BIODIVERSITY ACTION PLAN FOR HALECOMBE QUARRY, SOMERSET

This document reflects a corporate commitment by Tarmac to develop and implement formal Biodiversity Action Plans (BAPs) at its operational sites.

Specific targets have been identified that contribute towards the achievement of existing biodiversity objectives described in local and national BAPs and to the conservation of other important habitats and species including all protected species that are not the subject of BAPs.

Action for biodiversity is described for specific compartments that have been identified within the site. The Plan describes projects for each compartment to be implemented through a programme of survey (where required), quarry management and restoration.

As part of the Anglo American group of companies, Tarmac's biodiversity achievements support a strategic commitment to the implementation of site biodiversity action plans across all the group activities. The combined effect of these achievements will be to deliver measurable biodiversity achievements at local, national and global level.

1 INTRODUCTION

1.1 Outline of quarry BAP

1.1.1 This document comprises the Biodiversity Action Plan for Halecombe Quarry, Somerset. The purpose of this BAP is to provide a single point of reference for the assessment of biodiversity interest in the Quarry, and the development of any future interest at the site through progressive restoration. It reviews the present contribution made by the Quarry to the achievement of national and local BAP Targets and identifies opportunities for further contribution. It further identifies opportunities for protected and rare species which are not formally included within the BAP process.

1.1.2 The site, which is approximately 59 ha in size, is contributing under current management to the conservation of the following important habitats and species:

- hedgerows,
- woodland,
- inland rock exposures,
- song thrush,
- peregrine falcon,
- lesser horseshoe bat.

1.1.3 It is predicted, and will be established by survey, that the site may also currently support:

- scarce invertebrates,
- reptiles,
- skylark and other BAP priority or uncommon bird species,
- other bat species.
1.1.4 It is proposed to create through management including reversion the following important habitat:-

- Neutral / calcareous grassland
- To provide nesting boxes for birds including barn owl and roosting boxes for bats.

1.1.5 Future management of woodland, grassland, hedges and other relevant features within the site will be adjusted in the light of survey to ensure that the requirements of important species are fully taken into account.

1.2 Sources of information

1.2.1 There has been no ecological survey of the working quarry. A general appraisal of habitat extent, type and quality was undertaken as part of the BAP production process. The BAP proposes further survey to inform further decisions on BAP objectives and management.

1.2.2 Information on the presence in the locality of statutory or non-statutory nature conservation sites was obtained from Natural England and from the Somerset Environmental Records Centre which also provided records of important and protected species from the site and a 1 km zone around it.

1.3 Existing BAP context

1.3.1 The following BAPs are relevant to Halecombe Quarry:-

- UK Biodiversity Action Plans for priority habitats and priority species
- UK Biodiversity Action Plan habitat statements for broad habitat types
- Mendips Biodiversity Action Plans for priority habitats and priority species.

Revisions to habitat and species lists published in June 2007 have been taken into consideration.

1.4 Consultations held

1.4.1 Somerset Environmental Records Centre (see above) for statutory and non-statutory sites, protected and important species.

1.5 Site assessments

1.5.1 Other than a general appraisal, none have been undertaken specifically for this BAP but the requirement for additional survey is identified as an action under the Plan.

1.6 Site BAP structure

1.6.1 The quarry BAP has four elements:-

- Part 1 General introduction, summarising the objectives of the BAP and the sources of information on which it is based.
- Part 2. The Biodiversity Review which present the biological evaluation of the site, with particular reference to habitats and species that are identified as priorities in the UK and local BAPs and other species of importance (e.g. those with legal protection).
• Part 3. The Implementation Framework which defines the context in which the quarry BAP must be prepared (including such factors as planning conditions), identifies the specific BAP targets for the site restoration and defines the tasks necessary for their achievement.
• Appendixes. The work programme, which is subject to annual review.

2. BIODIVERSITY REVIEW

2.1 Baseline description

2.1.1 This section summarises the results of a general assessment of the site’s biodiversity context and values which was made in June 2007.

• Site context

2.1.2 Halecombe quarry, which is approximately 59 ha in size, is located in the Mendips, close to the village of Leigh upon Mendip and 7 km west of Frome (see Figure 1).

2.1.3 The surrounding land carries mixed farming and there are substantial blocks of broadleaved and mixed woodland in the locality; these include an SSSI – Askham Woods, and three Local Wildlife Sites – Cobby Wood, Melcombe Wood and Hare Warren; none of these sites adjoins the quarry.

