British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Llywodraeth Cymru
Welsh Government

Aggregates Safeguarding Maps of Wales

Minerals and Waste

Mineral Resources and Policy Team

Geology and Landscape Wales

Commissioned Report CR/12/039

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1 Introduction

Minerals are essential for the development of a modern economy, but mineral resources are finite and can only be worked where they occur. As their extraction is subject to a number of constraints, it is essential that society uses minerals in the most efficient and sustainable manner. Identifying the distribution of known mineral resources in Wales, identifying areas where other forms of development might prohibit or restrict access to them, and adopting development plan policies that aid management of development in those areas, allows minerals to be considered with other land-use information when applications for development are determined. This process is commonly known as 'mineral safeguarding'.

The British Geological Survey (BGS) has undertaken a commission through its Mineral Resources and Policy team, led from the BGS Cardiff office, to prepare for the Welsh Government a safeguarding map for aggregate minerals which covers the whole of the Principality of Wales. This work was completed in 2012 and the series of six digitally generated maps at a scale of 1:100 000 are now available to download from the BGS www.MineralsUK.com website. These maps cover the areas of the 25 Unitary and Mineral Planning Authorities (MPAs) of Wales.

Wales contains a wide range of minerals, many of which have been exploited since historical times. There are still significant energy resources in the coalfields of South and North-east Wales, limestones and sandstones across Wales with a range of aggregate and industrial uses and significant deposits of sand, gravel and clay. These resources are important national assets and adequate and steady supplies are needed to maintain current and future economic development. The publication of the aggregates safeguarding maps should enable MPAs to delineate aggregates safeguarding areas (ASAs) in their development plans and adopt suitable policies for managing development in these areas so that unnecessary sterilisation of identified resources does not take place.

2 What is a mineral resource

A mineral resource is a concentration or occurrence of material of intrinsic economic interest in or on the Earth's crust in such form, quality and quantity that there are reasonable prospects for eventual economic extraction.

Generally, a mineral resource is known to exist within the boundaries outlined by geological mapping. This may be supplemented by more detailed geological data. The Mineral Resource Map of Wales developed by the BGS in 2010 (Humpage and Bide 2010), and the complementary six 1:100 000 scale maps show the surface extent of mineral resources. These are mostly inferred from available geological information and they generally have not been evaluated by drilling or by other sampling methods on any systematic basis. The mineral resources defined on the maps show the areas within which potentially workable minerals may occur. What may be of economic interest can change over time, and is dependent upon a number of factors, such as mineral markets and extraction technology.

The Mineral Resource Map of Wales thus shows all minerals which geologically have resource potential in Wales, irrespective of extent of the deposit and proximity to markets or other economic factors. These published resource maps provide the basic information in order to begin the process of delineating mineral safeguarding areas.

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The COAL AUTHORITY

Mineral safeguarding in England: good practice advice

Minerals and Waste Programme

Open Report OR/11/046

BRITISH GEOLOGICAL SURVEY

MINERALS AND WASTE PROGRAMME

OPEN REPORT OR/11/046

Mineral safeguarding in England: good practice advice

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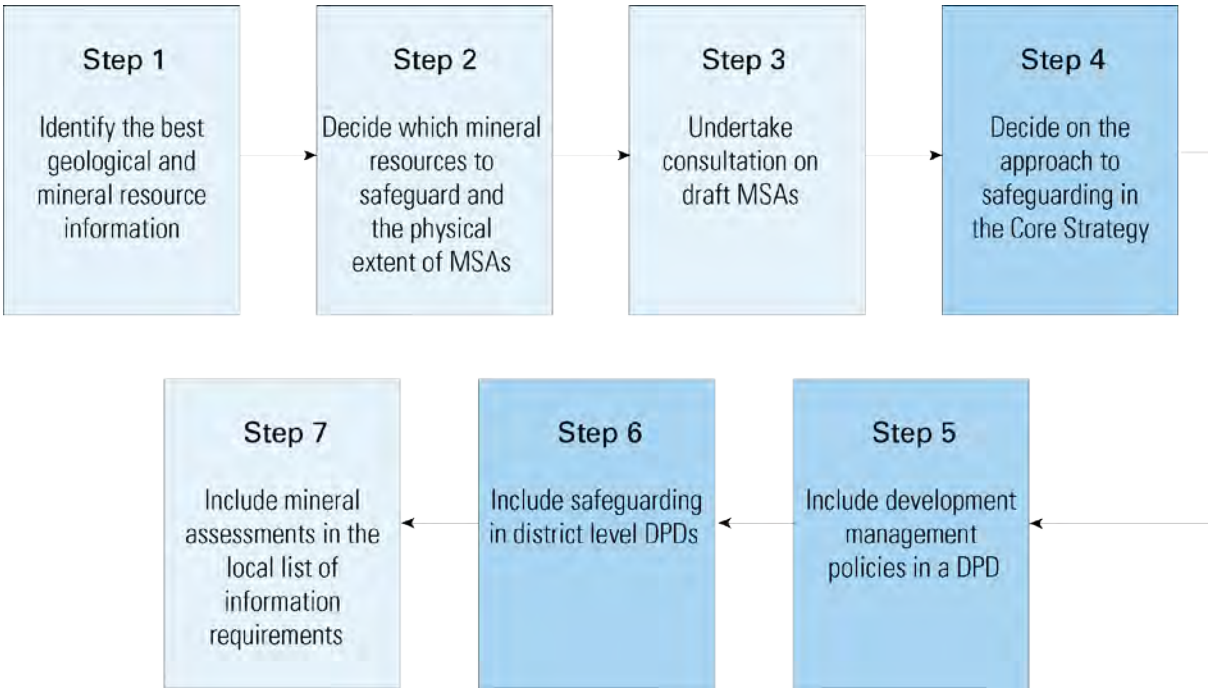
5 Development Plan Documents: policy and development management

