

LANCASHIRE BAP TEMPLATE FOR HABITAT ACTION PLANS

QUARRIES & GRAVEL PITS

(Line Drawing of Habitat)

Summary

A long history of quarrying in Lancashire has led to the existence of many small and several large stone quarries, peat workings, and gravel and sand pits. Several sites are abandoned, some are managed for intensive recreation and a few are still active. A diversity of plant and invertebrate species is often found at old quarry sites.

Many sites offer restoration opportunities, including the creation of heathland habitat on sand extraction sites or wetland habitat on sites previously used for aggregate extraction. Thus great value for biodiversity can be created.

Action Plan Aim

To identify, assess, manage, enhance and promote the biodiversity importance of quarries and gravel pits in Lancashire.

Habitat Description

There has been a history of quarrying in Lancashire stretching back at least several centuries and exploiting a variety of deposits such as limestone in the Carnforth and Clitheroe areas; millstone grit in the Pennines; clay, sand, gravel, coal and peat in the south and west; and sands and gravels in river valleys or areas of glacial drift deposits. Alum, silver and lead have also been mined historically and oil, gas, sand and aggregates are now also extracted offshore. Whilst some mineral sites have been land-filled, many small and several large stone quarries, peat workings, gravel pits, and sand pits still remain, along with their associated spoil heaps or sidings. Many such sites are abandoned; a few are managed for intensive recreation or quiet amenity, including nature conservation; a few are still active; and other areas are identified as potential locations for new or resumed quarrying.

Wherever regular disturbance ceases, semi-natural habitats start to develop. Over time, these may become complex habitat mosaics containing a variety of open ground textures, grasslands, wetlands, ruderal habitats, and scrub and secondary woodlands. Provided that a suitable seed-bank remains available, limestone quarries offer particular opportunities for restoration of herb-rich calcareous grasslands and

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they may eventually support diverse invertebrate communities. A diversity of plant and invertebrate species are often found at some old quarry sites.

Gravel and other aggregates are normally associated with low-lying areas, particularly river flood plains, hence extracted sites are often liable to flooding. If this process is managed correctly, and extraction sites are sympathetically worked and landscaped, wetlands of great value for biodiversity can be created.

Sand extraction offers particular opportunities for dry restoration to heathland habitat for burrowing wasps and bees; or where cliffs overlooking water remain for the provision of nesting sites for sand martins.

Many of the quarries and gravel pits in Lancashire are located in urban fringe areas of the county.

Notable Species

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National Status

Whilst there are no specific UKBAP objectives for minerals sites, targets do exist for a number of the habitats contained within quarries and gravel pits, e.g. reedbeds, calcareous grassland.

Active and proposed mineral extraction sites also provide an almost unique opportunity to promote habitat creation within design proposals for the restoration of those sites, in a manner that helps to address UKBAP targets.

Regional Status

No information.

Local Status

There is no recent, collated study of the habitat at county level. However, the number of disused quarries and gravel pits identified as biological SSSI, LNR or BHS suggests that this habitat forms a significant component of the county's present biodiversity resource.

Current factors affecting the Habitat

The current factors affecting this habitat are:

- Lack of conservation management
- Development and land-filling
- Unsympathetic restoration and management
- Recreational pressure
- Isolation and fragmentation of sites
- Resumption of quarrying

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Lack of conservation management

This leads to encroachment of scrub, rank grassland, and even secondary woodland at some sites. This can have serious consequences for biodiversity if species-rich grassland or ruderal habitats become too restricted or wetlands are lost (though the same process can help create valuable habitat mosaics where kept in check). Some key species may decline or disappear due to loss of early successional stages. All sites require some management to maintain their value in the long-term, and some might benefit from the creation of wetlands and features such as humps, hollows and small cliffs.

Development and land-filling

All these sites fall into the category of brown-field land, which is seen as a more desirable location for development than green-field land. Some are being actively landfilled in line with planning conditions for long-term restoration to other uses (which may include nature conservation).

Unsympathetic restoration and management.

