

Minerals Topic Paper 5:

Reclamation



Somerset County Council

Minerals and Waste Development Framework

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Cover photographs: main image of Ham Wall National Nature Reserve (supplied by Natural England); smaller images top to bottom: Whatley Quarry (taken by SCC; Wildlife (taken by SCC); View from within the working area of a building stone quarry (taken by SCC).

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For further details of the Somerset Minerals and Waste Development Framework, and to view and download this and other documents, please visit our website.

www.somerset.gov.uk/mineralsandwaste

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1 Introduction

- 1.1 This paper is one of a series of topic papers supporting the Somerset Minerals Plan, providing detailed information on key topics. With a focus on mineral site reclamation, this topic paper reflects the discussions and issues arising up until the point of publication. The development of this theme of the Minerals Local Plan is an iterative process, with discussions on policy considerations after publication of the topic paper.
- 1.2 This paper covers the following:
- What restoration is;
 - A policy context;
 - Scoping the issues and options for mineral site reclamation in Somerset; and
 - The development of a mineral site reclamation policy for Somerset.
- 1.3 For further information on the Minerals and Waste Development Framework, and how this paper relates to other issues in minerals planning policy, please visit: **www.somerset.gov.uk/mineralsandwaste**

2 What is mineral site reclamation?

Definitions

- 2.1 To align with Schedule 5 of the Town and Country Planning Act (1990), 'reclamation' is taken to mean "the process of returning the land to the agreed after-use and standard which includes both the restoration and the aftercare periods". 'Restoration' refers to when the "operations associated with the winning and working of minerals and which are designed to return the area to an acceptable environmental condition, whether for the resumption of former land use or a new use" (CLG, 2012b: 19); while 'aftercare' is defined as "the use that land, used for minerals working, is put to after restoration" (CLG, 2012b: 19). This revised version of the topic paper has been renamed the Reclamation Topic Paper to more accurately align with these definitions.

Somerset's minerals

- 2.2 Somerset is one of the most prolific mineral producing counties in England. In particular, Somerset extracts aggregate (predominantly crushed rock), building stone and peat. For more information see the Preferred Options paper or the adopted Minerals Local Plan.

Crushed rock aggregate

- 2.3 Somerset is the largest producer of crushed-rock aggregate in the south of England with an average of over 10 million tonnes produced over recent years. The vast majority is extracted from quarries in the east Mendip Hills of which a significant proportion is exported to other counties by rail. Quarries in the Mendip Hills Area of Outstanding Natural Beauty (AONB) and those located close to Bridgwater meet more local construction and industrial need. Relatively minor quantities of sand and gravel are worked on the Devon border.
- 2.4 For more information on aggregates see the Preferred Options document, the Aggregates Issues Paper and the Minerals Topic Paper on Aggregates, available via the following link:
<https://www.somerset.gov.uk/mineralsandwaste>.

Building stone reclamation and after-use

- 2.5 A variety of stones and stone products are produced to meet local need. Quarries tend to be quite small and are spread across the county. These stones help to contribute to Somerset's local built heritage and character. Examples are Forest Marble, Ham Hill, Doultong and Hadspen building stones.
- 2.6 Building stone has an important role to play in maintaining supply for very localised areas of the county, and markets outside of the county. They are used in existing buildings for restoration, conservation and extensions as well as for new building work. This is especially important for Conservation Areas, of which there are in excess of 170 in the county. The importance of this local distinctiveness is becoming increasingly recognised and the maintenance of

the built heritage is now a significant issue to society.

- 2.7 For more information on building stone see Minerals Topic Paper 2 on Building Stone and the Preferred Options document:
<https://www.somerset.gov.uk/mineralsandwaste>.

Peat

- 2.8 Peat is an organic soil formed mainly from the remains of plants that have accumulated in wetland habitats. Somerset's peats are lowland peats and are predominantly sedge with limited areas of sphagnum moss in raised peat bogs, located in the Somerset Levels and Moors - a low lying wetland area within Mendip and Sedgemoor districts. This area is subject to a number of historic environment and conservation special designations.
- 2.9 For more information on peat see the Preferred Options document, the Peat Issues Paper and the Minerals Topic Paper, available via the following link:
<http://www.somerset.gov.uk/mineralsandwaste>.
- 2.10 The reclamation of former peat extraction sites has been a concern due to relatively little restoration having been carried out historically. Improvements have been achieved through modern working conditions that have been attached to old planning permissions via planning legislation brought in through the 1980s and 1990s, namely the Planning and Compensation Act 1991¹ and the Environment Act 1995².
- 2.11 Extensive reclamation to nature conservation is possible and has occurred in areas of former peat extraction. The majority of these areas were restored by nature conservation organisations following the withdrawal of a major peat producer from Somerset. Unlike many of the peat extraction sites, these sites were only partially worked and therefore benefited from peat remaining within the excavations. Most extraction sites in Somerset seek to remove all of the workable peat, leaving relatively deep water overlying a clay base which limits restoration opportunities.
- 2.12 Peat sites also play a significant role in supporting water management and flood resilience. Peat moors can be used as part of the normal functioning of the floodplain to store large amounts of storm water above ground. Worked out peat areas have the potential to act as reservoirs to aid summer irrigation, which has the potential to contribute to long-term planning for climate change.

Energy minerals

- 2.13 The main minerals classed as 'energy minerals' are coal, oil and gas. Although coal accounts for 29% of the UK's energy supply³, and coal has been mined in Somerset in the past, it is not expected that coal mining or shallow coal workings will be reactivated. Most of the oil and gas extracted in

¹ *Planning and Compensation Act 1991*: Interim Development Order Permissions, Section 22, Schedule 2. London: HMSO.

² *Environment Act 1995*: Review of Mineral Planning Permissions, Section 96, Schedules 13 and 14. London: HMSO.

³ DECC – Digest of UK energy statistics 2012, available at:
<https://www.decc.gov.uk/assets/decc/11/stats/publications/dukes/5991-statistical-press-release-dukes-2012.pdf>

the UK is mined off-shore, in particular beneath the North Sea and the Irish Sea. With North Sea reserves declining, the development of domestic gas supplies has been seen as a valuable step in reducing our reliance on imports. As such, there is a greater emphasis on developing on-shore supplies to contribute to the UK's energy security.

- 2.14 There is a growing interest across the UK in the exploitation of “unconventional” reserves; for example, linked with extracting natural gas from shale via the process of hydraulic fracturing (otherwise known as fracking) and/or extracting gas from coal seams (potentially linked with former coal mines).
- 2.15 The Department for Communities and Local Government recently published *Planning Practice Guidance for Onshore Oil and Gas* (July 2013)⁴ and at the time of writing further consultation has been sought on the secondary legislation required to support this guidance. This area of policy is therefore still evolving and as such the County Council maintains a watching brief. Further information can be found in the Energy Minerals Topic Paper⁵ and on Somerset County Council's dedicated webpage: <https://www.somerset.gov.uk/oilandgas>.
- 2.16 With regards to reclamation, it is anticipated that consideration will also need to be given to the restoration and after-uses of energy mineral sites. This will be developed further as government guidance on the topic emerges.

