



# City & Guilds Level 2 Technical Certificate in Land and Wildlife (0173-20)

September 2023 Version 2.2

(For delivery from September 2023)

**Qualification Handbook**

## Qualification at a glance

<b>Industry area</b>	Land and Wildlife Management
<b>City &amp; Guilds number</b>	0173-20
<b>Age group</b>	16-19 (Key Stage 5), 19+
<b>Entry requirements</b>	Centres must ensure that any pre-requisites stated in the <i>What is this qualification about?</i> section are met.
<b>Assessment</b>	<p>To gain this qualification, candidates must successfully achieve the following assessments:</p> <ul style="list-style-type: none"> <li>• two externally set, externally marked exams, sat under invigilated examination conditions</li> <li>• two externally set, internally marked, externally moderated assignments</li> </ul>
<b>Additional requirements to gain this qualification</b>	Employer involvement in the delivery and/or assessment of this qualification is essential for all candidates and will be externally quality assured.
<b>Grading</b>	<p>This qualification is graded Pass/Merit/Distinction/Distinction*</p> <p>For more information on grading, please see Section 7: Grading.</p>
<b>Approvals</b>	This qualification requires full centre and qualification approval
<b>Support materials</b>	<p>Sample assessments</p> <p>Guidance for delivery</p> <p>Guidance on use of marking grids</p>
<b>Registration and certification</b>	Registration and certification of this qualification is through the Walled Garden, and is subject to end dates.
<b>External quality assurance</b>	This qualification is externally quality assured by City & Guilds, and its internally marked synoptic assignments are subject to external moderation. There is no direct claim status available for this qualification.

Title and level	GLH	TQT	City & Guilds qualification number	Ofqual accreditation number
City & Guilds Level 2 Technical Certificate in Land and Wildlife	360	600	0173-20	603/1198/8

Version and date	Change detail	Section
1.1 August 2017	Synoptic assessment description contextualised	5. Assessment
	Addition of the examination paper based module number	1. Introduction – Assessment requirements and employer involvement 5. Assessment 7. Grading – Awarding grades and reporting results
	Removal of AO 6-8 from Synoptic Assignments	5. Assessment – Assessment Objectives
	Addition of Provisional Grade Boundaries for the Synoptic Assignment	7. Grading
	Revised Exam Specification, Exam Duration and AO weightings	5. Assessment – Exam Specification
	Branding Changes	Throughout
	Unit 201 aim updated	Unit
1.2 September 2017	Amended purpose statement	1 Introduction
1.3 September 2017	Unit 201 title amended	Throughout
1.4 October 2017	Assessment type for unit 201 changed to assignment	1. Introduction 5. Assessment
1.5 December 2017	Amendment to summary of assessment methods and conditions table	5. Assessment
1.6 April 2018	Unit guidance for unit 202 updated to include work experience	Units
1.7 September 2018	Amendment to summary of assessment methods and conditions table – Assessment 201	Assessment
1.8 October 2018	Added assessment method for unit 201	1. Introduction – Assessment requirements and employer involvement
	Amended assessment method for unit 201	5. Assessment - Summary of assessment methods and conditions
1.9 August 2019	Unit 202 aim and delivery guidance updated for work experience requirements	Unit 202
2.0 March 2020	Assessment 024 time changed to 2 hours	5. Assessment
2.1 May 2023	Amended assessment method for unit 201 Component number for assessment unit changed from 201 to 200	5 Assessment

Version and date	Change detail	Section
	Clarified moderation and external verification processes	6 Moderation and standardisation of assessment
	Updated website links and references	3 Delivering Technicals qualifications - Support materials
2.2 September 2023	Revision to the exam specification for the health and safety test component (200)	5 Exam specification

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# 1 Introduction

## What is this qualification about?

The following purpose is for the **City & Guilds Level 2 Technical Certificate in Land & Wildlife** (603/1198/8)

Area	Description
<b>OVERVIEW</b>	
Who is this qualification for?	<p>If you are looking to start a career within the land and wildlife sector, then this qualification is aimed at you.</p> <p>Within the land and wildlife sector, there are three main industries that this qualification covers:</p> <ul style="list-style-type: none"><li>• Game</li><li>• Fisheries</li><li>• Countryside conservation</li></ul> <p>The game and wildlife industry includes everything to do with the management of upland, lowland, woodland and wetland game and wildlife species, including partridge, grouse, pheasant and deer. A Gamekeepers main tasks include rearing young birds from hatcheries, making sure game is kept safe from predators, and making necessary repairs to equipment, buildings and release pens.</p> <p>The fisheries industry incorporates the activities that occur within freshwater locations such as rivers and reservoirs. The activities include the provision of freshwater angling, conserving and enhancing freshwater fish and habitats and securing sustainable fisheries.</p> <p>Within countryside conservation, you could be surveying and reporting on the condition of an outdoor area, encouraging people to enjoy the environments around them, carrying out habitat management work or monitoring a section of river prone to floods.</p> <p>Working within the land and wildlife sector often requires working flexible hours according to the season and when jobs need completing. It may involve working long hours and can include early morning, evening and weekend work. Most of their working time is spent outdoors in all weather conditions. This qualification is suitable if you are 16 years old, or over. You don't need any previous knowledge or experience in land and wildlife to start this qualification.</p> <p>You will gain an understanding of the skills and knowledge that are important when you are working in a countryside or</p>

	<p>conservation setting, or progressing to further learning and training in this area.</p>
<p>What does this qualification cover?</p>	<p>This qualification covers all the core skills you will need to progress to further learning and training, or to enter the world of work within the countryside and environment industries. You will work towards one of three pathways:</p> <p><b>Mandatory units – All pathways:</b></p> <ul style="list-style-type: none"> <li>Health and safety for the land-based industries</li> <li>Working in the land and wildlife industry</li> <li>Machinery used in the land and wildlife industry</li> <li>Conservation and improvements to British habitats</li> <li>Estate maintenance</li> </ul> <p><b>Mandatory units – Game Pathway:</b></p> <ul style="list-style-type: none"> <li>Firearms safety</li> <li>Assist with pest and predator control</li> <li>Game and deer species in the UK</li> <li>Assist with the maintenance of game and deer populations</li> <li>Assist with shooting activities</li> </ul> <p><b>Mandatory units – Conservation Pathway:</b></p> <ul style="list-style-type: none"> <li>Species identification and surveying</li> <li>Environmental conservation of flora and fauna</li> <li>Land and countryside use</li> <li>Countryside interpretation and recreation</li> </ul> <p><b>Mandatory units – Fisheries Pathway:</b></p> <ul style="list-style-type: none"> <li>Fish health and biology</li> <li>Game and coarse angling</li> <li>Assist with freshwater sport fishery management</li> </ul> <p>You will get lots of practice and support to enable you to develop the required skills and knowledge to prepare you for the learning and end assessment.</p> <p>Centres and providers will work with local employers who will contribute to the knowledge and delivery of training. The different ways in which centres could support your learning, by working with both local and national farming land and wildlife businesses, include:</p> <ul style="list-style-type: none"> <li>• structured work-experience or work-placements within their business</li> </ul>



- your attendance at classes or lectures given by industry experts
- employers input into projects and exercises, or are involved with setting assessments and examinations
- employers who act as 'expert witnesses' to contribute to the assessment of your work.

This practical based training is ideal preparation for gaining employment in the land and wildlife industry or further specialist study.

How does this qualification relate to a wider learning programme

This qualification provides an opportunity for you to gain real work specific skills and knowledge, and enables you to link your technical learning to the work experience part of your course. There may also be the opportunity to undertake short courses or qualifications, such as our Certificates of Technical Competence or a GCSE in Biology, alongside this qualification.

When taken as part of a full study programme you will typically receive regular personal tutorials which will help with target setting, enabling you to reflect on and improve your performance and progress. You will also benefit from enrichment activities to develop your employability, team work and problem solving skills. These are essential when working in industry.

Typically, you will also take this qualification alongside English and/or maths, so these, as well as digital technology are included within the course to enhance your skills which will assist you with future job opportunities or progression to higher level learning.

#### WHAT COULD THIS QUALIFICATION LEAD TO?

Will the qualification lead to employment, and if so, in which job role and at what level?

Achievement of this qualification demonstrates to an employer that you are able to undertake routine tasks as a:

- trainee deer manager
- assistant fisheries worker
- trainee underkeeper
- assistant river keeper
- assistant conservation worker
- assistant recreation ranger
- trainee game farm worker
- assistant maintenance operative

Why choose this qualification over similar qualifications?

There are no other College-based qualifications within this suite at this Level.

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Will the qualification lead to further learning?

Yes. Once you have successfully completed this qualification, you could go on to study a Level 3 College-based qualification over one year, or two years.

The larger qualifications taken over two years will allow you to specialise in Countryside, Game or Fisheries which could lead to a greater range of more diverse career opportunities.

This qualification will allow you to progress onto the Level 3 City & Guilds Land and Wildlife qualifications:

Over one year:

- Level 3 Advanced Technical Certificate in Land & Wildlife Management
- Level 3 Advanced Technical Diploma in Land & Wildlife Management (540)

Over two years:

- Level 3 Advanced Technical Extended Diploma in Land & Wildlife Management (720) (Conservation Management) or (Fisheries)
- Level 3 Advanced Technical Extended Diploma in Land & Wildlife Management (1080) (Countryside) or (Game) or (Fisheries)

This qualification could also lead you to an apprenticeship in Land and Wildlife:

Intermediate Apprenticeship, including the Level 2 Diploma in Work-based Game and Wildlife, or Level 2 Diploma in Work-based Environmental Conservation

Advanced Apprenticeship, including the Level 3 Diploma in Work-based Game and Wildlife, or Level 3 Diploma in Work-based Environmental Conservation.

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#### WHO SUPPORTS THIS QUALIFICATION?

Industry/Representative Bodies

British Association for Shooting & Conservation  
British Trout Association  
Countryside Alliance  
Institute of Fisheries Management  
LEAF  
National Gamekeepers Organisation  
Shropshire Hills AONB Partnership  
Staffordshire Wildlife Trust  
Wild Trout Trust

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Employers

Angling Trust

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Centre for Environment, Fisheries and Aquaculture Science

Cuerden Valley Park Trust

Deer Initiative

Game & Wildlife Conservation Trust

Lulworth Estate

Mansell Park Farm Ltd

Naturally Wild

Ribble Rivers Trust

Shropshire Hills AONB Partnership

Warwickshire Wildlife Trust

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## Qualification structure

For the **City & Guilds Level 2 Technical Certificate in Land and Wildlife** the teaching programme must cover the content detailed in the structure below:

Unit number	Unit title	GLH
<b>Mandatory units all pathways</b>		
201	Health and safety for the land-based industries	30
202	Working in the land and wildlife industry	30
203	Machinery used in the land and wildlife industry	30
204	Conservation and improvements to British habitats	60
205	Estate maintenance	60
<b>Game pathway</b>		
206	Firearms safety	30
207	Assist with pest and predator control	30
208	Game and deer species in the UK	30
209	Assist with the maintenance of game and deer populations	30
210	Assist with shooting activities	30
<b>Countryside Conservation pathway</b>		
211	Species identification and surveying	30
212	Environmental conservation of flora and fauna	30
213	Land and countryside use	30
214	Countryside interpretation and recreation	60
<b>Fisheries pathway</b>		
215	Fish health and biology	30
216	Game and coarse angling	60
217	Assist with freshwater sport fishery management	60

## Total Qualification Time

Total Qualification Time (TQT) is the total amount of time, in hours, expected to be spent by a Learner to achieve a qualification. It includes both guided learning hours (which are listed separately) and hours spent in preparation, study and assessment.

Title and level	GLH	TQT
City & Guilds Level 2 Technical Certificate in Land and Wildlife	360	600

## Assessment requirements and employer involvement

To achieve the **City & Guilds Level 2 Technical Certificate in Land and Wildlife (Game)** candidates must successfully complete **all** the mandatory assessment components

Component number	Title
<b>Mandatory</b>	
024 or 524	Externally set, externally marked exam
025	Externally set, externally moderated assignment
026	Externally set, externally moderated assignment
200	Health and safety for the land-based industries – Theory exam (evolve online)

In addition, candidates **must** complete the mandatory employer involvement requirement for this qualification **before** they can be awarded a qualification grade. For more information, please see guidance in *Section 4: Employer involvement*.

### Employer involvement

Component number	Title
<b>Mandatory</b>	
820	Employer involvement

To achieve the **Level 2 Technical Certificate in Land and Wildlife (Fisheries)** candidates must successfully complete **all** the mandatory assessment components

Component number	Title
<b>Mandatory</b>	
024 or 524	Externally set, externally marked exam
025	Externally set, externally moderated assignment
027	Externally set, externally moderated assignment
201	Health and safety for the land-based industries – Theory exam

In addition, candidates **must** achieve the mandatory employer involvement requirement for this qualification **before** they can be awarded a qualification grade. For more information, please see guidance in *Section 4: Employer involvement*.

## Employer involvement

Component number	Title
<b>Mandatory</b>	
820	Employer involvement

To achieve the **Level 2 Technical Certificate in Land and Wildlife (Countryside Conservation)** candidates must successfully complete **all** the mandatory assessment components

Component number	Title
<b>Mandatory</b>	
024 or 524	Externally set, externally marked exam
025	Externally set, externally moderated assignment
028	Externally set, externally moderated assignment
201	Health and safety for the land-based industries – Theory exam

In addition, candidates **must** achieve the mandatory employer involvement requirement for this qualification **before** they can be awarded a qualification grade. For more information, please see guidance in *Section 4: Employer involvement*.

## Employer involvement

Component number	Title
<b>Mandatory</b>	
820	Employer involvement

*\*Number of mandatory assessments per assessment types*

## 2 Centre requirements

### Approval

New centres will need to gain centre approval. Existing centres who wish to offer this qualification must go through City & Guilds' full Qualification Approval Process. There is no fast track approval for this qualification. Please refer to the City & Guilds website for further information on the approval process: [www.cityandguilds.com](http://www.cityandguilds.com)

### Resource requirements

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

#### *Centre staffing*

Staff delivering these qualifications must be able to demonstrate that they meet the following requirements:

- be technically competent in the areas in which they are delivering
- be able to deliver across the breadth and depth of the content of the qualification being taught
- have recent relevant teaching and assessment experience in the specific area they will be teaching, or be working towards this
- demonstrate continuing CPD.

#### *Physical resources*

Centres must be able to demonstrate that they have access to the equipment and technical resources required to deliver this qualification and its assessment.

#### *Internal Quality Assurance*

Internal quality assurance is key to ensuring accuracy and consistency of tutors and markers. Internal Quality Assurers (IQAs) monitor the work of all tutors involved with a qualification to ensure they are applying standards consistently throughout assessment activities. IQAs must have, and maintain, an appropriate level of technical competence and be qualified to make both marking and quality assurance decisions through a teaching qualification or recent, relevant experience.

### Learner entry requirements

Centres must ensure that all learners have the opportunity to gain the qualification through appropriate study and training, and that any prerequisites stated in the "What is this qualification about?" section are met when registering on this qualification.

#### *Age restrictions*

These qualifications are approved for learners aged 16-19, 19+

## 3 Delivering Technical qualifications

### Initial assessment and induction

An initial assessment of each candidate should be made before the start of their programme to identify:

- if the learner has any specific learning or training needs,
- support and guidance they may need when working towards their qualifications,
- the appropriate type and level of qualification.

We recommend that centres provide an introduction so that learners fully understand the requirements of the qualification, their responsibilities as a learner, and the responsibilities of the centre. This information can be recorded on a learning contract.

### Employer involvement

Employer involvement is essential to maximise the value of each learner's experience. Centres are required to involve employers in the delivery of Technical qualifications at Key Stage 5 and/or their assessment, for every learner. This must be in place or planned before delivery programmes begin in order to gain qualification approval. See *Section 4: Employer involvement* for more detail.

### Work experience

Work experience will provide learners with the opportunity to participate in the world of work and gain practical experience that is relevant to both the qualification and future employment possibilities.

Each learner is expected to complete a 150 hours work experience placement as part of the programme. This work placement should be with an employer that will provide the learner with structured opportunities to develop the skills and knowledge that are relevant to the qualification and should be undertaken in a real business environment relevant to the subject interest of the learner. Work experience may be gained by a number of routes, e.g. as part of an industrial placement whilst within the programme, whilst working on a planned daily or weekly basis on the centre's commercial and/or educational facilities, whilst undertaking voluntary work within the industry, or as a member of a group of learners invited to carry out practical work on a suitable business. The work placement can take place at any time during the learning programme. Centres should be able to provide evidence that the work experience placement has been completed by the learner and this evidence may be reviewed on request by City & Guilds.

