



Higher National Unit Specification

General information for centres

Unit title: Geodiversity Conservation

Unit code: F436 35

Unit purpose: The aim of this Unit is to give candidates an overview of geodiversity and its conservation in the UK. It introduces candidates to the range of geodiversity sites that are present in the UK and develops the knowledge and skills needed to evaluate a range of approaches to geodiversity conservation. Furthermore, this Unit will provide candidates with an understanding of the role that statutory and non-statutory organisations have in geodiversity conservation.

On completion of the Unit the candidate should be able to:

- 1 Describe the range of geodiversity sites in the UK.
- 2 Evaluate approaches to geodiversity conservation in the UK.
- 3 Compare the contribution of statutory and non-statutory organisations to geodiversity conservation.

Credit points and level: 1 HN credit at SCQF level 8: (8 SCQF credit points at SCQF level 8*)

**SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates*

Recommended prior knowledge and skills: It is anticipated that candidates would have achieved either HN Unit: F3SL 34 *Geology and Geomorphology* or DDN36 34 *Earth Science: An Introduction* at SCQF level 7 or equivalent studies prior to undertaking this Unit.

Core Skills: There are opportunities to develop the Core Skills of *Communications*, *Problem Solving*, and *Working with Others* at level 6, although there is no automatic certification of Core Skills or Core Skills components.

Context for delivery: If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

Assessment Guidelines: Outcome 1 could be assessed by extended response questions, possibly in the form of log book entries describing the range of geodiversity sites. This Outcome could be assessed in conjunction with Outcome 2.

Outcome 2 could be assessed in the form of a report which seeks to evaluate the effectiveness of a range of approaches to geodiversity conservation. This assessment could be based on site visits and be combined with the assessment for Outcome 1. Outcome 3 could be assessed by an open-book, extended response project which highlights the different contributions of statutory and non-statutory organisations involved in geodiversity conservation.

Higher National Unit specification: statement of standards

Unit title: Geodiversity Conservation

Unit code: F436 35

The sections of the Unit stating the Outcomes, Knowledge and/or Skills, and Evidence Requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the Knowledge and/or Skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Describe the range of geodiversity sites in the UK

Knowledge and/or Skills

- ◆ Geodiversity
- ◆ Finite sites
- ◆ Exposure sites
- ◆ Integrity Sites

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ explain the term geodiversity
- ◆ describe three different types of geodiversity sites in the UK
- ◆ provide descriptions of three examples of different types of geodiversity sites in the UK

This is an open-book assessment.

Assessment Guidelines

This Outcome could be assessed using extended response questions in relation to three different types of geodiversity sites in the UK and supported by relevant examples. Alternatively this assessment for this Outcome could be integrated with the assessment for Outcome 2. See further information under Assessment Guidelines under Outcome 2.

Higher National Unit specification: statement of standards (cont)

Unit title: Geodiversity Conservation

Outcome 2

Evaluate approaches to geodiversity conservation in the UK

Knowledge and/or Skills

- ◆ Geodiversity conservation
- ◆ Site designation
- ◆ Future drivers for geodiversity conservation
- ◆ Local Geodiversity Action Plans (LGAPs)

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ describe the main aims and objectives of geodiversity conservation
- ◆ explain one statutory and one non-statutory geodiversity designation in the UK and describe the selection criteria for each
- ◆ describe the importance of conservation plans in managing sites with geodiversity interest and include details of how two potential threats to geodiversity sites could be managed using conservation plans
- ◆ propose three techniques for protecting and enhancing geodiversity which could be included in future Local Geodiversity Action Plan (LGAPs)
- ◆ evaluate the effectiveness of geodiversity conservation in the UK in terms of site designation, sustainability of sites, raising awareness of geodiversity conservation in the UK, emerging strategies such as the LGAPs

This is an open-book assessment.

Assessment Guidelines

This Outcome could be assessed as a project based assignment. The project could be based on site visits to different examples of designated geodiversity sites and candidate log book entries. This assessment could be combined with the assessment for Outcome 1 where the candidate is expected to provide evidence in relation to three different types of geodiversity sites in the UK, supported by relevant examples.