Mineral site reclamation

- 2.17 Mineral extraction is considered in planning terms as a temporary land use, although it can last a number of years, or decades. Mineral extraction has potential, without proper management from all parties involved, to permanently damage the Somerset environment. Development which is temporary should always have an approved scheme for restoration and aftercare and an agreed end date by which this will have been implemented.
- 2.18 It is important that land that has been used for mineral extraction is appropriately restored, and that restoration takes place as soon as possible after extraction has finished. Restoration of mineral sites may be carried out progressively, with sections of the site worked and restored before the next area is worked out. Mineral sites which have finished producing minerals offer Somerset a valuable opportunity for community, environmental and economic enhancement and improvement.
- 2.19 Reclamation should be more than merely returning the land to a satisfactory condition after extraction. Reclamation should seek to contribute to and enhance the local environment; achieving, wherever possible and appropriate, a high level of community and environmental benefits, which will in turn benefit the Somerset economy. Such benefits could be:
- Improved resilience of ecological networks;
 - Provision of new opportunities for public access and recreation;
 - Alleviation of flooding; and

⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/224238/Planning_practice_guidance_for_onshore_oil_and_gas.pdf

⁵ <https://www.somerset.gov.uk/mineralsandwaste>

- Improvements to the long term appearance of the Somerset landscape.
- 2.20 Demand for Somerset minerals is ongoing and thus a robust policy framework is required to ensure that the Somerset Minerals Plan and associated documents support and require appropriate mineral restoration and after-uses.
- 2.21 Each of the mineral resources (aggregates, building stone, peat and energy minerals) extracted in Somerset require different reclamation approaches as a result of differences in the scale and nature of the minerals operations. The planning conditions which relate to the site will also need to be considered, along with other factors such as transport, location and surrounding landscape.

What are the potential benefits of successful mineral site reclamation?

- 2.22 Reclamation should maximise community and environmental benefit, whilst having regard that the after-use should be determined in relation to the land use context and surrounding environmental character.
- 2.23 Community benefit could include uses that benefit the local area and those that live and work nearby such as leisure and amenity opportunities or encourage new industries, such as tourism, that are compatible with existing land uses. Environmental benefit could include the provision of net gains in biodiversity by establishing coherent ecological networks, or the contribution to the achievement of UK Biodiversity Action Plan (BAP)⁶ or Somerset's Local Biodiversity Action Plans (LBAPs) habitat and species targets.
- 2.24 More detail on potential benefits is included later in this document.

Nature conservation after-use

- 2.25 There is significant potential for the minerals industry to leave a lasting legacy for people and wildlife, enhancing and improving Somerset's environment. The *Nature after Minerals* programme emphasises this importance and the role that minerals sites can play in creating wildlife habitats. This project is a partnership between Natural England and the RSPB, with support from the Mineral Products Association (formerly the Quarry Products Association) and the British Aggregates Association. These organisations are working with mineral planners and industry to help nature after minerals.
- 2.26 Further detail on this is included in the following Section 3, Policy Context, looking at *Other Somerset Policy and Strategy*.

3 Policy Context

National policy

⁶ Further information on the UK BAP can be found via the following link:
<http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/protectandmanage/ukactionplan.aspx>

- 3.1 Central government and various environmental organisations have been encouraging nature restoration, “to create a resilient and coherent ecological network at national and local levels across England. Achieving this will require a fundamental shift in approaches to conservation and land management.” (DEFRA, 2011: 2.14).

The Natural Environment White Paper

- 3.2 The Natural Environment White Paper, “The Natural Choice: Securing the value of nature”, published in June 2011, makes a commitment to supporting nature restoration through providing a clear institutional framework to:
- establish Local Nature Partnerships to strengthen action at the right scale and mirror Local Enterprise Partnerships (LEPs);
 - create new Nature Improvement Areas (NIAs); and
 - strengthen support through the planning system, including through biodiversity offsets. (DEFRA, 2011: 2.14)

National Planning Policy Framework

- 3.3 As a Mineral Planning Authority, the County Council has a duty to align with national policy and guidance, unless there is a demonstrable reason for not doing so.
- 3.4 Minerals reclamation policy was previously contained in Mineral Planning Guidance 7: Reclamation of mineral workings (CLG, 1996) which has been superseded by the National Planning Policy Framework (NPPF) (CLG, 2012), which sets out national policy with regards to restoration.
- 3.5 The NPPF (CLG, 2012a: 144) and Technical Guidance to the NPPF (CLG, 2012b: 33) require that planning authorities should provide for restoration and aftercare at the earliest opportunity to be carried out to high environmental standards (CLG, 2012a: 144). The Technical Guidance (CLG, 2012b: 33) explains that this should be included through the provision of a landscape strategy, restoration conditions and aftercare schemes as appropriate. In this context these terms are defined as:
- Restoration means operations associated with the winning and working of minerals and which are designed to return the area to an acceptable environmental condition, whether for the resumption of former land use or a new use; and
 - Aftercare means the use that land, used for minerals working, is put to after restoration.
- 3.6 The NPPF (CLG, 2012a: 165) also states that planning policies and decisions should be based on up-to-date information about the natural environment and other characteristics of the area (CLG, 2012a: 165). This should include an assessment of existing and potential components of ecological networks, working with Local Nature Partnerships where appropriate (CLG, 2012A: 117). Preferred policies for restoration for the Somerset Minerals Plan, particularly aggregates (SMP5 in the Preferred Options document), are supported by such assessments – see paragraph 3.25 onwards, regarding “Nature after Minerals”.

Other relevant legislation

- 3.7 As Mineral Planning Authority, the County Council must be mindful of the special requirements regarding Aerodrome safety and safeguarding. This is of particular concern where a restored mineral site may attract birds, which are a potential hazard to aircraft.
- 3.8 Further information can be found in Planning Circular 01/03 (England & Wales) Safeguarding, Aerodromes, Technical Sites and Military Explosives Storage Areas⁷.

Current Somerset policy

- 3.9 The adopted Somerset Minerals Local Plan contains policies M17 and M18 in Section 4, *Protecting the Environment and Local Communities*, which provides overarching policy on restoration and after-use. These policies are detailed below:

Policy M17

Proposals for mineral development will only be permitted if they are accompanied by satisfactory reclamation and after-use proposals. Proposals should use every opportunity to enhance the environmental value of sites to contribute to the biodiversity of the County or, where appropriate, to create recreational opportunities. Schemes will need to demonstrate that an acceptable balance has been struck between maximising the amount of mineral extracted and leaving a landform suitable for a beneficial after-use.

Policy M18

Restoration proposals to agriculture, forestry or amenity (including nature conservation) will be subject to a five year period of aftercare. Where proposals require a longer period of management the proposal will only be permitted if it includes details of how this will be achieved

- 3.10 Policies M39, M44 and M47 provide detailed policy on the reclamation of sites for crushed rock aggregates, building stone and peat, respectively:

Policy M39

When determining reclamation proposals within the East Mendip Area (see Inset Plan 1 for details) the MPA will seek to achieve a range of final landforms with a balance of areas left above and below the water table and appropriate to the location of the site.

Policy M44

When considering proposals for the restoration, aftercare and after-use of former peat workings, approval will only be given

⁷ The circular can be accessed via the following link:
<http://www.dft.gov.uk/publications/safeguarding-aerodromes-technical-sites-military-explosives-storage-areas/>

to those schemes which are in accordance with the Framework for Reclamation.

Policy M47

Acceptable after-use proposals will be prerequisite for the granting of planning permission for building stone quarries. Proposals will be expected to include the use of quarry waste derived from the site for backfill and in order to secure this, the removal of materials from sites will be restricted to the type of stone for which permission was granted.

