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Principles of Tree Surgery Operations

Unit Code: L/602/3956
UNIT GUIDE 2023-24

LO 2. Understand tree surgery work needs to be carried out in accordance with best practice and in compliance with the relevant Acts and Regulations

2.1. Identify the principal elements of the following Acts, Regulations and best practices that demonstrate an understanding of compliance:

- Health and Safety at Work Act
- Management of Health and Safety at Work Regulations
- First Aid at Work Regulations
- COSHH
- Work at Height Regulations
- Lifting Operations and Lifting Equipment Regulations
- Provision and Use of Work Equipment Regulations
- Personal Protective Equipment Regulations
- Manual Handling Regulations
- Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
- Wildlife legislation
- AFAG and FISA leaflets
- ICOP for Arboriculture - Tree work at Height
- INDG 317 Chainsaws at work

The Health and Safety Executive (HSE) was established in 1974 alongside the Health and Safety Commission (HSC) under the Health and Safety at Work etc Act (HSWA). The merger of HSC with HSE took place on 1 April 2008. HSE serves as the primary regulatory authority in the nation, tasked with enhancing health and safety standards in workplaces across Great Britain, as well as safeguarding workers and the public from potential harm, injury, and health hazards resulting from work-related activities.

Everyone involved in tree work - forestry, arboriculture, farm estate maintenance and any other work involving trees has health and safety duties and responsibilities.

Over the past three years, 9 individuals engaged in tree work have lost their lives, while more than 100 have sustained serious injuries and over 200 have been absent from work for more than 3 days due to work-related injuries. These cases have been reported to HSE in compliance with RIDDOR. The impact of these incidents extends to well over 300 individuals and their families, with many more cases going unreported. This poses a significant risk to businesses as well.
To provide perspective, the fatal incident rate in tree work, based on the number of individuals working in the industry, surpasses that of the construction sector. Analysis of reported incidents reveals several key causes that require attention, such as operations involving chainsaws, injuries from falling timber or trees, falls, and work processes being carried out.

• **AFAG**

The primary means of communication between HSE and the tree work industry is facilitated by the **Arboriculture and Forestry Advisory Group (AFAG)**, a crucial subgroup of the **Agriculture Industry Advisory Committee (AIAC)**.

AFAG serves as an advisory group for the Health and Safety Executives (HSE's) Agriculture Industry Advisory Committee (AIAC) and convenes biannually. Various project groups have been established to address concerns. AFAG comprises members from the industry, HSE, and Trade Unions, with committee documents accessible on the Arboriculture and Forestry Advisory Group (AFAG) pages. The primary responsibility of the committee is to assess and provide suggestions to AIAC and HSE regarding:
- Identification and management of significant risks to health and safety associated with work activities in forestry, arboriculture, and timber transportation in the forest;
- Execution of HSE's existing plan for workplace health and safety in Great Britain; and
- Contributing towards meeting the Government's objectives of decreasing injuries, illnesses, and lost workdays.
The organizations currently represented on AFAG are:
1. The Arboricultural Association (AA)
2. The Forestry Commission (FC)
3. The Institute of Chartered Foresters (ICF)
4. CONFOR
5. Forestry Contracting Association (FCA)
6. International Society of Arboriculture (ISA)
7. The Agricultural Engineers Association (AEA)
8. IOSH Rural Industries Group
9. Lantra Awards
10. Lantra Sector Skills Council
11. City & Guilds NPTC
12. Utility Arb Group (UAG)
13. The United Kingdom Forest Products Association (UKFPA)
14. Local Government Employers
15. Unite
16. The National Association of Tree Officers (NATO)
17. The Public and Commercial Services Union (PCS)
18. Northern Ireland Forest Services (NIFS)
19. The Municipal Tree Officers Association.

AFAG convenes twice annually, with various project groups established to address specific issues such as:
1. Training and Certification, which includes discussions on establishing a Register for Tree work Operatives and mapping training and competencies across Europe.
2. Decreasing accidents involving chain saws.
3. Enhancing the management of work at height, including the implementation of the Work at Height Regulations.
4. Rigging and dismantling techniques in arboriculture.
5. Machine-assisted takedown of hung-up trees.
6. Chainsaw PPE - to enhance and advocate for standards and related matters.
7. Market surveillance for product design.
8. Tree work near Overhead Power Lines.
9. Advocating for occupational health provision and rehabilitation services.
10. Addressing musculoskeletal disorders.
11. Minimizing operator exposure to noise, hand-arm, and whole-body vibration.
12. Developing, reviewing, and maintaining AFAG, HSE, and industry guidance.
13. Enhancing communications at forestry sites, including lone working.

HSE has provided funding for various research projects related to the tree work industry, often in collaboration with the Forestry Commission. These projects include:
1. RR668: Assessment of current practices for rigging and dismantling in arboriculture.
2. RR123: Utilization and effectiveness of mobile elevating work platforms (MEWPs) for tree work.
3. RR618: Analysis of noise emissions and exposure from mobile woodchippers.
4. Karabiner safety in the arboriculture industry (PDF).

5. Safe techniques for working with top-handled chainsaws (PDF).
6. Determination of work access and positioning methods in arboriculture (PDF).
7. RR636: Evaluation of whole-body vibration during ground-preparation activities in forestry.

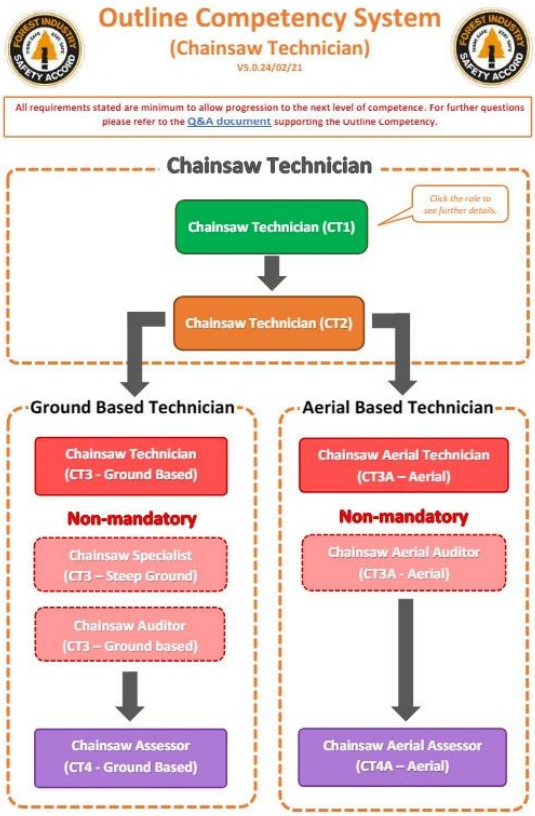
• **Forest Industry Safety Accord (FISA)**

