



## National Unit specification: general information

**Unit title:** Grouse and their Habitat: An Introduction (SCQF level 5)

**Unit code:** FN54 11

**Superclass:** SH

**Publication date:** July 2011

**Source:** Scottish Qualifications Authority

**Version:** 01

## Summary

This Unit is intended for candidates who wish to develop their knowledge and understanding of the ecology of red grouse in a variety of locations, and the practical skills required for annual maintenance work associated with their habitat.

This Unit is an optional Unit in the National Certificate in Gamekeeping but is also available for candidates wishing to study the Unit on its own.

## Outcomes

- 1 Identify UK grouse species and their habitat.
- 2 Investigate factors which impact on red grouse numbers and their habitat.
- 3 Investigate methods of estimating grouse populations.
- 4 Assist in the annual maintenance of a grouse moor.

## Recommended entry

While entry is at the discretion of the centre, it would be beneficial if candidates had previous experience or knowledge of grouse ecology, and game sporting activities relating to grouse.

## 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.*

## **National Unit specification: general information (cont)**

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### **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:** Grouse and their Habitat: An Introduction (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**

Identify UK grouse species and their habitat.

#### **Performance Criteria**

- (a) Identify UK grouse species.
- (b) Identify the flora and fauna associated with red grouse.
- (c) Describe the ecology of red grouse and their principal items of diet.

### **Outcome 2**

Identify factors which impact on red grouse numbers and their habitat.

#### **Performance Criteria**

- (a) Identify avian and mammalian predators of red grouse.
- (b) Identify endo and ecto parasites, and their impact on red grouse.
- (c) Identify the heather growth stages and factors affecting heather production.
- (d) Identify the benefits of heather to red grouse.
- (e) Identify the environmental factors which impact on red grouse.

### **Outcome 3**

Investigate methods of estimating grouse populations.

#### **Performance Criteria**

- (a) Describe census population methods that are appropriate to seasonal times of year.
- (b) Classify red grouse correctly according to sex and age.
- (c) Identify the principal reasons for assessing a red grouse moor population.

### **Outcome 4**

Assist in the annual maintenance of a grouse moor.

#### **Performance Criteria**

- (a) Identify the seasonal maintenance work required on a grouse moor.
- (b) Identify the current legislation associated with annual maintenance tasks.
- (c) Identify and select equipment and resources relating to annual maintenance tasks.
- (d) Identify techniques and assist in operations associated with a seasonal maintenance task.
- (e) Demonstrate health and safety techniques whilst implementing a given task.

## National Unit specification: statement of standards (cont)

**Unit title:** Grouse and their Habitat: An Introduction (SCQF level 5)

### Evidence Requirements for this Unit

**All activities undertaken in this Unit must adhere to current legislation, regulations and codes of practice in relation to gamekeeping**

Written and/or oral evidence and performance evidence is required to demonstrate that the candidate has achieved all of the Outcomes and Performance criteria.

#### Outcome 1

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and/or skills in relation to the outcome and performance Criteria. The candidate will be assessed on the identification of two members of the UK grouse species, and a total of four selected fauna, and four selected flora associated with their life cycle.

The evidence must include:

- ◆ identification of two from the following UK grouse species — capercaillie, black grouse, red grouse, ptarmigan
- ◆ identification of four from the following fauna associated with red grouse — raptor species, corvid species, red leg partridge, waders, red deer, blue hare, mustelid species, sheep
- ◆ identification of four from the following flora associated with red grouse — heather types, blaeberry ,crowberry ,cowberry, cotton grass, matt grass, molinia, sphagnum moss, bracken, grit
- ◆ description of the ecology of red grouse to include — pairing up, parental role, clutch sizes, average brood size, food and grit source, packing up, territorial habits, roosting preference, ageing/sexing

#### Outcome 2

Candidates should provide written and/or recorded oral evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The candidate will be assessed on the factors that impact on the various stages of the grouse life cycle. The evidence must include:

- ◆ identification of two from the following avian and mammalian predators — golden eagle, red kite, peregrine falcon, hen harrier, goshawk, sparrow hawk, carrion crow, raven, red fox, pine marten, stoat/weasel
- ◆ identification of two from the following endo and ecto parasites, and their impact on red grouse — tape worm, strongyle worm/life cycle, coccidiosis, tick, malnourishment, caecum (blind gut), louping ill, worm counts, blood sample
- ◆ identification of the following heather growth stages — pioneer, early build, late build, mature, degenerate, rank and three factors affecting heather production
- ◆ identification of benefits of heather to red grouse including food source, nest sites, brood rearing, insect productivity, security from predators, winter holding
- ◆ identification of three environmental factors from the following — climate change, unseasonal weather at hatching times, increased rainfall, mild winters, suitability to parasites, mortality, poor clutch sizes, over grazing

## National Unit specification: statement of standards (cont)

**Unit title:** Grouse and their Habitat: An Introduction (SCQF level 5)

### Outcome 3

Candidates should provide written and/or recorded oral evidence and performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria. The candidate will be assessed on methods associated with estimating grouse populations and rationale associated with each method.

The evidence must include:

- ◆ description of census population methods to include spring pair counts, summer counts, transect counts, beat sample counts, resources required for counting grouse
- ◆ classification of red grouse to include old, young, soft scull — young, ridges on toenails — old, lower mandible is soft — young, primary feathers — young & old,
- ◆ identification of reasons for assessing to include: density of grouse, young to old ratio, over shooting, depletion of breeding stock, recovery of stocks

### Outcome 4

Candidates should provide written and/or recorded oral and performance evidence to demonstrate their knowledge, understanding and/or skills in relation to the Outcome and Performance Criteria.

The candidate will be assessed on one selected practical task associated with the annual maintenance of a grouse moor. This should include butt construction and maintenance, hill road construction, maintenance and repair, maintenance of road drains and heather burning.

The evidence must include:

- ◆ identification of seasonal maintenance work to include: swiping heather, burning heather, road drainage, butt building and repairs, construction and repair of fire beaters, access paths and bridges, construction repair of grit boxes
- ◆ identification of relevant legislation to include: Muirburn code and practice, Wildlife and Countryside Act 1981, Special Sites of Scientific Interest (SSSI), Environmental Sensitive Areas (ESA)
- ◆ identification and selection of equipment and resources to include: argoes, all terrain vehicle (ATV), fogging units, fire beaters, heather torch
- ◆ identification and selection of equipment and resources to include: hammer, shovel, pinch bar, timber rails and stobs, drainage pans, nails and screws, rabbit mesh, fence wire
- ◆ identification of techniques associated with seasonal tasks to include: selection of site, assessment of site/hazards, preparation of site, materials and quantity required, correct methods to control a fire, firebreaks, environmental and weather factors, stone types — foundation, builders, pinions and coping, stone selection, pinning of stones, coping and turfing, gritting stations, grit types — medicated and non medicated

## National Unit specification: support notes

**Unit title:** Grouse and their Habitat: An Introduction (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

This Unit is a mandatory Unit within the National Certificate in Gamekeeping (SCQF level 5), but can also be taken as a freestanding Unit.

This Unit is aligned to the following LANTRA National Occupational Standards (NOS)

- ◆ Ga2 Monitor Game Populations and Habitat
- ◆ Ga3 Maintain Game Populations
- ◆ Ga4 Assist with Heather Burning Activities
- ◆ Ga11 Maintain and Improve Game and Wildlife Habitat
- ◆ Ga13 Manage Wild Game Populations
- ◆ Ga15 Contribute to the Management of Game Habitat

This Unit is intended for candidates who wish to develop knowledge and understanding of the ecology of red grouse, and practical skills required for the annual maintenance work associated with their habitat, which is recognised as an important area within the gamekeeping sector.

#### Outcome 1

This Outcome enables the candidate to identify all of the UK grouse species, their habitat and ecology. This includes size, shape, colouration and calls. Particular emphasis should be given to habitat preference and fauna and flora associated with them. Emphasis should be placed on their ecology, and how this may impact in a positive or negative way on grouse. This may relate to a seasonal food source for adult or chicks, natural predator, benefactor to parasites or damage to habitat by trampling or over grazing. It is important that the candidate recognises the seasonal feeding habits of red grouse; this should include the dominant ling, cross leaved, and bell heather, cotton grass, summer berries and the need to source grit to enhance the digestion and break down of certain food types.

#### Outcome 2

This Outcome gives the candidate a knowledge and understanding of factors that impact on red grouse, their natural predators, and the impact on grouse at seasonal times of year. This includes vulnerability of adult predation during the winter and heavy predation during the peak hatching period in late May. The Outcome covers all avian and mammalian predators and their seasonal habits, ie how breeding habits of hen harriers, peregrine falcons, stoats and foxes, coincide with those of grouse.