The 150 hours work experience is included in the Total Qualification Time



## Support materials

The following resources are available for this qualification:

Description	How to access
Sample assessments	Available 2017 on the qualification pages on the <a href="http://www.cityandguilds.com">City &amp; Guilds Website: www.cityandguilds.com</a>
Technical Qualifications: Guide to Teaching, Learning and Assessment	Available on the City and Guilds website: <a href="http://www.cityandguilds.com/14-19-teaching-learning-assessment-guide-pdf.ashx">14-19-teaching-learning-assessment-guide-pdf.ashx (cityandguilds.com)</a>
Quality Assurance Guide for Centres: Technical Qualifications and the Extended Project Qualification (EPQ)	Available on the City and Guilds website: <a href="http://www.cityandguilds.com/technical-quality-assurance-guide-for-centres-pdf.ashx">technicals-quality-assurance-guide-for-centres-pdf.ashx (cityandguilds.com)</a>

## 4 Employer involvement

Employer involvement is a formal component of Key Stage 5 Technical qualifications. It does not contribute to the overall qualification grading, but is a mandatory requirement that all learners must meet. As such it is subject to external quality assurance by City & Guilds.

Department for Education (DfE) requirements state:

*Employer involvement in the delivery and/or assessment of technical qualifications provides a clear 'line of sight' to work, enriches learning, raises the credibility of the qualification in the eyes of employers, parents and students and furthers collaboration between the learning and skills sector and industry.*

*[Technical qualifications] must:*

- *require all students to undertake meaningful activity involving employers during their study; and*
- *be governed by quality assurance procedures run by the awarding organisation to confirm that education providers have secured employer involvement for every student.*

Extract from: ***Vocational qualifications for 16 to 19 year olds, 2017 and 2018 performance tables: technical guidance for awarding organisations, paragraphs 89-90***

City & Guilds will provide support, guidance and quality assurance of employer involvement.

### Qualification approval

To be approved to offer City & Guilds Technicals, centres must provide an Employer Involvement planner and tracker showing how every learner will be able to experience meaningful employer involvement, and from where sufficient and suitable employer representatives are expected to be sourced.

Centres must include in their planner a sufficient range of activities throughout the learning programme that provide a range of employer interactions for learners. Centres must also plan contingencies for learners who may be absent for employer involvement activities, so that they are not disadvantaged.

As part of the approval process, City & Guilds will review this planner and tracker. Centres which cannot show sufficient commitment from employers and/or a credible planner and tracker will be given an action for improvement with a realistic timescale for completion. **Approval will not be given** if employer involvement cannot be assured either at the start of the qualification, or through an appropriate plan of action to address this requirement before the learner is certificated.

### Monitoring and reporting learner engagement

Employer involvement is a formal component of this qualification and is subject to quality assurance monitoring. Centres must record evidence that demonstrates that each learner has been involved in meaningful employer based activities against the mandatory content before claiming the employer involvement component for learners.

Centres must record the range and type of employer involvement each learner has experienced and submit confirmation that all learners have met the requirements to City & Guilds. If a centre cannot provide evidence that learners have met the requirements to achieve the component, then the learner will not be able to achieve the overall Technical Qualification.

## Types of involvement

Centres should note that to be eligible, employer involvement activities must relate to one or more elements of the mandatory content of this qualification.

As the aim of employer involvement is to enrich learning and to give learners a taste of the expectations of employers in the industry area they are studying, centres are encouraged to work creatively with local employers.

Employers can identify the areas of skills and knowledge in their particular industry that they would wish to see emphasised for learners who may apply to work with them in the future. Centres and employers can then establish the type of input, and which employer representative might be able to best support these aims. To be of most benefit this must add to, rather than replace the centre's programme of learning.

Some examples of meaningful employer involvement are listed below. Employer involvement not related to the mandatory element of the qualification, although valuable in other ways, does not count towards this element of the qualification.

The DfE has provided the following examples of what does and does not count as meaningful employer involvement, as follows<sup>1,2</sup>:

### **The following activities meet the requirement for meaningful employer involvement:**

- students undertake structured work-experience or work-placements that develop skills and knowledge relevant to the qualification;
- students undertake project(s), exercises(s) and/or assessments/examination(s) set with input from industry practitioner(s);
- students take one or more units delivered or co-delivered by an industry practitioner(s). This could take the form of master classes or guest lectures;
- industry practitioners operate as 'expert witnesses' that contribute to the assessment of a student's work or practice, operating within a specified assessment framework. This may be a specific project(s), exercise(s) or examination(s), or all assessments for a qualification.

In all cases participating industry practitioners and employers must be relevant to the industry sector or occupation/occupational group to which the qualification relates.

### **The following activities, whilst valuable, do not meet the requirement for meaningful employer involvement:**

- employers' or industry practitioners' input to the initial design and content of a qualification<sup>3</sup>;
- employers hosting visits, providing premises, facilities or equipment;
- employers or industry practitioners providing talks or contributing to delivery on employability, general careers advice, CV writing, interview training etc;
- student attendance at career fairs, events or other networking opportunities;
- simulated or provider-based working environments eg hairdressing salons, florists, restaurants, travel agents, small manufacturing units, car servicing facilities;
- employers providing students with job references.

## Types of evidence

For each employer involvement activity, centres are required to provide evidence of which learners undertook it, eg a candidate attendance register. The types of additional evidence required to support

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<sup>1</sup> As extracted from: Vocational qualifications for 16 to 19 year olds  
2017 and 2018 performance tables: technical guidance for awarding organisations

<sup>2</sup> This list has been informed by a call for examples of good practice in employer involvement in the delivery and assessment of technical qualifications - [Employer involvement in the delivery and assessment of vocational qualifications](#)

<sup>3</sup> [DfE work experience guidance](#)

a claim for this component will vary depending on the nature of the involvement. Eg for a guest lecture it is expected that a synopsis of the lecture and register would be taken which each learner and the guest speaker will have signed; expert witnesses will be identified and will have signed the relevant assessment paperwork for each learner they have been involved in assessing; evidence of contribution from employers to the development of locally set or adapted assignments.

### **Quality assurance process**

As the employer involvement component is a requirement for achieving the KS5 Technical qualifications, it is subject to external quality assurance by City & Guilds at the approval stage and when centres wish to claim certification for learners.

Evidence will be validated by City & Guilds before learners can achieve the employer involvement component. Where employer involvement is not judged to be sufficient, certificates cannot be claimed for learners.

### **Sufficiency of involvement for each learner**

It is expected that the centre will plan a range of activities that provide sufficient opportunities for each learner to interact directly with a range of individuals employed in the related industry. Centres must also provide contingencies for learners who may be absent for part of their teaching, so they are not disadvantaged. Any absence that results in a learner missing arranged activities must be documented. Where learners are unable to undertake all employer involvement activities due to temporary illness, temporary injury or other indisposition, centres should contact City & Guilds for further guidance.

### **Live involvement**

Learners will gain most benefit from direct interaction with employers and/or their staff; however the use of technology (eg the use of live webinars) is encouraged to maximise the range of interactions. Where learners are able to interact in real time with employers, including through the use of technology, this will be classed as 'live involvement'.

It is considered good practice to record learning activities, where possible, to allow learners to revisit their experience and to provide a contingency for absent learners. This is not classed as live involvement however, and any involvement of this type for a learner must be identified as contingency.

### **Timing**

A learner who has not met the minimum requirements cannot be awarded the component, and will therefore not achieve the qualification. It is therefore important that centres give consideration to scheduling employer involvement activities, and that enough time is allotted throughout delivery and assessment of the qualification to ensure that requirements are fully met.

## 5 Assessment

### Summary of assessment methods and conditions

Component numbers	Assessment method	Description and conditions
024/ 524	Externally marked exam	<p>The exam is <b>externally set and externally marked</b> and can be taken either online through City &amp; Guilds' computer-based testing platform, (024) or as a paper based test (524).</p> <p>The exam is designed to assess the candidate's depth and breadth of understanding across content in the qualification at the end of the period of learning, using a range of multiple choice question types and will be sat under invigilated examination conditions. See JCQ requirements for details: <a href="http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations">http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations</a></p> <p>The exam specification shows the coverage of the exam across the qualification content.</p> <p>Candidates who fail the exam at the first sitting will have <b>one</b> opportunity to re-sit. If the re-sit is failed the candidate will fail the qualification. For exam dates, please refer to the Assessment and Examination timetable.</p>
025	Synoptic assignment	<p>The synoptic assignment is <b>externally set, internally marked and externally moderated</b>. The assignment requires candidates to identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from across the content area. Candidates will be judged against the assessment objectives.</p> <p>Assignments will be released to centres as per dates indicated in the Assessment and Examination timetable published on our website.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assignments will be password protected and released to centres through a secure method.</p> <p>There will be one opportunity within each academic year to sit the assignment. Candidates who fail the assignment will have <b>one</b> re-sit opportunity. The re-sit</p>

Component numbers	Assessment method	Description and conditions
		<p>opportunity will be in the next academic year, and will be the assignment set for that academic year once released to centres. If the re-sit is failed, the candidate will fail the qualification.</p> <p>Please note that for externally set assignments City &amp; Guilds provides guidance and support to centres on the marking and moderation process.</p>
026, 027, 028	Synoptic assignment	<p>The synoptic assignments are <b>externally set, internally marked and externally moderated</b>. The assignment requires candidates to identify and use effectively in an integrated way an appropriate selection of skills, techniques, concepts, theories, and knowledge from across the content area. Candidates will be judged against the assessment objectives.</p> <p>Assignments will be released to centres as per dates indicated in the Assessment and Examination timetable published on our website.</p> <p>Centres will be required to maintain the security of all live assessment materials. Assignments will be password protected and released to centres through a secure method.</p> <p>There will be one opportunity within each academic year to sit the assignment. Candidates who fail the assignment will have <b>one</b> re-sit opportunity. The re-sit opportunity will be in the next academic year, and will be the assignment set for that academic year once released to centres. If the re-sit is failed, the candidate will fail the qualification.</p> <p>Please note that for externally set assignments City &amp; Guilds provides guidance and support to centres on the marking and moderation process.</p>
200	Evolve online on-demand exam	<p>This exam is <b>externally set and externally marked</b> and will be taken online through City &amp; Guilds' computer-based testing platform under invigilated exam conditions. The exam is available on-demand and can be taken at any time in the year.</p> <p>There is no maximum number of retake attempts for this exam, however, learners should be given sufficient time and tutor support before resitting.</p>

## What is synoptic assessment?

Technical qualifications are based around the development of a toolkit of knowledge, understanding and skills that an individual needs in order to have the capability to work in a particular industry or occupational area. Individuals in all technical areas are expected to be able to apply their knowledge, understanding and skills in decision making to solve problems and achieve given outcomes independently and confidently.

City & Guilds Technical qualifications require candidates to draw together their learning from across the qualification to solve problems or achieve specific outcomes by explicitly assessing this through the synoptic assignment component.

In this externally set, internally marked and externally moderated assessment the focus is on bringing together, selecting and applying learning from across the qualification rather than demonstrating achievement against units or subsets of the qualification content. The candidate will be given an appropriately levelled, substantial, occupationally relevant problem to solve or outcome to achieve. For example this might be in the form of a briefing from a client, leaving the candidate with the scope to select and carry out the processes required to achieve the client's wishes, as they would in the workplace.

Candidates will be marked against assessment objectives (AOs) such as their breadth and accuracy of knowledge, understanding of concepts, and the quality of their technical skills as well as their ability to use what they have learned in an integrated way to achieve a considered and high quality outcome.

## How the assignment is synoptic for this qualification

The typical assignment brief could be to carry out a range of land and wildlife management tasks, based on the chosen pathway. Candidates will be expected to carry out tasks such as habitat and species survey, operate land based machinery, apply pest and predator control methods, handle firearms safely, perform habitat improvement tasks, estate maintenance tasks and game/coarse angling. Candidates will be given a brief to follow; they will produce a plan of activities and apply it in practice. This will require them to draw from across the qualification content to ensure they can achieve the tasks effectively.

## Exam for stretch, challenge and integration

The externally marked (024/524) exam draws from across the mandatory content of the qualification, using:

- **Multiple choice questions** to confirm breadth of knowledge and understanding.
- **Multiple choice applied knowledge and understanding questions**, giving candidates the opportunity to demonstrate higher level, integrated understanding through application, analysis and evaluation.

## Assessment objectives

The assessments for this qualification are set against a set of assessment objectives (AOs) which are used across all City & Guilds Technicals to promote consistency among qualifications of a similar purpose. They are designed to allow judgement of the candidate to be made across a number of different categories of performance.

Each assessment for the qualification has been allocated a set number of marks against these AOs based on weightings recommended by stakeholders of the qualification. This mark allocation remains the same for all versions of the assessments, ensuring consistency across assessment versions and over time.

The following table explains all AOs in detail, including weightings for the synoptic assignments. In some cases, due to the nature of a qualification’s content, it is not appropriate to award marks for some AOs. Where this is the case these have been marked as N/A. Weightings for exams (AOs 1, 2 and 4 only) can be found with the exam specification.

Assessment objective	City & Guilds Level 2 Technical Certificate in Land and Wildlife Typical expected evidence of knowledge, understanding and skills	Approximate weighting (Assignment)
<b>AO1</b> Recalls knowledge from across the breadth of the qualification.	use of terminology, job roles health, safety and environmental legislation, routine tasks, species and wildlife habitats, tools, equipment and machinery, surfaces, structures and boundaries	20%
<b>AO2</b> Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	Application of legislation, habitat management, relationships between species, estate management maintenance, construction techniques, selection of materials, equipment and machinery	20%
<b>AO3</b> Demonstrates technical skills from across the breadth of the qualification.	Production of plans for habitat management, working on site in methodical logical manner, confidence in use of tools, equipment and machinery	25%
<b>AO4</b> Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	Plans for habitat management, working techniques on estate site, use of tools, equipment and machinery	20%
<b>AO5</b> Demonstrates perseverance in achieving high standards and attention to detail while showing an understanding of wider impact of their actions.	Checking quality of work for accuracy, review of progress, self-evaluation	15%

## Exam specification

AO weightings per exam

Assessment objective	Component 024/524 weighting (approx. %)
<b>AO1</b> Recalls knowledge from across the breadth of the qualification.	54
<b>AO2</b> Demonstrates understanding of concepts, theories and processes from across the breadth of the qualification.	30



Assessment objective	Component 024/524 weighting (approx. %)
<b>AO4</b> Applies knowledge, understanding and skills from across the breadth of the qualification in an integrated and holistic way to achieve specified purposes.	16

The way the exams cover the content of the qualification is laid out in the tables below:

**Assessment type:** Multiple choice, written exam\*

**Assessment conditions:** Invigilated examination conditions

**Grading:** X/P/M/D

024/ 524	Duration: 2 hours		
Unit	Unit Title	Number of marks	%
202	Working in the land and wildlife industry	5	10
203	Land and wildlife land based machinery	9	18
204	Conservation and improvements to British habitats	20	40
205	Estate maintenance	8	16
N/A	Integration across the units	8	16
<b>Total</b>		<b>50</b>	<b>100</b>

**Assessment type:** Multiple-choice exam, delivered online \*

**Assessment conditions:** Invigilated examination conditions

**Grading:** X/P

Health and Safety for land-based industries – Theory exam (200)	Duration: 1 hour		
Unit	Learning outcome	Number of marks	%
Health and Safety for land-based industries (201)	1. Understand the impact legislation has on land-based industries	8	31
	2. Understand risk assessment requirements for land-based industries	4	17
	3. Know safe working practices when working in land-based industries	13	51
<b>Total</b>		<b>25</b>	<b>100</b>

\*These exams are sat under invigilated examination conditions, as defined by the JCQ:

<http://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations>

Entry for exams can be made through the City & Guilds Walled Garden.

## 6 Moderation and standardisation of assessment

City & Guilds' externally set synoptic assignments for technical qualifications are designed to draw from across the qualifications' content, and to contribute a significant proportion towards the learner's final qualification grade. They are subject to a rigorous external quality assurance process known as external moderation.

