ProGEO
http://www.progeo.se
NEWS
NO. 2 2014

Columnar basalt in Katla Geopark, Iceland. Photo: Lars Erikstad

IUCN-WCPA Geoheritage specialist group

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Further to the earlier announcement in ProGEO Newsletter 3/2013, IUCN recently approved the establishment of a Geoheritage Specialist Group (GSG) under the World Commission on Protected Areas (WCPA).

This follows the adoption of IUCN Resolutions 4.040 at Barcelona (IUCN, 2008) and 5.048 at Jeju (IUCN, 2012), both of which clearly state that geodiversity is part of natural diversity and geoheritage is part of natural heritage.

The use of the term 'nature' is recommended in IUCN Resolution 5.048 (IUCN, 2012) "to ensure that, when reference is made in the IUCN Programme 2013–2016 to nature in general, preference be given to inclusive terms like nature, natural diversity or natural heritage, so that geodiversity and geoheritage are not excluded". This represents significant progress, although there are still challenges ahead in attaining wider recognition of the values of geoheritage among IUCN members and its integration in national policies and practical measures for protected area management (see article by Enrique Díaz-Martínez in ProGEO Newsletter 3/2012).

The main purpose of the GSG is to provide specialist advice and guidance on all aspects of geodiversity and geoheritage in relation to the establishment and management of protected areas, to help integrate geodiversity into IUCN's programmes and to promote the links between geodiversity and biodiversity. The GSG will also provide specialist geoheritage advice for the assessment of World Heritage Site nominations and

provide, as appropriate, a professional interface for IUCN between geodiversity and geoheritage stakeholders such as UNESCO, the mining industry, national administrations and others.

The immediate priority tasks of the GSG align with IUCN's Quadrennial Programme (2013-2016) and the Global Protected Areas Programme/World Commission on Protected Areas priorities. They are to:

- prepare the 'Geoheritage' chapter for IUCN's Protected Area Governance and Management e-book to be published in November 2014 (already completed, with input and review by ProGEO members);
- prepare a Best Practice Guideline for Protected Area Geodiversity Management;
- prepare a Geoheritage Guidance Statement for IUCN World Heritage Criterion (viii);
- develop Background Geoheritage Guidance Material for Protected Areas;
- address issues and initiatives identified by Resolution 5.048 (IUCN, 2012): 'Valuing and Conserving Geoheritage within the IUCN Programme 2013-2016'.

The GSG, with support from ProGEO and the Geological Society of Australia, has secured two presentations on the links between geodiversity and biodiversity, as well as a workshop session, an e-poster and exhibition space, at the World Parks Congress in Sydney in November 2014. This will be an important opportunity to promote geoheritage and geoconservation, as well as the role of ProGEO, within the wider IUCN community of protected area managers, scientists and staff.

From the 5th WCC Jeju Cinference in Korea, September 2012

The GSG is chaired by Professor Kyung Sik Woo, Kangwon National University, South Korea. Members of the steering committee include ProGEO members, Enrique Díaz-Martínez and John Gordon. Membership of the GSG is open to all interested individuals and organisations, such as ProGEO, through active participation in the work of the Group. Potential members should contact the Secretary General, Wesley Hill (whill@geosociety.org), who is compiling the membership list. Expressions of interest and indications of how you may be able to contribute to the priority tasks would be appreciated.

From the GSG meeting in Mokpo in Korea, September 2013

Further information about the GSG is available on its website:

http://www.iucn.org/about/work/programmes/gpap_home/gpap_biodiversity/gpap_wcpabiodiv/gpap_geoheritage/. Updates on activities will be announced in due course.

References

IUCN (2008) Resolutions and Recommendations adopted at the 4th IUCN World Conservation Congress. Resolution 4 040: Conservation of geodiversity and geological heritage, IUCN, Gland, Available at: https://portals.iucn.org/library/node/44190

IUCN (2012) Resolutions and Recommendations, World Conservation Congress, Jeju, Republic of Korea, 6–15 September 2012, WCC-2012-Res-048-EN Valuing and conserving geoheritage within the IUCN Programme 2013–2016, IUCN, Gland, Available at: https://portals.iucn.org/library/node/44015

Ammonite' lamp post inspired by the fossils of the Jurassic Coast World Heritage Site. ©Natural England, Hannah Townley.