Higher National Unit specification: statement of standards (cont)

Unit title: Geodiversity Conservation

Outcome 3

Compare the contribution of statutory and non-statutory organisations to geodiversity conservation

Knowledge and/or Skills

- ◆ Statutory organisations
- ◆ Non-statutory organisations

Evidence Requirements

Candidates will need to provide evidence to demonstrate their Knowledge and/or Skills by showing that they can:

- ◆ explain the role of one statutory organisation prominent in geodiversity conservation
- ◆ explain the role of one non-statutory organisation active in geodiversity conservation
- ◆ compare the contribution and effectiveness of these organisations in geodiversity conservation

This is an open-book assessment.

Assessment Guidelines

This Outcome could be assessed by an open-book, extended response project requiring the production of a report which investigates the involvement of statutory and non-statutory organisations in the sites visited throughout the delivery.

Administrative Information

Unit code: F436 35
Unit title: Geodiversity Conservation
Superclass category: QA
Original date of publication: August 2008
Version: 01

History of Changes:

Version	Description of change	Date

Source: SQA

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Higher National Unit specification: support notes

Unit title: Geodiversity Conservation

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

The term Geodiversity is increasingly becoming more common place within the countryside management (conservation) sector and there has been a recent upsurge of interest and support in geodiversity from government agencies such as Scottish Natural Heritage and the Joint Nature Conservancy Commission. This had led to the development of geodiversity action plans across many areas of the UK including work towards Scotland's first in West Lothian. Geodiversity should be recognised as an integral part of the nation's natural heritage, which provides the structure and basis on which our habitats and biodiversity have developed. It is important that candidates recognise the interconnectivity of the natural world and its processes as this is particularly important for making informed decisions in countryside management. As such, this Unit will provide candidates with an overview of the approaches used in conserving geodiversity. This Unit will provide knowledge and skills to support other Units across the HND Countryside Management Framework.

It would be useful for candidates to take time to consider and compare the concept of Earth heritage conservation with that for wildlife conservation.

The significance of the amount and diversity of geological and geomorphological settings in the UK should be highlighted to learners and how this has provided a series of study sites for geologists over the past 250 years. It is important that candidates have some understanding of the history of geodiversity conservation in the UK and the current threats to this national asset. Understanding some of these threats and the international importance of the nation's geological heritage should help develop an understanding of the need to conserve what can be a very fragile resource.

The need for geodiversity conservation could be highlighted not only by the threats to geodiversity but also through some of the following: its historical importance; international significance; importance for Earth Science research and environmental forecasting; value to Earth Science education and training; value as a cultural and ecological resource.

The Earth Science Conservation Classification could be used as a basis to highlight the three main types of geodiversity sites identified in the UK by bodies such as Scottish Natural Heritage, Natural England and the Countryside Council for Wales. The framework for the Geological Conservation Review could be used as a basis for identifying the range of geodiversity sites in the UK. Finite, exposure and integrity sites might be representative of examples of nationally important geodiversity sites for their Igneous, Stratigraphical; Structural and metamorphic, Palaeontological, Geomorphological or Mineralogical interest. These areas should be explored through Outcome and where possible site visits arranged to illustrate examples.

It would be beneficial to introduce candidates to be aware of the range of practical management techniques that can be applied to the wide range of geodiversity sites. This should highlight the complexities of integrity sites and the need to work with natural processes and also the delicate nature of both finite sites and some exposure sites. An understanding of such management techniques will help to support the very real threats to our geodiversity.

Higher National Unit specification: support notes (cont)

Unit title: Geodiversity Conservation

Outcome 2 will explore the range of techniques used to protect sites with geodiversity interest through exploring the aims and objectives of geodiversity conservation and the site selection criteria for a range of geodiversity designations such as: Geological Conservation Review (GCR) sites; Regionally Important Geological/Geomorphological Sites (RIGS); EU and UNESCO geoparks and World Heritage Sites. It is also important that candidates understand the need for geodiversity site management which might include:

The production of site management plans including measurable conservation objectives

- ◆ regular monitoring of the condition of the feature(s) of interest
- ◆ physical maintenance of features
- ◆ identification and proactive deflection of threats
- ◆ production of interpretative materials

Further to designations as outlined earlier, Local Geodiversity Action Plans (LGAPs) should be introduced to candidates as another key tool to aid the conservation of geodiversity sites in the UK. Furthermore awareness should be raised of the practical techniques which can be used to physically maintain and enhance features of geodiversity interest.

