Minerals Topic Paper 3:

Peat Reserves and Supply

Somerset County Council

Minerals and Waste Development Framework

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Contents

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 the issue of peat reserves and supply in Somerset, 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 continuing after publication of the topic paper.

1.2 The aim of the paper is to explain the issues for consideration in peat planning policy such as for peat reserves and supply and impacts on the environment, biodiversity and the surrounding communities. The paper elaborates on consultation exercises and government policy with the purpose considering key aspects of the evidence base supporting the proposed peat policy for the emerging Minerals Plan.

1.3 This paper covers the following:

- Policy context;
- Peat Extraction and use;
- Reserves and supply;
- Scoping the issues and options for peat in Somerset; and
- The development of a peat policy for Somerset.

1.4 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 peat?

2.1 Peat is an organic material formed from the remains of vegetation 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. Deposits of lowland peat have gradually built up to depths of several metres in the Somerset Levels and Moors, representing thousands of years at a rate of accumulation of around 0.45mm/year. Within the existing extraction areas peat is typically between 1 and 4m thick. As a result of this accumulation, peatlands are important stores of carbon.

2.2 Peat is nutrient rich and, following extraction and processing, can be used as a growing medium in horticulture and amateur gardening. The majority of Somerset peat is a sedge peat which is relatively dense and holds more moisture than other lighter peats. It is ideal for mixing with lighter imported peats or "light alternatives" such as coir (a coconut derivative), wood shavings or wood fibre. Some green-waste compost can be combined with sedge peat as long as it is of good quality, not too dense and is combined with other lighter materials.

2.3 The peat industry in Somerset is based in the central Brue valley to the west of Glastonbury, concentrated into two areas called Peat Production Zones, which historically have been supplemented by Areas of Search to identify potential future peat workings.

2.4 Zoning has proved an effective way of encouraging more efficient use of peat resources in the past, whilst also reducing conflict with other land uses. This is crucial because peat habitats have significant ecological value and the areas where it has been worked in Somerset contain a variety of environmental designations ranging from local to national and even international importance. The area also has substantial archaeological importance.

3 Policy Context

National policy

3.1 Central government and various environmental organisations have been encouraging the development of reduced-peat and peat-free products and providing information to the growing media users on the damaging effects of peat extraction.

The Natural Environment White Paper

3.2 The Natural Environment White Paper, "The Natural Choice: Securing the value of nature", published in June 2011, sets out the government's ambition for English gardening to be peat-free by 2020 and professional horticulture to be peat-free by 2030. The White Paper also announced the creation of a task force, with an initial remit to explore how to overcome barriers to further reducing peat use in horticulture. Since then the Task Force has broadened its remit to reflect its long-term goals and adopted a new title: the Sustainable Growing Media Task Force[1].

The Sustainable Growing Media Task Force

3.3 During summer of 2012 Dr Alan Knight, Chairman of the Sustainable Growing Media Task Force, published his conclusions from the meeting of the task force in the report, *Towards Sustainable Growing Media.* Part 1 of the report set out the Chairman's personal view on the current state of debate; while Part 2 focused on the work of the Task Force to date, the challenges ahead and areas of consensus; and Part 3 presented a draft roadmap that showed how the proposals might be taken forward into actions.

3.4 The Report outlined four key messages. The first of these is that the horticulture industry over-relies on peat, and there is a need to develop more alternatives to the raw materials for growing media in the economic interests of the industry. Secondly, that all growing media, regardless of origin, must be competitive, perform to agreed standards and have proven sustainability credentials. The third point is that the environmental movement needs to restate its rationale for zero peat use in horticulture and have a consistent message internationally. Finally, the Report gives the message that Government continues to play a key role on this issue and should seek to support a prosperous UK horticulture industry that not only uses sustainable growing media but creates a sector that in turn supports Government's wider sustainability and economic ambitions.

[1] Available at: http://www.defra.gov.uk/peat-taskforce/

3.5 The Roadmap (see Appendix C) included in the Report has nine goals:

1) All growing media is fit for purpose.
2) All growing media and soil improvers should be made from raw materials that are environmentally and socially responsibly sourced and manufactured.
3) Commercial horticulture uses only responsibly sourced and manufactured growing media.
4) Retailers only stock products which meet the performance standard and responsible sourcing and manufacturing standard.
5) All public sector procurement includes a requirement to source plants and products that have been grown in sustainable growing media.
6) Consumers can make informed choices in their purchase of growing media (and soil improvers) and are confident in how to get the best performance out of them.
7) Improved confidence in the use of green waste such that it is able to fulfil its maximum potential in the growing media market (estimated to be around 20% of the market).
8) The waste regime is no longer a barrier to the sourcing of high quality waste derived materials for use in growing media and horticultural soil improvers.
9) A voluntary approach successfully delivers a transition to sustainable growing media within the horticultural sector.

3.6 A key discussion in the Report is also whether peat can be responsibly sourced, stating that: "there are some sources of peat that a pragmatist would say are not caught up in the initial problem (of depleting biodiversity) and deserve bespoke attention and narrative." This was named the "Somerset question" and questions whether "extraction of peat that converts farmland into biodiverse wetlands and other habitats should be exempt from the pressure to avoid all peat?" (Knight, 2013: 6).

3.7 The Government's response to the Sustainable Growing Media Task Force Report did not specifically address the "Somerset question". The Report notes the opposing responses of members of the Task Force to the approach taken in the National Planning Policy Framework (of not granting new planning applications for peat extraction), with some welcoming it and others criticising it. One of the key criticisms of some in the Task Force was that the NPPF was inconsistent with the direction of travel that was implied by some of the Task Force discussions. The Report states that this should be an area revisited in the 2015 peat policy review, to which the Government has stated a commitment (DEFRA, 2013: 16):

> *"The policy review will provide the next formal opportunity for revisiting the targets. The main focus of the review will be assessing the delivery of the roadmap and the further actions necessary to achieve a transition to sustainable growing media and reduce peat use. We believe that two years should allow sufficient time for an agreed roadmap (currently only published in draft) to have an impact before progress is formally assessed. Allowing for data collection prior to the review, the review will take place in the second half of 2015."* (DEFRA, 2013: 2)

3.8 While the Sustainable Media Task Force has fulfilled its remit, the Government has made a commitment to the establishment of a smaller group in the form of the Growing Media Panel, with the stated aims of:

- Finalising and adopting the roadmap;
- Providing oversight on the delivery of the roadmap;
- Providing high level co-ordination between actions under the roadmap;
- Reporting progress annually to DEFRA Ministers; and
- Providing advice to Government on progress in delivering the roadmap to feed into the policy review in 2015.

3.9 Somerset County Council's Minerals Local Plan will need to be able to respond flexibly to changing circumstances, such as the possible policy review in 2015.

National Planning Policy Framework

3.10 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. The Government's commitment toward a peat-free approach was substantially strengthened by publication in March 2012 of the National Planning Policy Framework (NPPF) (CLG, 2012), which introduced a much tougher government stance on peat.

3.11 The NPPF (CLG, 2012: 143-144) makes it clear that new applications for peat extraction should not be granted and in preparing local plans Mineral Planning Authorities should not identify new sites or extensions to existing sites for peat extraction. Unless the current approach in the NPPF changes or new national policy/guidance emerges, which makes the provision for treating different sources of peat differently, Somerset County Council, as Mineral Planning Authority, proposes follow the NPPF's direction[2].

3.12 The NPPF's approach to peat recently came under scrutiny linked with an appeal for a planning application to extend the period of peat extraction for land at Chat Moss Peat Works, Greater Manchester. In response to the appeal, the Secretary of State (CLG, 2012: 143-144) agreed with the Inspector's conclusions that the Government has made it clear that the use of peat in horticulture is unsustainable. Whilst the NPPF requires the economic benefits of mineral extraction to be given significant weight, like the Inspector, the Secretary of State considered that this had to be set in the context of the Government's position on peat and considered against the consequences of peat extraction on climate change and biodiversity.

