



National Unit specification: general information

Unit title: Rural Land Use (SCQF Level 5)

Unit code: FV40 11

Superclass: QA

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Source: Scottish Qualifications Authority

Version: 02

Summary

This Unit is designed to improve the candidate's knowledge and understanding of the main rural land uses in Scotland and the issues relating to their management. Candidates will also look at how land uses in a given area interact and are managed to minimise conflict. This will better enable candidates to help integrate rural land uses through proactive management.

The Unit is suitable for those seeking to establish a career in the management of the natural heritage.

This Unit is a mandatory Unit in the National Certificate in *Countryside Management* (SCQF Level 5) but is also available for candidates wishing to study the Unit on its own.

Outcomes

- 1 Describe how physical factors influence the distribution of rural land uses in Scotland.
- 2 Describe rural land management issues in Scotland.
- 3 Explain how land uses interact and are managed to minimise conflict.

Recommended entry

While entry is at the discretion of the centre, it would be beneficial if candidates had prior experience of rural land use. This could be through personal participation in one or more rural land uses or through volunteering in the natural heritage sector.

General information (cont)

Unit title: Rural Land Use (SCQF Level 5)

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5*)

**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.*

Core Skills

Achievement of this Unit gives automatic certification of the following Core Skills component:

- ◆ Critical Thinking at SCQF level 5

There are also opportunities to develop aspects of Core Skills which are highlighted in the Support Notes of this Unit specification.

National Unit specification: statement of standards

Unit title: Rural Land Use (SCQF Level 5)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Describe how physical factors influence the distribution of rural land uses in Scotland.

Performance Criteria

- (a) Describe the main physical factors influencing rural land use in Scotland.
- (b) Describe how the main rural land uses in Scotland are distributed as a result of the physical factors.

Outcome 2

Describe rural land management issues in Scotland.

Performance Criteria

- (a) Describe evidence of past rural land management in Scotland.
- (b) Describe management changes to a rural land use in Scotland and their effect on the natural heritage.
- (c) Describe rural land use conflicts.
- (d) Describe natural heritage management issues which arise from high concentrations of visitors in a named area.
- (e) Explain how government agencies can reduce rural land management conflicts.

Outcome 3

Explain how land uses interact and are managed to minimise conflict.

Performance Criteria

- (a) Identify the key factors influencing rural land use in a given area.
- (b) Explain the conflicts that exist between the land uses.
- (c) Explain the measures that have been put in place to manage conflicts between the land uses.
- (d) Explain the effectiveness of the conflict resolution measures.
- (e) Identify future measures which could be taken to further improve integrated land management in the given area.

National Unit specification: statement of standards

Unit title: Rural Land Use (SCQF Level 5)

Evidence Requirements for this Unit

Written and/or oral recorded evidence is required to demonstrate that candidates have achieved all Outcomes and Performance Criteria. Assessment for all Outcomes is under open-book conditions. The assessor must be satisfied that evidence submitted is the individual candidate's own work.

Outcome 1

The candidate will provide evidence of:

- ◆ description of the physical factors influencing the distribution of rural land use in Scotland to which must include:
 - geographic location of Scotland
 - climate
 - geology
- ◆ description of how the distribution of five rural land uses is affected by the physical factors

Outcome 2

Describe rural land management issues in Scotland.

Performance Criteria

Using examples drawn from rural Scotland the candidate will provide evidence of:

- ◆ description of one example of a previous rural land management practice
- ◆ description of four management changes to one rural land use and their impact on the natural heritage
- ◆ description of five rural land use conflicts at a named area
- ◆ description of the natural heritage management issues which arise from high concentrations of visitors at a named area
- ◆ explanation of how government agencies can reduce land management conflict

Outcome 3

Explain how land uses interact and are managed to minimise conflict.

