Bournemouth, Dorset and Poole Minerals Core Strategy Pre-submission Draft

July 2012

Cover Images: courtesy of: Albion Stone, Jo Thomas (DIGS), Lovell Purbeck, Imerys Minerals Ltd.

1 Introduction

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What is this document?

1.1 This is the Pre-Submission Draft of the Bournemouth, Dorset and Poole Minerals Core Strategy. This is the last formal opportunity to comment before the plan is submitted to the Secretary of State for Communities and Local Government along with any representations received, towards the end of 2012.

1.2 The Minerals Core Strategy sets out the vision, objectives, spatial strategy and policy framework for minerals development in Bournemouth, Dorset and Poole. It considers the need to contribute to national, regional and local mineral requirements and seeks to balance these needs against social, environmental and economic considerations.

1.3 The intention of publishing the Minerals Core Strategy is to enable representations to be made on issues of 'soundness' (that is whether the strategy is justified, effective and consistent with national policy) and legal compliance only. The following information sets out where you can view the Minerals Core Strategy and accompanying documents, how you can respond and the period within which representations can be made.

How to respond

1.4 Copies of this document are available to view at Dorset County Council (County Hall), Bournemouth Borough Council (Town Hall Annexe) and the Borough of Poole (Civic Centre) offices, as well as all District and Borough Council offices in the county. Associated background papers can be viewed on our website. Alternatively contact the Minerals and Waste Planning Policy team at Dorset County Council on 01305 228585/228571

1.5 Comments can be made on the online version of this document at www.dorsetforyou.com/mcs or by completing the paper representation form. Paper representation forms should be submitted:

- by post to: Minerals & Waste Planning Policy, Dorset County Council, County Hall, Colliton Park, Dorchester, DT1 1XJ;
- by email to: mwdf@dorsetcc.gov.uk

The consultation period for this document will run from:

6 July to 28 September 2012

Representations must be received by 4pm on 28 September. No late submissions will be accepted.

Status and Use of the Minerals Core Strategy

1.6 Once adopted, the Bournemouth, Dorset and Poole Minerals Core Strategy will form part of the development plan for all the District, Borough and Unitary authorities within Dorset.

1.7 When using this plan, note that:

- the Minerals Core Strategy is designed to be read as a whole
- the Minerals Core Strategy should also be read in conjunction with any relevant adopted local planning policy documents
- national policy guidance also applies.

1.8 The Minerals Core Strategy replaces a number of saved minerals policies of the Dorset Minerals and Waste Local Plan (1999). Appendix 2 provides a list of those policies which are to be replaced.

1.9 Areas designated by policies in the Minerals Core Strategy are defined on the Submission Policies Map[1]. This plan is attached to the Minerals Core Strategy at Appendix 3. Additional illustrative maps are contained within this document to show areas designated in greater detail.

What happens next?

1.10 Subject to the outcomes of this stage, the Minerals Core Strategy will be prepared according to the timetable below. Following submission to the Secretary of State, the dates given will be dependent on the Planning Inspectorate and therefore can only be an indication.

Table 1 Minerals Core Strategy Preparation Timetable

Key Stages	
Preliminary Consultation	During 2007
Issues and Options consultation	November 2007 – January 2008
Consultation on Draft Minerals Core Strategy	October - December 2010
Consultation on Revised Draft - Additional Consultation	July - September 2011
Publication of Pre-Submission Draft of the Minerals Core Strategy (for views on 'soundness')	July - September 2012
Submission of Minerals Core Strategy to Secretary of State	Late 2012

1 The Town and Country (Local Planning) (England) Regulations 2012 require the production of a Submission Policies Map if the adoption of the Minerals Core Strategy would result in changes to the current adopted policies map.

Pre-examination meeting	Late 2012
Examination	2012/2013
Adoption of Minerals Core Strategy	2013

Background

1.11 The Minerals Core Strategy is one of a number of development plan documents that will comprise the Minerals and Waste Development Framework. The minerals documents include:

- the Minerals Core Strategy, which includes development management policies;
- the Minerals Site Allocations Document;
- the Adopted Policies Map.

1.12 Other documents within the Minerals and Waste Development Framework are or will be:

- the Statement of Community Involvement, which sets out the standards and methods of consultation to be used in preparing development plan documents and determining planning applications;
- Dorset County Council's Minerals and Waste Development Scheme, which sets out the programme for preparing the Minerals and Waste Development Framework;
- Annual Monitoring Reports;
- the Waste Plan

Preparation of this document

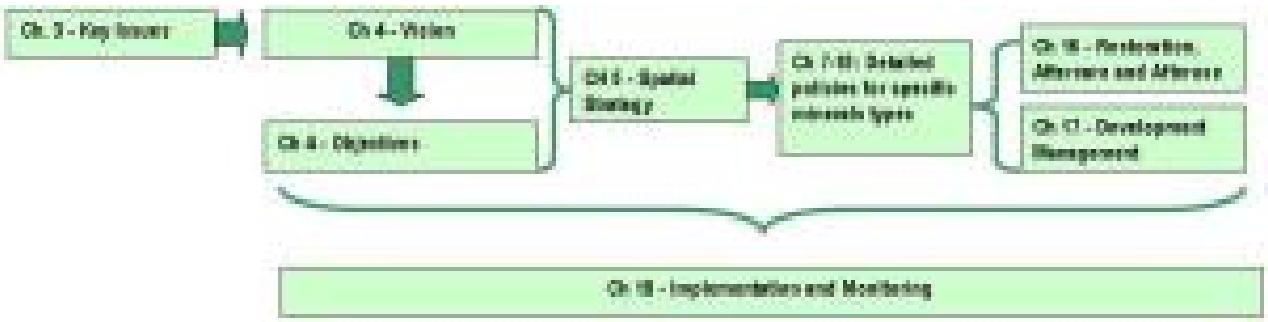
1.13 This document has been developed following ongoing stakeholder discussions and evidence gathering from an early stage. The key stages of which are set out in Table 1. The Minerals Core Strategy has also been developed taking into consideration:

- the outcomes of an independent review carried out by the Planning Officers Society;
- comments made during formal consultations and informal meetings/site visits;
- the outcomes of the Sustainability Appraisal*;
- a Conservation Regulations Assessment (CRA)*;
- further evidence that has come to light since the Revised Draft Minerals Core Strategy consultation;
- a Strategic Flood Risk Assessment;
- further evidence from detailed studies, surveys and reviews;
- changes as a result of meetings with specialist bodies and advisors, in particular industry representatives and development management colleagues, particularly in determining deliverability;
- the detail of policies, working particularly with internal specialist consultees.

* Further detail on these overarching appraisals/assessments can be found at the end of this chapter. Other more specific evidence/assessments are refereed to throughout this document as appropriate.

1.14 The Minerals Core Strategy aims to address a series of key issues (see Chapter 3). The key issues are translated into six objectives (see Chapter 4) which are delivered through the implementation of the spatial strategy (see chapter 5). The diagram below illustrates the relationship between the key issues, objectives, spatial strategy and more detailed aspects of the Minerals Core Strategy.

Figure 1 Summary Diagram: Minerals Core Strategy



Minerals Site Allocations Document

1.15 The Minerals Site Allocations Document, once adopted, will identify specific sites for future minerals development. It will be a separate development plan document from the Minerals Core Strategy but will be driven by the strategies and site assessment criteria set out within it.

1.16 Work began on the preparation of the Minerals Site Allocations Document in July 2007. A'call for sites' was issued to industry, landowners and agents and as a result a number of potential mineral sites were put forward for consideration. These were consulted on between October and December 2008. Work is ongoing to gather further details and fully assess these sites and any others that emerge. This work is useful evidence to support the deliverability of the Minerals Core Strategy and as such has been referred to where appropriate within this document.

What time period will the Minerals Core Strategy cover?

1.17 This plan will cover a period from adoption up to the end of 2028. The end date will influence the level of provision that will need to be made for the supply of minerals.

1.18 Although the Minerals Core Strategy covers a period up to the end of 2028 it is likely that a review will take place well before this time. The draft National Planning Policy Framework also allows for the Plan to be reviewed in whole or in part allowing it to remain up to date and respond quickly to changing circumstances. The Minerals and Waste Development Scheme will contain details of any review of the Minerals Core Strategy.

Overarching Assessment of the Minerals Core Strategy

1.19 The Sustainability Appraisal and the Conservation Regulations Assessment have been important to the development of the policies contained within the Minerals Core Strategy and the process of undertaking each is set out below.

Sustainability Appraisal

1.20 Delivering sustainable development is central to spatial planning. Sustainability appraisal is a means of assessing the potential impact of the Minerals Core Strategy and its objectives and policies on the environment, the economy and society. The appraisal is based on a framework of sustainability objectives and indicators devised through our sustainability appraisal scoping report.

1.21 Sustainability appraisal has been undertaken at each key stage in the preparation of the Minerals Core Strategy in order for the results to be fed into the developing policies. A summary of the appraisal of each proposed policy is contained within this document for ease of reference. The full report is available as a separate background paper at www.dorsetforyou.com/mcs.

1.22 Once adopted, the impact of the Minerals Core Strategy policies will be monitored against the sustainability objectives and presented in the Annual Monitoring Report, which will be made publicly available. These effects will influence future reviews of the policies.

Conservation Regulations Assessment

1.23 It is a requirement of the Conservation of Habitats and Species Regulations (2010) ('the Regulations') to assess the likely significant effects of plans and policies on Natura 2000 designated nature conservation sites (namely Special Protection Areas, Special Areas of Conservation and Ramsar sites).

1.24 The Regulations require consideration of whether a plan or policy is likely to have a significant effect on a European site. Factors to be taken into account include the effect of the plan or policy, either alone or in combination with another plan or policy which is in existence or merely proposed, and measures that would avoid or mitigate against an adverse effect, on a European site. Where an appropriate assessment shows the plan or policy will not adversely effect a European site, the plan or policy may be adopted.

1.25 However, where the plan or policy will adversely effect the integrity of the European site, or the effect is uncertain, alternatives will be considered. Consideration will also be given to whether the priority habitat or species on the site will be adversely affected by the proposal. Where there are imperative reasons of overriding public interest that justify the adoption of the plan or policy, the Secretary of State will be notified. Provided the Secretary of State does not object and secures any necessary compensatory measures to ensure the overall coherence of Natura 2000 is protected, the plan or policy may then be adopted.

1.26 A Conservation Regulations Assessment has been produced for the Minerals Core Strategy and is available from www.dorsetforyou.com/mcs.

1.27 Screening of options and proposed policies took place in preparing the Draft Minerals Core Strategy and the Revised Draft Minerals Core Strategy. A final assessment has been undertaken on this Pre-Submission Draft of the Minerals Core Strategy.

1.28 The Conservation Regulations Assessment concludes that, providing the recommended changes in wording to policy, criteria and text are incorporated, the pre-submission draft of the Minerals Core Strategy is compliant with the Conservation Regulations. The recommendations made in the Conservation Regulations Assessment have been incorporated into this document.

2 Background

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2.1 Minerals make an important contribution to our society and play a role in the Government's drive for sustainable communities. They provide the material needed for the development of the economy, through the construction of homes and buildings and hard infrastructure, as well as through their use in the manufacture of products and their use in fuels.

2.2 Dorset has a wide range of mineral types required locally, nationally and even internationally. The extractive industry provides economic benefits to the County, enhancing local economic development. It offers employment both directly for those working in the quarries and mines or the transport system and indirectly in other industries in the supply chain or that support the workforce.

2.3 Dorset's wealth of building stone resources make a positive contribution to the local landscape, maintaining Dorset's intrinsic character and historic buildings both within Dorset and elsewhere.

2.4 Minerals are a finite resource available only in certain locations. The Government recognises that the increased use of recycled and secondary aggregates is vital to ensure the most sustainable use of resources. Extraction of primary aggregates will still be necessary to underpin sustainable economic development.

2.5 Unlike most other forms of development, mineral extraction can only take place where the mineral occurs. The spatial distribution of mineral resources, and therefore the potential for workings, is dictated first and foremost by geological considerations rather than demand. While the locations of minerals in some cases coincide with important habitats or attractive landscapes, there is usually some degree of flexibility about the precise location of new workings, particularly for the more widespread aggregates.

Policy Context

National Policy

2.6 The Minerals and Waste Development Framework is prepared under the Planning and Compulsory Purchase Act 2004 (as amended).

2.7 At the national level, Government policy and guidance is provided by the National Planning Policy Framework (NPPF) and Technical Guidance, a limited selection of Minerals Planning Guidance documents, and certain relevant circulars. These documents have been taken into account in the preparation of the Minerals Core Strategy.

2.8 The NPPF sets out a number of objectives for minerals, which include:

- planning for a steady and adequate supply of aggregates;
- liaison between mineral planning authorities;
- maintaining landbanks for primary aggregates and other minerals and;
- safeguarding mineral resources and the minerals supply infrastructure.

Regional and Subregional Policy

2.9 The Localism Act received Royal Assent on 15th November 2011. The Act provided the Secretary of State with power to make an order to revoke the regional strategies and saved structure plan policies. Whilst at the time of preparing the Minerals Core Strategy the regional strategy and saved structure plan policies are in force, and have been duly considered, so has the Government's intention to revoke them. The evidence underpinning the Draft Regional Spatial Strategy for the South West remains an important consideration for the Minerals Core Strategy but the further development of the Core Strategy will need to be justified with up-to-date evidence having regard to national, sub-national and local considerations.

2.10 In particular, there remains uncertainty over future rates of overall housing and economic growth in Dorset and surrounding Counties. It may be assumed, however, that any emerging spatial development strategies for Dorset will continue to reflect the principles of sustainable development and seek to concentrate a major element of growth in and around the main urban centres of south east Dorset.

2.11 The impact of the abolition of the regional planning policy framework will be critical for the Minerals Core Strategy in terms of regional and sub-regional aggregates apportionments. Further information is contained within Chapter 7. There is no similar regional guidance on provision for any other minerals found in Dorset.

2.12 The Mineral Planning Authority is committed to continued and regular discussions with Mineral Planning Authorities within the south west and Hampshire to the east. These authorities are seen as important to the success of the Minerals Core Strategy and the subsequent Minerals Site Allocations Document. Cross-boundary issues and mineral movements have been fully considered in developing policies. [(2)]Data has been gathered on movements of aggregates and ball clay, as outlined in chapters 7 and 9. Close regard to this will be made to ensure that steady and adequate supplies are maintained. Minerals provide an important national or even international resource and so understanding the complexities of supply and demand can prove challenging.

Local Policy

2.13 The saved policies of the Dorset Minerals and Waste Local Plan 1999 (the Local Plan) remain and will guide future minerals development in the plan area until adoption of the Minerals Core Strategy. The strategy and objectives of the Local Plan and the effectiveness of its policies since adoption, have provided an important starting point for developing the Minerals Core Strategy.

2.14 When planning for an adequate and steady supply of minerals, it is necessary to take account of anticipated development both within the plan area and in other locations which might place a demand upon Dorset's minerals. At the same time it is important to recognise that the use of nearby or locally won mineral supplies can help to reduce transport distances. There is a business imperative for reducing travel distances of aggregates used in construction

2 See Submission Document 9: Local Strategy Statement

because these are high in bulk but relatively low in value. This tends to restrict the extent of the market for much of sand and gravel production to a distance of no more than 40 miles from the source. Consequently, the majority of demand for aggregates will emanate from neighbouring areas. Other products such as stone are often more specialised in their application and so demand is less reliant upon planned development within and adjoining the plan area.

2.15 There are two key questions which consideration of development levels helps to address:

- Are there any proposals in adopted or emerging development plans which would be likely to sterilise significant minerals reserves within the plan area?
- Are the levels of growth planned locally and beyond likely to result in a marked increase in minerals demand over and above that which is planned for?

2.16 Ongoing liaison with local authorities in Bournemouth, Dorset and Poole will ensure that planned development is unlikely to sterilise critical minerals supplies and that safeguarded areas are pragmatic and take account of factors which would limit mineral extraction. Chapter 15 of the Minerals Core Strategy also includes a more formal means of consultation on planning applications. Minerals Consultation Areas are established within which district/borough councils will be required to consult the Mineral Planning Authority if an application is made for non-minerals development that could lead to sterilisation of mineral resources. Table 2 summarises the position of authorities in Bournemouth, Dorset and Poole.

Table 2 Relevant Local Development Frameworks within Dorset

Local Authority	Position	Planned Growth - approx target dwellings
Bournemouth	Recently submitted Core Strategy to the Secretary of State. The Examination took place during March 2012. Bournemouth Borough forms part of the SE Dorset conurbation, and is largely built-up. Much of the mineral is sterilised, and further development would be small scale, causing no conflict. The land in the North Bournemouth and Kinson districts coincides with safeguarded mineral but is currently protected from built development by Green Belt designation.	14,600 between 2006 -2026 (730 dwellings per annum)
Poole	Adopted Core Strategy (2006) Land to the north of Poole around Canford has safeguarded mineral, and coincides with a large swathe of Green Belt and other environmental constraints,	10,000 between 2006 - 2026 (500 dwellings per annum)

Local Authority	Position	Planned Growth - approx target dwellings
	making proposals for development unlikely. The remainder of the borough of Poole has been built upon, with any underlying mineral being sterilised.	
Christchurch and East Dorset	Working on a joint Core Strategy and Development Management policies. The pre-submission document was published in April 2012. Potential conflict with safeguarded mineral land may exist within East Dorset at settlement extensions put forward in the documents. In Christchurch, a key issue relates to a site west of Roeshot Hill adjoining land in Hampshire proposed for gravel extraction. Proposed housing to the north east of Christchurch may require recreational land to be provided on gravel bearing land. This is the subject of discussion between Christchurch Borough Council and Dorset County Council.	East Dorset: 5250 between 2013 - 2028 (350 dwellings per annum) Christchurch: 3020 between 2013 - 2028 (201 dwellings per annum)
West Dorset and Weymouth & Portland	Working on a joint Plan. The pre-submission document was published in June 2012. Potential conflict with safeguarded land exists in the West Dorset District Council area. Their Strategic Housing Land Availability Assessment (SHLAA) identifies a number of major sites which could potentially conflict with mineral bearing land. However, it is likely that any conflict could be overcome. Other than development at Chickerell, there are no other potential conflicts with safeguarded mineral from suggested housing development in Weymouth and Portland. Effective consultation arrangements already exist on the Isle of Portland.	West Dorset: 9400 between 2012 - 2031 (470 dwellings per annum) Weymouth & Portland: 3200 between 2012 - 2031 (160 dwellings per annum)
North Dorset	North Dorset has published preferred options, but is currently reviewing the strategy in the light of the abolition of regional guidance. Unlikely to publish the Pre-submission document until late 2012.	Estimated figures: 3650 between 2011 - 2026

Local Authority	Position	Planned Growth - approx target dwellings
	The current proposals suggest there are no conflicts between proposed development and mineral safeguarded land.	(243 dwellings per annum) (Under review)
Purbeck	Core Strategy submitted to the Secretary of State in January 2012 and the examination in public took place in May 2012. Within Purbeck District Council's Pre-Submission Core Strategy, the suggested settlement extensions within the district are of limited scale and unlikely to conflict with safeguarded minerals.	2520 between 2006 - 2027 (120 dwellings per annum)

2.17 Development planned in other areas can also have a bearing upon demand for minerals, especially for sand and gravel. The neighbouring areas of Devon, Somerset, Wiltshire and Hampshire are most relevant as they account for the majority of 'external' demand for sand and gravel (see figure 2).

2.18 Whilst the potential for growth is apparent from Tables 2 and 3, it does not represent a marked increase from previous growth assumptions which would have informed regional apportionment figures for aggregates. This provides a good degree of confidence that the provision for minerals set out in this strategy should be sufficient to cope with planned growth in and around the area.

Figure 2 Dorset in context

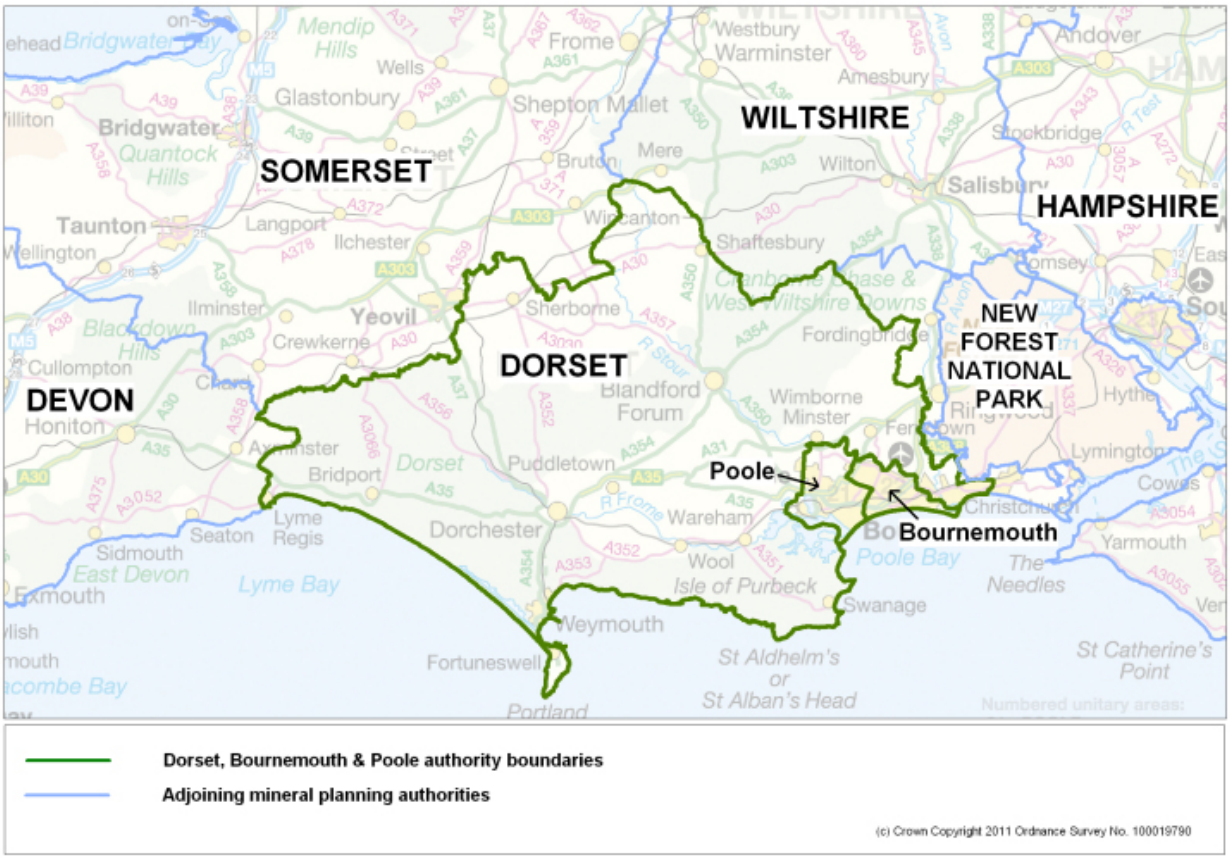

Table 3 Relevant Local Development Frameworks in adjoining local authorities

Local Authority	Position
South Somerset District	Draft Core Strategy (preferred options, October 2010) proposes a minimum of 16,000 dwellings in the plan period of 2006-2026, of which over 8,000 will be located within or adjacent to Yeovil, the latter being the principal centre for growth to include an eco-town extension. It is also proposed that the town will accommodate 51 hectares of employment land (23 hectares of these at the eco-town extension) out of a total of 107 hectares.
East Devon District Council	Draft Local Plan made available for consultation in December 2011. This is proposing housing growth of around 15,000 new dwellings and development of around 180 hectares of employment land over the period 2006-2026, much of which is in the area known as West End, close to Exeter Proposals for Axminster, the closest main settlement to Dorset, include a strategic allocation for 650 new dwellings and 8 hectares of employment land which takes the overall housing allocation for the town to more than 1700 dwellings.

Local Authority	Position
Wiltshire Unitary Authority	Draft Core Strategy is proposing 37,000 new homes and 175-182 hectares of employment land for the period 2006-2026. Of greatest relevance is Salisbury, which is defined as a Principal Settlement and as such will be expected to be the primary focus for development alongside the Principal Settlements of Chippenham and Trowbridge. Just under 7,500 new dwellings and 30 hectares of new employment land are proposed at Salisbury.
New Forest District Council	Has an adopted Core Strategy which does not include the New Forest National Park. The Core Strategy commits to 3,920 dwellings over the plan period (2006-2026) plus additional provision for up to 850 dwellings on sites that provide an exceptional contribution towards identified local affordable and low-cost market housing needs. Around 34 hectares of existing employment land allocations (including 18 hectares in Totton) have yet to come forward and the Core Strategy makes further provision for 5 hectares at Totton, 5 hectares adjoining New Milton and 5 hectares adjoining Ringwood. Within the New Forest National Park only modest development of around 220 dwellings is proposed.
The Partnership for Urban South Hampshire (PUSH) includes Southampton and Portsmouth	Vision for growth for the sub region is enshrined in the South East Regional Spatial Strategy, proposes around 80,000 new dwellings in the period 2006-2026 (over 16,000 of which were in Southampton, and over 11,000 in Portsmouth). The plan for a new settlement of 6,000 dwellings north of Hedge End in Eastleigh and Winchester Borough Councils' areas are no longer going ahead. The proposals for housing are to be matched by significant levels of employment growth with the ambition of PUSH for an additional 51,200 jobs by 2026. One of the key aims of the recently established Solent Local Enterprise Partnership is to review strategic sites and focus available resources on investment in key locations that have the greatest potential to support business growth.

Community Strategies

2.19 The purpose of community strategies is to identify issues and opportunities important to local communities and to identify actions that will be taken or measures that will be put in place to address these. Community strategies are therefore relevant to local spatial planning. They will not however be required to be produced in the future as they are being replaced by neighbourhood plans. In terms of minerals planning, not all issues and objectives covered in community strategies are relevant.

2.20 In Dorset, community strategies have been prepared for Dorset, Bournemouth and Poole, as well as each district council. North Dorset also contributes individual community strategies based on market towns, which come together within an umbrella community partnership. Each of these community strategies have been reviewed and Table 2 summarises the main issues and objectives relevant to minerals planning.

Table 4 Objectives of Community Strategies Relevant to Minerals Planning

Issues	Objectives	Relevance to the Minerals Core Strategy
Protect Dorset's environment	Protect and enhance biodiversity Conserve landscape character Develop in suitable areas Support measures to reduce flooding and coastal erosion Provide access to the countryside	Potential for conflict between minerals extraction and the protection of Dorset's Environment. There is however the opportunity, through minerals extraction, to achieve some benefits through restoration.
Reduce transport impacts	Reduce congestion Promote sustainable transport options	Potential for conflict between minerals transportation and the objective to reduce transport impacts.
Provision of housing and infrastructure	Provide a variety of housing	Extraction of materials for use in construction, delivered through this strategy, is essential to achieving this objective.
Maintain and enhance the quality of the built environment	Preserve built heritage Supply locally sourced materials	Provision of local stone, delivered through this strategy, is essential to achieving this objective.
Encourage sustainable economic development with minimum use of resources	Support creation of jobs Support and promote tourism and land-based industries	Minerals extraction will support the creation/maintenance of jobs however there may be potential conflicts with

		tourism and other industries through the impacts of extraction.
Efficient use of natural resources	Reduce water use Increase recycling Increase use of recycled materials and use of materials from sustainable sources	Direct conflict through the extraction of primary aggregates. There will be a contribution through increased aggregates recycling.
Reduce carbon footprint	Reduce emissions	Potential for conflict between minerals extraction and the reduction of emissions.

3 Spatial Characteristics

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Spatial Portrait

3.1 Dorset is located on the south coast of England. It is a largely rural county with large expanses of highly valued countryside. The total area of the county, including Bournemouth and Poole, is 265,273ha, which is home to a population of 710,500. 62% of the population lives in the South East Dorset conurbation, centred on Bournemouth and Poole. Weymouth (population: 50,900) is the next largest urban area. Elsewhere the county has a relatively sparse population.

3.2 The quality and variety of the landscape of Dorset is recognised through the designation of much of the county as Areas of Outstanding Natural Beauty (AONB), whilst its long and largely unspoilt coastline is protected as Heritage Coast and a World Heritage Site (with East Devon). In ecological terms, the county has a rich diversity of habitat types, including chalk downland, lowland heath, river valleys, wetland, cliffs and beaches.

3.3 A large portion of Dorset, stretching from Dorchester east to the Hampshire boundary comprises low undulating countryside, crossed by the rivers Frome, Piddle, Stour, and the Moors and Avon Valleys. It contains the surviving parts of heathland which have been greatly reduced over the years by agriculture, afforestation and urban development. The ecological importance of the heathland is outstanding, containing internationally rare plant and animal species.

3.4 An extensive swathe of chalk downland runs across Dorset from northeast to southwest and through the south of the county round Weymouth to Purbeck. It is characterised by wide, rolling, rounded hills with steep-sided valleys, and is almost entirely within the area of the two AONBs. Arable farming is the dominant use. Much of the little unimproved downland that remains on the steeper slopes are Sites of Special Scientific Interest (SSSI).

3.5 To the north west of the chalk scarp are clay vales where dairy farming is the main land use. The landscape in this area is wooded, with small fields and low hills. The main ecological value is in the deciduous woodland, hedgerows and watercourses and the remaining areas of unimproved grassland.

The main characteristics of the Plan area include:

- a valued diversity of landscapes, with 53% of the county designated as two AONBs as shown in Figure 3.