In 2012, representatives from various leading industry organisations came together to form a steering committee. Together, we created the Forest Industry Safety Accord (FISA), which outlines the commitment that each organisation, as well as the entire sector, can make to improve health and safety standards in their workplaces.
The Accord
The UK Forest Industry:
Maintains the belief that all fatalities and injuries can be prevented.
Endorses the development of a new safety culture that prioritises the health, safety, and welfare of all individuals employed in the forest industry.
Holds the belief that by demonstrating strong and dedicated leadership, we can collaboratively enhance the health and safety performance of our industry.
Our commitment to achieving this includes:
Establishing a dedicated safety group that will provide the necessary strategic guidance and momentum to elevate health, safety, and welfare standards across the industry.
Exhibiting clear and proactive leadership to foster a change in attitudes and behaviours at all levels within the industry.
Engaging all individuals working in the industry to ensure both individual and collective responsibility for health and safety while actively challenging unsafe practices and avoiding unacceptable risks.
Developing a mechanism for the industry to share safety statistics, data, and information.
Continuously enhancing the competency of all individuals working in the industry through comprehensive training programmes.
Recognising that sustained commitment and action are essential for improving the industry's health and safety performance while ensuring fairness and equity for all involved parties.

The FISA Working Groups consist of professionals and safety specialists, along with other individuals working in task-specific teams, who contribute ideas, solutions, innovation, and implementation. Their role is to offer recommendations to the steering group.
At present, nine teams are collaborating on various assignments outlined by the steering group and our members. These assignments are considered crucial areas for the advancement of our industry. The goals, tasks, and members of each working group are detailed in this section.
1. Managing Safety Documents
2. Chainsaw
3. Learning and behavioural change
4. Plants and Equipment
5. Forest Works Manager (FWM)
6. Forest Haulage
7. Electricity and Utilities
8. Worksite Management
9. Landowner

Chainsaw operators face the highest risk of accidents and injuries in the forestry industry. Therefore, the Accord considers chainsaw work to be the top priority for enhancing safety in forestry. The main objective of this working group is to challenge the current practices, assess them, and propose improvements for chainsaw operatives.
Objective:
Evaluate the existing chainsaw training system and explore ways to enhance competency development and documentation. Conduct a pilot programme to test and implement improvements in this system for the forestry sector.
Collaborate with Safe Forestry to introduce a skills development system.
Provide input to the FWM/Landowner sectors (Landowner Working Group) to enhance planning for chainsaw work. This includes ensuring that competent chainsaw operators are involved from the beginning and verifying that only suitably skilled operators undertake chainsaw work that aligns with the required tasks.
Assess advanced tree felling techniques and establish the level of competence needed to perform such tasks. Publish

guidance accordingly.
Ensure that chainsaw operatives have appropriate welfare facilities available on-site.
Publish recommended rates to ensure that chainsaw operatives have the necessary resources to cover safety-critical aspects of their work, such as maintenance, personal protective equipment (PPE), and skill development.
Group Target:
Create a fresh competency system, incorporating an industry pilot.
Overview of the Chainsaw Competency System:
Overview of Chainsaw Competency System Version 5
CWG Statement presented to the FISA Steering Group during the March 2021 meeting
HSE Introduction
Release of comprehensive guidance on advanced felling techniques
Publication of industry-approved 'guide rates'
Provision of safety bulletins and press releases to the industry.



https://ukfisa.com/Portals/0/Files/Public/Training/Outline%20Competency%20System%20-%20V5%2024.02.21.pdf?ver=2021-03-23-151833-333

A 28 year old self-employed tree surgeon was found dead in a tree with severe laceration to his neck.

He was in the process of pruning a multi-stemmed willow tree in preparation for felling it. There are no eye witnesses but it is assumed that the chainsaw kicked back causing a severe laceration to his neck. He died from his injuries almost instantly.

Working at height with a chainsaw is extremely high risk and those doing this type of work should be fully trained and competent to do the job. The equipment used to work off ground should be suitable for this use.

Find out how to prevent this type of accident

- Chainsaws at work INDG 317 (PDF)
- Top-handled chainsaws AFAG 308

• Health and Safety at Work Act

The primary legislation governing occupational health and safety in Great Britain is the **Health and Safety at Work Act 1974**, commonly known as HSWA, the HSW Act, the 1974 Act, or **HASAWA**. This Act outlines the general duties that employers have towards their employees and the public, the responsibilities that employees have towards themselves and each other, and the obligations that certain self-employed individuals have towards themselves and others.
You can read the Health and Safety at Work etc Act 1974 in full on legislation.gov.uk.

• Management of Health and Safety at Work Regulations

The Health and Safety Act of 1974 was strengthened by the introduction of the **Management of Health and Safety at Work Regulations 1999**. These regulations clearly outline the responsibilities of employers in managing health and safety in the workplace, and they apply to all types of work activities. The regulations impose a set of obligations on both employers and employees to ensure a safe and healthy working environment.
One of the primary duties imposed on employers by these regulations is to conduct risk assessments. This involves identifying potential hazards that could pose a risk to the health and safety of employees and anyone else who may be affected by the work being carried out. Employers with five or more employees must keep a record of any significant findings from these risk assessments.

