND

Since its formation in 1962, Northumberland Wildlife Trust (known as Northumberland and Durham Naturalists' Trust until 1971) has been gathering information about the sites of environmental interest within the county. Information was obtained from various sources, including the then Nature Conservancy Council, RSPB, BSBI, local naturalists and our own volunteers. NWT staff have also made important contributions, including the MSC and BES funded teams that provided COASIPEC reports.

Data concerning approximately 1500 sites were assessed, and in 1983 a list of 261 'Sites of Nature Conservation Importance' was published. This list comprised the sites believed to be of the highest value to nature conservation in the county, alongside nationally designated sites like SSSIs. In 2006, the Department for Environment, Food and Rural Affairs (DEFRA) recommended that a common term was adopted for the naming of sites of local importance, and suggested the use of the terms 'Local Wildlife Sites', 'Local

Geological Sites', and the umbrella term 'Local Sites'. The Northumberland Local Sites Partnership have since adopted these terms.

Since the 2000s, criteria have been produced for the selection of local sites in partnership with stakeholders including local planning authorities, landowners and other interested parties. In 2010 a full re-survey of all extant sites was undertaken to provide up-to-date data, and to reassess their status as a Local Site, and in 2016, a further comprehensive review of the sites in North Tyneside and Newcastle-upon-Tyne was carried out. Currently, there are 276 Local Sites across Northumberland, North Tyneside and the City of Newcastle-upon-Tyne, 68 of which are designated for geological features and 208 of which are designated for wildlife features.

LEGAL CONTEXT

These criteria are designed to fulfil the requirement in paragraph 174 of the National Planning Policy Framework (2018):

"To protected and enhance biodiversity and geodiversity, plans should:

a) *Identify, map and safeguard components of local wildlife-rish habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and*

b) *Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."*

Paragraphs 175 and 177 are also relevant to this document.

These criteria also rationalise the system of Local Site designation in Northumberland to conform with legislation including the EU Habitats Regulations, the Biodiversity Convention, and the Local Government Act 2000 - Community Strategies and the Natural Environment and Rural Communities Act 2006. They will be updated when appropriate to reflect any changes in the new environment bill coming through parliament.

SELECTION OF LOCAL SITES

SELECTION PROCESS

The selection of all Local Sites in Northumberland, Newcastle and North Tyneside, from the full range of habitats present in the county, will be undertaken through the rigorous application of the following criteria. The procedure for the confirmation of Local Sites selection will be carried out by the Local Wildlife Sites Partnership.

The notification procedure is as follows:

1. Potential sites are surveyed and assessed against criteria. This can be done by any party involved in the Northumberland Local Sites Partnership, but is usually carried out by Northumberland Wildlife Trust.

2. Potential sites are then put to the Northumberland Local Sites Partnership, who make the decision on whether to ratify.

3. Once a site is ratified, the details are added to the database and the boundary added to the map held by Northumberland Wildlife Trust. Landowners, where known, will usually be involved throughout the process, and will be notified of site status. Site boundaries are also provided to the local environmental records centre for the purpose of providing information to developers and consultants.

Local Site listings will allow for the inclusion of "candidate" and "review" sites, which will be treated as confirmed sites, pending the availability of adequate data that will allow sites to be confirmed, retained or struck off.

APPLICATION OF THE GUIDELINES

These criteria are for use by the Northumberland Local Sites Partnership for the selection and designation of Local Sites, and are not intended for use for any other purpose.

Local Sites will complement and not overlap with the framework of Sites of Special Scientific Interest (SSSI). Local Wildlife Sites may however overlap with SSSI designations when one is geological/geomorphological and the other is biological.

Local Nature Reserves, denotified SSSIs, Wildlife Trust Reserves and other nature reserves will not automatically be selected as Local Wildlife Sites, but will be subject to qualification against the guidelines. Gardens will not normally be considered for selection.

Prospects for safeguarding sites in perpetuity are not taken into account in selection. Thus, sites under imminent threat of destruction may be selected as Local Wildlife Sites on the basis of their current interest. Local Sites are a "material consideration" in planning terms and designation may, therefore, promote protection, mitigation or compensation.

BOUNDARY DETERMINATION

Site boundaries will, where possible, be selected to encompass the feature of interest. However, due to the difficulties of recognising boundaries on the ground and to facilitate appropriate management, they will follow easily identifiable landmarks. This will be in most case existing field boundaries that enclose the feature of value. This will inevitably lead to the inclusion of areas of lower value than that selected by the criteria. These areas will not be included when comparing eligibility against the minimum size threshold (except for mosaic habitats) or the guidelines for selection. Buffer zones will not be included within the site boundaries (except where stated in the habitat criteria).

Site boundaries are indicative and should be looked at in conjunction with the description of the site and reasons for the chosen site boundary.

CRITERIA GUIDELINES

INTRODUCTION TO SELECTION CRITERIA

The criteria are set out in two sections: those which deal with character or quality of the habitats, and those that relate to the occurrence of certain species or groups of species. This document does not aim to set out detailed and specific guidelines for the selection of Local Geological Sites, which are currently selected and maintained on the basis that they provide good examples of geological features typical of the county. The intention is to work with specialists in geology and geomorphology to develop a separate set of criteria in due course.