- 3.11 Three potential options for site restoration and after-use following peat extraction are provided in the adopted Minerals Local Plan⁸. These options are:
- Activities that promote nature conservation and enhance wildlife conservation.
 - Agriculture or forestry use that does not conflict with the maintenance and promotion of the wildlife interest.
 - Areas for land and water based activities which do not conflict with the wildlife interest and quiet nature of the area.
- 3.12 These restoration options were included in a framework map within the Minerals Local Plan that identified broad areas where restoration types would be most suitable. By locating similar restoration types in particular areas it was thought that a greater potential benefit could be achieved and impacts controlled.
- 3.13 The Somerset Minerals Local Plan will be replaced by the Somerset Mineral Plan; see below for further information.

Somerset Minerals Plan (currently in preparation)

- 3.14 The Mineral Options Paper consultation (closed 12 February 2012) was published before the NPPF was adopted by Government, and, as such, refers to Minerals Policy Statement 1. The NPPF introduced new requirements and policy areas for Somerset County Council as Mineral Planning Authority. The NPPF reformed the planning system, replacing a suite of National Policy Statements and Minerals Policy Statements and Guidance, thereby requiring greater information to be included in Minerals Plans.
- 3.15 Since the Minerals Options consultation, new research and related developments on policy have required further consideration and consultation. Consultation and meetings with the industry have been taking place to inform preferred policy. Furthermore workshops were held with representatives from planning, ecology and environmental disciplines (involving delegates from a range of non industry organisations such as Somerset Wildlife Trust, and Natural England). These were held on 11th September 2012 hosted by Somerset County Council and covered aggregates and peat in distinct sessions. Further feedback from these meetings is detailed later in this document.

⁸ The Adopted Minerals Local Plan can be found via the following link:
www.somerset.gov.uk/mineralsandwaste

- 3.16 All consultation feedback from the Minerals Options consultation, and research and consultation since the consultation ended, has helped to inform the preferred policy included in the Preferred Options document which went out to consultation on January 11th 2013 to March 8th 2013. This document can be accessed at: <http://www.somerset.gov.uk/mineralsandwaste> .
- 3.17 The Preferred Options document was produced to allow Somerset County Council to:
- Consult on new elements such as energy minerals;
 - Consult on elements of the Minerals Options consultation which require further clarity;
 - Consult on the preferred policy options for all minerals within Somerset; and
 - Provide an opportunity for further consultation with a wide range of stakeholders, including the general public.
- 3.18 Feedback from this consultation will guide the preparation of the Pre-submission Minerals Plan in 2013. The Preferred Options document contains sections on restoration that has been informed by this topic paper.
- 3.19 More information about the Somerset Mineral Plan can be found on the Somerset County Council website: <http://www.somerset.gov.uk/mineralsandwaste>

Other Somerset Policy and Strategy

- 3.20 The **Waste Core Strategy** (adopted February 2013) contains policy WCS2 which relates to the recycling and reuse of waste. A part of this policy reads as follows:

Applications for all types of development should demonstrate that viable opportunities to minimise construction and demolition waste disposal will be taken, making use of existing industry codes of practice and protocols, site waste management plans (as detailed in strategic policy WCS1 (of the Waste Core Strategy) and exemptions issued by the Environment Agency.

Before considering inert landfill disposal, inert waste that cannot be reused or recycled on-site should be diverted off-site for recycling and/or the following beneficial uses, subject to the general considerations mentioned above:

- *The restoration of quarries and other excavation sites (excluding peat sites);*
- *Other uses with clear benefits to the local community and environment; or*
- *Other facilities that will facilitate such positive use.*

- 3.20 The full text of this policy can be found in the Waste Core Strategy, via the following link: www.somerset.gov.uk/mineralsandwaste.
- 3.21 Another Somerset based strategy that will be involved in mineral restoration is **Wild Somerset**. This biodiversity strategy for Somerset was launched in 2008

with the County Council as a key partner amongst a wide ranging stakeholder group.

- 3.22 Local Biodiversity Action Plans (LBAPs) have been adopted by District Councils. These identify local species and habitat priorities and set out ways to protect them. Of particular interest to the subject of peat, will be the Mendip District LBAP⁹.
- 3.23 County-wide action plans have also been written for the following priority species and habitats in Somerset: bats; lapwings; and otters¹⁰.
- 3.24 In addition, the **Somerset County Council Freight Strategy**¹¹, **Local and Future Transport Plans** (including public Rights of Way)¹², and **Somerset Sustainable Community Strategy**¹³ should also be considered as guiding documents.

Nature after Minerals

- 3.25 To help plan for nature after minerals, Somerset Wildlife Trust and Somerset County Council are identifying and supporting a Mendip Hills Ecological Network, which will identify a basic framework of essential existing infrastructure, and new areas of strategic opportunity for the restoration of ecological function.
- 3.26 An ecological network is a joined-up group of natural and semi-natural habitats which are managed with the objective of maintaining or restoring ecological function, in order to conserve biodiversity¹⁴. Ecological networks are provided as a response to biodiversity decline, and aim to provide a connected collection of refuges for wildlife. These networks are the basic infrastructure that will begin to enable biodiversity to recover from recent declines, and help to protect socially and economically important ecosystem goods and services.
- 3.27 It will contribute to conserving and enhancing biodiversity in the minerals planning area in conjunction with other policy measures, including the preservation of sites outside the network with intrinsic high biodiversity value. The Mendip Hills Ecological Network will be incorporated into the Minerals Plan to inform the implementation of restoration policy in aggregate sites in that area.

⁹ The Mendip LBAP can be found via the following link:

<http://www.mendip.gov.uk/Documents/Planning%20Policy/Mendip%20LBAP.pdf>

¹⁰ Further information can be found via the following link:

<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/wpccontent/Sites/SCC/Web%20Pages/Services/Services/Environment/Somerset%20Biodiversity%20Partnership>

¹¹ Available at: <http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Strategic%20Planning/Freight%20Strategy%20Adopted%20Dec%2011.pdf>

¹² Available at: <http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/wpccontent/Sites/SCC/Web%20Pages/Services/Services/Environment/Transport%20strategy>

¹³ Available at: <http://www.somerset.gov.uk/irj/public/council/policies/policy?rid=/guid/f0b22bba-f229-2d10-36a2-ce3540e67366>

¹⁴ Biodiversity is taken to encompass nationally and locally important and priority species and habitat.

3.28 The Mendip Hills Ecological Network will consist of the following components:

3.29 **Core Areas:** The basic building blocks of the network, Core Areas are the remaining refuges for biodiversity, and include:

- Statutorily protected sites designated for their international and national importance for nature conservation, including Natura 2000 sites¹⁵ and Sites of Special Scientific Interest (SSSI).
- Nature reserves owned or managed by non-governmental conservation organisations for the purpose of protecting and restoring biodiversity.
- Areas of conservation priority habitat found on the Mendip Hills, including grassland, woodland and heath¹⁶, which are of a size capable of supporting a viable population of focal species.

3.30 **Corridors and Stepping Stones:** The distribution routes of the network, Corridors and Stepping Stones are important features which connect Core Areas together, and include:

- Features such as hedgerows, fields, and watercourses which provide contiguous structural connectivity are referred to as corridors: they criss-cross the landscape and should provide continuous pathways enabling species to move around between larger areas of habitat.
- Small and often isolated patches of habitat which provide functional connectivity are referred to as stepping stones: they enable some species to “leapfrog” across an otherwise hostile landscape by providing resources like food and shelter.