The primary responsibility imposed on employers by the Management of Health and Safety at Work Regulations is to perform risk assessments to identify potential hazards to the health and safety of employees and anyone who may be impacted by their work activities. Employers with a workforce of five or more individuals are required to document any significant findings.
Specific risk assessments should be carried out for young individuals (under the age of 18), considering their lack of experience and immaturity, as well as for new and expectant mothers.
Following the completion of a risk assessment, employers must then plan to implement health and safety measures that will effectively control the hazards identified in the assessment. The General Principles of Prevention, also known as the Hierarchy of Risk Control, should be applied in this process.
If the risk assessment determines that health surveillance of an employee is necessary, a system of regular checks must be conducted. These checks are designed to detect any work-related ill-health caused by factors such as noise, vibration, solvents, or dust at an early stage, to prevent severe damage or deterioration resulting from the workplace.
Lastly, the risk assessment should establish the procedures required to manage situations of serious and imminent danger. For instance, it should outline an evacuation procedure in the event of a fire or other emergencies. Additionally, it should guide on how and when an employee should contact the emergency services.
Employers have a legal obligation to designate at least one competent individual, preferably from within the organization, to oversee, supervise, and assist in all matters related to health and safety legislation.
All employees must be provided with comprehensive safety information in a format that is easily understandable. Similarly, temporary, and non-employees, such as contractors, should also receive appropriate health and safety information. Every employee must undergo sufficient health and safety training. Furthermore, it is crucial to assign tasks to workers that are within their competence and physical capabilities.
In cases where employers share premises with another employer, they need to collaborate and coordinate their health and safety activities. Employers must exchange information from risk assessments, as well as the corresponding preventive measures.
Employee responsibilities
While the regulations primarily focus on employers, they also outline specific responsibilities for employees:
Notify any deficiencies in health and safety measures
Report hazardous situations, incidents, and accidents
Utilize equipment as instructed and trained
Exercise reasonable caution for their well-being and the well-being of others impacted by their work
These responsibilities complement and reinforce the duties of employees as stated in section 7 of the Health and Safety at Work Act.

• First Aid at Work Regulations

The **Health and Safety (First-Aid) Regulations 1981** mandate that employers must supply sufficient and suitable equipment, facilities, and personnel to ensure prompt care for their employees in case of injury or illness at work. These regulations apply to all workplaces, even those with fewer than five employees and to self-employed individuals.
Determining what is considered 'sufficient and suitable' will vary based on the specific circumstances of the workplace. This includes assessing the necessity of trained first-aiders, the contents of a first-aid kit, and the need for a designated first-aid room. Employers are required to evaluate first-aid requirements to establish the appropriate provisions.
While the Regulations do not impose a legal obligation on employers to provide first-aid for non-employees like the general public or students in schools, the HSE strongly advises that non-employees are taken into consideration during the assessment of first-aid needs and that provisions are made for them.

The document offers guidance on:
- managing the provision of first aid (first-aid kit, equipment, rooms, etc.)
- requirements and training for first-aiders
- requirements for appointed persons
- making employees aware of first-aid arrangements
- first aid and the self-employed
- cases where first-aid regulations do not apply
The third edition, reissued in 2018 with minor amendments, aims to:
- further clarify the significance of the 2013 amendment to regulation 3(2), which ended HSE's approval of first-aid training providers
- update guidance on the use of automated external defibrillators and blended learning in first-aid training
- incorporate additional amendments to consider other previous legislative changes
The third edition has been further updated in 2024 with minor amendments to:
- emphasize employers' responsibilities to consider employees' mental health in their first-aid needs assessment
- change the term 'catastrophic bleeding' to 'life-threatening bleeding' with more guidance on what employers should do if they identify this as a risk in their workplace
- simplify guidance on how to determine what first aid to provide.

• COSHH

The **Control of Substances Hazardous to Health (COSHH) Regulations 2002** (as amended) govern the way substances are handled in the workplace.

Employers are mandated by the Control of Substances Hazardous to Health (COSHH) Regulations 2002 (as amended) to evaluate the hazards associated with the use of dangerous substances. This evaluation should encompass plans for managing accidents, incidents, and emergencies, including those caused by significant spills. Furthermore, the assessment must address the health and safety risks linked to the storage, handling, or disposal of these substances. Employers must either prevent exposure to such substances or, if not feasible, control it effectively. Additionally, they are required to provide their staff with comprehensive information, instructions, and training regarding the risks involved, as well as the measures and precautions implemented to mitigate these risks, such as supplying suitable rubber gloves or eye protection.

COSHH legislation mandates employers to manage hazardous substances that pose a health risk. To minimize workers' exposure to such substances, it is essential to:
- Identify the health hazards involved;
- Determine preventive measures through risk assessment;
- Implement control measures to minimize health risks;
- Ensure proper utilization of control measures;
- Maintain all control measures in optimal condition;
- Offer information, guidance, and training to employees and other individuals;
- Conduct monitoring and health surveillance when necessary;
- Prepare for potential emergencies.

Various forms of substances can be found, such as chemicals, products containing chemicals, fumes, dust, vapours, mists, nanotechnology, gases, asphyxiating gases, and biological agents (germs). Substances that are classified as hazardous include those with hazard symbols on the packaging, as well as germs that cause diseases like leptospirosis or legionnaires disease, and germs used in laboratories.

Please assess all the substances you utilize and ascertain whether they have the potential to cause harm. Initial examinations of the substances will disclose the presence of CHIP symbols and codes. CHIP refers to the Chemicals (Hazard Information and Packaging for Supply) Regulations 2009, which mandate suppliers to provide information about the substances they distribute and transport (examples of symbols used are provided on the opposite side). These substances are deemed harmful, and the Control of Substances Hazardous to Health (COSHH) regulations will apply to them. It is important to note that other substances, which are not manufactured, may also fall under the scope of COSHH, such as wood dust or Plane farina (the hairs on the leaves of a Plane tree).
Additionally, please consider if there are any safer alternative substances available that are suitable for use.

Example of a COSHH Risk Assessment

COSHH	**COSHH Risk Assessment No: 002** **Product Name: Oak Processionary Moth (OPM)** ***(OPM is a legally notifiable pest which must be reported to the FC.)***	***INSERT LOGO***

Company name:	Dept. (if applicable):
Describe the activity or work process. *(Inc. how long/ how often this is carried out and the quantity of substance used)*	OPM caterpillars have thousands of tiny hairs which contain an irritating protein called thaumetopoein. Contact with the hairs can cause itching skin rashes, eye, and throat irritations and, less commonly, breathing difficulties in people and animals. Contact can occur by touching the caterpillars or their nests; the caterpillars can eject hairs as a defence mechanism, and the hairs can be blown about by the wind. Tree surgeons and others who work on oak trees in the affected areas are among those most exposed to these risks.

OPM caterpillars gathering on the trunk of an Oak

OPM caterpillars feeding on the foliage of an Oak

Location of the process being carried out?	Various, outdoor, locations in the London / SE region where the pest is established on populations of Oak trees. Tree surgery and tree climbing activities in infected trees will put climbers, and others, at risk.