A Geodiversity Charter for England

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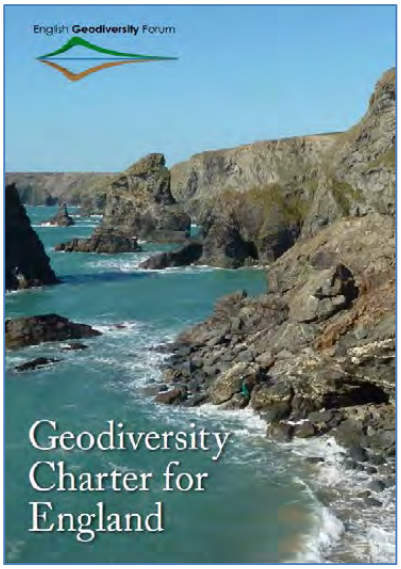
The English Geodiversity Forum has produced a 'Geodiversity Charter for England'. The Charter has now been sent out to groups and organisations for consultation and a request for support. The Forum was established in 2013 and promotes England's geodiversity, seeking to widen the profile of, and support for, geodiversity and its influence on national and local policies. The Forum is open to all organisations and individuals who are interested in promoting England's geodiversity and sharing experience and good practice.

Rock Detectives exploring Jacob's Pot, a small cave in the Great Limestone at Harehope Quarry, County Durham. ©Harehope Quarry.



The Geodiversity Charter for England follows on from the impressive Scottish Geodiversity Charter which was published in 2012 and has proven to be a good focus point for highlighting geodiversity. It is hoped that other countries within the UK will follow in due course and produce their own.

The document is intended to widen understanding of the importance of geodiversity and the influence it has on daily lives and in shaping the natural and built environment. The Charter encourages everyone to work together to promote and look after England's rich geodiversity. It provides a focus for action that recognises and integrates geodiversity and its conservation and management, into policy, practice and decision making at a national and local level and in both the natural and built environment. England's geodiversity is truly special, but it is only through celebrating, protecting and managing it in a sustainable way, that we can enjoy the full range of economic, social and environmental benefits it provides.

The document emphasises how geodiversity has an influence across all aspects of our lives and uses examples such as case studies to illustrate good practice. It begins with an explanation of Geodiversity and how it is inked to many aspects of life. For examples, geology is a source of fossil fuels, the raw materials for construction, and the minerals and metals that help to underpin the nation's wealth and health. It provides the diversity of soils essential for agriculture. It controls fresh water through aquifer storage and the flow of rivers, and is increasingly important as a source of geothermal energy and renewables such as hydroelectric power.

Sharply folded Carboniferous rocks in Millook Haven, North Cornwall. ©Mick Murphy.

Critically, sustainable use of these resources requires an understanding of geodiversity. Managing natural processes is critical in responding to the risks of natural hazards such as flooding, coastal change and landslides, whilst peat and soils have an important role in mitigating pollution through carbon storage.

For those in local and national government and policy makers there is an outline of current national legislation and policy and links to international initiatives.

Supporters of the Charter are requested to share the vision of maintaining and enhancing geodiversity by the following actions:

- raise awareness of the importance, value and relevance of geodiversity to our economic prosperity and comfort and its wider links with the natural environment, landscape, cultural and historical heritage and sense of place
- encourage a sense of pride through education and learning, promotion and interpretation
- promote careful management of geodiversity through conservation and enhancement of its special character and qualities across the country and the continued development and sharing of good geoconservation practice
- encourage a sustained legacy through maintenance and conservation of museum geology collections and archives and support initiatives to reach a wide audience
- integrate geodiversity into relevant local and national policies, guidance and advice ensuring a sustainable and integrated approach to the management of our natural environment for the wider benefit of England's people, environment and economy
- carry out research to improve our understanding of the role of geodiversity in providing benefits to ecosystems and people, leading to better decisions about managing our natural environment
- secure resources to support the delivery of these goals from a local to a national level through existing organisations and funding provision and continue to encourage the provision of new resources and funding to support the principles of this Charter.