3.13 The Secretary of State concluded that there was no national planning policy imperative for new sources of peat supply to be brought forward, and that the release of peat resources in Chat Moss would frustrate the move from peat to non-peat media.

3.14 Furthermore, the Secretary of State recognised that while a dismissal of the appeal would result in a number of local jobs being lost, investment in the manufacture of non-peat substitutes would, in the longer term, create

[2] A discussion on consultees' views on Somerset County Council's interpretation of the NPPF follows in Section 6.

employment. The Secretary of State did not agree with the idea that refusal of these appeals would inevitably lead to peat extraction elsewhere that would generate higher levels of emissions; this argument paid insufficient account of non peat media coming forward in the period that peat extraction would be proposed.

3.15 The Secretary of State considered that continued extraction of peat from the site would result in substantial emissions of carbon dioxide (CO_2) thus impacting on climate change and contrary to the NPPF. The proposals would also delay the restoration of the site to lowland raised bog by many years, and this delay would be contrary to the NPPF which sought restoration at the earliest opportunity to high environmental standards.

3.16 The NPPF does not prevent continued peat extraction on sites that have already been granted planning permission. However, the Secretary of State considered that this does not mean new proposals on existing sites should automatically be approved. Careful consideration needs to be given to each case, looking in particular at any arguments as to the need for peat and having regard to the impact on climate change and biodiversity from continued extraction.

3.17 In addition, the NPPF does not explicitly cover the issue of time extensions to existing peat sites. However, a degree of clarification is found in the recent appeal against the planning application to extend the period of peat extraction at Chat Moss Peat Works, where the Inspector stated that: "In referring to "new or extended sites" [the] draft Framework is not referring to applications for permission for extension of time for working sites that have become time expired".[3]

3.18 The Inspector clarifies this further in paragraph 123-124[4], stating that:

> *If there was intended to be a blanket ban on the granting of further planning permission for peat the draft Framework would simply state that "no planning permission for peat extraction should be granted." It does not state this, and it does not state this for a reason. That reason is that Government recognises that there is insufficient indigenous supply of peat to meet residual demand to 2030… if it is established that there will be insufficient indigenous supply to meet residual need to 2030, the granting of planning permission in the present appeals will accord with policy and the draft Framework.*

3.19 This will need to be considered further, in the Somerset context, as the Minerals Local Plan develops.

[3] Report to the Secretary of State for Communities and Local Government regarding Chat Moss Peat Works (18 June 2012), paragraph 122, p 22. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14967/Chat_Moss.pdf

[4] Report to the Secretary of State for Communities and Local Government regarding Chat Moss Peat Works (18 June 2012), paragraphs 123-124, p 22. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14967/Chat_Moss.pdf

Current Somerset policy

3.20 The adopted Somerset Minerals Local Plan contains policies M17 and M18 in Section 4, *Protecting the Environment and Local Communities,* which take into account the restoration and after-use of peat sites. These policies are detailed below:

> ***Policy M17***
> *Proposals for mineral development will only be permitted if they are accompanied by satisfactory reclamation and afteruse 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 afteruse.*
>
> ***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*

3.21 Policies M22 and M23 address concerns relating to transport, in particular, proposals that increase traffic movements:

> ***Policy M22***
> *Proposals for mineral development that have significant transport implications shall be accompanied by a Transport Assessment. The Assessment shall demonstrate that appropriate consideration has been given to alternatives to road transport, including rail, as a primary freight transport option.*
>
> ***Policy M23***
> *Proposals for mineral development will only be permitted where the access roads to the proposed site, including any parts of the public highway which serve such a site, are adequate or can be upgraded for the type and volume of traffic proposed without material detriment to distinctive landscape features or the character of the countryside or the settlements through which the road passes.*

3.22 Peat production is covered in the Somerset Minerals Local Plan by the following policies:

> ***Policy M40***
> *Proposals for peat extraction should be within the Peat Production Zones or Areas of Search. Planning permission for peat extraction outside these areas will not be granted (see Inset Plan 3 for details).*

Policy M41
The Areas of Search, as shown in Inset Plan 3, will be monitored annually and amended as necessary.

Policy M42
Proposals for the development of facilities for the processing or storage of peat or peat alternatives at, or adjoining, peat extraction or associated processing sites will only be permitted when it can be demonstrated that at least 40% of the existing and proposed output of the unit comprises Somerset peat and there will be no significant harmful effects on:

- *The local highway network;*
- *Water quality and flood capacity;*
- *Wildlife and habitats;*
- *Archaeology;*
- *Local communities; and*
- *The quiet nature and distinctive character of the area.*

Policy M43
Proposals for the placement or deposition of inert material at, or adjoining, peat extraction or associated processing sites will only be permitted for minor proposals which will either benefit the amenity of the area or can be shown to be essential to allow a greater percentage of peat alternatives to be used in processing facilities and where there will be no significant harm to:

- *The local highway network;*
- *Water quality and flood capacity;*
- *Wildlife and habitats;*
- *Archaeology;*
- *Local communities; and*
- *The quiet nature and distinctive character of the area.*

Policy M45
Proposals for the extraction of peat will only be permitted where there are acceptable arrangements in place to protect watercourses, both on site and on adjoining land, and water tables on adjoining land, particularly where this might adversely affect nature conservation or archaeological interests or the stability of roads, droves or other property.

3.23 The Somerset Minerals Local Plan will be replaced by the Somerset Mineral Plan, as is discussed later in this paper.

Conflict between adopted peat policies and the NPPF

3.24 While the peat policies of the adopted Minerals Local Plan provide a framework in which the development and working of peat sites may be acceptable; the focus of the NPPF regarding peat is instead on phasing out the working of peat sites. The NPPF states that “local planning authorities… should not identify new sites or extensions to existing sites for peat extraction” and “when determining planning applications, local planning authorities should… not grant planning permission for peat extraction from new or

extended sites." (CLG, 2012: 143-144)

3.25 In this respect, there is a degree of conflict between the NPPF and policies M40 and M41 of the current Minerals Local Plan, which are accepting of proposals within the Peat Production Zones and Areas of Search (provided they also accord with other policy requirements).

3.26 There is alignment, however, where the NPPF seeks to ensure that there are no unacceptable adverse impacts on the natural and historic environment when determining planning applications (CLG, 2012: 144). Policies M42, M43 and M45 of the adopted Minerals Local Plan similarly seek to ensure that proposed developments will not present significant harm to the local environment and conservation, physical infrastructure or communities.

3.27 During the transition period until new policies can be afforded greater weight, the County Council is obliged to give due weight to relevant policies in existing plans according to their consistency with the NPPF. "The closer the policies in the plan to the policies in the Framework, the greater the weight that may be given" (CLG, 2012: 214). Consideration will need to be given to how these policies are to be interpreted at the local level.

Other Somerset policy

3.28 **Wild Somerset**, the biodiversity strategy for Somerset, was launched in 2008 with the County Council as a key partner amongst a wide ranging stakeholder group.

3.29 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 LBAP[5].

3.30 County-wide action plans have also been written for the following priority species and habitats in Somerset: bats; lapwings; and otters[6].

3.31 In addition, the **Somerset County Council Freight Strategy**[7], **Local and Future Transport Plans** (including public Rights of Way)[8], and **Somerset Sustainable Community Strategy**[9] should also be considered as guiding documents.

[5] The Mendip LBAP can be found via the following link: http://www.mendip.gov.uk/Documents/Planning%20Policy/Mendip%20LBAP.pdf

[6] 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

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

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

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

4 Peat Extraction and Usage

4.1 In Somerset peat has been cut for fuel since Roman times and drained to provide rich agricultural land from the medieval period. The peat extraction industry has always been based in the central Brue valley because that was the only place in the county where large raised bog deposits existed. Raised bog peat is the best type for use as fuel and as a soil conditioner and growing medium. Most of the raised bog peat in the existing extraction areas has been removed leaving the underlying woody fen peat and reed peat which is of poorer quality for most uses.