Target species and habitats have been chosen with regard to the Northumberland Red Data Book (Kerslake, 1998) and current environmental legislation, including the Convention on Biological Diversity and subsequent Local/National Biodiversity Action Plans (BAPs/LBAPS); Habitat and Birds Directives and other legislation where stated. The criteria established by Ratcliffe (1977) in the "*Nature Conservation Review*", and the information published by DEFRA (2006) have been used as a basis to derive the habitat and species guidelines within this document, as regards biological sites. However, due to population density and hence urbanisation being concentrated within the south east corner, the added value of sites within an urban setting has been recognised, for example relaxation of the criteria will occur in order to allow for consideration of the social value of individual sites in an urban environment.

The criteria are based upon information that is presently available on habitats and species in Northumberland. It is accepted that more information is available on some habitats and species than it is for others. Certain taxonomic groups, particularly invertebrates, have been subject to little or no systematic surveying. The apparent interest of a site can be greatly influenced by recording effort, thus where information is limited, current data for such groups must be interpreted carefully.

The selection of Local Wildlife Sites will be strongly guided by the thresholds set out in this document, but this is not a simplistic process of comparison between the species and habitat recorded from a site and the necessary threshold values. The number of variables that make up the ecological value of a site is large, and it is not possible to be quantitative about many of these. There will always be a need for best professional judgement in site selection, particularly when assessing a "good" example of an NVC habitat, which will therefore rely on judging the merits of one site relative to another.

HABITAT CRITERIA

Habitat types have been selected to include:

i. A characteristic representation for Northumberland

ii. Those habitats that are rare, scarce or rapidly declining regionally, nationally and/or internationally i.e. UK BAP and Local BAP key habitats.

Unless severely degraded, all sites in the county which contain habitats fulfilling at least one of the following guidelines may be designated as Local Wildlife Sites. Severely degraded is defined as a site where, if management were to immediately change to the optimum, the site would be unlikely to regain most of its previous nature conservation interest within 10 years.

Closely scattered fragments of a single habitat type may also be considered for selection as one Local Wildlife Site. For fragmented sites, the boundary will be assessed with each individual case.

When references are made to plants within the habitat guidelines, this should be taken to mean vascular plants unless otherwise specified.

For grassland sites, surveys are expected to make use of a minimum of 5 quadrats per site to assess the average diversity of the site.

WOODLANDS & HEDGEROWS

WD01 ANCIENT WOODLAND

All woodland on the county inventory of ancient woodland as carrying a semi-natural canopy unless post-inventory survey has shown this record to be erroneous, or has revealed severe degradation.

'Semi-natural' refers to modified types of vegetation in which the dominant and constant species are accepted natives and in which the structure of the community conforms to the range of natural vegetation types.

Jesmond Dene LWS, Newcastle-upon-Tyne
by Alice McCourt

WD02 REPLANTED ANCIENT WOODLAND

Woodland recorded on the provisional county inventory as carrying a replanted coniferous or broad-leaved crop, which is shown to retain, on the basis of post-inventory survey, restorable elements of its previous semi-natural character, and other extant features of wildlife interest.

These sites must meet both of the following qualifications:

a) The presence of at least 10 ancient woodland indicator species (excluding upland woodland, upland being defined as above an altitude of 250m) (table 1);

b) Significant features such as herb-rich rides, glades, or pockets of semi-natural canopy.

Table 1: Ancient Semi-Natural Woodland Indicators In Lowland Northumberland

Acer campestre	field maple	*Hyacinthoides non-scripta*	bluebell
Adoxa moschatellina	moschatel	*Juiperus communis*	juniper
Allium ursinum	ramsons	*Lathraea squamaria*	toothwort
Anemone nemorosa	wood anemone	*Luzula pilosa*	hairy woodrush
Arum maculatum	lords-and-ladies	*Melampyrum pratense*	common cow-wheat
Brachypodium sylvaticum	false brome	*Melica nutans*	mountain melick
Bromopsis ramose	hairy-brome	*Melica uniflora*	wood melick
Campanula latifolia	giant bellflower	*Mercurialis perennis*	dog's mercury
Carex laevigata	smooth-stalked sedge	*Milium effusum*	wood millet
Carex paniculata	greater tussock-sedge	*Myosotis sylvatica*	wood forget-me-not
Carex remota	remote sedge	*Neottia nidus avis*	bird's-nest orchid
Carex sylvatica	wood-sedge	*Oxalis acetosella*	wood sorrel
Chrysoplenium alternifolium	alternate-leaved golden-saxifrage	*Paris quadrifolia*	herb-Paris
Circaea x intermedia	upland enchanter's-nightshade	*Phegopteris connectilis*	beech fern
Elymus caninus	bearded couch	*Poa nemoralis*	wood meadow-grass
Epipactis helleborine	broad-leaved helleborine	*Polystichum aculeatum*	hard shield-fern
Equisetum sylvaticum	wood horsetail	*Ranunculus auricomus*	soft shield-fern
Euonymus europaeus	spindle	*Ribes spicatum*	goldilocks buttercup
Festuca altissima	wood fescue	*Sanicula europaea*	downy currant
Festuca gigantea	giant fescue	*Stellaria nemorum*	sanicle
Gagea lutea	yellow star-of-Bethlehem	*Tilia cordata*	wood stichwort
Galium odoratum	woodruff	*Veronica montana*	wood speedwell
Goodyera repens	creeping lady's-tresses	*Viburnum opulus*	guilder rose
Gymnocarpium dryopteris	oak fern	*Vicia sylvatica*	wood vetch
Hordelymus europaeus	wood barley		