3.31 **Restoration Areas:** The opportunity areas of the network. Restorations Areas are patches of poorer quality habitat close to existing core sites, corridors or stepping stones which, through restoration, would enhance future connectivity, resilience and functioning of the local ecological network. Restoration Areas are selected based on a number of factors including their size, proximity to existing features on the network, the condition of the habitat, the likelihood of restoration being successful, and future surrounding land use.

3.32 The preparation of the Mendip Hills Ecological Network is an iterative process. Mapping and modelling exercises are being undertaken in partnership with Somerset Wildlife Trust to:

- map existing ground-truthed areas and features of importance for protected and conservation priority species and habitats
- model the minimum sized areas of priority habitat and the linkages needed between them to support viable populations of key focal species

¹⁵ The Natura 2000 network in England is made up of Special Areas of Conservation, Special Protection Areas and Ramsar sites.

¹⁶ Conservation priority habitat is identified and designated through s41 of the Natural Environment and Rural Communities Act 2006, and is the focus for nationally set conservation targets.

- 3.33 The figures in Appendix 1 show the initial results of this exercise. Indicative Habitat Networks for priority grassland, broadleaf woodland, heath and acid grassland, and riverine have been modelled from existing areas of priority conservation habitat. From these Habitat Networks, a suite of Core Areas, Restoration Areas, Stepping Stones and Corridors has been mapped and a full Mendip Hills Ecological Network incorporated into the Pre-Submission Minerals Plan.
- 3.34 The Mendip Hills Ecological Network complements the existing process of planning for protected and priority sites, species and habitats. It does not remove the legal or policy requirements upon developers to survey, assess, plan and manage potential impacts to wildlife. The Mendip Hills Ecological Network is a response to Government targets for the halting of biodiversity loss and safeguarding of ecosystems goods and services, and is a means of identifying the basic ecological infrastructure required to achieve this.
- 3.35 The Mendip Hills Ecological Network identifies the remaining areas of priority habitat, areas for biodiversity enhancement, and the connections that need to be made to link these areas up across the landscape. It is a tool to assist with restoration master-planning (and inform the minerals planning process), enabling minerals development to contribute positively to the natural environment in line with the Natural Environment White Paper and the National Planning Policy Framework.
- 3.36 The Network maps will be subject to annual review in partnership with Somerset Wildlife Trust and Somerset Environmental Records Centre, to take into account new and emerging spatial planning, land use and ecological survey data. A full methodology for the preparation, monitoring and review of the Mendip Hills Ecological Network can be found in the Annex to this topic paper, entitled “*Identifying and Mapping the Mendip Hills Ecological Networks*”, and accessed via the following link: www.somerset.gov.uk/mineralsandwaste.
- 3.37 More information about this project can be found on the *Nature after Minerals* website at <http://www.afterminerals.com/> and at <http://www.somerset.gov.uk/ecologicalnetworks>.
- 3.38 Other sources of information and industry bodies are detailed at the end of this document.

4 Scoping the Issues and Options

- 4.1 The process of developing the new Somerset Minerals Local Plan started with the initial identification of issues for consideration in the papers on Aggregates (January 2010), Building Stone (July 2010) and Peat (September 2009) available via the following link: www.somerset.gov.uk/mineralsandwaste
- 4.2 While each of these papers explored in great detail the specific issues for their topic areas, they also explored individual considerations for the issues of restoration and after-use. These can be summarised as follows:

Somerset Peat Paper - summary of issues

Aggregate - reclamation of sites

MPS1 requires the Minerals Planning Authority to provide guidance on suitable or preferred after-uses and reclamation standards. Such guidance exists for the peat extraction area in Somerset but not for aggregate workings.

To date the reclamation opportunities for hard rock quarries could be considered to be limited by the low proportion of mineral waste and overburden to final void, particularly with regards to the deep quarries. Many of the quarries will become largely water-filled on completion once pumping has stopped.

Building Stone - restoration and after-use

Most building stone quarries are relatively shallow, and the high proportion of inferior quality stone which is discarded may be used for some restoration or conservation purposes (or walling), or retained at the quarry and be available for site restoration and after-use. Where practicable, especially for longer or larger extraction permissions, progressive restoration may be appropriate.

Post-working quarry sites may be of value for industrial development, housing, farming and offer local amenity or educational benefits. After-use schemes often recognise the value that disused quarries have as potential wildlife havens, as areas for habitat creation and biodiversity gains. The retention of un-restored quarry faces can also contribute to the interpretation of the geology of Somerset.

Peat - restoration

Common uses for former peat working areas have included: conservation; fishing lakes; and commercial reed growing for compost. Sometimes options for after-uses can be limited due to the area and depth of extraction, as operators find it increasingly difficult to maximise profit.

The NPPF seeks to ensure that, “high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation” (CLG, 2012: 143).

- 4.3 Responses to this initial scoping of the restoration and reclamation issues for aggregates, building stone and peat concluded that:

For aggregates

- The quarrying industry mentioned restoration as a positive impact; and

- On the question of whether vertical or lateral extensions were preferable, the majority view was that deepening of quarries was preferable in order to restrict the overall extraction footprint although a better understanding of the impacts of deepening was needed particularly on the water environment. Lateral extensions were seen as providing more flexibility in site restoration.

For building stone

- Responses received provided a wide variety of suggestions for the restoration and after-use of completed building stone quarries, although uses should be appropriate to the local area. Potential uses included agriculture, forestry, amenity, nature conservation, geodiversity, water resources, public access, housing, industry and retail. Several responses were against any built development or intensification of use.

For peat

- Restoration is key;
- Somerset's peat carbon storage is vital; and
- Agricultural land remains important.

- 4.4 These key points were taken forward in the subsequent Options consultation in February 2012, to focus on specific questions and options, as follows.
- 4.5 Three potential options for site restoration and after-use following peat extraction are provided in the adopted Minerals Local Plan. These options are:
- Activities that promote nature conservation and enhance wildlife conservation.
 - Agriculture or forestry use that does not conflict with the maintenance and promotion of the wildlife interest.
 - Areas for land and water based activities which do not conflict with the wildlife interest and quiet nature of the area.
- 4.6 These restoration options were included in a framework map within the Minerals Local Plan that identified broad areas where restoration types would be most suitable. By locating similar restoration types in particular areas it was thought that a greater potential benefit could be achieved and impacts controlled.
- 4.7 With regards to aggregates, the consultation considered the restoration and after-use of quarries in the East Mendips, taking forward concerns raised about scale in the issues paper. As such, the following options were presented:

- **Option a:** Restoration and after-use of quarry sites should be determined on a site by site basis.
- **Option b:** Restoration should be determined by meeting criteria defined in an agreed long term strategic landscape scale restoration strategy for the East Mendips.