No presumption to return to agricultural land

Allowing natural regeneration of vegetation directly upon rock, sand or subsoil is generally far better for species diversity than using fertile topsoil or artificial seed mixtures. Tree planting is rarely appropriate within the body of the site as wetlands or floristically rich habitats are generally more desirable, and perhaps already present.

Recreational pressure – can cause disturbance to nesting or wintering bird populations (e.g. water sports or noisy vehicle activity on disused quarry sites) and excessive dog fouling can promote expansion of species-poor, rank grassland by enriching the soil. However, light disturbance can be beneficial as this favours rare early successional habitats.

Isolation and fragmentation of sites

Isolation results in limited colonization potential and vulnerability to inbreeding and local “catastrophe”. Small sites may support only small populations of key species, and have insufficient variety of habitats for some such species to fulfil their complete life cycle every year. This could sometimes be countered by improving the habitat quality of the surrounding land so that mobile fauna breeding in quarries and pits can forage in surrounding hedgerows, flowery field margins, fallow fields, disused railways or nearby woodland rides and margins.

Resumption of quarrying

Resumption of quarrying under long-standing extant planning permissions may damage or destroy biodiversity resources that have developed during a period of abandonment.

Important Sites

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Blackburn with Darwen

Green Arms Road Quarry BHS

Chorley

Anglezarke Quarries BHS; Clay 'Ole BHS

Hyndburn

Crutchman's Quarry BHS

Lancaster City

Bucksbottom Quarry BHS, Dock Acres Gravel Pits BHS; Lundsfield Quarries BHSs, Overhead Quarry BHS, Trowbarrow Quarry BHS, Warton Crag SSSI, BHS, LNR & nature reserves; Wyre Valley Gravel Pits BHS

Preston City

Hanson plc Brockholes Quarry (active)

Ribble Valley

Arbour Quarry BHS; Belman Park Quarry BHS; Coplow Quarry BHS; Crag Quarry BHS; Crossgills Sand Quarry BHS; Crosshill Quarry LNR, BHS & nature reserve; Nick of Pendle Quarry BHS; Salthill Quarry LNR, BHS & nature reserve; Tannel Hill Quarry BHS

South Ribble

Longton Brickcroft LNR & BHS

West Lancashire District

Abbey Lane Brick Pits BHS; Dingle & Dalton Quarries BHS; Hesketh Bank Brickworks, North (Alty's) BHS; Hesketh Bank Brickworks, South BHS; Hunter's Hill Delf & Hawett Hill Delf BHS & PLNR; Leisure Lakes BHS; Mere Sands Wood BHS & nature reserve; Nuck's Wood BHS & PLNR; Pimbo Lane Pit BHS

Wyre

Wyre Valley Gravel Pits BHS (also in Lancaster City)

Current Action / Mechanisms

- *Policy*

Lancashire Minerals & Waste Local Plan 2006

Policies 14 to 20 of the current Local Plan deal with the protection of biodiversity and the mitigation of impacts on biodiversity resources. There are no specific policies on restoration to deliver biodiversity targets.

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- *Site Safeguard*

No quarry or gravel pit site in the county has been notified as a biological SSSI. (Mere Sands Wood BHS, West Lancashire District and Salthill Quarry LNR and BHS, Ribble Valley Borough, are notified as geological SSSIs.)

Many sites have been identified as of BHS quality for their plant communities and/or particular vascular plant species. General knowledge of their ornithological resource is also usually good. There is also some patchy knowledge of sites supporting or having supported Great Crested Newt. Poor knowledge of the distribution and populations of other fauna, particularly invertebrates, and of non-vascular plants has made it difficult or impossible to assess quarry and gravel pit sites against BHS site selection guidelines, and in some cases to define such guidelines.

- *Land Management*

The Wildlife Trust actively manages some former quarry sites as nature reserves, often in association with local authorities and/or English Nature. Longton Brickcroft is managed directly by South Ribble Borough Council as a statutory Local Nature Reserve. West Lancashire District Council hopes to take on the management of part of Hunter's Hill Delf & Hawett Hill Delf, Wrightington (BHS 51SW02) as a public amenity.