National Unit specification: statement of standards (cont)

Unit title: Rural Land Use (SCQF Level 5)

Performance Criteria

For a named site the candidate must provide evidence of:

- ◆ identification of a minimum of three key factors influencing rural land use
- ◆ explanation of a minimum of four conflicts that exist between land uses
- ◆ explanation of the management measures that have been put in place to reduce conflict between land uses
- ◆ explanation of how effective the conflict resolution measures have been
- ◆ identification of three additional measures which could be taken to improve integrated land management

National Unit specification: support notes

Unit title: Rural Land Management in Scotland (SCQF Level 5)

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

Aspects of this Unit are reflected in the following LANTRA National Occupational Standards (NOS):

- ◆ EC28 Negotiate changes to the use of land and/or sea areas.

Rural land use in Scotland is varied — agriculture, forestry, field sports, biodiversity, energy generation, aggregates, aquaculture, drinking water, recreation and infrastructure are some examples. In addition, very few areas are single use; most have two or more land uses superimposed over each other. In one area of the Pentland Hills the same ground is used for water catchment, agriculture, Ministry of Defence training, recreation, field sports and biodiversity conservation.

Such diversity and concentration inevitably produces the potential for conflict. Integrated land management is one way forward in such situations. Land management must seek to ensure that land managers can manage their land effectively and productively while at the same time absorbing those who come to the countryside for recreation. The need to protect and enhance biodiversity adds to the challenge.

This Unit aims to make candidates more aware of the issues surrounding land management in rural Scotland. This is a key area of knowledge and understanding to develop for those seeking a career in the natural heritage.

Outcome 1

Land uses are not randomly distributed. The primary influences on this distribution are physical factors such as:

- ◆ geographic location
- ◆ climate
- ◆ geology

It is these physical factors which largely determine our use of land. For example grass grows best in an area with high rainfall and a mild climate. Dairy cows need a lot of grass to produce a lot of milk. The wet, mild climate is maximised in the south and west of the country. It follows that if you want to run a dairy enterprise, the south west is ideal. Candidates should be made aware of the main physical influences on land use distribution.

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

Our geographic location has a bearing on land use in several important ways. For example:

- ◆ we are a northern country which means long daylight hours in summer and long periods of vegetation growth
- ◆ we are an island which helps make our winters relatively mild for our latitude
- ◆ we are on the edge of Europe which gives us a maritime climate as opposed to a continental one — mild winters and cool summers
- ◆ we are further warmed by the waters of the Gulf Stream running up to the west of the country

Climate has a significant influence on land use, particularly precipitation, temperature and wind. Our climate is relatively mild for our latitude due to our geographic location as already alluded to. However the climate varies within the length and breadth of the country as well. Simple climatic factors which influence land uses include:

- ◆ the west is wetter than the east due to the prevailing wind and the spine of mountains running down the west coast
- ◆ the south is warmer than the north
- ◆ as you move up in altitude it gets wetter, windier and colder

The geological influence on land use is significant. In simple terms, hard metamorphic and igneous rock give rise to uplands and soft sedimentary rock leads to lowlands. This affects land use in a variety of ways including:

- ◆ hard rock (uplands) means thinner soils and steeper slopes, more severe climate and shorter growing periods. All of these limit agriculture to grazing. However the geology also creates excellent opportunities for water catchment and hydro electric power. The thin acidic soils are good for heather and grouse moor. The cold and wet climate produces blanket bog with a high biodiversity value. The dramatic nature of the uplands fuels tourism and recreation such as hill walking, climbing and skiing.
- ◆ soft rock (lowlands) means deeper soils, more gentle slopes and a more amenable climate. This creates the conditions best suited to arable agriculture.

A transect up a highly stylised hillside in Scotland would reveal a change in land use as a result of changing physical factors. Arable farming and infrastructure on the valley floor giving way to livestock farming and forestry on the lower slopes which would be replaced by grouse moor and deer forest on the upper slopes. The tops may be given over to recreation, wind farms and nature conservation.

Physical factors influence land use in Scotland from east to west, from south to north and from low to high altitude.