Moderation is the process where external quality assurers are standardised to a national standard in order to review centre marking of internally marked assessments. These quality assurers are referred to as 'moderators'. Moderators will review a representative sample of 'candidate work' across the mark range from every centre. Their marks act as a benchmark to inform City & Guilds whether centre marking is in line with City & Guilds' standard.

Where moderation shows that the centre is applying the marking criteria within a reasonable range of mark tolerance, centre marks for the whole cohort will be accepted. Where moderation shows that the centre is either consistently too lenient or consistently too harsh in comparison to the national standard, an appropriate adjustment (up or down) will be made to the marks of the whole cohort, retaining the centre's rank ordering. Due to the nature of the assessment and the marking grid across Assessment Objectives (AOs), it is not expected that the tutors mark and the moderators mark will match exactly.

Where centre application of the marking criteria is inconsistent, an appropriate adjustment for the whole cohort may not be possible on the basis of the sample of candidate work. In these instances, a complete remark of the candidate work may be necessary.

For more detailed information, on the external quality assurance process for synoptic assignments and additional unit assessments please refer to 'Quality Assurance Guide for Centres: Technical Qualifications and the EPQ available to download on the City & Guilds website.

It is vital that centres familiarise themselves with this process, and how it impacts on their delivery plan within the academic year.

### Supervision and authentication of internally assessed work

The Head of Centre is responsible for ensuring that internally assessed work is conducted in accordance with City & Guilds' requirements.

City & Guilds requires both tutors and candidates to sign declarations of authenticity. If the tutor is unable to sign the authentication statement for a particular candidate, then the candidate's work cannot be accepted for assessment.

### Internal standardisation

For internally marked work<sup>4</sup> the centre is required to conduct internal standardisation to ensure that all work at the centre has been marked and/or graded to the same standard. It is the Internal Quality Assurer's (IQA's) responsibility to ensure that standardisation has taken place, and that the training includes the use of reference and archive materials such as work from previous years as appropriate.

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<sup>4</sup> For any internally assessed optional unit assignments, the same process must be followed where assessors must standardise their interpretation of the assessment and grading criteria.

## **Internal appeal**

Centres must have an internal process in place for candidates to appeal the marking of internally marked components, i.e. the synoptic assignment and any optional unit assignments. This must take place before the submission of marks or grades for external quality assurance. The internal process must include candidates being informed of the marks (or grades) the centre has given for internally assessed components, as they will need these to make the decision about whether or not to appeal.

## **Post-quality assurance procedures**

Once the external quality assurance processes have been completed, feedback is provided to the centre on the standard of the internal assessment, highlighting areas of good practice, and potential areas for improvement. This will inform future centre assessment, and standardisation activities, as well as external quality assurance and risk management activity.

## **Centres retaining evidence**

Centres must retain assessment records for each candidate for a minimum of three years. To help prevent plagiarism or unfair advantage in future versions, candidate work may not be returned to candidates. Samples may however be retained by the centre as examples for future standardisation of marking.

## 7 Grading

### Awarding individual assessments

Individual assessments will be graded, by City & Guilds, as pass/merit/distinction where relevant. The grade boundaries for pass and distinction for each assessment will be set through a process of professional judgement by technical experts. Merit will usually be set at the midpoint between pass and distinction. The grade descriptors for pass and distinction, and other relevant information (eg archived samples of candidate work and statistical evidence) will be used to determine the mark at which candidate performance in the assessment best aligns with the grade descriptor in the context of the qualification's purpose. Boundaries will be set for each version of each assessment to take into account relative difficulty.

Please note that as the Merit grade will usually be set at the arithmetical midpoint between pass and distinction, there are no descriptors for the Merit grade for the qualification overall.

### Grade descriptors

#### To achieve a pass, a candidate will be able to

- Demonstrate the knowledge and understanding required to work in the occupational area, its principles, practices and legislation.
- Describe some of the main factors impacting on the occupation to show good understanding of how work tasks are shaped by the broader social, environmental and business environment it operates within.
- Use the technical industry specific terminology used in the industry accurately.
- Demonstrate the application of relevant theory and understanding to solve non-routine problems.
- Interpret a brief for complex work related tasks, identifying the key aspects, and showing a secure understanding of the application of concepts to specific work related tasks.
- Carry out planning which shows an ability to identify and analyse the relevant information in the brief and use knowledge and understanding from across the qualification (including complex technical information) to interpret what a fit for purpose outcome would be and develop a plausible plan to achieve it.
- Achieve an outcome which successfully meets the key requirements of the brief.
- Identify and reflect on the most obvious measures of success for the task and evaluate how successful they have been in meeting the intentions of the plan.
- Work safely throughout, independently carrying out tasks and procedures, and having some confidence in attempting the more complex tasks.

#### To achieve a distinction, a candidate will be able to

- Demonstrate the excellent knowledge and understanding required to work to a high level in the occupational area, its principles, practices and legislation.
- Analyse the impact of different factors on the occupation to show deep understanding of how work tasks are shaped by the broader social, environmental, and business environment it operates within.
- Demonstrate the application of relevant theory and understanding to provide efficient and effective solutions to complex and non-routine problems.
- Analyse the brief in detail, showing confident understanding of concepts and themes from across the qualification content, bringing these together to develop a clear and stretching plan that would credibly achieve an outcome that is highly fit for purpose.

- Achieve an outcome which shows an attention to detail in its planning, development and completion, so that it completely meets or exceeds the expectations of the brief to a high standard.
- Carry out an evaluation in a systematic way, focussing on relevant quality points, identifying areas of development/ improvement as well as assessing the fitness for purpose of the outcome.

## Awarding grades and reporting results

The overall qualification grade will be calculated based on aggregation of the candidate's achievement in each of the assessments for the mandatory units, taking into account the assessments' weighting. The **City & Guilds Level 2 Technical Certificate in Land and Wildlife** will be reported on a four grade scale: Pass, Merit, Distinction, Distinction\*.

All assessments **must** be achieved at a minimum of Pass for the qualification to be awarded. Candidates who fail to reach the minimum standard for grade Pass for an assessment(s) will not have a qualification grade awarded and will not receive a qualification certificate.

The approximate pass grade boundary for the synoptic assignment(s) in this qualification are:

Synoptic Assignment	Pass Mark (%)
025/ 026/ 027/ 028	40

Please note that each synoptic assignment is subject to an awarding process before final grade boundaries are confirmed.

The health and safety unit assessment 200 must be passed to achieve the qualification. This assessment is graded pass/fail.

The contribution of assessments towards the overall qualification grade for the **City & Guilds Level 2 Technical Certificate in Land and Wildlife (Game)** is as follows:

Assessment method	Grade scale	% contribution
Exam (024/ 524)	X/P/M/D	40%
Synoptic Assignment (025)	X/P/M/D	30%
Synoptic Assignment (026)	X/P/M/D	30%

The contribution of assessments towards the overall qualification grade for the **City & Guilds Level 2 Technical Certificate in Land and Wildlife (Fisheries)** is as follows:

Assessment method	Grade scale	% contribution
Exam (024/ 524)	X/P/M/D	40%
Synoptic Assignment (025)	X/P/M/D	30%
Synoptic Assignment (027)	X/P/M/D	30%

The contribution of assessments towards the overall qualification grade for the **City & Guilds Level 2 Technical Certificate in Land and Wildlife (Countryside conservation)** is as follows:

Assessment method	Grade scale	% contribution
Exam (024/ 524)	X/P/M/D	40%
Synoptic Assignment (025)	X/P/M/D	30%
Synoptic Assignment (028)	X/P/M/D	30%

Both synoptic assignments and exams are awarded (see ‘Awarding individual assessments’, at the start of Section 7, above), and candidates’ grades converted to points. The minimum points available for each assessment grade is listed in the table below. A range of points between the Pass, Merit and Distinction boundaries will be accessible to candidates. For example a candidate that achieves a middle to high Pass in an assessment will receive between 8 and 10 points, a candidate that achieves a low to middle Merit in an assessment will receive between 12 and 14 points. The points above the minimum for the grade for each assessment are calculated based on the candidate’s score in that assessment.

**Game/ Fisheries/ Countryside conservation Pathways:**

	Pass	Merit	Distinction
Exam (024) or (524): 40%	6	12	18
Synoptic Assignment (025): 30%	6	12	18
Synoptic Assignment (026) or (027) or (028): 30%	6	12	18

The candidate’s points for each assessment are multiplied by the % contribution of the assessment and then aggregated. The minimum points required for each qualification grade are as follows:

Qualification Grade	Points
Distinction*	20.5
Distinction	17
Merit	11
Pass	6

Candidates achieving Distinction\* will be the highest achieving of the Distinction candidates.

## 8 Administration

Approved centres must have effective quality assurance systems to ensure valid and reliable delivery and assessment of qualifications. Quality assurance includes initial centre registration by City & Guilds and the centre's own internal procedures for monitoring quality assurance procedures.

Consistent quality assurance requires City & Guilds and its associated centres to work together closely; our Quality Assurance Model encompasses both internal quality assurance (activities and processes undertaken within centres) and external quality assurance (activities and processes undertaken by City & Guilds).

For this qualification, standards and rigorous quality assurance are maintained by the use of:

- internal quality assurance
- City & Guilds external moderation (synoptic assessments).

In order to carry out the quality assurance role, Internal Quality Assurers (IQAs) must have and maintain an appropriate level of technical competence and have recent relevant assessment experience. For more information on the requirements, refer to Section 2: Centre requirements in this handbook.

To meet the quality assurance criteria for this qualification, the centre must ensure that the following procedures are followed:

- suitable training of staff involved in the assessment of the qualification to ensure they understand the process of marking and standardisation
- completion by the person responsible for internal standardisation of the Centre Declaration Sheet to confirm that internal standardisation has taken place
- the completion by candidates and supervisors/tutors of the record form for each candidate's work.

### External quality assurance

City & Guilds will undertake external moderation activities to ensure that the quality assurance criteria for this qualification are being met. Centres must ensure that they co-operate with City & Guilds staff and representatives when undertaking these activities.

City & Guilds requires the Head of Centre to:

- facilitate any inspection of the centre which is undertaken on behalf of City & Guilds
- make arrangements to receive, check and keep assessment material secure at all times
- maintain the security of City & Guilds confidential material from receipt to the time when it is no longer confidential and
- keep completed assignment work and examination scripts secure from the time they are collected from the candidates to their dispatch to City & Guilds.

### Enquiries about results

The services available for enquiries about results include a review of marking for exam results and review of moderation for synoptic assignments.

For further details on enquiries and appeals process and for the application forms, please visit the **centre document library** on the City & Guilds website at [www.cityandguilds.com](http://www.cityandguilds.com).



## Re-sits and shelf-life of assessment results

For the synoptic theory exam and synoptic assignment, candidates who have failed an assessment or wish to re-take it in an attempt to improve their grade, can re-sit assessments **once only**. The best result will count towards the final qualification. See guidance on individual assessment types and re-sit conditions in Section 5.

## Factors affecting individual learners

If work is lost, City & Guilds should be notified immediately of the date of the loss, how it occurred, and who was responsible for the loss. Centres should use the JCQ form, JCQ/LCW, to inform City & Guilds Customer Services of the circumstances.

Learners who move from one centre to another during the course may require individual attention. Possible courses of action depend on the stage at which the move takes place. Centres should contact City & Guilds at the earliest possible stage for advice about appropriate arrangements in individual cases.

## Malpractice

Please refer to the City & Guilds guidance notes *Managing cases of suspected malpractice in examinations and assessments*. This document sets out the procedures to be followed in identifying and reporting malpractice by candidates and/or centre staff and the actions which City & Guilds may subsequently take. The document includes examples of candidate and centre malpractice and explains the responsibilities of centre staff to report actual or suspected malpractice. Centres can access this document on the City & Guilds website.

Examples of candidate malpractice are detailed below (please note that this is not an exhaustive list):

- falsification of assessment evidence or results documentation
- plagiarism of any nature
- collusion with others
- copying from another candidate (including the use of ICT to aid copying), or allowing work to be copied
- deliberate destruction of another's work
- false declaration of authenticity in relation to assessments
- impersonation.

These actions constitute malpractice, for which a penalty (e.g. disqualification from the assessment) will be applied.

Where suspected malpractice is identified by a centre after the candidate has signed the declaration of authentication, the Head of Centre must submit full details of the case to City & Guilds at the earliest opportunity. Please refer to the form in the document *Managing cases of suspected malpractice in examinations and assessments*.

## Access arrangements

Access arrangements are adjustments that allow candidates with disabilities, special educational needs and temporary injuries to access the assessment and demonstrate their skills and knowledge without changing the demands of the assessment. These arrangements must be made before assessment takes place.

It is the responsibility of the centre to ensure at the start of a programme of learning that candidates will be able to access the requirements of the qualification.

Please refer to the *JCQ access arrangements and reasonable adjustments and Access arrangements - when and how applications need to be made to City & Guilds* for more information. Both are available on the **City & Guilds website**.

### **Special consideration**

We can give special consideration to candidates who have had a temporary illness, injury or indisposition at the time of the examination. Where we do this, it is given after the examination.

Applications for either access arrangements or special consideration should be submitted to City & Guilds by the Examinations Officer at the centre. For more information, please consult the current version of the JCQ document, *A guide to the special consideration process*. This document is available on the **City & Guilds website**.

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<b>Level:</b>	2
<b>GLH:</b>	30

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**What is this unit about?**

The purpose of this unit is for learners to understand the principles and importance of health and safety within land-based settings. This unit covers health and safety legalisation which provides the requirements upon which policies and procedures within the industry are based.

Working in land-based roles is exciting and varied but operating in these environments can be dangerous and present potential risks and hazards. As part of this unit learners will look at the legislation that is in place to maintain safety, the requirements for risk assessment and how these impact on working practices.

This unit also introduces learners to the basic requirements of fire prevention, safe manual handling and basic first aid.

Learners should consider the following questions as a starting point to this unit:

- What is the difference between a hazard and a risk?
- What legislation covers health and safety when working in land-based environments?
- How should heavy materials or equipment be moved safely?
- What different types of fire prevention equipment are there?

**Learning outcomes**

In this unit, learners will:

1. Understand the impact legislation has on land-based industries
2. Understand risk assessment requirements for land-based industries
3. Understand safe working practices when working in land-based industries

## Learning outcome:

### 1. Understand the impact legislation has on land-based industries

#### Topics

##### 1.1 Legislation relevant to land-based industries

##### 1.2 Employer and employee responsibilities

#### Topic 1.1

The following legislation applies in the land-based sector. For purposes of assessment, there is no requirement for detail, but learners must appreciate that there is legislation and where each applies.

##### Legislation:

- Health and Safety at Work Act (HASAW) (1974)
- Provision and Use of Work Equipment Regulations (PUWER) (1998)
- Reporting of Injuries Diseases and Dangerous Occurrences Regulations (RIDDOR) (2013)
- Control of Substances Hazardous to Health (COSHH) Regulations (2002)
- Management of Health and Safety at Work Regulations (1999)
- Personal Protective Equipment Regulations (PPE) (1992)
- Regulatory Reform (Fire Safety) Order (2005)
- Environmental Protection Act

NB - Health and safety relating to specific tasks/practices will be covered within the relevant specific unit.