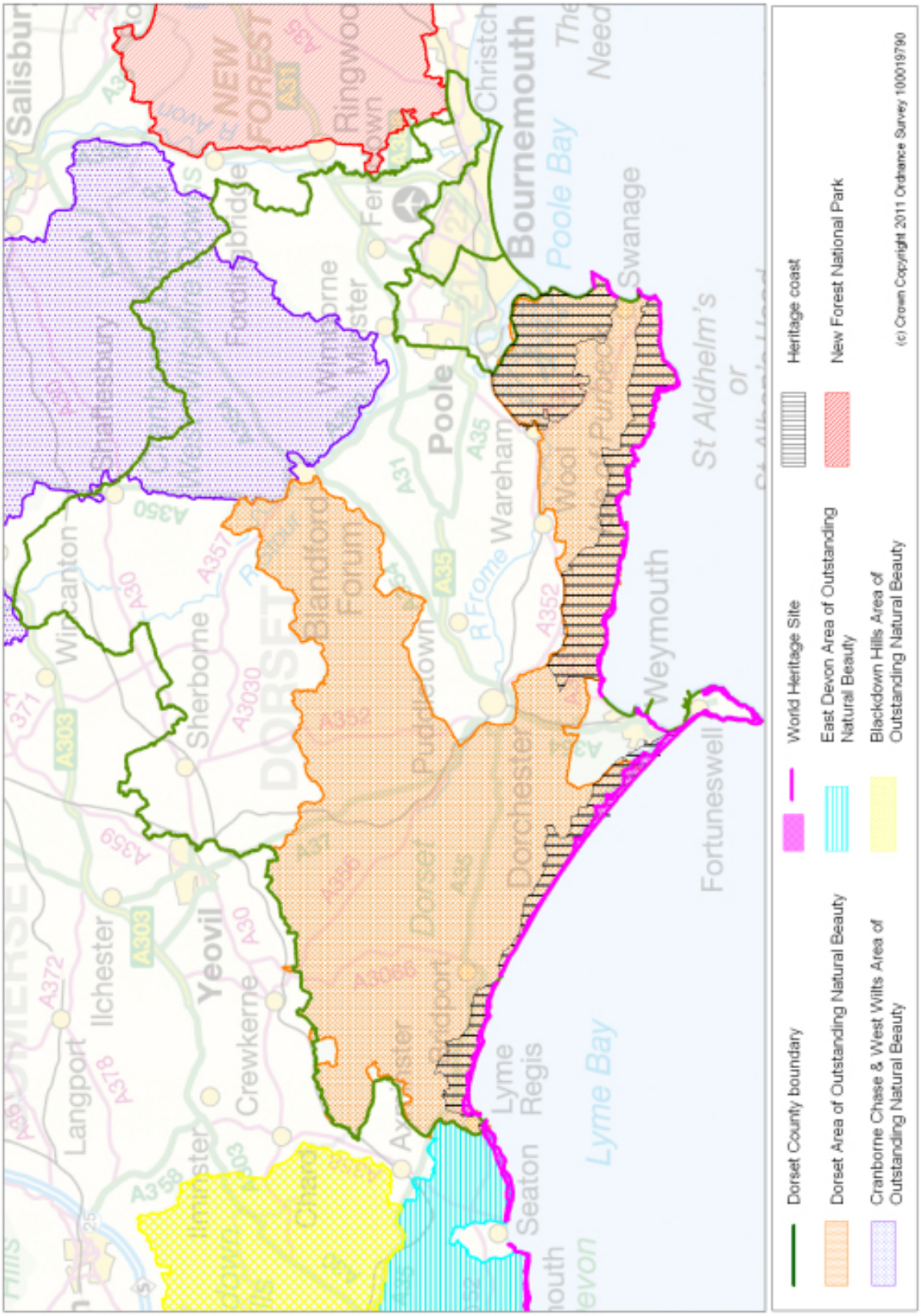


Figure 3 Landscape Designations

- the first natural World Heritage Site in the country, the Jurassic Coast, designated for its geology and geomorphology, and an extensive Heritage Coast, managed to conserve its natural beauty;
- a county containing large areas protected for their biodiversity interest, with almost 20,000 hectares designated as SSSI. Furthermore, 11% of the UK's rare lowland heath is located in Dorset and virtually all of this land is designated at a European level as a Special Protection Area (SPA), and at an international level as a Ramsar site. Much of the area is further designated across two Special Areas of Conservation (SAC). Figure 4 shows the distribution of Natura 2000 designations in the county;
- a rich heritage of prehistoric sites, conservation areas, listed buildings and historic parks and gardens;
- a wealth of wetlands, with 5% of England's reedbeds and some stunning rivers and streams. Other important wetland habitats include wet grasslands, fens and marshes. Some of Dorset's rivers are particularly special as they are chalk streams – a globally rare habitat;
- important aquifers and groundwater protection zones which are present in locations around the Plan area;
- continuing population growth, largely due to in-migration, with the South East Dorset conurbation specifically identified for housing growth up to 2026;
- a stable economy driven by the diverse mix of sectors and by the balance of service and manufacturing businesses;
- an economy dominated by the South East Dorset conurbation and centred on tourism, retailing, education, advanced engineering, business services and finance. Outside the conurbation, the economy of other towns is principally focused on tourism, creative and agricultural based industries. In addition, the county town of Dorchester is largely service based;
- a network of transport routes linking the main towns. However, good quality north-south transport links are generally absent, there is poor and unreliable access to national transport networks, particularly to the north and from the western part of Dorset, towards Hampshire / London and there is poor access to the Port of Poole due to congestion. The A31/A35 trunk road is a critical access route to the strategic network but suffers severe capacity issues, particularly at Wimborne, Ferndown, Ringwood and Bere Regis. In the west of the county this route passes through sensitive landscapes and communities, which imposes severe environmental constraints;
- important gateways to and from the South East Dorset conurbation which include Bournemouth Airport, the Port of Poole and generally adequate road and rail links to London and the south-east, but links to the north and rest of the south-west are poorer;
- three railway lines running through Dorset and further port facilities at Weymouth and Portland;
- The New Forest National Park situated adjacent to the eastern boundary of the Plan area.

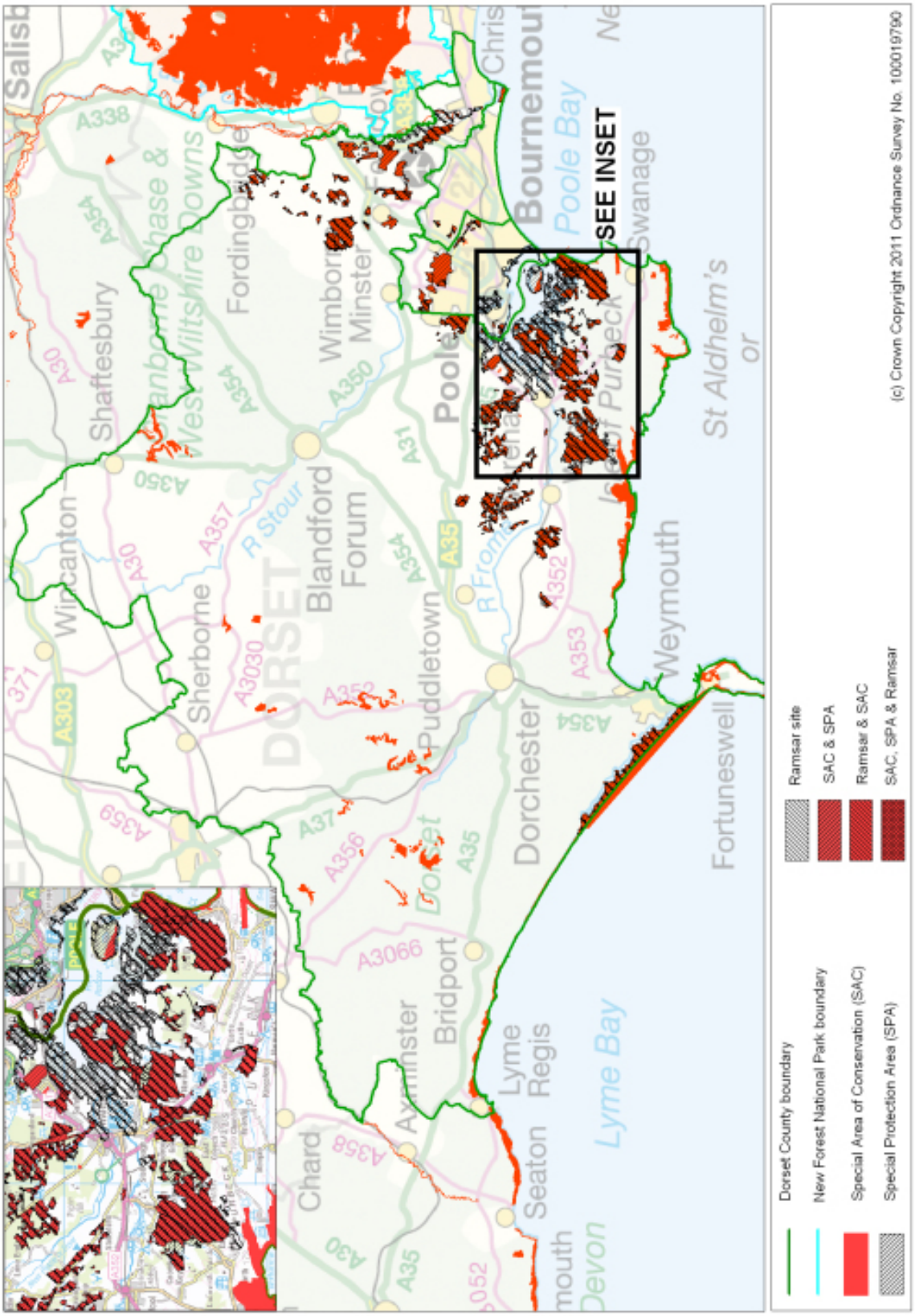


Figure 4 Natura 2000 designations

Geology and minerals

3.6 Dorset's varied geology is a major determinant of the landscape and its character, contributing to its visual attractiveness, recreational value, ecological interest and agricultural productivity. Its geology also means that Dorset is a mineral rich county with a diverse range of resources, including some that make an important contribution to the county's economy.

3.7 As such the extraction of mineral resources is tightly constrained by the valuable landscape and nature conservation interests in the county and adjoining counties. Much of the Purbeck Stone and ball clay resource is located within the Dorset AONB and is within or close to the Heritage Coast. Purbeck Stone and Portland Stone forms part of or is in close proximity to the Jurassic Coast. Much of the sand and gravel bearing areas coincide with important landscapes and designated habitats, but much also lies in areas where there are opportunities to avoid or mitigate against the adverse impact of development by recreating habitats such as lowland heath.

3.8 The county contains deposits of both sand and gravel and underlying Poole Formation sands. The county is also a moderate producer of crushed rock, which is sourced from both Portland and Purbeck. Dorset's sand and gravel resources are largely concentrated in the South East area of the county. Urban development and population also concentrate here, and the built-up area sterilises much of the deposit.

3.9 The majority of building stones found in Dorset are limestones. The Isle of Portland provides the nationally important resource of Portland Stone. Additionally, Purbeck Stone, found in the Isle of Purbeck, is an important and distinctive local, and to some degree, national building stone resource. The quarries tend to be small-scale operations scattered in the area, and are part of the cultural and industrial heritage of Purbeck. Purbeck Marble is also found and is of national significance.

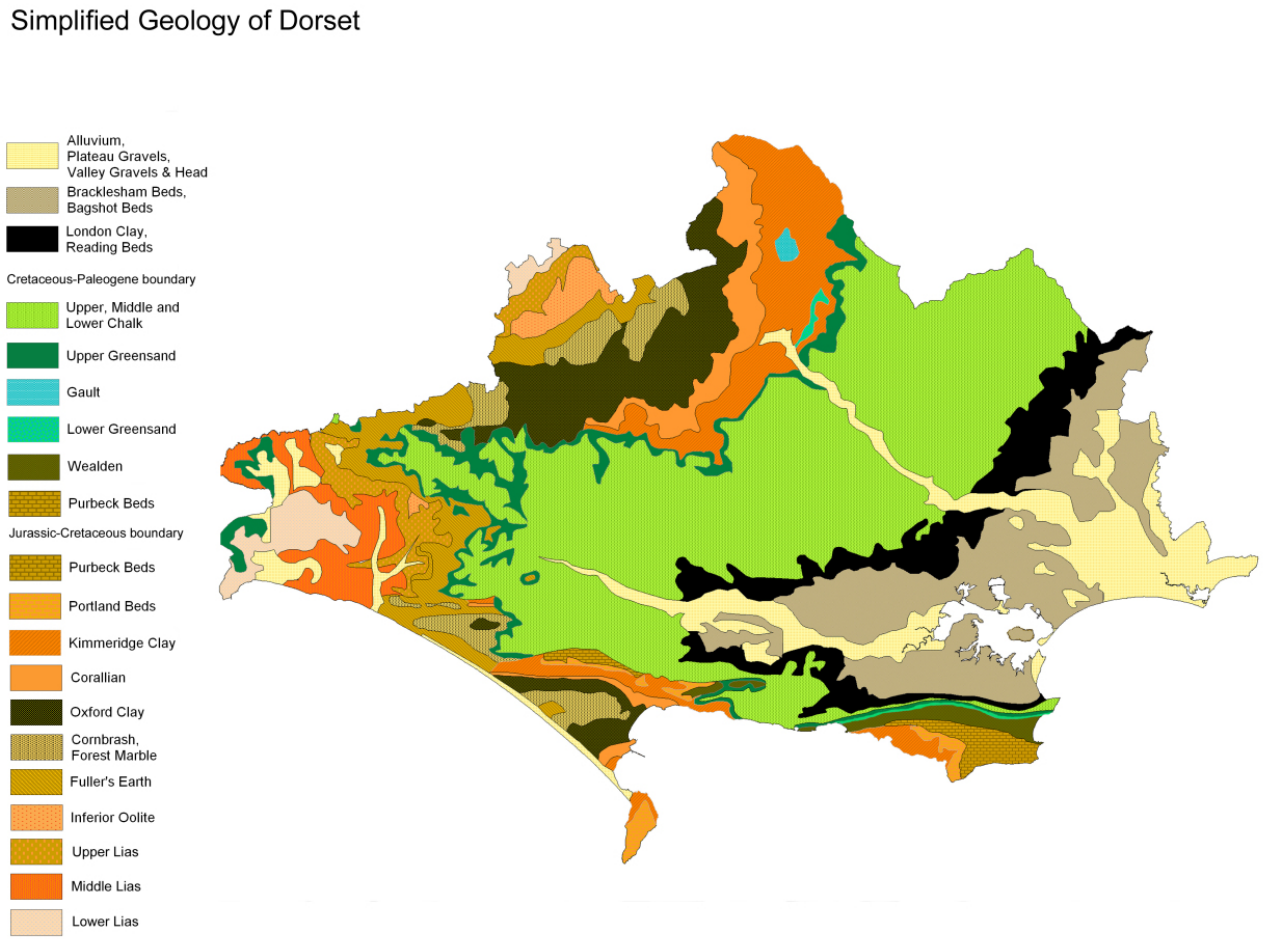
3.10 The Corallian formation, Inferior Oolite, Cornbrash and Forest Marble are found in west and north Dorset. The sandstones of the Cretaceous and Palaeogene (formerly the Tertiary) periods are found in west, north and south Dorset. Dorset's architectural heritage is largely due to the use of this variety of local stones.

3.11 Dorset contains one of only three areas in the country containing internationally important ball clay. This is located in the Wareham Basin.

3.12 The country's largest onshore oil field is found in the Wareham Basin. Permission has also been granted for one of the country's largest underground gas storage schemes at Portland.

3.13 Poor transport links present a problem, particularly for Purbeck and other building stones, as well as ball clay, located away from the strategic transport routes. Dorset has one wharf at Poole, handling marine dredged sand and gravel, one railhead at Wool for loading sand sent to London by train and one rail depot at Hamworthy (Poole), bringing crushed limestone from the Mendips.

Figure 5 Simplified Geology Map



Benefits of Mineral Extraction

3.14 The mineral industry in Dorset enhances local economic development by offering employment both directly for those working in a quarry or the transport system and indirectly in other industries in the supply chains or that support the workforce.

3.15 In addition, the provision of local Purbeck, Portland and other building stone maintains the intrinsic character of Dorset enabling historic and heritage buildings to be repaired or refurbished in traditional materials. New buildings can also be built in vernacular materials. It also allows traditional masonry skills to be maintained.

3.16 Although the negative impacts of mineral extraction are well documented and can include increased traffic generation, landscape and amenity impacts, mineral extraction has the benefit of providing positive opportunities. By working closely with the quarrying companies, new sites and extensions can be selected so that they provide benefits such as biodiversity enhancement and new recreational facilities. In Dorset, the creation of lowland heath as part of restoration schemes has been successful in a number of cases.

3.17 While there is not always going to be a choice over location, the minerals industry is encouraged to look for sites which will provide opportunities to contribute to Dorset's Biodiversity Strategy and green infrastructure network.

3.18 Finally, the increased use of recycled material extends the life of reserves and therefore results in fewer new quarries or quarry extensions being required.

Key Issues

3.19 The focus of the Minerals Core Strategy is to identify and resolve a series of key, strategic, spatial issues. These issues are the primary tasks that the Minerals Development Framework will need to tackle, although the Plan also addresses many other important and locally specific issues. The key issues are not necessarily specific to Dorset but their resolution will require a debate of the relevant local circumstances.

3.20 A range of issues pertinent to the Plan were developed through early stakeholder involvement. These issues were later refined based on ongoing engagement undertaken throughout the process of developing the Plan. The key issues the Minerals Core Strategy needs to address were then defined and are set out below. The issues are explored in greater detail within the chapters that follow.

Key Issue 1

Facilitating the increased production of recycled aggregates in the most suitable locations, particularly in the west and north of the county

Key Issue 2

Planning for an appropriate, robust and flexible level of aggregates provision having regard to demand.

Determining the most appropriate and sustainable locations for the extraction of aggregates in Dorset

Key Issue 3

Maintaining continued supply of ball clay, a mineral of national and international importance, whilst safeguarding and enhancing landscape and ecology importance.

The need to access a range of saleable clays, at one time, in order to produce blends of ball clay led by industry demand.

Key Issue 4

Identifying the most appropriate locations to maintain provision of Purbeck Stone, a building stone of national and local heritage significance, in an area of high landscape sensitivity.

The need to access the range of Purbeck Stone beds in order to meet demand whilst establishing a scale of extraction appropriate to the sensitive area.

Key Issue 5

Maintaining provision of Portland Stone for its heritage significance and use as a principal building stone in an area extensively and historically quarried.

The impact of surface quarrying on the landscape, environment and local amenity due to lack of control over operations, including restoration, with virtually all of the permitted area covered by one old planning permission with minimal conditions.

Key Issue 6

Determining which minerals and minerals extraction/processing/transportation sites should be safeguarded and how should this be achieved.

4 Vision and Objectives for Mineral Extraction in Dorset

4 Vision and Objectives for Mineral Extraction in Dorset

4.1 The vision for the Minerals Core Strategy has been developed through a combination of stakeholder forum debate and structured consultation periods. The vision reflects the key issues that the Minerals Core Strategy will deal with in relation to the provision of aggregates, ball clay, Purbeck and Portland Stone, onshore oil and gas (hydrocarbons) and recycled aggregates.

A Vision for Mineral Extraction in Dorset

By 2028, the supply of minerals from and into Dorset will have supported the area's continuing economic and population growth (which will be concentrated in South East Dorset) and the development of sustainable communities.

An adequate and steady supply of Dorset's minerals will have been secured efficiently and in environmentally acceptable ways.

The plan will have supported the sustainable production of oil and gas and the extraction of aggregates and ball clay, with ball clay extraction being concentrated in the least sensitive areas of the Wareham Basin.

Continued provision of building stones of heritage importance, including Purbeck and Portland Stone, will have been made. Quarries across the Purbeck plateau will be suited to their immediate, distinctive, limestone landscape and Portland Stone working will have seen a shift to underground mining, with the most sensitive areas of the island having been protected from surface quarrying.

The production and use of higher quality recycled aggregates as a substitute for primary aggregates will have increased.

The above will have been achieved whilst protecting and enhancing the area's unique natural and built environment, including the AONBs, the Jurassic Coast World Heritage Site, the internationally and nationally designated ecological and geological sites and Dorset's many heritage assets.

At the end of the plan period, mineral workings in Dorset will be making their contribution to the mitigation of and adaptation to climate change through the efficient use of resources, positive restoration of worked and completed sites, the sustainable transportation of mineral resources and the provision of materials for flood defences and coastal protection and stability.

4.2 The remainder of this plan explains the strategy for delivering this vision. The Minerals Core Strategy should be based on a set of clear objectives for minerals development. The objectives help to implement and deliver the spatial vision and are translated into a spatial strategy and core policies.

Objective 1

To support the economy of Dorset through the steady supply of aggregates, ball clay and hydrocarbons. To contribute to the development of sustainable communities by securing an adequate and steady supply of Dorset's minerals required to construct their infrastructure and buildings and to manufacture the goods they require.

Objective 2

To strengthen the distinctiveness of Dorset's built environment by ensuring the supply of local sources of building materials including Portland and Purbeck Stone.

Objective 3

To ensure the most efficient and appropriate use of all resources through:

- The prudent and sustainable use of minerals
- Recycling of construction and demolition waste as aggregate, and the production and use of higher quality recycled aggregates as a substitute for primary aggregates
- Encouraging the best use of high quality minerals for the purposes for which they are most suitable and for which there are no more sustainable alternatives.

Objective 4

To maximise the opportunities for environmental enhancement offered through the restoration of worked sites and outside worked areas to enhance Bournemouth, Dorset and Poole's unique natural environment, historic environment and potential for recreation.

Objective 5

To ensure that adverse impacts of mineral working on the environment, local communities, businesses and tourism are minimised.

Objective 6

To prevent the unnecessary sterilisation of valuable mineral resources and negative impacts of incompatible development on existing minerals operations or facilities.

5 The Overall Strategy for Minerals Provision

5 The Overall Strategy for Minerals Provision

5.1 One of the key features of the planning system is to ensure that the spatial aspects of development are properly considered. The main purpose of the Minerals Core Strategy is to plan for sufficient minerals extraction and associated development to meet the needs of the economy and society, whilst minimising impacts on environmental assets and amenity.

5.2 The Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth and a sustainable future. Planning must operate to encourage growth and not act as an impediment. At the heart of the planning system, reflected in the NPPF, is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan making and decision taking. New development should be planned for positively and individual proposals approved wherever possible.

5.3 The Minerals Core Strategy has been prepared using the best available evidence to assess reserves and future demand whilst building in sufficient flexibility to respond to changing circumstances without the need for policy review.

5.4 To achieve this, the Minerals Core Strategy identifies in general terms where and how much mineral development is to take place within the plan period. The spatial strategy explained in this chapter underpins the approach taken. The detail and justification for the spatial strategy is provided in the relevant mineral chapters which follow.

5.5 In the case of minerals planning, any strategy is constrained by the fact that minerals can only be worked where they occur and some resources are sterilised by other development. The options therefore for a spatial strategy for mineral extraction and associated development are prescribed to a large extent by the geological distribution of mineral resources within Dorset.

5.6 The Spatial Strategy is set out below and is illustrated on the Key Diagram (Appendix 4).

Spatial Strategy

i. **Providing an adequate and steady supply of a range of minerals** - Dorset has a wide range of mineral types, including aggregates, clay, building stone and industrial and energy minerals some of which are unique to the county. With each mineral type comes a different set of issues and strategies although generally it is intended to continue supply unless this would result in unacceptable environmental impacts. Cross boundary mineral movements, recycled aggregates and marine dredged sand and gravel make an important contribution to a sustainable supply of minerals. Safeguarding will be the tool to ensure that mineral resources are protected from sterilisation by incompatible development.

ii. **Providing a continued supply of aggregates** - The continued extraction and supply of sand and gravel and crushed rock is strategically important to the construction industry both in Dorset and beyond. Around 50% of the sand and gravel extracted in Dorset is exported to other authorities in the south west and to the south east of England. A similar amount of sand and gravel and crushed rock is brought into Dorset from surrounding counties. Work has been undertaken to determine the most appropriate level of provision of aggregates in order to achieve continuity of supply. Provision will be made for 1.78 million tonnes of sand and gravel per annum, equating to 15.04 million tonnes in total over the plan period, through the identification of specific sites from within two resource blocks. These identify the spatial distribution of the sand and gravel resource, excluding major constraints. With regards to crushed rock the strategy is to make provision for 0.30 million tonnes per annum through existing sites on Portland and in Purbeck.

iii. **Maintaining an adequate and steady supply of ball clay** - Ball clay is an industrial mineral which is of national and international importance because of its special qualities and rare occurrence. Its presence within the Wareham Basin (one of only three locations in the country) coincides with heathlands of European importance and the Dorset AONB. Further extraction of ball clay is supported to ensure provision of the range of grades demanded by industry, within environmental constraints. Provision will be made for about 1.3 million tonnes of ball clay during the plan period, through the identification of specific sites in the Minerals Site Allocations Document. As far as possible, this provision will be made from identified areas of least environmental sensitivity. A criteria-based policy provides the framework to address any shortfall in supply towards the end of the plan period.

iv. **Maintaining an adequate and steady supply of Purbeck Stone from within an area of search** - Purbeck Stone is another mineral of national importance. The entire resource is situated within the Dorset AONB. Future extraction of the range of Purbeck Stone beds is supported in order to provide an adequate and steady supply. This is particularly important for heritage purposes. New quarries should however be generally dispersed and designed to respect the character of the distinctive limestone landscape. Provision will be made for an average of 25,000 tonnes per year, taking into account landscape, environmental and other constraints,

equating to around 143,000 to 187,000 tonnes in total over the plan period. This provision will be made through a combination of the identification of sites in the Minerals Site Allocations Document and a criteria-based approach within a defined area of search

v. **Encouraging a shift from surface quarrying of Portland Stone to mining** - Quarrying of the nationally important Portland Stone is a long established industry. Due to the history of the consents, there have been continuing impacts on the environment and local amenity. Continued stone extraction of this important resource is supported, however mining as an alternative to surface quarrying is actively encouraged in order to minimise impacts. A strategy for seeking improvements to the old planning permission and directing working away from sensitive areas where possible is set out. This is illustrated spatially through the identification of areas where it is considered that surface quarrying would create a significant impact on the environment and/or amenity and by highlighting potential areas for mining.

Delivering the Strategy

5.7 The Minerals Site Allocations Document will develop this Core Strategy further by identifying specific sites. The Minerals Site Allocations Document will provide a level of certainty to local residents, the minerals industry, land and minerals owners and other interested stakeholders as to where future minerals development is likely to take place.

5.8 Until the Minerals Site Allocations Document is adopted the policies in this plan will provide guidance to determine applications as they come forward.

Presumption in favour of sustainable development

5.9 When considering development proposals the Mineral Planning Authority will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work proactively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area.

5.10 Planning applications that accord with the policies in this plan will be approved without delay, unless material considerations indicate otherwise.

5.11 Where there are no policies relevant to the application or relevant policies are out of date at the time of making the decision then the Mineral Planning Authority will grant permission unless material considerations indicate otherwise, taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
- Specific policies in the Framework indicate that development should be restricted.

Identification of Specific Sites in the Minerals Site Allocations Document

5.12 Policies for the provision of aggregates, Purbeck Stone and ball clay include an amount of material that will be provided for in order to maintain supply. This provision will be made up of permitted reserves and specific sites identified in the Minerals Site Allocations Document

5.13 Specific sites, identified in the Minerals Site Allocations Document, will be shown on an Ordnance Survey map base with the specific site boundaries drawn. Unless otherwise stated within this document, these sites will be preferred for mineral extraction and/or aggregates recycling over other non identified sites and planning applications for development of specific sites are likely to be considered as acceptable. Specific sites will be based on the spatial strategies included in the Minerals Core Strategy, subject to further assessment of potential impacts.

5.14 Sites will be assessed by the Mineral Planning Authority using the site selection criteria set out in Appendix 1 of this document. Careful site selection is a key issue for sustainable development - the need for the extraction of mineral must be assessed against impacts on the environment and the local community. The criteria have been developed through consultation as a means of measuring the potential impacts of each site in a consistent manner and will be used as a tool to carry out the sustainability appraisal process. The 25 criteria cover a range of potential impacts, including, for example, landscape, air quality, economic development and impacts on settlements.

5.15 Where necessary, potential sites will be subject to appropriate assessment under the Conservation Regulations. Detailed assessment of ecological and hydrological implications on European nature conservation sites of mineral extraction will be necessary to support sites to be taken forward into the Minerals Site Allocations Document. The Minerals Site Allocations Document as a whole will also be subject to Conservations Regulations Assessment and Sustainability Appraisal, which will include assessment of cumulative impacts.

5.16 Applications for minerals development for those sites identified within the Minerals Site Allocations Document will be permitted provided that the application demonstrates to the satisfaction of the Minerals Planning Authority that the proposal complies with the relevant policies of this Plan. Applicants will also be encouraged to enter into pre-application discussions to ensure that, as far as possible, applications will be acceptable. Discussions should be undertaken both with the Mineral Planning Authority and other stakeholders including the local community as appropriate.

Sites Not Identified in the Minerals Sites Allocations Document

5.17 It is anticipated that the Minerals Site Allocations Document will be able to identify sites for the extraction for aggregates. However, for other minerals such as Purbeck Stone and ball clay, it is acknowledged that it may not be possible, for geological reasons, to identify sufficient sites to meet the need for all grades of stone/clay for the plan period. Where sufficient reserves cannot be identified the relevant chapters contain guidance on how to deal with applications for sites that would make up any shortfall in provision. When dealing with these applications consideration will be given to permitted reserves and allocated sites in order to

determine whether there is a need for further sites and to assess any potential cumulative impacts of the development. In the case of aggregates the landbank will be an important indicator of need.

5.18 Where sites come forward that are not identified within the Minerals Site Allocations Document they will need to comply with all the relevant policies within this plan. The specific minerals policies and more general policies contained within the Minerals Core Strategy provide a sound basis for assessment. Any applications for sites that are not identified in the Minerals Site Allocations Document must be supported by a satisfactory level of evidence. It would be in the applicant's best interests to provide evidence that they have applied the site selection criteria to their proposed site.

Policy SS1: Identification of Sites in the Minerals Site Allocations Document

The Mineral Planning Authority will use the Minerals Site Allocations Document as the vehicle for the identification of specific sites wherever possible, having regard to the policies in the Minerals Core Strategy and the presumption in favour of sustainable development as set out in the National Planning Policy Framework.

Specific sites will be where viable mineral resources are known to exist, where landowners are supportive of mineral development and where any planning applications made are likely to be acceptable in planning terms.

Where adequate provision has been made through the identification of sites to achieve the spatial strategy, priority will be given to identified sites over and above other windfall sites.

Sustainability Appraisal of Policy

This policy provides the delivery mechanism for the spatial strategy. The policy provides a level of certainty that an adequate and steady supply of minerals will be provided and ensures that the most appropriate sites for mineral development are allocated, taking into consideration the environment and amenity.

6 Climate Change

6 Climate Change

Introduction

6.1 Climate change is creating the biggest challenge yet to the plan area's environment, and the way of life of its residents now and in the future. There is widespread agreement that climate change is happening and is strongly influenced by human behaviour. Urgent action is needed to alter this behaviour and to consider how to adapt to the changes that are predicted. The main human influence on global climate is emissions of key greenhouse gases. Carbon dioxide (CO_2) is the main greenhouse gas, mostly derived from the combustion of fossil fuels for energy generation and transport. There are important linkages between climate change and minerals planning, as described in this chapter.

Addressing the potential changes through minerals planning

6.2 Projected changes in climate in the South West include warmer drier summers, wetter winters and more frequent extreme weather events such as storms and heat waves. Sea levels continue to rise and could be as much as 80cm higher by the 2080s. There is likely to be increased coastal erosion, flooding and reduced water supply with potential changes to cropping patterns and species distribution.

6.3 There are two key aspects of climate change that are relevant to minerals planning:

a. reducing carbon emissions; and
b. preparing/providing for the effects of climate change.

6.4 Much of the discussion around climate change is about reducing carbon emissions, but preparing for the effects of climate change is just as important. Planning for the provision of the minerals required by our communities must include achieving lower carbon emissions and greater resilience to the impacts on climate change.

6.5 The Minerals Core Strategy addresses both these issues in various ways, including:

a. Encouraging the reduction of transport of minerals by road and thereby reducing carbon emissions;
b. Ensuring that mineral workings do not increase the risk of flooding;
c. Where practicable, increasing flood storage capacity;
d. Providing opportunities for the provision of winter water storage through quarry reclamation;
e. Encouraging the mining of Portland Stone as opposed to quarrying – mining has been shown to produce less CO_2 than quarrying;
f. Providing stone that can be used in sea defences and aggregates for use in flood defence works, where appropriate;
g. Encouraging the increased provision of recycled aggregates, and minimising the impacts of extraction of primary aggregates;

h. Providing opportunities, through restoration schemes, to benefit biodiversity with particular emphasis on the creation of habitat for species affected by climate change; and
i. Encouraging the growing of bio-mass energy crops as a possible after-use on mineral development sites, subject to suitability in the environment.

