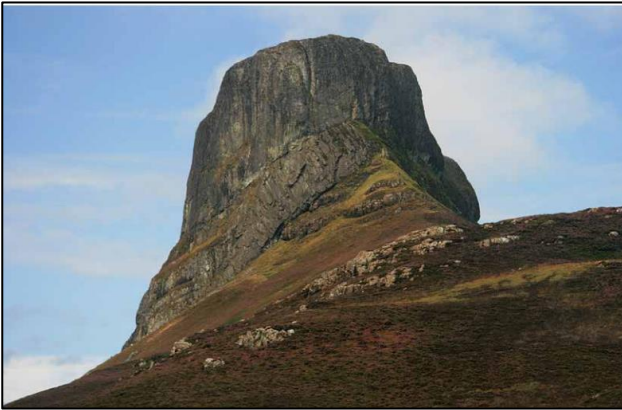


So, you want to conserve a geodiversity* site What could you do if you wanted to conserve a geoscience site?

If you found the most amazing geological site and thought it should be conserved for all to see, for many years to come – what could you do?

You could base your ideas on one of these photos or a site you know yourself.



The Sgurr of Eigg, Inner Hebrides. A spectacular pitchstone ridge formed by volcanic activity 58 million years ago. © Brian Jackson. From: *Scotland's Geodiversity Charter*, www.scottishgeodiversityforum.org



Sharply folded Carboniferous rocks in Millook Haven, North Cornwall. © Mick Murphy. From: *Geodiversity Charter for England*, www.englishgeodiversityforum.org



The Callanish Standing Stones, Isle of Lewis demonstrating that the connection between people and geodiversity stretches back millennia © Lorne Gill/SNH. From: *Scotland's Geodiversity Charter*, www.scottishgeodiversityforum.org



The Jurassic sandstone cliff of Cow Bar shelters Staithes harbour, North Yorkshire. © Kevin Lowe. From: *Geodiversity Charter for England*, www.englishgeodiversityforum.org

Questions you might ask are:

- To whom does the idea of conserving the site need to be sold?
- What are the threats to the site?
- Why do you think this place is important?
- Do local people think it is an interesting place?
- Who owns the site? What permissions would be needed?
- How can the location and boundaries of the site be defined?
- How can the geoscientific value of the site be recorded?
- What needs to be done to protect and maintain the site?
- How can access (e.g. parking, amenities) and safety be maintained?
- How can explanations be given to visitors (e.g. information boards, leaflets)
- How popular is the site now? How could you find out?
- Should the site be designated as an Earthcache site**?
- What would it cost to protect and maintain the site?
- Does the site have local, national or international importance?
- How could you use the site's geoscientific value to 'sell' the idea to others?
- What level of legal protection would be needed?
- What might happen if the site were lost?

You could use your discussions to prepare a brochure to 'sell' the idea of conserving the site to the powers in your country/region to protect the site for future generations.

* 'The term 'geodiversity' encapsulates the variety of rocks, minerals, fossils, landforms, sediments and soils in an area, together with natural processes, such as erosion and landslips, that may still be active.' (Scottish Natural Heritage website: <http://www.snh.gov.uk/about-scotlands-nature/rocks-soils-and-landforms/geodiversity/>)

** An Earthcache is a geodiversity site of educational value that people seek using GPS equipment. When they find the site they are asked a series of questions to help them to understand the site more fully. See: <http://www.earthcache.org/>.

The back up

Title: So, you want to conserve a geodiversity site.

Subtitle: What could you do if you wanted to conserve a geoscience site?

Topic: A planning activity focussed on conserving a site of geoscientific importance.

Age range of pupils: 9 – 90 years

Time needed to complete activity: 30 minutes

Pupil learning outcomes: Pupils can:

- explain why a geological site is valuable and important;
- describe the different factors that need to be taken into account to preserve a geodiversity site;
- prepare a case to be presented to others arguing for the conservation of a geological site.

Context:

In the discussions, more detailed factors that might be considered are:

To whom does the idea of conserving the site need to be sold?	This could include: local geological conservation groups, museums, schools, colleges, universities and planning authorities; national organisations such as the Geological Survey, the Geological Society and conservation organisations
What are the threats to the site?	Including: change of ownership/ access conditions, geological features obscured by plant growth, landslide, dumping or construction, or by further extraction removing the interesting features
Why do you think this place is important?	How could you persuade a friend that the site needs to be protected?
Do local people think it is an interesting place?	How could you persuade a local person of this?
Who owns the site? What permissions would be needed?	This information can sometimes be very difficult to find out - often the easiest way is to just ask someone who lives nearby
How can the location and boundaries of the site be defined?	Does a map, grid reference, GPS coordinates or Google Earth™ images help? Are the site boundaries natural or constructed?
How can the geoscientific value of the site be recorded?	Would photographs, field diagrams or detailed measurements of key features best record the site's importance?
What needs to be done to protect and maintain the site?	Who will be legally responsible for the site and how can it be protected from threats such as landslides, vandalism, commercial development and natural decay?
How can access (e.g. parking, amenities) and safety be maintained?	What could be done to enable safe access – new paths or roads, improving parking, steps, handrails, family safety, wardens?
How can explanations be given to visitors (e.g. information boards, leaflets)	Information boards, leaflets, QR codes on posts for mobile phone scanning (must be linked to a website), guided trips?
How popular is the site now? How could you find out?	How could information be collected on the numbers, types and travel distances of visitors or potential visitors?
Should the site be designated as an Earthcache site**?	See: http://www.earthcache.org/ (if the site is an Earthcache, visits will be recorded automatically)
What would it cost to protect and maintain the site?	This will require some internet research
Does the site have local, national or international importance?	How does this site compare with similar sites locally, nationally and internationally? Is it the only example in the region?
How could you use the site's geoscientific value to 'sell' the idea to others?	What are the unique selling points (USPs) and why are they important?
What level of legal protection would be needed?	Different countries have different levels of protection available. For example, in the UK the highest level of legal protection is designation as a Site of Special Scientific Interest (SSSI); lower levels of protection are provided by local designations such as Local Geodiversity or Geological Sites (LGS) or Regionally Important Geodiversity Sites (RIGS)
What might happen if the site were lost?	What would be the loss to the local area, the nation, the globe; to local and national tourism; to education and geological research?

Following up the activity:

Visit different sorts of geodiversity sites and use the checklist to develop a plan for conserving the site.

Underlying principles:

- Without protection many important geoscience sites would become lost to education and the general public – through becoming covered, obscured, overgrown, removed, built over, or because access is lost.
- A wide range of factors has to be taken into consideration in designating a geodiversity site.
- When a consensus is agreed between those who want to conserve a site – then a case has to be made for presentation to the authorities for site-conservation.

Thinking skill development:

Constructing a case for conserving a site uses construction thinking skills and cognitive conflict when disagreements arise. The case needs to be bridged to ‘real world’ conditions involving developing compelling arguments and presentation skills.

Resource list:

- If this activity is to take place in a real site, then the normal health, safety and planning considerations need to be taken into account, including safety helmets, recording equipment, note-taking and photographic equipment, etc.

Useful links:

English Geodiversity Forum:
<http://www.englishgeodiversityforum.org/>
Scottish Geodiversity Forum:
<http://scottishgeodiversityforum.org/>
Earthcaching website: <http://www.earthcache.org/>

Source: Chris King of the Earthlearningidea Team, with valuable contributions from Angus Miller and Martin Whiteley and support from Lesley Dunlop. This Earthlearningidea has been endorsed by the Scottish Geodiversity Forum and the English Geodiversity Forum, which have kindly given permission for use of the images.

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