Identify the persons at risk:	Employees ☑	Sub-contractors ☑	Public ☑	
Name the substance involved in the process and its manufacturer. *(A copy of a current safety data sheet is attached to this assessment)*	OPM caterpillars have thousands of tiny hairs which contain an irritating (urticating) protein called thaumetopoein. (This is a biotic hazard and hence no MSDS is available.)			

Classification *(state the category of danger)*

	☑ Toxic		☐ Oxidising		☐ Gas Under Pressure
	☑ Harmful/ Irritant		☐ Flammable		☐ Carcinogen
	☐ Corrosive		☐ Explosives		☐ Dangerous for the environment

Hazard Type

Gas	Vapour	Mist	Fume	Dust	Liquid	Solid	Other (State)
☐	☐	☐	☐	☐	☐	☐	☑ Caterpillar hairs/biotic

Route of Exposure

Inhalation	Skin	Eyes	Ingestion	Other	(State)
☑	☑	☑	☑	☐	.....

Workplace Exposure Limits (WELs) *please indicate n/a where not applicable*

N/A	**N/A**

State the Risks to Health from Identified Hazards

Inhalation: The hairs are known to cause bronchial / throat irritations and breathing difficulties in some people. Hence symptoms may include coughing, wheezing, chest tightness and/or runny/stuffy nose and possible allergic reactions in some people similar to hayfever.
Skin: Fine hairs can cause skin irritation, sometimes severe in some people causing lesions.
Eyes: The dust and fine hairs can irritate the eyes in some people.
Ingestion: Unlikely route of exposure however may occur during tree surgery operations

Control Measures:

- **IF UNDERTAKING OPM REMOVAL OR CONTROL OPERATIONS COMPLETE A SEPARATE COSHH ASSESSMENT & RISK ASSESSMENT TO COVER THAT OPERATION.**
- Avoid works to infected trees/trees in infected areas wherever possible, or minimise operations.
- Provide information, instruction, and training to staff to recognise OPM nests and caterpillars.
- Undertake works during trees' dormant period to avoid/reduce exposure.
- Undertake works during still, damp weather conditions to reduce exposure / dampen effects.
- Select the most suitable staff with no pre-existing asthmatic, bronchial or allergic-type conditions.
- Phase works with other tree species, if possible, to reduce exposure.
- Rotate operatives between sites to reduce exposure.
- PPE: use respiratory equipment, incorporate eye protection, ensure adequate fitting, and keep skin covered by wearing long sleeves and gloves to reduce the effects of exposure.

Further information on OPM is available from the FC website http://www.forestry.gov.uk/fr/INFD-6URJCF

Is health surveillance or monitoring required? Yes ☐ No ☑

Personal Protective Equipment *(state type and standard)*

 Dust mask ☑	Disposable mask (EN149-FFP1 to be available for immediate use if reqd.)	 Visor ☐	
 Respirator ☐		 Goggles ☑	Close-fitting goggles are recommended to reduce the possibility of eye contamination (EN166)
 Gloves ☑	Suitable gloves to be available which are closed cuff	 Overalls ☑	Keep exposed skin covered. Wear standard 'Disposable Type' coveralls is required.
 Footwear ☐		 Other ☐	

First Aid Measures

Inhalation: Remove from the area of exposure immediately. If irritation or hay fever/asthma-like symptoms persist, seek medical advice.
Skin: Wash with clean water. Seek medical advice if irritation persists.
Eyes: Rinse thoroughly in running water for at least fifteen minutes. If irritation persists seek medical advice.
Ingestion: Unlikely route of exposure however seek medical advice if discomfort persists.

Storage

Tree surgery operations:
When transporting processed or unprocessed foliage in a vehicle, use a cover such as a net over the arisings to limit third-party contamination as a precautionary measure.

OPM Infected Material or Oak Material from An Infected Area (see also FC Good Practice Guide):

1. Any tree from which an OPM infestation has been removed should be left for 12 months before undertaking any pruning, to ensure that it is free from OPM, or 'clean'. If the work cannot wait this long, e.g. for safety reasons, the arisings must be vacuum cleaned as set out in the LTOA SOP before chipping and removal from the site. The arisings should be taken for incineration.
2. Oak material smaller than 10cm in diameter should not be moved outside the OPM-affected area unless absolutely necessary. It should be retained on site if possible until its movement no longer presents a risk of spreading the pest. (Material greater than 10 cm in diameter poses less risk of spreading OPM, but there is a general presumption and recommendation to manage larger material in the same ways as the smaller material.)
3. If oak material must be moved outside the OPM-affected area, you must first consult our Plant Health Service (see below).
4. If arisings from a 'clean' tree are to be moved outside the known OPM infestation area, all material less than 10cm in diameter must be thoroughly chipped on site and incinerated, and not used for any other purpose which leaves the material intact (e.g. as a mulch)
5. Oak material being transported must be contained within an enclosed vehicle which prevents any material from escaping. The transporting vehicle must be washed down afterwards in a designated area with provision for preventing washings from entering any watercourse.
6. Storage of oak material before transport to an incineration or processing plant must be for as short a period as possible.
7. Vehicles used for handling waste from an OPM site must be thoroughly swept out and washed down afterwards.

Disposal of Substances & Contaminated Containers								
Hazardous Waste	☐	Skip	☐	Return to Depot	☐	Return to Supplier	☐	Other ☑

(If Other Please State): **MUST be incinerated (see above.)**

Is exposure adequately controlled?	**Yes** ☑	No ☐

Risk Rating Following Control Measures					
High	☐	Medium	☐	**Low**	☑

Example for another COSHH Risk Assessment to download
https://ukfisa.com/Safety/Safety-Guides/coshh-example-risk-assessment-for-forestry-operations

- **Work at Height Regulations**

The main objective of **The Work at Height Regulations 2005** is to prevent fatalities and injuries resulting from falls from elevated positions. If you are an employer or have authority over work at height, such as facilities managers or building owners who subcontract work at height, these Regulations apply to you.
It is imperative for employers and those overseeing work at height to ensure that tasks are adequately planned, supervised, and executed by competent individuals. This involves utilizing the appropriate equipment for working at height. Tasks that are low-risk and relatively simple will necessitate less planning effort.
Employers and those in control must conduct a thorough risk assessment beforehand.

Employees are legally obligated to take reasonable care of themselves and others who may be impacted by their actions, as well as to collaborate with their employer to fulfil health and safety obligations and requirements.