Climate change and new minerals development

6.6 Minerals are essential in maintaining our economy and lifestyle, but their extraction, processing and transport are probably responsible for about 7% of total global energy consumption. Transport of primary minerals is responsible for around 40% of the energy consumed by the industry. It is likely that the proportion of energy consumed by transport of bulk construction materials, such as aggregate, is even higher[3]. It was estimated UK mineral industries emitted about 4 million tonnes of CO_2 in 2007 including almost 1.29mt (just over 32%) in transport [4].

6.7 Reducing this significant carbon footprint in the face of accelerating demand for commodities and construction materials is a major challenge facing the minerals industry and its regulators both now and in the future. To assist in meeting this challenge, proposals for minerals development will be required to demonstrate that the wider issue of climate change, including reduction of CO_2, has been satisfactorily addressed.

Policy CC1 - Preparation of Climate Change Assessments

Proposals for major mineral developments should be supported by an assessment of how climate change mitigation and adaptation measures have been incorporated in the design and operation of the proposed development and considered in its location. This assessment will include demonstrating that the proposals are energy, material, and water efficient. It must also demonstrate how emissions generated from traffic will be minimised.

Sustainability Appraisal of Policy

This policy contributes to the reduction of the harmful effects of climate change and ensures development takes into consideration opportunities for adaptation. It has the potential to indirectly benefit biodiversity and quality of life as well as reducing flood risk and assisting in reducing the adverse effects of minerals transportation.

3 Earthwise 25 (BGS, 2007)
4 UK Minerals Forum – Working Group

Local authority carbon management action

6.8 The Carbon Trust estimates that UK local authorities spend £750 million a year on energy, and are one of the largest single sources of emissions, with over 25 million tonnes of CO_2. The Boroughs of Bournemouth and Poole and Dorset County Council are seeking to reduce these figures and at the same time show leadership in the area of carbon management. Some of the actions and approaches that have been taken are as follows.

6.9 Bournemouth Council has established the *Low Carbon Bournemouth Community Action Plan* which identifies actions that could be taken to tackle climate change through sustainable energy management. It adopts national targets of at least an 80% cut in greenhouse gas emissions by 2050 and at least 34% reduction in emissions by 2020. The Borough of Poole's Corporate Strategy includes a commitment to decrease the carbon footprint of Poole through reduced CO_2 emissions both from large organisations and in the wider community.

6.10 In addition, the *Bournemouth, Dorset and Poole Renewable Energy Strategy* focuses on the use of renewable energy to meet electricity and heat needs in Dorset. The *Bournemouth, Dorset and Poole Energy Efficiency Strategy and Action Plan* identifies actions to improve energy efficiency and curb energy demand across Dorset.

6.11 Dorset County Council is committed to reducing it's greenhouse gas emissions. The *Carbon Management Action Plan*, developed in 2007, set the county council an 11% reduction target in carbon dioxide emissions by 2010. Performance against this plan is monitored annually. During 2009 further review of the carbon management programme was undertaken and has been outlined in the *Dorset County Council Carbon Management Beyond 2010* report. In addition Dorset County Council is subject to the *Carbon Reduction Commitment*, which places new legal duties on the county council to effectively manage its carbon emissions.

7 The Strategy for Aggregates Extraction

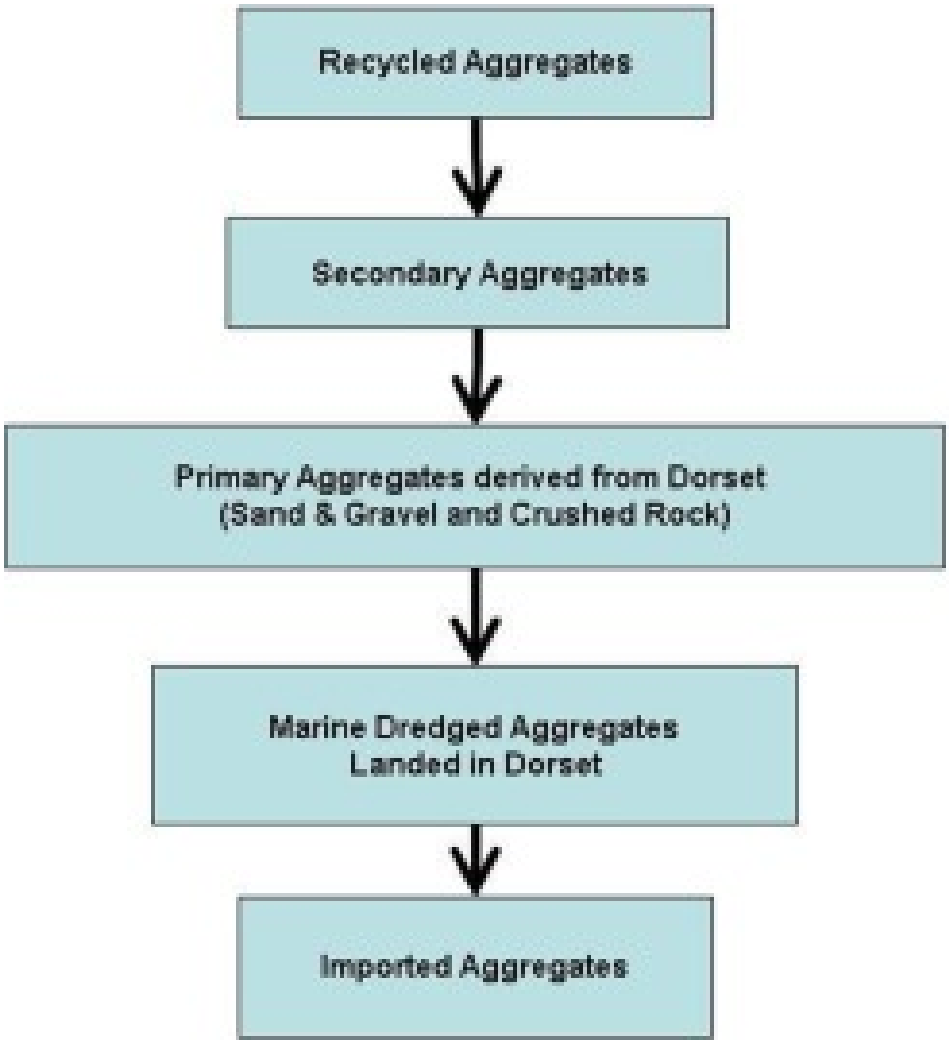
7 The Strategy for Aggregates Extraction

Introduction

7.1 Aggregates are essential to support sustainable economic growth. They are used for the construction and maintenance of hard infrastructure such as roads, airports, schools, houses, hospitals and flood and sea defences. They may be natural, secondary or recycled. The strategy for a sustainable aggregates supply in Dorset seeks to ensure that there is sufficient supply of material to support the development that is needed. This is consistent with the NPPF. Aggregates can be produced from a number of sources and this chapter considers all forms of aggregate and the contribution that they can make to meeting Dorset's identified need.

7.2 This chapter follows the preferred hierarchy as follows;

Figure 6 Preferred hierarchy for Aggregate Provision



Recycled and Secondary Aggregates

Key Issue - Aggregates Recycling

Facilitating the increased production of recycled aggregates in the most suitable locations, particularly in the west and north of the county

Introduction

7.3 Recycled aggregates are construction, demolition and excavation (CDE) wastes which can be re-used as aggregates, usually after some form of processing such as screening, washing or blending with primary aggregate. CDE waste includes crushed brick, concrete, soils and sub-soils and road planings. These materials may be used as they are, to provide bulk fill for construction projects or combined with primary (i.e. land-won or marine) material to manufacture concrete or material suitable for road surfacing and for re-use in materials for sea defences. These combined materials are known as hybrid aggregates.

7.4 Secondary aggregates are materials that are produced as industrial by-products, such as spent foundry sand, crushed glass, fragmented plastic or rubber, that can be used as aggregates. They can also be produced from other mineral operations, such as the sand removed to gain access to ball clay at sites such as Doreys. This is referred to in chapter 8 on ball clay and in Policy BC3.

7.5 Article 4 of the revised EU Waste Framework Directive[(5)] sets out five steps for dealing with waste, the 'waste hierarchy'. Recycling is the third of the usual five stages of the hierarchy - prevention, preparing for re-use, recycling, other recovery and disposal - and recycling of aggregates has an important role to play in delivering the Waste Directive and reducing the extraction and use of primary aggregate. Government discourages the simple landfill of material suitable for recycling as aggregate by means such as the Landfill Tax.

7.6 The production and use of recycled aggregates is an important way that Bournemouth, Dorset and Poole can reduce their dependence on land-won and/or marine-dredged aggregate. Reducing the need for land won or marine dredged minerals (primary aggregates) helps to make efficient and sustainable use of mineral resources and reduces the environmental impacts associated with their production. Government policy encourages the production of recycled aggregates to reduce the need for land won minerals. The production and use of alternative materials plays an important part in enabling Dorset to meet its demand for aggregates at a reduced cost to the environment.

7.7 The Minerals Strategy encourages the increased production of recycled aggregates, particularly in those areas of the county where fewer recycled aggregates facilities are located. It also seeks to ensure that a wide range of processed recycled material is produced, to increase opportunities to reduce the amount of material extracted from the land or the sea-bed.

5 Directive 2008/98/EC

7.8 Although there are many benefits of using secondary and recycled aggregates as a resource, recycling of aggregates does have negative impacts. It reduces the amount of material for use in quarry restoration. This may require the review of existing quarry restoration schemes at sites relying on this material. In some situations this could lead to variations or delay in the restoration of quarries, particularly where restoration needs to be to dry land to avoid birdstrike issues. Recycled aggregate production can also cause noise, dust, visual and transport impacts, as with any quarry operation.

7.9 There is also the issue of the amount of energy required in the processing of recycled aggregates, and the transport impacts from taking the material to be recycled to the recycling sites; crushing, washing and blending it; and then transporting it to where it will be used. Against this can be set the fact that use of recycled aggregates conserves primary aggregates, facilitates the use of primary aggregate to its 'highest and best use' and can mean less quarries are developed.

Types of facilities

7.10 The Minerals Strategy recognises that recycled aggregate production facilities include two distinct scales of operation. At one end of the scale are the smaller plants that primarily crush and screen material and produce lower specification materials more suited for uses such as constructional fill. These sites, which can include transfer stations, may also separate and bulk up material to be transported to larger sites. At the other end are the larger recycling sites which both produce higher volumes of output and may carry out more processing of the material being recycled. This can include washing and blending recycled material with primary aggregate to produce a high quality product suitable for a wider range of uses.

7.11 These larger and more specialised plants are considered to be of strategic importance in delivery of the strategy for recycled aggregates. Their typical permitted capacity or production levels are around or in excess of 50,000 tonnes per annum of high quality material. They generally benefit from long term (normally 25 years) or permanent planning permissions to justify the level of investment required to allow the manufacture of recycled aggregates to the standard required for high level uses such as construction. The figure of 50,000 tonnes per annum as a cut-off for identifying the 'strategic' sites has been selected on the basis that the larger sites producing high quality recycled aggregate require a washing plant, which in turn requires a higher level of output to justify the cost of the washing plant.

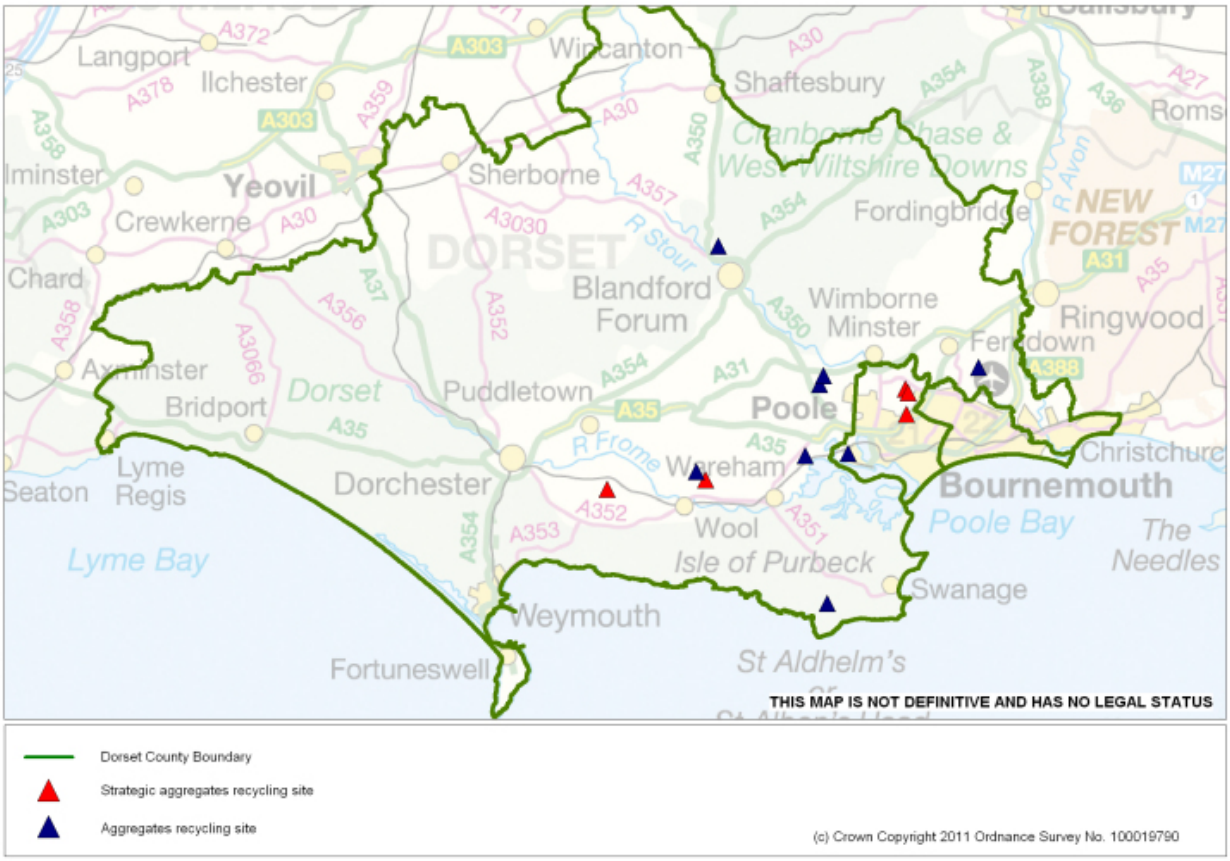
Locational Needs and Spatial Characteristics

7.12 Aggregate recycling sites have specific locational needs. Production and distribution of recycled aggregate is market driven. As with primary aggregate, the value of recycled material is relatively low and does not travel far. Sites should preferably be close to the sources of the material to be recycled and also close to the markets that the facilities serve. A location close to urban areas with good road access is favoured. The facilities may be located on brownfield land or at existing minerals or waste sites. In some cases, a location on an industrial estate is beneficial in terms of good access to material to be processed and good access to markets. A location on an industrial estate usually requires high levels of control of noise and dust, and rents can be prohibitively high.

7.13 A location within an existing quarry can be beneficial, particularly for the larger or strategic recycling sites, given that there is generally an existing washing plant with silt lagoons on-site, good road access and existing screening. Permissions for recycling operations within a quarry will normally be restricted to the life of the quarry, in cases where it would not be appropriate to permit a permanent recycling operation. For example, the recycling use might conflict with a long term restoration plan for an afteruse such as nature conservation or recreation; or, it might compromise the ability of the site to be restored in keeping with local landscape character; or, where the quarry is away from the source of waste and the market and/or with poor access the recycling use might be justifiable during the life of the quarry but not afterwards.

7.14 The map at Figure 7 reflects these locational needs, with recycling sites located in relatively close proximity to the urban areas, especially the south-east Dorset conurbation and also to Dorchester. This also reflects the location of the majority of current and worked out aggregate quarries. In contrast, the more sparsely populated areas of west and north Dorset have very limited coverage of recycling facilities. Those areas of Dorset within the viable catchment area of recycling facilities across the border would be served by those facilities, or by facilities within Dorset provided it was economically feasible to transport material to and from them. It is expected that some of Dorset's CDE waste arisings would flow out of the county to aggregates recycling sites in adjoining counties, and recycled material would return for use in Dorset. The Minerals Strategy encourages new facilities for aggregate recycling in these areas of limited coverage, provided a suitable location for the plant is available.

Figure 7 Aggregate Recycling Facilities in the Plan Area



Current Production

7.15 No sub-regional or local apportionment for the production of alternative materials or recycled aggregates in Bournemouth, Dorset and Poole has ever been set. A report published in 2005[6] suggested that of the 4.47 million tonnes of recycled aggregates produced in the region in 2003, approximately 11.2% (501,000 tonnes) were produced in Dorset (including Bournemouth and Poole). However, the Mineral Planning Authority has undertaken a survey of known aggregates recycling sites in the Plan area[7], which provides more relevant and accurate information on output, capacity and the nature of facilities within the county. Information indicates that total average output over the past five years has been in the region of 190,000 tonnes per year. By comparison, the total permitted capacity for aggregate recycling production is over 580,000 tonnes.

7.16 Results show that there are thirteen known aggregate recycling sites of varying scales, which produce between them a variety of washed aggregate, fill material and soils. Five of the sites can be regarded as strategic facilities, with either a capacity or average output of 50,000 tonnes or more. Their distribution is shown on Figure 7.

6 Technical and Strategic Assessment of Aggregate Supply Options in the South-West Region - Capita Symonds, 2005

7 See Background Paper 3: Recycled Aggregates

The strategy for provision of recycled aggregates

7.17 An increased supply of recycled aggregates reduces reliance on primary won aggregate. This is taken into account in the assessment of the level of aggregates for which to make provision, as set out later in this chapter. Production of recycled aggregate is market driven. The Minerals Core Strategy seeks to ensure a steady, annual increase in the production of recycled aggregate, particularly the production of products of a high specification.

7.18 This will be achieved through:

- the maintenance of current production and, where possible and appropriate, an increase in output from existing facilities or development of new or improved facilities - through renewing temporary permissions and issuing long-term or permanent permissions , provided these are justified and adverse impacts can be satisfactorily mitigated;
- safeguarding existing recycling facilities for the life of their permission; and
- encouraging replacement capacity where production capacity is lost through termination of a permission.

7.19 Based on the information collected, there is scope for increased production both within the permitted sites and through new sites. The latter will be encouraged particularly in areas currently not well served by aggregates recycling facilities such as west and north Dorset.

7.20 Development proposals should comply with Policy RE1 and other relevant policies in this plan, including the Development Management policies. Proposals will need to demonstrate that the key issues such as access, landscape, amenity and environmental impacts have been addressed and any adverse impacts satisfactorily mitigated. To ensure that European wildlife sites are safeguarded from any effects of development, proposals should comply with Policy DM5 (Chapter 16).

Policy RE1 – Production of Recycled Aggregates

Production of recycled aggregates, particularly in the west and the north of the county, will be facilitated through permitting long term or permanent facilities at locations which:

a. are near to the source of material to be recycled and in locations favourable to the production of recycled aggregates (for example industrial locations, existing quarries or waste sites, urban fringe and brownfield sites); or
b. replace temporary aggregate recycling permissions where the need for permanent retention can be demonstrated and where it can be shown that the temporary facility has operated without causing adverse environmental impacts and where long-term or permanent operation would not impede or conflict with restoration of any other use of the site.

Where it is considered that permanent or long term facilities for aggregates recycling may be inappropriate, temporary facilities will be permitted or renewed at suitable locations, including existing quarries and appropriate waste management sites, provided that any negative impacts can be avoided or mitigated to an acceptable level.

In cases where a recycling facility is permitted for operation within an existing quarry, the life of the permission will normally be restricted to the life of the quarry operation.

Sustainability Appraisal of Policy

The policy facilitates aggregate recycling and therefore reduces demand on primary aggregate and elevates the treatment of construction and demolition waste up the waste hierarchy, which has environmental benefits. It encourages the most sustainable use of alternative materials whilst also seeking to direct recycling facilities to appropriate locations in order to minimise impacts on amenity and landscape.

The Extraction of Primary Aggregates

Key Issue - Aggregates

Planning for an appropriate, robust and flexible level of aggregates provision having regard to demand.

Determining the most appropriate and sustainable locations for the extraction of aggregates in Dorset

7.21 Natural (or primary) aggregate is obtained from mineral sources subject only to processing through crushing and sizing.

7.22 Two naturally occurring types of aggregate are produced in Dorset: land-won sand and gravel, and crushed limestone rock. As the character and geographic location of these are different they will be dealt with separately in this chapter.

Sand and Gravel

Spatial Characteristics

7.23 Sand and gravel in Dorset is produced primarily from Poole Formation sand (geologically considered a bedrock deposit) and river terrace or plateau sand and gravel (geologically considered a superficial deposit).

7.24 Poole Formation sand is the most important important source of sand in the plan area, outcropping in the south east of the county. It is sometimes called 'soft' or building sand. It forms hills and ridges in a broad zone stretching from Dorchester to Wareham and around the fringes of Poole and Verwood. These sandy, less fertile areas, give rise to the ecologically important heathlands.

7.25 Between these areas of higher land run the river valleys of the Frome, Piddle, Stour and Avon. Extensive spreads of river terrace sand and gravel are deposited along the flanks of these valleys. It is sometimes known as 'sharp' sand and gravel. In the north west, the valley of the River Axe contains exceptionally deep gravel deposits, around 20m thick. The river valleys are often highly attractive unspoilt areas where to date there has been only limited extraction of sand and gravel. Within some river terrace deposits, large flint pebbles and cobbles are found, particularly east of Dorchester. These potentially form a source of building and decorative stone, but also may be crushed or used in restoration.

7.26 Plateau gravels are found capping many of the hills and ridges. Only isolated pockets now remain available, the majority already being worked out, built upon or of ecological importance. These deposits are of only limited economic importance.

7.27 Figure 8 shows the general spatial distribution of these three types of sand and gravel. They occur predominantly in the south east of the plan area and coincide with the location of most of the urban development in Bournemouth, Dorset and Poole.

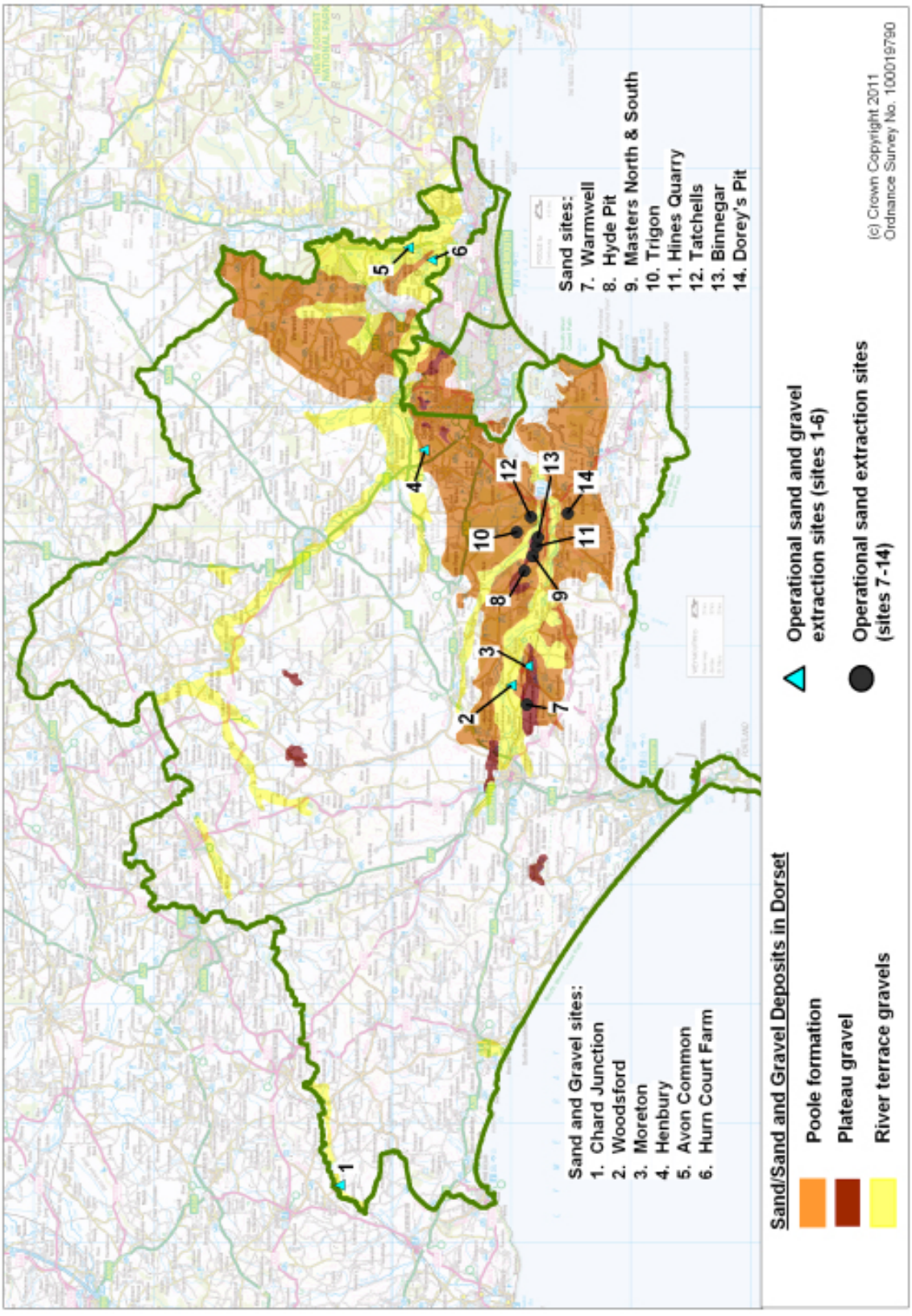


Figure 8 Sand and Gravel Quarries with Reserves at the end of 2008

Sand and Gravel - the current picture

7.28 Dorset is the largest producer of sand and gravel in south west England. Sales in 2010 totalled 1.42 million tonnes, of which approximately two thirds (0.95 mt) was sand from quarries largely working in the Poole Formation. The remaining third (0.47 mt) came from sand and gravel pits working river terrace deposits.

7.29 At the end of 2010, there were 14 quarries in Dorset with permitted reserves totalling just under 17 million tonnes. Just over half of these reserves were from quarries predominantly producing sand. The number of active quarries varies over time as some exhaust their reserves and close or new sites open. Figure 8 shows the sand and gravel quarries with permitted reserves at the end of 2010.

7.30 The Poole Formation consists of an alternating sequence of fine to very coarse grained sand. The large variations in particle size and colours enable a wide range of products to be provided. It is not restricted to uses such as plastering or asphalt production commonly associated with 'soft' sand.

7.31 Understandably, the industry is often unable to break down their permitted reserves of sand into soft or sharp sand. Following discussions with companies and their agents, sales and reserves figures have been divided by source (either Poole Formation or river terrace) where commercial confidentiality restrictions allow. This enables a useful assessment of supply and will avoid the risk of specific shortages of particular types of material being hidden within an overall total figure.

7.32 In areas of the Poole Formation where ball clay is found, sand often forms a deep overburden or lies between the clay seams. This sand is now regarded as a secondary aggregate for statistical purposes. Sand extracted below the clay will continue to be treated as a primary aggregate.

Key issues facing the extraction of sand and gravel

7.33 Earlier drafts of this document have considered the most appropriate level of provision of sand and gravel. Until recently, government published figures apportioning future aggregates provision between the English regions. These guideline figures were then broken into sub-regional apportionments by the regional planning bodies, advised by the Aggregates Working Parties. The latest regional apportionment figures were published in June 2009 and cover the sixteen year period 2005-2020. They required the former South West region to make provision for 85 million tonnes of sand and gravel over the sixteen year period. This was a reduction from the previous 2003 figure of 106mt.

7.34 In addition to figures for primary aggregates, the guidelines assumed that marine dredged gravel landed in the region will total 12mt over the period, compared with 9mt previously. Alternative aggregates (secondary and recycled materials) were assumed to increase from 121mt to 142mt. These regional guidelines were apportioned between each sub-regional area. This process of 'managed aggregates supply' was considered to provide an effective means of securing an adequate provision of construction materials without releasing excessive numbers of sites.

7.35 The 2009 guidelines resulted in a reduced sub-regional apportionment for Dorset, compared with the previous 2003 figures. Based on the historic proportional contributions to supplies averaged over the period 2004-2008, the annual apportionment figures for sand and gravel fell from 2.27 mtpa to around 1.97mtpa.

7.36 Taking into consideration consultation responses, historic trends and the potential difficulties that may be faced bringing forward future sites, it would appear that the regional apportionment figure of 1.97 mt is still too high. On balance it is considered that a more realistic yet robust position would be to plan for a level of provision of [8] **1.78 million tonnes per annum.**

7.37 This figure is an average of the sales of the last 10 years excluding the highest and lowest figure. This approach removes any extremes of production and is a suitable length of time to develop an acceptable average production figure. This figure also includes an additional 10% as an appropriate level of contingency. This approach will allow the Plan enough flexibility to react to changing circumstances. It should not risk under provision and will support economic growth. The Minerals Site Allocations Document will identify sufficient sites to achieve this level of provision. Additional flexibility will be built in through a reduction in need for primary aggregates from the increased use of recycled and secondary aggregates.

7.38 Annual monitoring will indicate if the level of sales exceeds the level of provision. If this is consistent, it will trigger a mechanism to identify additional sites, although this is considered unlikely to occur during the plan period. Alternatively, if sites allocated within the Minerals Site Allocations Document are exhausted the Minerals Strategy will provide a sound basis for assessing applications, due to the identification of resource areas and through the development management policies.

Addressing the key issues and delivering the strategy - sand and gravel

7.39 The amount of sand and gravel that will need to be provided for through the Minerals Strategy and the Minerals Site Allocations Document can be calculated as;

Annual production figure X Years covered by the plan (18 years, 2010 to 2028) - Existing Permitted Reserves = Requirement for new sites

(1.78 mt x 18) – 17 mt = 15.04 mt

7.40 There will be a need to identify new sand and gravel sites containing around 15.04 million tonnes in the Minerals Site Allocations Document. Every effort will be made to ensure an appropriate split in provision, based on past trends, between sand from the Poole Formation and sand and gravel from river terrace or plateau deposits in order to avoid shortages of particular types of aggregate.

8 Further detail on the various scenarios that were considered before the decision on level of provision was reached can be found in Background Paper 2

Strategic Preferences for the Extraction of Sand and Gravel in Dorset

7.41 The County Council commissioned the British Geological Survey (BGS) to undertake an assessment[9] of the status of the sand and gravel resources in Dorset, Bournemouth and Poole. The assessment provides estimates of the total sand and gravel resources in the river terrace deposits and in the Palaeogene bedrock formations (largely Poole Formation). The figures for total resources were adjusted by excluding:

- Built up areas
- Areas with planning permission for sand and gravel extraction
- Areas within AONB
- Areas designated as SPA, SAC, SSSI, National Nature Reserve or Heritage Coast

7.42 The BGS study findings confirmed that extensive sand and gravel resources exist in southern and eastern Dorset. Excluding constraints such as urban areas, environmentally designated areas and planning permissions, the sand and gravel resources in river terrace deposits amount to around 684 million tonnes. Sand within the Palaeogene bedrock (outside the excluded areas) totals around 1,803 million tonnes. These unconstrained areas have been mapped by the BGS and comprise an intricate pattern of areas of land, some large and some small, underlain by sand and gravel.

