

Quarrying in depth

# Biodiversity

The quarrying industry is making a substantial and growing contribution to the UK's biodiversity targets. As a responsible steward of the land it quarries, the industry accepts its responsibility to minimise any adverse effects on nature. But it goes much further, recognising that its work also offers substantial opportunities to benefit wildlife and contribute to a more sustainable environment.



# Habitats



## Key points

- Approximately 700 Sites of Special Scientific Interest (SSSIs) have resulted from minerals industry activity
- Many more restored sites are of high biodiversity value
- Restoration is a major opportunity for the industry to enhance biodiversity
- A Minerals and Nature Conservation Forum exists to promote biodiversity conservation in the industry
- Operators have been given detailed advice on how to foster biodiversity during as well as after extraction of minerals
- The industry also contributes to our earth heritage through exposure and management of important geological sites
- Over the last 10 years QPA members have planted many millions of trees and many kilometres of hedgerow

In 1992, the UK Government (along with those of 150 other countries) signed The Convention on Biological Diversity at the Earth Summit in Rio de Janeiro. This led to the government producing a national Biodiversity Action Plan (BAP), designed to contribute to the global conservation of biodiversity over the next 20 years. Detailed action plans have since been prepared to guide the work needed to conserve some 400 species and 40 habitats.

The quarrying industry recognises the opportunities afforded by its extensive land ownership and works to pursue biodiversity, notably through the restoration of individual sites. The Quarry Products Association has, therefore, joined English Nature and the Silica and Moulding Sands Association in setting up a Minerals and Nature Conservation Forum, a purpose of which is to implement the UK's sustainable development strategy.



Signing up - Lynda Thompson of the Silica and Moulding Sands Association, Derek Langslow of English Nature and Simon van der Byl of the Quarry Products Associates

One of the Forum's first moves was to produce a guide for quarry managers on the best ways in which to plan, operate, restore and manage their sites for biodiversity. This will be followed by a guide on geodiversity.

### Key steps

Operators are encouraged to build biodiversity into their development plans. Key elements include:

- Identifying how sites can contribute to biodiversity
- Discussing opportunities with mineral planning authorities
- Designing restoration to accommodate targeted habitats and species
- Undertaking ecological assessments
- Monitoring success and modify working practices as necessary

Through working, restoration and aftercare of quarries, major contributions are being made to UK priority habitats, for example:

**Saline lagoons** - Some coastal quarries have an opportunity to create new saline lagoons, a habitat that is otherwise expected to decline with rising sea levels.

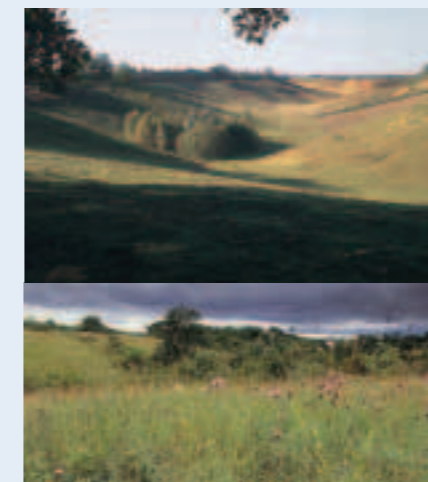


**Reed beds** - Quarrying companies have designed many restoration schemes entailing extensive areas of reed beds as wildlife habitats. The industry is in a unique position to be a major contributor to this threatened habitat, upon which many plant and animal species depend.

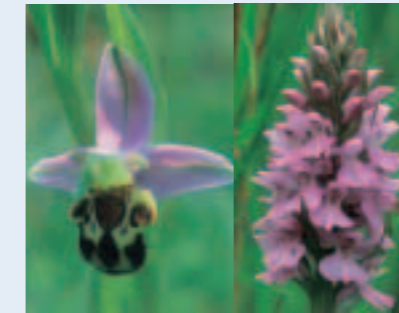


**Inland rock** - Inland rock exposures are often valuable for their geological interest as well as for the contribution they can make to wildlife. Examples include fissures that can be used as roosts for bats and inaccessible rock ledges providing safe nesting sites for birds of prey. Artificial bat caves have also been created.