5.0.1 To provide an effective system of mineral safeguarding, it is important that it becomes an integral part of the LDF. The safeguarding process within an LDF should:

- state the general approach that has or will be taken to defining MSAs and the management of development proposals in MSAs in the Core Strategy;
- include the detailed definition of MSAs, presenting their spatial extent on an accompanying proposals map; and
- include policies for practical implementation so that it is clear what an application in a MSA should include and how an application that is submitted in a MSA will be determined.



5.0.2 There are two approaches to integrating safeguarding within a LDF:

1. Defining the largest part of the safeguarding process in the Core Strategy i.e. include the approach to the definition of MSA boundaries and policies for the management of development proposals in MSAs. This could include the submission of a proposals map to show the detailed boundaries of MSAs; or
2. Outlining the general approach that will be taken to the definition of MSAs and development management within MSAs in the Core Strategy then defining the MSAs in a subsequent DPD (such as the Site Allocations DPD, or another suitable DPD as selected by the MPA).

Whichever approach is taken, safeguarding should be addressed effectively at every stage so that it is a functional mechanism.

5.0.3 The production of DPDs should aim to identify issues through consultation and address them. Paragraph 4.26 of Planning Policy Statement 12 expresses the importance of involving the community in the process of refining and improving the options available to

address such issues. As the definition of MSAs is based primarily on geological factors which are locationally specific the production of options for public consultation, as would take place ordinarily with spatial planning issues in a DPD, may not be appropriate. It may, for example, be misleading to suggest any options that are not consistent with the obligation to safeguard. MSA boundaries must be based on the presence of mineral resources. Consultation with industry however, is essential. Minerals operators are likely to hold detailed information on the economic factors needed to define local resources. Whilst broad public consultation may not be appropriate, MSAs should not be defined in isolation of other stakeholder expertise.

5.1 STEP 4: DECIDE ON THE APPROACH TO SAFEGUARDING IN THE CORE STRATEGY

Safeguarding policy in the Core Strategy

5.1.1 **It is essential that the approach that will be taken to define MSAs in the LDF is set out in the Core Strategy.** The Core Strategy is the lead DPD and the strategic framework for the production of any subsequent DPDs. A clear strategic objective on which to base safeguarding policies should be identified in the Core Strategy, linking the strategy with the principle of sustainable development. An example of a strategic objective produced by Leicestershire County Council is to "safeguard mineral resources from unnecessary sterilisation".

5.1.2 MSAs should influence other policy documents which will ultimately form the overall spatial strategy. It is important to include as much of the safeguarding process as possible in the Core Strategy. This will ensure that difficult decisions about the approach and management for proposals within a MSA are not left for a subsequent DPD. The outcomes of Steps 1, 2 and 3 will inform the justification for the intended approach (or approach taken) in the Core Strategy.

5.1.3 The spatial element of the Core Strategy should be developed before moving on to policy detail that will put the strategy into effect (see Step 5). Where an authority takes the approach to define the largest part of their safeguarding process within the Core Strategy, development management policies should be included.

5.1.4 The same principles in this section apply for those MPAs that choose to take a joint approach to the preparation of core strategies.

Core Strategy example policy and accompanying text

Policy

Mineral Safeguarding Areas [insert either 'will be' or 'are' as applicable] defined around all mineral resources in Exfordshire that are considered to be of current or emerging economic importance. In Exfordshire, all mineral resources within Mineral Safeguarding Areas will be protected from unnecessary sterilisation by other development.

Accompanying text

Mineral resources are finite, and in accord with the basic principles of sustainable development, they must be protected to give future generations the best possible chance of meeting their own needs. The mineral resources of Exfordshire include sand, gravel, brick clay, limestone and shallow coal. Building stone resources will be identified in consultation with English Heritage and safeguarded. The broad extent of mineral resources that occur in the area are shown on the Key Diagram.

Detailed boundaries of MSAs will be defined in the forthcoming [insert DPD name] DPD. The MPA will work with the minerals industry and others to ensure that the best available information is made available to support these principles.

Development management policies will be set out in [insert DPD name] which will support the practical implementation of determining development proposals in these areas.

[Further information may be given as appropriate, including the methodology used for defining MSAs if they are defined within the Core Strategy and shown on an accompanying proposals map].

Core Strategy Key Diagram and Proposals Map

5.1.5 Where defined, MSAs should be shown on the Key Diagram and on the Proposals Map that accompanies the Core Strategy. Where the largest part of the safeguarding process is to be set out in a subsequent DPD, the broad extent of the mineral resources should be shown on the Key Diagram.