7.43 To represent the unconstrained sand and gravel spatially, two resource blocks were created, one for superficial river terrace sand and gravel and one for bedrock sand (primarily Poole Formation and Branksome Sand). These are shown in Figures 9 and 10. The resource blocks show the general area of land within which there is a high level of confidence that there is sufficient mineral to meet the level of provision of 1.78 million tonnes per annum until 2028. Future sand and gravel quarries will be located within these resource blocks. The boundaries of the resource blocks are based on the BGS report mapping but have been drawn more widely to represent the general location of the sand and gravel resource and to acknowledge that the mineral in the ground may extend beyond the specific boundaries defined in the BGS report.

7.44 However, since the boundaries of the resource blocks are drawn generally they include some areas of constraint (such as SPAs and SACs) which had previously been removed for the purposes of the BGS study. As far as possible urban areas and the AONB have been excluded. The resource blocks do not correspond exactly to the areas of sand and gravel identified by the BGS, but given the quantities of aggregate identified in the BGS study there is confidence that the level of provision can be met from within the resource blocks.

7.45 Inclusion of constrained land within the resource areas does **not** mean that future quarries will be located on the constrained land. There are many other constraints to development not considered within this study, such as proximity to houses, conflicting land uses, amenity and accessibility. It is not possible to include these in this high level study. These will be taken into consideration when specific sites are assessed for inclusion within

9 Background Paper 1: Dorset, Bournemouth and Poole Sand and Gravel Assessment; External Report CR/11/049 - British Geological Survey

the Minerals Site Allocations Document. The site assessment process will seek to identify the least sensitive locations for sand and gravel development (see Appendix 1). It will also need to take into account proximity to markets and suitability of transport links. Any identified impacts will need to be adequately mitigated in accordance with other policies and assessments. Future quarry proposals will be identified from land within these resource blocks subject to the normal and rigorous site assessment process which will either exclude constraints or ensure that any impacts are appropriately mitigated.

7.46 No sites will be brought forward for sand and gravel which fall within and/or are likely to affect European or internationally designated nature conservation sites. Nationally designated SSSIs are also afforded statutory protection. Detailed assessment of the ecological and hydrological implications of sand and gravel working in the resource blocks close to European or international sites will be necessary to support sites to be taken forward into the Minerals Site Allocations Document. Where significant doubts remain over possible effects on European sites, a precautionary approach to avoid inclusion of such sites will be taken.

7.47 Work has been undertaken to establish whether the level of provision set out is likely to be achievable, given the highly constrained environment of Dorset. A call for sites exercise was carried out asking industry to put forward potential future sites for consideration by the Mineral Planning Authority. This exercise provided evidence that sufficient reserves can be found from within the resource area to meet the need throughout the plan period. It was also evident through this exercise that future sites are likely to come from both the Poole Formation and the river terrace deposits.

7.48 It will be the task of the Minerals Site Allocations Document to identify sufficient sites for the extraction of sand and gravel, from within the resource blocks, to meet future needs. When specific sites are brought forward they will be judged on their individual merits following the site selection criteria (see Appendix 1) and will need to comply with all the relevant policies in the plan. Sites identified in the Minerals Sites Allocations Document will be preferred for mineral extraction over other non-identified sites. Planning applications for development within identified sites are likely to be considered as acceptable.

7.49 Close liaison with delivery partners has been and will continue to be essential to the delivery of this strategy. Current technical meetings with adjoining counties and some mineral operators takes place through the Aggregates Working Party (AWP). Although as of March 2012 the future of the Aggregates Working Parties is uncertain, it is hoped their technical advisory function will remain and they will continue to act as a vehicle for cross-boundary co-ordination.

7.50 In addition to sites to be identified in the Minerals Site Allocations Document, windfall opportunities may arise. Windfall sites generally become available unexpectedly during the life of the plan and are likely to arise within the minerals resource areas. They tend to be small sites but do provide reserves of aggregate to contribute to the overall need. Windfall sites can include sites where mineral extraction is required before other development in a given location can go ahead, such as the creation of agricultural reservoirs, or where the prior extraction of minerals is required before other development takes place on site that may otherwise sterilise the resource (also see section on borrow pits). These types of application will be considered on their merits, having regard to all the policies in the Minerals Strategy.

Policy AS1 - Provision of Sand and Gravel

The Mineral Planning Authority will make provision for the supply of 1.78 million tonnes of sand and gravel per annum over the period of 2010 to 2028 from sites within the resource blocks identified on the Submission Policies Map.

Sites will only be considered where it has been demonstrated that possible effects (related to hydrology, displacement of recreation, species, proximity, land management and restoration) that might arise from the development would not adversely affect the integrity of the Dorset Heaths SAC, Dorset Heathlands SPA and Dorset Heathland Ramsar site either alone or in combination with other plans or projects.

Sustainability Appraisal of Policy

Maintaining a supply of aggregates will generally have negative environmental and amenity impacts, although the site assessment process will seek to identify the least sensitive locations for sand and gravel development within the resource blocks. Impacts will also need to be adequately mitigated in accordance with other policies and assessments. The policy will however ensure continued supply of necessary sand and gravel, at a level considered appropriate to Dorset, therefore providing economic benefits.

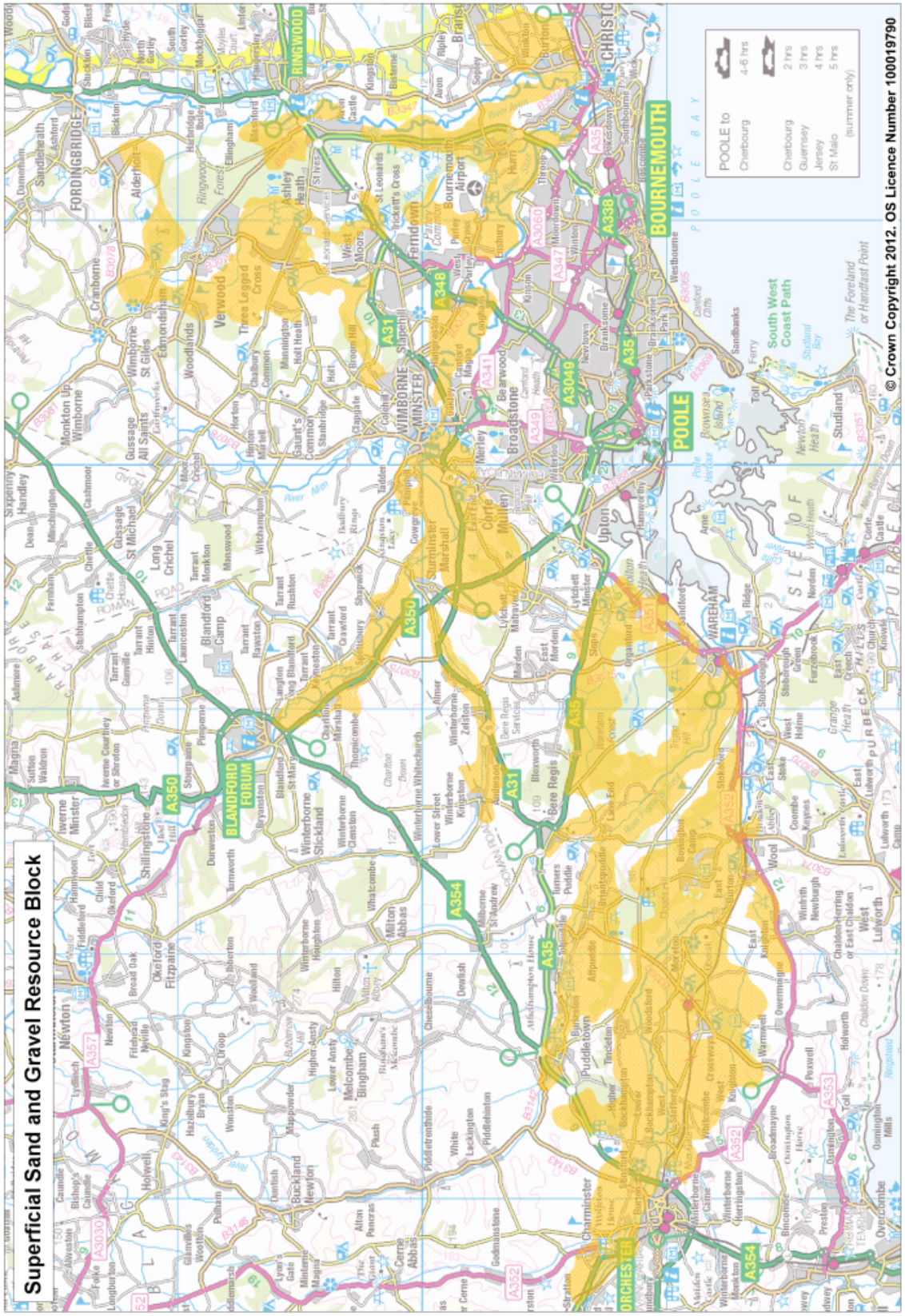


Figure 9 Superficial Sand & Gravel Resource Block

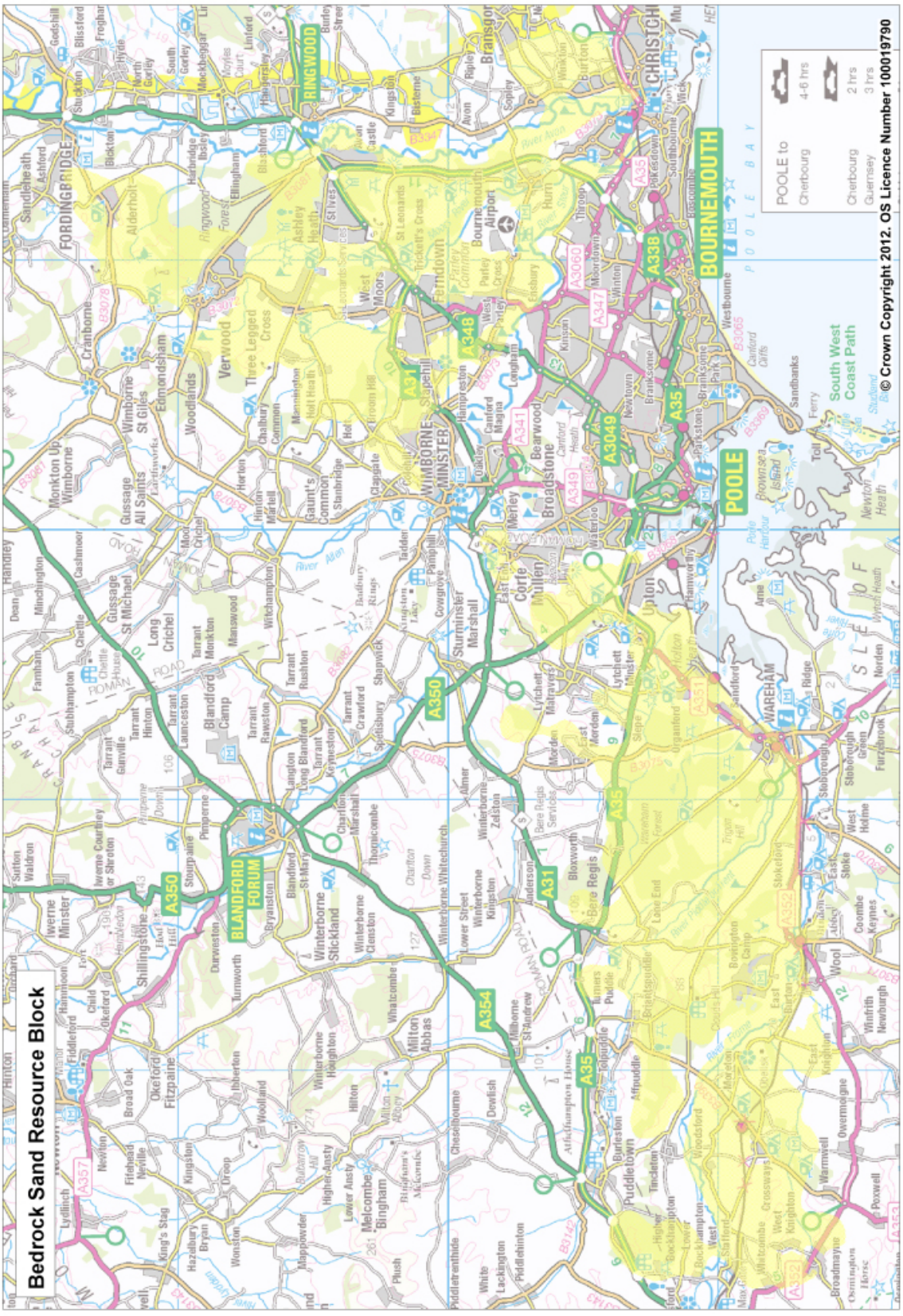


Figure 10 Bedrock Sand Resource Block

Extraction of Sand and Gravel in the AONB

7.51 Sand and gravel is widely found within the Dorset AONB and is currently extracted at Chard Junction, a quarry on the Dorset/Devon Border serving the western markets. Major mineral extraction in Areas of Outstanding Natural Beauty is generally discouraged because of its potential to cause serious harm to the landscape. The NPPF acknowledges this, stating that planning permission should be refused for major developments in designated areas except in exceptional circumstances, where it is in the public interest. The Minerals Core Strategy should as far as practicable, ensure that sufficient levels of permitted reserves are available from outside the AONB.

7.52 Where there is no harm to the AONB or where the harm is minimal and can be satisfactorily mitigated against, then small scale extraction of sand and gravel may be appropriate. This could be where sand is found in conjunction with ball clay. This specific issue is addressed in Chapter 8.

Landbank of permitted reserves - Sand and Gravel

7.53 A landbank is the total remaining quantity of mineral reserve with planning permission for extraction. The NPPF states that landbanks of permitted reserves should be used in order to indicate when new permissions for extraction are likely to be needed. It states for sand and gravel that Mineral Planning Authorities should endeavour to maintain a landbank that will last for at least 7 years at the current level of provision.

7.54 At the end of 2010 there were just under 17 million tonnes (mt) of permitted sand and gravel reserves in Dorset. This landbank would last 9.5 years if no further permissions were granted:

Permitted Reserves / Level of Provision = Remaining landbank

17mt / 1.78mt = 9.5 years

7.55 This figure comprises the landbank for both Poole Formation sand and river terrace sand and gravel. The figure of 9.5 years indicates that no new permissions are currently needed. However, as production continues, the landbank could fall below the required 7 year level unless more permissions are granted.

7.56 Poole Formation sand and river terrace/plateau sand and gravels have different properties and uses, and it is considered appropriate to monitor their supply separately. Further analysis makes it possible to identify separate landbanks. The overall apportionment figure of 1.78 mtpa can be split pro rata as follows, derived from actual production levels in 2009:

- one third for river terrace/plateau sand and gravel (1.78 / ⅓ = 0.59 mtpa)
- two thirds for Poole Formation sand (1.78 / ⅔ = 1.19 mtpa)

7.57 When these separate apportionments are applied to the 2010 reserves, this gives indicative landbanks of 13.05 years for river terrace/plateau sand and gravel and 7.75 years for Poole Formation sand. The monitoring of the production of these separate types of sand

and gravel against level of provision will alert the Mineral Planning Authority to possible shortfalls. Policy AS2 commits to the maintenance of at least a 7 year landbank for each type of sand/sand and gravel.

7.58 In order to assess the adequacy of either landbank on an ongoing basis, the co-operation of the industry will be needed to provide sufficient information to the Mineral Planning Authority each year on production and remaining reserves at each quarry.

7.59 If provision were to be made for a sand and gravel landbank of at least 7 years to exist throughout the entire plan period, additional sites would need to be identified in the Minerals Site Allocations Document sufficient for a further 7 years beyond the end of the plan period. This would increase the total quantity sought from 15.04 mt to 27.5 mt. However, since sand and gravel production and permitted reserve levels will be monitored and reviewed annually through the Annual Monitoring Report and the Minerals Strategy and Minerals Site Allocations Document revised before 2028, it is not necessary to plan for the maintenance of a landbank beyond the end of the plan period.

Policy AS2 - Landbank Provision

The Mineral Planning Authorities will maintain a separate landbank for both Poole Formation and river terrace aggregate equivalent to at least 7 years' supply in each case.

Sustainability Appraisal of Policy

Maintaining landbanks would have no direct effects on the environment, however the principle assists in ensuring that unsuitable sites can be resisted since there is not an identified need. This policy will support continued supply of necessary sand and sand and gravel and avoids a shortage of particular types of material. It will be implemented through Policy AS1.

Crushed Rock

Spatial Characteristics

7.60 Limestone suitable for crushing for use as aggregate is found in both Purbeck and Portland. These two distinct areas have very different spatial characteristics and are particularly sensitive in terms of landscape and biodiversity interest. Further details on the spatial characteristics of Purbeck and Portland can be read in chapters 9 and 10.

7.61 The coastline of Portland is designated as part of the Jurassic Coast World Heritage Site and there are many areas of geological and ecological importance on the island, partly as a result of past quarrying activities. Currently crushed rock is produced at five quarries on Portland. Crushed aggregate and armour stone is produced alongside dimension stone from most of the quarries. Each of the operational quarries has reserves of dimension stone

offcuts and wastage for use as aggregate. On Portland, stone from the cherty series, which forms the deepest quarried bed, is only suitable for crushing. Extraction of this stone results in a deeper void space in the quarry once extracted.

7.62 Similarly, Purbeck is an area of considerable environmental quality. The only aggregates quarry in the Isle of Purbeck is Swanworth Quarry, near Worth Matravers, which produces crushed rock from the Portland Beds. The Jurassic Limestone is generally regarded as a weaker or softer rock than Carboniferous Limestone and is normally unsuitable as a concreting aggregate. Swanworth Quarry is situated within the AONB and the Heritage Coast.

7.63 95% of crushed rock extracted in Dorset stays in the plan area. However, to meet local needs it is thought that around a third of a million tonnes of crushed rock and fine aggregate from the Mendips is brought to Dorset each year. A proportion of this comes by rail to Hamworthy depot.

Crushed Rock - the current picture

7.64 Annual output of crushed rock from Dorset varies according to demand. Total sales in 2011 were approximately 150,000 tonnes and remaining reserves at the end of the year were conservatively estimated to be in excess of 20 million tonnes. Average annual production of crushed rock since 1999 is approximately 290,000 tonnes. Current reserves are made up entirely of stone from Portland and Purbeck.

Key issues facing the extraction of crushed rock

7.65 The key issue to resolve is the amount of crushed rock production needed over the plan period.

7.66 The South West Aggregate Working Party has suggested an annual sub-regional apportionment figure for crushed rock provision from within the plan area of 0.30 million tonnes. Average annual production of crushed rock over the ten year period 1999 to 2011 was 0.29 million tonnes per annum. As this is close to the suggested apportionment figure, the South West Aggregate Working Party figure will be used.

7.67 With permitted reserves at the end of 2011 conservatively estimated to be well in excess of 20 million tonnes, this is sufficient for at least 65 years production at the rate of 0.30 million tonnes per annum. This is well beyond the life of the Core Strategy and it is therefore considered that there is no need to identify any further sources of crushed rock at the present time.

7.68 In Chapter 10, the strategy for future extraction of Portland Stone encourages the relinquishment of those parts of the planning permissions within sensitive areas, such as those close to housing. If this happens, the remaining permitted reserves of crushed rock would be reduced. However, it is expected that any reduction would form only a small proportion of the total, and the landbank would remain sufficient for well over 20 years (the Plan period).

7.69 There may be exceptional circumstances where it is appropriate to grant permission for the production and processing of crushed rock at a new site. This could be where there has been a marked changed in mineral demand or unexpected reduction in supply. Specific examples of exceptional circumstances are set out in Policy AS3 below

7.70 To ensure that European wildlife sites are safeguarded from any effects of development, any proposal resulting from a change of circumstances and an identified need for additional stone should comply with Policy DM5 of Chapter 16.

Policy AS3 - Crushed Rock

New sites for the processing and production of crushed rock will only be permitted within the Plan period in exceptional circumstances including but not limited to:

a. where development would enable a sustainable supply of minerals close to the market;
b. where an existing more sensitive site will be relinquished.

Sustainability Appraisal of Policy

The policy ensures that no new sites for crushed rock are identified, since there are sufficient permitted reserves to meet the sub-regional apportionment. Where there are exceptional circumstances the policy allows for permission to be granted which could bring benefits. Economic considerations would not be affected by this policy.

Landbank of permitted reserves - Crushed Rock

The NPPF states that Mineral Planning Authorities should endeavour to maintain a landbank for at least 10 years for crushed rock. At the end of 2008, the landbank was sufficient for over 40 years based on a proposed annual apportionment of 0.30 million tonnes.

Marine Dredged Aggregates

7.71 Marine dredged sand and gravel is extracted from the sea bed from licensed areas off the coast of Hampshire, the Isle of Wight and West Sussex. The ability of marine aggregates supplies to make a contribution to local construction aggregate demand relies upon the material being able to access the market via a wharf. Marine dredged aggregates are landed at a wharf in the Port of Poole. Without this wharf, marine aggregates would not contribute to Bournemouth, Dorset or Poole's need for aggregate as the closest alternative point of landing is at Marchwood, in Southampton.

7.72 Marine aggregates make a relatively small but important contribution to the overall need for minerals in Dorset. Until the economic downturn impacted, landings were around 100,000 tonnes per annum. Landings are currently down to 60,000 to 70,000 tonnes per annum.

7.73 The principal constraints on the level of marine landings during the plan period are the production capacity to dredge and deliver the material to the wharves, security of port access (loss of wharves), channel and berth restrictions and the road transport system away from the wharf. There are also considerable pressures on wharf facilities throughout the country from other uses and the cost of land is likely to be a threat to future supply and expansion.

7.74 Without expansion, there is currently limited additional capacity at Poole Wharf. Landings are considerably constrained by the capacity of the wharf, as 4,000 tonnes is the maximum load that can be landed at any one time and total storage capacity of processed material is around 10,000 tonnes. Despite these capacity issues, substantial marine aggregate reserves remain along the South Coast and eastern English Channel for the long term.

7.75 With limited spare capacity at Poole wharf, there is little flexibility to deliver additional resources of marine dredged aggregates into Dorset unless the wharf were to be used as a trans-shipment wharf. This is where large articulated lorries take material directly from the ships for onward processing. This could be an option if increased supplies of aggregates are needed in the future and other sources constrained.

7.76 Unlike on land, the constraints to dredging are less about the availability of suitable unconstrained resources. This is demonstrated by the tonnages currently permitted. Dredging is subject to a system of licensing. The licensed areas, from which minerals are dredged and imported into Dorset, have a total permitted tonnage of 9.75 million tonnes per annum, of which in 2010 only 3.66 million tonnes were removed.

7.77 It is considered that capacity remains to continue a steady supply of landings of up to 100,000 tpa within the plan period in order to contribute to the overall need for aggregates in Dorset. The Mineral Planning Authority will safeguard the facility at Poole Port to enable and encourage landings and processing to continue. Policy SG4 deals with the issue of safeguarding wharves.

7.78 Marine dredged sand is also used for beach replenishments. Between 2005 and 2010 3.32 million tonnes of marine sand was pumped directly onto the beaches at Bournemouth, Sandbanks, Poole and Swanage. It is understood that further beach recharge is being considered for Bournemouth and West Bay in the coming years. This method of beach recharge requires no land transportation.

Impact of Marine Planning on Aggregates Resources

7.79 Adopted by the UK Government, the UK Marine Policy Statement is part of a new system of marine planning being introduced across UK seas. The Marine Policy Statement will enable an appropriate and consistent approach to marine planning across UK waters. It will ensure the sustainable use of marine resources and strategic management of marine activities from renewable energy to nature conservation, fishing, recreation and tourism. The policy statement contains a requirement for the marine planning authority to consider safeguarding marine mineral deposits.

7.80 Marine planning will contribute to the effective management of marine activities and more sustainable use of marine resources, creating the framework for consistent and evidence based decision making. This will be achieved through the Marine Policy Statement, Marine Plans and marine licenses.

7.81 Marine Plans must be consistent with the Marine Policy Statement, ensuring a strong link between national policy and individual developments. Plans will present and interpret national policies and apply area-specific policy, spatially where appropriate, to the management of marine resources and activities. Dorset has a draft Marine Plan for consultation during 2012.

7.82 The Marine and Coastal Access Act 2009 created a new type of Marine Protected Area, called a Marine Conservation Zone (MCZ). MCZs will protect nationally important marine wildlife, habitats, geology and geomorphology. The Marine Conservation Zone Project concerns the selection of MCZs in English inshore and offshore waters. Sites will be selected to protect not just the rare and threatened, but the range of marine wildlife.

7.83 MCZs, together with other types of Marine Protected Area, will deliver the Government's aim for an 'ecologically coherent network of Marine Protected Areas'. This means the Marine Protected Area network will be a collection of areas that work together to provide more benefits than an individual area could on its own.

7.84 Discussions have taken place with the British Marine Aggregates Producers Association to consider the implications of the new marine planning system on the supply of marine aggregates to Dorset. The industry's view was to welcome the development of the Marine Protected Area network, on the basis that knowledge of sensitive and important habitats and

species should reduce some of the risks and uncertainties associated with marine development. The planning process should recognise that marine aggregates extraction can only occur where commercial viable geological deposits exist. These deposits tend to be discreet therefore activities have to be accounted for to ensure that deposits are not sterilised by other activities that will prevent them being exploited in the future.

Further Imports and Exports

7.85 Imports and exports are an important consideration in ensuring a sustainable supply of aggregates nationally. This section explains the quantity of both sand and gravel and crushed rock that is imported to meet the need for aggregates in Dorset and the contribution that Dorset makes to the need for aggregates in other counties through exports.

Cross Boundary Movements

7.86 To assist in meeting the demand from South East Dorset around 7% of the sand and gravel produced in the plan area is sent to Hampshire, based on 2009 figures, while a slightly smaller quantity is brought into Dorset from quarries across the county boundary in Hampshire.

7.87 Relatively small quantities of sand and gravel are also imported from Devon and Wiltshire, with significantly larger amounts of aggregates being returned to these counties. Around 18% of Dorset's production of sand and gravel is sent by road to Somerset (about the same quantity of crushed rock and fine aggregates is sent back, partly as return loads).

7.88 Sand and gravel from Dorset is also supplied to south-east England, including sand sent to London via rail sidings at Wool.

7.89 Cross boundary movements have been indicated on the Key Diagram (see Appendix 4).

Port of Poole

7.90 In addition to marine dredged sand and gravel, Tarmac currently imports around 50,000 tonnes per annum of aggregate through Poole Port from Northern Ireland. This material supplies 40% of the material processes at an asphalt plant in Poole. Products for use in road building, play areas and driveways are produced at the site mainly supplying the Dorset Market, with about 15% being exported to Hampshire. Imports by sea are necessary for this plants' operations due to the rising costs of road haulage and the availability of stone locally. There is the potential for the port to handle further quantities of imported aggregates, although the Mineral Planning Authority is unaware of any further examples at the current time.

7.91 Imerys exports a large proportion of its overseas customer's ball clay requirements through the Port of Poole. The company makes a significant contribution to the sustainability of operations at the Port of Poole.

Portland Port

7.92 Other than Poole, the only area where minerals (marine dredged or imported) might be landed within the plan area is Portland Port. However, the relatively low value of aggregates, the geographic location of Portland and distance to major markets, the storage space required and the need to process dredged material makes development of aggregates wharves at Portland unlikely.

Rail Transportation of Aggregates

7.93 Use of rail for the transport of aggregates is encouraged in national policies for minerals planning. A rail depot at Hamworthy receives crushed limestone from Mendip quarries in Somerset for local distribution. Approximately 100,000 tonnes is brought in annually. This figure has been lower in recent years due to economic conditions. Capacity constraints at the site are likely to limit opportunities for expansion.

7.94 The rail network serving the plan area is not conducive to the establishment of additional rail depots. In the north, where the Salisbury-Exeter line passes in and out of Dorset, the Mendip quarries are relatively close, but road links are more direct. The north-south single line from Yeovil to Dorchester passes through a rural area with limited opportunity and need for such a facility. Work is being undertaken to increase capacity on the main line from London to Weymouth, which serves the Hamworthy depot. Possible establishment of new depots along this line will continue to be investigated and encouraged by the Mineral Planning Authority.

7.95 For dispatching sand to London, sidings at Wool serve as a railhead to load material extracted at Warmwell Quarry near Dorchester. Approximately 100,000 tonnes of sand are sent by rail annually. Figure 11 below shows the existing wharf, rail depot and rail head and the railway lines discussed in the text.

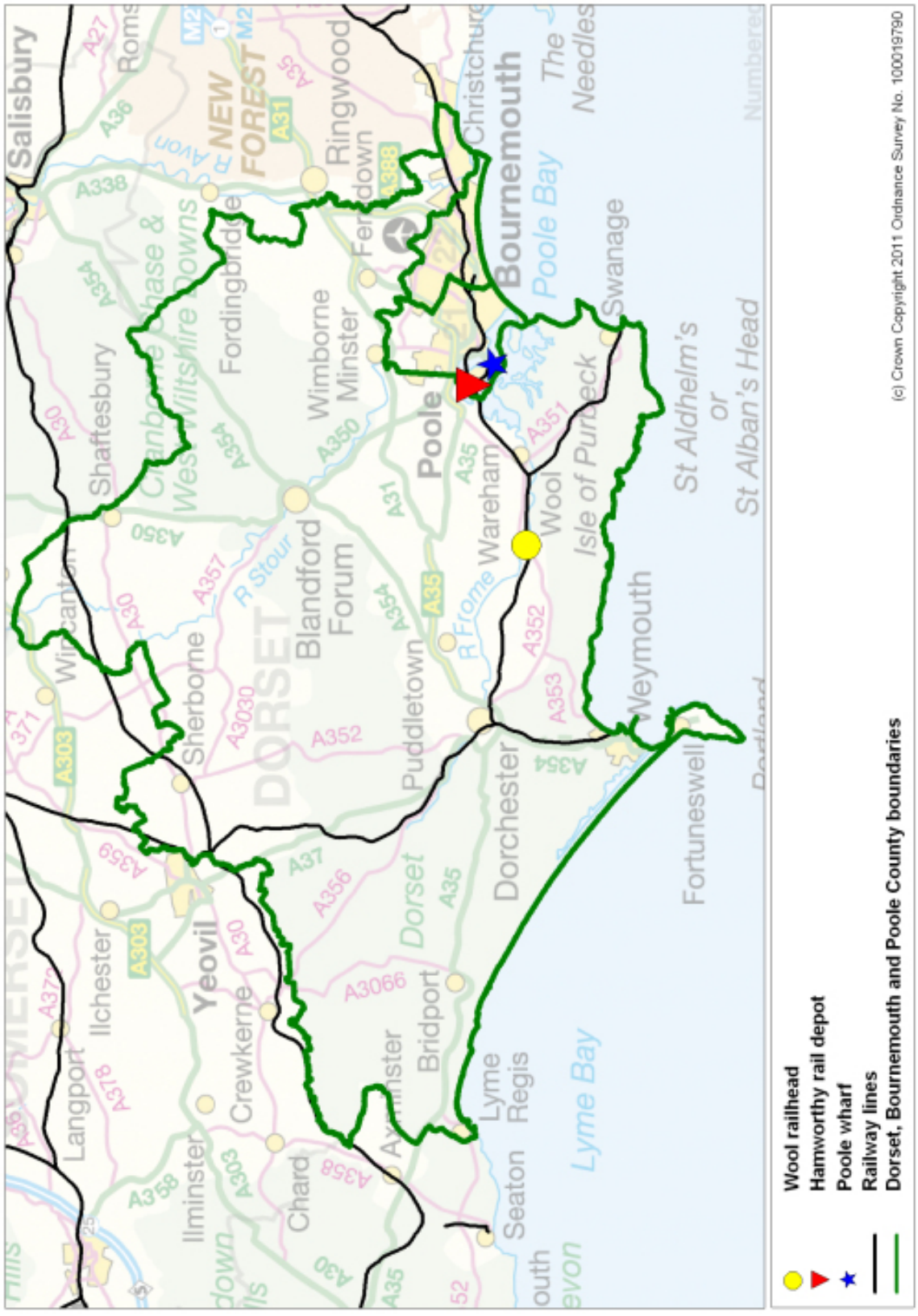


Figure 11 Dorset Wharves and Depots

Policy AS4 - Wharves and Depots

The Mineral Planning Authority will encourage new mineral handling rail depots and wharves, and the expansion and/or modernisation of existing sites, where the need for the facility can be demonstrated.