4.2 Commercial peat cutting began around 1870, but manual extraction continued until World War II. Mechanisation began in the 1950s and output expanded rapidly as the horticultural market grew. Until mechanisation the depth of peat working was generally limited by the depth to groundwater. Since the introduction of mechanical excavators and pump-drainage peat has been excavated to its full thickness and at much higher rates. By the 1980s concerns about the impact of peat extraction on the environment were raised. Minerals planning policy in Somerset developed the Peat Processing Zones (PPZs) to encourage efficient use of the peat resource and to reduce conflict with other land-uses.

4.3 The supply of UK peat has been supplemented with imported peat from Ireland and Northern Europe. This has been particularly true of Somerset as Somerset's peat is of relatively high density and moisture content. It is mixed with lighter sphagnum peats to reduce its transport costs and improve its performance. More recently composted materials, such as green waste or wood based products, have been mixed to produce peat-reduced growing media products.

4.4 While previous national planning policy (MPG13) supported demand-led planning for peat supply, requiring minerals planning authorities to identify sufficient peat resources to meet ongoing demand, the NPPF makes it clear that local planning authorities should no longer identify new sites or extensions to existing sites for peat extraction (CLG, 2012: 143).

4.5 The latest monitoring (DEFRA, 2010) of the use of peat in horticulture has shown that around half of the peat used in the UK during 2009 originated from the Republic of Ireland, with 7% sourced from Northern Europe and the remainder from the UK. Within the UK, the largest percentage was harvested from England (DEFRA, 2010: 12).

4.6 Recent trends have shown that, between 1999 and 2009, the amount of alternative growing media materials used has steadily increased, whilst the volume of peat used has steadily declined from 2005 to 2009 (DEFRA, 2010: 1).

4.7 The growing products market is split into two categories – soil improvers and growing media. Usage is attributed to four main sectors: amateur gardeners, professional growers, landscapers and local authorities. As awareness has increased about the impact of peat extraction a market for peat-reduced and peat-free products has developed. Soil improvers are almost exclusively peat free today but significant proportions of peat continues to be used in growing media. Recent monitoring has shown that across all four sectors, the total

consumption of peat in growing media products was 42%; while alternative products accounted for 58% (DEFRA, 2010: 6). This has shown an increase of 4%, to alternative growing media products, in the two years since 2007.

4.8 The government and environmental organisations have been trying to influence consumer choice by providing information on the impacts of peat working and encouraging the growing media industry to develop more peat-reduced and peat-free alternatives. The amateur gardening sector accounts for the use of most peat, largely in the form of growing media products. Since 1999, the total amount of peat consumed by amateur gardeners has increased from 66%, to 69.4% in 2009. This is largely due to an increase in the market, which has also resulted in an increased demand for alternative growing media products.

4.9 There have been two main issues affecting conversion to non-peat products: quality and cost. The Royal Horticultural Society[10], Kew Gardens and Which Magazine[11] have carried out trials to compare plant growth in peat products with reduced and non-peat products. Some of the available products have performed well but they are relatively more expensive than their peat-based counterparts. A scheme to guarantee the quality of green waste composts is in place (PAS100) but products with this mark are again relatively costly.

4.10 The Natural Environment White Paper similarly set targets to reduce peat use. The ambition is to reduce use to zero by 2030, with three key milestones:

1. 2015 - a progressive phase-out target for government and the public sector on direct procurement of peat in new contracts for plants;
2. 2020 - a voluntary phase-out target for amateur gardeners; and
3. 2030 - a final voluntary phase-out target for professional growers of fruit, vegetables and plants. (DEFRA, 2011: 2.66)

4.11 Following the publishing of the report from the Sustainable Growing Media Task Force (see Section 4 of this paper), the government has acknowledged the importance of agreeing a definition of what makes growing media ingredients sustainable. The government sees this as an important step needed before further consideration can be given to refocusing the targets set out in the Natural Environment White Paper. (DEFRA, 2013: 2)

4.12 As a result of the Sustainable Growing Media Task Force Report, the government has also agreed to a policy review in 2015, which will provide a formal opportunity to revisit the targets. The review will focus on the delivery of the roadmap and the further actions necessary to achieve a transition to sustainable growing media and reduced peat use. Details of the roadmap can be found in Appendix C.

5 Peat – Scoping the Issues and Options

5.1 The process of developing the new Somerset Minerals Local Plan started with the identification of issues for consideration in the Somerset Peat Paper in

[10] http://www.rhs.org.uk/Gardening/Sustainable-gardening/Peat-and-the-environment/Peat-alternatives
[11] http://conversation.which.co.uk/energy-home/compost-best-buy-test-peat-free-westland-william-sinclair/

September 2009, which is available via the following link: http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Minerals%20and%20waste/Mineral%20consultation%20papers/Peat%20Extraction%20Paper.pdf. This paper explored seven themes central to the issue of the reserves and supply of peat in Somerset, namely: economics and employment; restoration; habitat and archaeological designations; water and flooding; climate change and carbon storage; and agriculture.

5.2 A summary of the initial issues explored in the Somerset Peat Paper is provided in the text box below:

Somerset Peat Paper - summary of issues

Economics and employment

It is estimated that in 2007 there were 42 people employed for the purposes of peat extraction in Somerset (ONS, 2007). This figure does not include those working in some of the growing media factory sites.

The sales of Somerset extracted peat has declined over recent years. The Minerals Local Plan (MLP)[12] stated that around 176,000 m^3 of peat was extracted annually. Recent figures from the Office of National Statistics indicate extraction has fallen to around 90,000 m^3 annually.

There is a view amongst some in the minerals industry that the restriction of peat extraction to Peat Production Zones (PPZs)[13] has resulted in increased land prices within these zones, thereby reducing their profit margins. It is anticipated that a few large operators will continue to work in the area, but many small operators will be unlikely to seek new permissions.

Somerset remains a popular area for the growing media products industry, with its history of peat working. Although the MLP sought to encourage industry to move to sites with better road and transport links, sites around ports, harbours and industrial estates are costly, meaning lower profit margins for the industry.

Transport

In 2007, a study was published, investigating the impacts of transporting peat and growing products on the roads around PPZs (Atkins, 2007). The study showed that:

- there were proportionally low numbers of HGVs on the roads in the peat areas (around 4% of all traffic);
- The growing products market has become more localised as transport costs have increased;

[13] 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, *Strategy for Peat Extraction,* 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

- 44 tonne lorries (maximum legal weight) are used for imports and exports to Somerset;
- Minor roads are used for transportation, constructed over peat which makes them vulnerable to subsidence; and
- Although the study found HGV movements low, the impacts are magnified in historic village centres because of the highway network geometry.

It is possible that the number of HGV movements along these roads will increase if industry increases the amount of non-peat materials used in their growing media products. This is currently controlled to an extent through the requirement in the MLP for the minimum amount of 40% Somerset peat to be used in any growing media products supplied in Somerset.

Several growing media processing sites have been granted planning permission for B2 Class Use (i.e. general industrial use), which is not specifically linked to a peat extraction permission. There are therefore concerns that these sites may eventually become occupied by an alternative industrial use, potentially resulting in an increased number of lorries in the area.

Habitat

The Levels and Moors is one of the largest and richest areas of traditionally managed wet grassland and fen habitats in lowland UK, attracting important numbers of water birds in winter.

The majority of the site is dominated by open wet grassland and ditches with a range of plant communities. In the rivers, rhynes and ditches the floristic diversity is largely dependent upon sympathetic cleaning practices. The field ditches support the greatest floristic diversity. Other habitats include – withy beds, orchards and pollarded willows.