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

Outcome 2

There are many varied rural land management issues in Scotland. An understanding of them is important to anyone seeking to integrate them to minimise conflict.

It is important to be aware that these issues are not new but have been around for a long time. The effects of these past land uses are often still discernable in the landscape and are many and varied.

For example lime kilns, Iron Age hill forts, old colliery winding gear, subsidence over former pits, old rig and furrow marks, shiellings, an old lade which powered a mill or sawmill, the lack of regeneration from high numbers of deer for stalking, old drove roads and many more.

Rural land uses are not static; they are dynamic and change over time. As they change they often have an increasing impact on the natural heritage. A good example of this would be agriculture and the increasing intensification it has undergone since World War II. For example:

- ◆ more mechanisation and larger machines leading to larger fields and the loss of field margin habitat such as hedgerows
- ◆ the increasing switch to autumn rather than spring sown cereals and the impact this has had on farmland birds through removing winter stubbles for foraging
- ◆ the greater use of herbicides and insecticides reducing biodiversity
- ◆ the drive to increase the area of productive land and the negative impact on biodiversity for example, small copses were felled and wet corners and marshy areas drained

Conflicts in rural land use are not usually too hard to find. One of the areas ripe for such conflict is the urban fringe — where town and country meet. An urban user group seeks to impose recreational use over a working rural landscape with predictable problematic consequences. Not all of these problems are deliberate or malicious and Outcome 3 looks at how they can be resolved and even prevented. However it isn't only in the vicinity of urban areas where conflicts can arise.

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

Examples of rural land use conflicts are legion. They include:

- ◆ dogs and sheep at lambing and tupping time
- ◆ disturbance to wildlife
- ◆ disturbance to field sports such as deer stalking and low ground shoots
- ◆ gates left open
- ◆ poorly parked vehicles
- ◆ people wandering through crops, including silage
- ◆ inappropriate behaviour – eg noise, vandalism
- ◆ damage to fences, walls and gates from climbing over them
- ◆ abandoned cars
- ◆ loss of wilderness
- ◆ fire caused by carelessness
- ◆ poaching
- ◆ litter left lying around
- ◆ fly tipping
- ◆ human waste
- ◆ cutting trees down
- ◆ erosion through high numbers of boots on the ground
- ◆ trampling of sensitive vegetation
- ◆ dogs disturbing ground nesting birds
- ◆ different forms of recreational use conflicting with each other

This is not an exhaustive list. Each individual area will have its own set of conflicts. The management issues created by these conflicts fall into a variety of categories including:

- ◆ education and awareness raising to allow people to understand what the problem is and give them the opportunity to change perceptions and actions
- ◆ provision for the different land uses so they don't conflict as much. For example the creation of honey pots to concentrate visitors in a particular area
- ◆ separation in time and/or space — zonation
- ◆ banning certain activities
- ◆ liaison and dialogue to move forward
- ◆ increased patrolling and ranger presence in sensitive areas
- ◆ producing codes of conduct and guidance

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

Outcome 3

Understanding why land uses are where they are and the issues which surround multi land use in the countryside are the first steps which need to be taken by anyone seeking to minimise conflict between them. Obviously how land uses interact and are managed to minimise conflict will vary considerably between sites. However a brief consideration of an example here may help generate some ideas.

Loch Lomond experiences a degree of conflict between different user groups and land managers such as farmers and foresters as it is popular for recreation. It attracts 8-10 million people a year for recreation because:

- ◆ it is accessible to a large number of people from Glasgow and the central belt
- ◆ it is the right sort of water – well provided with launch sites and marinas
- ◆ it has a road very close to the east and west shorelines
- ◆ it has large enough open areas for the speed and space required to go fast for waterskiing and jet bikes
- ◆ it is full of fish for fishermen
- ◆ there is a free right of navigation
- ◆ there is always somewhere relatively sheltered
- ◆ there is a long tradition of use for recreation due to its famous beauty

All of this creates problems such as traffic congestion, roadside camping and antisocial behaviour, speeding dangerously on the water, disturbance to residents, inter-recreational conflict, and damage to farming and forestry practices.