2.1.4 A minor watercourse flows through the quarry to the Mells River which is 2km away.

• Physiography

2.1.5 The site is a limestone quarry developed within a low hill, the slopes of which, together with constructed bunds, largely screen the quarry void.
Halecombe Quarry contains:-
- the existing working quarry and mineral processing area,
- marginal tracks and benches, areas of overburden and processed waste,
- self-sown grassland,
- improved pasture,
- hedges and planted trees on the boundaries of the quarry,
- a derelict farmhouse, Rookery Farm, holding a bat roost,
- a minor stream, the Halecombe Brook.

The site does not appear to hold habitats likely to support rare plant species. Those areas carrying grassland, including land at the edges of the active quarry and an area of pasture between it and the village, appear to be moderately nutrient-enriched. However, common spotted orchid is present in some numbers and this suggests that the conditions are ameliorating and that the flora will continue to diversify.

The garden of the former farmhouse is overgrown with bramble and weeds, again reflecting enrichment; Japanese knotweed is present here and may require eradication (see para 3.1.3).

Where limestone exposures on shelves and bunds have been left unseeded, they may have begun to develop a limestone flora, though there is no nearby source for colonisation of the more characteristic species. There is some Buddleja invasion but
it is not yet serious.

2.1.10 There is no woodland and the narrow screening belts of trees, whether self-regenerated or planted, lack a true woodland ground-layer vegetation.

2.1.11 The Halecombe Brook receives quarry discharge and effluent from a small STW located in the quarry and serving the nearby village, and has no special ecological value though it could be a commuting route for bats.

- **Fauna**

2.1.12 It is possible that the site has some invertebrate importance associated with areas of shallow soils and stony ground with sparse plant cover but the well-vegetated areas have no characteristics suggestive of significant interest.

2.1.13 Although the quarry contains water bodies used in processing, they appear unsuitable for amphibians. Some of the grassland areas at the margins may hold common lizard and slow-worm, and grass snake probably also occurs.

2.1.14 Based on the types and extent of habitats present, the breeding bird assemblage probably largely comprises common species but may include skylark and song thrush, both of which are UK and Mendips Biodiversity Action Plan Priority Species due to significant population decline. One pair of peregrine falcons breeds in the quarry.

2.1.15 Badgers are not known to visit the site though some of the habitat is suitable for foraging. Lesser horseshoe bats are known to roost in the derelict farmhouse and other species may also use it; all bat species are of considerable conservation importance. It is possible that there are other roosts in the quarry site.

2.1.16 There are no recent records of protected species present in the vicinity of the site.

- **Existing biodiversity management commitments**

2.1.17 There are no specific biodiversity management commitments.

**2.2 Evaluation**

- **Context**

2.2.1 The site currently has no special ecological affinities with other sites and habitats in the area but the Mendips formerly held extensive unimproved limestone pastures which supported a characteristic plant community and invertebrate fauna including butterflies now rare. The quarry could be restored to support limestone grassland and possibly some of the associated fauna.
• **Site**

2.2.2 While initial inspection suggest that the interest of the site is limited, it is possible that a full baseline survey supported by focussed survey for protected species and other important groups will find greater interest.

2.2.3 Importantly, the site has considerable potential given its size, the nature of the landforms and the limestone materials available for use in restoration. Although final restoration is still probably 14 years off, there are substantial areas of non-operational land in which biodiversity gains could be achieved.

• **Biodiversity compartments**

2.2.4 To facilitate management of biodiversity objectives, the site has been divided into management compartments, shown at Figure 2, overleaf.

*Operational areas*

1. The working void including surrounding slopes and faces

*Non-operational areas*

2a. Pasture
2b. Other grassland areas
2c. Boundary hedges and trees
2d. Recent tree plantings
2e. Halecombe Brook
2f. Quarry walls, benches
2g. Rookery Farm

See Figure 2 overleaf.
3. SITE BAP IMPLEMENTATION FRAMEWORK

3.1 Factors affecting site BAP implementation

- **Statutory/ legal obligations**

  3.1.1 The current planning consent, dated March 2001, inter alia requires:-
  - Retention of all boundary hedges and trees (Condition 36),
  - Landscaping of external faces of perimeter bunds and site entrance, using habitat creation techniques to promote biodiversity (Condition 38),
  - Progressive reclamation for nature conservation, quiet recreation, agriculture and water storage in accordance with a scheme to be submitted (Condition 42). Further, the Condition requires “consideration of the establishment of limestone grassland, native broadleaf woodland, hazel coppice and artificial bat caves”.
  - The reclamation scheme has not yet been finalised.

