

UKGAP Theme 4: Conserving and Managing our Geodiversity

UKGAP Indicator 10: Condition of Geological and Geomorphological SSSIs / ASSIs – The total number of sites designated for their geological or geomorphological features and / or active processes, where the majority (or all) of the site is in favourable condition (Scotland and Wales) or favourable or favourable recovering condition (England and Northern Ireland).

Relevance

Sites suitable for designation as geological and geomorphological Sites of Special Scientific Interest (SSSIs) in England, Wales and Scotland or Areas of Special Scientific Interest (ASSIs) in Northern Ireland were identified through the Geological Conservation Review (GCR) or Earth Science Conservation Review (ESCR) respectively. The purpose of the GCR and ESCR was to systematically identify the key geological sites in the UK, that as a whole reflect the great range and diversity of UK geology. Therefore, the condition of these sites provides information on the state of the UK's geodiversity. The condition of SSSIs and ASSIs also provides an indication of the success (or otherwise) of the safeguarding and management practices adopted at these sites.

Data Sources

The four statutory government agencies responsible for nature conservation (Natural England, Scottish Natural Heritage, Northern Ireland Environment Agency and the Countryside Council for Wales) provided data from their site condition monitoring records. In each case, the data were first interrogated so that only the details relating to geological and geomorphological SSSIs / ASSIs were provided.

Background to the Data

Each of the four UK countries has a commitment to progress towards bringing 95% of SSSIs (England, Wales and Scotland) or ASSIs (Northern Ireland) into favourable condition. This has encouraged the development of consistent monitoring practices by the Joint Nature Conservation Committee (JNCC), known as 'Common Standards Monitoring' and the regular assessment of the condition of SSSIs and ASSIs by the respective country statutory nature conservation agencies.

Common Standards Monitoring Guidance for Earth Sciences (2004) has been produced. Its purpose is to demonstrate the rationale and summarise the common principles rather than superseding individual more detailed guidance issued by the statutory nature conservation agencies. Whilst the guidance notes that '*the definition of earth science features for monitoring must relate to the reasons for the selection of geological and geomorphological SSSIs and ASSIs, and therefore relate to GCR and ESCR site selection categories*', the type of site (using the Earth Science Conservation Classification) is used as the basis for setting conservation objectives and assessing the condition of the different sites:

Some reporting on the condition of geological SSSIs is shown within The *Common Standards Monitoring for Designated Sites: First Six Year Report* (2006) although this does not include data from Wales or data relating to the recently designated ASSIs in Northern Ireland.

Whilst there are common methods for assessing site condition, the frequency of monitoring and the way the data are recorded varies between the four countries. The commentary below provides the background.

England

Data are presented for each geological unit within a SSSI. The year of assessment is given and two cycles of monitoring were available, making it possible to assess how the condition of geological units has changed over time.

The following categories of site condition are used:

- favourable condition
- unfavourable recovering condition
- unfavourable no change condition
- unfavourable declining condition
- part destroyed
- destroyed

Northern Ireland

Data are presented for each ASSI. The year of assessment is given but only one cycle of monitoring was available. Therefore currently it has not been possible to assess a trend in the condition of geological and geomorphological ASSIs.

The following categories of site condition are used:

- favourable condition
- unfavourable condition

Scotland

Data are presented for each SSSI. The year of assessment is given but only one cycle of monitoring was available. Therefore currently it has not been possible to assess a trend in the condition of geological and geomorphological SSSIs.

The following categories of site condition are used:

- favourable maintained condition
- favourable recovered condition
- favourable declining condition
- unfavourable recovering
- unfavourable no change condition
- unfavourable declining condition
- partially destroyed

Wales

Site condition monitoring in Wales is incomplete and, to date, has been based on a rapid review of a selection of sites. Data are presented for each SSSI. The year of assessment is given and repeat assessments are shown, making it possible to assess how the condition of geological SSSIs has changed over time.

The following categories of site condition are used:

- favourable condition
- unfavourable condition

Data

Tables 12a, 12b, 12c and 12d present a summary of the available data on annual condition monitoring of geological and geomorphological sites for England, Northern Ireland, Scotland and Wales respectively.

