

Mineral resource maps and safeguarding areas: a Welsh case study

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Access to economic mineral resources in the UK, such as sand and gravel and crushed rock aggregate, is vital to ensure the continued supply of raw materials that are essential for maintaining national infrastructure and underpinning the economy. Increasing pressures on land use threaten adequate mineral supply in the long term if the location of mineral resources is not considered when siting other types of development. Security of supply of minerals is, therefore, becoming an increasing priority for local and national government organisations responsible for planning for development.

Mineral safeguarding is an important planning mechanism which can be used to prevent 'resource sterilisation'. It is important to understand that mineral safeguarding is *not* implying that land identified as a Mineral Safeguarding Area (MSA) will be worked in the future, nor does it mean that MSA's are unavailable for other types of development. However, in these areas there is a presumption against non-mineral development unless certain criteria, outlined in associated policies are met.

Recognising the importance of managing mineral resources at a national level, the Welsh Assembly Government has commissioned the British Geological Survey (BGS) to produce both a National Minerals Map of Wales and an Aggregate Safeguarding Map of Wales. These will assist Mineral Planning Authorities (MPA's) by depicting the location and extent of mineral resources throughout Wales and promote the conservation and safeguarding of land-won primary aggregate resources when determining non-mineral development applications.

The Aggregates Safeguarding Map of Wales is based on data from the mineral resource map which is constructed using the BGS 1:50 000 DigMap dataset as a foundation. From this DigMap dataset, lithological units which have suitable physical and chemical properties for aggregate use are attributed with mineral resource information. The data are then further refined to produce the safeguarding map. It was decided via consultation with representatives from the Welsh Assembly Government, MPA's and Industry that aggregate resources would be categorised in order to define safeguarding areas. A tiered approach has been utilised and three categories defined based on the original resource map as shown in Table 1.

| Category | Definition | Lithological units |
|----------|---|---|
| 1 | Nationally important minerals which have limited occurrence, and those which have particular economic importance due to their high quality and/or limited occurrence. | Glaciofluvial sand and gravel deposits, high-High Specification Aggregates (HSA) rocks e.g. quartz dolerite, Pennant Sandstone Formation and Carboniferous limestone. |
| 2 | Regionally important minerals which are less important than Category 1 minerals but which still have regional significance. | Non-Carboniferous limestones, sandstones and lower HSA igneous rocks, slates known to have been previously worked. |
| 3 | Minerals with local importance only. | Slates/mudstones not previously known to have been worked. |

Table 1: safeguarding categories

The Welsh Assembly Government is currently developing the associated mineral safeguarding policies, and this tiered approach will potentially allow for different policies to be applied to different categories of resource. For example, Category 1 resources could be safeguarded in their entirety, whilst Category 2 resources could be modified by each MPA based on robust and credible evidence of local conditions. The third category relates solely to resources of local importance and these could be safeguarded if they supply a local market.

Once the resource safeguarding categories have been defined their area is extended to prevent sterilisation of parts of the mineral resource by proximal development (Figure 1).

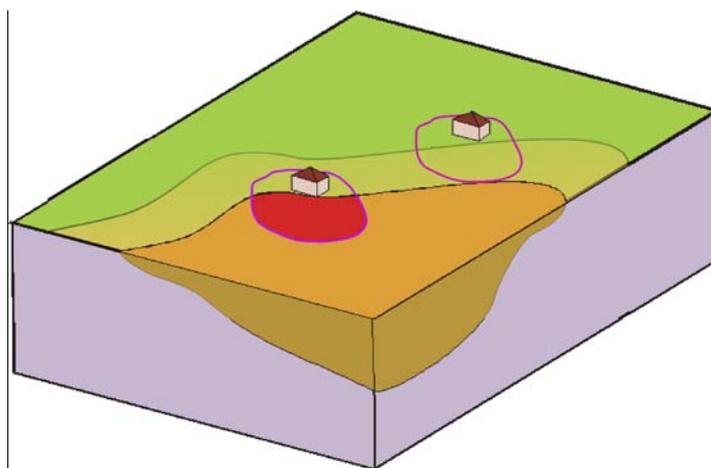


Figure 1. The sterilisation of a mineral resource by proximal development. BGS© NERC.

The size of this extension is based on the distances provided in the Welsh Assembly's Minerals Technical Advice Notice (MTAN) 1: Aggregates, a document

that sets out detailed advice for delivering national policy, in which it is stated that separation distances, or 'buffer zones', for conflicting land uses are 100 metres for resources that do not require blasting, and 200 metres for hard rock resources. These separation distances are defined for the purpose of protecting sensitive development from mineral operations, and so provide an ideal guideline for an appropriate extension of the resource to ensure it will not be sterilised by other forms of development if they are sited close by. Finally, following instruction from the Welsh Assembly Government, urban areas have been removed to create the final safeguarding areas as shown in Figure 2.

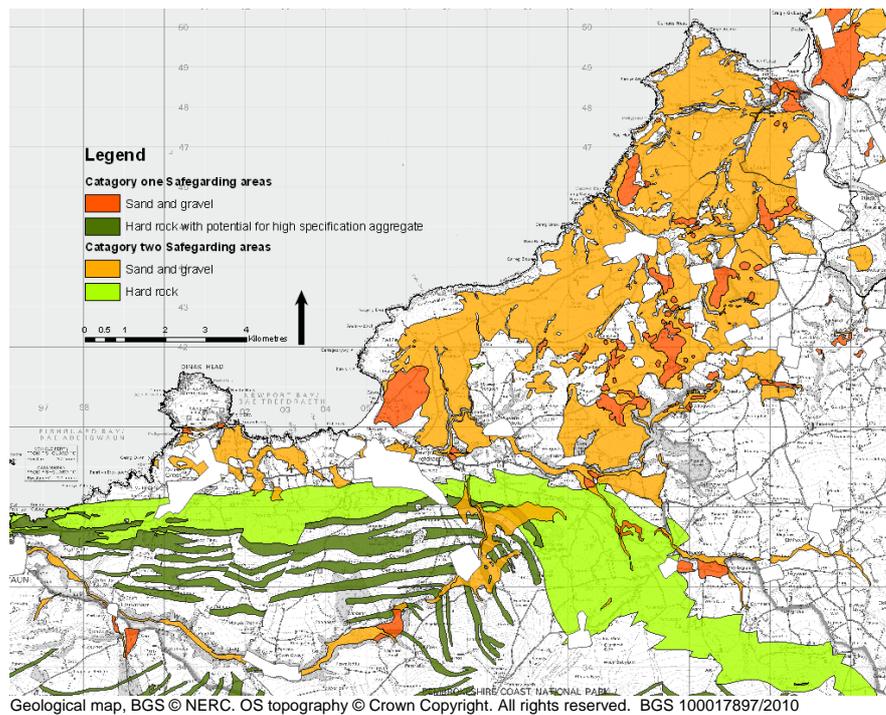


Figure 2 Safeguarding areas in North Pembrokeshire

Both the National Minerals Map and Aggregate Safeguarding Map of Wales will be supplied to each MPA in paper map and GIS format. A web-based GIS version of the National Minerals Map will also be freely available via the BGS hosted website www.Minerasluk.com. Accompanying these maps will be a booklet, 'Guide to Minerals Information and Safeguarding in Wales'. This will inform planners and other stakeholders about the variety of mineral resources that occur in Wales and their various uses.

Access to detailed mineral information by national and local government organisations is vital to ensure the best and most sustainable use of mineral resources. By integrating mineral safeguarding areas into the planning process, unnecessary sterilisation of resources can be avoided and mineral resources for future generations can be secured.

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