Sustainability Appraisal of Policy

This policy encourages the development of new and/or expanded wharves and depots, which facilitates more sustainable transportation methods. Any new development has the potential for some adverse impacts on the environment and amenity, although the development management policies of the core strategy will ensure that impacts are minimal.

7.96 To ensure that European wildlife sites are safeguarded from any effects of development, proposals should comply with Policy DM5 (Chapter 16).

Borrow Pits

7.97 "Borrow pits" are short term quarries worked in close proximity to (and for the specific purpose of supplying) major road construction and similar civil engineering projects. Sometimes the use of such sites can facilitate the construction project and reduce the impact of heavy goods vehicles on the surrounding road network and the community, compared with bringing aggregates from more distant existing quarries. Minerals won from borrow pits can also contribute to the County's aggregate requirements and may help to avoid the use of better quality reserves from established quarries.

7.98 It is not appropriate to have a site specific policy relating to borrow pits, due to the difficulties predicting their possible location, and need for them. Furthermore, applications for borrow pits are only occasionally received by the Mineral Planning Authority. It is however considered necessary to have a policy for use as and when circumstances require.

7.99 Although there are clear advantages in using borrow pits, it is important to ensure that these short term benefits are not outweighed by damage to other important features such as biodiversity or archaeology etc. Any proposal for a borrow pit must demonstrate that the location is the most suitable source of material for the project, and that appropriate environmental safeguards covering both working and reclamation are included.

Policy AS5 - Borrow Pits

Proposals for borrow pits associated with construction projects will be permitted provided that all of the following apply:

a. the site lies on or in close proximity to the project so that material can be conveyed to its point of use with minimal use of public highways and without undue interference with footpaths and bridleways;
b. the material extracted will only be used in connection with the project;
c. it can be demonstrated that supply of the mineral from the borrow pit would have less environmental impact than if the mineral were supplied from an existing source;
d. the borrow pit can be restored without the use of imported material, other than that generated on the adjoining construction scheme; and
e. use of the borrow pit is limited to the life of the project.

Sustainability Appraisal of Policy

Overall this policy reduces the impact of mineral transportation whilst providing a sustainable source of mineral. There are likely to be negative impacts from the development of borrow pits, however these are generally short lived as required by the policy and tend to be small in scale.

8 The Strategy for Ball Clay

8 The Strategy for Ball Clay

Key Issue

Maintaining continued supply of ball clay, a mineral of national and international importance, whilst safeguarding and enhancing landscape and ecology importance.

The need to access a range of saleable clays, at one time, in order to produce blends of ball clay led by industry demand.

Introduction

8.1 Ball clay has been regarded for many years as an industrial mineral which is of national and international importance because of its special qualities and rare occurrence. The British Geological Survey (BGS) describes ball clay as 'relatively scarce globally' and hence of importance to the UK's economy. UK ball clay is an essential ingredient of perhaps, half of the world's production of sanitaryware.

8.2 Within the UK, ball clay only occurs commercially in the Wareham Basin of Purbeck and within two areas of Devon. Dorset clays are noted for their high plasticity and unfired strength and also low carbon content. They are particularly suited for tile manufacture and also in electro-porcelains, refractories kiln furniture and sanitary ware.

8.3 The Wareham Basin area is however subject to extensive national landscape designations and international and national nature conservation designations. The BGS suggests that the area contains, perhaps, the most diverse range of potentially conflicting resource development and management pressures in England. This makes the identification of new sites, to ensure continued supply, a difficult task.

8.4 The strategy for the continued supply of ball clay has been prepared following detailed discussions with the industry. The unique nature of the ball clay, its limited occurrence within the UK, the demanding technical specifications of its industry users and the sensitive location in which it is found are all debated within this chapter in order to develop a sustainable strategy for its continued supply.

Spatial Characteristics

8.5 The Dorset ball clay resource in the Wareham Basin is located in the district of Purbeck and covers an area of around 146km^2, shown spatially as the Ball Clay Consultation Area on Figure 13.

8.6 The landscape of the area consists of a gently rolling plain of heathland, farmland and forest and is drained by two main rivers, the Frome and the Piddle, which flow eastward into Poole Harbour. The southern skyline is formed by the Purbeck Ridge, but the most prominent relief feature is Creechbarrow, just north of the ridge. The landscape is characterised by a

mosaic of semi-natural habitats, including heathlands, wetlands, woodland, grassland, estuaries, rivers and standing water and the enclosed landscape of the pine forest. Significant urbanisation exists to the east of the area around Wareham and Poole.

8.7 Agricultural improvements, forestry, urbanisation and to a lesser extent mineral extraction have severely fragmented and reduced the extent of many of the natural habitats in the area during the last decade. Due to its range of habitats and aesthetically attractive landscape, the Wareham Basin has extensive landscape and nature conservation designations. A large part of the area, and most of the basin south of the River Frome, lies in the Dorset Area of Outstanding Natural Beauty (AONB). In addition, the unspoilt coastline is protected as Heritage Coast and World Heritage Site. There are extensive areas of international nature conservation importance, including Ramsar sites, sites designated as Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). National nature conservation sites include National Nature Reserves (NNRs) and Sites of Special Scientific Interest (SSSIs). The nature conservation importance of the area is well known and the protection of the remaining heathland and wetland is of national and local importance.

8.8 Scheduled Monuments and other non-scheduled features and archaeological sites, Conservation Areas and buildings of historic importance, such as Creech Grange, are found throughout the Wareham Basin.

8.9 Extensive areas of the basin are in the ownership of the National Trust or under commercial forestry. In addition, large areas are also used by the Ministry of Defence for training purposes.

8.10 The beauty of this area is recognised by many people who visit in large numbers. The area provides many recreation opportunities for visitors, such as walking and cycling routes, National Trust destinations as well as the historic villages within the district. Tourism makes a large contribution to the economy of this part of Dorset.

Ball Clay - the Current Picture

8.11 Ball clay operations in Dorset are managed by one company, Imerys Minerals Ltd. Extraction is currently entirely from surface quarries. Operations comprise three large quarries; Dorey's and Povington, situated within the AONB, south of the River Frome, plus a third operation of a similar scale at Trigon located north west of Wareham outside the AONB. In addition, two smaller operations Furzeyground and Hawkpost are also situated within the AONB. Extracted material is transported by lorry to a centralised storage and processing facility at Furzebrook, near Wareham, for blending. From these five sites Imerys are currently working around 20 saleable clays and are producing in the region of 21 saleable blends (see below for further details on blending). Figure 12 shows the permitted site boundaries for operational sites. It should be noted that this does not always relate to working areas as some areas within permitted areas are being restored or in the case of Trigon being used for landfill.

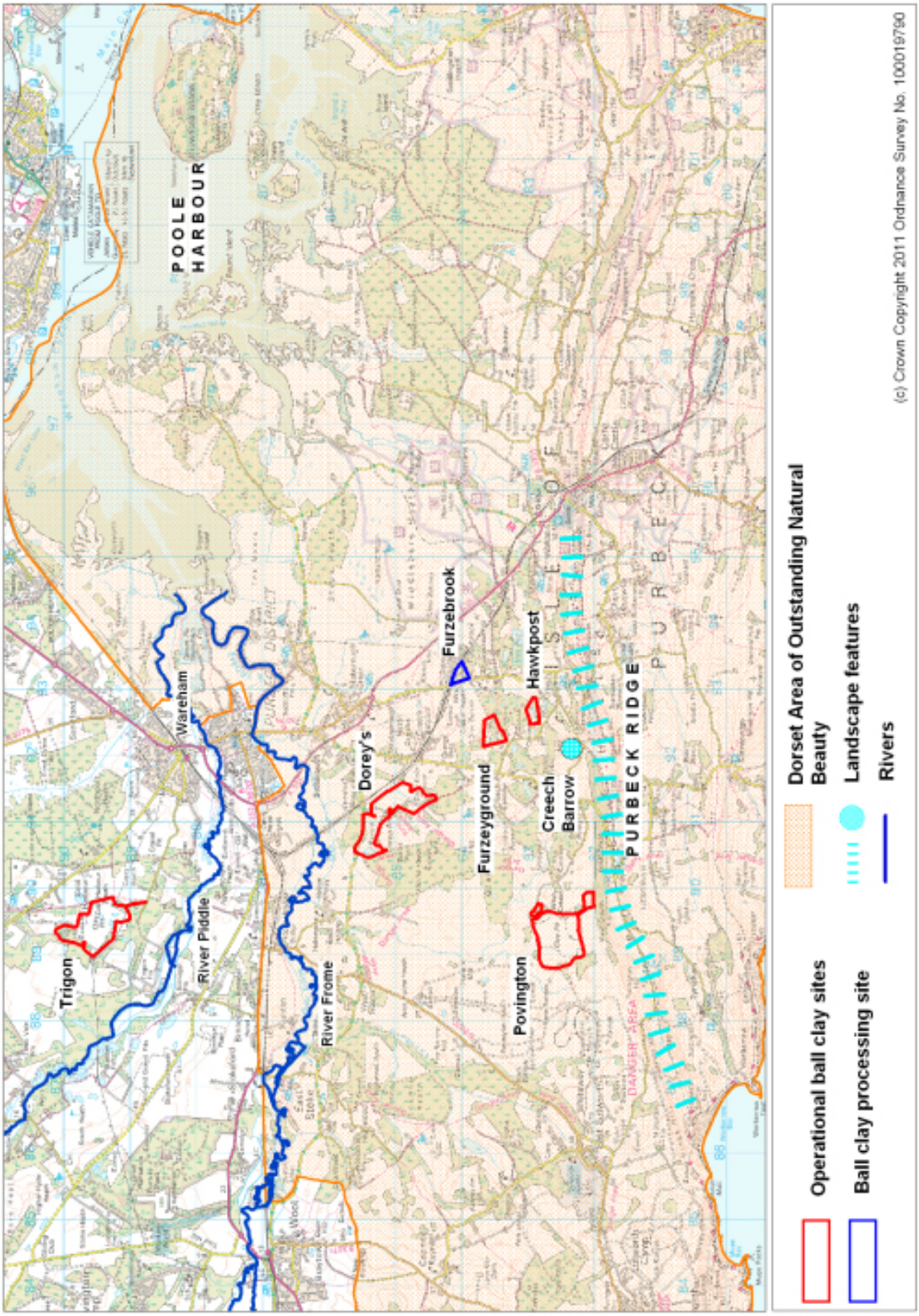


Figure 12 Existing Ball clay sites, landscape designation and features

8.12 Ball clay is a mineral of high export value. The economic importance of ball clay to the economy of Dorset is highlighted by the quantities exported. Based on anticipated 2011 figures around 64% of ball clay produced is transported in bulk to Poole and 9% by container to Southampton both for onward travel internationally, largely to Europe. About 20% of clay remains within the UK, mainly for use in the potteries of Staffordshire.

8.13 In addition, about 7% of ball clay produced is taken to South Devon for blending with clays produced there. Ball clays found in Dorset are of such a high quality they are needed to blend with Devon clays in order to produce products with specific properties.

8.14 Imerys currently employs 40 people directly in Dorset and around a further 60 indirectly, as well as supporting local businesses.

8.15 Estimated reserves at the five permitted ball clay sites totalled 1.2 million tonnes in November 2011. Total estimated output from these sites in 2010 was 214,500 tonnes, giving a theoretical life of between 5 and 6 years. However, it is misleading to give a figure for the overall life of Dorset ball clay reserves. Each individual site is important in contributing towards the current product range required by the market. The figure gives an indication of the scale of permitted reserves, demonstrating the need for further reserves to be found to ensure continued supply. The larger sites, Doreys, Povington and Trigon, produce key ingredients or grades for producing the majority of clay products. The grades found at Furzeyground are more limited than those found at the larger operational sites and so make a lesser contribution to the overall longevity of the business in Dorset.

8.16 Annual production of ball clay has fluctuated over the past 5 years largely due to the global economic downturn, from a high of 320,000 tpa in 2007 to a low of 150,000 tpa in 2008-09. Considering production trends over the last 30 years and from discussions with Imerys it is anticipated that future average annual demand for ball clay in Dorset is anticipated to be around 250,000 tpa.

8.17 As of March 2012, Imerys have submitted an application for an extension to Povington and are soon to submit an application for an extension to Doreys. If permitted these extensions will provide additional life and enable the continued production of the range of clays needed to provide clay blends from Dorset. Notwithstanding these extensions, if ball clay production is to continue, further reserves will be required.

Key Issues facing the extraction of ball clay

8.18 The key issue facing the extraction of ball clay in Dorset is the maintenance of a continued supply of a range of clays in an area of high landscape and ecological importance. The importance of ensuring this range of clays is vital to the continued viability of production of ball clay from Dorset.

8.19 The ball clay industry in Dorset is sustained by material of higher grade which requires very little secondary processing other than simply shredding. Importantly, this high grade ball clay is used to upgrade poorer-grade clays. Ball clay is a finite resource and Imerys actively optimises the blending of clay grades to husband the resource in order to maintain the full range of blended products for as long a period as possible.

8.20 The British Geological Survey (BGS) was commissioned by Dorset County Council to undertake a study of the distribution of the ball clay resource. One of the key conclusions of this study was that the highest quality ball clays are found in the middle to west and southeast parts of the Wareham Basin. This study has been drawn upon in the preparation of the overall strategy for the provision of ball clay.

8.21 The Poole Formation hosts the ball clay resources and four 'host' clays are recognised. Of these, the Creekmoor Clay is the most important host clay, providing the highest quality ball clay (containing the lowest average silica and highest kaolinite values). It is these clays that are blended with more inferior clays, particularly found in sites outside the AONB (i.e. Trigon), in order to meet industry requirements. Making the best use of high quality materials is a key component to sustainable development.

8.22 The Creekmoor Clay outcrops in two principal areas south of the River Frome. These are within the AONB and much of the resource coincides with major conservation designations. In addition, parts of the outcrop are currently under commercial forestry. Although other

subcrop areas lie north of the River Frome and outside the AONB, the BGS study confirms that it is unlikely that significant quantities of commercial quality ball clay will be found. Even if suitable ball clay deposits can be found within these less sensitive landscape areas there are important ecological designations which would need to be protected.

8.23 Based on quality and likely operational requirements, the main potential for developing Creekmoor Clay has been identified as south of the River Frome and south west of Wareham. Both areas are situated within the AONB.

Addressing the key issues

8.24 In order to address the key issues and develop a strategy to support the continued supply of ball clay, a detailed assessment [(10)] was undertaken to consider landscape and ecological related impacts contained within the ball clay bearing areas, and the ability of these areas to accept further extraction. There are many other constraints that will impact on future ball clay extraction but landscape and ecology were considered to be the most strategically significant.

8.25 The assessment was centred around the following separate resource sub areas supplied by Imerys, based on geological knowledge:

- land north west of Wareham including Wareham Forest and the existing operations at Trigon;
- a band of land west of the existing Doreys Pit and an area of land running parallel to the Purbeck Ridge east of the existing Povington Pit to the A35 including Furzyground and Hawkpost (within the AONB); and
- land east of the A351 (within the AONB).

8.26 The assessment on landscape character, designations, European protected and Biodiversity Action Plan species, ancient woodland and other important habitats concluded that impacts would be adverse. The impacts on much of the visual resources will be substantial and severe. This reflects the sensitivity of the receiving landscape which is highly designated, is very popular, accessible and a key recreational resource, contributing to south east Dorset's Green Infrastructure Network.

8.27 The assessment demonstrates the sensitivity of the ball clay bearing areas. The strategy for the continued production of ball clay must be carefully balanced against these competing priorities. However, given the recognised national and international importance of ball clay and its economic value, significant weight must be given to its continued extraction.

Delivering the Strategy - Provision of future reserves

8.28 Unlike aggregates, there are currently no national guidelines on future ball clay demand/provision or landbank requirements. Future demand relies on industry figures,supported by BGS. The amount of ball clay for which the Minerals Core Strategy and the Minerals Site Allocations Document will need to provide can be calculated as;

10 Background Paper 6: Potential Ball Clay Sites, Landscape and Ecology Impact Assessment, March 2011

Anticipated annual demand x Years covered by the Plan - Existing permitted reserves = Requirements for new sites

Requirement for new sites: (250,000 x 17) – 1.2 million tonnes = 3.05 million tonnes

8.29 Work has been undertaken to establish whether the requirement of 3.05 million tonnes is an achievable figure given the highly constrained environment of the ball clay bearing area. A 'Call for Sites' exercise was carried out asking industry to put forward potential future sites for consideration by the Mineral Planning Authority. This exercise provided evidence which has been developed through further discussions and the identification of further reserves for consideration.

8.30 Currently permitted sites and known potential future sites for ball clay extraction are considered to be capable of delivering about 1.3 million tonnes of reserves. When combined with existing permitted reserves (1.2 million tonnes), this would provide about ten years of supply if the assumed extraction rate of 250,000 tonnes is maintained. Beyond this amount, the supply of ball clay is less certain, principally due to the landscape and ecological sensitivity of the area in which ball clay tends to be found. However, it is also the case that identifying ball clay extraction sites with an appropriate range and quality of clay is complex and difficult to achieve. These circumstances could have a significant bearing upon average extraction rates over the plan period unless sufficient reserves can be delivered in an environmentally acceptable manner.

8.31 For now, therefore, the Minerals Core Strategy is confident that 1.3 million tonnes of ball clay will be brought forward through current and future applications, leaving a potential shortfall of 1.75 million tonnes.

Current and future applications likely to provide 1.3 million tonnes

Remaining shortfall = Requirement for new sites - current and future applications

Remaining shortfall 3.05 mt - 1.3 mt = 1.75 million tonnes

8.32 Meeting the shortfall, will require detailed testing of specific sites through the Minerals Site Allocations Document, including consideration of mitigation measures, to demonstrate that delivering the reserves can be achieved without causing significant environmental impacts. It is considered that the Minerals Site Allocations Document, together with the consideration of planning applications, will be the appropriate mechanisms for delivering this. Total provision over the plan period, based on an anticipated extraction rate of 250,000 tpa, should not exceed 3.05 million tonnes (excluding existing permitted reserves).

8.33 Once the Minerals Site Allocations Document has tested in detail the ability of the ball clay bearing areas to produce and identify sites, regular monitoring will be essential to ensure that the aim of maintaining an adequate and steady supply of ball clay is realistic and achievable.

8.34 If monitoring highlights that the overall strategic aim of maintaining a steady supply of ball clay is unlikely to be delivered, it may become necessary to review this element of the Minerals Core Strategy in order to include achievable and realistic levels of provision. This

revision could consider a gradual reduction in the production or could reassess the constraints of the ball clay bearing area and possible mitigation which may allow extraction to take place. Conversely, if monitoring highlights that actual production is lower than the anticipated rate of 250,000 tpa this can be taken into account when considering the need to bring forward further sites.

Strategic Location of Sites

8.35 The landscape and ecological assessment work, discussed at 8.24, was used to develop an initial area of search for ball clay. Following consultation with the industry, it was accepted that this area of search would not allow for a steady supply of all the range of grades of ball clay required. For example it did not cover land containing the best quality Creekmoor Clays.

8.36 Future sites will therefore need to be identified throughout the wider ball clay consultation area. Potential areas identified through the landscape and ecology assessment, and shown on figure 13 as 'Areas of Least Environmental Sensitivity', are an important starting point for the industry to investigate further. Sites in these general locations are more likely to be environmentally acceptable.

8.37 These 'Areas of Least Environmental Sensitivity' are most likely to contain new sites of a large scale, comparable to the existing sites of Furzeground and Hawkpost. Due to the sensitivity of the ball clay bearing areas it is extremely unlikely that another site on the scale of Doreys or Povington will be able to be found at an acceptable environmental cost.

8.38 Impact on amenity and access considerations are likely to limit the number of sites that come forward from within the identified 'Areas of Least Environmental Sensitivity'. There will also be land where extraction of any scale would be inappropriate. This includes Trigon Heath SNCI and Old Farm Plantation which are being managed for their heathland wildlife for the duration of the Trigon landfill planning consent.

8.39 Strip mining, or similarly small scale extraction methods, being discreet and unobtrusive, are thought to be suitable methods of extraction in the most sensitive areas. Rolling restoration could minimise landscape impacts by limiting the amount of land open to mining at any one time. Extraction could be screened by woodland or other existing natural features and sites could be generally dispersed.

8.40 Further investigations will be needed to identify sites where it would be acceptable to extract specific clays, such as Creekmoor Clay on a small scale. This might be where it is outcropping or found close to the surface. Such opportunities may exist within a broad area centred around Grange Hill and West Creech Hill and in the south around Norden Station and North East of Corfe, shown on figure 12. It is acknowledged that these are particularly sensitive areas in terms of landscape, including historic cultural landscape, and ecology. The Mineral Planning Authority is keen to work with the industry to identify such opportunities through the Minerals Site Allocations Document. Site access, layout, design, working methods and phased restoration would need to be carefully planned in these sensitive locations.

8.41 No sites will be brought forward for ball clay extraction which fall within and/or are shown likely to affect European designated nature conservation sites. Detailed assessment of ecological and hydrological implications of ball clay extraction close to European sites will be required for sites to be taken forward into the Minerals Site Allocations Document or the subject of application. Where significant doubts remain over possible effects on European sites, a precautionary approach will be taken.

8.42 The sites identified within the Minerals Site Allocations Document will comply with all relevant policies in the Minerals Core Strategy and will be preferred over other non-identified sites. However, where there is a demonstrated need for an alternative site, such as where allocated sites do not contain the required grade of ball clay, the Minerals Core Strategy provides guidance to deal with these applications.

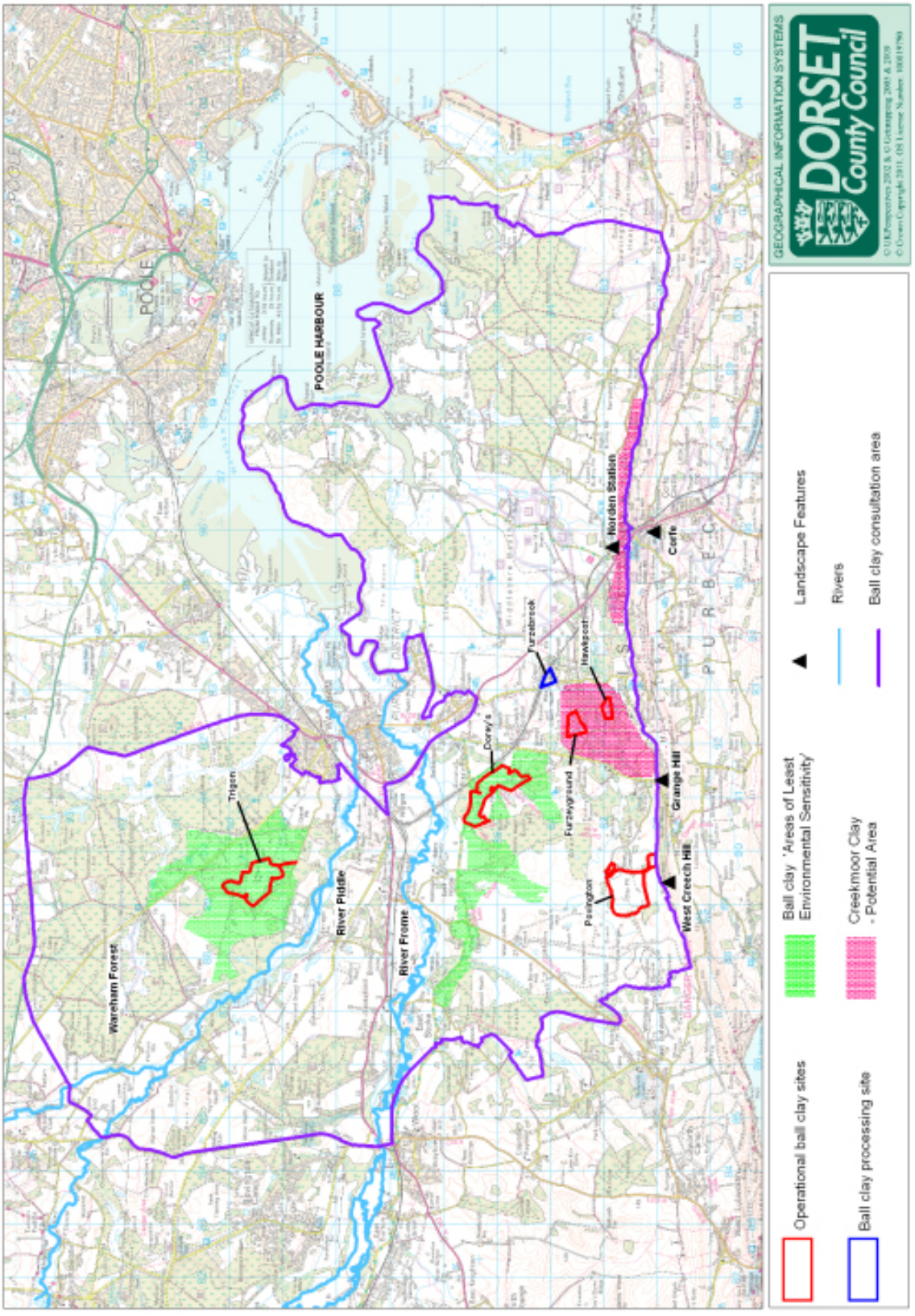


Figure 13 Potential areas for future ball clay extraction

Policy BC1 - Provison of Ball Clay

The Mineral Planning Authority will ensure an adequate and steady supply of all grades of ball clay through the provision of at least 1.3 million tonnes up to a maximum of 3.05 million tonnes of reserves over the plan period.

Sites of a large scale will be expected to come forward from within the 'Areas of Least Environmental Sensitivity', as shown on the Submission Policies Map.

The sensitive environment of the ball clay bearing areas should be recognised and permission will be granted for the extraction of ball clay where the following specific criteria are met:

a. The scale, nature, location and duration of the proposal would not have a significant impact on the landscape character and quality of the AONB.
b. Where sites are situated within the AONB, the scale and method of working should be appropriate in scale and specifically tailored to reduce harm.
c. Where it has been demonstrated that possible effects (related to hydrology, displacement of recreation, species, proximity, land management and restoration) that might arise from the development would not adversely affect the integrity of the Dorset Heaths SAC, Dorset Heathlands SPA and Dorset Heathland Ramsar site either alone or in combination with other plans or projects.
d. A detailed restoration and aftercare scheme demonstrates how the enhancement of landscape, nature conservation habitats and geodiversity interest will be achieved, as appropriate.

Where there are sites allocated in the MSAD and applications are for additional sites, the need for a particular grade of clay should be demonstrated.

Sustainability Appraisal of Policy

Overall, the continued supply of ball clay will meet an established need and maintain employment. However, due to the environmentally sensitive ball clay bearing area, as highlighted in this assessment, it may not be possible to maintain supply at the proposed level throughout the plan period.

Consideration of Alternatives

8.43 The only real alternative to the extraction of ball clay through opencast methods is underground mining. Underground mining has taken place in the past, but the closure of the last mines at Aldermoor and Norden occurred in August 1999. Underground mining has obvious advantages to the environment over opencast extraction, particularly in terms of landscape impact, and as such has been explored for its future potential. At present, the

industry and the BGS[11] believe that due to the complex geology of the Wareham Basin and stringent health and safety requirements, underground mining is currently economically unviable.

8.44 However, it is possible that underground mining may become the only feasible method of extracting the better quality clays due to environmental constraints and exhaustion of more accessible deposits. It is thought that any shift in extraction method will be beyond this plan period. The Mineral Planning Authority will encourage Imerys to investigate this method further, where there are environmental benefits from doing so.

Transportation of Ball Clay

8.45 Due to the poor road network that exists locally within much of the ball clay bearing areas, access arrangements and transportation should be given careful consideration. This should ensure adverse impacts are minimised.

8.46 The extracted ball clay from the five operational sites needs to be transported to the Furzebrook processing site. Due to the short distances involved, the most efficient means to do this is by road. Rail is no longer a realistic method of transportation over these short distances. The only potential alternative method is through a network of conveyors although these do have the potential to give rise to visual and noise pollution and will rarely be a practical or economic alternative.

8.47 A large percentage of ball clay production from Dorset is shipped overseas either through Poole or Southampton ports. For logistical reasons the ball clay is transported to the ports by road in campaigns therefore it is not possible to stagger the transportation of the mineral and store it at the ports ready for onward shipping. This is due to the limited storage space at Poole Port and because the quality of clay will deteriorate if stored. Ball clay is generally 'dug to order' to allow the appropriate properties to be retained in the clays and so achieve a satisfactory product. Ball clay is also transported within the UK to places such as Staffordshire. This material is currently being transported on the road, being the most economic method of transportation. The Minerals Core Strategy should encourage the transportation of ball clay by rail internally within the UK.

8.48 Poole Harbour Commissioners would support further investigation into the delivery of ball clay by rail to the port if this could become economically feasible. Presently there is no cargo being handled through the port by rail, although the infrastructure remains intact to do so.

Policy BC2 - Ball Clay Transportation

Where the Mineral Planning Authority has identified adverse impacts arising from ball clay transportation operators will be expected to use alternative means of transport for the movement of ball clay to and from Furzebrook and for the onward distribution of ball clay from Furzebrook where practical.

11 Background Paper 5: Ball Clay: A Geological Reappraisal to Inform Resource Planning

Sustainability Appraisal of Policy

Overall this policy would have a positive impact if alternative means of transport can be found.

8.49 To ensure that European wildlife sites are safeguarded from any effects of development, proposals should comply with Policy DM5 (Chapter 16).

The Associated Sale of Sand and Gravel

8.50 The overburden at ball clay pits can include large amounts of sand which has the potential to be sold as construction aggregate. Working more than one mineral product from a single pit has its benefits by reducing the total amount of ground opened for mineral extraction at any one time, potentially maximising efficiency, minimising waste material and reducing the need for primary material extracted elsewhere.

8.51 Proposals for working the ball clay can include the extraction of sand, which would be stockpiled for later sale to the market, or transported to a nearby sand and gravel site for processing. The quantities of sand and gravel present at some sites could greatly exceed the volume of ball clay.

8.52 Taking this material off site for sale does have negative impacts. It leads to a reduction in the amount of material available for restoration, possibly affecting final landforms. If stockpiled it may have landscape impacts. Finally it results in an increase in the volume of lorry traffic on the surrounding road network.