  3.1.2 The site contains protected species including breeding birds including the Schedule 1 species peregrine; a bat roost in a derelict building (bats and roosts are fully protected at all times); possibly other bat roosts in rock crevices or trees; probably also reptiles (which have limited protection).

  3.1.3 Rookery Farm garden contains Japanese knotweed. It is an offence to plant or otherwise cause to grow this species in the wild. The presence of the plant as a garden plant in the quarry does not constitute an offence but care should be taken not to allow it to spread as eradication is extremely difficult.

- **Tenancy obligations**

  3.1.4 The site is not owned by Tarmac and the owner is assumed to wish as far as possible to retain the potential for profitable after-use of the quarry.

- **Other factors**

  3.1.5 There is a public footpath around the northern half of the quarry, largely following the original hill side or the tops of screening bunds. This enables views into the quarry at a number of points.

3.2 Synopsis of quarry development plan and progressive restoration phase

- **Development plan**

  3.2.1 Tarmac is currently reviewing its intentions for the site particularly with regard to the sequencing of phasing.

- **Progressive restoration**

  3.2.2 Currently restoration and management is concerned with the screening tree planting and maintenance of the grassy areas along the line of the public footpath.
3.3 Core site BAP habitat targets

3.3.1 Calcareous (limestone) grassland is a UK and Mendips BAP Priority Habitat and its restoration or creation are objectives under the BAPs. The site contains several substantial areas of improved pasture which are capable of reversion to floristically rich grassland by a grazing and cutting without any nutrient inputs and over-seeding with selected wildflower species. There are also small areas of existing grassland along the public footpath route that have moderate floristic interest and may support butterflies and reptiles. These need to be retained by preventing scrub etc colonisation.

3.3.2 The site also holds broadleaved plantation trees and self-sown trees and scrub, which fall within the lowland mixed deciduous woodland Priority Habitat type. Inland rock outcrops and scree are also a BAP Priority Habitat. The Halecombe Brook is not a Priority Habitat type but it has some value and potential and has consequently been included in the list of habitat targets.

3.3.3 The schedule of proposed BAP habitats is given at Table 1.

Table 1. Schedule of site BAP habitat targets

<table>
<thead>
<tr>
<th>Habitat type</th>
<th>Representation on site</th>
<th>Habitat extent (approx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral/ basic grassland</td>
<td>Pasture capable of reversion</td>
<td>2-3ha</td>
</tr>
<tr>
<td></td>
<td>Grass along footpath</td>
<td>&lt; 1ha</td>
</tr>
<tr>
<td>Woodland and scrub</td>
<td>Mature trees</td>
<td>1ha total</td>
</tr>
<tr>
<td></td>
<td>Self-sown scrub</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recent planting</td>
<td></td>
</tr>
<tr>
<td>Rock outcrops and scree</td>
<td></td>
<td>1-2ha</td>
</tr>
</tbody>
</table>

3.4 Core BAP species targets

3.4.1 BAP Priority Species known or predicted to use the site are:-
  - Slow-worm
  - Grass snake
  - Skylark
  - Dunnock
  - Song thrush
  - Yellowhammer
  - Brown long-eared bat
  - Lesser horseshoe bat.

3.4.2 The site also holds or may hold a number of other species that merit or require, due to legal protection, specific measures. These are included in the schedule of targets given in Table 2.
Table 2  Schedule of site BAP species targets