Orchids growing at Marsden Old Quarry Nature Reserve, Tyne and Wear. ©Lesley Dunlop

To highlight how this may be carried out a case study approach is used focussed around how different organisations and individuals can become involved. There are a total of 24 case studies used to illustrate good practice ranging from local initiatives to organisation policy. The sections are divided as follows:

1. Individuals and communities
2. Landowners, land managers and non-governmental organisations
3. Developers, industry and business sector
4. Local authorities, public agencies and government departments
5. Research and Education Sector
6. Funders, sponsors and grant givers

For instance for item (3) Developers, industry and business sector there are several suggested actions to ensure that new developments enhance geodiversity and meet best practice standards:

1 Develop sustainable business opportunities based on geodiversity, including tourism, accommodation, local products, guiding and interpretation, retail sales, and local arts and crafts.
2 Work with natural processes as far as possible, and consider the future impact of natural processes when planning new developments.
3 Support efforts to encourage public awareness and enjoyment of geodiversity, by enabling safe access to geodiversity on completion of site operations.
4 Involve geologists, geodiversity groups and museums in advising on and recording geodiversity.
5 Develop company Geodiversity Action Plans (cGAPs).

To highlight these three case studies are used eg Sunderland tufa - Discovered as part of regeneration of Sunderland North Dock in 1992, this actively forming tufa was incorporated in the new Marina Activities Centre, rather than being removed. Design modification to the original plans provided a viewing area within the building and stabilising posts to prevent collapse of the tufa which continues to grow today.

We hope that the Charter will inspire people to find out more about the rich geodiversity heritage of England and to work towards enhancing and preserving this for the future.

The growing tufa, North Dock, Sunderland. Natural England ©Jonathan Larwood.

Geoheritage and Geodiversity issues at the EGU General Assembly

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The European Geosciences Union (EGU) General Assembly is one of the largest Geosciences Conferences in the World. It is held in Vienna each year and in 2014 12,437 scientists from 106 countries presented 4829 oral talks and 9583 posters in 568 scientific sessions (source: www.egu2014.eu).

Geoheritage and Geodiversity issues have been poorly addressed until now and it is only in 2012 that the first session dedicated to geoheritage topics was organised. The session "Geodiversity and geoheritage in university education and research" was convened by E. Cammeraat (NL), E. Reynard (CH) and H. van den Ancker (NL) under the auspices of the Soil Sciences Division. It attracted 16 proposals, and Murray Gray (UK) opened the session as solicited speaker. The main objective of this first edition was to address the challenge of linking geodiversity and Earth heritage to Earth science research. Several contributions presented various geoheritage/geodiversity programs developed by various European universities.

In 2013, the session was co-organised by the Soil Sciences and the Geomorphology divisions. Convened by E. Reynard (CH), Hanneke van den Ancker (NL), José Brilha (P) and E. Cammeraat (NL) its focus was on "Geodiversity and geo heritage in geo science research". The solicited speaker was John Gordon (UK), who addressed the challenge to enhance the role of geodiversity and geoheritage in environmental policies, and 24 talks and posters were presented.

In 2014, the Geoheritage session, convened by E. Reynard (CH), G. Skridlaite (LT) and H. van den Ancker (NL), was focused on "Integrating geo- and biodiversity research", and Lars Erikstad (N) was invited as guest speaker. He stressed the idea that geodiversity, biodiversity and landscape are key elements of modern nature management strategies. 21 presentations were proposed. Another session was dealing with geodiversity issues. Called "Landforms and geodiversity", it was chaired by Z. Zwoliński (PL) and M. Giardino (I), and it focused specifically on geomorphological aspects of geodiversity. It attracted 26 posters and oral presentations. Unfortunately, it was not possible to organise the two sessions during the same day.