8.53 Extraction of sand and gravel as a secondary resource in association with ball clay is currently occurring at Trigon. Annual output is around 50,000 tonnes per annum. However, the clay extraction causes a much larger tonnage to be dug and stored. As Trigon is situated outside the AONB and with relatively good transport links, this is seen as an acceptable level of activity. Doreys is situated within the AONB and specific controls exist on this site restricting output of sand and gravel to 30,000 tonnes per annum.

8.54 Due to its national and international importance, extraction of ball clay has been and will continue to be acceptable within the AONB, subject to environmental safeguards. Sand and gravel is relatively common. It is unlikely to be possible to demonstrate that exceptional circumstances exist that would justify extraction of large volumes of sand and gravel within the AONB in the public interest, even if in conjunction with ball clay extraction.

8.55 The strategy for dealing with future extraction of sand from ball clay sites is to limit volumes from sites within the AONB. It is not appropriate to specify a numerical limit for what is considered an acceptable level of extraction. Suitable levels will be considered on a site by site basis, bearing in mind how the site is proposed to be worked, arrangements for stockpiling and processing and access arrangements.

8.56 Future levels of extraction of sand and gravel within the AONB would be in the region of levels currently produced at Doreys, which is considered a 'reasonable scale'. Mineral extracted within the AONB will comprise only the interburden and overburden sand which is necessarily dug in order to access the ball clay.

8.57 Extraction, within the AONB, will also require thoroughly considered restoration, establishing original landforms, such as heathland or field systems. Large water bodies would be unlikely to be in keeping with the natural environment of the ball clay bearing area.

8.58 The extraction of sand and gravel in association with ball clay in sites outside the AONB would generally be acceptable. This issue is dealt with in further detail in chapter 7.

Policy BC3 - Extraction of Sand and Gravel in association with Ball Clay within the AONB

Extraction of sand and gravel in association with ball clay workings within the Dorset AONB will be permitted where it can be demonstrated that:

a. the material is derived from the overburden and interburden;

b. the operation is of a reasonable scale;

c. visual impacts can be managed to an acceptable level;

d. restoration of the site would not be compromised, maintaining the area's landscape character;

e. the road network can safely accommodate the additional vehicle movements without significant environmental or amenity impact; and

f. any ecological, amenity and recreational impacts are acceptable.

Sustainability Appraisal of Policy

Extracting sand and gravel in association with ball clay will reduce the need for new sand and gravel quarries, to a limited extent but will increase negative impacts on the landscape and increase traffic movements. The policy however limits the scale of sand and gravel to be extracted in order to reduce these negative impacts to an acceptable level.

Restoration

8.59 The issue of restoration, aftercare and afteruse of minerals development is dealt with in detail in Chapter 15. However, due to the particular ecological importance of the Wareham Basin there are considered to be specific opportunities that should be considered when identifying sites for ball clay extraction and developing restoration proposals.

8.60 A proactive approach has been taken through the Landscape and Ecology Impact Assessment to identify specific opportunities where restoration could help create and link up fragmented areas of heathland and areas of open access land. Seven individual parcels of land have been identified where it is thought opportunities may exist. The practicalities of working these areas of land have not yet been considered. The Mineral Planning Authority will continue to work to identify further opportunities and actively encourage Imerys to look for positive outcomes of minerals extraction.

8.61 Restoration should also have regard to the AONB Management Plan which provides a framework for the conservation and enhancement of the Dorset AONB guiding all activities that might affect it.

Ball Clay Consultation Area

8.62 An important aspect of sustainable development is to safeguard resources from sterilisation, by other forms of development, for the use of future generations. In 1953, a ball clay consultation area was defined covering some 146km^2 of the Wareham Basin. This has recently been updated in consultation with the industry and the revised boundary is shown below.

8.63 The consultation area creates a boundary within which Purbeck District Council are required to consult Dorset County Council over planning applications for non-minerals development. Further detail on safeguarding and development proposals that trigger consultation are included within Chapter 14.

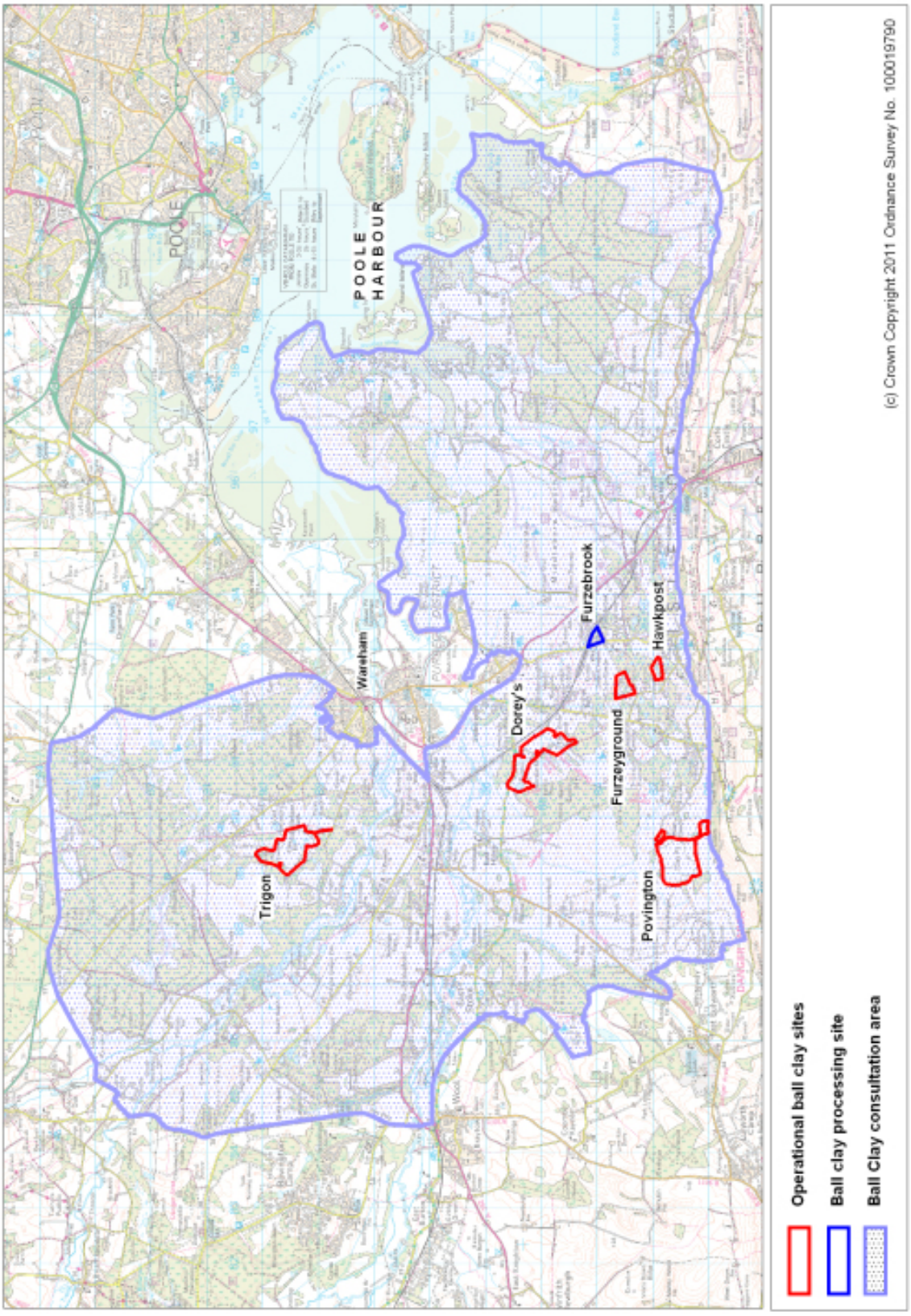


Figure 14 Revised ball clay consultation area

9 The Strategy for Purbeck Stone Extraction

9 The Strategy for Purbeck Stone Extraction

Key Issue

Identifying the most appropriate locations to maintain provision of Purbeck Stone, a building stone of national and local heritage significance, in an area of high landscape sensitivity.

The need to access the range of Purbeck Stone beds in order to meet demand whilst establishing a scale of extraction appropriate to the sensitive area.

Introduction

9.1 Purbeck Stone is a natural limestone, recognised as a principal source of building stone in England[12].

9.2 The quarrying of Purbeck Stone is a long established industry which for centuries has been providing dimension stone for local building and for use in some major cities. It continues to be in demand for a range of uses, in particular for repair and restoration of historic buildings, for architectural masonry, including building blocks, fine architectural features, walling, roofing and paving and internal flooring, and for monumental and ornamental work. It also has a market as a substitute material for other stones that are no longer available.

9.3 Many villages and conservation areas in Purbeck require the continued supply of Purbeck Stone in repair work and for new build in the vernacular material to maintain their special character. Additionally, many prestigious and ecclesiastical buildings throughout the south of England and beyond contain work in Purbeck stone and marble and demonstrate a wider than local need.

9.4 It is estimated that over 100 people are employed in the Purbeck Stone industry, demonstrating its economic value to the area. Its cultural value as part of the landscape character of the Purbeck plateau is acknowledged [13].

12 MPS1 Practice Guide
13 Conserving Character: Landscape Character Assessment and Management Guidance for the Dorset AONB (Dorset AONB 2008)

Spatial Characteristics

9.5 Purbeck Stone is generally confined to an area of about 10km^2 within the coastal zone south of Swanage and west to Worth Matravers. This limestone plateau is characterised by an exposed landscape of limestone grasslands and arable fields dotted with small limestone quarries and associated features (Conserving Character: Landscape Character Assessment and Management Guidance for the Dorset AONB). The long tradition of stone extraction has also shaped a near continuous network of stone walls and extraction routes. Moving northwards from Kingston Road, the landscape changes to a sweeping and secluded clay valley enclosed by a dramatic chalk escarpment to the north and the undulating limestone ridge to the south.

9.6 The area is of considerable environmental quality. The stone resource lies wholly within the Dorset AONB and partially within the Heritage Coast, demonstrating its exceptional scenic quality. The latter highlights the importance of the area culturally, as well as in landscape terms. Quarrying activity has traditionally been carried out across the Purbeck Plateau for centuries and contributes to the local economy and the area's unique sense of place. Across Purbeck, the rich historic and built heritage is expressed throughout the landscape. It can be seen in field patterns and their associated hedges and stone walls, the presence of a number of scheduled monuments including medieval strip lynchets and barrows, and a wealth of listed historic buildings and Conservation Areas.

9.7 The village of Worth Matravers and the hamlet of Acton lie within the plateau and are characterised by the use of Purbeck Stone. A large proportion of the plateau is in the ownership of the National Trust.

9.8 The Jurassic Coast World Heritage Site borders the coast around the Purbeck plateau, whilst the St Alban's Head to Durlston Head SAC runs along the coastal area. This comprises vegetated sea cliffs and semi-natural dry grassland and scrubland. A significant part of the coastal area is open access land and the South West Coastpath runs through this area. The Purbeck Stone quarries are generally set back from this coastal area.

Purbeck Stone – The Current Picture

9.9 There are currently eleven active Purbeck Stone quarries, shown on figure 15, of which nine produce Purbeck Stone of the Middle Purbeck Beds. Two quarries produce stone from the Purbeck Portland Beds. The quarries are worked by six different operators. Operators generally take stone from the quarries to their service area for processing.

9.10 The quarries located on the Purbeck limestone plateau are mostly of the Middle Purbeck Beds, which consists of two sequences – the 'Upper Building Stones' and the 'Lower Building Stones', separated by the Cinder Bed.

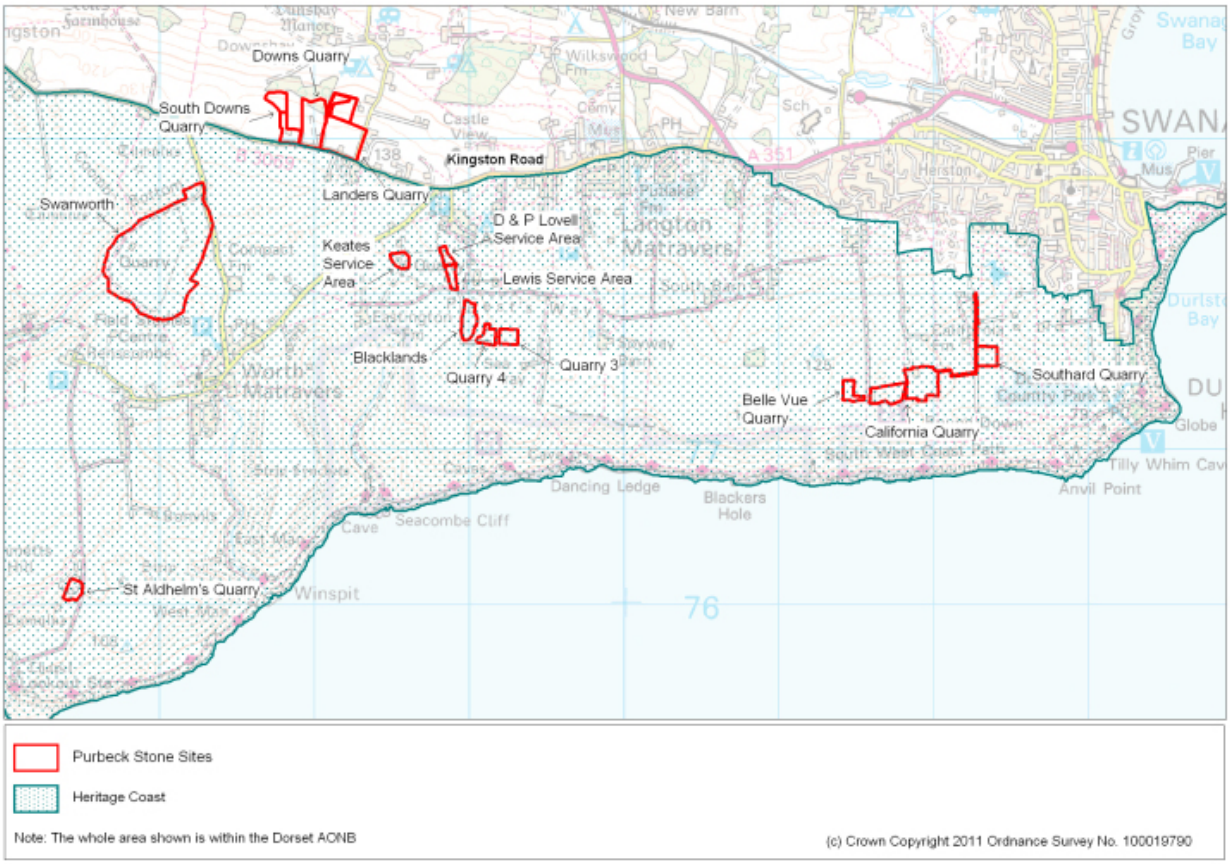
9.11 Within the Upper and Lower Building Stones, groups of useful beds are referred to as veins. The Upper Building Stones are comprised of (in descending order) the Laning Vein, the Freestone and the Downs Vein, whilst the Lower Building Stones comprise the New Vein and several other beds. About a dozen different seams within these veins have been worked at various times. Quarry operators need to be able to access a range of beds at any one time, since they have differing properties, colours and textures and are used for different purposes. Purbeck Stone therefore varies from white/cream to grey/brown to blue/dark grey.

9.12 Additionally, the Upper Purbeck Beds outcrop on the north facing slope of the valley between Swanage and Corfe Castle. Here, burr, used in many medieval buildings in the area, and up to three seams of Purbeck Marble can be found. Purbeck Marble is a type of Purbeck Stone that can be polished and which can be seen in interior church columns and monuments all over England. There is continued demand for this resource, in particular for use in interior work.

9.13 To the west of the resource area and on the St. Aldhelm's Head peninsula, the Purbeck Portland Beds are used for ashlar, architectural and monumental work, for use both within and outside of Purbeck. As well as at St Aldhelm's Quarry, dimension stone has recently begun to be extracted at Swanworth, an aggregate quarry.

9.14 Total annual sales of Purbeck Stone have fluctuated over the past seven years between 15,000 and 24,000 tonnes. From 2005 to 2007, total annual output was in the region of 20 - 24,000 tonnes, with the highest annual output in 2006 at just over 24,000 tonnes. From 2008 to 2010 sales were towards the lower end of the range, with overall output dropping to around 15,000 tonnes, reflecting the economic downturn. Across the active quarries, output can be very small scale for some sites, and larger for others, and can vary annually depending on demand for particular types of stone.

Figure 15 Existing Purbeck Stone Sites



Key Issues facing the extraction of Purbeck Stone

9.15 The key issue for Purbeck Stone is ensuring the continued provision of this important resource in an area of high landscape sensitivity.

9.16 The industry requires access to the range of Purbeck Stone beds in order to serve the market. Upper and lower building stones are used for different purposes and these are usually accessed from different quarries (or different areas within a quarry). The nature of the geology of the plateau means that both the occurrence and quality of the marketable stone beds is variable and it can therefore be difficult to ascertain the workable reserve across a particular site prior to working.

9.17 At the same time, the AONB status of the area carries with it the highest level of protection. Purbeck Stone working is recognised as a key part of the cultural and historic evolution of the Purbeck plateau landscape. Historically, stone extraction has also taken place on the north facing ridge of the Corfe Valley. However, people's expectations of landscape quality and condition are greater now than in the past in such sensitive landscapes and quarrying activity must therefore be sensitively planned and managed, with the scale and nature of Purbeck Stone extraction and processing being considered carefully in relation to the objectives of the Dorset AONB.

9.18 Central to the strategy for Purbeck Stone therefore is determining the most appropriate locations for continued extraction and establishing a scale appropriate to this sensitive area.

Addressing the Key Issues

9.19 An area of search has been identified to address the key issue. The area of search defines a broad area within which Purbeck Stone extraction would be potentially acceptable.

9.20 It is based on evidence of the geology and environmental sensitivities within the area. It excludes the areas which are considered unlikely to be suitable for quarrying activity from an ecological, archaeological and landscape and visual point of view.

9.21 Extraction from within the area of search will ensure the continued supply of Purbeck Stone from the least sensitive areas within which the resource is found. The area of search will provide some flexibility to the industry to find the optimum locations for working in this area. This approach has been developed in response to the previous consultation on the Revised Draft MCS. Responses highlighted difficulties with a prescriptive approach relying solely on the identification of specific sites for stone extraction.

9.22 To help define the area of search, a strategic landscape and visual sensitivity study of the Purbeck Stone resource area was undertaken [(14)]. This assessed the significance of impacts on key viewpoints, centred around two zones of sensitivity. First was the south and western coastal 'open access corridor' containing the upper and lower South West Coast Path. Second was the northern part of the resource area which is open to south facing views from the elevated Purbeck ridge, along which the Purbeck Way runs. Key viewpoints around the two settlements of Acton and Worth Matravers, both located within the resource area, and along the urban edge of the Herston area of Swanage were also assessed to take account of potential visual impact on residential properties and, in some cases, conservation areas and listed buildings.

9.23 An area of least landscape and visual sensitivity was identified to ensure that quarrying in areas where impacts would be unacceptable will be avoided. This area has formed the basis of the area of search.

9.24 Areas of ecological importance have been excluded from the area of search (the Special Areas of Conservation and SSSIs), as have Scheduled Monuments.

9.25 In addition to the development of the area of search, the scale of appropriate extraction is central to the strategy. Small scale quarrying is considered to be appropriate in order to respect the landscape character. This is in line with the recommendations of the landscape and visual sensitivity study and the aims of the Dorset AONB Management Plan. It will also help to ensure availability of the full range of beds required.

14 Background Paper 8: Purbeck Stone Resource Area Landscape & Visual Sensitivity Study (DCC 2011)

9.26 An additional study to compare a scattered approach with concentrating quarries in particular areas concluded that a scattered approach is of less landscape and visual impact than a concentrated approach [(15)]. A scattered approach presents the most effective opportunities for landscape and visual mitigation during the operation of the sites, and the greatest benefits for their restoration.

Delivering the Strategy

Provision of future reserves

9.27 There is no Government guidance as to the amount of Purbeck Stone that needs to be provided. To ensure an adequate and steady supply, in line with national policy, the Mineral Planning Authority must rely on past trends and indications from the industry on future need to identify what provision needs to be made.

9.28 Average sales in recent years indicate that provision should be made for around 18,000 tonnes of saleable stone per year. However, the average figure includes notably lower outputs experienced over the last three years. It is likely that the industry will want to see a return to higher output levels in the order of 20 - 25,000 tonnes. The level of provision should allow for a higher demand for Purbeck Stone to return and for an element of growth to be accommodated. The Minerals Core Strategy therefore proposes to make provision of Purbeck Stone (including Purbeck-Portland, but excluding Purbeck Marble) of around 25,000 tonnes a year.

9.29 The Minerals Core Strategy must determine how much stone needs to be delivered during the plan period, at the level of provision decided, taking into account existing permitted reserves. Remaining total permitted reserves of Purbeck Stone are estimated at between 238,000 and 282,000 tonnes. This is based on information provided by the Purbeck Stone operators. It is acknowledged that estimating remaining reserves is not straightforward due to the complex geological formations.

9.30 The remaining permitted reserve figure has been revised since the Revised Draft Minerals Core Strategy was published to take account of two newly permitted sites and the extraction of dimension stone from Swanworth Quarry.

9.31 It has also been revisited to ensure that the occurrence of waste material is accounted for as far as practicable. There are two categories of waste: the first is the layers of poor quality stone which occur in the ground and are not of use (for example the Cinder bed) and which are generally returned to the ground for use in restoration. Such waste is excluded from estimates of remaining permitted reserves (and would generally be excluded from estimated reserves given in planning applications). The second is waste produced through the processing of Purbeck Stone. Operators advise that waste produced through processing varies substantially depending on the end product. There is little wastage in stones used for purposes such as walling and rockery, whereas guillotine cut building stone encounters

15 Background Paper 9: Purbeck Stone Extraction in the Dorset Area of Outstanding Natural Beauty (Dorset AONB, 2011)

higher wastage due to the necessary offcuts, whilst an even higher proportion of waste occurs with sawn stone. Failures through cracked or vented stones also account for waste in cutting and shaping stone.

9.32 Operators advise that it is difficult to take account of processing waste when estimating remaining reserves. Some do, however, use a rough percentage estimate, and this varies considerably between operators, from around 25% to 60%. This may be partly due to the different machinery used by different companies, and the different range of products each produce. It is therefore not possible to apply an average figure of waste occurring through processing across the industry. Instead, remaining reserve figures for each permitted site have been adjusted to account for a degree of processing waste, according to the percentage given by each operator.

9.33 It is therefore considered necessary to provide a range of remaining permitted reserve. The higher figure (282,000 tonnes) refers to the availability of good quality beds of stone (excluding material returned straight to the ground). The lower figure (238,000 tonnes) takes account of estimated processing waste. Since the amount of processing waste is variable, it could be that more reserve is yielded than the lower figure, depending on the market and products produced.

9.34 Total reserve figures only give a broad indication since they mask the availability of different beds of stone. It is known from discussions with the industry that some operators currently have shortages of certain valuable beds, particularly those comprising the upper building stones. Theoretically however, permitted reserves will run out by 2020 - 2022 (at a rate of provision of 25,000 tpa) and it is therefore necessary to make further provision of Purbeck Stone during the plan period.

9.35 The amount that needs to be provided is calculated as:

Annual requirement x Years covered by the Plan - Existing permitted reserves = Requirement for new sites

(25,000t x 17) - (282,000 or 238,000) = 143,000 to 187,000 tonnes

9.36 Provision will therefore be made for an average of 25,000 tonnes of saleable Purbeck Stone per year, which equates to around 143,000 to 187,000 tonnes to ensure that there are adequate supplies up until 2028. This provision will be made through the identification of sites in the Minerals Site Allocations Document, and through a criteria-based approach within a defined area of search.

9.37 It is considered that this figure is achievable within the area of search defined (see below). A 'Call for Sites' exercise has been carried out asking industry and landowners to put forward potential future sites for consideration by the Mineral Planning Authority. This exercise has provided evidence that there are more than sufficient potential resources within the plateau to meet the need throughout the plan period and justify Proposed Policy PK1. However, this relates only to the total amount of Purbeck Stone, rather than confirming the presence of the different types of stone that may be required.

Policy PK1 - Provision of Purbeck Stone

The Mineral Planning Authority will maintain an adequate and steady supply of the full range of Purbeck Stone beds for building and roofing purposes during the plan period.

Provision will be made for at least 143,000 tonnes of saleable Purbeck Stone (around 25,000 tonnes per annum) within the Area of Search.

Sustainability Appraisal of Policy

The policy maintains a supply of Purbeck Stone which has benefits for the historic environment and the local economy through the supply of skilled jobs in an area with a shortage of such jobs. There may be impacts on amenity, albeit temporary in any one location. There would also be an impact on landscape and to some extent biodiversity, however the area of search has been defined to minimise such impacts.

9.38 Building and roofing stone purposes, stated in Policy PK1, are as defined in the MPS1 Practice Guide (Paragraph 96) and include monumental and ornamental uses. Purbeck Stone is taken to include the Purbeck-Portland beds.

Strategic Location of Sites

9.39 Figure 16 shows the area of search for Purbeck Stone, within which this provision will be made. The area of search has been developed based on British Geological Survey (BGS) mapping of the Purbeck Stone resource, excluding built up areas and areas considered unlikely to be suitable for quarrying activity due to the presence of ecological and archaeological designations and to landscape and visual sensitivity.

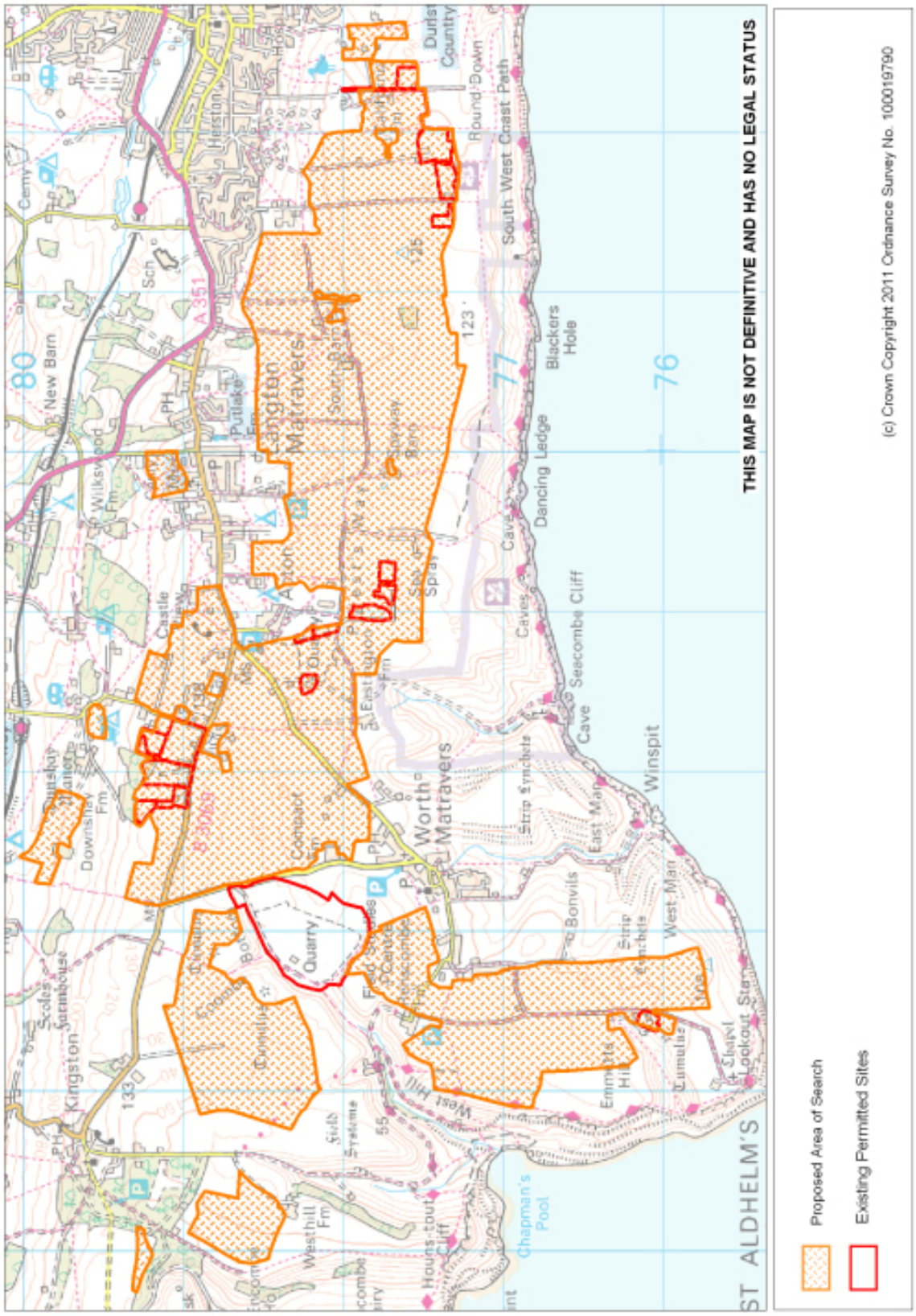


Figure 16 Purbeck Stone Area of Search

9.40 The area of search aims to minimise adverse impacts from quarrying by removing identified sensitive areas. It also intends to provide flexibility to the industry in finding the most suitable locations within which to maintain an adequate supply of Purbeck Stone. There may be areas within the area of search which are unsuitable for quarrying on other grounds, due to impacts on residential amenity, access or localised visual, ecological or archaeological effects or where land ownership constraints are present. Such issues will need to be considered in detail at the site allocations and application stages and Policy PK2 provides the specific criteria against which proposals within the area of search will be considered. Other more general planning considerations set out in Chapter 16 will also apply.

9.41 Due to local geology different beds are found at the surface, depending on the location on the plateau, and the quality of Purbeck Stone is variable within the area. The industry is knowledgeable of where the good quality stones occur and it is necessary to rely on sites brought forward by the industry for this reason.

9.42 The Minerals Site Allocations Document will identify specific sites to contribute towards the provision of Purbeck Stone. Identification will depend on the provision of the best available evidence that sites contain usable stone of the type required by operators and that this is relatively close to the surface to avoid excessive overburden having to be moved and stored. This will provide the industry with a high level of certainty that applications made within identified sites and in accordance with policies in this Plan will be permitted. Preference will be given to the development of these identified sites, in accordance with Policy SS1 (Chapter 5).

9.43 The identification of specific sites is more challenging than with other minerals, since it is not always possible to be confident of the quality of the different stone beds. These can thin out and disappear, be faulted, fractured or contain clay pockets. In addition, assessing sites for use later in the plan period may not always be possible due to financial or land ownership constraints.

9.44 To provide sufficient flexibility and ensure that the strategy, as expressed in Policy PK1, is deliverable, a series of criteria are proposed to enable other sites to be permitted within the area of search during the plan period, if suitable applications are made. In these cases, justification must be provided, including demonstrating why identified sites would not deliver what is needed by an operator.

9.45 Purbeck Stone extraction should be generally dispersed and scattered and of a reasonable scale, in keeping with the current scale of operations. Avoiding adverse cumulative impacts is a key consideration.