5.2 STEP 5: INCLUDE DEVELOPMENT MANAGEMENT POLICIES IN A DPD.

5.2.1 **The definition of MSAs will not in itself safeguard mineral resources. Effective safeguarding will only be achieved by outlining criteria against which planning applications for land use and development in MSAs will be considered**. Development management policies can be tailored to suit the requirements of individual MPAs. These should define the special criteria that need to be applied to the consideration of potentially sterilising development within MSAs.

5.2.2 Depending on the approach to integrating safeguarding within the LDF, county or unitary MPAs should set out any development management safeguarding policies in the Core Strategy or in a separate DPD (see Case Study 9). If development management policies are to be set out within a separate DPD, the Core Strategy should refer to that accompanying or forthcoming DPD and it should be produced as soon as possible.

Case Study 9

Leicestershire Minerals Development Framework, Core Strategy and Development Control Policies up to 2021 – an example of development management policy including exemption criteria

The Leicestershire Minerals Core Strategy includes an individual chapter setting out the development management policies for minerals development. The chapter outlines 28 core policies of which two (Policy MDC8 and MDC9) relate to mineral safeguarding. The supporting text refers to MPS1, which sets the safeguarding of minerals resources as one of the national objectives for minerals planning and requires MPAs to define MSAs.

Policy MDC8 is an example of a criteria based safeguarding policy which controls development within MSAs. The policy clearly sets out for mineral and non-mineral developers how applications within MSAs will be treated. The criteria describe the circumstances where non-minerals development would, as exceptions, be permitted within MSAs and provides guidance to Local Planning Authorities. The inclusion of this policy provides a basis to ensure that the County's mineral resources are adequately considered in land use planning decisions.

Policy MDC8: Safeguarding Mineral Resources

"Planning permission will not be granted for any form of development within a Mineral Safeguarding Area that is incompatible with safeguarding the mineral and significant infrastructure such as rail linked facilities unless:

- *the applicant can demonstrate to the satisfaction of the Local Planning Authority that the mineral concerned is no longer of any value or potential value; or*
- *the mineral can be extracted satisfactorily prior to the incompatible development taking place; or*
- *the incompatible development is of a temporary nature and can be completed and the site restored to a condition that does not inhibit extraction within the timescale that the mineral is likely to be needed; or*
- *there is an overriding need for the incompatible development; or*
- *it constitutes 'exempt development', namely householder applications; development already allocated in a statutory plan; infilling in existing built up areas."*

5.2.3 A criteria based safeguarding policy which controls development within MSAs is advised. This should set out the circumstances where non-minerals development would be permitted within MSAs and provide guidance to LPAs and developers on how applications falling within MSAs will be treated.

5.2.4 The MPA could include a policy which states that applications for permission for development in a MSA must include an assessment of the effect of the proposed development on the mineral resource beneath or adjacent to the site of the development (termed a Mineral Assessment). This would oblige an applicant to provide available information with the planning application to demonstrate to the satisfaction of the MPA that the mineral resource has been adequately considered. Further details on Mineral Assessments are provided in Section 6.