The natural parasites of red grouse should be identified, and the impact they have throughout their lifecycle.

## **National Unit specification: support notes (cont)**

### **Unit title:** Grouse and their Habitat: An Introduction (SCQF level 5)

Lifecycles of common parasites, preventative measures and medication used for their control should also be identified. This should relate to medicated grit and direct dosing, with emphasis given to times of year for dosing.

The growth stages of heather should be identified to determine their typical value to grouse during their life cycle. This should include insect productivity, food source from younger shoots, nest sites and security.

Candidates will gain an understanding of environmental factors, their impacts on red grouse, climate change, and the benefits to natural parasites. This should be directly linked to high mortality due to inclement (especially wet) weather at peak hatching times and suitability to ticks and strongyle worms.

#### **Outcome 3**

The candidate should develop an understanding of methods for the estimation of grouse populations. Timing of all operations should be related to before and after peak hatching periods. This should encompass spring pair counts, and summer population sampling. Emphasis should be given to the conservation of stocks, healthy populations of adults for future stocks, and over shooting of the grouse moor.

Methods relating to classification of old and young grouse will be identified and should relate directly to grouse stocks that are correct in terms of breeding and shooting potential. Particular emphasis should be given to higher density of older birds and the impact this may have on future stocks, the impact they may have in relation to high worm burdens, poor clutch sizes, and low annual increment.

#### **Outcome 4**

The candidate should develop an understanding of the annual seasonal maintenance of a grouse moor. This should be directly linked to road and drainage maintenance, access, heather burning and butt building or repair, the benefits to grouse, preservation of estate property, access needs and maintenance and enhancement of habitat. All activities carried out should be relevant to current industry practice and current legislation, with particular emphasis given to the disturbance of protected species, Muirburn open and close season, SSSI and ESA.

The candidate should also develop knowledge and understanding of resources and equipment needed to carry out annual maintenance work. The selection and use of tools and materials should relate to the appropriate structure or repair, and be relevant to environmental conditions. Techniques used in seasonal maintenance tasks will comply with industry practices and should include heather burning, road maintenance, drainage and butt building or repair to a given surface or structure. If heather burning is not possible due to inclement weather or unsuitable sites; identification of previously burnt sites, equipment, resources, and planning required for a day's burning can be used as an alternative measure of candidate knowledge.

## National Unit specification: support notes (cont)

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### Guidance on learning and teaching approaches for this Unit

Through this Unit candidates will gain knowledge and understanding relating to red grouse ecology, and practical skills required for annual maintenance work associated with their habitat. It is essential that candidates are aware of best practice and the current relevant legislation. However it is not expected that there would be any detailed teaching or thorough investigation of legislation.

Essential knowledge and understanding could be developed by a variety of teaching and learning approaches including:

- ◆ tutorials
- ◆ DVD/video
- ◆ demonstrations
- ◆ internet/website
- ◆ internal visitation
- ◆ field trips/investigation
- ◆ group work
- ◆ working individually

### Guidance on approaches to assessment for this Unit

It is suggested that all Outcomes are assessed individually though there are some opportunities for integration as noted below. The following approaches to assessments are suggested:

- Outcome 1     Digital images supported with restricted response question/answer under closed-book conditions.
- Outcome 2     Restricted response question, under closed-book conditions.

Identification of avian and mammalian predators could be integrated with the National Unit Pest and Predator Control (FN5F 11).

### 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)*.



## **National Unit specification: support notes (cont)**

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### **Opportunities for developing Core Skills**

In this Unit the candidate will investigate and recognise key areas of best practice, identify and develop tasks related to the ecology of red grouse. This provides ideal opportunities for candidates to develop aspects of Communication, IT skills, Numeracy and Problem solving. This would allow the candidate to follow oral instructions, record data relating to grouse stocks, census results, pest and predator records and contribute to tasks related to grouse moor tasks.

This Unit has the Problem Solving component of Critical Thinking embedded in it, so when the candidate achieves this Unit their Core Skills profile will be updated to show they have achieved Critical Thinking at SCQF level 5.

### **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](http://www.sqa.org.uk/assessmentarrangements)

## History of changes to Unit

Version	Description of change	Date

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