Time Machine Designed to Protect the Environment

A virtual time machine has been developed to help communities discover the restoration potential of their local quarry.

Designed by a team led by the British Geological Survey, the time machine can be used to examine the effects of different types of quarry restoration schemes and the changes which these undergo over time.

Launched at historic Arkwright's Mill at Cromford in Derbyshire, the birthplace of the industrial revolution, 'Explore Quarry Restoration', is a unique interactive CD-ROM that allows the user to explore the effects of different types of restoration on contrasting 'virtual' quarries.

Features include the ability to accelerate time to assess the impact of tree growth, or move around a realistic 3-D model to examine a landscaped area from different viewpoints. The virtual quarries are linked to pages of further information on quarry restoration issues, from biodiversity to water management. These pages draw on real life examples of good restoration practice and illustrate the possibilities for maximising positive impacts both during and after quarrying.

Andrew Bloodworth, Programme Manager at BGS said: "*Stone quarries have been part of the English landscape for hundreds of years. Their presence inevitably causes impacts on the environment and on the lives of people living close by. However, careful management and restoration, both during and after working, can minimise the impact on local communities and improve the environment in and around quarry sites."*

Quarried stone is vital to our modern economy and lifestyle. Construction of houses, hospitals, schools, shops and offices; roads railways and airports consumes large quantities of stone ('aggregate'). Although increasing amounts of low-grade aggregate are recycled from demolition waste and other materials, natural rocks such as limestone, granite, sand and gravel are the only viable source of the high-quality aggregate required to build safely and affordably. These vital natural raw materials are worked from quarries.

Development of the 'Explore Quarry Restoration' interactive CD-ROM was supported by the Mineral Industry Research Organisation (MIRO) Sustainable Land-Won and Marine Dredged Aggregates Programme.

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