The data for Scotland and Northern Ireland simply shows the last condition assessment for each site. As repeat assessments of units in England and sites in Wales have been completed, it is also possible to make some assumptions regarding the condition of the unit or site in the intervening years – the last assessed condition is assumed to be retained until it is re-assessed. For example, a site assessed as 'unfavourable' in 2002 is assumed to remain in unfavourable condition in 2003 and 2004, until it is re-assessed as 'favourable' in 2005. In the intermediate years the term 'transitioning' is used.

The charts show for each country, the total number of sites or units assessed in each year and their condition. Additional charts for England and Wales show the condition of all sites in each year, making use of the assumptions described above.

Table 13a (1 of 2): England - Condition Assessments of SSSI Units

	Year of Assessment									
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Total assessed as Favourable	0	5	0	3	3	35	184	260	401	320
Total assumed to be Favourable	0	50	55	55	58	60	84	256	497	871
Total assumed to be transitioning between Unfavourable and Favourable (Improving)	0	3	4	4	5	5	8	22	54	95
Total assumed to be transitioning between Favourable and Unfavourable (Declining)	0	0	0	0	0	0	6	20	33	57
Total assessed as Unfavourable	3	1	0	1	0	10	23	54	69	83
Total units of unknown condition (no previous assessment)	2131	2050	2050	2045	2042	1999	1801	1488	1025	634
Units unassessed	2131	2127	2133	2128	2129	2086	1924	1814	1656	1723
Percentage of assessed units in Favourable (including Unfavourable-Recovering) Condition	0%	83%		80%	100%	78%	89%	83%	88%	81%

Table 13a (2 of 2): England – Condition Assessments of SSSI Units

	Year of Assessment								
	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total assessed as Favourable	227	0	0	52	153	140	288	575	298
Total assumed to be Favourable	1161	1377	1377	1337	1253	1288	1217	1125	1501
Total assumed to be transitioning between Unfavourable and Favourable (Improving)	140	167	167	160	153	141	107	43	0
Total assumed to be transitioning between Favourable and Unfavourable (Declining)	90	104	104	103	93	78	57	33	3
Total assessed as Unfavourable	46	0	0	5	17	23	53	103	96
Total units of unknown condition (no previous assessment)	361	361	361	350	337	321	255	80	0
Units unassessed	1850	2124	2124	2064	1951	1958	1780	1443	1728
Percentage of assessed units in Favourable (including Unfavourable-Recovering) Condition	86%	100%	100%	92%	92%	91%	90%	90%	86%