#### Topic 1.2

##### Employer responsibilities under health and safety regulations:

- Providing healthy work environment – washing facilities, toilets, ventilation, heating and lighting, no smoking policy, first aid
- Providing safe work environment - signage, Personal Protective Equipment (PPE), fire safety, risk assessments, safe equipment
- Training
- Reporting

##### Employee responsibilities when health and safety legislation:

- Responsibility for own personal health and safety
- Co-operation with employer
- Not interfering with or misusing equipment/provisions (e.g. alarms, signage) provided for health, safety and welfare
- Lines of reporting for:
  - Accidents
  - Faults
  - Damage
- Following instructions and safe working practice (using PPE where provided)
- Helping others and sharing good practice

### Learning outcome:

## 2. Understand risk assessment requirements for land-based industries

### Topics

#### 2.1 Risk assessment terminology

#### 2.2 Hazards, risks and control measures

##### Topic 2.1

###### Definitions of risk assessment terminology:

- Generic risk assessment
- Site specific
- Task specific
- Emergency action plan
- Method statement
- Hazard
- Risk
- Persons at risk (yourself, colleagues, general public)
- Control measures

##### Topic 2.2

###### The five step process for risk assessments:

- Identifying hazards
- Deciding who might be harmed and how
- Evaluating risks, deciding on precautions
- Recording finding and implementing
- Reviewing as required

### Learning outcome:

## 3. Understand safe working practices when working in land-based industries

### Topics

#### 3.1 Manual handling principles

#### 3.2 Basic first aid procedures

#### 3.3 Fire safety principles

##### Topic 3.1

###### Principles of and techniques for manual handling, and consequences of not following:

- Legislative requirement
- Safe lifting techniques
- Use of mechanical aids
- Potential implications of poor manual handling – back injury, dropped and damaged goods/equipment
- That it is covered by manual handling risk assessment

##### Topic 3.2

###### First aid situations:

- Wounds/severe bleeding

- Burns
- Shock
- Unconsciousness
- Falls from height

Response to first aid situations:

- Procedures to be taken
- How and when to call for assistance
- Reporting requirements
- Own limitations when responding to first aid emergency

### Topic 3.3

Principles of fire safety, procedures to follow, and fire safety equipment and their uses:

- Procedures for raising the alarm
- Evacuations and drills
- Types and uses of fire safety equipment:
  - Smoke detectors
  - Fire alarms
  - Fire extinguishers (water, dry powder, foam, CO2)
  - Fire blankets
  - Fire hoses
- Own limitations when responding to potential fire emergency

### Guidance for delivery

This unit links closely with all other units and provides the basis of knowledge required to work safely on all tasks in the range of land-based environments. Tutors should guide learners to develop their understanding of principles of health and safety required for working within the industry as learners will need to understand how these are essential for employment within the sector.

This is a knowledge only unit and although the majority of content could be delivered in a classroom environment, it is important that learners can relate this knowledge and understanding to real life working tasks and environments. Reference to this unit should be made when teaching the other practical units that make up this qualification.

It is expected that a range of delivery methods will be used including presentations, classroom discussions and individual study.

Topic 1.1 relates to legislation - there is no requirement for a detailed understanding at this level, but learners must appreciate where there is legislation, what they are and where each applies. Tutors should ensure that they keep up to date with changes and amendments to legislations covered by this unit and include delivery of locally relevant policy and standards where relevant.

### Suggested resources

#### Websites



## Unit 202

## Working in the land and wildlife industry

<b>Unit level:</b>	Level 2
<b>GLH:</b>	30

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### What is this unit about?

The land and wildlife industry is diverse and provides a wide range of career opportunities. It is important for those working in the industry to understand how it is organised and the professional standards required for those working in it.

The aim of this unit is to provide the learner with knowledge of the industry structure and the types of organisations that operate within it. Learners will understand their roles and responsibilities in supporting a business to achieve its commercial objectives.

Learners will understand the different career opportunities available. They will understand the processes involved in completing applications and preparing for job interviews.

As part of the unit requirements, learners must achieve 150 hours of work experience within the industry. This requirement is subject to external quality assurance through sampling of learner evidence, which must be provided by centres upon request by City & Guilds.

### Learning outcomes

In this unit, learners will be able to

- 1 Know the structure of the land and wildlife industry
- 2 Understand employment opportunities in the industry



## Scope of content

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### Learning outcome

- 1 Know the structure of the land and wildlife industry
- 

### Topics

- 1.1 Job roles in the land and wildlife industry
- 1.2 Key roles of statutory organisations
- 1.3 Types of employment

#### Depth

##### Topic 1.1

##### Duties of different job roles

##### Game and wildlife management:

- Gamekeeper (head keeper, beat keeper, underkeeper)
- Wildlife manager
- Deer stalker (head stalker, under stalker, ghillie)
- Game farmer
- Game dealer
- Land/sporting agent/factor
- Pest controller

##### Conservation:

- Volunteer
- Warden/Ranger (head ranger, ranger, assistant ranger)
- Property/reserve manager
- Surveyor
- Consultant
- Senior manager

##### Fishery

- Fish farm worker/manager
- Fishery worker/manager
- River keeper (head river keeper, river keeper, assistant river keeper)
- Ghillie
- Instructor/guide
- Fishery bailiff
- Fishery officer

##### Topic 1.2

##### Key roles of statutory organisations

- Environment Agency
- Forestry Commission
- Natural England

- Natural Resources Wales
- Joint Nature Conservation Committee

### Topic 1.3

#### Different types of employment

- Full time
- Part time
- Casual/seasonal
- Voluntary
- Self employed

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## Learning outcome

2 Understand employment opportunities in the industry

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## Topics

2.1 Sources of employment opportunities

2.2 Job applications and interview preparation

## Depth

### Topic 2.1

#### Sources of employment opportunities

- Trade publications
- Organisation and business websites
- Employment agencies
- Word of mouth

### Topic 2.2

#### The importance of documentation relevant to job applications

- Structure of a CV
  - Personal details
  - Personal statement
  - Education
  - Employment details
  - Skills
  - Referees
- Format of cover letters
  - Personal address and employers address
  - Date
  - Addressee
  - Content - ensure letter is relevant to job role, avoid duplication of information in CV
  - Use of accepted letter writing format i.e. Faithfully, Sincerely

- Signature

#### The importance of good preparation for interviews

- Read job description
- Research the company
- Prepare questions and answers
- Question and answering techniques
- Select and prepare suitable attire
- Plan journey
- Reflection on interview process

#### **Guidance for delivery**

This unit provides an overview of the land and wildlife sector and jobs within the sector. They should be encouraged to undertake research into job roles in this sector and to reflect on their own potential career development once they have completed the course.

This unit should be undertaken in a real business environment relevant to the subject interest of the learner but work experience may be gained by a number of routes, e.g. as part of an industrial placement whilst within the programme, whilst working on a planned daily or weekly basis on the centre's commercial and/or educational facilities, whilst undertaking voluntary work within the industry, or as a member of a group of learners invited to carry out practical work on a suitable business.

Any Act or legislation that is sector specific should be adhered to.

Learners must complete 150 hours work experience. Centres should be mindful of their responsibilities for ensuring that work placements have appropriate supervision, insurance and health and safety policies in place and that learners have access to appropriate support whilst on placement. This requirement is subject to external quality assurance through sampling of learner evidence, which must be provided by centres upon request by City & Guilds.

Provided it meets the requirements detailed in the Qualification Handbook and the Employer Involvement Centre Guidance, this work experience can also count as the meaningful employer involvement component that all learners are also required to undertake.

In these instances, centres must record work experience activities on the Employer Involvement Planner and Tracker and retain records confirming each learner's attendance at these placements. These must be made available to City & Guilds if required, as part of our standard quality assurance monitoring.

## Unit 203

## Machinery used in the land and wildlife industry

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

The purpose of this unit is for learners to gain a working knowledge of the purpose and operation of machinery commonly used in the land and wildlife sector.

Learners will understand the application and maintenance of driven machinery and handheld equipment. They will be familiar with machinery attachments, safety features and controls. They will be able to carry out pre and post-start checks and running adjustments as well as selecting and wearing the appropriate personal protective equipment (PPE) when using machinery.

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### Learning outcomes

In this unit, learners will be able to

- 1 Know the types of machinery used in land and wildlife
- 2 Operate machinery

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## Learning outcome

1 Know the types of machinery used in land and wildlife

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## Topics

1.1 Machines and their applications

1.2 Machinery attachments and their applications

### Depth

#### Topic 1.1

Types of machines used in land based industries and their applications

##### Driven

- ATVs
- Tractor
- Machine mower
- 4x4
- Boat

##### Handheld

- Mower
- Strimmer/ brush cutter
- Hedge cutter
- Chainsaw
- Leaf blowers
- Steam cleaner/ pressure washer
- Pumps
- Whacker plate
- Winch

#### Topic 1.2

Machinery attachments and their applications

- Mower
- Loaders
- Buckets
- Pallet forks
- Trailer
- Roller
- Harrow
- Post knocker
- Sprayer

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## Learning outcome

### 2 Operate machines

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#### Topics

- 2.1 Personal protective equipment
- 2.2 Pre-start checks
- 2.3 Operate a machine
- 2.4 Clean, inspect and store a machine

#### Depth

##### Topic 2.1

Select PPE relevant for the machine to be used

- Helmet
- Protective boots
- Gloves
- Overalls
- Hi-viz clothing
- Waterproofs
- Buoyancy aid
- Hearing protection
- Eye protection

##### Topic 2.2

Carry out pre-start checks and fueling procedures according to the machine manual

##### Topic 2.3

Operate a machine taking into consideration;

- Machine capacity
- Suitability of machine for the task
- Safe operating procedures
- Re-fueling procedures.

##### Topic 2.4

Carry out inspection checks for wear and tear as appropriate to machine

- Serviceability
- Record keeping
- Cleaning and storage

### **Guidance for delivery**

This unit should be delivered in line with the health and safety principles, policies and procedures covered in unit 201. The Health and safety unit provides the underpinning knowledge for health and safety and legislation which must be embedded across all units in this qualification. The unit provides an understanding of policies and procedures that are in place to maintain safety, the importance of risk assessment and how these impact on working practices. Health and safety relating to the use of machinery and equipment will be covered specifically within this unit.

Throughout the unit, the emphasis should be on safe working. It is expected that the learner will be aware of safe working practices and familiar with accepted practices and behaviours within the context in which they are working. It is a requirement for the learner to operate machinery and equipment therefore health and safety issues relevant to the equipment and tasks involved will be stressed and regularly reinforced.

Adequate personal protective equipment (PPE), appropriate to the learner, the machinery, equipment and the task will be provided and worn in accordance with the associated risk assessment, industry and operator's manual. Learners should be encouraged to use and refer to manufacturer's manuals and industry good practice.

It is anticipated that this unit will be delivered through supervised practical training with the learner able to consolidate operational skills when working within the land and wildlife sector.

#### Topic 2.3 – Operate machinery

Machinery can be taken from the range in learning outcome 1 topic 1.1 excluding the use of chainsaws.

<b>Unit level:</b>	Level 2
<b>GLH:</b>	60

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### What is this unit about?

The purpose of this unit is for learners to understand the importance of the environment, its conservation and relevant legislation and strategies. Learners will understand that through appropriate management of the land it will become more sustainable and potentially more productive.

Learners will understand the factors that affect wildlife and how to manage these issues and will also be able to carry out habitat improvements.

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### Learning outcomes

In this unit, learners will

1. Know types of habitat in the UK
2. Know factors that affect wildlife in the UK
3. Know wildlife and habitat conservation legislation
4. Plan and carry out habitat management



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## Learning outcome

1 Know types of habitat in the UK

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## Topics

1.1 Major British habitats

1.2 Characteristics of major British habitats

### Depth

#### Topic 1.1

##### Classifications of habitats

- Deciduous and coniferous woodland
- Moorland including heathland and peat bogs
- Farmland
- Grassland
- Wetland
- Aquatic - Freshwater (running and still), Marine/ coastal
- Urban

#### Topic 1.2

- Location
  - Topography
  - Aspect
  - Climate
  - Soil type
  - Flora and fauna
- 

## Learning outcome

2 Know factors that affect wildlife in the UK

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## Topics

2.1 Biotic and abiotic factors

2.2 Relationship between species within a specified habitat

### Depth

#### Topic 2.1

##### Definition of biotic and abiotic factors

##### Biotic

- Flora
-

- Fauna
- Predation
- Grazing
- Competition
- Disease
- Non-native species

#### Abiotic

- Climate - wind, precipitation
- Soil
- Temperature
- Location
- Resources - water, nutrients

#### Topic 2.2

##### Relationships

- Prey/ predator relationships
- Parasitic relationships
- Food chains
- Competition
- Territorial behaviour
- Social behaviour

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### Learning outcome

3 Know wildlife and habitat conservation legislation

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### Topics

3.1 National legislation

3.2 National strategies

#### Depth

##### Topic 3.1

##### Wildlife and habitat protection through national legislation

- National Parks and Access to the Countryside Act 1949
- Wildlife and Countryside Act 1981
- Environmental Protection Act 1990
- Countryside and Rights of Way Act 2000
- Animal Welfare Act 2006

##### Topic 3.2

##### Wildlife and habitat protection through national strategies

- Protective Designations: e.g. Sites of Special Scientific interest (SSSI), Special Areas of Conservation (SAC), Special Protection Areas (SPA).
- Agri-Environmental payments

- National Parks
- Areas of Outstanding Natural Beauty
- Nature Reserves (Local, National and Marine)

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## Learning outcome

### 4. Plan for and carry out habitat management

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#### Topics

- 4.1 Habitat management planning
- 4.2 Select tools and equipment
- 4.3 Carry out habitat management
- 4.4 Prevent environmental damage

#### Depth

##### Topic 4.1

Plan to improve/maintain biodiversity

Planning process to include;

- Who will do the work – responsible person?
- What work needs to be done – aims & objectives?
- Where will the work be done – site description & location?
- When will the work be done – deadlines?
- How will the work be done – methodology?
- Why is the work being done – justification?

##### Topic 4.2

Select suitable tools and equipment for habitat management

- Saw
- Rakes
- Secateurs
- Loppers
- Bill hooks
- Spades
- Hammers
- Drivall
- Bar

##### Topic 4.3

Carry out habitat management using the most appropriate methods which could include

- Cutting e.g. pruning, trimming, brashing, thinning, coppicing, pollarding, grass cutting, hedge laying
- Planting
- Burning

- Grazing
- Digging
- Weeding
- Mulching
- Disposal of arisings

#### Topic 4.4

Avoid damage to habitats whilst working

- Damage to flora by trampling
- Disturbance to fauna, nests, dens, sets, habitat
- Safe waste disposal
- Avoiding damage by machinery and vehicles
- Appropriate timing of the work operation to minimise disturbance and damage

#### **Guidance for delivery**

Whilst LO 1 is likely to be delivered in the classroom it would be beneficial for learners to experience a range of habitats through visits to SSSIs, Special Areas of Conservation (SAC), Special Protection Areas (SPA), nature reserves etc. in order to understand how the strategies work on the ground.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors who may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date. Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible and with employers used for work experience placements.

Topic 4.2 Equipment covers the use of hand tools only and does not include the use of chainsaws and powered machines eg petrol hedge trimmers

Topic 4.3 **Two** British habitat types must be covered using **two** different methods

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	60
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### What is this unit about?

The practical skills required to maintain boundaries, structures surfaces and habitats are an essential requirement for anyone who works the land. These skills are transferrable and allow many countryside activities such as farming, shooting, conservation and fishing to be carried out efficiently, in a way that avoids environmental damage.

This unit aims to develop a learner who can assist a land manager with ongoing repairs around a farm, forest, shooting estate, fishery or nature reserve.

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### Learning outcomes

In this unit, learners will be able to

1. Understand construction techniques for fences, structures and surfaces
2. Assist with the construction and maintenance of estate boundaries
3. Assist with the maintenance of structures and surfaces

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## Learning outcome

1 Understand construction techniques for fences, structures and surfaces

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## Topics

1.1 Construction techniques for fences

1.2 Construction techniques for structures and surfaces

### Depth

#### Topic 1.1

##### Different types of fences

- Wire – stock, rabbit, deer
- Post and rail
- Chestnut paling
- Board

##### Different parts and construction techniques for fences

- Strainers - strut, strainer post, thrust plate, foot/toe
- Intermediate posts
- Wire – plain, barbed
- Netting – stock, hexagonal mesh
- Rails
- Boards
- Paling

##### Key tools used to construct fencing

- Mell/maul
- Drivall
- Shuv-holer/post holer
- Auger
- Fencing pliers
- Monkey strainer
- Tamper/rammer
- Spirit level

#### Topic 1.2

##### Construction techniques for structures and surfaces

- Measuring and marking techniques
- Cutting/sawing
- Jointing timber - half lap, mortise and tenon, scarf joint

##### Purpose of different fixings

- Screws
- Coach screws

- Nuts and bolts
- Coach bolts
- Nails
- Staples

Key tools used to construct structures and surfaces

- Measuring tape
- Handsaw
- Set square
- Pencil
- Spirit level
- Claw hammer
- Mallet
- Chisel
- Screwdriver
- Spanner
- Shovels
- Wheelbarrow
- Rakes
- Tamper
- Pegs and stringlines

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### Learning outcome

2 Assist with the construction and maintenance of estate boundaries

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### Topics

2.1 Construct a boundary

2.2 Maintain a boundary

### Depth

Topic 2.1

Assist with constructing a boundary appropriate to local resources and site management requirements from the following

- Planting new hedges
- Constructing new fencing
- Constructing new walls
- Digging new ditches

Topic 2.2

Assist with maintaining a boundary appropriate to local resources and site management requirements from the following

- Replacing rotten or broken fence panels/ posting

- Clearing ditches
- Walls – gap filling
- Hedges – gap planting, cutting, coppicing, laying

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### Learning outcome

3 Assist with the maintenance of structures and surfaces

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### Topics

3.1 Assist with the maintenance of a structure

3.2 Assist with the maintenance of a surface

### Depth

#### Topic 3.1

Assist with the maintenance of a structure appropriate to local resources and site management requirements from the following

- Shed like structures - weather boards, gutters, windows, doors, hinges
- Portable structures – bird boxes, trap boxes, bat boxes, tool boxes
- Gates
- Stiles
- Way markers
- Height barriers
- Signage/interpretation boards
- High seats
- Bridges
- Fishing swims

#### Topic 3.2

Assist with the maintenance of a surface appropriate to local resources and site management requirements from the range

- Boardwalks
- Paths e.g. tarmac, gravel, wood chip, synthetic surfaces
- Concrete



### **Guidance for delivery**

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers with whom the consortium has links, and with employers used for work experience placements.