- 4.8 A small majority of respondents preferred option b, while a number suggested an approach where: smaller quarries should be determined on a site by site basis; and larger quarries should be determined by meeting criteria defined in an agreed long term strategic landscape scale restoration strategy for the East Mendips.
- 4.9 While it is understood that larger quarries have the potential to link with and benefit a larger surrounding landscape and ecological network, smaller sites also have the potential to extend benefits beyond site boundaries to the environment and communities. The Minerals Plan will seek to develop a flexible and holistic approach to ensure that the full value of the environment is considered in any decision making.
- 4.10 The consultation also asked what land uses might be suitable for quarry after-use. There were a wide range of suggestions, including: nature reserves; biodiversity and geological conservation; recycling of waste (particularly aggregates); renewable energy (solar farms or thermal storage); recreation; and industrial uses at railheads.
- 4.11 Any potential land uses for quarry after-use would need to be fully evaluated and considered against national policy and policy included in the Minerals Plan.
- 4.12 Respondents to the peat issues paper consultation¹⁷ highlighted that there is mismatch between adjacent land uses following restoration despite the restoration framework. The Options consultation therefore consulted on how the emerging Minerals Plan should approach peat reclamation.
- 4.13 The key message from the Options consultation was that 48% of respondents believed that the existing framework for reclamation should be revised, taking account of changes in the industry and opportunities such as biodiversity ambitions of the Natural Environment White Paper.
- 4.14 The consultation asked questions, in relation to peat, regarding the Reclamation Framework. Three options were presented for comment:

- **Option a:** The framework for reclamation included in the Minerals Local Plan is still relevant and should continue to guide the type of restoration and after-use of sites
- **Option b:** A framework for reclamation allows the industry and community to work towards a positive landscape and range of after-uses in the area, but the Framework in the Local Plan needs to be revised to reflect changes in the industry and opportunities such as biodiversity ambitions of the Natural Environment White Paper
- **Option c:** Restoration options should not be prescriptive and should allow for a variety of beneficial land uses. It should be the responsibility of the developer to demonstrate the benefits of the restoration and after-use scheme.

¹⁷ October 2009. Available at:

<http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Minerals%20and%20waste/Mineral%20consultation%20papers/Peat%20Extraction%20Paper.pdf>

- 4.15 Most respondents expressed support for option b, with the majority of respondents to this consultation expressing the opinion that:
- no further peat permissions should be granted;
 - peat permissions that will have a detrimental effect on the Somerset Levels and Moors SPAs should be reviewed and permissions modified or revoked as appropriate. Loss of asset will have to be compensated from public purse; and
 - a framework for reclamation allows the industry and community to work towards a positive landscape and range of after-uses in the area, but the framework in the Local Plan needs to be revised to reflect changes in the industry and opportunities such as biodiversity ambitions of the Natural Environment White Paper.
- 4.16 The most recent round of consultation was on the Preferred Options of the Somerset Minerals Plan, which finished 8th March 2013. Topic papers on Safeguarding, Restoration and Building Stone¹⁸ were published at the same time, with publication of new topic papers on Aggregates, Peat and Energy Minerals due later in the year; accompanied by appropriate revisions to the papers already published.
- 4.17 The consultation asked whether there was specific support for the preferred policies SMP5 Restoration and After-use (for aggregates); SMP9 Reclamation (for peat); SMP11 Restoration and After-use of Building Stone Quarries; and DM6 Restoration and Aftercare. The consultation also encouraged commentary on these policies and welcomed responses on the supporting text.
- 4.18 In headline terms, there was general support for the preferred policies SMP5, SMP9, SMP11 and DM6. Some respondents offered additional commentary and suggestions, which are elaborated on in the following section.

5 Developing a Mineral Site Restoration Policy for Somerset

Aggregate restoration and after-use

- 5.1 Consultation questions were included in the Minerals Options Paper consultation (December 2011 to February 2012) on aggregate site restoration. The Options consultation responses provided a mixed collection of opinions on restoration. 47% of respondents considered that restoration and after-use of quarry sites should be determined on a site by site basis. 42% of respondents thought that restoration should be determined by meeting criteria defined in an agreed long term strategic landscape scale restoration strategy for the East Mendips.
- 5.2 Since the consultation ended, all comments received have been considered and meetings with the minerals industry and restoration workshops have taken place to inform Preferred Policy SMP5 in the Preferred Options document which has been included on the next page.

¹⁸ This paper can be viewed via the following link: www.somerset.gov.uk/mineralsandwaste

- 5.3 Due to the mix of opinion from previous consultation responses it was proposed that a policy for aggregate site restoration should be included that set a headline vision that guides the restoration and after-use of all aggregate sites. It was also suggested that a number of criteria, listed below the policy, should be included to help inform the industry and planning officers how to comply with the vision.

POLICY

Preferred Policy SMP5: Restoration and After-use

Restoration and after-use proposals for aggregate sites should seek to contribute to and enhance the local environment by minimising impacts on and providing net gains for habitats, biodiversity, geodiversity, landscape and communities and providing gains that improve the resilience of ecological networks. Proposals should demonstrate how the listed criteria have been met.

Criteria:

- a) Demonstrate a high level of collaboration with other land uses/ management practices/ programmes/ quarry operators/ conservation bodies to contribute to landscape-scale restoration.
- b) Support improved public access to the natural environment.
- c) Provide a broad range of potential after-uses for the community – leisure and amenity opportunities for example, that do not conflict with biodiversity and ecological networks.
- d) Minimise impacts to an acceptable level on the visual impact of mineral development on the surrounding environment and communities.
- e) Minimise impacts to an acceptable level on and provide net gains in biodiversity, thereby contributing to the Government's commitment to enhance biodiversity including by establishing coherent ecological networks that are more resilient to current and future pressures.
- f) Contribute to the achievement of UK Biodiversity Action Plan (UK BAP) and Local Biodiversity Action Plan (LBAP) habitat and species targets.
- g) Demonstrate the consideration and use of biodiversity offsetting using the biodiversity methodology developed by Somerset County Council¹⁹.
- h) Provide benefits beyond planning permission boundaries.
- i) Provide for adaptation or mitigation to impacts of climate change on habitats, species and ecological networks.

¹⁹ Biodiversity offsetting methodology is available at:
<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/109ccd92-5436-2c10-a097-a2279759bed6>

- 5.4 To support the delivery of Preferred Policy SMP5 and the associated criteria in any aggregates planning application it was suggested that it should be informed by current work on the Mendip Hills Ecological Network, which is being undertaken by Somerset Wildlife Trust's Living Landscape team in conjunction with Somerset County Council as part of the new requirement in the NPPF to assess existing and potential components of ecological networks. See Section 3, paragraph 3.25 onwards.
- 5.5 There was a positive response to policy SMP5 in the Preferred Options consultation, with the majority of respondents expressing support. A number of comments related to the criteria list itself, with some suggesting that it may not be possible or desirable to aim to achieve all the criteria in the list²⁰. One respondent (115) suggested making reference to potential geodiversity gains; while another (41.1) suggested that it would be difficult at this point in time to determine what the required uses might be at the end of a quarry's life, which may be in 50 to 100 years' time.

Building stone restoration and after-use

- 5.6 As supported in the NPPF (CLG, 2012a: 143) high quality restoration and aftercare of building stone sites should take place, including for agriculture, geodiversity, biodiversity, native woodland, the historic environment and recreation.
- 5.7 Progressive restoration commenced at the earliest opportunity will be required wherever is practicable and schemes should recognise the value of retaining unrestored quarry faces which contribute to the interpretation of the geology of Somerset.
- 5.8 Restoration of building stone sites will develop on a site by site basis given the extent of the varying locations and dimensions of these sites across Somerset.