The Somerset Levels and Moors is a Special Protection Area (SPA), designated at a European level for its internationally important populations of birds, and also a Ramsar site designated under the Ramsar Convention on Wetlands[14], for its rare ditch invertebrates and also the presence of internationally important populations of birds, both of which carry a high degree of protection with them. These sites are also designated as SSSIs at a national level, and may include features not listed under the European designation. Other areas are designated at a county level as Local Wildlife Sites for their wetland interest.

The number of habitat designations in the area is a constraint to the peat operators.

Archaeology

Waterlogged peat helps to preserve organic materials, such as wood, for thousands of years. In most of the peat moors we only have a glimpse of the archaeological treasures which lie hidden but in the Avalon Marshes numerous prehistoric wooden trackways, canoes and wetland villages and Roman salt mounds have been found, often because of their destruction by

[14] Further information can be accessed via the following link: http://www.ramsar.org/cda/en/ramsar-european-rs-homeindex/main/ramsar/1%5E26097_4000_0__

peat cutting. As a result there are more wetland prehistoric Scheduled Monuments in the Avalon Marshes than in the whole of the rest of England (Figure 4). The peat itself is also an irreplaceable record of 7,000 years of past landscape, climate and sea level change.

The Somerset moors also bear testimony to the ever changing relationship of people with a wetland environment over many millennia, which has produced farmed wet grassland of international significance. The area also holds the extant remains of a Medieval landscape of reclamation, enclosure and river canalisation that is of global significance. For these reasons there is a project seeking to propose the area as a potential UNESCO World Heritage Site.

Archaeological designations in the area are a constraint to the peat operators.

Water/flooding

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. The current predictions are that over the next century, winters are likely to get stormier and wetter and summer significantly hotter and drier (Jenkins et al, 2009)

The right water levels are critical for sustainable grazing of peat soils with little or no peat wastage. Draining of peatlands has caused them to contract dramatically both laterally and vertically. The Environment Agency and Internal Drainage Board manage water levels within the peat area to try to balance the demands of different land uses including peat extraction, agriculture, the built environment and conservation areas. In addition care is required to ensure that drainage of peat excavations do not result in the settlement of adjacent properties or roads.

The further management of water is anticipated in the new Water Bill, which is currently progressing through parliament and on course to be enacted in the latter half of 2013[15]. Included in this will be the requirement for quarry dewatering to have a water abstraction licence, obtained from the Environment Agency for - if pumping more than 20m^3 of water per day. The planning system also requires the impact of water abstraction to be considered and mitigated if necessary through planning conditions.

Somerset's Strategic Flood Risk Assessment[16] has identified peat extraction as a water compatible use.

Climate change and carbon storage

In support of UK and international convention on climate change, the NPPF states that, "local planning authorities should adopt proactive strategies to

[15] Further information on the progression of the amendments to the Water Act, through parliament, can be accessed via the following website: http://www.defra.gov.uk/environment/quality/water/legislation/water/ [Accessed: 20-03-13]

[16] Further information on Somerset's Strategic Flood Risk Assessment can be accessed via the following link: http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Minerals%20and%20waste/Waste%20topic%20papers/WTP8_SFRA_non_tech_summary.pdf

mitigate and adapt to climate change" (CLG, 2012: 94). In the geographic area of Somerset, this could include encouraging land uses and land management practises that help secure carbon sinks. A carbon sink is anything that absorbs more carbon than it releases. Peat is a carbon sink because the carbon in the peat cannot decompose in the wet and airless environment.

The Somerset Levels and Moors, as the second largest area of lowland peat in the UK, could be considered a nationally significant carbon store, containing almost 11 million tonnes of carbon (Brown, 2009). In stark contrast, peat extraction releases carbon dioxide.

To fully compensate for any extraction, a much larger area of grassland or open water would be required (than that worked for peat) for conversion into commercial reed beds.

Although the UK has significant peat resources, the government is encouraging the horticultural industry to use increasing proportions of peat alternatives, working towards the almost total replacement of peat in growing media products.

Agriculture

The lowland peat soils of the UK have been used for farming for many centuries. The soils in the Somerset levels include best and most versatile (BMV) land, defined as grades 1 to 3a of the Agricultural Land Classification. This is land that has been identified as most efficient for providing crops. This should be taken into account along with other sustainability considerations when assessing alternative land uses.

There are concerns regarding the loss of peat soils due to agricultural practices and the lowering of water tables in particular. However, grassland on peat soils can be managed sustainably with little or no loss of peat if the water table is maintained at a suitable level.

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).

5.3 Responses to this initial scoping of the issues in the Somerset Peat Paper concluded that:

- There should be a limit to further land available for peat extraction;
- There is uncertainty over the economic value and viability of the growing media industry;

- Transport is an area of contention;
- Restoration is key;
- Peat Production Zones (PPZs) should remain;
- Somerset's peat carbon storage is vital; and
- Agricultural land remains important.

5.4 These key points were taken forward in the subsequent Options consultation in February 2012, to focus on three main topic areas.

5.5 First the Options consultation considered the notion of establishing a landbank for peat – taking into account a dominant view that land available for peat extraction should be limited. Since publication of the Options consultation, the context for this issue has changed. The option for a landbank policy for peat is no longer viable as the NPPF does not support extensions to peat sites or new peat sites (CLG, 2012: 144).

5.6 Secondly, the consultation considered sites with the potential to impact on the Somerset Levels and Moors Special Protection Area (SPA) – taking into consideration issues relating to transport, and PPZs. The consultation paper presented the following options:

- **Option a:** Permissions that will have a detrimental effect on the Somerset Levels and Moors Special Protection Area can be voluntarily revoked and offset by grant of permission at an alternative less sensitive site. The replacement site will still have to be acceptable in planning terms.
- **Option b:** Peat permissions that will have a detrimental effect on the Somerset Levels and Moors Special Protection Areas should be reviewed and permissions modified or revoked as appropriate. Loss of asset will have to be compensated from the public purse.

5.7 The majority of respondents opted for option b. In addition to support for this option, there were comments for it to extend to Sites of Special Scientific Interest (SSSIs) and Ramsar features. A number of respondents also noted the importance of prioritising Appropriate Assessments for those sites likely to be the most damaging to the conservation objectives and function of the Natura 2000 sites, under Regulation 63 of the *Conservation of Habitats and Species Regulations 2010*. There were also wider concerns about the impact of a decrease in peat extraction in the UK on the rest of the world.

5.8 The final issue this consultation looked at, in relation to peat, was 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.

5.9 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.

5.10 The most recent round of consultation was on the Preferred Options of the Somerset Minerals Plan, which finished 8th March 2013. Chapter 8, Peat, asked consultees whether there was specific support for preferred policies SMP7 Peat, SMP8 Transport and SMP9 Reclamation. The consultation also encouraged commentary on these policies and welcomed responses on the supporting text.

5.11 In headline terms, while there was general support for preferred policies SMP8 and SMP9, policy SMP7 Peat generated the most comment on this chapter of the emerging Plan. Most respondents objected to the preferred policy because it was felt to be contrary to national policy. The overwhelming view was that planning permission should not be granted for new or existing sites, without exception. Further details on these and other responses to this most recent consultation can be found in the section that follows.

6 Developing a Peat Policy for Somerset

Preparing the new Somerset Minerals Plan

6.1 The Mineral Options Paper consultation (closed 12 February 2012) was published before the NPPF was adopted by Government, and so refers to the previous planning guidance, in particular 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.

6.2 Throughout 2011 and 2012, Somerset County Council has worked to establish a clear picture of peat reserves and supply in Somerset. This includes: contacting the peat industry via letter in March 2011; seeking data from the Somerset Peat Producers Association (SPPA) in June and August 2011; meeting with the SPPA in July 2011; corresponding with DCLG in early 2011 and early 2012; undertaking a site survey in 2012; and meeting the

SPPA once again in May 2012. Clear information on peat reserves and supply has been difficult to obtain.

