

Sustainable development for mineral extraction

An example from the Wareham Basin

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How do we ensure that essential minerals are made available to support downstream industries and the economy without degrading our environment or quality of life? Resolving this problem by encouraging the sustainable management of Britain's mineral

resources is a major challenge facing the planning process.

This difficulty occurs nationwide, and for minerals that are relatively widespread there may be a broad range of options for extraction. But if a mineral is nationally scarce or geographically localised, the

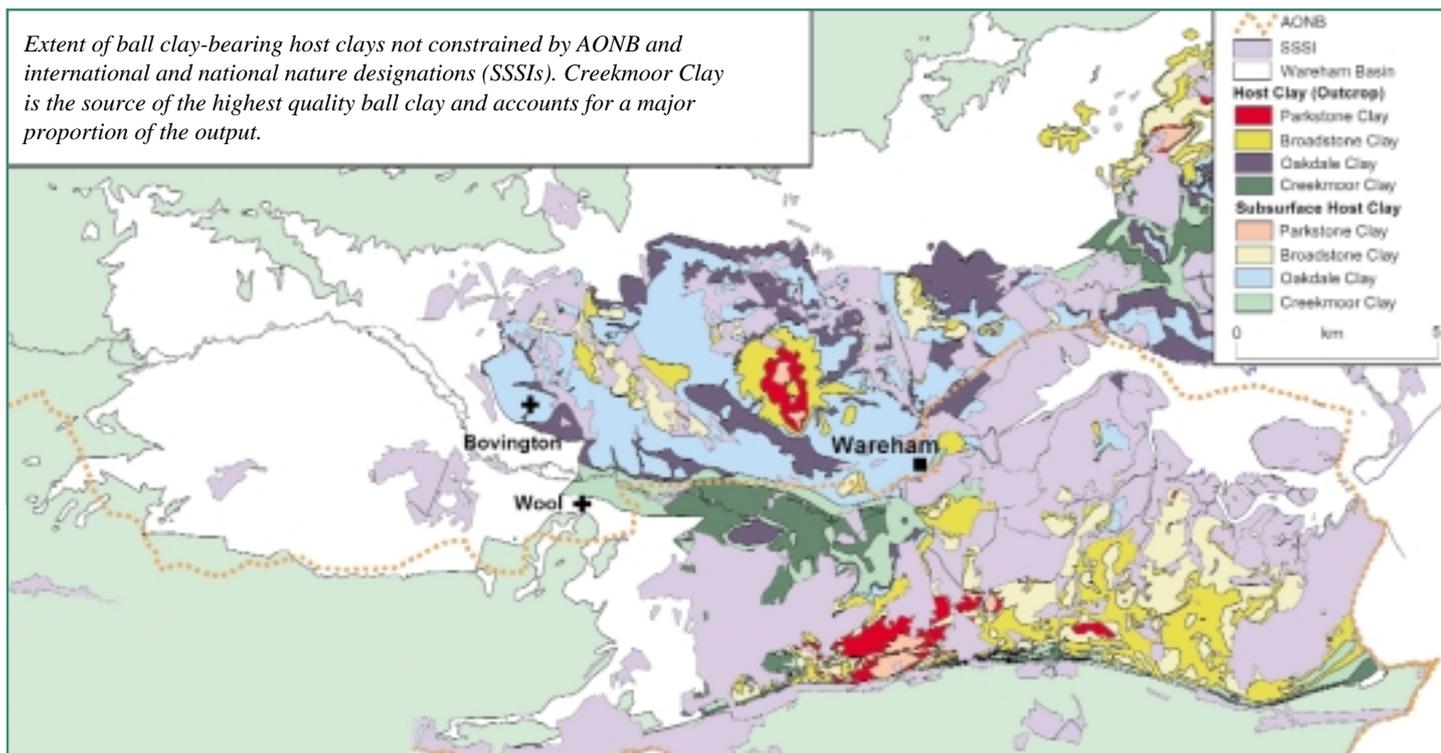
options may be more limited. If this same area is also subject to extensive landscape and nature-conservation designations, it may be difficult, or even impossible, to identify acceptable sites for mineral extraction.

These issues are particularly acute in the Wareham Basin of east Dorset. Because of its attractive scenery and rich variety of habitats, this area has extensive landscape and nature-conservation designations. It also has important mineral resources, including ball clay, sand and gravel, and hydrocarbons.

The Issues

- The Wareham Basin accounts for 20% of UK ball clay output. Ball clay is an important ceramic raw material, but has a limited occurrence both nationally and internationally. The UK is a leading world producer and exporter.
- The Wareham Basin has a regionally important aggregates industry, although gravel resources are rapidly being depleted.
- A large part of the area lies within the Dorset Area of Outstanding Natural

Extent of ball clay-bearing host clays not constrained by AONB and international and national nature designations (SSSIs). Creekmoor Clay is the source of the highest quality ball clay and accounts for a major proportion of the output.



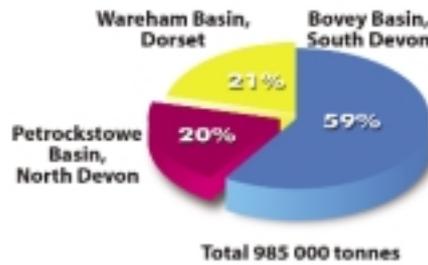
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The maps presented here are based on: Sustainable development issues for mineral extraction in the Wareham Basin, east Dorset. British Geological Survey Commissioned Report. CR/01/137N and Mineral resources of east Dorset. British Geological Survey Commissioned Report. CR/01/138N.

