Guidelines for the selection of biological SSSI's
Part 2: Detailed guidelines for habitats and species groups

10 ARTIFICIAL HABITATS

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10 ARTIFICIAL HABITATS

1 A Nature Conservation Review (Ratcliffe 1977), Volume 1, Chapter 10, discussed artificial ecosystems (or habitats), and the classification of types in its Table 33 is reproduced here as Table 23.

2 Clearly, the choice of habitats qualifying for this designation, along the continuum from the completely natural to the wholly man-made, is largely a matter of opinion. Broadly, the term is applied to habitats which have a particularly unnatural configuration and/or a prevailing degree of human disturbance and to plant communities with a significant proportion of introduced species. Habitats at the totally artificial end of the range, such as gardens and town parks, are, however, excluded from consideration, and the list is limited to those in which the bulk of the flora and fauna consists of species not deliberately planted or domesticated on the site.

3 Many artificial habitats have considerable nature conservation interest, but questions of feasibility also arise in considering whether SSSIs are an appropriate conservation measure to apply to them. Examples of most of the features listed **could** be (or indeed have been) notified as SSSIs, and practical considerations, within the discretion of NCC regional staff, will have to determine whether or not this is an appropriate mechanism to recommend. The following paragraphs are intended to give guidance on the assessment of special interest. In many cases, features will qualify on the basis of the interest of their species-groups, especially of rare plants and animals. Some have important communities of plants and/or animals, and some quarries and road or railway cuttings have major geological interest.

4 Whenever possible, artificial habitats should be assessed according to guidance given under the most appropriate semi-natural habitat formation or species-group; for example, road and railway verges are often types of grassland, churchyards often have both grassland and lichen interest, reservoirs have waterfowl populations, disused gravel-pits and canals may become important freshwater habitats, and walls support interesting assemblages of plants including the lower groups (ferns, mosses, liverworts and lichens). Many important habitats occur in urban situations, but care should be taken not to lower standards of judgement of intrinsic biological interest simply in order to accommodate the importance of social need, since other measures exist for satisfying this. The agricultural habitats are in some ways the most difficult to deal with, for they often represent dynamic and unstable situations in which the biological interest is transient or ephemeral, according to the current farming practices. Communities of arable or fallow 'weeds', bryophytes and invertebrates are nevertheless of considerable nature conservation interest and, in the light of changing agricultural objectives and practices, there should be further study of their character and of means of both evaluating and conserving them.

5 A particular class of artificial habitats where separate guidance is needed is that where new land surfaces have been created by industrial activity, notably mining. Quarrying has provided many old sites of considerable interest for successional development of vegetation, flora and fauna, but most of these can be assessed under Lowland grasslands (C.3), Non-montane rock habitats (C.5), Upland habitats (C.9) and various species-groups (C.11-19). The scientific interest of active succession should receive particular attention, but it should be remembered that its dynamic nature may lead to management problems. In some largely agricultural districts, old quarries and workings assume a particular importance as refuges for semi-natural vegetation and may be among the few available habitats for many species of plants and animals. In general, disused workings may have a noteworthy value for certain groups of plants in some parts of their range, for example Orchidaceae on calcareous substrates and Lycopodiales on acidic substrates. Old mine-shafts can be important roost sites for bats (see C.13, 3.3).

6 Unusual plant communities, notable both in successional development and in floristic composition, have formed on mine-spoil rich in heavy metals such as lead, zinc and copper. Some of these substrates, and especially those lacking calcium carbonate but rich in sulphide, are toxic to many plant species and so have a much more restricted flora than that colonising bare areas of chemically more normal soil. Certain species seem particularly adapted to these unusual mineral conditions, either in general (e.g. Minuartia verna, Thlaspi alpestre and Grimmia atrata) or in certain populations or ecotypes (e.g. Festuca ovina, Armeria maritima and Viola lutea). This 'metallophyte' vegetation is of considerable scientific interest and is receiving much attention in research, especially in relation to the restoration of derelict land with particularly intractable substrates.

7 Undisturbed heavy-metal-enriched land surfaces are extremely rare today, as such surface outcrops of minerals were the first to be exploited as ores by man, and metallophyte vegetation is now largely confined to secondary surfaces created by excavation, dumping and processing during metal production. The most extensive natural heavy-metal-enriched sites occur along rivers as sediment deposits, though even these usually derive much of their metal content from material washed down from mine-waste higher upstream. Some upland rock habitats such as crags and fell-field debris show unusual mineral characteristics and associated floristic peculiarities which should be represented within the range of upland sites (C.9).

8 Selection of sites for unusual mineral substrate composition and associated vegetation should follow the usual principle of representing the range of variation within each AOS. Large and diverse occurrences which can be encompassed by a single boundary should be preferred, but the number of sites needed will depend on their regional frequency and variety. In those orefields where metallophyte vegetation is localised (e.g. the Mendips), all or most of the sites deserve selection, but, where such occurrences are numerous (e.g. in the northern Pennines), selection

should aim to include the full range of floristic variation, especially species-richness and occurrence of mineral-adapted ecotypes of widespread species. All occurrences of especially rare metallophyte species or ecotypes (e.g. Armeria maritima, Asplenium septentrionale and Mielichhoferia elongata) should be regarded as eligible for selection. In the case of **upland** mine-wastes, some examples will be included within the confines of sites selected as upland ecosystems (C.9).

9 Reference

RATCLIFFE, D.A., ed. 1977. A Nature Conservation Review. 2 vols. Cambridge, Cambridge University Press.

Table 23 Types of artificial habitat (after Ratcliffe 1977)

	Agricultural	Non-agricultural
	<u>Productive land</u>	
	Arable	
	Grazing	
	Orchards	
	<u>Non-productive land</u>	
Dry land	Hedges	Road verges and hedges; motorway banks
	Headlands	Green lanes, trackways
	Fallow	Railway verges and disused railway tracks
	Green Lanes and access roads	Station and goods yards
	Stackyards and areas near buildings	Sea ports and airports, airfields (including disused)
	Uncultivated field corners, fallow and marginal uncultivated land	Retaining banks of reservoirs
		Parks, recreational land and golf courses, gardens, shrubberies and roadside trees
	Walls	Cemeteries/churchyards
		Dumps and sewage farms
		Industrial sites; mineral workings and spoil-heaps
		Individual areas of waste land
		Buildings and walls
Riparian	Dry ditches	Banks of rivers, canals, dykes and main drainage ditches
	Wet ditches edges	
	Pond edges	Banks of reservoirs (with and without drawdown of water)
	Farm reservoirs	
	Marsh land	Flooded and gravel-pit banks
Aquatic	Ditches	Rivers
	Streams	Canals
	Ponds	Main drainage ditches
	Reservoirs	Reservoirs
		Gravel-pits and flooded mineral workings