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NATURAL ENVIRONMENT RESEARCH COUNCIL

An evidence based approach to predicting the future supply of aggregate resources in England

Minerals and Waste
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environmentally costly transportation, as this is contrary to national and regional attempts to reduce carbon emissions. Therefore, whilst Nottinghamshire is in a relatively strong position with regards to its overall sand and gravel landbank, the run-down of a specific resource area has implications for the sustainability of future supply to areas in the north of the County and particularly markets outside the region.

The West Midlands region

CONCERN OVER THE PROVISION OF SAND AND GRAVEL FROM STAFFORDSHIRE AND STOKE-ON-TRENT

Consultation with the WMAWP and industry indicated that future supply of sand and gravel in the West Midlands is likely to be a problematic if disputes over apportionments between Staffordshire and Stoke and other MPAs in the region are not resolved. The WMAWP indicated that during the apportionment exercise there was no agreement in the West Midlands regarding how any shortfall could be made up by other authorities. The WMAWP indicated that during the sub-regional apportionment of 2005–20 Guidelines Staffordshire and Stoke-on-Trent County Councils expressed concern regarding their ability to deliver the resources required during the plan period at an ‘acceptable environmental cost’. Staffordshire County Council has expressed concern over ‘specific resource areas’ in the county to maintain production capacity. It considered a method of apportionment based on projected sales trends is inappropriate because it doesn’t necessarily identify where ‘sustainable replacement resources’ can be found.

With regard to future supply from within Staffordshire, industry consultees expressed concern regarding the work undertaken within the West Midlands on apportionment options, which led to Staffordshire refuting the past sales apportionment approach.

In relation to this industry, consultees suggested that any MPA can challenge its apportionment on environmental grounds, but this needed to be underpinned by robust evidence. Consultation with the WMRAWP suggested that their aggregates apportionment process became very politicised with the RAWP being used to validate the apportionment process even though only a minority of members supported the proposed methodology.

With regard to alternative sources of supply of land-won sand and gravel from within the region, during consultation the WMRAWP indicated that insufficient applications have been coming through the planning process in Warwickshire and Worcestershire and that the landbanks in these counties are well below the Guideline figures (see rundown analysis for Worcestershire in Appendix 6). Justification given for not maintaining their landbanks were that industry are not forthcoming with major applications in these areas. The WMRAWP noted that Warwickshire has identified recent supply problems given its rapidly declining landbank (4.6 years at end 2008) including closures of Blythe Hall and Middleton Hall quarries, while Walsall and Solihull have identified potential shortages after 2020. Additionally, an application for an extension at Ling Hall (Walsall Metropolitan Borough Council) has been withdrawn. Quality of resources in Warwickshire was cited as a justification for sites not coming forward by Industry.

Industry consultees considered that Shropshire could potentially have more sand and gravel resource than Staffordshire. The main concern with increasing supply from Shropshire was felt to be transporting material to market.

The WMRAWP indicated that industry naturally focuses on the best resources and if there is a high quality deposit in Staffordshire this is likely to be their primary target, rather than working a lower quality resource elsewhere. Economies of scale and transportation were also highlighted as big factors in the choice of industry to invest in an area but that political mood also had a bearing. In contrast, concern was raised, however, that if industry continued to concentrate operations in one locality, it could cause a problem with blight in that locality and, since there

wouldn't be an even distribution of operations across the region, aggregate would need to be transported further distances to markets across the region.

Background Information

In 2005, over 9.1 Mt of land won sand and gravel was sold in the West Midlands. This represented over 15 % of the national sales, making it the fourth largest producer after the East of England. The level of permitted reserves of sand and gravel in the West Midlands continues to show a steady decline from 133.8 Mt in 2005 to 123.8 Mt in 2006 to 112.5 Mt in 2007 (WMRA, 2010). The region's reserves are dominated by Herefordshire, Staffordshire and Shropshire, whilst the landbanks in Worcestershire and Warwickshire are below the national guidelines (WMRAWP, 2008).

Staffordshire is one of the most significant mineral producing areas in England containing 59 sites with permitted reserves. Quarries in Staffordshire produced 10 % of England's land-won sand and gravel in 2007. Staffordshire accounts for more than 65 % of the region's sand and gravel production and had a landbank of 12 years based on 2008 reserves (WMRAWP, 2008). Shropshire has the second largest permitted reserves, 12.2 Mt in 2008, in the region and the second largest landbank at 14.9 years, at the end of 2008.

Government guidance for the sub-regional apportionment of the new guidelines (2005-2020) advised the WMRA to consult the MPAs and the RAWP to determine whether the regional guideline can be met at "acceptable environmental cost" (Planning Committee, 2010). The new guidelines (2005-2020) for the West Midlands are 10.3 Mtpa, an increase compared with the previous plan period of 10.125 Mtpa (WMRAWP, 2007). These guidelines are based on the assumption that there will be a contribution of 100 Mt from alternative aggregates such as recycling construction and demolition waste (Planning Committee, 2010). Currently Staffordshire County Council is required by regional policy to plan for the development of sand and gravel resources on the basis of providing 6.6 Mtpa (65.2 % of the regional guideline) (Planning Committee, 2010).