WD03 OTHER SEMI-NATURAL WOODLAND

Woodland that is not on the inventory, but which carries a semi-natural canopy, and meets all of the following qualifications:

a) It has a diverse and well developed structure (ground flora/shrub layer/canopy);

b) It is not irreversibly degraded by grazing, domination by invasive and/or non-native species or by other means;

c) The features of value are present in at least 50% of the woodland area;

d) Is 0.5ha or greater.

WD04 RARE NVC WOODLAND COMMUNITIES

All good examples of nationally rare NVC woodland communities, together with those at or near the limit of their geographical range in Northumberland.

Nationally rare woodland communities are defined as:

W3, *Salix pentandra – Carex rostrata*

W5, *Alnus glutinosa – Carex paniculata*

W7, *Alnus glutinosa – Faxinus excelsior – Lysimachia nemorum*

W17, *Quercus petraea – Betula pubescens – Dicranum majus*

W19, *Juniperus communis ssp. Communis – Oxalis acetosella*

Where NVC data are not available, the assemblage of species need only be indicative of NVC community type. Some NVC types are intrinsically poor in species and their lack of richness should not necessarily be taken as indication of lesser worth.

WD05 PASTURE WOODLANDS OR PARKLANDS

Pasture woodlands or parklands that contain rare native and/or veteran trees, where veteran trees are defined as those which have significant decaying timber within the canopy or which have developed heart-rot and/or rot holes. Sap runs are an additional feature of importance.

The whole pasture woodland or parkland will not be eligible for qualification as a Local Wildlife Site under this guideline alone. As a guide, the boundary of the site will include the surrounding area, within a distance equal to the height of the trees (unless linear and/or man-made features determine otherwise). In exceptional cases, single trees may be considered for inclusion here.

WD06 ANCIENT OR ESTABLISHED HEDGEROWS

Recently created hedgerows will not generally qualify. Present knowledge of the state and quantity of hedgerows in Northumberland is poor. Until a systematic survey of hedgerows has been carried out, only hedgerows where adequate data is currently available will be assessed against the following criteria:

a) All ancient (note ix) or established hedgerows greater or equal to 100m in length (excluding gaps) which contain at least 4 woody species, on average in a 30m length and at least 4 ancient woodland indicator species (Table 1).

b) All hedgerows as described above which are less than 100m in length but which fulfil a strategic function by linking wildlife sites to produce an enhanced ecological unit.

c) All ancient or established hedgerows with associated veteran trees and at least 4 ancient woodland indicator species (Table 1).

Ancient hedgerows refers to those that pre-date the 19th century Enclosure Acts (as defined in the *'Ancient and/or species-rich hedgerows – a costed Habitat Action Plan'* The UK Steering Group Report Vol. 2, 1995). Veteran trees are defined as those which have significant decaying timber within the canopy or which have developed heart-rot and/or rot holes. Sap runs are an additional feature of importance.

GRASSLANDS

GR01 RARE NVC GRASSLAND COMMUNITIES

All good examples of nationally or locally rare NVC grassland communities, together with those at or near the limit of their geographical range in Northumberland. Sites should normally be 0.2ha or greater.

Rare NVC grassland communities are defined as:

MG2, *Arrhenatherum elatius – filipendula ulmaria* – tall herb grassland

MG3, *Anthoxanthum odaratum – Geranium sylvaticum* – herbie meadow

MG4, *Alopercus pratensis – Sanguisorba officinalis*

CG10, *Festuca ovina – Agrostis capillans – Thymus praecox* – whin grassland

U7, *Nardus stricta – Carex bigelowii* grass-heath

U10, *Carex bigelowii – Racomitrium lanuginosum*

U16, *Luzula sylvatica – Vaccinium myrtillus* – tall-herb

U21, *Cryptogramma crispa – Deschampsia flexuosa*

Where NVC data are not available, the assemblage of species need only be indicative of NVC community type. Some NVC types are intrinsically poor in species and their lack of richness should not necessarily be taken as indication of lesser worth.

GR02 MESOTROPHIC, CALCICOLOUS AND UPLAND-ACID GRASSLANDS

All mesotrophic, upland–acid grasslands and calcicolous (including Whin Sill) grassland sites, normally of 0.2ha or greater, with a high diversity of plant species (15 or more species on average per m^2).

GR03 LOWLAND ACID GRASSLAND

All lowland acid grasslands, normally of 0.5ha or greater, unless severely degraded.