6.3 Focusing on peat site restoration, on 11 September 2012, a workshop was held on the topic of peat site restoration with representatives from planning, ecology and environmental disciplines (involving delegates from a range of non-industry organisations such as Somerset Wildlife Trust, the Royal Society for the Protection of Birds (RSPB) and Natural England). This was held alongside an aggregate site restoration workshop, attended by a similar list of delegates. Further feedback from these meetings is detailed later in this document.

6.4 Peat safeguarding was covered in the Mineral Safeguarding Areas Topic Paper[17], which was issued for consultation to specific stakeholders in the peat industry (alongside other consultees) between 9th November and 21st December 2012.

6.5 Bringing together feedback from the Minerals Options consultation with the outcomes of this activity and research, the Preferred Options Minerals Plan was consulted on from 11th January 2013 to 8th March 2013. This document can be accessed via the following link: http://www.somerset.gov.uk/irj/public/services/directory/service?rid=/guid/b0bcbc12-1bd1-2c10-2681-d4120b79c72d.

6.6 Somerset County Council decided to prepare a Preferred Options document to ensure that there was further consultation on peat policy with industry, environmental groups, members of the public and other interested parties. This also acknowledges the significance of the publication of the NPPF, and the Government stance with regards to peat.

6.7 The Preferred Options consultation focused on three key areas of peat policy: peat production; transport; and reclamation. Feedback from this consultation will guide the preparation of the Pre-Submission Minerals Plan in 2013. The relevant issues which were explored are expanded upon in the section below[18].

Peat production

6.8 The responses to the Peat Issues Paper and Minerals Options Consultation showed a strong view that there should be a limit to further land becoming available for peat extraction. This stance is supported by the National Planning Policy Framework, which states that "local planning authorities… should not identify new sites or extensions to existing sites for peat extraction" and "when determining planning applications, local planning authorities should… not grant planning permission for peat extraction from new or extended sites." (CLG, 2012: 143-144).

[17] The Mineral Safeguarding Area Topic Paper 6 can be accessed via the following link: http://www.somerset.gov.uk/irj/go/km/docs/CouncilDocuments/SCC/Documents/Environment/Minerals%20and%20waste/Minerals%20Preferred%20Options/Minerals_Topic_Paper_6_MSA_LowRes.pdf

[18] More information about the Somerset Mineral Plan, including links to relevant research consultation paperwork and topic papers can be found on the Somerset County Council website at: www.somerset.gov.uk/mineralsandwaste.

6.9 This is specifically taken into account in preferred policy SMP7, below, which states that "permission for peat extraction will not be granted unless there is a significant net environmental benefit…"

POLICY

Preferred Policy SMP7: Peat Production

Permission for peat extraction will not be granted unless there is a significant net environmental benefit, such as an improved restoration scheme for an existing permission that contributes to biodiversity and the ecological network, with no net increase in peat reserves.

The proposed development will, in particular, be in accordance with Development Management policies.

6.10 The preferred policy SMP7 also takes into account issues raised during the consultation about the detrimental effects of planning permissions on the Somerset Levels and Moors SPA. The policy makes it clear that any scheme proposed would need to enhance the biodiversity and ecological network, without increasing peat reserves. This accords with the NPPF which seeks to ensure that there are no unacceptable adverse impacts on the natural and historic environment when determining planning applications (CLG, 2012: 144).

6.11 Responses to the most recent consultation on the Preferred Options for the Minerals Local Plan showed overwhelming concern about policy SMP7. The majority of respondents[19] objected to the policy on the grounds that it did not align with the NPPF by making it possible for there to be an exception to the rule that planning permission should not be granted for any new site or extension to an existing site.

6.12 A number of respondents referred to the issue of time extensions to existing peat permissions. While some advised that allowing time extensions would be contrary to the NPPF[20], one respondent expressed the opposing view that precluding extensions of time for existing peat extraction permissions would in fact be contrary to the NPPF.

6.13 There was some comment[21], in response to the consultation, about the retention of Peat Production Zones (PPZs) in the emerging Minerals Local Plan. Some found it confusing, as this had been a means of defining areas acceptable for peat extraction, when national policy sets out clear targets for ceasing the extraction of peat. Conversely, others agreed that the retention of PPZs would be useful in the short term, to facilitate reviews of peat permissions in areas designated for environmental protection. It is noted that policy SMP7 did not refer to PPZs or indeed the Areas of Search mentioned in the adopted Minerals Plan. The use of any form of delineated area for peat in the new Minerals Plan will need careful consideration.

[19] Respondents 12; 13; 15.3; 78; 36.3; and 246
[20] Respondents 12; 15.3; and 78
[21] Respondents 14; 15.; and 115

6.14 As a consequence of this consultation, discussion has also begun on the relationship between peat production and flood risk management. The example was made[22] of peat sites where restoration is incomplete or inadequate and reworking the site may be a necessary means of maintaining the integrity of the land drainage network. Further consideration will need to be given to whether this may be a reason for granting new permissions.

Transport and factory site impacts

6.15 Consultation responses to the Peat Issues Paper and the Minerals Options paper have shown that transport is a significant area of controversy. Current transport concerns relate principally to the potential impacts from factories with a Class B2 land use (i.e. general industrial uses), which are currently being used for the processing of media products. Many of the peat factory sites have a planning status that is not specifically linked to a peat extraction permission, so once the peat use has finished there are concerns that other industries may come into the area, increasing lorry and other vehicle movements.

6.16 Participants in the peat site restoration workshops also commented on the key links between transport, employment and potential tourism opportunities for the area, and a desire to reduce transport impacts in the area. This aligns with Somerset County Council's objective to support District Councils in promoting after-uses for sites that will not adversely impact on the environment.

6.17 The management of development outside of minerals workings, remains with the District Councils, and so Somerset County Council is unable to create specific development management policy to control potential transport-related issues regarding the after-uses of these sites. As such, the Preferred Options of the Somerset Minerals Local Plan proposed to include some supportive text, as follows:

> 8.30 In discussion with the relevant District Councils, Somerset County Council will promote and support potential after-uses of factory sites that provide positive enhancement to the local area and will not create unacceptable environmental impacts if possible. Growing media processing sites will be encouraged, where possible, to relocate to more suitable locations closer to good transport links.

6.18 There are some concerns that there may be an increased rate of peat extraction, following Government's ambition to be peat-free by 2030. This could potentially have an adverse impact on transport movements for the area. The proposed policy SMP8 Transport, of the Minerals Preferred Options paper sought to assist in controlling this issue through introducing a requirement for any proposal for peat working to be accompanied by a transport plan. For current minerals permissions, the transport impacts can be reviewed and conditions reconsidered at their periodic review (every 15 years).

[22] Respondent 114.1

POLICY

Preferred Policy SMP8: Transport

Transport plans will be submitted with any proposal for peat working including ROMPs. Conditions will be applied to permissions to ensure impacts remain acceptable and to control extraction rates.

6.19 Respondents to the preferred options consultation were broadly supportive of this policy, acknowledging the fragile road surfaces and the benefit of transport plans. Other comments related to clarification on who would cover the cost of road repairs that might have to be made or what the proposed conditions might be. There was also a query about resources for monitoring and enforcing transport movements.

Reclamation

6.20 There was significant agreement that arose from the consultations on the Peat Issues Paper and Minerals Options paper on the importance of the restoration of former peat workings, to contribute towards making a positive impact on the environment and biodiversity. Respondents to the consultations and participants in the peat site restoration workshop put forward ideas for nature conservation, tourism and agriculture, with agreement that any future activity needed to be sensitive to and respect the unique landscape of the levels and moors.

6.21 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, 2012: 144).

6.22 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, 2012: 144).

6.23 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).

6.24 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.

POLICY

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.

6.25 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 ventures[23], others are of the opinion that these activities might have an adverse impact on surrounding wildlife and conservation initiatives[24].

6.26 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[25] "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".