It would be helpful for tutors to develop a method of maintaining contact with a range of employers in the sectors who may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date.

Learning outcome 1 has been written Using British Trust Conservation Volunteers Guidance

Learning Outcome 1 is a theory outcome which focuses on providing learners with a knowledge of different types of construction materials, tools and techniques. Wherever possible learners should be encouraged to practice the techniques themselves. Centres could allocate specific sites where different techniques could be demonstrated and learners could be encouraged to practice the techniques themselves

#### **For the practical learning outcomes learners must be able to:**

Topic 2.1 Carry out **one** boundary construction from the range

Topic 2.2 Carry out **one** maintenance technique from the range

Topic 3.1 and 3.2 Maintain **one** structure and **one** surface from the range

## Unit 206

## Firearms safety

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

The purpose of this unit is to introduce the basics of shotgun and rifle safety and the associated legal requirements to learners.

Firearms are an essential tool for game and wildlife managers, as well as being widely used for recreational shooting. However, they carry with them significant safety and legal issues that are imperative for learners wishing to work in this sector.

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### Learning outcomes

In this unit, learners will be able to

- 1 Handle shotguns safely
- 2 Handle rifles safely
- 3 Know key firearms legislation

## Scope of content

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### Learning outcome

- 1 Handle shotguns safely
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### Topics

- 1.1 Shotgun condition
- 1.2 Ammunition selection
- 1.3 Safe handling of shotguns
- 1.4 Safe shooting of shotguns
- 1.5 Types of targets

### Depth

#### Topic 1.1

Check the working condition of shotgun parts

- Butt
- Action
- Trigger
- Barrels
- Cleaning and basic maintenance

#### Topic 1.2

Factors that influence the selection of ammunition

- Chamber length
- Bore size

#### Topic 1.3

Handle break barrel shotguns

- Safe handling
  - carrying in slip
  - safe removal from slip
  - correct carry out of slip
- Safe passing to others
- Crossing obstacles - on own and in company
- Safe unload
- Replacement in slip

#### Topic 1.4

Safe shooting procedures

- Load
- Muzzle awareness
- Use of safety catch

- Firing cartridges
- Re-load

#### Topic 1.5

##### Different types of targets

- Clay pigeons
- Standard
- Going away or incoming single targets

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### Learning outcome

2 Handle rifles safely

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### Topics

- 2.1 Rifle condition
- 2.2 Safe handling of rifles
- 2.3 Safe shooting of rifles
- 2.4 Rifle shooting techniques

### Depth

#### Topic 2.1

##### Check the working condition of rifle parts

- Butt
- Action
- Trigger
- Barrels
- Sights
- Cleaning and basic maintenance

#### Topic 2.2

##### Handling rifles

- Safe handling
  - carrying in slip
  - safe removal from slip
  - correct carry out of slip
- Safe passing to others
- Crossing obstacles on own and in company
- Safe unload
- Replacement in slip

#### Topic 2.3

##### Safe shooting procedures

- Load

- Muzzle awareness
- Use of safety catch if fitted
- Releasing the shot
- Re-load

#### Topic 2.4

##### Shooting positions

- Prone
- Sitting
- Standing
- Supported/un-supported

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### Learning outcome

3 Know key firearms legislation

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### Topics

- 3.1 Firearms licenses
- 3.2 Age restrictions on firearms use
- 3.3 Transferring firearms and ammunition
- 3.4 Restrictions on physical use of firearms

### Depth

#### Topic 3.1

Types of licenses and their restrictions for shotguns, firearms and air rifles (Scotland)

#### Topic 3.2

Age restrictions for different firearms in the nations of the UK for shotguns, firearms and air rifles

#### Topic 3.3

Procedures for transferring firearms and ammunition for shotguns and firearms

#### Topic 3.4

Restrictions on use of firearms relating to;

- Shooting on private land
- Carrying firearms in public places
- Shooting near roads
- Use at clubs, grounds or ranges

### Guidance for delivery

Employer engagement is essential in order to maximise the value of learners' experience. A partnership approach should be adopted where possible with employers and those used for work experience placements.

It would be helpful for lecturers to develop a method of maintaining contact with a range of employers in the sectors who may be able to help with keeping the examples of legislation, policies and codes of practice used in the taught content, up to date. Tutors should maintain up to date knowledge of current UK legislation relating to firearms including the differences across the UK nations.

This unit has the possibility to involve employers through visits to professional clay ground and rifle ranges. Visits or practical work placements to shooting estates or pest controllers could help put the learning into context and broaden the learner's experience of firearms use.

### Suggested Resources

Books			
Book Title	Author	Publisher	ISBN
The BASC Handbook of Shooting: An Introduction to the Sporting Shotgun 6th Edition	BASC	Quiller Publishing Ltd., Shrewsbury.	ISBN: 1846890594
Smallbore Rifle Shooting: A Practical Guide	Fenning C., (2010)	The Crowood Press Ltd, Ramsbury	ISBN: 1847972268
The Sporting Rifle: A User's Handbook. 5th ed	Marshall-Ball, R. 2009	Shropshire: Quiller Publishing	ISBN: 9781846890550
Fair Game: The Law of Country Sports and the Protection of Wildlife. 3rd ed.	Parkes, C., Thornley, J. 1997	London: Pelham Books	ISBN: 0720720656
Practical Ballistics: An Introductory Guide for Rifle and Shotgun Shooters	Potter L., (2014)	The Crowood Press Ltd, Ramsbury	ISBN: 1847977375
Sporting Rifles	Potts B., (2009),	The Crowood Press Ltd, Ramsbury	ISBN: 1847971075

## Journals & Magazines

Shooting Times and Country Magazine

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Sporting Gun

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Sporting Rifle

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British Association for Shooting and Conservation - Shooting and Conservation Magazine

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Clay Pigeon Shooting Association - Pull Magazine

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## Websites

Website Title	URL
BASC Firearms Department Guidance	<a href="http://basc.org.uk/firearms/guidance-and-fact-sheets">http://basc.org.uk/firearms/guidance-and-fact-sheets</a>
BASC Air Rifle Code of Practice	<a href="http://basc.org.uk/airgunning/basc-air-rifle-code-of-practice">http://basc.org.uk/airgunning/basc-air-rifle-code-of-practice</a>
BASC Lamping (Night Shooting) Code of Practice	<a href="http://basc.org.uk/cop/lamping">http://basc.org.uk/cop/lamping</a>
Scottish Deer Management Group Firearms Best Practice Guide:	<a href="http://www.bestpracticeguides.org.uk/guides/firearms-intro">http://www.bestpracticeguides.org.uk/guides/firearms-intro</a>
The CPSA Clay Target Shooter's Handbook	<a href="https://www.cpsa.co.uk/userfiles/file/CTSH.pdf">https://www.cpsa.co.uk/userfiles/file/CTSH.pdf</a>

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## Unit 207

## Assist with pest and predator control

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

The purpose of this unit is for learners to be able to identify key problem species and assist in carrying out control measures. A modern gamekeeper must understand how to do this legally and humanly to conserve wildlife populations.

Pest and predator species can have a large suppressive effect on the population sizes of many species of game and wider wildlife, as well as causing damage to crops, property and livestock. In order to mitigate these issues, these problem populations must be managed to remove their limiting effects.

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### Learning outcomes

In this unit, learners will be able to

- 1 Identify species, signs, tracks and levels of selected pest and predators
- 2 Assist with pest control
- 3 Assist with predator control



## Scope of content

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### Learning outcome

- 1 Identify species, signs, tracks and levels of selected pest and predators
- 

### Topics

- 1.1 Species recognition and protection
- 1.2 Tracks and signs of pest and predators
- 1.3 Legislation

### Depth

#### Topic 1.1

Recognise pests and predators and the levels of protection that apply to each species:

#### Mammals

- Fox
- Stoat
- Weasel
- Polecat
- Badger
- Rat
- Grey squirrel
- Red squirrel

#### Birds

- Carrion crow
- Rook
- Jackdaw
- Magpie
- Wood pigeon
- Canada goose
- Buzzard
- Sparrow hawk
- Hen harrier

#### Topic 1.2

Signs of pest and predators - fox, badger, rat, buzzard, carrion crow

- Foot prints
- Faeces
- Feeding traces
- Dens/nests

### Topic 1.3

Sources of information on protection of species and consequences of committing wildlife crime

- Open General Licences
- Wildlife and Countryside Act 1981
- Badger Act 1992

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## Learning outcome

2 Assist with pest control

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## Topics

2.1 Assist with non-lethal deterrents for pests

2.2 Assist with lethal controls for pests

## Depth

### Topic 2.1

Identify non-lethal deterrents

- Physical - fences
- Sensory - visual, audible, chemical
- Habitat management

Assist with pest control using non-lethal methods

### Topic 2.2

Identify lethal control methods as appropriate to target species e.g. grey squirrel, wood pigeon, rat, rabbits.

- Shooting
- Live catch
- Spring traps
- Ferreting
- Snares

Describe techniques required to legally carry out the above control methods

Assist with pest control using lethal methods

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## Learning outcome

3 Assist with predator control

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## Topics

3.1 Assist with non-lethal deterrents for predators

3.2 Assist with lethal controls for predators

### Depth

#### Topic 3.1

Identify non-lethal deterrents

- Physical - fences
- Sensory - visual , audible, chemical
- Habitat management

Assist with predator control using non-lethal methods

#### Topic 3.2

Identify lethal control methods as appropriate to target species e.g. fox, stoat, weasel, and corvids

- Shooting
- Live catch
- Spring traps
- Snares

Describe techniques required to legally carry out the above control methods

Assist with predator control using lethal methods

## Guidance for delivery

For learning outcome 1, the learner is required to identify the range of species. This could be delivered by using good quality images, visits to taxonomic collections, field studies or photo quizzes. The learner should also be familiar with sources of information on protection of species and the current legal status regarding control of the species.

For learning outcome 2, the learner will assist with a minimum of **one** non-lethal and **one** lethal pest control method. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience. The tutor must ensure that all activities undertaken comply with legal and best practice requirements.

For learning outcome 3, the learner will assist with a minimum of **one** non-lethal and **one** lethal predator control method. The control methods selected must be different from those used for learning outcome 2. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience. The tutor must ensure that all activities undertaken comply with legal and best practice requirements.

## Suggested Resources

## Books

Book Title	Author	Publisher	ISBN
Animal Tracks and Signs	Bang, P & Dahlstrom, P.	Oxford University Press, 2001	ISBN: 0198507963
Animal Traps and Trapping	Bateman, J.	Stackpole Books. 1982	ISBN: 0811701037
Foxing with Lamp and Rifle	Bucknell, R	Foxearth Publishing, 2001	ISBN: 0954020606
Rabbiting with Ferret, Dog, Hawk and Gun	Frain, S	The Crowood Press, 2005	ISBN: 978-1861268020
Fox Control	Frain, S	Quiller Publishing Ltd., 2006	ISBN: 978-1904057819
Practical Pest Control in the Countryside	Hogg, G	Coch-y-Bonddu, 1998	ISBN: 978-0952851080
Modern Vermin Control, 3 <sup>rd</sup> edition	Roberts, M	Gold Cockerel Series, 2001	ISBN: 978-0947870041

## Websites

Website Title	URL
Welsh Assembly Government	<a href="http://www.wales.gov.uk">www.wales.gov.uk</a>
Department of Agriculture and Rural Affairs Northern Ireland	<a href="http://www.dardni.gov.uk">www.dardni.gov.uk</a>
National Gamekeepers Organisation	<a href="http://www.nationalgamekeepers.org.uk">www.nationalgamekeepers.org.uk</a>
The British Association for Shooting and Conservation	<a href="http://www.basc.org.uk">www.basc.org.uk</a>
The Game and Wildlife Conservation Trust	<a href="http://www.gwct.org.uk">www.gwct.org.uk</a>

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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**What is this unit about?**

The purpose of this unit is to provide learners with an understanding of the role of those working in this sector by focusing on the key activities throughout the year. The learners will be able to identify the major game and deer species in the UK and their life cycles and habitats.

It is a broad ranging unit that can be adapted according to the location of the learner and the particular aspect of game/deer management that is practised in their area. Therefore it could be applied to released pheasant's shooting, wild grouse management or deer stalking in the UK.

The unit will allow the learner to relate to the annual tasks of a gamekeeper which are relevant across the game pathway and the successful management of a game or deer species.

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**Learning outcomes**

In this unit, learners will be able to

- 1 Know game and deer species in the UK
- 2 Know the life cycles and habitats of game and deer species in the UK
- 3 Understand the annual cycles of a deer stalker, wild bird keepers and keepers that release birds

## Scope of content

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### Learning outcome

1 Know game and deer species in the UK

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### Topics

1.1 Identification of game species and open seasons

1.2 Identification of deer species and open seasons

### Depth

#### Topic 1.1

Identify gamebird species and open seasons

- Pheasant
- Red-legged Partridge
- Grey Partridge
- Red Grouse
- Black Grouse

Identify waders and waterfowl and dates of inland and foreshore seasons

- Woodcock
- Snipe
- Mallard
- Teal
- Widgeon
- Greylag goose
- Pink footed goose

Identify ground game and ground game limited seasons

- Brown Hare
- Mountain Hare

#### Topic 1.2

Identify deer species and seasons for adult male and female deer

- Red
- Roe
- Fallow
- Sika
- Muntjac
- Chinese Water Deer

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## Learning outcome

2 Know the life cycles and habitats of game, wildfowl and deer in the UK

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## Topics

2.1 Life cycles of game, wildfowl and deer

2.2 Habitats used by game, wildfowl and deer

## Depth

### Topic 2.1

Describe the monthly life cycles of game, wildfowl and deer species over one year

#### Game/wildfowl

- Courtship
- Breeding
- Brood rearing
- Feeding
- Dispersal
- Territoriality
- Migration

#### Deer

- Mating
- Breeding
- Feeding
- Rearing young
- Dispersal
- Territoriality
- Antler cycle
- Coat cycles

### Topic 2.2

Types of habitats used by game, deer and wildfowl

- Woodlands
- Woodland rides and clearings
- Hedgerows
- Cover crops
- Beetle banks
- Field margins
- Arable crops stubbles
- Blanket bog
- Heathland
- Foreshore
- Inland ponds and wetlands

Use of habitats by game, deer and wildfowl

- Shelter
- Roosting/ jugging
- Nesting cover
- Brood rearing
- Feeding
- Territory requirements

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### Learning outcome

- 3 Understand the annual cycle of a deer stalker, wild bird keepers and keepers that release birds
- 

### Topics

- 3.1 Annual cycle of a deer stalker
- 3.2 Annual cycle of a gamekeeper managing wild birds
- 3.3 Annual cycle of a gamekeeper that releases birds

### Depth

#### Topic 3.1

##### Monthly deer stalker tasks

- Deer shooting in season by species and sex
- Culling
- Taking clients out stalking
- Preparing trophies
- Processing venison
- Managing habitats
- Population assessments
- Ghillieing
- Poaching management

#### Topic 3.2

##### Yearly timings of tasks for gamekeepers that manage wild game birds

- Spring trapping
- Larsen trapping
- Snaring
- Lamping
- Flushing fox dens
- Tracking foxes
- Game counts
- Access management
- Poaching management
- Maintaining shoot infrastructure
- Habitat management
- Gritting
- Preparing for shoot days
- Running shoot days



### Topic 3.3

#### Yearly timings of tasks for gamekeepers that release game birds

- Spring trapping
- Snaring
- Lamping
- Flushing fox dens
- Fox drives
- Access management
- Poaching management
- Building/repairing pens
- Habitat management
- Planning gamebird production and release
- Catching up
- Managing laying stock
- Incubation
- Rearing
- Releasing
- Feeding drives
- Dogging in
- Preparing for shoot days
- Running shoot days

### Guidance for delivery

For outcome 1, the learner needs to be able to identify from images all species listed in the unit content. In addition they must be able to state the open and closing of the Opening Season for species. The learner is only required to identify season dates relevant to the location of the centre.