Rising Sun Country Park LWS, North Tyneside
by Alice McCourt

LOWLAND HEATH

LH01 LOWLAND HEATH

All lowland heathland sites below an altitude of 250m, unless severely degraded.

LOWLAND WETLANDS

LW01 RARE NVC LOWLAND WETLAND COMMUNITIES

All good examples of nationally or locally rare NVC communities. Sites should normally be 0.5 ha or greater, and below an altitude of 250m.

Where NVC data are not available, the assemblage of species need only be indicative of NVC community type. Some NVC types are intrinsically poor in species and their lack of richness should not necessarily be taken as indication of lesser worth.

LW02 LOWLAND FENS, FLUSHES, SEEPAGES OR SPRINGS

All examples of fens, flushes, seepages, springs etc., with 4 or more species from table 2.

Table 2: Fen Indicator Species

Anagallis tenella	bog pimpernel
Carex viridula ssp. Brachyrrhyncha	yellow sedge
Carex dioica	dioecious sedge
Carex hostiana	tawny sedge
Carex pulicaris	flea sedge
Dactylorhiza purpurella	northern marsh-orchid
Dactylorhiza incarnata	early marsh-orchid
Eleocharis quinqueflora	few-flowered spike-rush
Equisetum variegatum	variegated horsetail
Eriophorum latifolium	broad-leaved cottongrass
Gymnadenia conopsea	fragrant orchid
Menyanthes trifoliata	bogbean
Myosotis stolonifera	pale forget-me-not
Parnassia palustris	grass of parnassus
Pendicularis sylvatica	lousewort
Pinguicula vulgaris	common butterwort
Sagina nodosa	knotted pearlwort
Salix repens	creeping willow
Samolus valerandi	brookweed
Scutellaria galericulata	skullcap
Selaginella selaginoides	lesser clubmoss
Triglochin palutris	marsh arrowgrass
Trollius europaeus	globeflower
Valeriana dioica	marsh valerian

LW03 REEDBEDS

All examples of reed beds. Site should normally be 0.1ha or greater.

FRESHWATER

FW01 RIVERS AND STREAMS

Sites Section of river and stream over 500m in length that have a Habitat Quality Analysis (HQA) class 1 score (Excellent) and General Quality Assessment (GQA) grade A or B for biological and chemical monitoring. Sections of high quality but less than 500m in length will be considered, particularly in urban areas.

FW02 *POTAMOGETON* SPECIES-RICH SITES

Sites with 3 or more species of *Potamogeton.*

FW03 NATURAL LAKES

All natural lakes unless severely degraded.

Sweethope Lough LWS, Northumberland
by Duncan Hutt

FW04 NON-NATURAL LAKES

Sites, other than natural lakes, with higher than average number of submerged, floating and emergent plant species for a community type (see table 3).

Table 3: TWINSPAN classification of standing water sites – submerged and floating vegetation (*Guidelines for selection of biological SSSIs*, Table 12, p125)

Community Type	**1**	**2**	**3**	**4**	**5A**	**5B**	**6**	**7**	**8**	**9**	**10**
Potamogeton polygonifolius	II	IV	III								
Utricularia intermedia		II									
Lobelia dortmanna		IV	III		II						
Sparganium angustifolium		II	III								
Isoetes lacustris			III								
Subularia aquatica			II								
Myriophyllum alterniflorum		III	IV	IV	V*						
Sparganium minimum					II						
Juncus bulbosus	V*	IV	V*	II	III						
Scirpus fluitans		II									
Sphagnum spp.	IV										
Nymphaea alba		III			III	V*				IV	
Potamogeton alpinus					II						
Nitella spp.			II		IV*						
Callitriche hamulata			II		II						
Littorella uniflora		IV	V*	V*	V*		II	III			
Apium inundatum				II							
Potamogeton natans		IV	III	III	III	IV*		II		II	II
Glyceria fluitans			III	II				II	II		
Potamogeton gramineus				III	III			II			
Fontinalis antipyretica			III	II	II			II		II	
Potamogeton perfoliatus			II	IV	III			II			
Potamogeton obtusifolius					III						
Potamogeton berchtoldii				II	IV			II			II
Callitriche stagnalis			II	II				II	IV	II	
Elodea canadensis					IV*				II	II	III
Nuphar lutea					II				III	V*	
Lemna minor									IV	III	II
Lemna trisulca										III	
Elodea nuttallii											II
Sparganium emersum											II
Polygonum amphibium					II			II	IV	II	III
Zannichellia palustris								II	III		
Enteromorpha spp.							II				
Myriophyllum spicatum				II				III			III
Potamogeton crispus					II			II			II
Potamogeton pectinatus				II			IV*	III			III
Potamogeton pusillus				II	II			II			III
Callitriche hermaphroditica				II	II			II			
Chara spp.				III	III*			III		II	III
Fucoids							III				
Ranunculus baudotii				II				III			
Ruppia spp.							IV*				
Hippuris vulgaris				II				IV		II	
Potamogeton filiformis				III				III			
No. of sites in group	48	192	322	72	52	34	15	127	70	28	158
Av. No. of spp per site (submerged & floating)	3	7	9	10	13	4	3	8	7	7	8
Av. No. of spp. per site (submerged, floating & emergent)	7	14	17	19	24	11	6	16	24	19	19

Constancy classes
V = 80+ to 100%
IV = 60+ to 80%
III = 40+ to 60%
II = 20+ to 40%

* = cover value high (frequent to abundant)

'Species' numbers include bryophytes and algae determined to genus only.