As with all conservation activities sourcing funds to support projects is very important and sources of funding might be covered in Outcome 2.

Outcome 3 should introduce candidates to the different organisations which are involved in geodiversity conservation. Statutory organisations such as the JNCC, SNH, Countryside Council for Wales (CCW), Natural England, Local Authorities and the British Geological Survey could be covered as well as Non-statutory organisations such as RIGS groups, Earth Heritage Trusts, museums, world heritage trusts, private landowners and nature conservation organisations.

In covering the role of statutory and non-statutory organisations in geodiversity conservation, it could be beneficial to look at the threats to geodiversity sites, hence informing some of the decision making made by organisations.

Further to explaining the role of statutory and non-statutory organisations a comparison of their contribution and effectiveness in geodiversity conservation could be explored through investigating local examples of sites of geodiversity interest and how they are influenced by statutory and non-statutory organisations.

Guidance on the delivery and assessment of this Unit

It is strongly recommended that this Unit makes use of site visits to highlight the diversity of geodiversity sites in the UK.

Delivery will mainly be by formal lectures, group discussions, site visits and investigations. Some classroom discussions and candidate assessments will involve the creation of logbook entries. Cooperation between candidates could be promoted during site visit tasks.

Higher National Unit specification: support notes (cont)

Unit title: Geodiversity Conservation

Opportunities for developing Core Skills

This Unit provides opportunities to develop Core Skills at level 6 in *Communication, Problem Solving* and *Working with Others*. These opportunities will be presented through the delivery models employed and the undertaking of assessment tasks.

Delivery will mainly be by formal lectures, group discussions, site visits and investigations. Some classroom discussions and candidate assessments will involve the creation of logbook entries, some of which will carry with them value judgements, thus developing the candidate's *Problem Solving* abilities. *Working with Others* will occur during group discussion and cooperation during site visit tasks.

Communication skills are involved in the assessment types which may develop written communication skills (Project/logbook (Written)), or oral skills if a verbal presentation style is preferred.

Open learning

Parts of this Unit provide the opportunity for open learning. Some underpinning knowledge could be conveyed using a VLE platform and blended learning techniques, however, due to the benefit of onsite visits and group/lecturer interaction, it is advisable that time is built into the delivery to allow the candidate the benefit of this type of activity.

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

General information for candidates

Unit title: Geodiversity Conservation

The term Geodiversity is increasingly becoming more common place within the countryside management (conservation) sector and there has been a recent upsurge of interest and support in geodiversity from government agencies such as SNH, the JNCC. This had led to the development of geodiversity action plans across many areas of the UK including Scotland's first in West Lothian. Geodiversity should be recognised by you as an integral part of the nation's natural heritage, which provides the structure and basis on which our habitats and biodiversity have developed. It is important that you recognise the interconnectivity of the natural world and its processes, this can be particularly important for making informed decisions in countryside management.

The aim of this Unit is to give you an overview of geodiversity and its conservation in the UK. It introduces you to the range of geodiversity sites that are present in the UK and develops the knowledge and skills you will need to evaluate a range of approaches to geodiversity conservation. Furthermore, this Unit will provide you with an understanding of the role that statutory and non-statutory organisations have in geodiversity conservation. This Unit will provide knowledge and skills to support other Units across the Countryside Management Framework.

On completion of the Unit you should be able to describe the range of geodiversity sites in the UK, evaluate approaches to geodiversity conservation in the UK and compare the contribution of statutory and non-statutory organisations to geodiversity conservation.

There are opportunities to develop the Core Skills of *Communication*, *Problem Solving*, and *Working with Others* at level 6, although there is no automatic certification of Core Skills or Core Skills components.