<table>
<thead>
<tr>
<th>Species</th>
<th>Location on site</th>
<th>Habitat use</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invertebrates</td>
<td>Throughout all vegetated areas</td>
<td>General</td>
<td>Poorly represented but site is capable of enhancement for many species.</td>
</tr>
<tr>
<td>Reptiles</td>
<td>Probably in open grassy areas around site margins and on edges of tree belts.</td>
<td>Hunting, breeding, hibernating</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>Song thrush</td>
<td>Tree planting, hedges</td>
<td>Nesting</td>
<td>Probably breeds.</td>
</tr>
<tr>
<td></td>
<td>Tree planting, scrub, open ground</td>
<td>Feeding</td>
<td></td>
</tr>
<tr>
<td>Skylark</td>
<td>Possibly on pasture areas</td>
<td>Breeding and feeding</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>Barn owl</td>
<td>May hunt over grasslands</td>
<td>Hunting</td>
<td>Not confirmed</td>
</tr>
<tr>
<td>Peregrine falcon</td>
<td>Breeds on quarry face</td>
<td>Breeding</td>
<td>1 pr annually.</td>
</tr>
<tr>
<td>Lesser horseshoe bat</td>
<td>Rookery Farm</td>
<td>Non-breeding roost</td>
<td>Nrs considered to be low but not known.</td>
</tr>
<tr>
<td>Other bat species</td>
<td>Edges of plantation and screening plantings.</td>
<td>Foraging</td>
<td>Use predicted but not yet confirmed.</td>
</tr>
<tr>
<td></td>
<td>Rookery Farm</td>
<td>Roosting</td>
<td>Possible, but nr and spp not known.</td>
</tr>
<tr>
<td></td>
<td>Possibly in mature trees and rock faces</td>
<td>Roosting</td>
<td>Not confirmed</td>
</tr>
</tbody>
</table>

3.5  Site BAP project schedule (existing and new interest)

Locations and approximate extents of the relevant areas are shown at Figure 2 (next page). The precise locations of work e.g. the erection of nest-boxes in boundary trees and the extent of management of grassland areas is to be determined on the ground.

1. The working quarry

No measures proposed at present other than ongoing consideration to the needs of breeding peregrine.

2. Non-operational areas

2a. Pasture

The site contains several areas of pasture on both inner and outer slopes that are understood to be managed by a single summer cut. These are improved grass which has been subject to fertiliser inputs and possibly herbicided to remove broad-leaved plants and reseeded periodically. They appear to have low floristic interest.
However, they are capable of reversion to a significantly more diverse and visually-attractive sward containing plants which will support grassland invertebrates including butterflies, grasshoppers and bumble-bees. The precise method will depend on soil depth, structure and current nutrient status, which will be confirmed by soil analysis. In general terms, it will require the lowering of the nutrient status by harvesting the growth through grazing and mowing (with cut materials removed) and without any fertiliser input or supplementary feeding of livestock. Once nutrient levels are adequately reduced it will be possible to introduce plant species by the use of green hay or seed, using a local provenance source.

Erection of barn owl boxes will be undertaken as the pasture is potentially good hunting habitat.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Management</th>
<th>KPI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduce nutrient status</td>
<td>Grazing and mowing without fertiliser or FYM inputs.</td>
<td>Reduced sward vigour, plant diversity increased</td>
<td>The process is lengthy and care must be taken to ensure livestock welfare.</td>
</tr>
<tr>
<td>Diversify plant community</td>
<td>1. Introduce limestone grassland species by appropriate means 2. Manage by grazing with sheep only.</td>
<td>Successful establishment and natural spread of target plant species.</td>
<td></td>
</tr>
<tr>
<td>Improve value for fauna</td>
<td>Adjust timing and intensity of grazing appropriately</td>
<td>Development of butterfly fauna, breeding skylark, use by hunting raptors</td>
<td>Avoid grazing in mid April to end July. Graze effectively to end of growing season.</td>
</tr>
<tr>
<td>Encourage breeding barn owl</td>
<td>Erect barn owl nesting boxes</td>
<td>Successful breeding</td>
<td>Can be done without waiting for grassland reversion to be complete</td>
</tr>
</tbody>
</table>

2b. Other grassland areas

There are strips of grassland with a moderate floristic diversity along the margins of the public footpath and just inside the safety fence between it and the quarry. In places these are being lost to scrub and bramble colonisation or shaded out by the lower limbs of larger trees. Some patches have suffered recent planting with trees. As far as possible, these grassland areas will be retained. This requires the existing mowing regime to extend over accessible margins, possibly after established scrub and bramble cover and the lower limbs of some of the larger trees been removed. A mower on a long-arm as used for road verges may be required.

Cutting of the path surface can be as frequent as required but the margins will be cut once in May and once after seed-set in September.