POLICY

Preferred Policy SMP11: Restoration and after-use of building stone quarries

Restoration proposals for building stone sites should seek to provide net gains in and enhance any of the following: recreational and other benefits for local communities, geodiversity, biodiversity, native woodland and the historic environment.

Acceptable after use proposals will be prerequisite for the granting of planning permission for building stone quarries. Proposals will be expected to include the use of quarry waste derived from the site for backfill and in order to secure this, the removal of materials from site will be restricted to the type of stone for which permission was granted.

- 5.9 Respondents to the Preferred Options consultation expressed overall support for the policy SMP11, above. Some suggestions for enhancing the policy included:

²⁰ Respondents 43; 59; and 106

- Seeking to ensure that minerals operations conserve or enhance soil quality;
 - Ensuring that any restoration proposals also reflect landscape character, minimising visual impact; and
 - Should include net gains in terms of landscape quality when sites are restored.
- 5.10 Representation not in support of the policy was based on concern that some types of restoration were omitted, with the belief that no use should be overlooked where an opportunity arises.

Peat Reclamation

- 5.11 All comments received during the Options consultation were considered and meetings and restoration workshops took place to inform Preferred Policy SMP9 in the Preferred Options document, which is included on the next page.
- 5.12 In summary, work to date and feedback that has been collated in support of a revised reclamation framework suggests that peat reclamation should:
- Contribute to and provide net gains in restoration prioritising nature conservation and biodiversity.
 - Be bigger, better and more integrated.
 - Establish more resilient and coherent ecological networks.
 - Make links with and be sympathetic to the surrounding environmental designations, land uses and species.
 - Encourage new industries, such as tourism, that are compatible with existing land uses and environmental designations that allow the Levels and Moors to benefit economically – ensuring that the benefits and any potential impacts are spread across all local communities in the Levels and Moors, making use of the cultural corridor that runs east/west through the Peat Production Zone, thereby improving access.
 - Consider biodiversity offsetting as a mechanism to compensate for residual and unavoidable impacts on wildlife caused by development. Offsets should be calculated using the biodiversity methodology developed by Somerset County Council²¹.
 - Contribute to the achievement of UK Biodiversity Action Plan (UK BAP) and Local Biodiversity Action Plan (LBAP) habitat and species targets. Promoting the preservation, restoration and re-creation of priority habitats, such as wetlands which is included on S41 of the NERC Act²², and the protection and recovery of priority species populations.
 - Be flexible to ensure an ever changing approach as ecosystems change and to allow a variety of habitats.
 - Ensure there are no adverse impacts on water quality.
 - Consider habitat and drainage connectivity and seek opportunities to incorporate flood storage and include features that help maintain

²¹ Biodiversity offsetting methodology available at:
<http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/109ccd92-5436-2c10-a097-a2279759bed6>

²² The Natural Environment and Rural Communities (NERC) Act came into force on 1st Oct 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England. The list has been drawn up in consultation with Natural England, as required by the Act.

water quality in restored areas as well as the surrounding ditch system.

- 5.13 It has also been identified that there are a number of land uses and activities which are not considered appropriate for restored peat sites, such as:
- Forestry
 - Some types of agriculture
 - Fish farming
 - Importation of peat from other areas to continue the operation
 - 'Intrusive' leisure activities – water skiing etc.
- 5.14 Delivery of nature based restoration will depend on a number of factors, including planning conditions, ownership of the land, timeframes and a determination of when the site has been worked out. There are also a number of legacy issues, given that peat sites are often family owned, and passed between generations. It will be important for the County Council to continue to engage with the peat industry and owners of peat sites to agree on the how to progress and decide on a mutually beneficial restoration scheme.
- 5.15 Participants at the peat site restoration workshop, discussed the implementation of new peat reclamation frameworks through the reviews of old mineral permissions (ROMPs) and "Section 73" planning applications (the latter refers to planning applications under Section 73 of the Town and Country Planning Act 1990, for the removal or variation of conditions on an existing planning application). This is a natural result of the NPPF's stipulation for the restoration and aftercare of former peat workings at the earliest opportunity (CLG, 2012a: 144).
- 5.16 This view is supported by the biodiversity ambitions of the Natural Environment White Paper and the objectives of the NPPF. The NPPF states that the local planning authority should: "put in place policies to ensure worked land is reclaimed at the earliest opportunity, taking account of aviation safety, and that high quality restoration and aftercare of mineral sites takes place, including for agriculture (safeguarding the long term potential of best and most versatile agricultural land and conserving soil resources), geodiversity, biodiversity, native woodland, the historic environment and recreation." (CLG, 2012a: 144).
- 5.17 The Natural Environment White Paper, in acknowledging the social and economic costs of environmental degradation sets out the government's ambitious intentions for setting a new strategic direction for biodiversity policy in England for the next decade. The Paper states that: "Our 2020 mission is to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people." (DEFRA, 2011: 2.7).
- 5.18 These points have been considered in the preferred policy SMP9 Reclamation, which seeks to ensure any scheme for restoration of a former peat workings will focus on promoting nature conservation and biodiversity. Preferred Policy SMP9 does not propose a revised, mapped framework.

Preferred Policy SMP9: Reclamation

Approval for proposals for the restoration, aftercare and afteruse of former peat workings will be given to those schemes which deliver net gains in nature conservation and increase the resilience of ecological networks. Schemes for other afteruses must demonstrate that the proposed afteruse does not conflict with this approach.

It is envisaged that other afteruses could include leisure activities or certain types of business activities that do not have an intrusive and/or adverse impact on the local environment.

- 5.19 There was much support for the preferred policy SMP9 in the Preferred Options consultation, in particular the flexible approach which makes it possible to pursue non-conflicting beneficial socio-economic activities. There were also detailed comments on the pros and cons of different activities, for example, fishing, boating and reed growing for thatching. The responses show diverging opinions on the potential after-uses of these sites. While some view fishing/angling and boating as viable commercial ventures²³, others are of the opinion that these activities might have an adverse impact on surrounding wildlife and conservation initiatives (CLG, 2012a: 143).
- 5.20 The point was also made that this policy should include drainage and flood risk management activities that a site may impact on or interact with, to ensure that proposals deliver (CLG, 2012a: 143) “net gains in flood storage capacity, water level management and water quality as well as nature conservation and an increase in the resilience of ecological networks”.

6 Conclusions and Recommendations

- 6.1 There are a number of challenges to address when embedding successful site restoration on mineral sites in Somerset:
- There is a constant need to consider the role of the site in **a broader environmental context**.
 - There are a few examples of **cross boundary sites**, spanning the border between for example, Devon and Somerset. Local planning authorities must continue to work together along with operators of these sites to ensure a coherent approach
 - There are **competing aims** between industry and environmental organisations which must be addressed and balanced, partly through ongoing dialogue. There are also competing factors such as environment, neighbouring land uses and heritage assets, all of which need to be considered
 - Somerset is a two tier authority, meaning there are District Council's and a County Council, as well as Exmoor National Park. All

²³ Respondents 14; and 114.1

authorities deliver services important to successful site restoration and must be engaged with the process.

- There needs to be **‘buy in’** from all parties involved as to what constitutes successful site restoration, and how to achieve it. Other organisations, such as the Environment Agency have a role in determining and executing this.
- There must also be appropriate **local community benefits to site restoration** - such as economic, linked to tourism or the provision of facilities for the local area.