6.27 The NPPF stipulates the requirements for restoration and aftercare at the earliest opportunity (CLG, 2012: 144). Issues regarding the restoration and aftercare are further supported by the development management policies of the Minerals Preferred Options paper, particularly policy DM6 (below). This policy places great importance on high environmental standards, including protecting and enhancing biodiversity and habitats in Somerset, whilst also giving consideration to agricultural land, the community and landscape.

[23] Respondents 14; and 114.1
[24] Respondents 13; 78; and 246
[25] Respondent 114.1

POLICY

Preferred Policy DM6: Restoration and aftercare

Mineral sites should be restored to high environmental standards as soon as practicable after extraction has ceased, where possible through phased restoration whilst other parts of the site are still being worked.

Proposals for mineral development will be permitted if they are accompanied by satisfactory reclamation and afteruse proposals, which must:

a) support BAP species and habitats in Somerset and enhance the local ecological network;
b) restore agricultural land, where mineral workings are proposed on agricultural and;
c) support other afteruses that provide benefits to the local community;
d) provide gains to compensate for unmitigated impacts on the environment and be sympathetic to the character of the surrounding landscape.

Restoration proposals 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.

7 Reserves and Supply

7.1 UK Peat demand was consistently around 3.4million cubic metres (Mm^3) per year from the late 1990s until 2007. In 2007 there was a slight reduction in demand to 2.96Mm^3, with another small decrease in 2009 to 2.93Mm^3 (DEFRA, 2010: 10). In 2009, 32% of peat used in the UK was extracted in the UK and 68% imported from Eire and Northern Europe (DEFRA, 2010: 13).

7.2 Peat is predominantly used in growing media in two main markets; amateur gardeners and professional growers. Peat made up approximately 70% of growing media products sold in 2009 (DEFRA, 2010: 11). The remaining 30% was made up of alternatives to peat, including bark, composted green-waste, coir, wood waste and paper, and are being used increasingly.

7.3 As mentioned the government and various environmental organisations have been encouraging the development of reduced-peat and peat-free products and providing information to the growing media users on the damaging effects of peat extraction, with the aim of achieving a reduction on a voluntary rather than legislative basis.

Somerset supply

7.4 Even though national policy and guidance states to no longer permit peat permissions and to be peat free by 2030 there is still a need to maintain an understanding of current trends in Somerset, and support current economic operations that have valid planning permission.

7.5 In order to establish trends in Somerset, detailed figures of past peat output and current output levels are required. These have been requested from the industry but to date the industry has not supplied useable data. As a result, the County Council has used a variety of information sources to inform its

calculations and work, including: the output figures from the Office for National Statistics; data from the Minerals Valuers; and primary research involving desk based calculations and site surveys.

7.6 Output figures are available from the Office for National Statistics in the ‘’Minerals Extracted in Great Britain, Business Monitor PA 1007’’ which is published annually. These figures are based on the Annual Minerals Raised Inquiry replies from operators.

YEAR	Office for National Statistics – Somerset output figures in m^3
1998	(176,000)
1999	*
2000	102,000
2001	144,000
2002	111,000
2003	106,000
2004	96,000
2005	82,000
2006	87,000**
2007	83,000
2008	77,000**
2009	56,000
2010	*
2011	63,000
TOTAL	1,009,000

Table 1: Somerset extracted peat sales figures.

(176,000) Figure from Minerals Local Plan (SCC, 2004).
** Figure not released due to confidentiality issues.*
*** These figures are maximums as they include a very small amount from other regions (circa 1,000 to 3,000 m^3).*

7.7 To check the reliability of the figures in Table 1 data was sought from the Mineral Valuation Office using annual production information supplied by operators. We cannot report annual figures due to confidentiality but they were broadly similar showing a decline in Somerset peat sales through the decade and total sales for 1999 to 2011, which were around $1Mm^3$. Whilst some inaccuracies may arise due to differing conversion factors from tonnes to cubic metres the figures are considered to be reasonably accurate to provide a picture of the sales trend in Somerset.

7.8 The number of peat producers in Somerset has reduced substantially from over 30 producers 20 years ago to the majority of peat extraction being carried out by four companies today. The most up to date employment figures for the Somerset peat industry show a total of 39 direct employees (ONS, 2011).

UK peat demand and Somerset’s contribution

7.9 The Minerals Local Plan envisaged a gradual increase in demand to

2011 as predicted in Minerals Policy Guidance 13 (MPG13) (CLG, 1995). In reality the rise in peat demand was even greater than envisaged but the increase was met by increased imports. During this time UK extraction fell. Somerset and UK extracted peat sales figures (ONS Business Monitor PA1007 2001-2011) are shown in Table 2.

7.10 It is noted that the total volume of product supplied by the Somerset growing media industry since 1998 is not known. It may have increased in line with UK demand, or remained the same or fallen. Without robust data from industry, it is impossible to know.

Year	UK extracted peat (Mm^3)	Somerset extracted (Mm^3)	Somerset % contribution to UK production
1998*	-	0.176*	9%
2001	1.814	0.144	8%
2003	2.008	0.106	5%
2005	1.505	0.082	5%
2007	0.885	0.083	9%
2009	0.887	0.056	6%
2011	0.825	0.063	8%

Table 2: Somerset peat extraction compared with UK extraction

* Figures from the Minerals Local Plan.

Somerset's reserves

7.10 The Minerals Local Plan states that in October 1999 the peat consents in Somerset contained 2,150,000m^3 of saleable peat (SCC, 2004: paragraph 7.3.1). Sales totalled around 1,009,000m^3 from 2000 to 2011 (ONS Business Monitor PA1007 2001-2011). An additional 415,000m^3 recently permitted at a site near Cradlebridge (Back River Drove and Sharpham Drove, Cradlebridge, Sharpham, Glastonbury, Somerset) assumes annual sales of 26,000m^3 during 2010, 2011 and 2012 (the Cradlebridge planning permission places a restriction on annual output). At the time of writing, one of the recent planning applications for this site was pending approval (subject to the completion of a Section 106 requirement) to include a reduction in the unworked reserve. This would add on an additional 1,820m^3 to the total amount of extractable peat within the site.

7.11 For the period ending December 2013, the saleable peat in Somerset is therefore calculated to be in the region of 1,351,820m^3.

Calculation	Total m^3
Reserves at October 1999	2,150,000
Sales total 2000 to 2009 inclusive	1,000,000
Estimated sales 2010, 2011 and 2012	216,000
Additional permitted reserves	415,000
Remaining reserves	**1,351,820**

Table 3: Estimated peat reserves end of 2012

7.12 It is desirable to check the accuracy of this estimate and thereby maximise the accuracy of the permitted reserves figure for the new Somerset Minerals Plan. The Minerals Planning Authority has requested data on annual sales

and reserves from all holders of peat permissions but has been unsuccessful in receiving returns.

7.13 In addition to requesting figures from the industry, the Minerals Planning Authority has undertaken desk-based assessments, estimating reserves using geographical and geological data together with assumptions about the way sites are worked. These estimations were based on sites with planning permissions, which were categorised as follows:

1) currently working – peat remaining;
2) not currently worked but able to be worked; and
3) currently worked and almost completed.

7.14 Based on reasonable assumptions (see Appendix A) made during this desk-top exercise, it was estimated that there is at least 1Mm^3 of saleable peat within current extant permission areas, which is broadly similar to the estimated peat reserves outlined in Table 3 above[26]. A summary of these desk-based calculations is included in Appendix A.

7.15 Taking further steps to verify accuracy and increase the confidence in the estimates of the total volume of saleable peat in the Somerset Levels, field surveys were completed for the largest fields (a total of 27 sites) and stockpiles during May and June 2012. These sites were chosen as a result of the initial desk-based calculations, in which the volume of peat reserves remaining in these sites were identified as having the highest potential for variation. Additional sites were also included to help inform knowledge of ecologically sensitive areas. A summary of the methodology used to survey the sites is included in Appendix B.

