

## UKGAP Theme 3: Gathering and maintaining information on our geodiversity

### UKGAP Indicator 8: Geological collections - the total number of geodiversity collections available to view by Geoscientists and the public

#### Relevance

Geological collections typically include: rock, mineral and fossil specimens. However there are many other sources of material including: thin sections for use under the microscope, borehole logs, building stone specimens; historical mapping and literature; and photographs.

Geological collections, together with formal education and fieldwork, provide a fundamental contribution to our life-long learning about geodiversity. Doughty (1981) states in his introduction to the 1981 survey (referenced below): '*because geology is a science of observation, the mass of rocks, fossils and minerals is not a by-product of developing concepts but part of the very stuff of them*'. Once geological collections fall into disarray and disrepair, the continued understanding that could be gained from them is irretrievably lost.

#### Data Sources

The published results from two Geological Curators Group (GCG) surveys were used as the source data for this indicator:

- Doughty, P.S. (1981). The State and Status of Geology in United Kingdom Museums. *Geological Society Miscellaneous Paper* **13**, 1-118.
- Fothergill, H. (2005). The State and Status of Geological Collections in United Kingdom Museums: 2001. *The Geological Curator* **8(3)**, 53-136.

In addition, the following website was explored: <http://www.culture24.org.uk/>

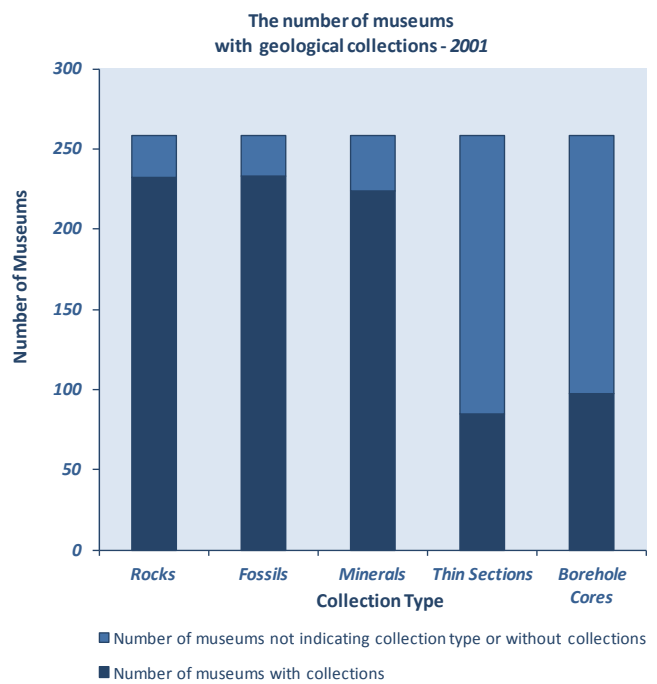
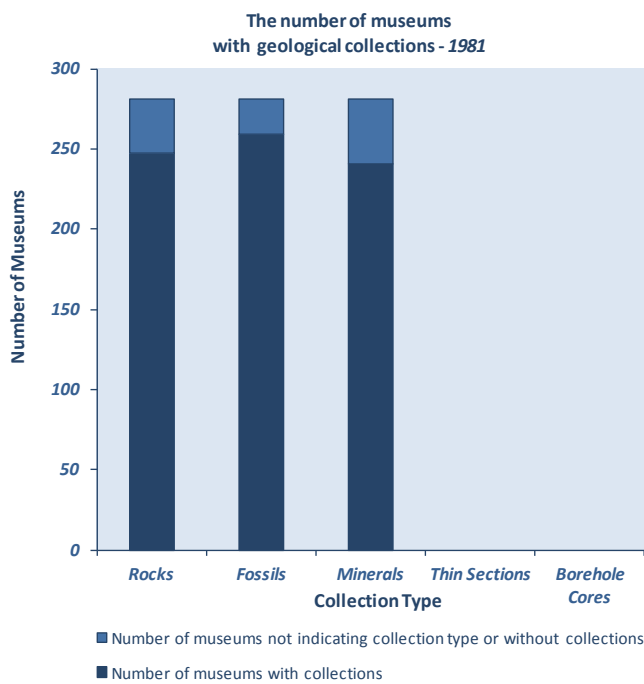
#### Background to the Data

In 1981 the GCG undertook a survey (Doughty 1981) to gain an impression of the status and contents of the UK's geological collections considering in particular how these were '*cared for, regarded, used and housed*'. In 2001 the GCG undertook a second survey (Fothergill, 2005) focussing in particular on the state of UK geological collections. Both surveys provide a snap-shot of the UK's geological collections at a discrete point in time. Although different data were gathered for each survey, the more recent 2001 survey additionally explores how the position of geological collections changed within the intervening 20 years.

'Culture 24' provides information on the: '*Latest news, exhibition reviews, links, event listings and education resources from thousands of UK museums, galleries, archives and libraries all in one place*'. It provides simple details of the content of many of the museum collections available to the general public, together with specific events and exhibitions. Keyword searches can be used to reveal resources and events that specifically relate to geological collections.

#### Data

The data shown in Table 8a and portrayed on the charts below are taken from Fothergill (2005) and show the breakdown of geological collections into type for those museums that responded. Table 8b shows some of the additional data gathered in the 2001 survey.