- 6.2 This topic paper builds on work carried out previously, and incorporates feedback from consultative processes. Going forward, it will be important to consider the cross-over between different strategic elements of mineral site reclamation (of different types of mineral site), minimise repetition and ensure that the Somerset Minerals Plan sets clear policy in this regard.
- 6.3 It is intended to continue to engage further with industry through regular meetings, such as the Mendip Quarry Producers and with the Peat Producers Association. Engagement will also continue with other stakeholders such as Natural England, Somerset Wildlife Trust and the RPSB through regular communication, and this topic paper will be openly available on the Minerals and Waste Policy website at www.somerset.gov.uk/mineralsandwaste
- 6.4 Somerset County Council is committed to high quality site restoration as a valuable tool in delivering the sustainable development message embedded within the National Planning Policy Framework (NPPF) and its technical guidance.
- 6.5 This Topic Paper has identified a range of opportunities and challenges to deliver effective site restoration. Recommendations emerging from the work undertaken so far are listed below.

Recommendation 1

Somerset County Council will continue to engage with all parties involved in site restoration to: promote best practice; communicate and champion results of successful site restoration; and promote opportunities for partnership-working between industry and environmental organisations.

Recommendation 2

Somerset County Council will seek district council input as to how their services can best benefit restoration schemes, drawing on: leisure; open space; and economic benefits. Partnership-working will ensure these can be actively implemented to the mutual benefit of all parties involved in the planning and site restoration process.

Recommendation 3

The Somerset Minerals Plan should take forward strategic policy to address the preferred approach to the reclamation of mineral sites in Somerset, informed by national policy, research and consultation. This should be accompanied by detailed guidance on development management considerations for developers, to address needs particular to aggregate, building stone, peat and energy minerals sites.

7 Sources of information from partner organisations

Somerset Peat Producers Association

<http://www.somersetpeat.com/>

Nature After Minerals

<http://www.afterminerals.com>

Mineral Products Association

<http://www.mineralproducts.org/>

Good Quarry

<http://www.sustainableaggregates.com>

Somerset Wildlife Trust

<http://www.somersetwildlife.org/>

Natural England

<http://www.naturalengland.org.uk/>

8 Acronyms

BAP	Biodiversity Action Plan
CLG	Department for Communities and Local Government
DEFRA	Department for Environment, Food and Rural Affairs
HGV	Heavy Goods Vehicle
LBAP	Local Biodiversity Action Plan
LEP	Local Enterprise Partnership
MLP	Minerals Local Plan
MPG	Minerals Planning Guidance
NIA	Nature Improvement Area
NPPF	National Planning Policy Framework
ONS	Office of National Statistics
PPZ	Peat Production Zone Peat Production Zones (PPZs) were identified in the current Minerals Local Plan (1995 – 2011) as a means of reducing conflict with surrounding land use, encouraging efficient use of the peat resources and enabling a comprehensive approach to restoration. Further to this, PPZs do not include any SPA designated land. Further information can be found in Chapter 7, <i>Strategy for Peat Extraction</i> , of the Somerset Mineral Local Plan (1997-2011). http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Minerals%20and%20waste/Minerals%20Local%20Plan/Minerals_Plan_chapters.PDF
ROMPs	Registration of Old Mining Permissions
RPG10	Regional Planning Guidance 10
RSS	Regional Spatial Strategy
SPA	Special Protection Area
SPPA	Somerset Peat Producers Association
SSSI	Sites of Special Scientific Interest
UNESCO	United Nations Educational, Scientific and Cultural Organisation

9 References

Communities and Local Government (CLG) (March 2012a), *The National Planning Policy Framework*. Available at:
<https://www.gov.uk/government/uploads/system/uploads/.../2116950.pdf>

Communities and Local Government (CLG) (March 2012b). *Technical Guidance to the NPPF*, March 2012. Available at:
<https://www.gov.uk/government/publications/national-planning-policy-framework-technical-guidance>

Communities and Local Government (CLG) (November 1996), *Minerals Planning Guidance 7: Reclamation of mineral workings*.
<http://webarchive.nationalarchives.gov.uk/20120919132719/www.communities.gov.uk/documents/planningandbuilding/pdf/156045.pdf>

Communities and Local Government (CLG) (July 1995). *Minerals Planning Guidance 13: Guidelines for peat provision in England*.

Department for Food and Rural Affairs (DEFRA) (January 2013). *Government Response to the Sustainable Growing Media Task Force*, pp 16. Available via
www.defra.gov.uk/publications/2013/01/17/pb13834-sustainable-growing-media
[Accessed 15/03/2013]

Environment Act 1995: Review of Mineral Planning Permissions, Section 96, Schedules 13 and 14. London: HMSO.

The Department for Environment, Food and Rural Affairs (DEFRA) (June 2011). *The Natural Choice: Securing the Value of Nature (The Natural Environment White Paper)*, paragraph 2.66. Available via: <http://www.official-documents.gov.uk/document/cm80/8082/8082.pdf> [Accessed: 19/03/2013]

Department for the Environment, Food and Rural Affairs (DEFRA) (July 2010). *Monitoring the horticultural use of peat and progress towards the UK Biodiversity Action Plan target (SP08020)*. Available at:
<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17045&FromSearch=Y&Publisher=1&SearchText=sp08020&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description> [Accessed: 22-03-13]

Planning and Compensation Act 1991: Interim Development Order Permissions, Section 22, Schedule 2. London: HMSO.

Appendix 1

The following two figures illustrate the initial results of the modelling exercises for the Mendip Hills Ecological Network, which identify the remaining areas of priority habitat, areas for biodiversity enhancement, and the connections that need to be made to link these areas up across the landscape. It is a tool to assist with restoration master-planning (and inform the minerals planning process), enabling minerals development to contribute positively to the natural environment in line with the Natural Environment White Paper and the National Planning Policy Framework.

Indicative Habitat Networks for priority grassland, broadleaf woodland, heath and acid grassland, and riverine have been modelled from existing areas of priority conservation habitat. From these Habitat Networks, a suite of Core Areas, Restoration Areas, Stepping Stones and Corridors has been mapped and a full Mendip Hills Ecological Network incorporated into the Pre-Submission Minerals Plan.

The Network maps will be subject to annual review in partnership with Somerset Wildlife Trust and Somerset Environmental Records Centre, to take into account new and emerging spatial planning, land use and ecological survey data. A full methodology for the preparation, monitoring and review of the Mendip Hills Ecological Network can be found in the Annex to this topic paper, entitled “*Identifying and Mapping the Mendip Hills Ecological Networks*”, and accessed via the following link: www.somerset.gov.uk/mineralsandwaste.

More information about this project can be found on the *Nature after Minerals* website at <http://www.afterminerals.com/> and at <http://www.somerset.gov.uk/ecologicalnetworks>.