The concept of working at height encompasses any elevation from which individuals may potentially fall and harm themselves. The Work at Height Regulations of 2005 imposes a responsibility on employers and contractors to ensure that all work conducted at height adheres to the following criteria:

1. Thoroughly planned and organized, encompassing emergency and rescue planning.
2. Assessed for potential risks using a hierarchy of control measures.
3. Adequately supervised throughout the duration of the task.
4. Executed in a manner that prioritizes safety to the greatest extent reasonably possible.
5. Carried out exclusively by competent individuals, including managers and supervisors, who have received appropriate training and supervision.
6. Utilizing suitable equipment that undergoes regular inspection and maintenance.

Staying updated with the guidance provided by the HSE and industry will assist in fulfilling your obligations under the Work at Height Regulations.

1. Falling from heights is the primary reason for workplace fatalities and a significant contributor to severe injuries. Within the tree work industry, falls from heights remain a prevalent issue, often resulting in fatalities or severe injuries.
2. Approximately 16% of documented tree work accidents involve falls from heights, while around 6% are attributed to uncontrolled swings within the tree, leading to collisions with branches or the trunk.
3. These examples highlight the consequences of tree work professionals failing to adhere to recommended safety protocols when working at elevated levels.

Fatalities in forestry and arboriculture - Case studies

In the field of forestry and arboriculture, various terms and practices are utilized to ensure safety and efficiency. One such term is a 'sink cut', which involves making a triangular cut near the base of the tree on the side where it is intended to fall, at an angle of around 45 degrees.
Another important practice is the 'felling cut', which is a horizontal cut made into the rear of the tree, just above and towards the sink cut. It is crucial for the felling cut to stop before meeting the sink cut to create a hinge.
The controlled falling action of the tree is made possible by the creation of a 'hinge', which is formed by the portion of the tree that has not been cut through. This hinge allows for the direction and speed of the fall to be managed effectively.
Forestry workers often use 'wedges' as tools, and it is not uncommon for them to use wedges to free a jammed chainsaw.
Additionally, a 'bench' is created by felling one tree into a horizontal position on the ground, allowing the next tree to be felled on top of it. This technique makes the process of snedding, which involves removing branches from the trunk of a felled tree using a chainsaw, much easier.
The 'danger zone' refers to the area in front and behind a tree where it is most likely to fall during or after the sink and felling cuts have been made. This concept is illustrated in Figure 1 of Appendix 1 (AFAG302 – Basic chainsaw felling and manual takedown).

Case studies
1. A 56-year-old self-employed arborist passed away after falling from a ladder positioned against a tree. The ladder was placed against a different tree about 2.5 meters away from the tree he was working on. It seems he was trying to secure a rope to the branch of the tree to control its falling direction once it was cut. The ladders remained against the tree following the incident, and it is uncertain how he fell.

2. The arborist, aged 44 and self-employed, tragically passed away after falling from a tree. While using a chainsaw and ladder to thin branches off an ash tree, he was not secured with a climbing rope, resulting in a fatal fall and multiple injuries.
Performing tasks at a height with a chainsaw poses significant risks, emphasizing the importance of proper training and competence for individuals in this line of work. It is crucial to ensure that the equipment utilized for working above ground is appropriate for the task at hand. Before thinning branches, a thorough assessment of the tree

should be conducted to determine the safest and most efficient approach, while also identifying potential hazard zones in the surrounding area.
https://www.hse.gov.uk/treework/resources/casestudies.htm

When carrying out tasks at height, it is essential to evaluate the risks involved and implement suitable control measures. There exists a structured hierarchy of control measures that must be adhered to. Progress to the next level of the hierarchy is only warranted when it is deemed that the current control measure is not feasible.

- Avoid working at height whenever possible, for instance, by utilizing extending equipment from the ground.
- Use appropriate access equipment like work platforms or rope access to prevent falls.
- Minimize the height and impact of a potential fall.
- Prioritize collective measures, such as mobile elevating work platforms (MEWPs), to prevent falls over other measures that may only lessen the height and impact of a fall (e.g., fall protection systems) or provide personal protection against falls.

• Lifting Operations and Lifting Equipment Regulations
Lifting Operations and Lifting Equipment Regulations 1998 (LOLER)

The Lifting Operations and Lifting Equipment Regulations 1998 (often abbreviated to LOLER) place duties on people and companies who own, operate, or have control over lifting equipment. These pages explain how they apply to arboriculture.
Lifting operations should be properly planned, appropriately supervised, and carried out safely. For further information on planning lifting operations.
Lifting equipment in arboriculture refers to any equipment that is capable of raising or lowering loads, as well as any attachments used for securing, fixing, or providing support to the equipment. This includes various items such as rope access and work positioning systems, which consist of anchor points, ropes, karabiners, harnesses, and strops. Additionally, rigging systems designed for safely lowering branches, mobile elevating work platforms (MEWPs), cranes, and tree spades are also considered lifting equipment in arboriculture. It is important to note that the term "load" encompasses individuals as well.
In contrast, equipment that does not perform the function of lifting or lowering loads is not considered lifting equipment in arboriculture. For instance, winching equipment used at ground level, where the load remains on the ground during operations such as skidding, falls under this category.
Additional guidance on labelling lifting equipment is accessible. It is imperative that all lifting equipment, along with its accompanying accessories, be visibly marked to indicate its ‘safe working loads' (SWL). The SWL denotes the maximum weight that the equipment can safely lift. This requirement is applicable in various arboriculture scenarios, such as the utilisation of ropes, slings, karabiners, strops, and harnesses for rope access. Moreover, it is crucial to mark rigging system equipment explicitly to indicate that it is not intended for carrying individuals. If you require further assistance regarding the marking of equipment, please seek advice accordingly.

Arboricultural tasks that demand meticulous attention to strength encompass:
rigging operations;
working on trees affected by disease or decay.
It is crucial to bear in mind that anchor points in trees are essential for:
rope access;
work positioning, and
rigging systems.
Arborists utilising rope access or work positioning techniques must undergo training to:
identify appropriate anchor points;
distinguish between various tree species; and
comprehend the impact of factors such as age, tree condition, and disease.