5.2.5 An example of a criteria-based safeguarding policy is provided:

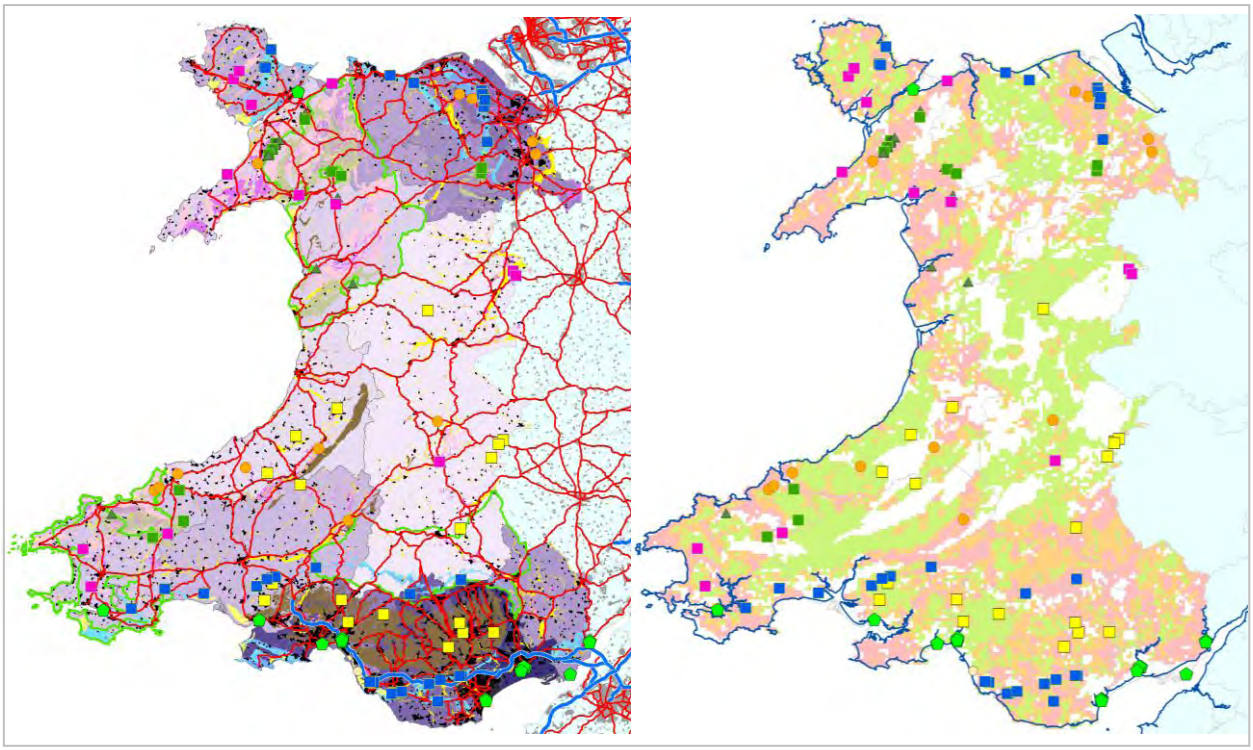
Llywodraeth Cymru
Welsh Government

Regional Technical Statements

for the North Wales and South Wales Regional Aggregate Working Parties

(1st Review)

Main Document



(Consultation Draft, October 2013)

Prepared, on behalf of the Welsh Government and the North Wales and South Wales Regional Aggregate Working Parties, by

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2. Key Principles and Approaches

The RTS Process

2.1 A key principle which underpins the overall approach within the RTS and MTAN1 is the need to move away from the old, demand-led system of '***Predict and Provide***' to the more modern concept of '***Plan, Monitor and Manage***'. These terms originated in relation to the planning for housing provision but can also be applied to minerals.

2.2 It is important to recognise, however, that the Plan, Monitor and Manage system still depends, crucially, on an assessment of demand. At the heart of MTAN1 is the aspiration that, once a reasonable estimate of demand has been obtained, any subsequent fluctuations above that level should be accommodated by increased supplies from secondary and recycled sources, rather than being seen as a justification for granting new planning permissions for primary aggregate extraction. Whilst that aspiration is widely supported, there is evidence to suggest that the percentage contribution available from secondary and recycled sources, having risen from around 10% of the total aggregates market in the 1990s to around 28% in 2010 (as a direct result of financial incentives and promotional work to increase acceptability) is now likely to have peaked. As a consequence of this, the future use of recycled/secondary materials is likely to depend mainly on the level of future construction output (since the availability of recycled materials is closely dependent on rates of new construction). It is therefore perhaps more reasonable to assume that secondary and recycled aggregates will continue to provide a high proportion of total aggregate production, but will not be able to be relied upon to fulfil any future peaks in demand on their own: there may also need to be increased contributions from primary aggregate sources.

2.3 The RTS process supports this approach by investigating the likely continued availability of secondary and recycled aggregates from all available sources within each area, and factoring this in to an assessment of the residual demand for land-based primary aggregates, as informed primarily by historical sales data. That residual level of demand is then translated into ***apportionments*** for each local authority, subject to the consideration of other sustainability issues including proximity and environmental capacity (see below).

2.4 An important tool in the ongoing management of the supply of aggregates is the monitoring of ***landbanks***. A landbank, as defined in paragraph 45 of MTAN1, is the stock of planning permissions for the winning and working of minerals at *active* and *inactive* sites[2], at any given point in time and for a given area. Where there is an insufficient landbank of permitted reserves in a particular area to meet the identified demand, over a sustained period of time, the RTS recommends the need for ***allocations*** for future working to be identified in LDPs. Provided that the reserves at *dormant* sites have not already been included in the landbank

[2] Detailed definitions of active, inactive, dormant and suspended sites are given in the **Glossary of Terms** at the back of this report, as are the full definitions of resources, reserves, apportionments, landbanks, allocations and provision.

5. Future Apportionments and Allocations

Introduction

5.1 The two main outputs of the RTS process are required to be the identification of apportionments for each Mineral Planning Authority in Wales for the 22 or 25 year period[8] concerned; and the identification of any allocations that may need to be designated within individual LDPs in order to secure this level of provision.

5.2 The assessment presented in Chapter 3 of this review has identified the historical pattern of demand *upon* each individual MPA for the production of land-based primary aggregates, based on average sales over the preceding 10 year 'baseline' period (2001 to 2010, inclusive). The review of factors relating to the availability of alternative materials, imports, exports and economic growth has suggested that this historical supply pattern is likely to provide a good guide for the determination of future apportionments, both in terms of overall quantities and broad geographical distribution. No evidence was found of *economic* factors which would suggest otherwise.

5.3 However, in accordance with the over-arching principles set out in Chapter 2, future apportionments and allocations also need to reflect the consideration of other sustainability factors, particularly those relating to *proximity* and *environmental capacity*. These factors have been considered in Chapter 4 (and in more detail within the Regional Appendices). That work has found that, in most areas, the existing pattern of supply is sensibly balanced in terms of proximity and capacity, within the restrictions imposed by the distribution of workable resources, and the requirements of economic viability. However, it has also identified some areas (as summarised in para. 4.37, above) where there might be merits in adjusting the future supply pattern in order to improve sustainability.

Suggested Apportionments

5.4 Table 5.1, below, sets out the suggested apportionments for each individual MPA within Wales, based on the historical sales data presented in Table 3.1, with adjustments in some areas to deal with the suggestions from para. 4.37, above. For convenience, Table 5.1 shows figures for the annualised apportionments and the historical sales averages (for comparison), as well as the total apportionment required from each MPA over the full period covered by the RTS (i.e. 22 years for sand & gravel, and 25 years for crushed rock provision). It must be emphasised, however, that it is only the total apportionment over the duration of a particular LDP which matters and that, at the start of the relevant Plan period, the overall provision can be achieved through a combination of existing landbanks and (where necessary) new allocations. **There is no requirement for an MPA to maintain or limit their annual sales in line with either the annualised apportionment or the historical sales averages**.