For outcome 2, the learner will be able to describe the life cycle of one game and one deer species. It is suggested that this could be delivered by visits to shoots to allow learners to interact with game and deer species in their habitat and supported by theory delivery to contextualise what they have seen.

For learning outcome 3, the learner will need to cover all three topics; annual cycle of a deer stalker, gamekeeper that manages wild bird and of a gamekeeper that releases birds. Learners should be taught what the keepers do in each month of the year. It is suggest that this could be delivered through visits to shoots and guest speakers such as working gamekeepers and deer managers or estate managers and supported by theory delivery to contextualise what they have seen.

### Suggested Resources

Books			
Book Title	Author	Publisher	ISBN
The Pheasant Hill	D & Roberston, P	BSP Professional, 1988	ISBN: 978-0632020119
Grouse (Collins New Naturalist Library, Book 107),	Adam Watson & Robert Moss		
Ecology and Management of Game Birds Hudson	P & Rands, M	BSP Professional, 1988	ISBN: 0632018345
Sporting Birds of the British Isles	Martin, B.P		ISBN: 0715384473
Snipe and Woodcock: Sport and Conservation	McKelvie, C	Swan Hill Press, 1996	ISBN: 1853107139
The Partridge: Pesticides, Predation and Conservation	Potts, G.R	Academic Press. 1990	ISBN: 0003832988
Deer of Britain and Ireland: their origins and distribution	Carne, P	Swan Hill Press, 2000.	ISBN: 978-1840370911
The Deer Stalking handbook	Downing, G	Quiller Publishing Ltd, 3 <sup>rd</sup> Edition	ISBN: 978-1846891830

## Websites

Website Title	URL
The Game and Wildlife Conservation Trust	<a href="http://www.gwct.org.uk">www.gwct.org.uk</a>
British Association for Shooting and Conservation	<a href="http://www.basc.org.uk">www.basc.org.uk</a>
The British Deer Society	<a href="http://www.bds.org.uk">www.bds.org.uk</a>
The Deer Initiative	<a href="http://www.thedeerinitiative.co.uk">www.thedeerinitiative.co.uk</a>

## Unit 209

# Assist with the maintenance of game and deer populations

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

In order to maintain surpluses of game and deer species for shooting activities in the UK the populations require human intervention to increase their numbers. This can take many forms including, rearing birds for release to supplement the wild population. Providing extra food, grit or minerals to the population. As well as creating or managing habitats to meet the species needs. This unit will allow learners to gain the practical skills and knowledge required to supplement natural resources to support game and deer, as well as manage their habitats, assess population sizes and rear birds for release in to the wild.

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### Learning outcomes

In this unit, learners will be able to

1. Provide supplementary resources for game or deer in the wild
2. Assist with management of wild game and deer populations
3. Assist with rearing gamebirds

## Scope of content

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### Learning outcome

- 1 Provide supplementary resources for game or deer in the wild
- 

### Topics

- 1.1 Supplementary resources
- 1.2 Methods of providing supplementary resources

### Depth

#### Topic 1.1

Providing supplementary resources for different species

Deer

- Salt licks
- Supplementary feed

Upland Game

- Grit
- Wormers
- Vaccinations
- Water

Lowland Game

- Supplementary feed
- Water
- Grit
- Shelter

#### Topic 1.2

Methods of providing supplementary resources as appropriate to selected group of game species

- Grit boxes
  - Direct dosing
  - Feeders
  - Hoppers
  - Drinkers
  - Spinning/spreading feed
- 

### Learning outcome

- 2 Assist with management of wild game and deer populations
-

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## Topics

- 2.1 Habitat provision for game or deer
- 2.2 Population estimation methods for game or deer

### Depth

#### Topic 2.1

##### Habitat provision

##### Game

- Nesting cover
- Rearing cover
- Winter shelter
- Feeding

##### Deer

- Shelter provision
- Feeding
- Habitat structure to allow effective population management

Assist management of habitat provision for game or deer

#### Topic 2.2

##### Methods of estimating population

- Block counts
- Transect counts
- Pair counts
- Brood counts
- Vantage point counts

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## Learning outcome

- 3 Assist with rearing gamebirds

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## Topics

- 3.1 Set up gamebird housing
- 3.2 Assist with gamebird rearing

### Depth

#### Topic 3.1

##### Establish rearing spaces

- Shelters
- Pens

- Feeders
- Drinkers and bedding

### Topic 3.2

#### Bird handling

- Monitoring for ill health
- Maintaining feeders and drinkers
- Re-bedding
- Maintaining bird welfare e.g. biting, medication, record keeping

### Guidance for delivery

When delivering this unit, care should be taken to ensure learners only assist in the delivery of the activity under the guidance of an experienced professional. The delivery of the unit should focus on one of upland shooting, lowland shooting or deer stalking, the same activity should be carried out throughout learning outcomes one and two.

For learning outcome 1 **one** resource should be provided using an appropriate method to the game or deer population. This should be appropriate to the study area. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience.

For learning outcome 2, the learner is required to assist the management of **one** habitat for game or deer to help improve the population. The learner will carry out one population account for the selected species studied. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience.

Learning outcome 3 requires the learner to assist with setting up game bird housing to rear birds from day old. The learners are the required to assist with the rearing of game birds from day old. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience

### Suggested Resources

#### Books

Book Title	Author	Publisher	ISBN
Modern Pheasant Farming	Chappel L (2006)	Gold Cockerel Books, Great Yarmouth	ISBN: 0947870520
Modern Partridge Farming	Hodgson C (2009)	Gold Cockerel Books, Great Yarmouth	ISBN: 0947870628
Rearing Game Birds and Gamekeeping	Williams B (2013)	Quiller Publishing Ltd	ISBN: 1846891442

#### Journals & Magazines

Shooting Times and Country Magazine

British Association for Shooting and Conservation, Shooting and Conservation

National Gamekeepers Association, Keeping the Balance

Gamefarmers Association, Game Farming

#### Websites

Website Title	URL
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## Websites

Code of Practice for the Welfare of Gamebirds Reared for Sporting Purposes [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/69379/pb13356-game-birds-100720.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69379/pb13356-game-birds-100720.pdf)

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Pukka Pens Ltd. (Housing Systems) <http://www.pukkapensltd.com/>

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## Unit 210

## Assist with shooting activities

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

Game shoots and deer stalking are an integral part of the landscape and the rural economy. As such, this unit will provide an insight of shooting activities essential for a person working towards a career in game and deer management.

In this unit the learner will assist on a shooting estate to deliver a shooting activity. This will involve providing assistance prior, during and after the shooting activity

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### Learning outcomes

In this unit, learners will be able to

- 1 Assist with the preparation for a shooting activity
- 2 Assist with the delivery of a shooting activity
- 3 Assist with post shooting activities

## Scope of content

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### Learning outcome

1 Assist with the preparation for a shooting activity

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### Topics

- 1.1 Equipment for shooting activities
- 1.2 Facilities for shooting activities
- 1.3 Transport for shooting activities

### Depth

#### Topic 1.1

Prepare equipment as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer Stalking

- Decoys
- Bags
- Sticks
- Flags
- Radios
- Horns/whistles
- Counters
- Dead quarry handling equipment, sewing, knives

#### Topic 1.2

Prepare facilities as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer Stalking

- Larder
- Gun room/armoury
- Beaters room
- Room(s) used by shooting guests
- Gun stands
- Pegs
- Butts
- High seats
- Hides

#### Topic 1.3

Prepare transport as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer Stalking

- Cleaning
- Condition checks
- Attaching trailed equipment

Transport required

- Shoot personnel transport
- Transport for shooting guests
- Game cart

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### Learning outcome

2 Assist with the delivery of a shooting activity

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### Topics

- 2.1 Use equipment on a shoot day
- 2.2 Assist with the delivery of a shooting activity

### Depth

#### Topic 2.1

Use equipment as appropriate to one of the selected activities: Wildfowling, Game shooting or Deer Stalking

- Decoys
- Bags
- Sticks
- Flags
- Radios
- Horns/whistles
- Counters
- Sewelling
- Dead quarry handling equipment, knives

#### Topic 2.2

Assist with the delivery of a shooting activity as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer Stalking

- Beating
- Flanking
- Picking up
- Assisting on game cart
- Ghillieing
- Carrying equipment

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### Learning outcome

3 Assist with post shooting activities

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## Topics

- 3.1 Clean, inspect and store equipment
- 3.2 Process shot quarry
- 3.3 Clean and inspect facilities

### Depth

#### Topic 3.1

Clean, inspect and store equipment as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer stalking

##### Equipment

- Decoys
- Bags
- Sticks
- Flags
- Radios
- Horns/whistles
- Counters
- Sewelling
- Dead quarry handling equipment, , knives

##### Inspect equipment for

- Damage
- Reporting issues

#### Topic 3.2

Process quarry as appropriate for one of the selected activities: Wildfowling, Game shooting or Deer stalking

##### Birds

- Plucking
- Evisceration
- Filleting

##### Mammals

- Evisceration
- Skinning
- Jointing

#### Topic 3.3

Clean facilities as appropriate to one of the selected activities: Wildfowling, Game shooting or Deer stalking

##### Equipment

- Larder
- Gun room/armoury
- Beaters room

- Room(s) used by shooting guests
- Gun stands
- Pegs
- Butts
- High seats
- Hides

Inspect facilities for

- Damage
- Reporting issues

### Guidance for delivery

This unit should be delivered holistically, to allow learners to understand the links between the learning outcomes. Care should be taken to ensure learners only assist in the delivery of the activity under the guidance of an experienced professional. The delivery of the unit should focus on one of the following, wildfowling, game shooting or deer stalking. The same activity should be carried out through the three learning outcomes.

For outcome 1, the learner will assist a shooting professional to prepare for a shooting activity. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience.

For outcome 2 the learner will assist a shooting professional to deliver a shooting activity. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience.

For outcome 3 the learner will assist a shooting professional to clean, tidy or replace equipment or facilities' used as part of the shooting activities. This could be delivered on a specialist centre run shoot, in partnership with a local business or as part of work experience.

This learning outcome requires the learners to have ready access to sufficient quantities of dead game or deer and a suitable game meat processing facility. Learners should have sufficient access to be shown correct processing techniques and then practice the techniques until they are competent to produce food ready for human consumption. This could be achieved by working in partnership with a local shooting estate, wild game meat handling facility or in a specialist teaching facility.

### Suggested Resources

#### Books

Book Title	Author	Publisher	ISBN
The game shooting handbook	Barnes, M	The Crowood Press Ltd., 2005	ISBN: 1 86126 804 1
Running your own shoot	Hudson, D	Shrewsbury: Swan Hill Press, 2nd edition, 2007	ISBN: 978 1 84689 011 6
Rough shooting	Swan, M	Swan Hill Press, 3rd edition, 2007	ISBN: 1 84037 188 9

#### Journals & Magazines

Shooting Gazette

Sporting Gun

British Deer Society - Deer, The Journal of the British Deer Society

British Association for Shooting and Conservation, Shooting and Conservation

National Gamekeepers Association, Keeping the Balance

## Websites

Website Title	URL
National Gamekeepers Organisation	<a href="http://www.nationalgamekeepers.org.uk">www.nationalgamekeepers.org.uk</a>
Scottish Gamekeepers Association	<a href="http://www.scottishgamekeepers.co.uk">www.scottishgamekeepers.co.uk</a>
Deer initiative	<a href="http://www.thedeerinitiative.co.uk">www.thedeerinitiative.co.uk</a>
British Association for Shooting and Conservation	<a href="http://basc.org.uk/cop/picking-up/">http://basc.org.uk/cop/picking-up/</a>
Food Standards Agency	<a href="http://www.food.gov.uk/business-industry/farmingfood/wildgameguidance">www.food.gov.uk/business-industry/farmingfood/wildgameguidance</a>
Scottish Deer Steering Group	<a href="http://www.bestpracticeguides.org.uk/">www.bestpracticeguides.org.uk/</a>
The Deer Initiative	<a href="http://www.thedeerinitiative.co.uk/best_practice/meat_hygiene.php">www.thedeerinitiative.co.uk/best_practice/meat_hygiene.php</a>



## Unit 211

## Species identification and surveying

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

The purpose of this unit is to provide the learner with the opportunity to learn key aspects of ecological surveys and how to identify species. This type of work is vital for sustainable development and an understanding of the factors that influence population numbers and distribution allows planners and land managers to make informed decisions.

The learner will be able to identify a range of flora and fauna and consider environmental factors affecting their conservation. The learner will then examine conservation legislation, organisations and strategies in place to protect flora and fauna.

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### Learning outcomes

In this unit, learners will be able to

- 1 Understand the principles of ecological surveying
- 2 Carry out a flora survey
- 3 Carry out a fauna survey

## Scope of content

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### Learning outcome

- 1 Understand the principles of ecological surveying
- 

### Topics

- 1.1 Organism identification
- 1.2 Principles of surveying
- 1.3 Methods of surveying flora
- 1.4 Methods of surveying fauna

### Depth

#### Topic 1.1

Identify common species found across aquatic and terrestrial habitats using simple keys

- Phyla
- Plants
- Invertebrates
- Amphibians/reptiles
- Birds and mammals
- Flora
  - Variations within major plant structures used for identification: e.g. leaves, flowers, stems, buds, seeds, fruits
- Fauna
  - Variations in major physical characteristics use to identify fauna: e.g. number of legs, vertebrate or invertebrate, body shape, plumage, beak shapes, coat variation, skeletal and dental differences

#### Topic 1.2

Principles of surveying

- Legal requirements when working with protected species. Methods of avoiding habitat damage, disturbance or damage to wildlife while surveying.
- Factors affecting success of surveys: seasonality, migration, weather patterns, land uses and operations, disturbance, time of day
- Definition of what an indicator species is and what they are used for
- Survey aims, objectives and method statements
- Methods of analysing results e.g. percentages, averages, totals, use of simple indexes and pre calculated scales
- Methods of presenting results e.g. maps, tables, images, graphs, charts, simple written reports

#### Topic 1.3

- Transect counts
- Quadrat counts
- Habitat mapping
- Use of emerging technology: e.g. remote sensing, drones.

## Topic 1.4

### Methods for invertebrate sampling

- Kick samples
- Pond dipping
- Blanket Drags
- Pheromone Traps
- Light Traps
- Pooting
- Netting

### Methods for vertebrate sampling

- Block counts
- Transect counts
- Vantage point counts
- Live trapping
- Netting
- Ringing/Tagging
- Emergence surveys
- Dung counts
- Use of emerging technology: e.g. bat detectors, thermal imaging, remote sensing, drones, trail cameras, electro fishing.

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## Learning outcome

- 2 Carry out a flora survey
- 

## Topics

- 2.1 Plan and carry out a flora survey
- 2.2 Present findings

## **Depth**

### Topic 2.1

Create a plan and carry out a flora survey

- Plan
- Pre survey
- Carry out survey

### Topic 2.2

Produce a report of findings

- Analyse data
- Present data
- Summarise results

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## **Learning outcome**

3 Carry out a fauna survey

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## **Topics**

3.1 Plan and carry out a fauna survey

3.2 Present findings

## **Depth**

### Topic 3.1

Create a plan and carry out a fauna survey

- Plan
- Pre survey
- Carry out survey

### Topic 3.2

Produce a report of findings

- Analyse data
- Present data
- Summarise results

### Guidance for delivery

Learners will choose the correct survey technique, looking at not only the disturbance to wildlife but also their health and safety. Once the information is recorded its presentation and interpretation will be considered. Learners will be given tuition via lectures, demonstrations and group work before undertaking their own survey.