Table 13b: Northern Ireland – Condition Assessments of ASSIs

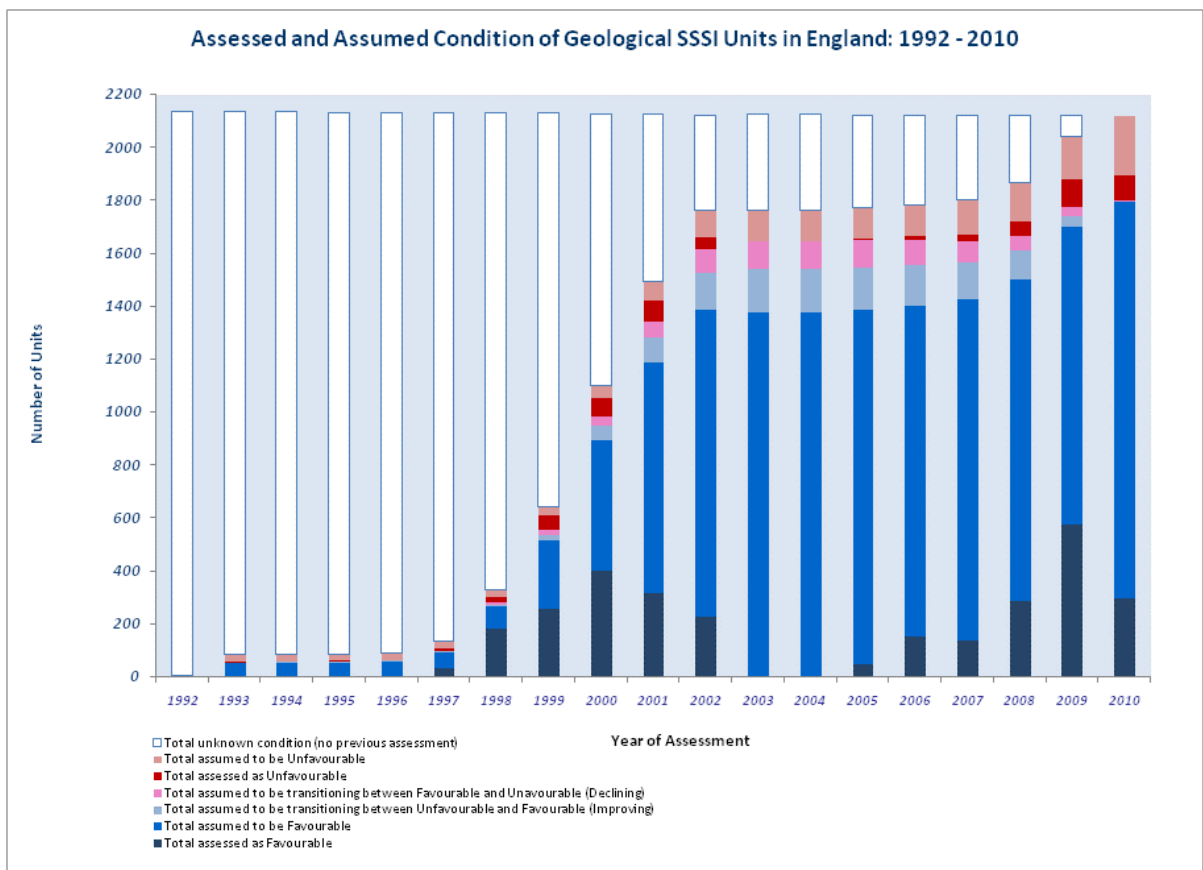
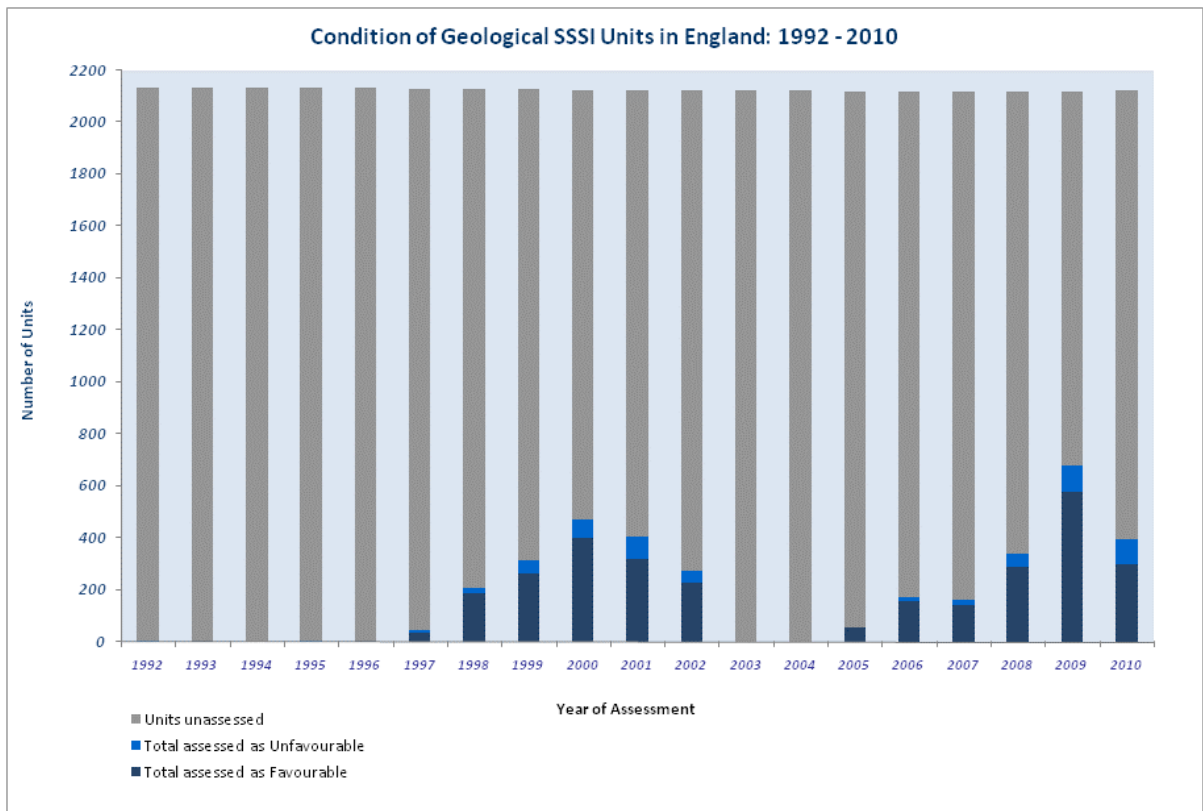
	Year of Assessment					
	2005	2006	2007	2008	2009	2010
Total assessed as Favourable	3	0	7	5	25	20
Total assessed as Unfavourable	0	0	0	0	0	0
Percentage of assessed features in Favourable Condition	100%	n/a	100%	100%	100%	100%