LOLER mandates that you guarantee the stability of your lifting equipment to prevent any collapse or overturning during operations. Additional details can be found regarding mobile elevating work platforms (MEWPs) used in tree work. https://www.hse.gov.uk/treework/safety-topics/mewps.htm

It is essential to prioritise the safety of individuals by minimising the risk of falls. For instance, to avoid working at heights, arborists can opt to trim lower branches using long-handled hand saws or pole pruners from the ground,

being cautious of over-reaching and working beneath the branches being cut. Additionally, it is advisable to use MEWPs over rope access techniques when feasible and safe ground conditions permit. When rope access methods are unavoidable, it is crucial to adhere to Schedule 5 of the Work at Height Regulations 2005. Regular inspection of climbing ropes and related equipment by a competent individual daily is imperative. Moreover, in case of emergencies, a dependable rescue plan must be in place, and personnel trained in tree rescue should be present at all work locations.
Position and install lifting equipment to minimise the risk of the equipment or the load, such as a log being lowered, striking individuals, as well as the risk of cut timber drifting, falling freely, or being unintentionally released. Additionally, ensure that the lifting equipment is positioned in a way that reduces the need to lift loads over people. It is important to check that unauthorised access to the work area is prevented when handling timber with lifting equipment near public rights of way. Furthermore, when using MEWPs and cranes for tree work, make sure that the counterweight is set up in a manner that does not swing out into the path of pedestrians or road traffic. Take precautions to ensure that arborists working on the same tree are not endangered by working too closely together or by lowering timber. Lastly, prevent loads from drifting by using supplementary anchors, where feasible, to minimise the risk of a pendulum swing within the tree. If necessary, attach control lines to cut timber to prevent contact with individuals or objects.
Ensure that lifting equipment is equipped with appropriate devices to reduce the risk of the load (including individuals) falling freely.
1. Arborists should refrain from ascending above anchor points when employing work positioning techniques;
2. The lowering of branches should be managed by utilising a friction device or another suitable system.
3. Arborists must descend ropes in a controlled manner by employing either a friction knot (such as a prussic) or a mechanical descender device.
To avoid the unintentional release of loads:
1. Provide adequate training to individuals involved in slinging loads;
2. When it comes to rope access and work positioning, utilise a karabiner with a 3-way action gate at the primary attachment point between the rope and the harness.

A comprehensive inspection of lifting equipment is essential to ensure the safety of both operators and individuals in the vicinity of lifting operations who may be endangered in the event of equipment failure.
Lifting equipment utilised for raising loads must undergo a meticulous examination conducted by a qualified individual. This encompasses various items like rigging gear and climbing equipment, as well as machinery like telehandlers and MEWPs.
Additional guidance regarding thorough examinations is accessible.
Arborists need to be proficient in conducting a daily pre-use assessment of their lifting equipment. For items prone to significant wear and tear, such as ropes, it is imperative to maintain a written weekly inspection log.

An individual conducting a comprehensive assessment on behalf of an employer ought to identify any flaws and compile a detailed report of the examination.
For further information on reporting defects is available. For further information on record keeping is available.

• Provision and Use of Work Equipment Regulations 1998 (PUWER)

The Regulations, known as PUWER, impose obligations on individuals and organisations that possess, operate, or have authority over work equipment. Additionally, PUWER places responsibilities on businesses and institutions whose employees utilise work equipment, regardless of ownership.
PUWER necessitates that equipment provided for work purposes must meet the following criteria:
1. It must be suitable for the intended use.
2. It must be safe to use, maintained in a safe condition, and regularly inspected to ensure correct installation and prevent deterioration.
3. It should only be operated by individuals who have received sufficient information, instruction, and training.
4. It should be accompanied by appropriate health and safety measures, such as protective devices and controls. These measures typically include guarding, emergency stop devices, means of isolation from energy sources, visible markings, and warning devices.
5. It should be used by specific requirements, particularly for mobile work equipment and power presses.
Certain work equipment is subject to additional health and safety regulations alongside PUWER. For instance, lifting equipment must comply with LOLER requirements, pressure equipment must adhere to the Pressure Systems Safety Regulations and personal protective equipment must meet the PPE Regulations.

Work equipment encompasses a broad range of machinery, appliances, apparatus, tools, and installations that are utilised in the workplace, regardless of whether they are provided by the employer or the employees themselves. The scope of work equipment is extensive, covering various activities such as starting, stopping, programming, setting, transporting, repairing, modifying, maintaining, servicing, and cleaning. The interpretation of work equipment usage is comprehensive, ensuring that all aspects of its utilisation are considered.

If your business or organisation utilises work equipment or is involved in providing work equipment for others to use (e.g., for hire), it is essential to effectively manage the risks associated with that equipment. This involves:
ensuring that the equipment is designed or modified to be appropriate for the intended purpose of its use or provision
Taking into consideration the working conditions and health and safety risks in the workplace when selecting work equipment
ensuring that work equipment is utilised only for suitable purposes
Ensuring that work equipment is kept in an efficient state, in good working order, and properly maintained
Keeping maintenance logs up-to-date for machines that require them
Inspecting work equipment after installation and before use to determine its safety depends on the installation method.
regularly inspecting work equipment that is exposed to deteriorating conditions to detect faults promptly and manage health and safety risks.
providing adequate, clear health and safety information to all individuals using, supervising, or managing the use of work equipment. This may include written instructions on usage, appropriate equipment markings, and warnings.
ensuring that all individuals who use, supervise, or manage the use of work equipment have received sufficient training, including proper equipment usage, potential risks, and necessary precautions. In situations where work equipment poses a specific risk to health and safety, such as woodworking machinery, it is crucial to limit its use to trained individuals. Implementing fixed guarding or interlocked guards with guard locking can help prevent access to dangerous parts of the machinery. If routine access is necessary, these protective measures should be in place to halt the movement of hazardous components before anyone can reach the danger zone. For instances where complete guarding is not feasible, like with a circular saw blade, it should be safeguarded as much as possible, and a safe work system should be followed. These protective measures should adhere to the hierarchy outlined in PUWER regulation 11(2) and the relevant approved code of practice and guidance. Additionally, steps should be taken to mitigate risks related to falling or ejected parts, substances, or equipment disintegration. Managing risks associated with extreme temperatures and ensuring that work equipment has identified controls for safe operation are also essential. Providing means to isolate work equipment from power sources, stabilizing equipment to prevent injury, and enabling safe maintenance operations when the equipment is shut down are all crucial measures to safeguard the health and safety of individuals.
When supplying new work equipment for use in the workplace, it is essential to ensure that it complies with the requirements of relevant product supply laws. For new machinery, this entails adhering to the Supply of Machinery (Safety) Regulations. To ensure compliance, you must verify that the equipment:
1. possesses the appropriate conformity marking and is labelled with the manufacturer's details.
2. Includes a Declaration of Conformity.
3. Provides instructions in English.
4. It is free from any evident defects and remains so throughout its operational lifespan.
When providing mobile work equipment, additional considerations must be considered. These include:
1. ensuring that the equipment is suitable for carrying employees, if applicable.
2. Minimising the risks of rolling over and providing protection for individuals in the event of a fall or rollover. This should involve measures such as crush protection, suitable restraints, and rollover protection systems.
3. Ensuring that self-propelled equipment can be safely controlled using braking devices, adequate driver vision, and, if necessary, lighting.
4. Implementing measures to prevent risks associated with drive shafts and power accessories attached to mobile work equipment by utilising adequate guards.
When providing power presses for working on cold metal, a thorough examination of the equipment and its safeguards must be conducted before initial use and periodically thereafter. This entails arranging for competent individuals to inspect and test guards and protection devices at regular intervals. Detailed records of these examinations, inspections, and tests must be maintained.
The Health and Safety (Miscellaneous Amendment) Regulations 2002 have made amendments to the Provision and Use of Work Equipment Regulations 1998. These regulations are further supported by an Approved Code of Practice (ACOP) and additional guidance that can be obtained from HSE. There are also other ACOPs available that provide