7.16 Once the sites had been surveyed, volumes of the total amount of peat remaining were calculated for each site. The surveyed volumes were then converted into saleable peat volumes[27] and compared with the saleable volumes calculated for each respective site via the desk-based calculations. This showed some sites to have lower volumes and a few sites to have larger volumes than estimated via the desk-based calculations. The percentage difference, between the surveyed estimations and desk-based estimations, was then calculated for each site. An average percentage difference was then calculated across the total 27 sites which revealed that sites, on average, contained a saleable peat volume which was 70% lower then calculated through desk-based calculations.

7.17 Although 70% is a substantial difference, consideration must be given to the fact that this calculation is based on a sample survey and therefore cannot be taken to represent the situation in its entirety.

7.18 To ensure the County Council does not overestimate permitted, workable reserves, the desk-based calculations which estimated that there was at least 1Mm^3 have therefore been reduced by 70%, with the exception the recently permitted saleable peat reserves at Cradlebridge (415,000m^3), as this is the confirmed saleable peat volume ('market weight'). Furthermore, to help inform the revised, more accurate, total saleable peat volume for Somerset;

[26] This was also included in the SCC Minerals Options Paper consulted on from December 2011 to February 2012.
[27] Surveyed volume x 0.56, which is the industry recommended conversion to calculate the saleable volume – also known as the 'market weight'.

information provided in May 2012, by the Somerset Peat Producers Association (SPPA), on the status of peat extraction permissions has been taken into account. This included the reclassification of sites as to whether they have had all of their peat removed or are currently worked but have little remaining, and the removal of all sites from the final total volume which were stated to not be available to the SPPA. Taking all of this into account, it is estimated that there is at least 700,000m^3 of saleable peat remaining.

7.19 The total of 700,000m^3 is an estimate that includes many assumptions and has had many sites that currently have extant permission removed from the total, based on the assumption that they are not available to the industry or may not be worked due to being classed as a Regulation 63 site, for example (see footnote in Appendix A or the Minerals Preferred Options Paper, page 41 for further information). It is considered reasonable to assume that this total is the minimum saleable volume of peat remaining in Somerset, as in reality it is likely to be larger.

7.20 As already stated the average Somerset extracted peat sales for 2007 to 2009 was 72,000m^3. If the sales rate falls steadily to zero by 2030 (the final phase out date for peat use in England) less than 700,000m^3 of Somerset peat will be needed. This is an over estimate since amateur gardeners use a larger proportion of peat than the professional horticulturalists. The rate of demand should therefore fall more rapidly to 2020 (see section 3), noting the established timeline for the phase-out of peat use for amateur gardeners.

7.21 Given estimated reserves in Somerset are a minimum of 700,000m^3, the evidence indicates there should be no need for any new reserves to meet predicted demand to be permitted during the plan period of the emerging Somerset Minerals Plan (which will run to 2030). This further supports the County Council's approach to follow the NPPF's direction.

8 Recommendations

8.1 Somerset County Council is committed to Government objectives to ensure the high quality restoration of peat sites at the earliest opportunity, and supports the vision of the Natural Environment White Paper, 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).

8.2 This topic paper has identified a range of opportunities and challenges in planning for peat production and reclamation. Recommendations emerging from the work undertaken so far are listed below. It is noted that this Paper provides a "snapshot" picture of a complex issue that continues to evolve.

Recommendation 1

Somerset County Council will continue to engage with all parties involved in peat production and site restoration to: promote best practice; and champion good results of partnership working between industry and environmental organisations in the promotion of biodiversity.

Recommendation 2

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

Recommendation 3

Somerset County Council will work with District Councils to promote and support potential after-uses of factory sites that will not have an unacceptable negative impact on the environment, and to particularly discourage increased vehicle movements to and from these sites.

9. 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
MLP	Minerals Local Plan
MPG	Minerals Planning Guidance
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, *Strategy for Peat Extraction,* 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
RSPB	Royal Society for the Protection of Birds
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

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11. Appendix A - Methodology for Peat Reserve Calculations

Aim

To determine a methodology for estimating peat reserves in the absence of data from the Industry.

Method:

Area to be worked

The process began with a mapping exercise, in which the current planning permissions were located and categorised into three groups:

- Currently working – peat remaining
- Not currently worked but able to be worked
- Currently worked and almost completed

The perimeter and area of each of these planning permissions was measured using a GIS mapping tool. For each site, deductions were made for the area of standoff, which would remain in situ.

Peat sites are not usually excavated right up to the boundary, to protect adjacent land from losses due to subsidence or collapse. An average standoff of 6m from the boundary was assumed for older permissions, while the following known standoffs were used:

- P71A = 6m along Oaks Drove, 4m Western boundary, 3m southern boundary
- Cradlebridge boundary distances - Northern = 8m, Southern = 8m, Sharpham Drove = 14.6, Manor Farm Southern = 23.35, Manor Farm Eastern = 28.30, Eastern = 8m.
- Reserves at Cradlebridge taken from application information.

The calculation can therefore be summarised as follows:

$$\textbf{AREA TO BE WORKED} = \frac{\text{Total site area}}{} - \frac{\text{Area left in situ adjacent to the boundary}}{}$$

Peat volume

The thickness of the peat was estimated from a geological map of the area.

The following assumptions were made with regards to the proportion of peat still remaining:

- Currently working – assumed 50% remaining;
- Not currently worked – assumed 100%;
- Worked and almost complete – assumed 10% remaining

Where further information was available a more accurate estimate was used.

$$\textbf{VOLUME OF IN SITU PEAT} = \frac{\text{Area of working}}{} \times \frac{\text{Original peat thickness}}{} \times \frac{\text{Proportion remaining}}{}$$

VOLUME OF SALEABLE PEAT = In situ peat x 0.56*

* Experiences of the peat industry have shown that it is normal to expect shrinkage of peat following harvesting and subsequent loss of water. In the case of an undrained site, it is usual to expect a reduction of 44%. Multiplying the in situ peat by 0.56 therefore converts the 'in ground volume' to the volume one would expect 'at market weight'.

Other considerations:
The volume of peat within sites considered to fall under Regulation 63[28] has been totalled separately as these reserves may be revoked or modified. Several sites also have a condition attached to their permission which prevents them from being worked at present. The total peat reserves included in such sites has been calculated separately as they are not currently workable.

[28] Regulation 63 sites = sites with permission for peat extraction that may have the potential to negatively impact on the Somerset Levels and Moors Special Protection Area. It is the Council's responsibility to review these permissions under the Conservation of Species and Habitats Regulations 2010. See the Minerals Preferred Options Paper, page 41 for further information.

12. Appendix B – Peat Site Survey Methodology

B.1 The topographical survey was carried out by the County Council's Engineering Design team, informed by dialogue with the Minerals and Waste Policy team.

B.2 A typical standoff of 6 metres from the boundary of sites was assumed in the completed desk-based estimations. The field survey refined this assumption.

B.3 Prior to surveying the sites, the site owners were notified by the Minerals and Waste Policy team regarding permission to enter the sites.

B.4 Levels and coordinates of existing ground levels around the extremity of the sites were taken at a maximum of 50m spacing, with additional survey data added at changes in direction (horizontal or vertical). The survey was generally undertaken using GPS and was therefore related to Ordnance Survey (OS) coordinates. In addition in 'non worked areas' a grid of levels was taken across the site at a maximum of 50m spacing.

B.5 In some areas GPS signal was not available and traditional surveying methods were utilised with the surveys then related to OS grid.

B.6 In areas where peat working was ongoing the detail outline set out in B.4 above was surveyed together with three dimensional coordinates, of the following, again at a maximum spacing of 50m:

- Original ground level at edge of areas of peat excavation
- Level at bottom of peat excavation (and level of peat / clay interface if identifiable)
- Sections through any windrows or stockpiles of peat left to dry within the area of peat extraction.

B.7 No details of superficial features such as trees, fences, manholes etc were surveyed.