**Lowland heathland** - Heathland is an increasingly important restoration option. Habitats may include sandy/gravelly areas, mature heather, short-cropped heather and wet heath. Translocation techniques have been successfully developed to enable nature-rich turf to be moved from areas being quarried.



**Calcareous grassland** - The industry has worked closely with English Nature and other conservation bodies in creating new areas of limestone grassland, a priority in the Biodiversity Action Plan. Such grassland supports BAP butterfly species such as the Silver Studded and Adonis Blues.



Additionally, local priority habitats that gain from both the restoration and working operations of mineral extraction include:

**Rivers and streams** - Many quarries, particularly those extracting sand and gravel, are located beside watercourses. Restoration often offers opportunities to reintroduce traditional features of river and stream that have been lost through canalisation and other flood prevention schemes. Such work is often carried out in conjunction with the re-creation of traditional flood meadows.

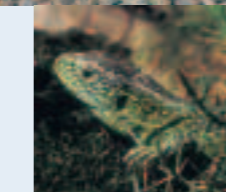


**Native woodland** - While some non-native species may be planted for their screening benefits during the operational stage, restored sites also offer opportunities to create new native woodlands.

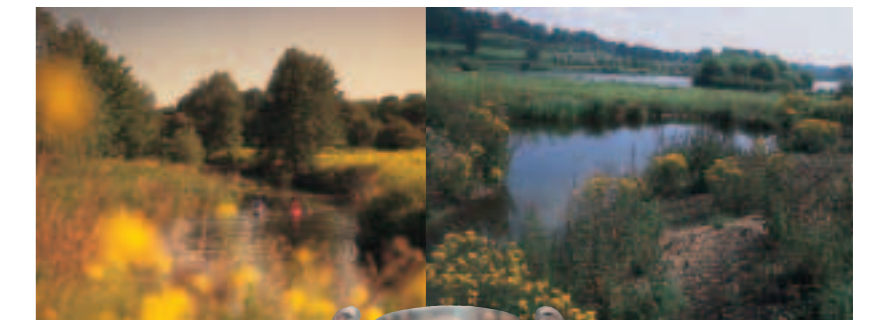
**Farmland features** - Restorations to agriculture also provides many features of value to wildlife, including new hedges, tree planting, ponds and local variations in habitat. Land can then be managed to benefit wildlife in the long-term.

### Priority species

UK priority species currently benefitting from quarrying include great crested newts and sand lizards. Local priority birds such as sand martins, peregrine falcons, kestrels, little ringed plovers, redshanks, lapwings and oyster catchers are becoming increasingly associated with mineral extraction sites, whether on restored or working cliffs and water bodies.



# Case studies



**Amwell Quarry Wildlife Reserve**  
Set in the Lea Valley near Ware in Hertfordshire, the 44-hectare Amwell Nature Reserve was previously meadows that had lost much of their botanical interest due to agricultural improvement.



marsh areas. Small pools were provided for more diversity in aquatic life. Woodland was managed to provide groves, thorn and scrub areas, with old willows pollarded to induce growth. Grassland was mown to prevent domination by coarser species.

RMC Aggregates (Greater London) worked the site for gravel from 1973 until 1990. By the early 1980s wildlife was already colonising the developing lakes and their fringes. Its success prompted the company, with enthusiastic local support, to secure approval for a bold new restoration plan that progressively turned the site over to nature.

Wildlife has shown its appreciation in the best possible way. To date more than 200 species of birds have been recorded, 315 plants, 20 butterflies, 16 dragonflies and nine nationally scarce beetles. Amwell is also playing an important role in the Lea Valley action plan for one of Britain's most endangered birds, the bittern.

Shingle pits, bays and islands were created and lake margins graded to form shallow,



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### Further information

- 'Biodiversity and minerals - extracting the benefits for wildlife' produced by English Nature, the Quarry Products Association and the Silica and Moulding Sands Association
- [www.quarrying.info/natureconservation](http://www.quarrying.info/natureconservation)

### Contact

The Quarry Products Association welcomes comments and requests for further information about the industry's work. To find out more about QPA policies and activities contact Elizabeth Clements, Jerry McLaughlin or Hazel Parsons.

### Credits

The QPA would particularly like to thank Aggregate Industries and also Lafarge Aggregates Limited, Hanson Aggregates, RMC Aggregates and Robert Brett & Sons Limited for providing photographs.



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