[8] This First Review RTS covers the period from 2011 to 2033, inclusive, for sand & gravel provision, and to 2036 for crushed rock provision. This is based on the need to maintain minimum landbanks of 7 years (for sand & gravel) and 10 years (for crushed rock) throughout a 15 year LDP. Given that individual LDPs will have different start dates, the annualised apportionment should be used to calculate the total provision required in each case.

Table 5.1: Suggested Apportionments for Future Aggregates Provision in Wales, 2011 to 2033 (sand & gravel) or 2036 (crushed rock)

Mineral Planning Authority	Land-won Sand & Gravel			Crushed Rock		
	Total Apportionment (Provision) over 22 years (mt)	Annualised Apportionment (mtpa)	Historical 10yr Sales Average from Table 3.1 (mtpa)	Total Apportionment (Provision) over 25 years (mt)	Annualised Apportionment (mtpa)	Historical 10yr Sales Average from Table 3.1 (mtpa)
Wrexham	**12.76**	0.58	0.58	**78.25**	3.13	0
Flintshire	**4.4**	0.2	0.31			2.94
Denbighshire	**2.2**	0.1	0.02	**22.25**	0.89	0.89
Conwy	**0**	0	0	**30.75**	1.23	1.23
Snowdonia NPA*						
Anglesey	**0**	0	0	**7.0**	0.28	0.38
Gwynedd	**4.4**	0.2	0.17	**6.75**	0.27	0.37
Sub-totals, N. Wales	**23.76**	**1.08**	**1.08**	**145.0**	**5.80**	**5.80**
Ceredigion	**7.26**	0 .33	0.14	**5.0**	0.20	0.20
Pembrokeshire			0	**21.0**	0.84	0.55
Pembs Coast NPA*			0.16			0.29
Carmarthenshire			0	**26.75**	1.07	1.07
Swansea	**0**	0	0	**0**	0	0
Neath Port Talbot	**0**	0	0.03	**14.75**	0.59	0.59
Powys	**0**	0		**62.75**	2.51	2.51
Bridgend	**0**	0	0	**18.75**	0.75	0.75
Brecon Beacons NPA*	**0**	0	0	**20.5**	0.82	0.55
Merthyr Tydfil	**0**	0	0			0.27
Vale of Glamorgan	**0**	0	0	**27.25**	1.09	1.09
Rhondda Cynon Taf	**0**	0	0	**17.25**	0.69	0.69
Cardiff	**0**	0	0	**21.5**	0.86	0.86
Caerphilly	**0**	0	0	**19**	0.76	0.76
Blaenau Gwent	**0**	0	0	**4.25**	0.17	0.17
Torfaen	**0**	0	0	**0**	0	0
Newport	**0**	0	0	**0**	0	0
Monmouthshire	**0**	0	0	**3.0**	0.12	0.12
Sub-totals, S. Wales	**7.26**	**0.33**	**0.33**	**261.75**	**10.47**	**10.47**
TOTALS Wales	**31.02**	**1.41**	**1.41**	**406.75**	**16.27**	**16.27**

SOURCE: Derived from the historical sales figures presented in Table 3.1, with adjustments to address the requirements summarised in para. 4.37 above, and discussed further in the text below. Green shaded cells indicate apportionments that are set higher than historical sales. Those shaded pink indicate corresponding reductions. The sub-total figures for North Wales and South Wales, and the totals for all of Wales remain unchanged from the figures indicated by historical sales.

*Where apportionments are shown for National Parks, these relate to production from existing permitted reserves in those areas. There is no requirement for National Parks to provide future allocations

5.5 There is inevitably a strong bias in this table towards the existing pattern of supply. This is because that pattern is inextricably linked to the existing distribution of permitted reserves, and because the operators at those sites have well-established

markets and distribution networks. Some deliberate differences have been introduced, however, where there are opportunities and justifications for doing so, in order to encourage a more sustainable pattern of future supply. In each case, the suggested adjustments seek to optimise the balance between proximity, environmental capacity and commercial reality. They are specifically focused on the findings of the detailed sub-regional analyses, as presented in Appendices A and B, and summarised in para. 4.37, above. Further explanations are given below for each one.

5.6 Land-based sand & gravel apportionments in North Wales have been increased in Denbighshire and Gwynedd, and correspondingly reduced in Flintshire, in order to generate an improved balance of supply overall. Specifically, this should help to reduce the dominance of supplies from NE Wales, allowing those in Wrexham, in particular, to remain focused on the markets within that area and in adjoining parts of North West England. It should also help to encourage the development of new resources within Gwynedd and North Denbighshire, which in turn should allow the markets in those areas to be supplied from more local sources. This, however, is dependent upon suitable resources being found in that area; specifically, resources which include an appropriate balance between fine aggregate (sand) and coarse aggregate (gravel). If that cannot be achieved, the fine aggregate fraction might still need to be supplied from NE Wales or, perhaps, from marine-dredged sources off the North Wales coast. The suggested requirement for Gwynedd could potentially be shared with Anglesey, through local cooperation in preparing their LDPs, although Anglesey has very limited sand & gravel resources and no current extraction.