Ultra-oligotrophic, high altitude lakes, containing only bryophytes, are not included.

COASTAL

CS01 NATURAL AND SEMI-NATURAL COSTAL/ESTUARINE SITES

All natural and semi-natural coastal and estuarine sites, including the intertidal zone. Sites should normally be 0.5 ha or greater.

CS02 TRANSITIONAL COASTAL COMMUNITIES

All sites that show a transition between coastal communities and adjacent semi-natural habitat, usually 0.5 ha or greater.

UPLAND

UP01 UPLAND HEATH

Upland heath comprises of vegetation on land above the level to which farmland has been enclosed into fields, and which comprises at least 25% cover of ericoids. Sites should normally be 10ha or greater.

UP02 BLANKET BOG

Blanket bog comprises of vegetation on land above the level to which farmland has been enclosed into fields and in which Sphagnum cover is at least 20%. Sites should normally be 10ha or greater.

UP03 RAISED AND INTERMEDIATE MIRES

Raised and intermediate mires lying above an altitude of 250m, which meets one of the following conditions:

a) All raised and intermediate mires containing one of the following species:

Drosera anglica	Great Sundew
Sphagnum austinii *Sphagnum fuscum* *Sphagnum pulchrum*	Bog mosses

b) All other raised and intermediate mires containing seven or more of the following species:

Narthecium ossifragum	Bog Asphodel
Andromeda polifolia	Bog Rosemary
Eriophorum angustifolium	Common Cottongrass
Vaccinium oxycoccus	Cranberry
Erica tetralix	Cross-leaved Heath
Trichophorum cespitosum	Deergrass
Drosera rotundifolia	Round-leaved Sundew
Sphagnum magellanicum *Sphagnum papillosum*	Bog mosses

ARTIFICIAL

AR01 DISUSED QUARRIES/POST INDUSTRIAL SITES

Sites that do not meet other guidelines, but which demonstrate particularly good examples of active succession from bare ground towards wildlife-rich grassland, heathland or woodland communities or those that may qualify on species grounds will be included. Such sites should normally be 0.5 ha or greater.

AR02 METALLIFEROUS/CALAMINARIAN GRASSLANDS

Those sites either associated with mines or alluvial systems, which carry good examples of flora showing adaptations to heavy metal-rich soils. Sites may be very small (much less than 0.5 ha) but even the smallest sites can be of considerable interest. The most important areas tend to be the more contaminated bare and stony patches, where the only vascular plants are highly specialised metallophytes and there is often a highly diverse flora of terricolous lichens. To be designated, sites must meet one of the following conditions:

a) The presence of at least 2 of the following metallophyte indicator species:

Vascular plants

Armeria maritima (inland)	Thrift
Epipactis dunensis	Dune Helleborine
Minuartia verna	Spring Sandwort
Thlaspi caerulescens	Alpine Penny-cress
Viola lutea	Mountain Pansy

Lichens

Cladonia cervicornis var. *verticillata*
Epilichen scabrosus
Peltigera neckeri
Stereocaulon species (other than *S.vesuvianum)*

b) The presence of *Peltigera venosa*

Mountain Pansy (Viola lutea)
by Alice McCourt

AR03 OTHER ARTIFICIAL HABITATS

Must qualify under other habitat or species guidelines. Linear features such as roadside verges and railway track-sides that meet other guidelines except in terms of minimum size will normally be selected where they are 100m in length or greater.

URBAN GREEN SPACES

UG01 URBAN GREEN SPACES

Urban sites that do not qualify under other habitat or species guidelines may still make a significant contribution to nature conservation. Their position within an urban context allows many more people to experience and interact with nature and this considerably enhances their importance.

These sites will be selected if they almost qualify as Local Wildlife Site on habitat or notable species grounds, if it can be shown that the position of the site relative to other available habitats and/or social value compensates. For example, the site may not meet the minimum size threshold but may lie within a known wildlife corridor.

HABITAT MOSAICS

HM01 HABITAT MOSAICS

Sites with 2 or more adjacent semi-natural habitats in mosaic may warrant recognition as Local Wildlife Site where individually one or more of the habitats may fail to qualify on single habitat or notable species grounds.

Where mosaics occur, in order to qualify, at least one of the habitats in the mosaic should be considered a borderline site. This component should constitute a significant proportion of the whole mosaic, usually 25% or more.

SPECIES CRITERIA

Species criteria will be used unless habitat criteria have already been met. Sites will be selected for the presence of rare or notable species, or outstanding assemblages of species, where those species are known to occur naturally and are not introduced, unless part of a species recovery programme. The species listed are currently known, or are likely, to occur in Northumberland, but should other nationally rare or scarce species occur these would also be eligible.

