

AGGREGATE MINERALS - SAND AND GRAVEL

INTRODUCTION

Sand & gravel is an aggregate that can be used for a variety of purposes. In Gloucestershire it is used by the construction industry as a building and sharp sand and as a key constituent in the manufacturing of concrete blocks and production of concrete mixes.

Gloucestershire's sand & gravel resources are comprised mainly of river deposits that occur irregularly, but extensively over a number of lowland areas around the county. Notable concentrations of sand & gravel can be found within the Upper Thames Valley and throughout the central lowland corridor of the Severn Vale.

There are also resources of sand & gravel in the far northeast of the county along the Vale of Moreton and very small pockets of workable sand in the Bromsberrow Heath area

HOW MUCH IS SUPPLIED?

In 2003, 700,000 tonnes of sand & gravel was supplied from 10 active sites. The average annual supply for sand & gravel over the five years between 1994 and 2003 amounts to 0.79 million tonnes per annum.

WHERE IS IT EXTRACTED?

In 2003, nearly all (94%) of Gloucestershire's sand & gravel was sourced from 7 sites concentrated within Upper Thames Valley. A small proportion (6%) was derived from 3 sites located along the Severn Vale.

HOW MUCH IS AVAILABLE AND HOW LONG MIGHT IT LAST?

At the end of 2003, Gloucestershire's reserves of sand & gravel with planning permission to be extracted totalled 9.41 million tonnes.

Gloucestershire is believed to have sufficient permitted reserves to last just over 8 years², based on supplying enough sand & gravel to meet the predicted future demands of society.

² This figure is based on achieving the full local apportionment of the national & regional guidelines for crushed rock aggregate over the period 2001 – 2016. This is a key issue to be decided by the MCS.

AGGREGATE MINERALS - LIMESTONE AS A 'CRUSHED ROCK'

INTRODUCTION

Limestone that is used as 'crushed rock' is a valuable aggregate mineral. It is used by the construction industry in the production of cement and concrete and as a 'fill' material for engineering operations. It is also used in highway construction and maintenance (for example as asphalt and coated stone).

Gloucestershire's crushed rock resources can be divided into two specific types of limestone. These are separated over geological time and by geographical location. The older resources, known as Carboniferous limestones, occur within Forest of Dean. While the younger resources, called Jurassic limestones are found in the Cotswolds.

The Carboniferous limestones have the greatest degree of flexibility as an aggregate mineral. This is because they are more durable and harder than the Jurassic limestones. Whilst both limestone types can be used in general construction, it is generally only Carboniferous limestones that can provide for high-specification concrete, asphalt and coated road stone products. Jurassic limestones can however be used in the manufacture of reconstituted blocks and bricks.

HOW MUCH IS SUPPLIED?

In 2003, 1.75 million tonnes of crushed rock was supplied from 13 active quarries. The average annual supply for crushed rock over the five years between 1994 and 2003 amounts to 2.11 million tonnes per annum.

WHERE IS IT EXTRACTED?

In 2003, the majority (70%) of crushed rock was extracted from 3 Carboniferous limestone quarries located in the Forest of Dean. The remaining (30%) was extracted from 10 Jurassic limestone quarries based in the Cotswolds, which also supplied building stone products.

There are also a number of 'inactive' and 'dormant' quarries present in Gloucestershire that, subject to appropriate planning approvals, could supply crushed rock in future.

HOW MUCH IS AVAILABLE AND HOW LONG MIGHT IT LAST?

At the end of 2003, the reserves of crushed rock with planning permission for extraction totalled 27.85 million tonnes. These reserves can be divided almost equally between the two limestone types (51% for Carboniferous limestones and 49% for Jurassic limestones).

Gloucestershire is believed to have sufficient permitted reserves to last for just over 11 years¹, based on supplying enough crushed rock to meet the predicted future demands of society.

¹ This figure is based on achieving the full local apportionment of the national & regional guidelines for crushed rock aggregate over the period 2001 – 2016. This is a key issue to be decided by the MCS.