In Outcome 1, the learner will look at a range of survey methods and be able to identify their suitability for surveying different habitats and species.

In Outcome 2 and 3 the learner will be able to identify various flora and fauna species found in the habitat range using keys. The learner will record species data using paper based or electronic systems. The learner will use appropriate methods of presenting survey results and be able to draw simple conclusions. Special care must be taken to adhere to wildlife protection legislation during practical surveying activities.

Learner must be able to carry out **one** invertebrate and **one** vertebrate species survey using simple identification keys. They should be provided with the opportunity to carry out the surveys across a range of habitats and species.

### Suggested Resources

Books			
Book Title	Author	Publisher	ISBN
Fieldwork Investigations: A Self Study Guide	David Holmes and Sue Warn	Hodder Education	ISBN-10: 0340679697
Techniques and Fieldwork in Ecology	Gareth Williams	HarperCollins Publishers	ISBN 10: 0003222462
Guidelines for Baseline Ecology Assessment	The Institute of Environmental Assessment	Taylor & Francis; Reprint edition (1 Sept. 2003)	ISBN-10: 0419205101
Ecological Methods: With Particular Reference to the Study of Insect Populations	Richard Southwood	Springer; 2nd edition (October 4, 2013)	ISBN-10: 0412307103
Grasses: A Guide to Their Structure, Identification, Uses and Distribution	Charles Hubbard	Penguin	ISBN-10: 0140132279
The Wild Flower Key (Revised Edition) – How to identify wild plants, trees and shrubs in Britain and Ireland	Francie Rose	Warne; Rev Ed edition (30 Mar. 2006)	ISBN-10: 0723251754

## Websites

Website Title	URL
British Ecological Society	<a href="http://www.britishecologicalsociety.org">www.britishecologicalsociety.org</a>
Forestry Commission	<a href="http://www.forestry.gov.uk">www.forestry.gov.uk</a>
Royal Society for the Protection of Birds	<a href="http://www.rspb.org.uk">www.rspb.org.uk</a>
Field Studies Council	<a href="http://www.field-studies-council.org">www.field-studies-council.org</a>

## Unit 212

## Environmental conservation of flora and fauna

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

This unit aims to provide learners with an introduction to the knowledge and skills underpinning environmental studies.

The learner will be able to identify different soil types and the basic structure and physiology of plants. They will understand the causes and impact of environmental issues and examine strategies to conserve key endangered native species.

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### Learning outcomes

In this unit, learners will be able to

- 1 Understand basic principles of environmental science
- 2 Understand conservation of priority species

## Scope of content

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### Learning outcome

1 Understand basic principles of environmental science

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### Topics

- 1.1 Soil analysis
- 1.2 Principles of plant science
- 1.3 Principles of climate science
- 1.4 Environmental issues

### Depth

#### Topic 1.1

Carry out basic soil analysis

- Soil type
- Soil structure
- Soil analysis (pH)

#### Topic 1.2

Structure and basic physiology of plants

- Major plant structures: roots, stem, leaf, flower, seed, fruit
- Biological process: photosynthesis, respiration, transpiration, water and uptake of nutrients

#### Topic 1.3

- Reasons for climate and seasonal variation
- Hydrological cycle
- Carbon cycle
- Nitrogen cycle
- Climate change

#### Topic 1.4

Impact of environmental issues conservation priority species

- Pollution
- Sustainability
- Climate change
- Soil degradation and erosion

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### Learning outcome

2 Understand conservation of priority species

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## Topics

2.1 Endangered and threatened UK native species

2.2 Threats to UK native species

2.3 Re-introduction of once native species

### Depth

#### Topic 2.1

Identify endangered and threatened UK native species

- Plants
- Invertebrates
- Fish
- Amphibians and Reptiles
- Birds
- Mammals

#### Topic 2.2

Identify threats to UK native species

- Human impact e.g. changes in land use, human intervention in wildlife populations
- Habitat and species loss
- Introduction of invasive species
- Pollution
- Disease

#### Topic 2.3

Re-introduction of once native species

- Species proposed for re-introduction: e.g. beaver, wolves, lynx, sea eagles, great bustard
- Problems associated with re-introduction: human conflict, impact on endangered/threatened species, impact on food and natural resource production, suitability of current available habitat
- Benefits associated with re-introduction: tourism gain, ecosystem regulation, provision of ecosystem services
- Re-introduction methods

## Guidance for delivery

In Outcome 1, the learner will be able to identify different soil types and carry out field tests. They must also be able to identify basic plant structures and their functions. They should be able to illustrate the water and carbon cycles.

In Outcome 2 the learner will be able to identify a range of conservation priority species using identification resources when necessary eg field guides, identification keys, electronic identification tools.

Delivery of issues such as sustainability could be delivered through formal lectures, discussions, visiting expert speakers

## Suggested Resources

### Books

Book Title	Author	Publisher	ISBN
The Wild Flower Key (Revised Edition) – How to identify wild plants, trees and shrubs in Britain and Ireland	Francie Rose	Warne; Rev Ed edition (30 Mar. 2006)	ISBN: 0723251754
Grasses: A Guide to Their Structure, Identification, Uses and Distribution	Charles Hubbard	Penguin	ISBN: 0140132279

### Websites

Website Title	URL
Environmental Agency	<a href="http://www.gov.uk/government/organisations/environmental-agency">www.gov.uk/government/organisations/environmental-agency</a>
Forestry Commission	<a href="http://www.forestry.gov.uk">www.forestry.gov.uk</a>
Natural England	<a href="http://www.gov.uk/government/organisations/natural-england">www.gov.uk/government/organisations/natural-england</a>
Natural Resources England	<a href="http://www.gov.uk/government/organisations/natural-resources-wales">www.gov.uk/government/organisations/natural-resources-wales</a>
Field Studies Council	<a href="http://www.field-studies-council.org">www.field-studies-council.org</a>

## Unit 213

## Land and countryside use

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

This unit aims to provide learners with an understanding of the different land uses in the UK countryside and the benefits and problems associated with their main activities.

The learner will then look more closely at the different forms of land use in the UK primary, countryside recreation and conservation. They will examine the benefits and challenges involved in those uses and the tensions that exist between them. In addition the learner will identify the role of non-governmental organisations in land use

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### Learning outcomes

In this unit learners will be able to

- 1 Understand land use in the UK
- 2 Know the role of non-governmental and access organisations in the UK

## Scope of content

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### Learning outcome

- 1 Understand land use in the UK
- 

### Topics

- 1.1 Primary land uses
- 1.2 Recreational use of the countryside
- 1.3 Types of conservation land use
- 1.4 Role of non-governmental and access organisations in the UK

### Depth

#### Topic 1.1

Identify primary land uses

- Agriculture and horticulture
- Forestry: commercial and conservation systems
- Water conservation and catchment management
- Military
- Urban and transport development: green field and brown field development, rail and road links
- Energy Production: bio-crops, renewable technology sites
- Mineral extraction: mining, quarrying, spoil heaps, reclamation
- Game Management: upland and lowland bird shooting, deer stalking
- Fishery Management: coarse and game fishing

Benefits related to primary land uses

- Food production
- Resource production
- Economic contribution

Challenges related to primary land uses

- Land use conflicts
- Pollution
- Erosion
- Loss of bio-diversity
- Disturbance of communities and wildlife

#### Topic 1.2

Identify recreational uses of the countryside

- Walking
- Cycling
- Climbing
- Field sports
- Bird watching
- Water sports

- Off road driving
- Backwoods crafts
- Equestrian
- Forest school

#### Benefits of recreational use of the countryside

- Health benefits: mental and physical
- Tourism income to rural economy
- Contribution to species and habitat conservation

#### Challenges related to recreational use of the countryside

- Pollution – noise, litter
- Wildlife disturbance/ habitat destruction
- Damage to livestock and crops
- Erosion

#### Topic 1.3

##### Identify types of conservation land use

- Managed nature reserves
- Re-wilding
- Wildlife friendly farming
- Game conservation

##### Benefits related to conservation land use

- Ecosystem services
- Bio-diversity improvements
- Land quality restoration
- Pollution management
- Climate change mitigation

##### Challenges related to conservation land uses

- Single species conservation and impact on other wildlife
- Economic effects on farming, forestry, game management, fisheries and industry
- Potential loss of rural employment
- Funding for conservation activities

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### Learning outcome

- 2 Know the role of non-governmental and access organisations in the UK
- 

### Topics

- 2.1 Roles of organisations

## Depth

### Topic 2.1

- Species and habitat conservation/ wildlife conflict mitigation
- Political lobbying
- Public education programs
- Biodiversity advisory services/ scientific research
- Partnership working
- Grant funding
- Access e.g. improvement programs, problem mitigation, promotion

### Guidance for delivery

In Topic 2.1 the tutor should provide information on key non-governmental organisations and their role in the land and wildlife sector such as Royal Society for the Protection of Birds, Wildlife Trusts, Game and Wildlife Conservation trust, Rivers Trust, National Trust, Woodland Trust

## Unit 214

## Countryside interpretation and recreation

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	60
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### What is this unit about?

The purpose of this unit is to understand the process of countryside interpretation including the types of habitat sites and the reasons why they attract visitors. Learners will know how to identify visitor need and the methods used to provide information to the public.

The learner will assist in the planning and delivery of an activity designed to interpret an aspect of a countryside site.

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### Learning outcomes

In this unit, learners will be able to

- 1 Interpret a habitat for visitors
- 2 Assist with the delivery of a recreation activity

## Scope of content

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### Learning outcome

1 Interpret a habitat for visitors

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### Topics

- 1.1 Features of a habitat
- 1.2 Identification of visitors needs
- 1.3 Interpretation methods

### Depth

#### Topic 1.1

Habitat features for interpretation through

- Site visits
- Historical research
- Local knowledge

#### Topic 1.2

Methods used to identify visitors needs

- Questionnaire
- Observation
- Feedback
- Membership data
- Visitor profiles e.g. demographics
- Accessibility
- Specific visitor requirements

#### Topic 1.3

Methods of habitat interpretation

- Boards
- Talks
- Videos
- Guided walks
- Interactive media

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### Learning outcome

2 Assist with the delivery of a recreation activity

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## Topics

- 2.1 Considerations for planning an activity
- 2.2 Types of recreation activity
- 2.3 Produce activity plan
- 2.4 Assist with the delivery of a recreation activity
- 2.5 Monitor and review own performance

## Depth

### Topic 2.1

Information required for planning activities

- Who – staff, visitors, numbers required, age
- What – resources, activities
- When - suitable timing e.g. time of year, length of visit
- Where – location
- Why - educational, recreational, conservation

### Topic 2.2

Types of recreation activities

- Pond dipping
- Flora and fauna identification
- Bird watching
- Shelter building
- Woodcraft
- Adventure activities
- Forest walks

### Topic 2.3

Produce a plan for a chosen activity including risk assessment

### Topic 2.4

Assist with the delivery of the activity

### Topic 2.5

Monitor and review own performance

- Following instructions
- Reporting and communication
- Problem solving
- Assess strengths and weaknesses
- Identify areas for improvement

### **Guidance for delivery**

Learning Outcome 2 The learner must be able to explore an area and identify interesting features of the site. The learner must be able to assess visitor needs and requirements at a given site.

Learning Outcome 3 The learner must plan their own recreational activity. They will then assist with the delivery of a recreational activity. Tutors must ensure that the activity meets all health and safety and legal requirements. The learner must review their own personal performance. The aim of this outcome is to develop the learner's confidence and inter-personal skills.

## Unit 215

## Fish health and biology

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	30
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### What is this unit about?

The purpose of this unit is for learners to develop a sound understanding of fish biology and fish health which is essential for anyone working in fish related industries such as fishery management and fish farming.

Learners will understand fish biology and physiology as well as techniques used to identify a range of fish species and how to monitor and maintain fish health.

The learner will develop the skills required to examine and dissect fish to identify fish health and condition including ageing methods, reproduction, signs of ill health and stress. They will then be able to record relevant data.

They will look at the most common causes of ill health, symptoms and basic treatment methods including ways of maintaining fish health and biosecurity methods.

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### Learning outcomes

In this unit, learners will be able to

- 1 Understand biological and physical characteristics of game and coarse species
- 2 Know the function and purpose of internal organs of fish
- 3 Understand fish health maintenance

## Scope of content

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### Learning outcome

- 1 Understand biological and physical characteristics of game and coarse species
- 

### Topics

- 1.1 Game and coarse species
- 1.2 External body features of fish
- 1.3 Life stages of fish

### Depth

#### Topic 1.1

Identify game and coarse fish

#### Game fish

- Brown Trout *Salmo trutta*
- Rainbow Trout *Oncorhynchus mykiss*
- Atlantic Salmon *Salmo salar*
- Grayling *Thymallus thymallus*

#### Coarse fish

- Carp *Cyprinus carpio*
- Tench *Tinca tinca*
- Pike *Esox lucius*
- Zander *Stizostedion lucioperca*
- Perch *Perca fluviatilis*
- Bream *Abramis brama*
- Barbel *Barbus barbus*
- Eel *Anguilla anguilla*
- Rudd *Scardinius erythrophthalmus*
- Roach *Rutilus rutilus*
- Chub *Leuciscus cephalus*

#### Topic 1.2

Location, primary function and purpose of external features of fish including colour, eye position, mouth position, fin shape, body shape and size

- Eyes
- Lateral line
- Urino-genital pore
- Fins and fin rays
- Scales
- Position of mouth parts
- Nares

- Opercula

### Topic 1.3

Identify fish life stages

- Ova
- Alevin/larvae
- Fry
- Juvenile/parr
- Adult

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### Learning outcome

2. Know the function and purpose of internal organs of fish

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### Topics

2.1 Identify internal organs of fish through dissection

2.2 Collect and record dissection data

### Depth

#### Topic 2.1

Dissect fish and identify internal organs, their primary function and purpose

- Heart: circulatory pump
- Kidney: removing impurities
- Liver: production of bile
- Intestine: absorption of carbohydrates
- Stomach: absorption of proteins
- Gills: extraction of oxygen from water
- Vertebrae: structural and protection of spinal cord
- Lens of eye: vision
- Gall bladder: storage of bile
- Reproductive organs

#### Topic 2.2

Collect and record data using different methods

Data

- Species
- Weight
- Length
- Gender
- Age - scale reading and other methods
- Abnormalities

## Methods

- Written e.g. lists, table form
- Drawn e.g. graphs

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## Learning outcome

### 3 Understand fish health maintenance

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#### Topics

- 3.1 Symptoms of ill health in fish
- 3.2 Causes of ill health and treatment methods
- 3.3 Biosecurity and disease control methods

#### Depth

##### Topic 3.1

##### Symptoms of ill health

- Lack of appetite or desire to feed
- Lethargy
- Darkening of skin colouration
- Gasping
- Irritation – jumping, flashing, rubbing, erratic swimming
- Swelling of the skin
- Haemorrhages internally and externally
- Ulcers
- Fin rot
- Cloudy eyes
- Skeletal deformities
- Loss of weight

##### Topic 3.2

##### Causes of ill health

- Water quality and environmental stress
- Poor nutrition
- Viral pathogens
- Bacterial pathogens
- Fungal pathogens
- External parasites
- Internal parasites

##### Methods of treatment

- Topical
- Immersion
- Oral
- injection

##### Topic 3.3

##### Biosecurity and disease control methods

- Avoid parasites coming onto fishery or fish farm

- Certified source of stock
- Disinfection of equipment onto site
- Disease free water supply
- Footbaths, dips for nets
- Legislation: Restriction of movement
- Maintain good water quality
- Provide good habitat in a fishery
- Keep stress to a minimum
- Low stocking density



### Guidance for delivery

This unit is designed to provide the learner with knowledge of fish biology and factors that influence fish. The majority of the unit will be delivered through lectures with practical sessions included to reinforce theories learnt in a classroom setting. Fish species that are included in the topic areas will be used to aid identification. Learners should have access to fish either in the wild or captivity in order to observe their behaviour and develop practical skills required for the maintenance and monitoring of fish health.

Learning Outcome 1 examines the external anatomy of game and coarse fish and how to identify species. It will mostly be theory based with some laboratory sessions to reinforce relevant areas. Key external features should be highlighted and how they are used in identification. Identification of fish using pictures and biological specimens can be carried out both in the classroom and field. The use of keys should be explained and made clear in the identification of species.