Site boundaries will generally be selected to encompass the feature of wildlife interest i.e. the total area thought to support that species as far as can be determined, unless otherwise stated in the guidelines. However, many species listed in these guidelines are indicators of good habitat quality and therefore, these sites may qualify for designation under habitat guidelines. In these instances, boundaries will be drawn up according to the habitat qualification (species qualification will still be noted).

VASCULAR PLANTS

VP01 RED DATA BOOK SPECIES

All sites where one or more "critically endangered", "endangered" and "vulnerable" species, as listed in the national Red Data Book, occur (Cheffings and Farrell, 2005).

VP02 UK BAP PRIORITY SPECIES

All sites where one or more UK BAP priority species occur.

VP03 OTHER RARE PLANT SPECIES

Species that are native or an archaeophyte to Northumberland, Newcastle and/or North Tyneside, and meets at least one of the following conditions:

a) Is the only record of that species within 100km of that site

b) Is a species where more than 20% of the English sites are in Northumberland

c) Is a Northumberland RPR species that has been recorded in 3 or fewer sites in Vice Counties 67 and 68 combined, and recorded in the last 10 years

d) Is listed in the English RPR as either critically endangered, endangered or vulnerable (to include all species of Alchemilla, Sorbus and Euphrasia but to exclude Hieracium, Taraxacum and Rubus species)

BRYOPHYTES, LICHENS AND FUNGI

NV01 UK BAP PRIORITY SPECIES

Sites where one or more UK BAP priority species have been recorded within the past ten years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain).

NV02 NATIONALLY RARE OR SCARCE SPECIES

Sites where one or more nationally rare or scarce species have been recorded in the last ten years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain) (*Hill et al*, 1991, 1992, 1994).

NV03 SPECIES ASSEMBLAGES

Sites which meet one of the following critera:

a) 7 or more species of waxcaps recorded in the last 10 years

b) 12 or more species of waxcaps, fairy clubs, earth tongues and/or pink gills recorded in the last 10 years

MAMMALS

MA01 WATER VOLE

All sites with water vole (*Arvicola terrestris*) recorded in the past five years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain).

Water Vole (*Arvicola amphibius*)
by Alice McCourt

MA02 HARVEST MOUSE

All sites with harvest mouse (*Micromys minutus*) recorded in the last five years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain), usually with associated semi-natural habitat selected under other criteria.

MA03 DORMOUSE

All sites with dormouse (*Muscardinus avellanarius*) confirmed in the past five years, usually with associated semi-natural habitat selected under other criteria.

MA04 HIBERNATION OR NURSERY BAT ROOSTS

Any site that regularly supports a hibernation or nursery roost of any species of bat, as included in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is not intended that this guideline will be applied to buildings, whether or not they are in use. However, consideration may be given to certain types of artificial structures, e.g. tunnels, bridges, retaining walls and mine shafts.

MA05 FORAGING BATS

In Newcastle and North Tyneside only, all sites (over 1ha) that have been proven to support foraging bats and meets one of the following criteria:

a) Known to support 2 or more species of foraging bat or to be used by 15+ individual foraging bats of any species

b) Satisfies at least three of the following conditions:

   i. Areas with high roost resource connected to the wider countryside by low-level lit/unlit tree/hedgerow/scrub lined streets, railways, waggonways, pathways or other linear habitats

   ii. Containing a water body i.e. pond, stream or lake

   iii. Covered by at least 50% broad-leaved woodland, native trees and/or scrub

   iv. Within 0.5km of a known bat roost

BIRDS

BI01 WINTER AND PASSAGE POPULATIONS

All sites regularly (i.e. in 3 out of the most recent 5 years for which date is available, within the last 10 years) holding greater than 0.1% of the national population of any wintering or passage species or sites regularly holding more than 1000 birds.

BI02 BREEDING POPULATIONS

All sites regularly (i.e. in 3 out of the most recent 5 years for which date is available, within the last 10 years) holding more than 1% of the Northumberland breeding population of a species or 1% of the national breeding population.

BI03 UNUSUAL BIRD FEATURES

Any site regularly (i.e. in 3 out of the most recent 5 years for which date is available, within the last 10 years) holding significantly high numbers of a key breeding or wintering species or unique features of a species or assemblage.

BI04 BIRD ASSEMBLAGES

All sites regularly (i.e. in 3 out of the most recent 5 years for which date is available, within the last 10 years) holding exceptionally good breeding bird species assemblages for that particular habitat. A site must obtain a score equal to or greater than the threshold value in order to be designated. Mosaic habitats should be assessed against the habitat that is most important to breeding bird assemblages, i.e. highest species diversity and birds of conservation concern.

Assemblages are based on Natural England's SSSI Criteria, and Northumberland non-breeding species have been removed from the lists. Index values have been adjusted according to a regional context and using *Birds of Conservation Concern* as a guide. Values may need to be adjusted slightly based on field testing.