Some control of creeping thistle may also be needed and in this case repeat cutting
to prevent flowering and weaken the plants or spot spraying will be required.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Management</th>
<th>KPI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintain existing grassland to develop floristic diversity</td>
<td>Continue mowing regime. Do not cut between mid May and end September</td>
<td>Expansion by species such as orchids</td>
<td>Paths used by public to be cut as required</td>
</tr>
<tr>
<td>Extend grassland areas</td>
<td>Manage to eradicate encroaching scrub and creeping thistle</td>
<td>Increase high quality grassland</td>
<td></td>
</tr>
<tr>
<td>Maintain glades</td>
<td>Control spread of tree canopies</td>
<td>Retention of sunlit but sheltered glades</td>
<td>Warm microclimate favours insects.</td>
</tr>
</tbody>
</table>

2c. Boundary hedges and trees

These are narrow strips which will not develop woodland microclimate and therefore have rather limited biodiversity potential. However, as well as providing visual screening, they add to the overall site diversity and probably provide foraging areas for bats. The mature trees may hold bat roosts. Bat roosting boxes and bird nesting boxes will be erected.

Hedges should be maintained with a tall and bushy structure, producing flowers and fruit.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Management</th>
<th>KPI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improve potential for breeding birds</td>
<td>Erect nest boxes for tits and flycatchers</td>
<td>Successful breeding</td>
<td>Location is critical for occupancy. Boxes to be sited out of public view if there is a risk of vandalism.</td>
</tr>
<tr>
<td>Improve potential for roosting bats</td>
<td>Erect bat boxes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maintain hedge structure</td>
<td>Minimal trimming</td>
<td>Flower and fruit production</td>
<td>-</td>
</tr>
</tbody>
</table>

2d. Recent tree plantings

Currently with minimal value and no short-term potential while in establishment phase.

2e. Halecombe Brook

The Brook has a restricted aquatic flora and fauna but forms a line of semi-natural vegetation including trees and shrub extending across the site and may serve as a commuting corridor for foraging bats as well as other fauna. No active management is required but the present habitat should be maintained.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Management</th>
<th>KPI</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retain as wildlife corridor</td>
<td>Ensure tree and shrub cover is not reduced</td>
<td>Continued presence of sheltering</td>
<td></td>
</tr>
</tbody>
</table>
2f. Quarry walls, benches

Some interest will develop through natural colonisation but buddleja will probably suppress it. This appears to be unavoidable.

2g. Rookery Farm

The building holds a roost of lesser horseshoe bats and may hold other species. Re-roofing will take place under Natural England licence which will require provision for continued use by bats.

4. BAP PROJECT REVIEW

4.1.1 A work programme has been produced and is given at Appendix 3. It will be subject to annual review to assess progress with individual objectives and to plan and budget to following season’s work.
APPENDIX 1. LOCATION PLAN
APPENDIX 2. RESTORATION PROPOSALS  
(CONCEPT FINAL MASTERPLAN)
APPENDIX 3. WORK PROGRAMME.
This work programme will be subject to annual review, updating and extension with new projects as required.

<table>
<thead>
<tr>
<th>Compartment</th>
<th>Sub-compartment</th>
<th>Summary of Management Actions (Refer to Section 3.5 for detail of required works)</th>
<th>Responsibility</th>
<th>Timing</th>
<th>Year</th>
<th>Indicative budget £</th>
<th>Review date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The working void including surrounding slopes and faces</td>
<td>-</td>
<td>Ensure peregrine falcons undisturbed and able to breed</td>
<td>QM</td>
<td>All year</td>
<td>annual</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2. Non-operational land</td>
<td>2a. Agricultural pasture</td>
<td>Negotiate changed agreement with grazier and fence grazing land</td>
<td>Estates</td>
<td>-</td>
<td>2009</td>
<td>£5,000</td>
<td>-</td>
</tr>
</tbody>
</table>
| | | Revert by:-
| | | 1. changed management to reduce fertility,
| | | 2. control of weed species,
| | | 3. overseeding with local provenance material | Restoration Manager / QM | - | 2008 on | £1,000 | Annual in summer |
| | | Erect barn owl boxes | QM | - | 2008 | £1,000 | 2012 |
| | 2b. Other grassland areas | 1. Reduce encroaching scrub
| | | 2. Mow in May and September
| | | 3. Control creeping thistle | QM | - | 2008 | £2,000 | Annual in summer |
| | 2c. Boundary hedges and trees | Erect bird and bat boxes | QM | - | 2008 | £1,000 | 2012 |
| | 2d. Recent tree planting areas | Review biodiversity potential when trees and shrubs established | Estates | - | 2012 | - | - |
| | 2e. Halecombe Brook | Maintain existing character with trees and shrubs | QM | - | ongoing | - | - |
| | 2g. Rookery Farm | Required works under Natural England licence | Estates | winter | 2008 | - | 2009 |
| | All areas | Baseline survey for important and protected species | Estates | summer | 2009/10 | £3,000 | - |