Learning outcome 2 looks at the identification of internal organs and the purpose and function of these. This should be delivered in a practical manner to enable learners to gain hands on experience. It is expected that classroom theory sessions are included to reinforce practical sessions. Access to a laboratory and live fish is beneficial so that behaviour can be observed. It is essential for learners to carry out simple dissections where animal welfare and health and safety issues should be addressed.

Learning outcome 3 is a knowledge based outcome which covers fish health. Throughout this unit emphasis should be placed on the importance of fish health and welfare and the environmental impacts on the health of fish. Learners should be made aware of the reasons for maintaining fish health and the implications if it is not maintained.

Field trips and guest speakers should be utilised to emphasise the importance of fish health. For example the Centre for Environment, Fisheries and Aquaculture Science (Cefas) may give a talk on their work and current UK disease issues. Laboratory sessions can be used to examine fish and identify common parasites. Learners should have access to facilities to enable the monitoring of water quality.

#### Topic 3.2

Learners should be taught the following common external and internal parasites:

External parasites – Costia, Trichodina, Chilodonella, White Spot, Dactylogyrus (Gill Fluke)  
Carp Louse – Argulus

Internal parasites - Eye Fluke (Digeneans), Cestodes (Tapeworms), Nematodes (Roundworms), Acanthocephalans (Spiny headed worms), Hexamita, Proliferative Kidney Disease (PKD)

## Unit 216

## Game and coarse angling

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	60
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### What is this unit about?

This unit aims to provide learners with an understanding of the principles of game and coarse angling and how these can be applied in practice.

The learner will look at the structure and diversity of angling in the United Kingdom and the angler's responsibilities to the environment, wildlife and fish. They will consider the commonly found equipment and methods used to catch game and coarse fish species and develop angling skills.

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### Learning outcomes

In this unit, learners will be able to

- 1 Understand angling in the UK
- 2 Carry out game angling
- 3 Carry out coarse angling

## Scope of content

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### Learning outcome

- 1 Understand angling in the UK
- 

### Topics

- 1.1 Structure and diversity of angling in the UK
- 1.2 Role of organisations involved with angling
- 1.3 Responsibilities of anglers
- 1.4 Close seasons

### Depth

#### Topic 1.1

Overview of the size, geographical location, economic influence of the industry

- Game
- Coarse
- Sea

#### Topic 1.2

Role of organisations involved with angling

- Local organisations
- National angling organisations
- Environment Agency and other statutory bodies
- Anti-angling organisations

#### Topic 1.3

Responsibilities of anglers

For compliance

- Fishery rules
- Rod licences and conditions
- Consideration of anglers and other water users
- Adherence to the Countryside Code

For wildlife and the environment

- Water pollution incidents – reporting procedures
- Disposal of unwanted materials eg litter, nylon, hooks
- Impact on aquatic wildlife when angling at different times of the day and year i.e. bird nesting seasons, habitat disturbance, night fishing
- Restocking programmes, weed removal, use of scour boards, clean ups, habitat creation, erecting bird boxes. trampling, bank side erosion

For fish welfare

- Handling fish correctly according to size, species; humane methods of dispatching

- Correct methods of returning fish live to the water; respecting close seasons; using fish friendly measures eg unhooking mats, barbless hooks, fish friendly keep nets and landing nets
- Equipment maintained in good condition
- Types of bait
- Catch and release
- Humane dispatch of fish

#### Topic 1.4

##### Close season

##### Schedules

- National close season for coarse and non-migratory trout
- National and regional close season for Salmon and Sea Trout

##### Areas affected

- Sites of Special Scientific Interest
- Rivers

##### Impacts

- Benefits to fish and wildlife - allows breeding to take place increasing natural recruitment, allows nature a break from angling pressure
- Impacts to fisheries
  - No business / income for a set time during close season
  - Could increase fish numbers if successful
  - Prevents fish from being harmed or stressed during breeding
  - Maintenance work can be completed during closure

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### Learning outcome

2 Carry out game angling

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### Topics

- 2.1 Tackle required for game angling
- 2.2 Game fish species, locations and angling methods
- 2.3 Carry out game angling

### Depth

#### Topic 2.1

##### Game angling tackle

- Fly rods
- Fly reels
- Fly lines
- Leader material
- Flies
- Fly boxes

- Clothing e.g. glasses, hat, waistcoat
- Tackle bag
- Landing net
- Priest
- Marrow spoon
- Bass bags

## Topic 2.2

### Main game fish species

- Brown Trout
- Rainbow Trout
- Sea Trout
- Atlantic Salmon
- Grayling

### Locations

- Reservoirs
- Rivers
- Commercials

### Angling methods

- Fly
- Worm
- Spin
- Prawn

## Topic 2.3

### Carry out game angling

- Conduct risk assessment
- Assemble tackle
- Make leaders
- Angling knots
- Overhead cast
- Roll cast
- Shoot line
- Fish dry flies and wet flies

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## Learning outcome

3 Carry out coarse angling

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## Topics

- 3.1 Tackle requirements for coarse angling
- 3.2 Coarse fish species, location and angling methods
- 3.3 Carry out coarse angling

## Depth

### Topic 3.1

#### Coarse angling tackle

- Rods
- Poles
- Reels
- Nylon
- Floats
- Hooks
- Weight
- Seat
- Luggage
- Landing nets
- Keep nets
- Unhooking mats
- Weigh sling
- Scales

### Topic 3.2

#### Main coarse fish species

- Carp
- Tench
- Pike
- Zander
- Perch
- Bream
- Barbel
- Eel
- Rudd
- Roach
- Chub

#### Locations and types of fishery

- Rivers
- Canals

- Stillwaters
- Commercial fisheries
- Specimen fisheries
- Day ticket fisheries
- Pleasure fisheries

#### Angling methods

- Rod and line
- Pole
- Carp
- Pike
- Match
- Barbel

#### Topic 3.3

##### Carry out coarse angling

- Conduct risk assessment
- Assemble tackle
- Rod and line techniques e.g. float, feeder, ledger
- Species specific techniques e.g. carp, match, pole, pike
- Make terminal rigs
- Angling knots
- Bait selection
- Overhead cast

#### Guidance for delivery

This unit is designed to provide the learner with knowledge of game and coarse angling. The unit will be delivered through lectures with practical sessions included to reinforce theories learnt in a classroom setting using a wide range of techniques. Throughout this unit emphasis should be placed on the importance of fish welfare and the environmental impacts of angling.

Practical angling skills should be demonstrated and learners should have plenty of opportunities to practise and develop them. Tutors should provide a variety of locations for learners to demonstrate different techniques of basic angling skills.

Learning Outcome 1 examines the structure and diversity of angling in the UK and should provide a broad overview of coarse game and sea angling highlighting the differences between the different disciplines. It also covers the angler's responsibilities to the environment, fish and wildlife. This could be delivered through formal lectures, discussions, visiting expert speakers, site visits and angling practice.

Learning outcomes 2 and 3 look at the equipment required and methods anglers use to catch game and coarse fish species. There is an expectation that practical sessions will cover different techniques for game and coarse fishing and learners will be assessed on **one** game and **one** coarse fishing technique.

Learners should be aware of the health and safety issues when carrying out practical angling sessions including the use of PPE, risk assessments and how to deal with emergency situations.





## Unit 217

## Assist with freshwater sport fishery management

<b>Unit level:</b>	Level 2
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<b>GLH:</b>	60
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### What is this unit about?

The purpose of this unit is for learners to gain an understanding of the principles of freshwater sport fishery management and how these can be applied in practice and aims to extend the learners fishery management skills.

The learner will cover the elementary methods of fish stock maintenance and improvement that are employed in both natural and commercial game and coarse fish fisheries. They will cover the management of sport fishery banks and related structures and the control of both aquatic and bank side vegetation. They will look at the most commonly used methods of catching fish within freshwater environments and typical duties associated with working in the industry such as bank maintenance, vegetation control and fish capture operations.

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### Learning outcomes

In this unit, learners will be able to

- 1 Understand the management of fish stocks
- 2 Undertake bank maintenance and vegetation control
- 3 Undertake fish capture operations

## Scope of content

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### Learning outcome

- 1 Understand the management of fish stocks
- 

### Topics

- 1.1 Stock selection for coarse fishery
- 1.2 Stock selection for game fishery
- 1.3 Fish stock maintenance
- 1.4 Importance of controlling fish predators

### Depth

#### Topic 1.1

##### Stock selection for coarse fisheries

- Coarse fishery types and locations
- Commercial match fishery
- Commercial pleasure fishery
- Commercial carp fishery
- River
- Canal
- Natural stillwater

#### Species

- Barbel
- Bream
- Chub
- Crucian Carp
- Common Carp
- Mirror Carp
- Perch
- Pike
- Roach
- Rudd
- Tench

#### Topic 1.2

##### Stock selection for game fisheries

##### Game fishery types and locations

- Put and take fishery
- Catch and release

- Commercial stillwater
- Natural stillwater
- Reservoir
- River

#### Species

- Brown Trout
- Rainbow Trout
- Salmon

#### Topic 1.3

##### Fish stock maintenance

- Benefits and risks of stocking
- Sizes
- Encouraging and controlling natural recruitment i.e. fry, fingerlings
- Numbers i.e. stocking densities appropriate to species and size, age, and location
- Commercial costs i.e. costs of equipment
- Water quality

#### Topic 1.4

##### Importance of controlling fish predators

- Cormorants
- Otters
- Heron
- Mink
- Grebes
- Gosanders
- Invertebrates e.g. Dragonfly larvae in ponds containing fry

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### Learning outcome

- 2 Undertake bank maintenance and vegetation control
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### Topics

- 2.1 Hand tools for maintenance and control  
2.2 Bank maintenance  
2.3 Vegetation control

### Depth

#### Topic 2.1

##### Hand tools for bank maintenance and vegetation control

- Bow saw

- Pruning saw
- Panel saw
- Loppers
- Slasher
- Grass hook
- Claw hammer
- Lump hammer
- Sledge hammer
- Crome/Grab
- Fencing maul
- Rake
- Spade
- Fork

#### Topic 2.2

Methods of bank or angling peg maintenance

- Faggots
- Board walk
- Steps
- Concrete angling peg
- Disabled angling pegs
- Jetties
- Slab pegs
- Stone peg
- Woodchip peg
- Wooden platforms

#### Topic 2.3

Assist with bank maintenance duties demonstrating consideration of the environmental implications of work

#### Topic 2.4

Methods of vegetation control

- Raking
- Pulling
- Cutting
- Pruning
- Coppicing

#### Types of vegetation

- Bank side vegetation
- Marginal plants
- Aquatic plants
- Floating leaved plants
- Submerged plants
- Trees and shrubs

#### Topic 2.5

Assist with vegetation control duties demonstrating consideration of the environmental implications of work

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## Learning outcome

### 3 Undertake fish capture operations

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#### Topics

3.1 Fish capture equipment

3.2 Fish capture methods

3.3 Assist with fish capture operations

#### Depth

##### Topic 3.1

Equipment for fish capture operations

- Boat and motor
- Life jacket
- Buoyancy aid
- Wading sticks
- Chest waders
- Throw ropes
- Seine net
- Electro fishing apparatus
- Angling equipment
- Fyke nets
- Fish traps
- Dip nets
- Keep cages
- Fish tubs
- Weigh slings
- Scales

##### Topic 3.2

Methods of fish capture

- Seine netting
- Electric fishing
- Angling
- Fyke netting
- Traps

##### Topic 3.3

Assist with fish capture operations demonstrating considerations for health and safety, fish welfare and environmental issues

### **Guidance for delivery**

This unit is designed to provide the learner with the knowledge and practical skills required for the management of coarse and game fisheries. It is recommended that that formal lectures are linked directly with interactive lessons in a practical environment. Learners must be given the opportunity to work on a range of fisheries to be involved in current industry practice.

Throughout the unit, the emphasis should be on safe working. It is expected that learners will be aware of safe working practices and be familiar with accepted practices and behaviours within the context in which they are working, especially when this is in and around water. Learners should be involved in all aspects of risk assessment and safe working practices when undertaking the practical sessions.

In Outcome 1, the learner will be required to understand how coarse and game fisheries are stocked. This will involve some numerical work and research to work out costs and stocking densities. It is accepted that this outcome will require some formal delivery however, visits to fisheries and fish farms should also be encouraged. Learners should look at both coarse and game fisheries both commercial and natural with regard to the species, sizes, costs and densities.

Outcome 2 looks at the practical management of aquatic and bank side plants and the bank side maintenance and angling peg work undertaken on fisheries. It is anticipated that the delivery of this outcome will be through short theory sessions backed with lengthy practical sessions to allow learners to develop their practical skills. They should undertake a mixture of tasks to control bank side and aquatic plants and work on a range of angling pegs and bank side structures. Emphasis should be placed not only on 'doing', but also upon the importance of fish health and welfare and the environmental implications of the work undertaken. Learners should be made aware of how fisheries should be managed sustainably.

In Outcome 3 the learner will be required to use a method of fish capture. The emphasis should be on seine netting although other methods could be undertaken. The outcome should be delivered practically with some theory sessions to allow the learners to develop their fish capture skills and knowledge.

Centres are encouraged to introduce fishery managers, angling club officials, the Environment Agency and fish farmers from industry to provide interesting and relevant information to the learner. Teaching would also benefit from visits to a variety of fisheries to see current good practice.

## Suggested Resources

### Books

Fundamentals of Aquatic Ecology	Barnes R S K and Mann K H. 1991	Blackwell	ISBN: 0-632-02983-8
BTCV Waterways and Wetlands a practical handbook	Brooks A and Agate E. 1997	BTCV	ISBN: 0-950-16438-0
Keys to the Freshwater Fish of Britain and Ireland	Maitland PS. 2004	Freshwater Biological Association	ISBN: 0-900-38671-1
Aquatic Weed Control	Seagrave C. 1988	Fishing News Books	ISBN: 0-852-38152-2
Freshwater Fisheries Management	Templeton RG. 1995	Fishing News Books	ISBN: 0-852-38209-X

Environment Agency Guides. Environments for fish, Water plants their function and management, coarse fish biology and management, Fisheries habitat improvement.

### Websites

Website Title	URL
Department for Environment, Food and Rural Affairs	<a href="http://www.defra.gov.uk">www.defra.gov.uk</a>
Welsh Assembly Government	<a href="http://www.wales.gov.uk">www.wales.gov.uk</a>
Scottish Executive Environment and Rural Affairs Department	<a href="http://www.scotland.gov.uk">www.scotland.gov.uk</a>
Department of Agriculture and Rural Affairs (Northern Ireland)	<a href="http://www.dardni.gov.uk">www.dardni.gov.uk</a>
The Environment Agency	<a href="http://www.environment-agency.gov.uk">www.environment-agency.gov.uk</a>
The Institute of Fisheries Management	<a href="http://www.ifm.org.uk">www.ifm.org.uk</a>
Angling Trust Organisation	<a href="http://www.anglingtrust.net">www.anglingtrust.net</a>

## Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the Centres and Training Providers homepage on [www.cityandguilds.com](http://www.cityandguilds.com).

*Centre Manual - Supporting Customer Excellence* contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues.

Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

*Our Quality Assurance Requirements* encompasses all of the relevant requirements of key regulatory documents such as:

- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

*Access to Assessment & Qualifications* provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for e-assessments.

*Centre Guide – Delivering International Qualifications* contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification.

Specifically, the document includes sections on:

- The centre and qualification approval process and forms
- Assessment, verification and examination roles at the centre
- Registration and certification of candidates



- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Frequently asked questions.

## Appendix 2 Useful contacts

<b>UK learners</b> General qualification information	<b>E: <a href="mailto:learnersupport@cityandguilds.com">learnersupport@cityandguilds.com</a></b>
<b>International learners</b> General qualification information	<b>E: <a href="mailto:intcg@cityandguilds.com">intcg@cityandguilds.com</a></b>
<b>Centres</b> Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	<b>E: <a href="mailto:centresupport@cityandguilds.com">centresupport@cityandguilds.com</a></b>
<b>Single subject qualifications</b> Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	<b>E: <a href="mailto:singlesubjects@cityandguilds.com">singlesubjects@cityandguilds.com</a></b>
<b>International awards</b> Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	<b>E: <a href="mailto:intops@cityandguilds.com">intops@cityandguilds.com</a></b>
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