These conflicts have resulted in a variety of management measures being put in place including:

- ◆ the introduction of byelaws covering water based recreation to
 - improve safety
 - minimise disturbance to residents and visitors
 - minimise damage to the natural heritage
- ◆ a water based ranger service with patrol boats to enforce the byelaws
- ◆ the registration of all powered craft
- ◆ the formalisation of access to the water at previous trouble spots with staff on hand to manage it
- ◆ restrictions on access being put in place to stop fly launching elsewhere
- ◆ a co-ordinated and dedicated police involvement
- ◆ the provision of educational and interpretive materials

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

In the first year of the byelaws and water based ranger service being in place offences against the byelaws fell from 761 to 390, or by 51%. Additional measures which could be put in place would be some form of competency test before being allowed out on the loch, compulsory third party insurance, and the ability to withhold registration

Similar situations are to be found all over Scotland. Land uses are increasingly being managed in a proactive way to minimise conflict. Developing the knowledge required to devise and implement workable measures which meet the needs of land managers and the public is a key skill set for natural heritage managers.

Guidance on learning and teaching approaches for this Unit

Learning and teaching will benefit from a strong field element. However this needs to be introduced, contextualised and reviewed in the classroom.

A useful approach to the delivery of this Unit would be:

- ◆ talk about it in class, backed up by support material
- ◆ go out into the field and look at examples of what has been discussed in class
- ◆ involve site managers
- ◆ come back into the class and review it again

Useful site visits would include:

- ◆ a visit to a lowland area to look at the relationship between the physical environment and the land uses
- ◆ a visit to an upland area to look at the relationship between the physical environment and the land uses
- ◆ site visit to an area where there are several conflicts arising from land use interaction. Recreational use superimposed over more traditional land uses would be a good basis for such a trip
- ◆ site visit to an area where management measures to deal with land management conflict are in place and working well

Classroom work offers opportunities for enhancing delivery such as:

- ◆ individual research
- ◆ working as small groups
- ◆ giving presentations
- ◆ debate
- ◆ using presentation software to illustrate elements that are hard to access locally
- ◆ involving others in delivery such as countryside rangers, wardens, farmers, foresters, gamekeepers, visitor centre managers and access officers

Case studies would work particularly well in relation to developing a sound knowledge and understanding of land management issues and conflict resolution.

National Unit specification: support notes (cont)

Unit title: Rural Land Use (SCQF Level 5)

The guidance in the Scottish Outdoor Access Code as to what constitutes responsible land management and access behaviours would be very useful. The involvement of land management practitioners on field trips is also highly recommended.

Guidance on approaches to assessment for this Unit

Individual assessment for each Outcome is not a bad approach for this Unit. However it is also certainly possible to combine Outcome 2 and Outcome 3. Individual approaches to assessment will be suggested below.

Outcome 1

Assessment could be by:

- ◆ restricted response questions

Outcome 2

Assessment could be by:

- ◆ a combination of restricted response and short answer questions

Outcome 3

Assessment could be by:

- ◆ a report based on an investigation into land use conflict and resolution at a given site

Opportunities for the use of e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

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Opportunities for developing Core Skills

Oral Communication can be enhanced through classroom discussion and interactions on field trips. Written Communication could be enhanced through the production of assessment evidence.

If assessment work is word processed then there are opportunities for the enhancement of *Information and Communication Technology* skills especially if images, diagrams and such are included. Research on the internet into land use and conflict resolution in specific areas will also help.

Problem Solving can be developed through making recommendations to minimise conflict in a specific area using the knowledge gained from research.

Disabled candidates and/or those with additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering whether any reasonable adjustments may be required. Further advice can be found on our website www.sqa.org.uk/assessmentarrangements

History of changes to Unit

Version	Description of change	Date
02	Core Skills Component Critical Thinking at SCQF level 5 embedded.	29/09/2011

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