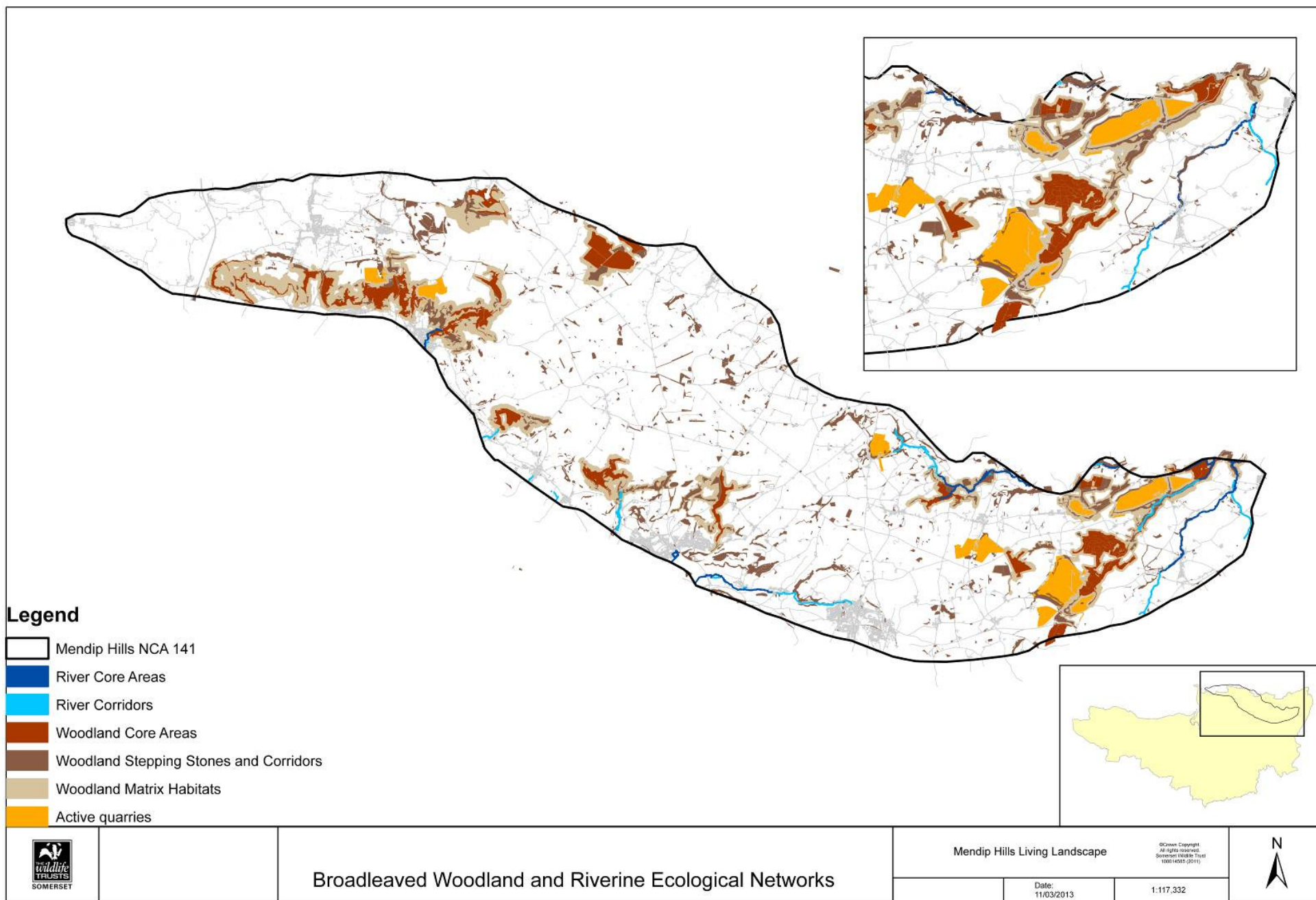


Figure 1: Broadleaved woodland and rivers and streams

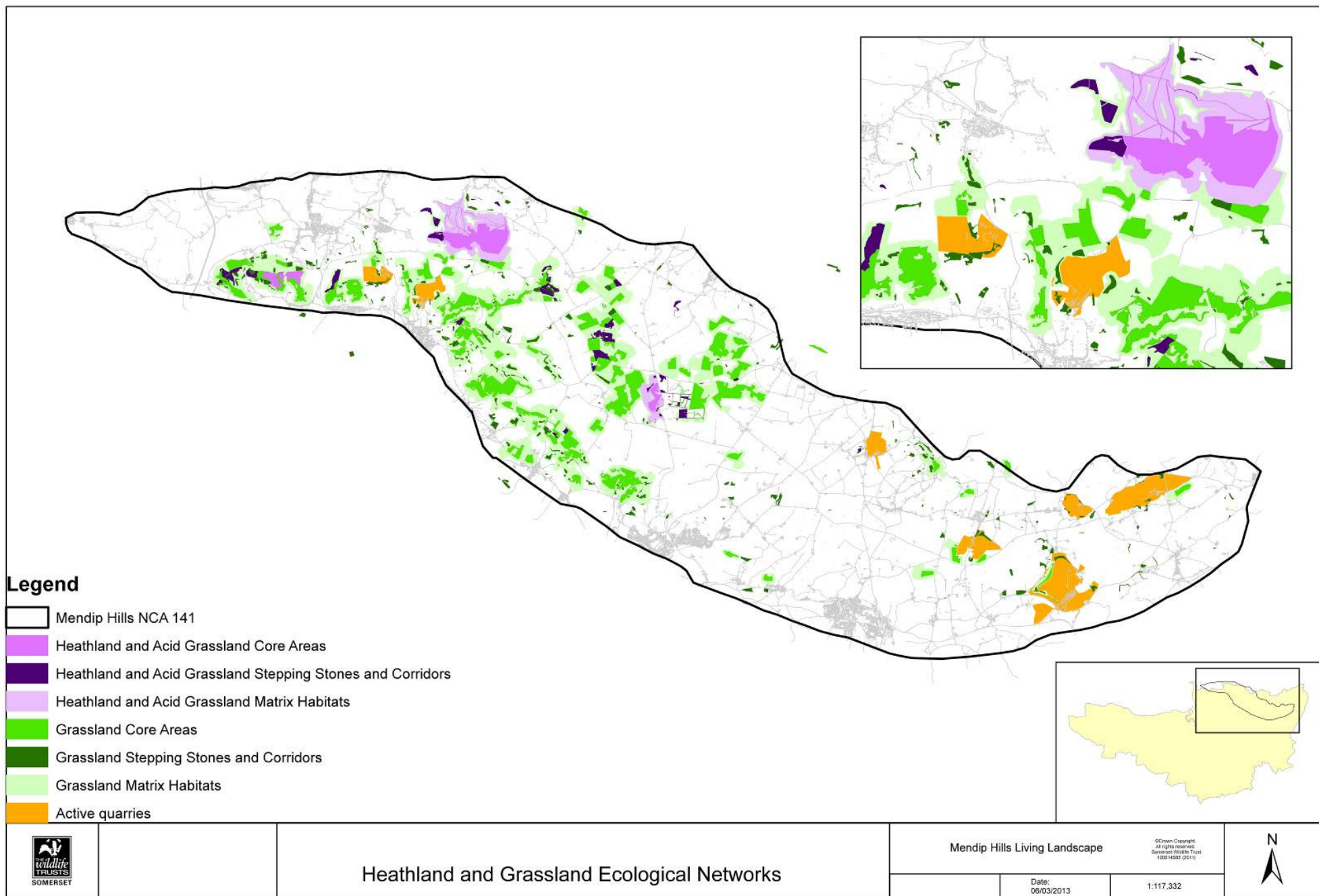


Figure 2: Heath and Acid Grassland Ecological networks

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Text is available in large format on request

For further details of the Somerset Minerals and Waste Development Framework, and to view and download this and other documents, please visit our website.

www.somerset.gov.uk/mineralsandwaste

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