B.8 Areas of buildings and production works outside of the actual peat extraction areas were not surveyed.

B.9 Where areas were flooded and considered to be unsafe to undertake the survey work, the areas were not surveyed. Where possible in flooded areas the water levels and depths to the submerged peat were obtained.

B.10 To support the work undertaken photos of all sites and stockpiles were taken and referenced by the site permission number and direction

taken, thereby giving a general overview of each site. The location of the photographs was indicated on the relevant drawing for each site.

B.11 Using the survey data volumetric calculations were then provided for each site where information was available on the depth of peat.

13. Appendix C – Sustainable Growing Media Task Force Report - Roadmap[29]

Part 3: Roadmap

Below is a draft roadmap that has been created through individual conversations and a Task Force meeting in May. It illustrates that the proposals I make in this report can be converted into a roadmap and builds on Parts 1 and 2 of this report. I invite feedback on these milestones and the best form of governance/oversight and co-ordination to facilitate their achievement. I would also welcome additional commitments and actions from individuals and organisations to add to the roadmap.

Performance standard

Goal: All growing media is fit for purpose.

Year 1	• Testing protocol and audit protocol developed by the Growing Media Association for multi-purpose compost
	• First product testing against protocols completed
Year 2	• Retailer and stakeholder buy-in obtained
	• Implementation of scheme by growing media manufacturers
Years 3-5	• Products appear on market that have been audited as meeting the standard
	• Choice editing by retailers to ensure that the default choice is products meeting the performance standard
	• Review performance of scheme
	• Integrate with the responsible sourcing and manufacturing standard
	• Identify other types of growing media for which a performance standard is required
Years 6-10	• Other performance standards developed and implemented

Success criteria (medium-term): In the next 3-5 years the majority of multi-purpose compost sold in England should demonstrably meet the performance standard.

Responsible sourcing and manufacturing standard

Goal: All growing media and soil improvers should be made from raw materials that are environmentally and socially responsibly sourced and manufactured.

Year 1	• Task Force sub-group completes its development of the initial criteria set
	• Methodology for assessing mixtures rather than individual ingredients developed
	• Engagement with NGO community
	• Launch scheme (concept)
Year 2	• Ownership of the criteria set taken over by Growing Media Association and Growing Media Initiative
	• Scheme developed and tested by GMA and GMI
	• Consultation and buy-in from NGOs, retailers and other stakeholders
	• Agreement of the 'promise'
	• Benchmark of current products against the criteria
Years 3-5	• Threshold for responsible sourcing and manufacturing established
	• Audit arrangements developed and agreed

[29] Knight, A. (June 2013). *Sustainable Growing Media Task Force: Towards Sustainable Growing Media: Chairman's' Report and Roadmap,* pp 20-23. Available via: www.defra.gov.uk/publications/2013/01/17/pb13834-sustainable-growing-media [Accessed: 15/03/2013]

	• First products in market
	• Integrate with the performance standard
	• Audited products available on the market
Years 6-10	• Introduction of standard into customer standards
	• Choice editing by retailers to ensure that the default choice is products meeting the responsible sourcing and manufacturing standard
	• Review performance of scheme
	• Extend scheme, promise and criteria from beyond the end of the mixing belt to its use in commercial horticultural systems

Success criteria (medium-term): Within the next 3-5 years audited products (growing media and soil improvers) meeting the threshold for responsible sourcing and manufacturing should be available on the market.

Commercial horticulture

Goal: Commercial horticulture uses only responsibly sourced and manufactured growing media.

Year 1	• Establish current data on the use of peat within different sectors of the industry
	• Promote success stories
	• Review the pros and cons of different alternatives
Year 2	• Principle component analysis of current growing media to identify and describe the properties that are vital to commercial growers and that need to be replicated by sustainable growing media for each sector.
	• Commencement of commercial scale demonstrations of sustainable growing media (with funding sourced).
	• Knowledge transfer of existing and developing knowledge
	• Changing customer and retailer expectations
Years 3-5	• Pull through (demand) from retailers
	• Overcome risks to commercial growers
	• Continuation of commercial scale demonstrations and research
Years 6-10	• Commercial horticulture increases its use of responsibly sourced and manufactured growing media

Success criteria (medium-term): The establishment of a two to five year programme supported by both Defra and the industry to create commercial scale demonstrations together with knowledge transfer within the industry.

Choice editing

Goal: Retailers only stock products which meet the performance standard and responsible sourcing and manufacturing standard.

Year 1	• Retailers make public commitment to only sell sustainable growing media (by 2020 or earlier)
Year 2	• Retailers begin working with growers to identify how to bring through plants and food products which are grown in sustainable growing media
Years	• Choice editing by retailers to ensure that the default choice is products

3-5	meeting the performance standard
Years 6-10	• Choice editing by retailers to ensure that the default choice is growing products meeting the responsible sourcing and manufacturing standard • Choice editing by retailers to ensure that the default choice (where feasible) is plants and food products which have been grown in sustainable growing media

Success criteria (medium-term): In the next two years, the majority of growing media retailers have made a public commitment to only sell products which meet the responsible sourcing and manufacturing standard.

Public sector procurement

Goal: All public sector procurement includes a requirement to source plants and products that have been grown in sustainable growing media.

Year 1	• Defra works with central and local government and growers to identify opportunities for promoting the use of peat alternatives in public procurement
Year 2	• Case studies identified or set up to promote positive examples of a move towards sustainable growing media in the public sector
Years 3-5	• Central Government becomes an early adopter of the responsible sourcing and manufacturing standard in relation to its procurement

Success criteria (medium-term): Within two years, positive examples of leadership by the public sector in moving towards sustainable growing media have been developed through a partnership approach.

Consumer education on use of growing media

Goal: Consumers can make informed choices in their purchase of growing media (and soil improvers) and are confident in how to get the best performance out of them.

Year 1	• Manufacturers and retailers work together to ensure consumers have the information at the point of sale on how to use different growing media to meet their needs
Year 2	• Labelling protocol agreed between retailers and manufacturers

Success criteria (medium-term): Within two years, the majority of customers feel they understand how to use the growing media they have purchased effectively.

Improving confidence in the use of green waste

Goal: Improved confidence in the use of green waste such that it is able to fulfil its maximum potential in the growing media market (estimated to be around 20% of the market).

Year 1	• Association for Organics Recycling (AfOR) 'Feedstock Contamination' Special Interest Group continues to work with composters, Local Authorities and other important stakeholders to improve understanding of issues affecting the quality of feedstocks and how these impact upon green compost • Investigative research on the impact of herbicide residues in compost

	completed and recommendations set out • Completion of an investigation project looking at the main technical issues identified by the Task Force
Year 2	• Updates of WRAP's Guidelines for the Specification of Quality Compost for use in Growing Media, 2011 and accompanying Compost Production for use in Growing Media – a Good Practice Guide, 2011 • Further research needs on specific issues associated with green compost identified • Signposting of existing evidence and education of the horticulture industry about perceived issues and further planned work on any remaining issues in place

Success criteria (medium-term): Within 3-5 years, the number of growing media producers successfully incorporating green compost into their products has significantly increased.

Sourcing of materials

Goal: The waste regime is no longer a barrier to the sourcing of high quality waste derived materials for use in growing media and horticultural soil improvers.

Year 1	• The Environment Agency and growing media manufacturers work together to develop a way forward

Success criteria (medium-term): In the next year, the Environment Agency and growing media manufacturers agree a specific action plan for overcoming this barrier.

A voluntary approach

Goal: A voluntary approach successfully delivers a transition to sustainable growing media within the horticultural sector.

Year 1	• Retailers, manufacturers and growers commit to taking specific actions • Defra produces a Government response to the Task Force report
Year 1 onwards	• Actions in this roadmap are achieved successfully

Success criteria (medium-term): Within a year, the majority of the growing media supply chain has volunteered for one or more actions within this roadmap.

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