Table 13c: Scotland – Condition Assessments of SSSIs

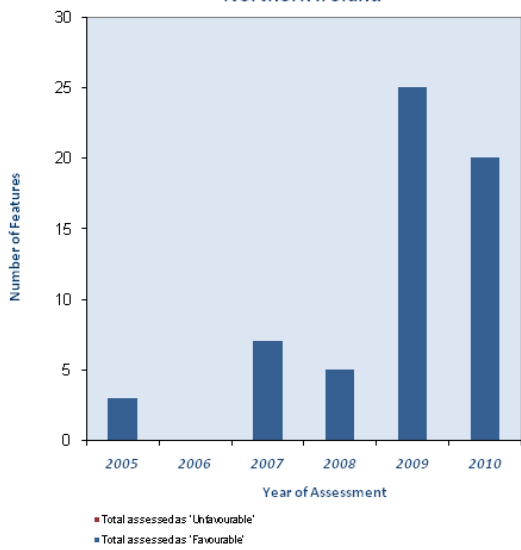
	Year of Assessment					
	2005	2006	2007	2008	2009	2010
Total assessed as Favourable Maintained	178	0	51	39	230	42
Total assessed as Favourable Recovered	1	0	0	2	4	2
Total assessed as Favourable Declining	0	0	1	0	0	0
Total assessed as Unfavourable Recovering	2	0	0	0	1	0
Total assessed as Unfavourable No Change	15	0	4	0	5	0
Total assessed as Unfavourable Declining	3	0	1	1	10	5
Total assessed as Partially Destroyed	1	0	0	0	0	0
Percentage of assessed sites in Favourable Condition	90%	n/a	91%	98%	94%	90%

Table 13d: Wales – Condition Assessments of SSSIs

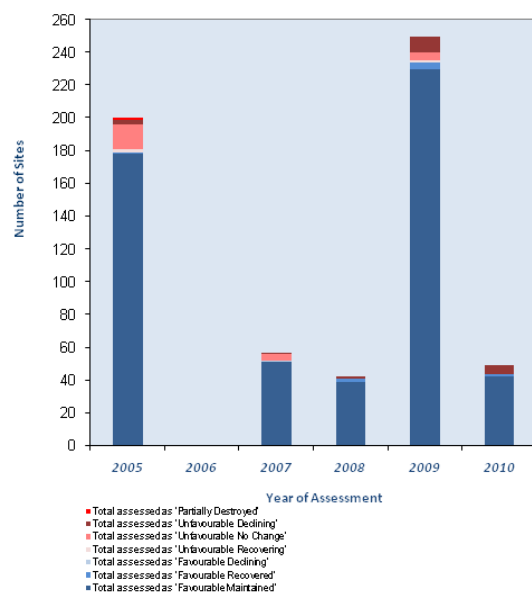
	Period of Assessment									
	04/2001 to 03/2002	04/2002 to 03/2003	04/2003 to 03/2004	04/2004 to 03/2005	04/2005 to 03/2006	04/2006 to 03/2007	04/2007 to 03/2008	04/2008 to 03/2009	04/2009 to 03/2010	04/2010 to 03/2011
Total assessed as Favourable	67	111	85	67	84	112	101	87	189	52
Total assumed to be Favourable	259	216	230	244	227	198	210	231	151	288
Total assumed to be transitioning between Unfavourable and Favourable (Improving)	0	2	2	5	9	13	28	21	0	0
Total assumed to be transitioning between Favourable and Unfavourable (Declining)	0	0	7	4	1	1	1	1	0	0
Total assessed as Unfavourable	9	26	26	20	31	50	2	2	24	3
Total sites of unknown condition (no previous assessment)	321	213	172	146	124	97	81	64	0	0
Sites Unassessed	321	260	286	310	282	235	294	308	184	352
Percentage of assessed sites in Favourable Condition	88%	81%	77%	77%	73%	69%	98%	98%	89%	92%