In September 2009 the West Midlands Regional Assembly (WMRA) agreed to undertake the sub-regional apportionment of aggregates provision in the West Midlands. The WMRA considered a number of technical options for the sub-regional apportionment of aggregates. The WMRA requested that the West Midlands RAWP Technical Secretariat prepare options based on past sales trends. In recognition of the fact that these apportionment options essentially reflected "historical shares" or trends in past sales (rather than an appraisal of future needs), the WMRA also commissioned consultants (Land Use Consultants) to develop "alternative" apportionment options which sought to address a change in policy direction, by taking account of the likely availability of materials, future patterns of development, environmental and other considerations (LUC, 2010). The WMRA undertook a technical consultation with WMRAWP members. During the technical consultation Staffordshire, Stoke-on-Trent and Warwickshire did not think the regional guideline could be met at "acceptable environmental cost". Warwickshire's view was based on the declining landbank. Staffordshire's view supported by Stoke-on-Trent was that "the overall Guideline figure does not reflect the most sustainable balance of aggregates supply in the region and, therefore, it should be reduced due to declining need for construction materials, the economic downturn and the increasing concentration of extraction for the region in the county which is creating unacceptable environmental impacts in some areas". It challenged the process, and contended that the established approach to the apportionment of the guidelines be revised or replaced to establish a new pattern of aggregates supply. Staffordshire and Stoke consider that some of the Options '*...are not flexible and that past figures are not the best way to plan future production...that past sales apportionment perpetuates the current unfair distribution of environmental impacts in Staffordshire...*' (WMRA, 2010).

The technical consultation with the WMRAWP did not produce a consensus view on a preferred option. There was a polarisation of views, with particularly marked differences of opinion

between Staffordshire and Stoke favouring an option based on the alternative proposed methodology and the other MPAs and industry representatives favouring an option based on past sales trends prepared by the WMRAWP (WMRA, 2010).

The majority of the WMRAWP members (with the exception Staffordshire and Stoke-on-Trent) subsequently agreed to recommend that the WMRA consider a ten year average approach as one of the options for determining the apportionment. The WMRAWP agreed that, if the Assembly was minded to use an alternative apportionment methodology, then two new options (Option F – based 70 % on past sales and 30 % other factors and Refined Option F - which introduces a phased change – 100 % on past sales initially, reducing to 90 %, and then 70 % over time) should be subject to consultation. The options incorporate environmental factors such as transportation distances, avoidance of adverse environmental/ ecological impacts and ensuring the scale of development is appropriate to the infrastructure available. Option F was not supported by the majority of WMRAWP because, in their opinion, the evidence base was not sufficiently robust to justify the proposed redistribution of sand and gravel provision across the region.

Yorkshire and the Humber region

SHORT- TO MEDIUM-TERM SAND AND GRAVEL SUPPLY IN THE REGION

During consultation with the Y&HRAWP Secretary raised the shortage of concreting sand across the whole region as a key issue. The reason for this is considered by the Y&HRAWP to be a function of geological factors (quality and size of deposits) and planning and economic considerations. Future supply into West Yorkshire was deemed to be the principal concern.

Background information

Sand and gravel deposits are worked in the region from the valley of the River Swale in the north, through the Vale of York and in areas around the Humber Estuary in the south (Y&H RAWP, 2008). Yorkshire and Humber's Guideline figure for land-won sand and gravel has increased from 73 Mt (2001–2016) to 78 Mt (2005–2020) over the current apportionment period (Y&HRAWP, 2008). North Yorkshire accounts for 64 % of the region's sand and gravel, with 19 % of production being exported outside the region (Mankelow *et al.*, 2007). Reserve figures across the region display a 26 % decline between 1997 and 2005 and the landbank, for the region as a whole fell from 14.3 years to 9.3 years during the same period (Thompson *et al.*, 2008). This regional figure obscures important differences between individual MPAs and the proportion of aggregate suitable for concrete production:

- Within North Yorkshire those sand and gravel sites with a southwards distribution have a landbank of only five years;
- A very small landbank remains at the only sand and gravel quarry in West Yorkshire;
- The landbank in East Riding/Lincolnshire is 4.2 years;
- Reserves in South Yorkshire are predominantly composed of soft sand, unsuitable for concrete production (Y&HRAWP, 2008).

The BGS indicate that on the basis of geology alone West Yorkshire contains the mineral resources required to accommodate an increase in sub-regional apportionment (Bide *et al.*, 2009). However, because of the following constraints the likelihood of developing new sites in West Yorkshire is low:

Population density/sterilisation – industry representatives consider that sterilisation by built development has significantly reduced access to adequately sized sand and gravel deposits and severely constrains the potential for the extraction in the region. This is principally a commercial issue relating the minimum size of site that is economically viable.