For 2015 (the General Assembly will be held again in Vienna, from 12 to 17 April), the two groups of conveners have decided to propose two sessions, one on Geoheritage issues, and one on Geodiversity topics, and have asked the organisers to schedule the two sessions on the same day. During the last three years, the number of abstracts submitted has followed an encouraging positive trend, and we hope this trend will continue. Another objective is to involve more divisions: after Soils Sciences and Geomorphology, we hope to enlarge the support to the Hydrological Sciences, the Tectonics and Structural Geology or the Stratigraphy, Sedimentology and Palaeontology divisions.

In conclusion, we hope that the trend initiated during the last three years will attract more young geoscientists to deal with geoheritage and geodiversity issues. The number and the quality of proposals made by young scientists during the last years allow us to be optimistic.

Norwegian workshop on geoparks and geoheritage

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On June 16th-17th, the Norwegian committee for Geoheritage and Geoparks (NGG) hosted a national workshop on geoheritage and geoparks. The workshop took place at the premises facilities Geological Survey of Norway in Trondheim. The workshop brought together about 25 scientists, environmental managers, as well as representatives from existing geoparks and aspiring geopark projects.

NGG was established in 2013, with representatives from ProGEO, The geological society of Norway, the geological Survey of Norway and universities and museums One of the aims of NGG is to arrange and facilitate workshops and work on geoheritage, geoparks and geoconservation.

Geoheritage

Day 1 focused on geoheritage and geoconservation, in an international as well as national, regional and local context. The Norwegian legislation on nature diversity addresses the issue of geological diversity, equal to biological diversity and landscape diversity. However, there seem to be a lack of framework on how to classify and assess geological diversity. Several perspectives on how to solve this were discussed. NGG would like to support first the establishment of a framework on criteria for characterization and value assessment. In 2015, when the criteria hopefully are agreed upon, a crowdsourcing project will be considered, asking geoscientists to reveal their suggestions for geosites worth noticing and, perhaps, protected from competing land use issues. An inventory of geosites from the quaternary was made approximately 40 years ago. NGG and the Geological Survey of Norway would like to initiate a similar inventory, covering also other parts of geoscience (in compliance with the suggestions in the proGEO manual).Together with updated information from previous inventories, this will found the base for a national database of geosites.

Geoparks

Day 2 were devoted to geopark issues. As of summer 2014, two Norwegian geoparks are members of the global geoparks network as well as the European geoparks network. Several other initatives are aiming at an application for membership. However, the seminar also revealed the need for a national network of geoparks, with less stringent criteria than the international ones. This will be of interest for the projects aspiring to be included in the international networks, but also to support beneficial initiatives aiming at communication information on geodiversity and nature diversity for tourists, education and the general public. The different initiatives represented were presented and the scrutinizing process from an idea to the established geopark was presented.

Even if the protection of geosites and the promoting of geology in geoparks sometimes diverge, the seminar proved the need for an arena to discuss common issues related to geoparks and geoheritage. A cooperation between the geoparks, ProGEO and the institutions represented in NGG, would probably benefit both geoheritage issues as well as outreach activities related to the promotion of geology.

Participants in the workshop. Photo: NGU

Image taken by Paul Carter / paulcarter-photographer.co.uk. Image © Sidmouth Museum

Jurassic Coast fossils online

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Almost 1,000 fossils from Dorset and East Devon's museums are now accessible to everyone thanks to a new online database.

The Jurassic Coast Fossil Finder showcases the fossils held by museums along the Dorset and East Devon Coast World Heritage Site. Each fossil has been professionally photographed, some of them as 360 degree rotations. They are presented with a description and fact file of scientific details. It is possible to search in a variety of ways and to display the results in geological order which gives a very visual representation of the nature of the fossil record in this part of the world.

The Jurassic Coast has a wealth of fossils, and the aim of the database is to make these specimens accessible to all and to encourage people to visit the museums. The content is written in such a way as to provide something for everyone – from fun and accessible facts for children and beginners, to more in-depth information for specialists and geology students. Relevant information around site sensitivity and hazards is also provided where necessary.