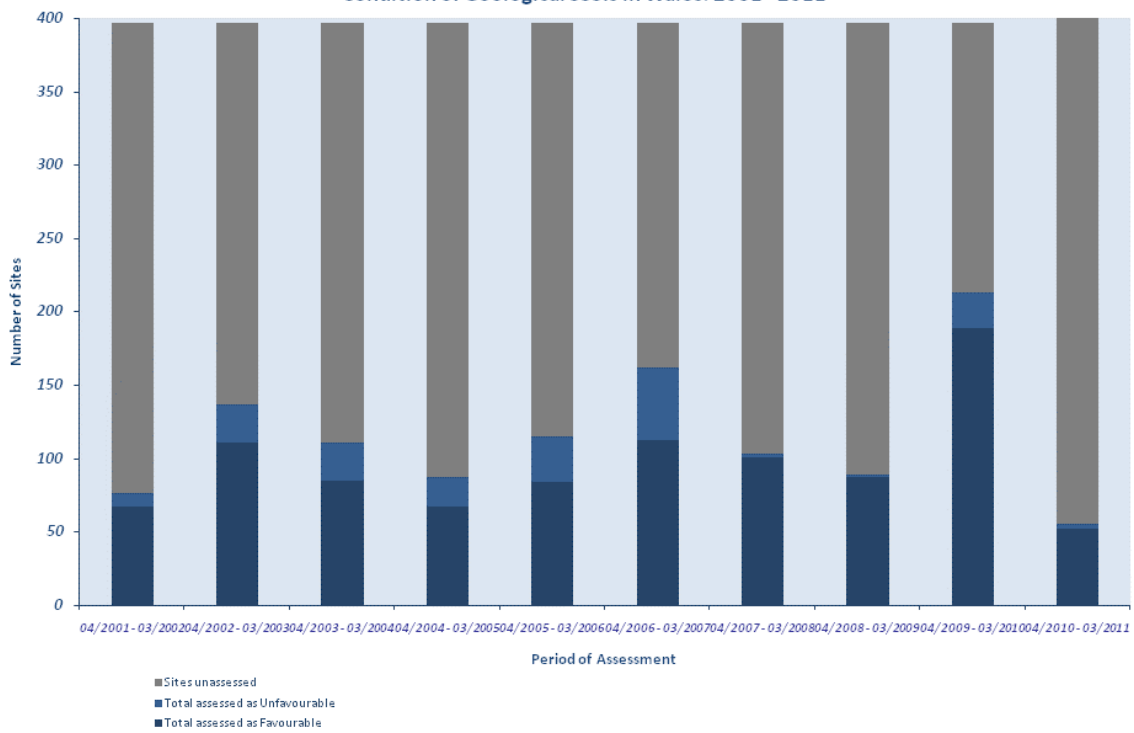
Condition of Geological ASSI Features in Northern Ireland