5.7 The apportionments and allocations for land-based sand & gravel within Pembrokeshire, the Pembrokeshire Coast National Park, Ceredigion, and Carmarthenshire have been combined. This is primarily in order to encourage cooperation between these authorities in finding a longer-term solution to the aspiration of reducing future production within the National Park, once existing permitted reserves in that area have been exhausted. The present supply pattern in this part of Wales is (quite understandably) focused on the areas which have the main concentrations of high quality glacio-fluvial sand & gravel deposits, to the east and south west of Cardigan, although a large proportion of these deposits fall within the National Park. Other potential resources do exist, however, although the commercial viability of those in Carmarthenshire is compromised by the availability of marine-dredged material landed at Burry Port. The apportionment for Powys has also been transferred to this group of authorities in recognition of the fact that the current reserves and output from the one site in Powys are extremely small, and unlikely to be sustained in future years. Although the apportionment for Powys has been reduced to zero, this does not preclude the potential need for temporary borrow pits being utilised within that County to support specific major infrastructure demands for concrete aggregate, such as wind farms (as is the case for all other areas).

5.8 Crushed rock apportionments in Anglesey and Gwynedd have been reduced, with corresponding increases in Flintshire and/or Wrexham, in recognition of the fact

that the major markets for crushed rock aggregate supplied from North Wales are likely to be predominantly within those areas and further east, in neighbouring parts of north west England (see Appendix A). It is also suggested that the apportionments for Flintshire and Wrexham are combined, in order to provide greater flexibility. At present, as shown in Appendix A, there are no crushed rock workings in Wrexham and virtually all of the unworked limestone resources in that area fall within the AONB. It may, however, be possible to find some scope for future working through detailed collaborative working between the two adjoining MPAs. The suggested change will focus the requirement for new allocations on Flintshire/Wrexham although increases could alternatively be sought within Conwy and/or north Denbighshire, subject to views from NWaRAWP members.

5.9 It has been suggested in Appendix B (para. B52) that there might be some merit in reducing future output from Neath Port Talbot and increasing that from other MPAs further east within the Pennant Sandstone outcrop (e.g. Rhondda Cynon Taf, Caerphilly, Torfaen or Blaenau Gwent), in order to reduce the road transportation distances of HSA exports to England. That said, a high proportion of the resource outcrop within Neath Port Talbot coincides with areas of high environmental capacity whereas such areas are more limited within the outcrops further east. In practice, the shortfall in Neath Port Talbot has since been addressed by a new permission to extend the existing operations at Gilfach Quarry, from which part of the output is exported by train via the railhead at Neath Abbey. For future reference, however, if such a shift in supply pattern were considered beneficial, in the light of more detailed and balanced considerations of proximity, environmental capacity and other aspects of sustainability, this could be encouraged by reducing the requirement for any further new allocations or permissions within Neath Port Talbot, and transferring part of the apportionment to one or more of the MPAs further east, subject to agreements between the MPAs involved. This, however, is a matter for future revisions of the RTS.

5.10 The remaining suggestion carried forward from Appendix B is the possible need for further crushed rock allocations (of Carboniferous Limestone) within Caerphilly, in order to encourage an improved compliance with the proximity principle in supplying limestone aggregates to Newport and Torfaen, further east. To achieve this, there is no requirement to increase the level of apportionment in Caerphilly - only to fulfil it. Ideally, the inactive permission at Machen will able to be brought back into production in due course. It is only if this unit and the much smaller one at Cwmleyshon nearby remain inactive (despite the projected economic recovery) that the local authority may need to find an allocation for alternative reserves and then encourage these to be developed instead.

Comparison with Existing Landbanks

5.11 Landbank figures for the end of the baseline period (December 2010) have already been presented in Table 3.7, in Chapter 3. As explained in Chapter 3, the existing landbanks relate to the reserves at active and inactive sites but deliberately exclude the reserves at dormant and suspended sites. Those are discussed further at para. 5.19, below.

5.12 As noted under Table 3.7, the adequacy or otherwise of existing landbanks, in terms of contributing to the provision required in each MPA by the RTS, needs to be considered in the light of any adjustments to the pattern of future apportionments that are justified by proximity and/or environmental capacity criteria. Those adjustments are now incorporated in Table 5.1 and explained in the foregoing text.

5.13 Taking these adjustments into account, Table 5.2, below, compares the total provision for land-won sand & gravel now required (over the period 2011 to 2033), with the size of existing sand & gravel landbanks (from Table 3.7). Table 5.3 then provides similar comparisons for crushed rock, for the period up to 2036. In each case, the resulting surpluses (shown in green) or shortfalls (shown in red) of available reserves are indicated in the third column. The resulting minimum requirements for new allocations are then shown in the last column. It should be noted that these relate to the landbank position at the end of 2010, and that in some cases the allocation requirements may already have been partially or entirely fulfilled, either by new permissions granted since 2010, or by allocations that have already been identified in LDPs.

5.14 As far as possible, the information in each table is presented for individual MPAs but, where confidentiality restrictions on the landbank data do not allow this, the figures for some adjoining MPAs have been grouped together.