- *Advisory*

Advice is potentially available from a number of NGOs, local authorities and government agencies operating in the county, but this is not well resourced or formally co-ordinated and is not specific to quarries and gravel pits.

The Wildlife Trust and LCC are offering particular advice to Hanson plc at their active Lower Brockholes Quarry, Preston City. This site lies adjacent to The Wildlife Trust's Red Scar & Tunbrook Woods nature reserve and within a major wildlife corridor.

- *Research and Monitoring*

In the absence of co-ordination and collation by a county biological record centre, the level of research and monitoring activity is poorly known and difficult to assess comprehensively. Various species and taxonomic groups may also be being monitored as part of various national recording schemes.

- *Public Relations*

From time to time, educational events may be held by The Wildlife Trust, quarry companies and local authorities at sites they manage.

Indicators of Habitat Quality

Aggregate Quarries

If flooded –

- shallowly shelving shores,

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- indented shorelines,
- isolated deep areas,
- islands,
- small and transient ponds,
- reedbeds,
- gravel platforms,
- bare ground,
- ruderals,
- species-rich grassland,
- scrub,
- wet woodland.

If dry –

- areas of bare ground,
- banks and cliffs – some south-facing,
- heathland

Rock Quarries

- areas of bare ground,
- banks and cliffs – some south-facing and sunny, some westerly and damp,
- acid and neutral grassland,
- heathland,
- calcareous grassland,
- pools

Habitat Targets

Target	Area	Measure	Timescale
Identify and assess the resource	Lancashire	Resource identified and assessed	2012
Manage and enhance biodiversity of the quarries and gravel pits	Lancashire	BAP targets delivered on quarries and gravel pits	2015
Promote and raise awareness of the biodiversity importance of quarries and gravel pits	Lancashire	Awareness raised	Ongoing

Proposed Actions

Action (priority: H, M, L)	Area	Measure / Milestone	Partners	Timescale
Research and monitoring				
Establish a definitive	Lancashire	100% sites identified.	LCC, BIBC, BwDBC	2010

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database of all key sites in Lancashire to include estimates of total area of resource on each site as part of BTN (H)		Database created.		
Continue SSSI and BHS monitoring and amend databases as appropriate (H)	Lancashire	Regular SSSI and BHS monitoring undertaken.	NE, LCC, LRF, TWT	Ongoing as from 2010
Assess regularly the condition of all SSSI's (H)	Lancashire	100% SSSI sites surveyed	NE	2006
Site safeguard and monitoring				
Habitat protection and management				
Work with local mineral excavation operatives to ensure all new restoration schemes have clear biodiversity objectives and long term management plans	Lancashire	100% of new restoration schemes to be primarily for biodiversity.	LCC	2012
Advisory				
Work with mineral extraction operators to formulate clear guidelines on the creation and management of habitats	Lancashire	Guidelines produced for use by all mineral extraction operators.	LCC	2012
Publicity				
Promote public understanding and enjoyment of the	Lancashire	Understanding and enjoyment promoted through a	LCC, TWT, NE	Ongoing

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biodiversity of quarries and gravel pits in Lancashire		variety of media		
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Related Action Plans

Calcareous Grassland; Limestone Pavement; Mossland; People; Species-rich Neutral Grassland; Reedbeds;

Bats; Great Crested Newt; Otter; *Prostoma jenningsi* (a nemertean worm); Reed Bunting; Twite; Water Vole

References and additional reading

Andrews, J. & Kinsman, D., "*Gravel pit restoration for wildlife*", RSPB (Royal Society for the Protection of Birds), Sandy, 1990

Bate, R., Bate, J., Bradley, C, Peel, H. & Wilkinson, J., *The potential contribution of the mineral extraction industries to the UK Biodiversity Action Plan*. English Nature Research Report No. 279, English Nature, Peterborough, 1998

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Author (David Dunlop)