Lowland Damp Grassland

Teal	3	Snipe	3
Shoveler	4	Short-eared owl	3
Redshank	2	Yellow wagtail	3
Ruff	5	Grasshopper warbler	3
Lapwing	2	Sedge warbler	1
Curlew	2	Reed bunting	1

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **14**

Lowland Fen (where this habitat occurs in combination with open water, use the open water list instead)

Bittern	5	Grasshopper warbler	3
Shoveler	4	Sedge warbler	1
Teal	3	Reed warbler	2
Water rail	3	Bearded tit	5
Snipe	3	Reed bunting	1
Cuckoo	2		

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **14**

Lowland Open Waters and their Margins

Little grebe	2	Water rail	3
Great crested grebe	3	Oystercatcher	1
Black-necked grebe	5	Ringed plover	3
Bittern	5	Little ringed plover	4
Mute swan	2	Redshank	2
Shelduck	2	Lapwing	2

Gadwall	3	Snipe	3
Shoveler	4	Common tern	3
Teal	3	Yellow wagtail	3
Garganey	5	Grasshopper warbler	3
Pochard	4	Sedge warbler	1
Tufted duck	3	Reed warbler	2
Red breasted merganser	4	Bearded tit	5
Marsh harrier	5	Reed bunting	1

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **28**

Upland Waters and their Margins

Little grebe	2	Red breasted merganser	4
Black-necked grebe	5	Dunlin	4
Great crested grebe	3	Common sandpiper	2
Wigeon	4	Redshank	2
Shoveler	4	Lapwing	2
Teal	3	Curlew	2
Tufted duck	3	Snipe	3

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **14**

Upland Moorland and Grassland with Water-bodies (small ponds)

Wigeon	4	Common sandpiper	2
Teal	3	Redshank	2
Red breasted merganser	4	Golden plover	3
Hen harrier	5	Lapwing	2
Buzzard	2	Curlew	2
Golden eagle	5	Snipe	3
Merlin	4	Short-eared owl	3
Peregrine	5	Whinchat	3
Cuckoo	2	Wheatear	1
Black grouse	5	Ring ouzel	3
Red grouse	1	Raven	4
Dunlin	4	Twite	5

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **25**

Upland Moorland and Grassland without Water-bodies

Hen harrier	5	Snipe	3
Buzzard	2	Short-eared owl	3
Golden eagle	5	Skylark	1
Merlin	4	Whinchat	3
Peregrine	5	Stonechat	2
Cuckoo	2	Wheatear	1
Black grouse	5	Ring ouzel	3
Red grouse	1	Raven	4
Redshank	2	Twite	5
Golden plover	3	Grey partridge	2
Curlew	2		

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **25**

Scrub (new plantation is not included)

Grey partridge	2	Tree pipit	2
Cuckoo	2	Whinchat	3
Long-eared owl	3	Stonechat	2
Nightjar	4	Song thrush	2
Mistle thrush	2	Garden warbler	1
Grasshopper warbler	3	Tree sparrow	3
Willow warbler	1	Bullfinch	2
Whitethroat	2	Linnet	2
Lesser whitethroat	3	Corn bunting	2
Blackcap	1	Yellowhammer	2

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **12**

Woodland

Grey heron	3	Mistle thrush	2
Goshawk	5	Wood warbler	3
Honey buzzard	5	Chiffchaff	1
Buzzard	2	Willow warbler	1
Hobby	5	Blackcap	1
Kestrel	2	Garden warbler	1
Black grouse	5	Goldcrest	1
Woodcock	2	Spotted flycatcher	2
Stock dove	1	Pied flycatcher	2
Cuckoo	2	Long-tailed tit	1
Tawny owl	2	Marsh tit	2
Long-eared owl	3	Willow tit	2
Nightjar	4	Coal tit	1
Green woodpecker	2	Treecreeper	1
Lesser spotted woodpecker	5	Nuthatch	2
Great spotted woodpecker	1	Jay	1
Tree pipit	2	Hawfinch	5
Redstart	2	Siskin	2
Fieldfare	5	Bullfinch	2
Song thrush	2	Redpoll	1
Redwing	5	Common crossbill	3

NORTHUMBERLAND THRESHOLD SITE-INDEX VALUE: **30**

FISH

FI01 RIVER FISH

Any stretch of river where the following species of fish have been regularly recorded (i.e. in 3 out of the most recent 5 years for which date is available, within the last 10 years):

Allis shad	*Alosa alosa*
Twaite shad	*Alosa fallax*
River lamprey	*Lampetra fluviatilis*
Brook lamprey	*Lampetra planeri*
Marine lamprey	*Petromyzon marinus*

AMPHIBIANS

AM01 GREAT CRESTED NEWT

All waterbodies that support great crested newt (firm records older than 5 years may be accepted if the complete loss of the species is doubted and the necessary site conditions remain), and all terrestrial habitat (unless the habitat can be proven to be unsuitable for the species) that meets one of the following criteria:

a) Within 250m of a waterbody that supports a population of great crested newt, where the population size is undetermined

b) Within 250m of a waterbody that supports a small population of great crested newt (as defined by *Great Crested Newt Mitigation Guidelines, 2001*)

c) Within 500m of a waterbody that supports a medium or large population of great crested newt (as defined by *Great Crested Newt Mitigation Guidelines, 2001*).