**Table 8a: Geological Collections by Type**

Content of Collection:	Total Number of Respondents		Rocks		Fossils		Minerals		Thin Sections		Borehole Cores	
	1981	2001	1981	2001	1981	2001	1981	2001	1981	2001	1981	2001
Number of museums	280	246	247	232	259	233	241	224	NS	85	NS	97

\*NS = Not Surveyed

**Table 8b: Additional Information from the 2001 Survey**

Subject	Additional Information from the 2001 Survey
Number of specimens	In 1981 the conservative <i>estimate</i> for the total national collection of geological specimens was 3.0 million (excluding the Natural History Museum and the British Geological Survey (BGS)). In 2001, using the data gathered from the survey, the estimate was just over 5.7 million (again excluding the Natural History Museum and the BGS). In 2001 the BGS stated that they held around 15.0 million specimens.
Increase in specimens	74,875 specimens were added in the ten years prior to the survey, excluding the Natural History Museum Minerals Department who did not respond to the survey and the British Geological Survey who responded late (500,000 specimens added). The museums housing the larger geological collections appear to be the fastest growing and the smaller collections seem to be stagnating through lack of exposure. These figures do not necessarily represent true 'growth' and may include large collections being moved from one institution to another.
Type of material held	<p>Whilst the data are limited, in addition to the collection types reported in the table and charts above, some 2001 survey respondents indicated that they also held:</p> <ul style="list-style-type: none"> <li>• geological correspondence;</li> <li>• geological maps;</li> <li>• geological photographs;</li> <li>• manuscript material;</li> <li>• collectors notebooks and catalogues;</li> <li>• drawings, illustrations and related artwork;</li> <li>• mine plans;</li> <li>• geological libraries;</li> <li>• personal items from notable geologists;</li> <li>• building stones and bricks;</li> <li>• geological site information;</li> <li>• cave fossils and / or archaeology;</li> <li>• decorative stones;</li> <li>• geology in applied art;</li> <li>• gemstones;</li> <li>• insectiferous amber;</li> <li>• meteorites;</li> <li>• micropalaeontology;</li> <li>• mineral and structural models;</li> <li>• glass plates;</li> <li>• planetary geology;</li> <li>• plaster clasts; and,</li> <li>• sediments.</li> </ul>
Proportion of geological collections in relation to total museum collections	The vast majority of museums (223) hold geology as a small part of their overall collections (up to 25%).
Additional funding streams	Whilst funding sources for museum curators and local authority services has reduced, new funding from the Heritage Lottery Fund and 'Renaissance in the Regions' has injected a greater level of support to the nation's museums.
The number of geological collections in relation to UK population	A geological collection is available for every 250,000 people with the distribution mirroring to some extent the concentration of national population.
Visitor numbers	Free admission to national museums has resulted in an increase in visitor numbers – for example an 81% increase was reported for the Natural History Museum from the start of free admission to 2005. However, a 2005 survey for the Museums Association suggests that visitor numbers to museums generally are falling.

Searches on the Culture24 website (accessed on the 25 March 2011) indicate that from a total of over 4000 cultural venues:

- 103 venues were listed for the key word 'geological';
- 521 venues were listed for the key phrase 'earth sciences';
- 91 venues were listed for the key words 'geological' and 'museum';
- 473 venues were listed for the key words 'earth science' and 'museum'; and
- 1 venue (Anglesey Geopark centre) was listed for the key word 'geodiversity'.

A number of exhibitions and events that relate to the UK's geodiversity were also listed.

## Assessment of Trend

Overall, it would appear that the number of museums or heritage sites holding geological collections has declined between 1981 and 2001 – the GCG 2001 survey data reveal a decline from a total of 280 to 246 museums. This information would fit with anecdotal evidence that many university Geology departments closed during this period and additionally that several smaller local museums were forced to close due to financial struggles. The good news is that many of the substantial university specimen collections were not lost but were transferred wholesale to the collections of the larger museums.

There is a huge disparity between the size of the collections held by the Natural History Museum and the British Geological Survey compared to all other museums.

It is also clear that rocks, fossil and minerals make up the majority of the geological collections with thin sections and borehole cores probably restricted to the more specialist and more academic organisations.

## Data Limitations and Future Recommendations

There are very limited data relating to Museum Collections. The 1981 and 2001 GCG survey results are heavily dependent on the number of respondents to the survey questions and the 20-year time elapse between surveys is not helpful for identifying year-on-year changes. It is also clear that in the most recent survey at least (reported by Fothergill, 2005), there was a degree of confusion over some of the questions. Therefore, despite the fact that the data are the best available and do represent returns from a wide range of museums across the UK, they are of relatively poor quality and incomplete. In addition, there is no certainty that a comparable survey of geological collections will be run in the future.

An alternative source of data would need to be found if this indicator were to be selected to monitor progress towards the UKGAP into the future. Obtaining robust data relating to a broader range of collection types would help to identify the nature of UK geological museum holdings.

In addition, Fothergill (2005) states *'for many museums, as geology has become harder and harder to fit into the national curriculum, and universities systematically cut earth science departments, it is perhaps a time to shift emphasis away from a purely scientific organisation of collections and look at a different approach'*. It is evident from the Culture 24 website that there are at least some innovative events and exhibitions taking place that relate to UK geodiversity. It would perhaps be more telling in relation to this indicator to gather annual data on the number and types of geodiversity events and exhibitions run by museums, together with visitor numbers.