9.46 Proposals for Purbeck Stone quarries should therefore comply with Policy PK2, and other relevant policies in this plan. In particular, consideration should be given to the policies on development management contained in Chapter 16 and on restoration in Chapter 15. Proposals will need to demonstrate that adverse effects on the environment and amenity can be avoided or effectively mitigated.

9.47 Purbeck Marble is known to outcrop on the north facing slope north of Kingston Road as far west as Kingston. There may be opportunities within this area for limited extraction of Purbeck Marble outside of the area of search, but it is acknowledged that this area is particularly sensitive visually.

Policy PK2 - Considerations for Purbeck Stone Proposals

Proposals for Purbeck Stone quarries within the Area of Search, as shown on the Submission Policies Map, will be permitted where they meet all of the following criteria:

a. Their scale and extent are such that adverse impacts upon the environment or amenity can be avoided or mitigated;
b. They are accompanied by details of anticipated overburden and evidence of how this will be accommodated within the landform so as not to have a significant impact on the landscape character and quality of the Dorset AONB;
c. there will not be an unacceptable cumulative impact on the landscape character or amenity having regard to activities within the proposed site and other sites within the area;
d. existing characteristic landscape features, such as stone walls, are retained in situ unless the stone is incapable of being viably worked without disturbance to such features. Where disturbance is unavoidable proposals must include measures to minimise disturbance and/or mitigate the impact to an acceptable degree;
e. there would not be unacceptable impacts on the highway network and neighbouring properties arising from transporting stone from the quarry to the service area.

Applications for sites allocated in the Minerals Site Allocations Document will be granted in preference to a non-allocated site unless it can be demonstrated by the applicant that a non-allocated site is required to maintain an adequate and steady supply in accordance with the Spatial Strategy.

Small scale extraction of Purbeck Marble will be permitted outside of the Area of Search where the scale, nature, location and duration of the proposal would not have a significant adverse impact (including cumulative impact) on the environment or local amenity and where it would comply with the above criteria.

Sustainability Appraisal of Policy

Whilst there will be negative environmental impacts from Purbeck Stone extraction, this policy aims to ensure that any new sites avoid and mitigate against significant impacts, given that Policy PK1 provides for a supply of Purbeck Stone. The policy specifically addresses potential impacts on the landscape given the sensitive location of the Purbeck Stone resource.

9.48 To ensure that the St Albans Head to Durlston Head and Isle of Portland to Studland Cliffs Special Areas of Conservation are safeguarded from any effects of development, proposals should comply with Policy DM5 (Chapter 16). Mechanisms through which indirect effects could occur are: effects on species supported by the SAC, disturbance through the proximity of a site (for example through noise), or impacts on the beneficial management of the SAC. Such issues are explained in Chapter 16 and should be fully considered where relevant.

Restoration

9.49 Chapter 15 sets out the approach to restoration in the county. Proposals should be in line with the policies and guidance set out.

9.50 The restoration of Purbeck Stone quarries should provide enhancement opportunities for biodiversity in appropriate areas and should reflect and contribute to the landscape character of the area, having regard to the management plans of the Dorset AONB and the Jurassic Coast World Heritage Site. The Mineral Planning Authority will expect ongoing and phased restoration wherever possible to reduce any negative cumulative impacts. Ensuring that worked out quarries are restored in keeping with the landscape character so as not to increase the overall area of quarry workings will assist in maintaining a balance between undeveloped or restored land and quarries (which is key to the landscape character).

Processing of Purbeck Stone

9.51 In the past the traditional small scale operations would each have had their own low-key processing units in small shacks. There were also masonry yards in Acton and Swanage. These days, some quarries have processing areas and masonry works on site, but there are also central service areas to which stone extracted from a number of different quarries is taken for processing.

9.52 It is necessary for a combination of dressing on site and processing at central service areas to continue in order that the Purbeck Stone industry can operate effectively. Operations such as sawing should take place within a building, at a service area, in order to minimise noise and visual intrusion. However there are some portable operations that can take place outside and at the quarry site without unacceptable impact, namely hand splitting for the production of, for example, roofing tile, walling and cladding, and small guillotining operations.

9.53 There is visual and landscape impact associated with central service areas, particularly along Kingston Road, where two of the largest service areas sit side by side, and on residential amenity, particularly around Acton and Blacklands. It is unlikely that new service areas will be permitted, in addition to those that already exist, due to the likely cumulative impacts that would result.

9.54 New service areas will be restricted where they would result in adverse impact, either cumulatively or in their own right, unless they are for replacement facilities which will deliver a net overall improvement.

9.55 It is therefore important for the Minerals Core Strategy to ensure that impacts from the existing service areas are mitigated. Opportunities for improvements to the existing service areas will be sought by the Mineral Planning Authority wherever possible, principally through negotiations on planning applications for new quarries or ancillary development. This is important where there is an impact on residential amenity, through noise and visual impact. This is particularly relevant for Landers Quarry, Blacklands Quarry and service areas close to Acton. The Mineral Planning Authority will seek the establishment of appropriate buffers between service areas and residential properties. This might include the restoration of land and appropriate vegetation to offer buffering. In addition, where there is an impact on sensitive public rights of way improvements may be appropriate.

Policy PK3 - Service Areas

Proposals including the processing of Purbeck Stone will only be permitted if any sawing equipment is located within a building to minimise adverse impact on amenity.

Improvements to existing service areas, including the establishment of appropriate buffers between service areas and residential properties, will be sought wherever the opportunity arises.

Proposals for new service areas which would have an adverse impact on landscape or amenity will only be permitted if they are a replacement for an existing service area and they would result in a net reduction in adverse impacts.

Sustainability Appraisal of Policy

The policy seeks improvements to existing service areas and to prevent the proliferation of service areas in Purbeck. This will benefit the landscape and local residential amenity, however there could be a negative impact for the industry. The requirement to enclose sawing equipment would generally reduce adverse impacts.

Crushing of Purbeck Stone

9.56 The extraction of Purbeck Stone gives rise to a large percentage of waste material, through the occurrence of low grade stone unsuitable for use as dimension stone and through processing. The industry has some aspiration to use waste material for the non-traditional use of construction aggregate, through crushing.

9.57 The Mineral Planning Authority supports the extraction of Purbeck Stone primarily for traditional dimension stone uses. It will only support the crushing of Purbeck Stone in exceptional circumstances because it could limit the availability of material for restoration. The backfilling of Purbeck Stone workings to restore them to near original ground levels is important to minimise any long term impact on the landscape character of the area. It is considered that this should be the primary use of waste material.

9.58 Noise and dust associated with the use of mobile crushers could also have a detrimental impact on the wider environment, particularly in terms of the cumulative effect of additional quarry activities and on the tranquillity of the Dorset AONB. Additionally, the proximity of some quarries and/or service areas to the village of Acton and other properties, as well as other sensitive receptors such as public footpaths, means that crushing is unlikely to be acceptable in such areas.

9.59 It is recognised that there may be a demand locally for crushed Purbeck Stone, where imported stone is not appropriate, such as for use on local tracks and paths. The importation of material for such uses has potential for causing increased traffic movements to the area.

9.60 Swanworth Quarry is the only aggregates quarry on the plateau. It currently supplies crushed Purbeck Stone to the local area and is permitted until 2017. Swanworth is much larger in scale than the other quarries on the plateau.

9.61 The other, smaller, quarries primarily provide dimension stone. Economic implications mean that crushing operations at these sites are likely to be self limiting, with the Aggregates Levy and the relatively remote location of Purbeck Stone quarries making the material expensive.

9.62 Small scale and temporary crushing activity would be supported for use within a quarry site or service area (i.e. for haul roads or internal tracks) where it can be demonstrated that the stone is not required for the restoration of the site to an appropriate landform and there would not be any unacceptable impacts.

9.63 The crushing of surplus Purbeck Stone will be subject to Policy PK4 and other relevant policies within this plan (in particular see Policies DM1 and DM2). To ensure that European wildlife sites are safeguarded from any effects, proposals should comply with Policy DM5 (Chapter 16).

Policy PK4 - Crushing of Purbeck Stone at Dimension Stone Quarries

The Mineral Planning Authority will seek to restrict the crushing of stone at dimension stone quarries in Purbeck to a level which is small in scale, temporary and ancillary to the extraction and working of dimension stone quarried from the site, where the material is required for use within a quarry or service area. In all cases such activities should:

a. ensure there will be no adverse impact upon features, people or activities sensitive to disturbance from it;
b. only use stone which is not required for the restoration of the quarry site to an appropriate landform; and
c. be limited to stone extracted from Purbeck Stone quarries.

Permission will only be granted on a temporary basis for the crushing of surplus Purbeck Stone in addition to use within a quarry or service area where it can be demonstrated that there is an identified local need, it would not generate unacceptable impacts on the highway network and subject to a and b above.

Sustainability Appraisal of Policy

The policy protects the landscape and amenity interests around Purbeck Stone workings by ensuring that waste stone is used in restoration where necessary. However there could be a negative economic impact because the production of secondary aggregates is restricted.

Importation of Building Stone

9.64 Some Purbeck Stone operators import building stone sourced from outside the Isle of Purbeck and in some cases from other countries to increase their product ranges. There is some debate as to the need for and acceptability of this activity. Some operators would argue they need to import other stones for viability reasons. Others argue that there is no need for this to make the businesses viable and that it can undermine the important Purbeck Stone industry.

9.65 Importation can increase the adverse impacts of quarrying through increased lorry movements and visual impacts associated with the storage of the stone, especially given the sites' relatively remote and sensitive location within the Dorset AONB and in the Heritage Coast. The importation of stones from other areas simply for resale is not considered appropriate as this sort of activity can take place in more suitable and accessible geographical locations. The importation of stone from outside the Isle of Purbeck for the purposes of storing it and then selling it on unprocessed is therefore discouraged. The majority of operators are of the opinion that if they are given access to sufficient beds of stone then they can operate effectively without importation for resale.

9.66 It can be argued that importation of other stones for processing at Purbeck's service areas enables operators to work at full capacity and maintain local masonry jobs. For these reasons, importation may be acceptable in limited amounts at current levels. It is important to ensure that this remains a minor activity in relation to Purbeck Stone operations. Limits will be placed on imports in order to ensure impacts are minimised.

Policy PK5 - Importation of Stone from Outside Purbeck

The Mineral Planning Authority will only permit the processing and storage and resale of stone arising from outside Purbeck where it can be demonstrated that this is necessary to maintain employment and/or masonry skills and where this would be no more than a minor activity of a scale which does not undermine the viability of the Purbeck Stone or generate unacceptable impacts upon amenity or the highway network.

Sustainability Appraisal of Policy

The policy seeks to prevent additional lorry movements and potential visual impacts, thereby having a positive environmental and social outcome. However there could potentially be a negative effect on the local economy.

10 The Strategy for Portland Stone Extraction

10 The Strategy for Portland Stone Extraction

Key Issue - Portland Stone

Maintaining provision of Portland Stone for its heritage significance and use as a principal building stone, in an area extensively and historically quarried.

The impact of surface quarrying on the landscape, environment and local amenity due to lack of control over operations, including restoration, with the majority of the permitted area covered by one old planning permission with minimal conditions.

Introduction

10.1 Portland Stone is a limestone recognised as a principal source of building stone in England. Its quality freestones have famously been used for public buildings throughout Great Britain and internationally. It has a local, regional and national market for use in new build, repair and restoration, masonry, flooring, paving and rock armour. Portland Stone's whiteness is its most recognisable characteristic. Quarrying on Portland is a long established industry, with the stone having been used for many prestigious and now listed buildings outside Dorset, particularly in London. Notably, Sir Christopher Wren used Portland Stone in the re-building of many churches in London after the Great Fire, including St Paul's Cathedral.

Spatial Characteristics

10.2 Portland Stone is extracted on the Isle of Portland - a dramatic and distinctive limestone peninsula situated at the end of Chesil Beach. Portland limestone dominates both the natural and built landscape with many structures and buildings made of Portland Stone. It is key to and defines the area's cultural and industrial history. Remains of old workings can be seen across the island. Extensive quarrying has therefore influenced the island's character.

10.3 There are many conflicting demands on Portland's relatively small area. The coastline is designated as part of the Jurassic Coast World Heritage Site and as a Special Area of Conservation. There are many areas of geological, archaeological and ecological significance, some of which exist on unworked land but many of which are a result of past quarrying activities. Such areas are generally older quarries which contain significant industrial archaeology of historic quarrying techniques unique to Portland. The more recent quarries are generally larger voids resulting from modern quarrying practices.

Portland Stone – the current picture

10.4 There are currently six active quarries on Portland (one of which produces only crushed aggregate) and three underground mines. The quarries and mines are operated by two companies: Albion Stone and Stone Firms (Cladding Consultants). Total production of dimension stone is in the region of 8000 - 10,000 cubic metres per year and there are around 100 people employed in the industry.

10.5 Three beds of dimension stone are extracted. The Whitbed and Basebed are dimension stones used in new build, cladding, restoration, flooring and paving. The Basebed is also a monumental and carving stone and is used for headstones. The Roach is mainly used for sea defences and was the material used for many of Portland's own buildings. The stones extracted from each quarry can also vary in terms of their character. Maintaining availability of the range of Portland Stone beds is important for the viability of the industry and to meet the needs of the market.

10.6 Much of the current extraction takes place under a large composite planning permission granted in 1951, covering around two thirds of the plateau forming the top of the island (known as Tophill). This permission for quarrying lasts until 2042 and is outlined in red on Figure 17. Within the permission, some areas remain currently unworked, others are active quarries and others have been previously worked and have been either abandoned or backfilled. Additionally, a number of areas have been modified under the Habitats Regulations, whilst in others legal agreements have been secured restricting quarrying activities. A small additional area was granted in 1971 for a strip of land along the southern border of Broadcroft Quarry. All sites that have planning permission for quarrying under these consents are subject to the Review of Old Mineral Planning Permissions (ROMP) under the Environment Act 1995, which requires reviews of mineral planning permissions granted prior to 1982 to bring them up to modern environmental standards[16].

16 See Chapter 16 for further information (Para. 16.74-16.77)

10.7 An additional 9ha area was also permitted later in the 1950s. This area remains unworked and is classified as dormant.

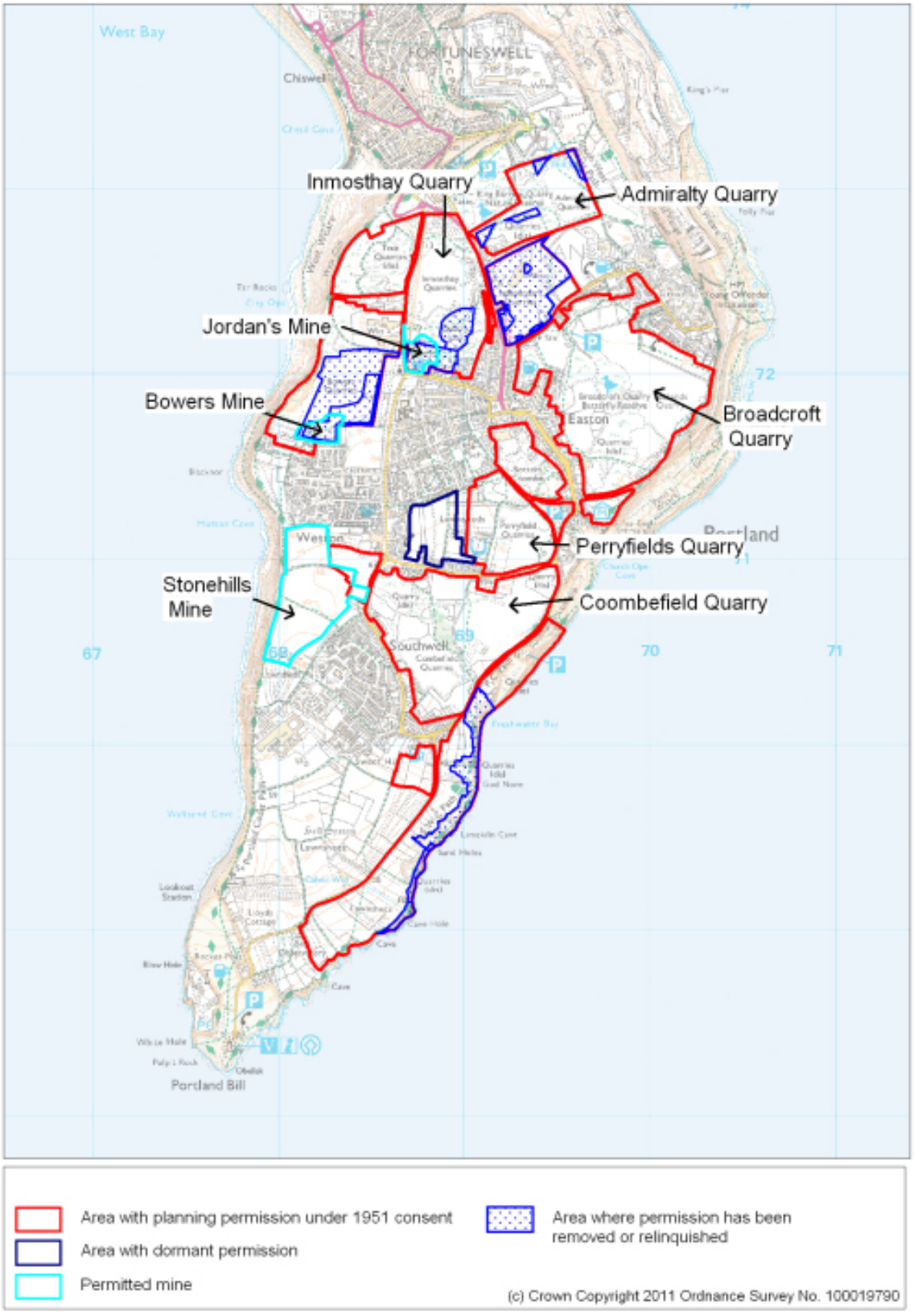
10.8 In addition to the extraction of dimension stone, the quarries covered by the 1951 permission have permission to extract stone for the purpose of crushing it as aggregate. More stone is produced annually for crushing than as dimension stone.

10.9 Crushed rock from Portland can be divided into two categories:

- Primary aggregate – derived from crushing of the cherty series, which underlies the dimension stone beds
- Secondary aggregate – derived from the overburden and waste stone from the dimension stone quarrying and masonry processes

10.10 This chapter focuses on the provision of Portland Stone for dimension stone purposes. However, extraction of the cherty series is referenced later in the chapter in relation to the impacts it has on Portland. The strategy for the provision of crushed rock, including the contribution that Portland Stone makes to it, is contained within Chapter 7: Aggregates.

Figure 17 Portland Stone Existing Permissions (2012)



Key Issues facing the extraction of Portland Stone

10.11 The 1951 permission has led to quarrying of large parts of the island with, to date, little planned restoration. A key issue relating to the extraction of stone on Portland is the lack of control the Mineral Planning Authority has over existing workings and restoration because there are few conditions attached to the permission to protect the environment and local amenity. This has significantly affected the landscape and impacted on the local community, with quarry working areas close to residential properties. The continued quarrying of stone from within permitted but sensitive areas is a significant issue.

10.12 There is an ongoing local, regional and national demand for Portland Stone for the repair and restoration of historic buildings, new build, masonry and monumental uses. This must be achieved with reduced impact on local amenity and the environment.

Addressing the key issues

10.13 The strategy for the supply of Portland Stone is to secure more environmentally friendly ways of working and to minimise the impacts of quarrying.

10.14 Firstly, mining will be encouraged as an alternative to surface quarrying. This includes mining of existing permitted reserves of dimension stone and the mining of new reserves in exchange for the relinquishment of areas with existing permission for surface quarrying. The term 'mining' is taken to include both underground mining and high wall extraction in this chapter.

10.15 Secondly, improvements to the old planning permission will be sought and working will be directed away from sensitive areas where possible. Critical to this is the identification of areas within the old permission where it is considered that surface quarrying would create a significant impact on the environment and/or amenity. The Review of Old Minerals Permissions will play an important role in minimising the impacts of quarrying.

10.16 Mining has advantages over surface quarrying in that most of the operation is out of sight, there is a reduction in loss of surface features, there is significantly less noise and dust and no blasting vibration. Mining is considered a beneficial way of reducing impacts on local communities and protecting the landscape character and surface interests of currently unworked areas, whilst providing access to the important Portland Stone resource. Mining can also achieve a reduction in carbon emissions in comparison to surface quarrying, since there is no need to remove the overburden to access to dimension stone beds.

10.17 Underground and high wall mining can allow for reserves to be maximised by enabling dimension stone to be extracted from within sensitive areas. High wall mining, in particular, enables the extraction of stone from quarry faces along boundary areas using a series of small mines. The stone extracted this way might otherwise be unavailable since larger stand-offs from other land-uses are usually necessary with surface quarrying.

10.18 Currently one of the two Portland Stone companies, Albion Stone, is mining on Portland. They have suggested that within 5 years all their operations will be through mining methods. There is some debate about the costs and efficiency of mining compared to surface quarrying within the industry. It is acknowledged that set-up costs are high and that block

sizes may be limited. However it is being demonstrated that mining is economically viable and that reasonably similar yields to quarrying are possible. Mining has taken place at Bowers Mine and Jordan's Mine, and a further permission has been granted for Stonehills Mine.

10.19 It has not been possible to reach agreement on the strategy of encouraging mining across the industry. This issue will continue to be debated. It is recognised that because one company has substantial permitted reserves for surface quarrying and has invested in equipment suitable for this method of extraction it is unlikely that they will be prepared to invest in the technology required for mining at the current time. However, this situation may change during the plan period as the most environmentally acceptable sites are worked out, the range of stone reserves are reduced and with advances in technology and changes in operations or ownership. Due to the significant advantages that the strategy for mining has over surface quarrying methods, particularly in terms of protecting environmental and amenity interests, and the lack of any other suitable option to address the key issues identified for Portland Stone, this will remain the approach to be taken forward.

10.20 It is acknowledged that some modern surface quarrying techniques also present more environmentally acceptable ways of working. The use of sawing, pressure bags and chemical and diamond blade cutting all reduce the need for blasting and enable a smaller stand-off from adjoining land uses to be possible. Such techniques will also be encouraged as part of this strategy.

Delivering the Strategy

Provision of future reserves

10.21 Total current permitted reserves of Portland dimension stone are estimated to stand at over 450,000 cubic metres. Based on current output levels this would mean that existing permitted reserves are adequate for around 50 years.

10.22 Although this is a substantial reserve, the Mineral Planning Authority considers that quarrying some areas of permitted reserve would result in a significant impact for environmental or amenity reasons. These areas are identified later in this chapter. Even if these areas were not to be worked as a result of any negotiations, there would still be sufficient reserves of dimension stone for over 35 years.

10.23 This is more than an adequate supply for the plan period. Additionally, the strategy facilitates permission for mining to be granted in exchange for the relinquishment of areas considered sensitive to surface quarrying.

10.24 Reserve figures also only reflect the total amount of Portland Stone available. To maintain an adequate supply of Portland Stone, the range of stone beds is required by the industry.

Presumption in Favour of Mining

10.25 Policy PD1 establishes a presumption in favour of underground and/or high wall mining.

10.26 Potential areas of opportunity for underground mining are identified in figures 18 and 19[(17)]. All the areas identified are accessible from either existing quarries or existing mine permissions. Those areas identified within the current permissions already have permission for surface quarrying and would require separate planning permission for mining.

10.27 The areas of opportunity are considered to have potential for mining based on the presence of Portland Stone. Their identification does not imply that they will be granted planning permission. Specific sites for mining will be identified from within the areas of opportunity in the Minerals Site Allocations Document. This will provide an appropriate amount of stone over the plan period, taking into account technical considerations, land ownership and potential impacts. Continued discussions with the industry will be necessary to ensure that adequate provision is made.

10.28 Proposals for mining outside of specific sites (once allocated), either within or outside of the areas of opportunity, will be considered on their merits. This could include areas such as the Coastal Strip and the area west of this on the southern part of the island. Further work would need to be undertaken to identify suitable portal locations for mining in this area.

17 Areas within the old planning permission which are considered to have practical potential for mining as opposed to surface quarrying are identified. Further areas are also identified in order to compensate for permitted areas preferred for relinquishment (figures 20 and 21) that are not suitable for mining. These have been developed through discussions and correspondence with the two mineral companies involved, development management officers of the Mineral Planning Authority involved in the review of old mineral permissions on Portland, and liaison with Dorset County Council landscape and ecology specialists. Some areas were also put forward by the industry for consideration for the Minerals Site Allocations Document in 2008.

10.29 In order to address the key issues identified and to offset any negative environmental impacts of mining, the policy requires significant environmental gains to be provided for permission for mining to be granted. This is expected to be achieved through the agreed relinquishment of an existing permission or part of a permission on a sensitive area on Portland where possible, or improved restoration on other land within the 1951 permission.

10.30 Mine stability will need to be fully considered in any application. Long term stability must be proven both during mine operations and following restoration. Any proposal would need to consider and address the impact of the mine entrance on the environment and local amenity. The cumulative impact of a mine with other operations should also be considered.

10.31 Mine voids have the potential to be backfilled with the waste rock generated from the mining operation. This is encouraged as it reduces the impact of HGV movements on Portland. Backfilling the open space is not for the purposes of stabilisation, although it would afford this by default. There is also the potential to use mines for other uses once the stone has been removed. Where mine portals coincide with habitat designations, restoration to nature conservation is likely to be appropriate. Achieving high quality restoration of mines should be integral to proposals for development (see Chapter 16 on Restoration).

10.32 Proposals for mining should comply with Policy PD1, as well as other relevant policies in this plan (such as the Development Management policies). To ensure that European wildlife sites are safeguarded from any effects of development, proposals should comply with Policy DM5 (Chapter 16).

Policy PD1 - Underground Mining and High Wall Extraction of Portland Stone

Proposals for underground mining and high wall extraction of Portland dimension stone, on the Isle of Portland, will be permitted where all of the following criteria can be met:

a. the mine is designed to ensure the long term stability of overlying land;
b. any adverse impacts from the creation of a mine entrance can be avoided or mitigated to an acceptable level;
c. significant environmental gains will be provided, which will generally be achieved through agreement to relinquish permission for surface quarrying of at least an equivalent amount of stone in Areas Sensitive to Surface Quarrying, as identified on the Submission Policies Map;
d. material used for backfilling is sourced from within the proposed mine, wherever possible; and
e. suitable and safe proposals are made for the closure and sealing of the mine or an identified beneficial afteruse is identified; and surface areas are restored for a beneficial afteruse.

Sustainability Appraisal of Policy

Mining of Portland Stone has generally has a positive impact compared with surface quarrying, although it is noted that creating a mine entrance may result in negative impacts on landscape and amenity. The policy seeks to ensure the continued supply of the nationally important Portland Stone and the local industry, whilst minimising environmental and amenity impacts.

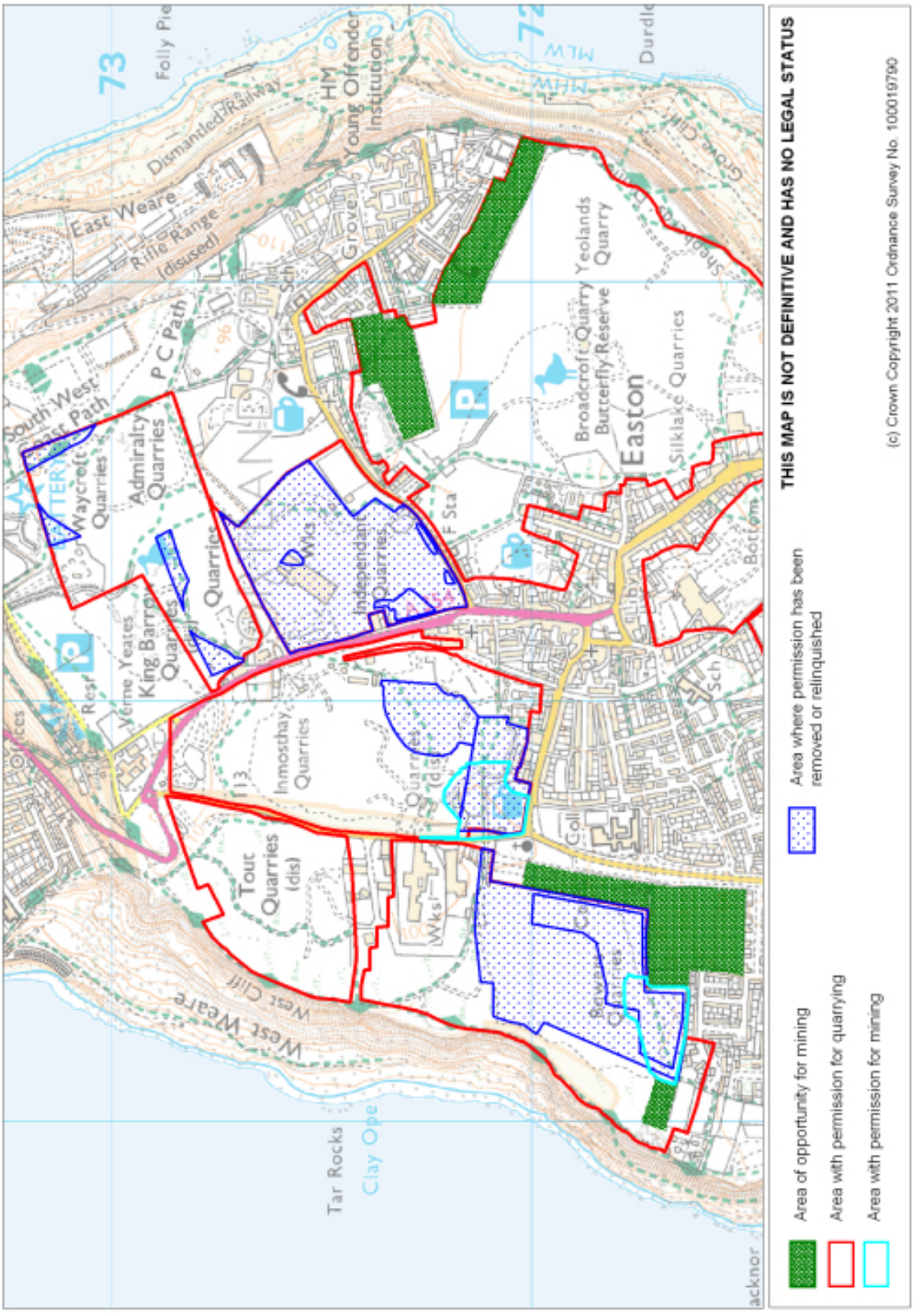
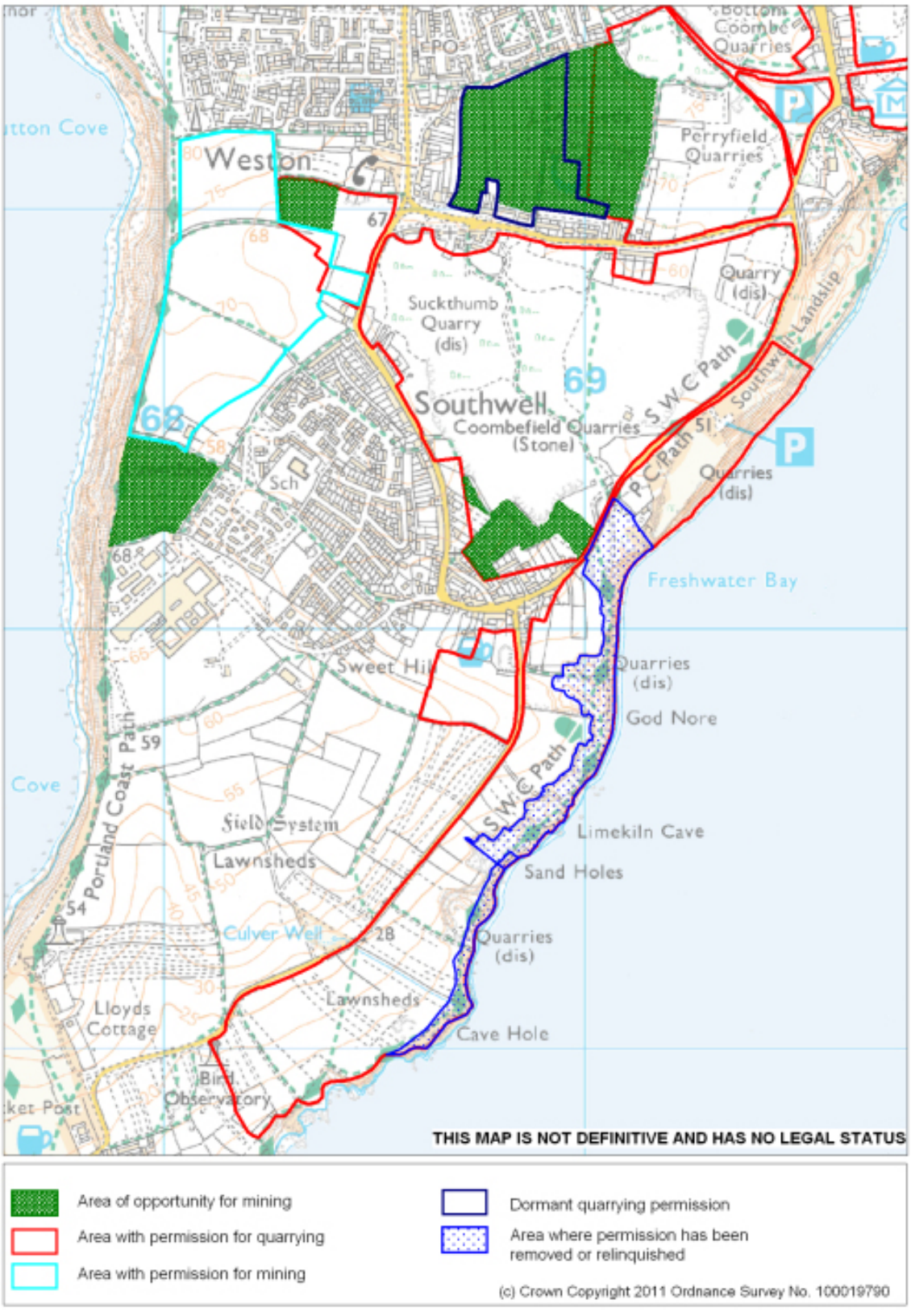


Figure 18 Areas of opportunity for mining - north

Figure 19 Areas of opportunity for mining - south



Further Surface Quarrying

10.33 Policy PD2 sets out a presumption against further surface quarrying of Portland Stone.

10.34 It is unlikely that granting further permission for surface quarrying will be appropriate, except in exceptional circumstances. A landscape assessment carried out to assess the potential impact of further surface quarrying on Portland concluded that further quarrying beyond the composite permission area would have a negative cumulative impact on the island's landscape character [(18)].