Domestic gardens would ordinarily be excluded.

AM02 SPECIES ASSEMBLAGES

All sites that meet one of the following criteria (where 'regularly' means in 3 out of the most recent 5 years for which date is available, within the last 10 years):

a) Where four native amphibian species have been recorded in the last 5 years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain).

b) That regularly support 'good' populations of 3 or more amphibian species (see table 4).

c) That regularly support 'exceptional' populations of any amphibian species (see table 4).

Table 4: "A scoring system for the selection of sites with assemblages of amphibians" Table 29, p268 – *Guidelines for the selection of biological SSSIs* (1989), Nature Conservancy Council

		Low population	Good population	Exceptional population
Smooth newt	Netted in day Counted at night	<10	10-100	>100
Palmate newt	Netted in day Counted at night	<10	10-100	>100
Common toad	Estimated Counted	<500 <100	500-5000 100-1000	>5000 >1000
Common frog	Spawn clumps counted	<50	50-500	>500

Great crested newt has been omitted from the table as they are dealt with under separate guidelines.

Scores have to be for breeding sites observed during the breeding season. Daytime netting should be made during a 15-minute period for sites with less than 50m of water's edge, for 30 minutes for sites with 50-100m, etc.

REPTILES

RP01 REPTILES

All sites where the following species have been recorded in the last 5 years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain):

Grass snake	*Natrix natrix*
Slow worm	*Anguis fragilis*

INVERTEBRATES

IV01 PRIORITY BUTTERFLY SPECIES

All sites that regularly (i.e. in 3 out of the most recent 5 years for which data is available, within the last 10 years) support one of the following butterfly species:

Green hairstreak	*Callophrys rubi*
Purple hairstreak	*Quercusia quercus*
White-letter hairstreak	*Satyrium w-album*
Small pearl-bordered fritillary*	*Boloria selene*
Dark green fritillary	*Argynnis aglaja*
Dingy skipper	*Erynnis tages*
Grayling	*Hipparchia Semele*
Large heath	*Coenonympha tullia*

*In order to qualify as regularly supporting these species, the species should have been recorded at least once in the last 10 years.

Small Pearl-bordered Fritillary (*Boloria Selene*)
by Alice McCourt

IV02 BUTTERFLY ASSEMBLAGES

All sites that regularly support 15 or more species of butterfly (i.e. in 3 out of the most recent 5 years for which data is available, within the last 10 years).

IV03 DRAGONFLIES AND DAMSELFLIES

All sites with records of 7 or more species of *odonata* recorded in the last five years (older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain).

IV04 FRESHWATER PEARL MUSSEL

All sites that support populations of freshwater pearl mussel (*Margaritifera margaritifera*).

IV05 WHITE-CLAWED CRAYFISH

All sites that support white-clawed crayfish (*Austropotamobius pallipes*).

IV06 UK BAP PRIORITY SPECIES

All sites that support populations of UK BAP Priority species recorded in the last five years ((older firm records may be accepted if the complete loss of the species is doubted and the necessary site conditions remain).

IV07 NATIONALLY RARE OR SCARCE SPECIES

All sites that support nationally rare or scarce species (*Shirt,* 1987; *Bratton,* 1991).

IV08 COUNTY RARE SPECIES

All sites that support populations of 3 or more native species of invertebrate (including above categories) as listed in the Red Data Book for Northumberland (*Kerslake,* 1998) that are rare in the county, i.e. species known in fewer than 10 localities, but only where the county distribution of that species has been adequately recorded.

CRITERIA REVIEW

In addition to limits imposed by current information, nature is dynamic and vulnerable to change. It will therefore be necessary to update and modify thresholds within these criteria to reflect increased scientific knowledge and the changing status of habitats and species both nationally and locally. It is the aim to review the criteria every five years. Sites will be subject to review as these thresholds change.

DATA STATEMENT

All data generated by the Northumberland Local Sites system belongs to the Northumberland Local Sites partnership, and is held by the Northumberland Wildlife Trust in accordance with the Data Protection Act (2018). The systems used to store and handle Northumberland Local Site data have been assessed against the relevant legislation and are, to the best of the partnership's knowledge, fully compliant.

All data collected as part of surveying historic, current, and potential Local Sites is covered by the provisions of the Environmental Information Regulations 2004. Information on protected species and advice on relevant legal implications is given to the owners and managers of Local Sites where appropriate. All species and habitat data will be considered available for release to third parties (including consultants, developers and the local environmental records centre) unless it is considered that the release of that information is against the public interest. Generally, release of data would only be considered against public interest where there are records of sensitive features, or where the landowner of a site wishes for the data to be withheld. However, withholding of data would be an exception to the standard policy, which is to release data.

Data provided to third parties is only considered up-to-date at the time of provision, as Northumberland Wildlife Trust maintains and manages the system such that the data may change on a frequent basis.

Data that has been historically available in the public domain, and an explanation for the reason for site selection, will remain generally available. However, land ownership details (where held) are covered by the Data Protection Act and will not be divulged without prior permission.

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