support for PUWER, specifically for woodworking machinery and power presses used for working on cold metal. If work equipment is also considered lifting equipment, there is an additional ACOP that supports both LOLER and PUWER.
Although the ACOPs themselves are not legally binding, they hold a special status as they were created under Section 16 of the Health and Safety at Work Act (HSW Act). The introduction to the PUWER ACOP states that following the guidance is not mandatory, but if followed, it generally ensures compliance with the law. Health and safety inspectors often refer to this guidance as an example of good practice when seeking compliance with the law. These ACOPs provide support for PUWER and the general provisions outlined in Section 2 of the HSW Act. They also complement other regulations, such as the Management of Health and Safety at Work Regulations and the Workplace (Health, Safety, and Welfare) Regulations.
It is important to note that there may be other specific legislation that applies, depending on the nature of the equipment used. For instance, LOLER applies when lifting equipment is used at work. In some cases, equipment used at work may be covered by other legislation, such as the Personal Protective Equipment Regulations and the Electricity at Work Regulations. Therefore, it is necessary to ensure compliance with the requirements of both PUWER and any other relevant legislation. This includes considering the Workplace (Health, Safety, and Welfare) Regulations about the risks posed to pedestrians by mobile work equipment in the workplace.

- **Manual Handling Regulations**

This guidance primarily targets employers, managers, and safety representatives, although it may also provide valuable information for employees.
Key messages:
Employers are obligated to adhere to the **Manual Handling Operations Regulations 1992**, which were amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002.
The guidance outlines strategies for avoiding, evaluating, and minimising the risk of injury resulting from manual handling.
Changes made since the previous edition:
The publication has been reorganised into four sections, with Part 1 containing the regulations and concise guidance and Parts 2-4 offering more detailed guidance on conducting risk assessments and managing risks. The use of colour coding aids in distinguishing between the different sections.
The appendix includes risk filters that assist in identifying tasks that do not necessitate a comprehensive assessment. It also explains how HSE's assessment tools can be utilised as part of the risk assessment process.
The complete risk assessment checklists (PDF) are now exclusively available online and are not included in the book.
The guidance incorporates modifications introduced for self-employed individuals by the Health and Safety at Work Act 1974 (General Duties of Self-Employed Persons) (Prescribed Undertakings) Regulations 2015 and the Deregulation Act 2015 (Health and Safety at Work) (General Duties of Self-Employed Persons) (Consequential Amendments). Order 2015.

Work-related musculoskeletal disorders (MSDs), such as manual handling injuries, are prevalent in the UK. It is crucial to keep in mind that various preventive measures can be taken to avoid them. These measures are often straightforward and cost-effective. While it may not be possible to prevent all MSDs, early reporting of symptoms, appropriate treatment, and suitable rehabilitation are essential when they do occur. The Manual Handling Assessment Charts (MAC) serve as a valuable tool for employers, health and safety managers, safety representatives, and health and safety inspectors. This tool aids in assessing common risk factors in lifting, carrying, and team handling operations, specifically targeting high-risk manual handling tasks. By using the MAC, you can identify the factors that need modification to effectively control these risks.

The regulations outlined in the Manual Handling Operations Regulations 1992 provide a clear framework for addressing risks associated with manual handling that may lead to harm. These measures include avoiding hazardous manual handling operations whenever possible, assessing operations that cannot be avoided, and minimising the risk of injury to the lowest level reasonably achievable.
The MAC is structured to accommodate three types of assessments: lifting operations (pages 3-7), carrying operations (pages 8-12), and team handling operations (pages 13-17). Each assessment type is accompanied by a guide and flow chart for reference. After the assessment, a score sheet is to be filled out.
https://www.hse.gov.uk/pubns/indg383.pdf

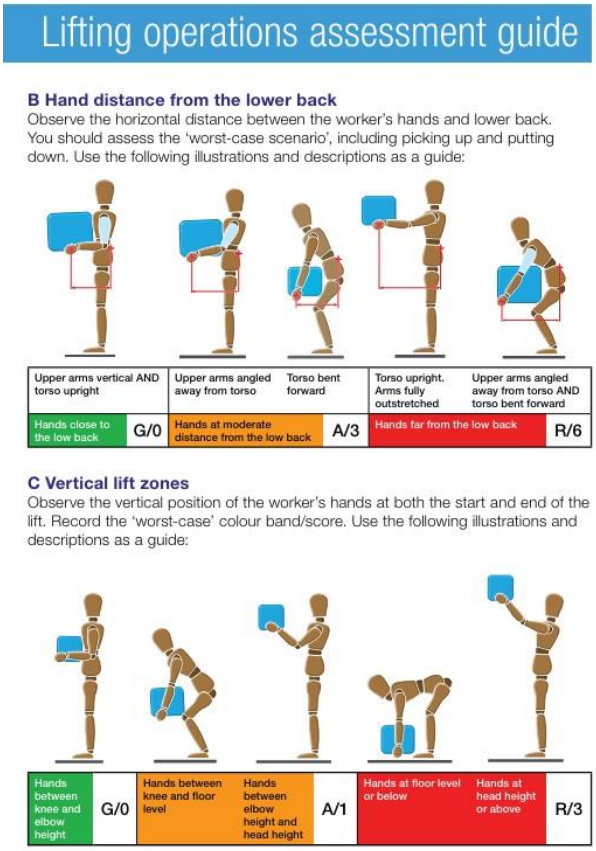
G = GREEN - Low level of risk Although the risk is low, consider the exposure levels for vulnerable groups such as pregnant women, disabled, recently injured, young or inexperienced workers.