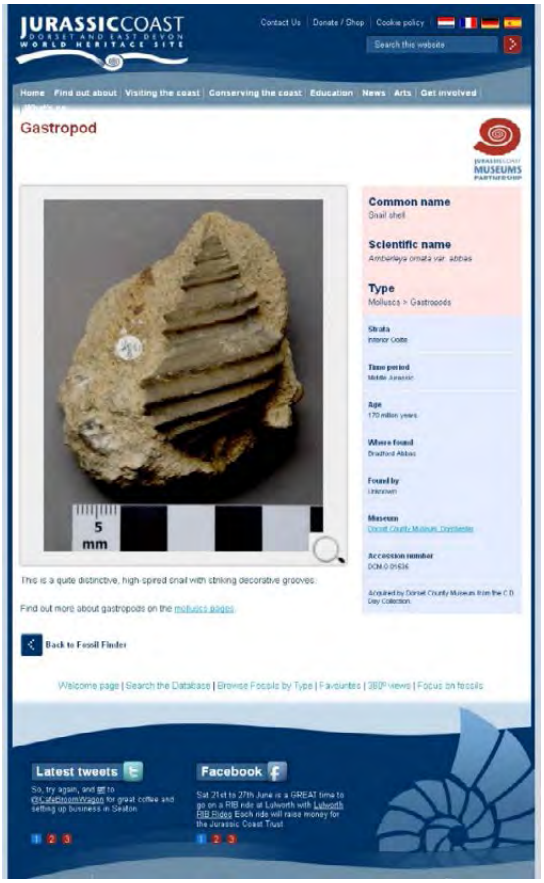
The collection includes the commoner finds such as ammonites and belemnites, but also rarities such as the giant pliosaur skull and recently-discovered ancient reptile footprints and even insects. Although the first phase of the project is completed, the database will be amended and updated as new information or new specimens come to light. The project team will welcome any input that helps enhance, improve or update the content, especially because many of the older museum specimens have little or no information, or because the science has since moved on.

The project was run by the Jurassic Coast Museums Partnership, and supported by Arts Council England, Natural England and Dorset County Council. It is one of several exciting initiatives to enhance the appeal of the museums.

The site is accessible at:

http://jurassiccoast.org/fossilfinder

Further information
The participating museums are Dorset County Museum (Dorchester), Lyme Regis Museum, Bridport Museum, Sidmouth Museum, Fairlynch Museum (Budleigh Salterton), Allhallows Museum (Honiton), Beaminster Museum, Portland Museum, Swanage Museum and Wareham Museum.



Geodiversity of Vorarlberg and Lichtenstein

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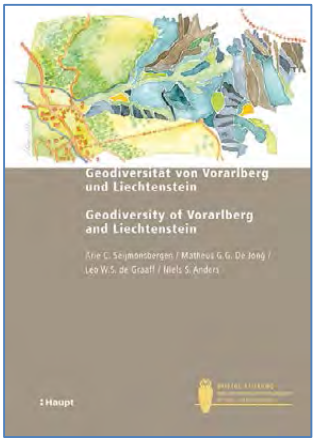
The book was presented June 24th in Dornbirn (Vorarlberg, W.-Austria).

The book is about methods to derive detailed and full-coverage information, from not only traditional geomorphological maps, aerial photograps, etc., but also combined with terrain models, derived from LiDAR data, applied in a GIS environment.

The main purpose is the assessment of the geo conservation potential for all landforms by quantitative and qualitative weighing and ranking criteria, the most important of which are scientific relevance and frequency of occurrence. The resulting scores may be adjusted - downgraded or upgraded by applying expert knowledge.

Case studies are presented in the second part of the book, showing how this works out. Much of the high-scoring elements and present associations of landforms are classified to reach a world heritage level.

The book can be ordered immediately by Haupt Buchhandlung in Bern (www.hauptverlag.com).



Deadline next issue of ProGEO NEWS: October 3rd 2014

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Please send your contributions 500 – 2000 words with photographs, maps and figures clearly marked as a ProGEO NEWS contribution to:

lars.erikstad@nina.no

If longer texts are needed, please contact the editor

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ProGEO NEWS produced with support from the Norwegian directorate for Nature Management