10.35 It is acknowledged that limited circumstances may arise which could offer a net environmental benefit. If granting permission would result in significant environmental improvements, through for example the agreed relinquishment of an existing permission on Portland, or part of a permission, or improved restoration on other land within the 1951 permission, then such a permission might be justified. Areas identified as particularly sensitive to surface quarrying are considered in detail below. Additionally, more environmentally acceptable surface quarrying techniques such as sawing, cutting and the use of pressure bags would be expected.

10.36 Proposals should therefore comply with Policy PD2 and other relevant policies in this plan (including the Development Management policies).

Policy PD2 - Surface Quarrying of Portland Stone

In exceptional circumstances, the Mineral Planning Authority will grant permission for surface quarrying of Portland Stone on the Isle of Portland if:

a. significant environmental gains which deliver a net environmental benefit will be provided, which will generally be achieved through the agreement to relinquish permission for surface quarrying for at least an equivalent amount of stone in Areas Sensitive to Surface Quarrying, as identified on the Submission Policies Map, and;
b. environmentally acceptable surface quarrying techniques will be employed.

Sustainability Appraisal of Policy

This policy would allow for new quarries albeit in exceptional circumstances. However the policy requires net environmental gains which will have positive environmental effects overall. An adverse cumulative impact on the landscape may be avoided.

18 Background Paper 11: Isle of Portland Landscape Assessment (DCC 2010, amended 2011)

Areas Sensitive to Surface Quarrying

10.37 Areas on Portland within the old permission that would be sensitive to surface quarrying and where impacts on the environment would be significant have been identified. These areas fall into three categories:

- preferred areas for voluntary relinquishment of permission for any surface extraction;
- preferred areas for voluntary relinquishment of permission to extract the cherty series; and
- areas where the establishment of an appropriate stand-off or buffer to protect residential amenity is preferred.

10.38 Figures 20 and 21 set out these areas. They are based on an assessment of the potential impacts of surface quarrying on a range of factors, including landscape, ecology, archaeology, residential amenity and the economy.[19]

10.39 Extraction of the cherty series substantially increases the depth of the void created, thereby affecting restoration. The intensification and prolonging of operations as a result of crushing the cherty series for aggregate purposes can also have an impact on residential amenity including through increased HGV movements. This has been taken into consideration in identifying one area preferred for the relinquishment of permission to extract the cherty series only (as opposed to surface quarrying of the overlying dimension stone).

10.40 Areas where a stand-off should be established are where the permitted area adjoins residential properties and where future surface quarrying is considered possible. The specific extent of any buffers negotiated will need to be decided case by case on the basis of further environmental assessment.

10.41 It is intended that preservation of the identified sensitive areas may be achieved through voluntary means on the basis of negotiations between the Mineral Planning Authority and industry. Mechanisms to achieve this may be firstly through the granting of permission to mine an area as an alternative to quarrying it. Alternatively, permission may be granted for a mine or for an area of surface quarrying outside of the currently permitted area. Policies PD1 and PD2 require that significant environmental gains are achieved in such cases, which is likely to be through the relinquishment of permission to quarry an identified sensitive area.

19 A full explanation of the reasons why the Mineral Planning Authority considers that it would be preferable not to work these areas by surface quarrying, as well as the assessment of potential impacts, is available in Background Paper 10. To ensure a full and consistent approach, the site selection criteria contained in Appendix 1 to the Minerals Core Strategy were used. This exercise drew on advice from specialists together with a site specific landscape and visual assessment. Figures 20 and 21 set out those areas considered to be of the highest sensitivity to surface quarrying and/or extraction of the cherty series. Following consultation on the Revised Draft MCS, the decision was taken to identify in this document those areas which are the highest priority. This raises the profile of these areas and is thought to be a pragmatic approach to take. There are however other areas within the permission which are sensitive for particular reasons, details of which are in Background Paper 10.

10.42 Additionally, Policy PD3 seeks the relinquishment of permission for surface quarrying in these areas when opportunities arise. This may be achieved either through planning obligations sought in negotiations undertaken on applications for ancillary mining and quarrying development or through the Review of Old Mineral Planning Permissions process. (See also Policy PD4).

10.43 The above mechanisms secure the protection of sensitive areas by voluntary means only. Where working would affect the Special Area of Conservation, the Mineral Planning Authority would be able to issue a Modification Order, under section 97 of the Town and Country Planning Act 1990 (as amended), to ensure that such interests are protected.

Policy PD3 - Relinquishment of Permission

The relinquishment of planning permission for surface extraction or extraction of stone from the cherty series will be sought when opportunities arise within the Areas Sensitive to Surface Quarrying, namely those areas identified on the Submission Policies Map, and in other areas where significant environmental improvements would result.

Sustainability Appraisal of Policy

Overall positive environmental and amenity impacts due to the protection of the most sensitive areas from surface quarrying. There could be a risk of negative economic impacts; however provision of an adequate and steady supply of Portland Stone for the plan period would not be affected.

10.44 The appropriate scale of relinquishment of permission for surface quarrying will need to be determined on a case by case basis, depending on the scale and nature of the application. The significance of any environmental impacts relating to the proposal will be considered.

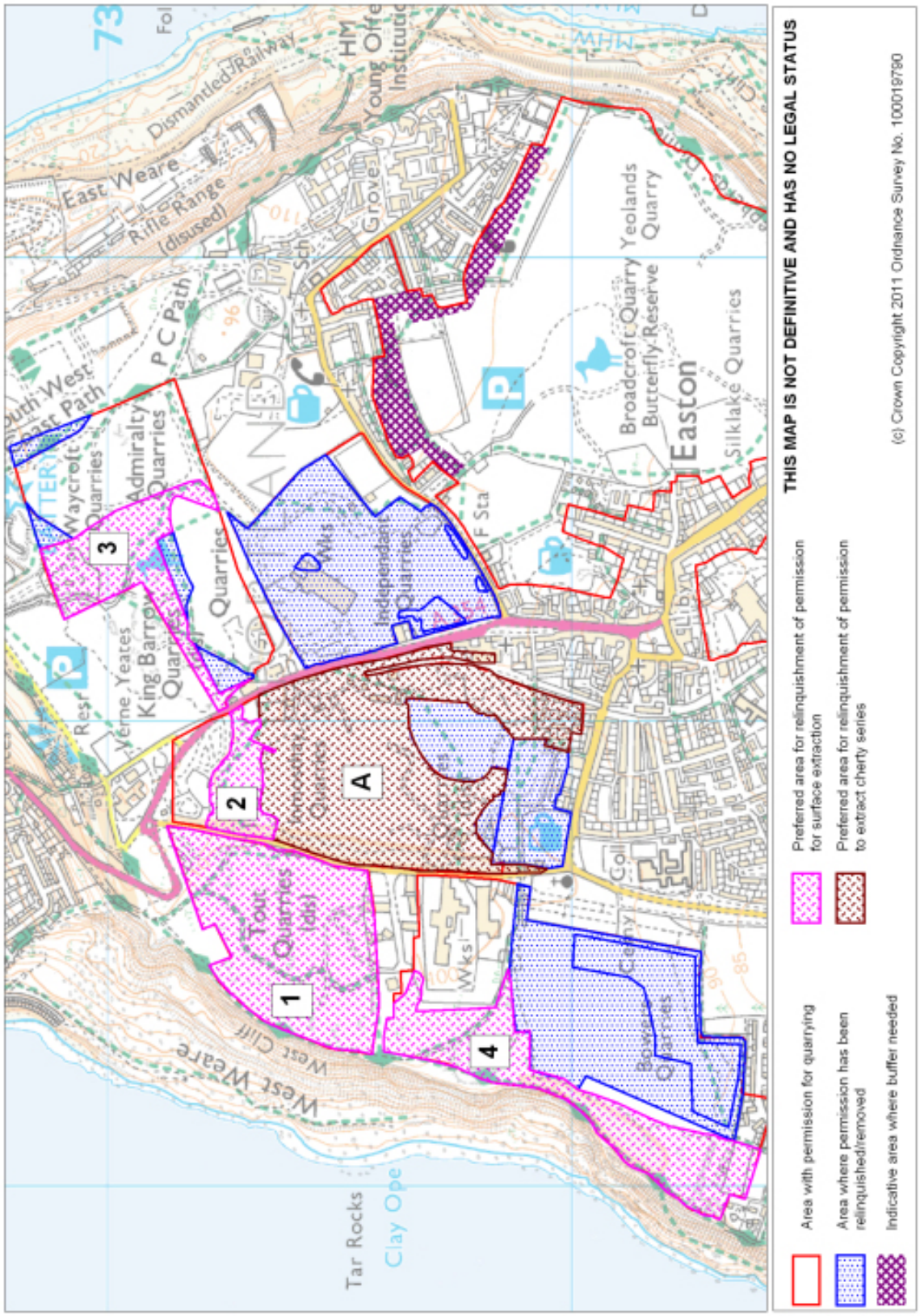
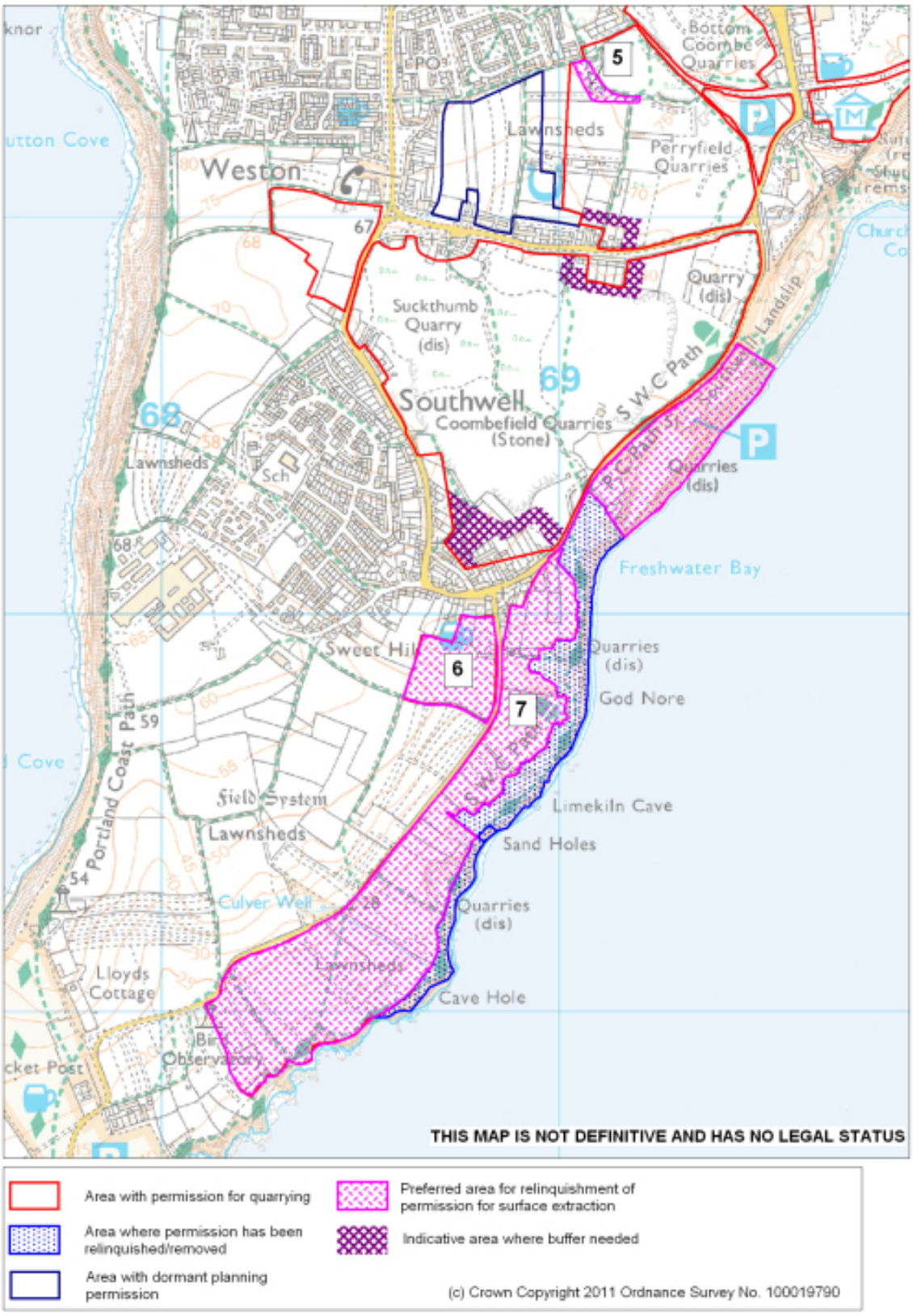


Figure 20 Areas Sensitive to Surface Quarrying - North Portland

Figure 21 Areas Sensitive to Surface Quarrying - South Portland



Description of Areas Sensitive to Surface Quarrying Identified on Figures 20 and 21

Preferred areas for the relinquishment of permission for surface extraction:

1. Tout Quarry – an abandoned quarry notable for its industrial archaeology, recreational and ecological value
2. Northern part of Inmosthay Quarry – comprising a disused quarry, notable for ecological value and industrial archaeology
3. Waycroft and Withies Croft – disused and partly restored quarry areas, notable for international and national ecological value
4. Bowers Quarry - cliffside and historically worked area notable for its national ecological value, its archaeological and recreational value, and the significant visual and landscape impact surface working would result in.
5. North-west area of Perryfields – border area of the active quarry where a buffer to protect residential amenity and listed windmill is considered necessary
6. Southwell – unworked area of greenspace where visual and landscape impact of surface working would be significant
7. Coastal Strip – largely unworked area of greenspace and coastal undercliffs. The area is sensitive to surface quarrying for a number of reasons: it partly falls within the Jurassic Coast World Heritage Site and is notable for international and national ecological and geological value; it has an important recreational value, forming part of the South West Coast Path; it includes an area designated as a Scheduled Monument; visual and landscape impact of surface working would be significant; and the impact on residential amenity would be significant in the vicinity of Southwell. Within the SAC, there is the need to protect the entirety of the raised beach (both SSSI and non SSSI) which forms a key feature of the World Heritage Site.

NB: Numbers are for reference purposes only and do not indicate any order of priority

Preferred area for the relinquishment of permission to extract the cherty series:

A. Inmosthay Quarry – designated SSSI with a plan to restore limestone grassland agreed.

Areas where an appropriate stand-off should be established:

- North and north-east boundary of Broadcroft Quarry
- South-west border of Perryfields Quarry
- The northern and southern boundaries of Coombefield Quarry

10.45 Figure 21 also shows an area to the west of Perryfields Quarry and north of Weston Street with dormant permission. Appropriate stand-offs would also need to be established here. The presence of a dormant permission enables the Mineral Planning Authority to have greater control since a new application would need to be made before any working could take place. The Mineral Planning Authority would expect to be able to require full modern

conditions including the establishment of a substantial buffer. It is considered that the site could be mined as an alternative to surface quarrying and so it is identified as an area of opportunity for mining under in Figure 19.

Review of Old Mineral Permissions on Portland

10.46 Proposed Policy PD4 sets out how the Mineral Planning Authority will seek to minimise the environmental impacts of existing permissions. This will be achieved through the Review of Old Mineral Planning Permissions (ROMP) process and voluntary agreements.

10.47 The ROMP is a requirement of the Environment Act 1995 and is intended to bring old minerals permissions up to modern environmental standards by attaching new planning conditions. The review of the 1951 composite planning permission has a significant role to play in improving the management of quarrying on Portland and is one of the principal means of securing improvements to the existing permission. Policy PD4 provides a strategic basis on which negotiations relating to the ROMP on Portland can be based.

10.48 The ROMP will in particular seek to achieve the conservation and enhancement of designated environmental and historic features on the island and to reduce impacts on amenity. This may include securing agreement not to quarry in particular sensitive areas such as the Areas Sensitive to Surface Quarrying shown on figures 20 and 21. It will seek the establishment of appropriate stand-offs to protect residential amenity (in particular in the areas shown on figures 20 and 21) and will be the principal means of achieving this. The use of more environmentally acceptable working methods will also be an important consideration. This may include sawing, the use of pressure bags and chemical cutting in surface quarrying techniques.

Policy PD4 – Minimising Impacts of Existing Permissions on Portland

The Mineral Planning Authority will through the Review of Old Mineral Planning Permissions and through voluntary agreements seek to:

a. secure more environmentally acceptable ways of working
b. establish appropriate stand-offs between quarry operations and adjacent residential dwellings (and other sensitive locations and developments)
c. ensure that quarries are operated in a way which minimises adverse impacts arising from dust, noise and blasting vibration upon the amenity of people in residential areas or upon other uses sensitive to such impacts
d. secure the protection of the Isle of Portland Site of Special Scientific Interest, the Isle of Portland Regionally Important Geological and Geomorphological Site, Sites of Nature Conservation Interest and the habitats of protected species
e. ensure that the Dorset and East Devon Coast World Heritage Site and its setting is safeguarded
f. secure the protection of scheduled monuments and their settings, and other important undesignated archaeological remains including evidence of former quarrying
g. secure the protection of Easton, Weston and the Grove Conservation Areas, Listed Buildings and historic landscapes (heritage assets)
h. protect and/or enhance the landscape and minimise the visual impact of quarrying on Portland

Sustainability Appraisal of Policy

Since the thrust of this policy is to achieve improvements to the environment and general amenity, the sustainability appraisal is generally positive.

Restoration of Quarries on Portland

10.49 The restoration of existing quarries on Portland is another important consideration and something that forms part of the Review of Old Mineral Planning Permissions. Additionally, improved restoration schemes for existing sites that fall under the 1951 permission may be sought as part of environmental gains referred to earlier in this chapter. The Minerals Core Strategy therefore provides guidance to ensure that the restoration schemes agreed upon are the most appropriate. Proposed Policy PD5 sets out the Mineral Planning Authority's aims for restoration of quarries on Portland.

10.50 Some of the quarries and permitted areas coincide with the Isle of Portland Site of Special Scientific Interest (SSSI), as illustrated in figure 22. Some damage has been caused to the SSSI by quarrying activities and there is potential for temporary loss of areas of interest within the old permission areas. Restoration of the ecological and geological interests is

usually achievable with the establishment of the right landform and substrate and there is significant opportunity for enhancement of biodiversity as a result. This is a key priority for restoration of the existing quarries within the SSSI.

Figure 22 Coincidence of Composite Planning Permission and Isle of Portland Site of Special Scientific Interest

10.51 Outside of the Isle of Portland SSSI there are other areas which have naturally revegetated and have ecological interest. There are also areas which are of value for showing geological successions or evidence of traditional methods of quarrying (such as stone beaches and remains of tramways). These are of significant industrial archaeological and heritage importance. These features should be protected and wherever possible enhanced. Public access is also desirable. This can be achieved on land restored for nature conservation purposes.

10.52 Returning a quarry to near original ground levels for agricultural grazing is an option for areas outside of the Isle of Portland SSSI and areas of industrial archaeological significance. These areas are generally the more modern quarries. It is important that topsoil removed prior to quarrying is retained for restoration.

10.53 Chapter 15 sets out the Mineral Planning Authority's approach to restoration. Support will be given to proposals which contribute to this strategy. Liaison with the local community on working and restoration proposals will also be supported.

Policy PD5 – Restoration of Sites on Portland

Schemes for the restoration of existing sites on Portland should achieve the following:

a. Reinstatement of areas of the Isle of Portland SSSI to a favourable condition;
b. Safeguarding, enhancement and where necessary reinstatement of significant ecological and geological interests within permission boundaries;
c. Creation or reinstatement of limestone grassland habitats in localities that link up or buffer areas of existing significant ecological interests;
d. Preservation of any industrial archaeological features or landscapes that show evidence of traditional methods of quarrying;
e. Reinstatement of typical Portland landscape features, such as field patterns and stone walls, where appropriate;
f. Reinstatement and where appropriate enhancement of public rights of way;
g. Reinstatement of agricultural land and facilitation of agricultural afteruse where appropriate.

Sustainability Appraisal of Policy

The policy seeks a positive outcome from the restoration of former workings. It particularly seeks to protect features distinctive to Portland, including the Portland SSSI, industrial archaeology and geological interests.

11 The Strategy for Other Building Stone Extraction

11 The Strategy for Other Building Stone Extraction

Introduction

11.1 This chapter considers the overall strategy for the production of other building stones in Dorset (excluding Purbeck and Portland Stone).

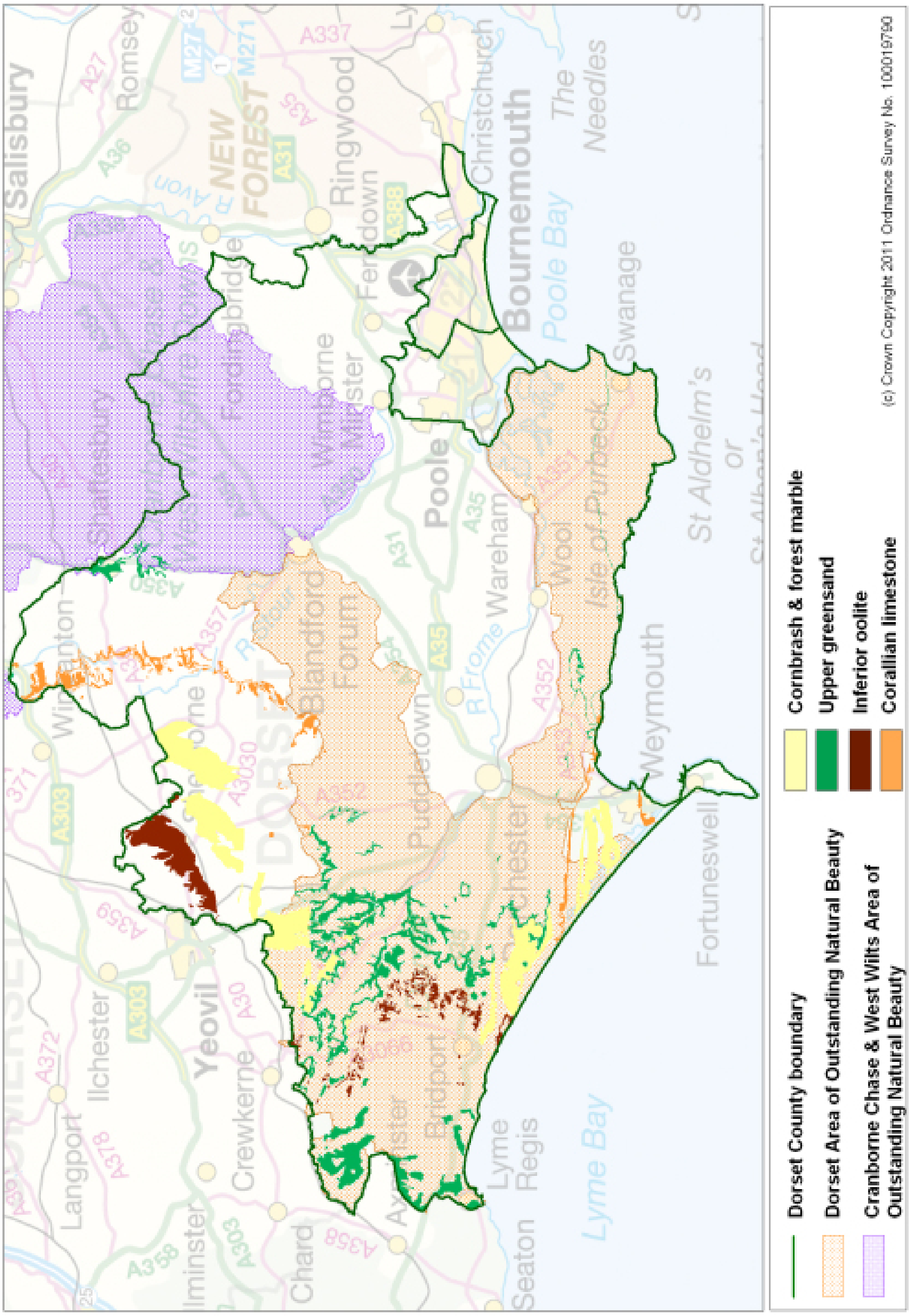
11.2 Most of the limestones of the Lower and Middle Jurassic which outcrop in North and West Dorset have been quarried for use as a local building material. Historically, this has included the use of types of Inferior Oolite, Corallian limestones and Forest Marble, as well as Lower Purbeck in the Dorchester Ridgeway area. Additionally, the sandstones of the Cretaceous and Paleogene periods have been used as a building stone in West, North and East Dorset, including, notably, Upper Greensand and heathstone.

11.3 The use of such stones, traditionally supplied from small-scale local quarries, has made a substantial contribution to the richness, diversity and charm of small towns and villages in Dorset, many of which are designated as conservation areas.

Spatial Characteristics

11.4 The majority of the outcrops of these building stones coincide with the Dorset Area of Outstanding Natural Beauty (AONB). Figure 23 shows that almost the entire Upper Greensand outcrop and a large proportion of the Inferior Oolite and Cornbrash and Forest Marble formations occur in the western part of the AONB. This area is characterised in the far west by a diverse topography with broad rolling hills and a patchwork of farmland and hedges, with steep greensand ridges and incised valleys (known as West Dorset Farmland), whilst chalk valleys and uplands characterise the landscape moving eastwards. The Cornbrash and Forest Marble outcrop north of the coast lies within the South Dorset Lowlands. Building stones also outcrop along the North Dorset limestone ridges.

Figure 23 Other building stones



11.5 There are currently seven sites with permission for the extraction of different types of building stone. All are located in rural areas in West or North Dorset and currently produce stone on a traditional basis, working in campaigns according to demand.

Provision of Building Stone

11.6 The Minerals Core Strategy supports the extraction of further reserves of building stone during the plan period. There is an ongoing need for small quantities of building stones in Dorset in order to maintain the character of the county's towns and villages, both in terms of restoration of historic buildings and new build in the local vernacular style. The English Heritage Strategic Stone Study recognises the importance of the supply of local stones in conservation work and this is particularly important having regard to designated conservation areas. National planning policy recognises that development should respond to local character and history, and reflect the identity of local surroundings and materials[20].

11.7 Some of the existing local building stone quarries will run out of reserves during the plan period. The Mineral Planning Authority encourages the use of stone where it is to be used to maintain the fabric or character of individual buildings or settlements, whether this is a new or reopened quarry, or an extension to an existing quarry.

11.8 Due to the nature and geographical locations of potential building stone quarries, small-scale operations to supply a specific local need are considered suitable, provided that the impact on landscape and the road network is carefully considered, since the resources will usually lie within rural areas. Proposals for building stone quarries (other than Purbeck and Portland stone) should comply with Policy BS1, as well as other relevant policies in this plan (including Development Management policies).

20 NPPF, Paragraph 58

Policy BS1 - Building Stone Quarries

Proposals for small-scale building stone quarries, other than Portland and Purbeck Stone, will be permitted, if all of the following apply:

a. the stone is of a type historically used for building in the local area and is to be used to maintain the fabric or character of individual buildings or settlements in the local area, or a significant historic building elsewhere;
b. the proposal would be of a type, scale and output appropriate to the market identified in (a) above; and
c. the proposal would not individually or cumulatively with any other sites result in a level of mineral activity, or traffic generation, which would have an unacceptable effect on landscape, the environment or local amenity.

Sustainability Appraisal of Policy

The policy is intended to address proposals for building stone quarries that may come forward during the plan period and identify sites in the Minerals Site Allocations Document, where appropriate. This is necessary to meet a local need for building stones, particularly to conserve the historic built environment. The policy seeks to ensure acceptable impacts on local amenity, the environment and landscape.

11.9 Given the extent of historic quarries in the county and the difficulty in predicting future demand for a certain type of stone from the re-opening of a quarry, it is not possible to direct future workings to particular areas. However, where possible specific sites will be identified within the Minerals Site Allocations Document. As a result, the safeguarding of building stone is of key importance to the strategy. Chapter 14 sets out the minerals which will be safeguarded in order to avoid sterilisation of important building stone resources.

11.10 Since the building stones described in this chapter are also an important geological resource, Dorset Important Geological and Geomorphological Sites group (DIGS) and/or a county geologist will be notified when new excavations are proposed.