Allocations Required to Meet Shortfalls

5.15 In the case of land-based sand & gravel provision, Table 5.2 reveals that only Wrexham and Powys had a surplus of existing permitted reserves in December 2010 (in the latter case this being purely due to the decline in production from the two small sites previously involved) and that up to seven other MPAs (three in North Wales and a grouping of four in South Wales) will need to find new allocations in order to deliver the total provision required over the period covered by this review of the RTS (except where the indicated shortfall has already been covered by new permissions granted since December 2010). In North Wales, new allocations are called for in Flintshire, Denbighshire and, especially, Gwynedd. In South Wales the requirements are more modest, and are focused on Carmarthenshire, Pembrokeshire (including the National Park[9]) and Ceredigion. The justification in each case has been summarised in paragraphs 5.6 and 5.7, respectively. The remaining MPAs have neither a surplus nor deficit for sand & gravel provision, but in all cases this is simply because they currently have no production and no apportionment. In South East Wales, this position is critically dependent upon the continued availability of marine-dredged aggregates. If that source of supply were to be disrupted, there would be an urgent need to reconsider the apportionments to all of the authorities in that area.

[9] Although the Pembrokeshire Coast National Park makes an important contribution to the existing provision of sand & gravel in West Wales, it is not expected to contribute to future provision (beyond the expiry of existing permissions) unless here are no environmentally acceptable alternatives.

Table 5.2: Comparison of total apportionments for land-based sand & gravel, 2011 to 2033 with existing (December 2010) landbanks of permitted reserves.

Mineral Planning Authority	**Total Apportionment (Provision) for sand & gravel over 22 years** - from Table 5.1 (mt)	**Existing Sand & Gravel Landbank - at 31 December 2010** - from Table 3.7 (mt)	**Surplus (+) or Shortfall (-) of Existing Reserves** (Landbank minus Apportionment) (mt)	**Minimum Allocation needed in LDP to meet the Required Provision for Land-based Sand & Gravel** (mt)
Wrexham	12.76	15.24	+2.48	0
Flintshire	4.4	3	-1.4	**1.4**
Denbighshire	2.2	0	-2.2	**2.2**
Conwy	0	0	0	0
Snowdonia NPA	0	0	0	0
Anglesey	0	0	0	0
Gwynedd	4.4	0.7	-3.7	**3.7**
Sub-totals, N. Wales	**23.76**	**18.94**	**-4.82**	**7.3**
Ceredigion	7.26	2.41	-2.94	**2.94**
Pembrokeshire		1.65		
Pembs Coast NPA*				
Carmarthenshire		0.26		
Swansea	0	0	0	0
Neath Port Talbot	0	0	0	0
Powys	0	0.53	+0.53	0
Bridgend	0	0	0	0
Brecon Beacons NPA	0	0	0	0
Merthyr Tydfil	0	0	0	0
Vale of Glamorgan	0	0	0	0
Rhondda Cynon Taf	0	0	0	0
Cardiff	0	0	0	0
Caerphilly	0	0	0	0
Blaenau Gwent	0	0	0	0
Torfaen	0	0	0	0
Newport	0	0	0	0
Monmouthshire	0	0	0	0
Sub-totals, S. Wales	**7.26**	**4.85**	**-2.41**	**2.94**
TOTALS Wales	**31.02**	**23.79**	**-7.23**	**10.24**

NOTE: Where allocation requirements are shown these are the minimum amounts required to meet the RTS requirements. In many cases an application for an individual new permission will exceed these amounts, in the interests of economic viability. Such applications should not be rejected purely on the grounds of exceeding the minimum requirements shown here. In some cases, the suggested allocations may already have been partially or entirely fulfilled, either by new permissions granted since 2010, or by allocations that have already been identified in LDPs.

*Although the Pembrokeshire Coast National Park makes an important contribution to the existing provision for this group of authorities, it is not expected to contribute to the suggested allocation of new reserves, unless here are no environmentally acceptable alternatives.

Table 5.3: Comparison of total apportionments for crushed rock aggregates, 2011 to 2036 with existing (December 2010) landbanks of permitted reserves

Mineral Planning Authority	**Total Apportionment (Provision) for crushed rock over 25 years** - from Table 5.1 (mt)	**Existing Crushed Rock Landbank - at 31 December 2010** - from Table 3.7 (mt)	**Surplus (+) or Shortfall (-) of Existing Reserves** (Landbank minus Apportionment) (mt)	**Minimum Allocation needed in LDP to meet the Required Provision for Crushed Rock** (mt)
Wrexham	78.25	0	-3.84	**3.84**
Flintshire		74.41		
Denbighshire	22.25	22.07	-0.18	**0.18**
Conwy	30.75	67.43	+36.68	0
Snowdonia NPA				
Anglesey	7.0	5.69	-1.31	**1.31**
Gwynedd	6.75	8.51	+1.76	0
Sub-totals, N. Wales	**145.0**	**178.11**	**+33.11**	**5.33**
Ceredigion	5.0	13	+8	0
Pembrokeshire	21.0	28	+14	0
Pembs Coast NPA		7		
Carmarthenshire	26.75	47	+20.25	0
Swansea	0	0	0	0
Neath Port Talbot	14.75	9	-5.75	**5.75***
Powys	62.75	119	+56.25	0
Bridgend	18.75	47	+28.25	0
Brecon Beacons NPA	20.5	94	+73.5	0
Merthyr Tydfil				
Vale of Glamorgan	27.25	13.7	-13.55	**13.55**
Rhondda Cynon Taf	17.25	13	-4.25	**4.25**
Cardiff	21.5	41	+19.5	0
Caerphilly	19	27.8	+8.8	0**
Blaenau Gwent	4.25	3	-1.25	**1.25**
Torfaen	0	0	0	0
Newport	0	0	0	0
Monmouthshire	3.0	11	+8	0
Sub-totals, S. Wales	**261.75**	**473.5**	**211.75**	**24.8**
TOTALS Wales	**406.75**	**651.61**	**+244.86**	**30.13**