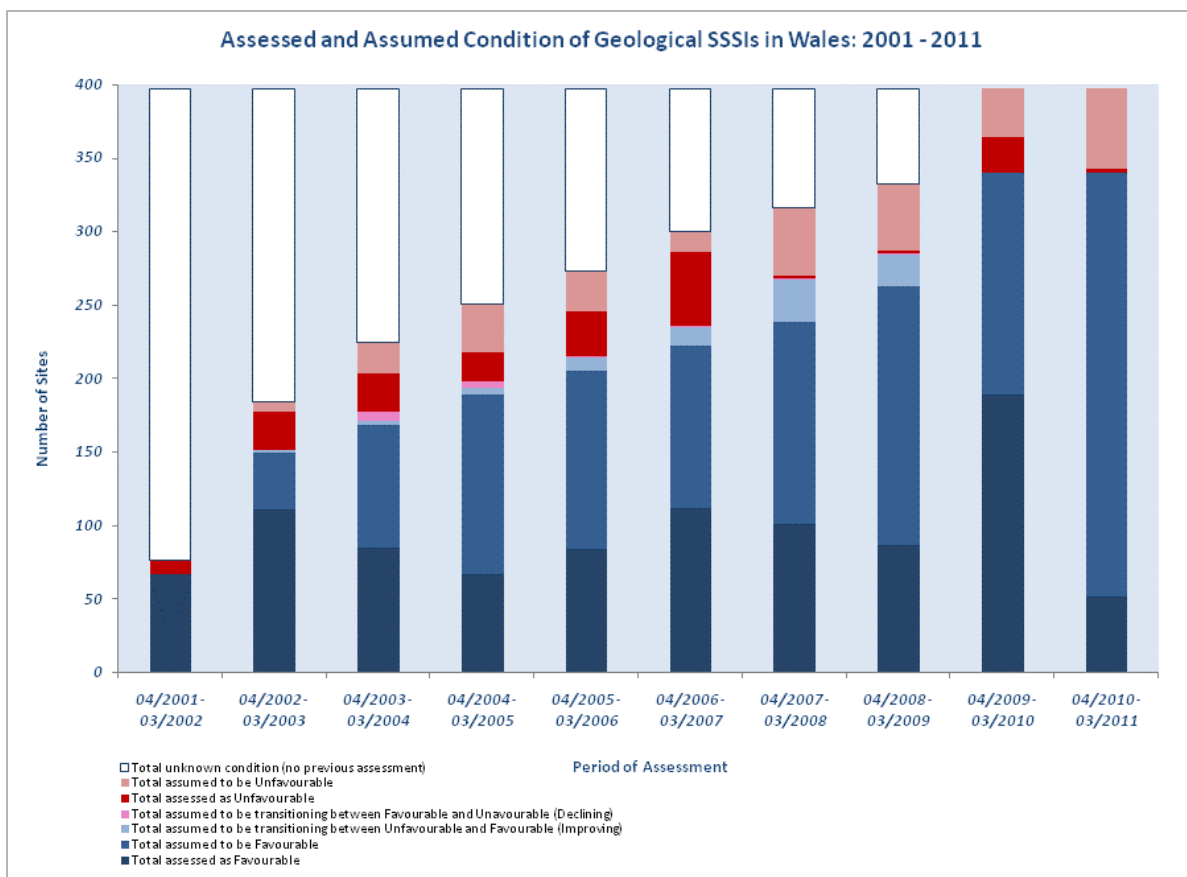


Condition of Geological SSSIs in Scotland



Condition of Geological SSSIs in Wales: 2001 - 2011





Assessment of Trend

The data shows that the majority of assessed geological SSSIs or units appear to be in favourable condition. However, there does not appear to be a trend towards an increasing number of geological SSSIs or units reaching favourable condition and the target of 95% has not yet been reached.

All geological ASSIs assessed between 2005 and 2010 in Northern Ireland are shown to be in favourable condition.

The number of sites that are assessed each year in each country has varied considerably. It does now appear that all geological sites have been assessed at least once.

Data Limitations and Future Recommendations

Data on SSSI condition will continue to be gathered. Therefore it is likely that these data can be used to inform future updates. However, in terms of showing the contribution to the UKGAP, it would be useful to have consistent data from each of the four countries. Currently, the first 6-yearly reporting cycle has concluded. Until the JNCC publish the second 6-yearly reporting cycle, it is difficult to ascertain true trends in the data.

Data relating to biological SSSIs is reported according to the area that is in favourable condition. It is more useful for geological SSSIs to report against the type of feature. In this way data can be gathered that relates specifically to the ESCC categories and more detail obtained regarding the types of feature that continue to have ongoing management issues. Therefore it would be most useful to obtain data that relates to SSSI unit, rather than to the SSSI as a whole.

Presenting data relating to all sites or units for each year, as shown for England and Wales does help to identify more clearly the trends in terms of: the total number of sites assessed in each year and the number of those assessed that are in favourable condition. However, it masks some of the detail

including the actual sites or units assessed – in England generally different sites were assessed in consecutive years, whereas in Wales, repeat visits to the same sites were made.

Until all geological sites have been assessed, the true numbers of geological sites in favourable condition cannot be known.