Beauty (AONB), including most of the area south of the River Frome (33% of the Wareham Basin).

- Extensive areas (22%) of the Wareham Basin are designated for their international and national conservation value, primarily for their heathland and wetland habitats and species. These include Ramsar Sites, Special Areas of Conservation and Special Protection Areas, and National Nature Reserves and Sites of Special Scientific Interest (SSSIs).
- Extensive areas are in the ownership of the National Trust and there are many Scheduled Monuments and Conservation Areas.
- The Ministry of Defence also uses extensive areas for military training. In addition, the area is important for tourism and adjoins the Poole–Bournemouth conurbation, one of the fastest-growing areas in the country.

To varying degrees these all represent constraints on mineral development. The potential for conflict between mineral development and other resource interests is, therefore, considerable.



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Ball clay is only produced in three basins in Britain (figures based on sales in 1999).

A new framework for sustainable resource management

Prior to the present study there was little impartial and comprehensive information on the distribution and quality of the mineral resources of the Wareham Basin and their spatial relationship to environmental designations. This lack of information created severe difficulties for the planning process.

A basin-wide strategic baseline on resources is now available from which planning and other policies can be prepared and against which individual

proposals can be tested. This baseline is based on the findings of a major multi-disciplinary investigation carried out on behalf of the Department for Transport, Local Government and the Regions. It is of particular importance with respect to developing international, national and local objectives for biodiversity and sustainability issues for minerals and the environment.

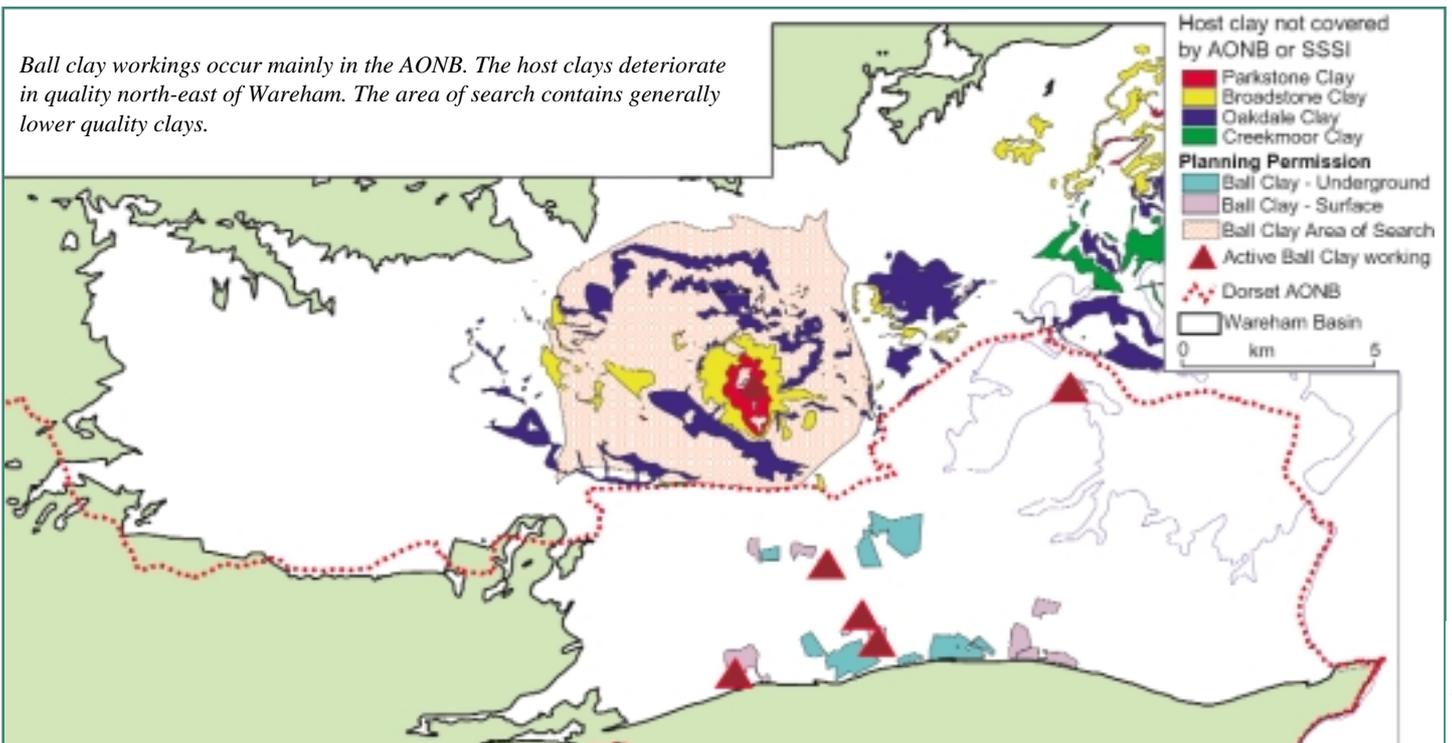
The main aim of the project is to provide high-quality information as part of a decision-support package for planners. This package will assist in prioritising strategic planning, in particular the review and updating of the policies and provisions contained in the Dorset Minerals and Waste Local Plan.

The project was undertaken by the BGS in association with the NERC Centre for Ecology and Hydrology, and consultants Mineral & Resource Planning Associates and Dr E C Freshney.

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Ball clay workings occur mainly in the AONB. The host clays deteriorate in quality north-east of Wareham. The area of search contains generally lower quality clays.



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