NOTE: Where allocation requirements are shown these are the minimum amounts required to meet the RTS requirements. In many cases an application for an individual new permission will exceed these amounts, in the interests of economic viability. Such applications should not be rejected purely on the grounds of exceeding the minimum requirements shown here. In some cases, the suggested allocations may already have been partially or entirely fulfilled, either by new permissions granted since 2010, or by allocations that have already been identified in LDPs.

* This requirement has already been fulfilled by a recent (2012) permission to extend Gilfach Quarry, which has provided 8.42 million tonnes of additional permitted reserves (but see para. 5.9 for further observations).

** An allocation for Carboniferous Limestone in Caerphilly might be required if Machen quarry is not reactivated (see para. 5.10).

5.16 In the case of crushed rock provision, the figures shown in Table 5.3 suggest that many areas have a surplus of existing permitted reserves, but that four of those in North Wales (Wrexham, Flintshire, Denbighshire and Anglesey) and a further four in South Wales (Neath Port Talbot, Vale of Glamorgan, Rhondda Cynon Taf and Blaenau Gwent) were facing a shortfall of reserves (as of December 2010) and, except where these have already been addressed by new permissions granted since that time, will need to find new allocations when preparing or reviewing their LDPs. In addition, Caerphilly might need to find a new allocation for Carboniferous Limestone, depending on its assessment of the likelihood of two inactive quarries being brought back into production in the near future. The justifications are provided in paragraphs 5.8 to 5.10, above.

5.17 In each case, where sufficiently detailed information exists, it is recommended that the allocations should ideally take the form of **Specific Sites**, as defined in paragraph 14 of Minerals Planning Policy Wales i.e. *"where mineral resources of commercial significance exist, and where any planning applications which come forward for those sites are likely to be acceptable in planning terms".* Where that is not possible, they should normally at least take the form of **Preferred Areas** *("areas of known resources with some commercial potential, and where planning permission might reasonably be anticipated")*, within which operators should be encouraged to bring forward more specific proposals.

5.18 A key requirement is to be able to demonstrate, within the LDP, that adequate provision has been made and this, in turn, means that the quantity of workable reserves within the allocation needs to be known, as far as possible. In most cases, this is only likely to be feasible within Specific Sites. Preferred Areas will generally not have sufficient information to be able to do this, though it may sometimes be possible for reasonable estimates to be made. **Areas of Search** ("*…broad areas that are believed to contain mineral resources of commercial significance but whose extent is uncertain…*") will usually have only minimal information on the suitability and commercial viability of the resources for commercial development and will therefore generally be inappropriate for the purposes of making allocations. There will be some situations, however, where there is insufficient knowledge about potential resources to identify anything other than Areas of Search. Where this is the case, it is recommended that the Area(s) so identified should provide the potential for the release of new reserves which are far greater than the minimum allocation recommended, in order to allow for the uncertainties involved.

5.19 As noted in Chapter 2 (para. 2.4), where an MPA considers that the reserves at dormant sites are likely to be capable of being worked in the relevant period (subject to Environmental Impact Assessment and the agreement of modern conditions) it may be possible for those reserves to be offset against the requirement for new allocations. The same logic would apply to reserves at suspended sites. The logic would only work, however, if the sites in question meet the same expectations as for other allocations, i.e. that they comply with the definition of Specific Sites or at least Preferred Areas, as given in MPPW.

5.20 Finally, it should be noted that the recommendations made above are based on currently available information regarding reserves, production, proximity and environmental capacity. As noted in 'Box 1' of the original RTS documents, the suggested apportionments and allocations do not take fully into account all factors that may be material to the ensuring an adequate supply of aggregates obtained from appropriately located sources. Such factors may include such things as:

- The technical capability of one type of aggregate to interchange for another;
- The relative environmental cost of substitution of one type of aggregate by another;
- The relative environmental effects of changing patterns of supply; and
- Whether adequate production capacity can be maintained to meet the required level of supply.

5.21 For such reasons, and as already noted in Chapter 1 (para. 1.8), where it is justified by new evidence, it is open for individual MPAs to depart from the apportionment and allocation figures recommended by the RTS. In doing so, however, an MPA would need to demonstrate that their intended departure would not undermine the overall strategy provided by the RTS itself (e.g. by working together with other MPAs to ensure that sub-regional and regional totals are still achieved) and this would be likely to become a key issue at Examination and/or Public Inquiry. Where the local authorities involved are unable to reach agreement, or if individual local authorities do not accept the Regional Technical Statement, as a last resort the Welsh Government will consider its default powers to intervene in the planning process, (MTAN 1, paragraph A3).