A = AMBER - Medium level of risk Examine tasks closely.

R = RED - High level of risk Prompt action needed. This may expose a significant proportion of the working population to risk of injury.

P = PURPLE - Unacceptable level of risk Such operations may represent a serious risk of injury and must be improved.

Example Manual Handling



Musculoskeletal disorders in detail

Musculoskeletal disorders ›	Back pain ›
Upper limb disorders ›	Lower limb disorders ›

https://www.hse.gov.uk/msd/index.htm

- **Reporting of Injuries, Diseases and Dangerous Occurrences Regulations**

The **Reporting of Injuries, Diseases, and Dangerous Occurrences Regulations 2013 (RIDDOR)** imposes a legal obligation on employers, self-employed individuals, and individuals responsible for premises to report any accidents resulting in injuries, work-related accidents, or reportable types of injuries. The purpose of making these incidents legally reportable is to empower enforcing authorities such as the Health and Safety Executive (HSE), local

authorities, and the Office of Rail Regulation to identify the origins and nature of risks and determine if further investigation is necessary.
It is necessary to notify about work-related incidents that lead to the death of workers and non-workers; work-related accidents causing specific injuries to workers; incidents resulting in a worker's absence from work for over 7 consecutive days; work-related accidents involving members of the public taken to the hospital for treatment; reportable work-related illnesses; reportable dangerous occurrences (events that could have caused injury but did not); reportable gas incidents.
https://www.hse.gov.uk/riddor/

The following types of injuries are required to be reported under RIDDOR:
The death of any person, except for suicides, resulting from a work-related accident must be reported.
If a person experiences a reportable work-related injury and passes away due to that injury within one year (365 days), it must be reported as a work-related fatality.
There is no obligation to report the death of a self-employed individual when it occurs on premises where they are the sole owner or occupier.
Specified, reportable injuries to workers are outlined in Regulation 4 of RIDDOR:
Fractures (excluding fingers, thumbs, and toes)
Amputation of an arm, hand, finger, thumb, leg, foot, or toe
Any injury likely to result in permanent blinding or a reduction in sight in one or both eyes
Any crush injury to the head or torso causing damage to the brain or internal organs in the chest or abdomen
Serious burns (including scalding) that cover more than 10% of the body or cause significant damage to the eyes, respiratory system, or other vital organs
Any scalping requiring hospital treatment
Any loss of consciousness due to a head injury or asphyxia
any other injury resulting from working in an enclosed space that leads to hypothermia or heat-induced illness or requires resuscitation or hospital admission for more than 24 hours.
This page summarises the following types of reportable incidents and provides links to more detailed guidance:

- reportable injuries
- occupational diseases
- dangerous occurrences
- gas incidents

https://www.hse.gov.uk/riddor/specified-injuries.htm

• ICOP for Arboriculture - Tree work at Height

The revised and updated **Industry Code of Practice for Arboriculture (ICoP)** in its second edition offers guidance on planning protocols for the safe and efficient management of resources, personnel, and equipment. It serves as a foundation for the development of detailed technical guidance on specific tasks and equipment, ensuring a comprehensive approach to health and safety. The Health and Safety Executive (HSE) collaborated with the Arboricultural Association in the creation of this guidance, endorsing its sensible and proportionate approach to health and safety management.

This ICoP is not intended to guide how tasks and specific techniques should be performed. It identifies and considers the underpinning principles, informing technical guidance (TG) that relates to specific arboricultural operations.
Technical Guide 1: Tree climbing and aerial rescue
Technical Guide 2: Use of tools in the tree
Technical Guide 3: Rigging and dismantling
Technical Guide 4: Use of mobile cranes in tree work
Technical Guide 5: Use of Mobile Elevating Work Platforms in tree work

Employers are required to adhere to the Work at Height Regulations 2005 when conducting tree work involving work at height. It is essential to carefully plan the work and choose appropriate equipment to ensure safety. According to the Regulations, climbing work using a personal fall protection system, such as ropes and harnesses, is permissible only under certain conditions. These conditions include conducting a risk assessment to confirm the safety of using

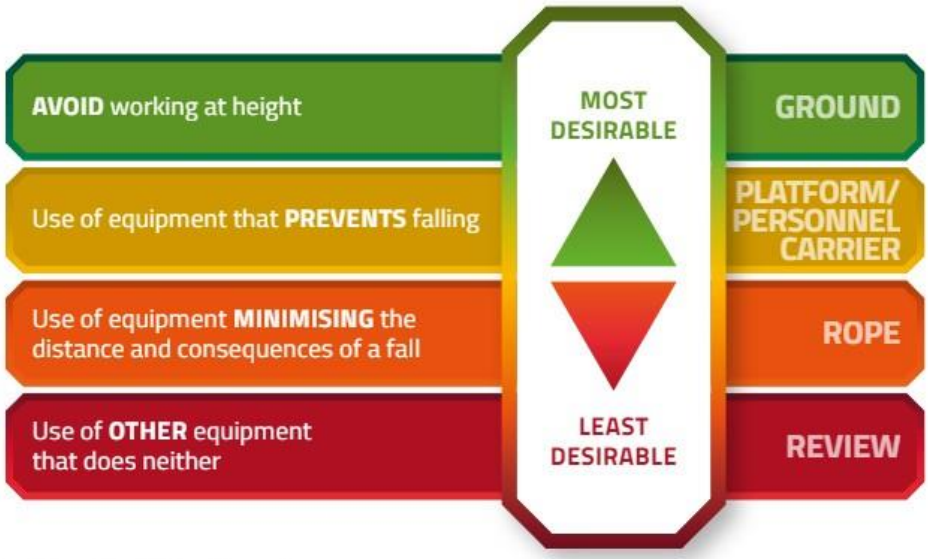
the system, determining that other safer equipment options are not suitable, and ensuring that the user and an adequate number of individuals have received specialised training, including rescue techniques.

The purpose of this ICoP is to establish fundamental principles and outline a uniform approach to safely conducting aerial tree work. The main principles are as follows:
a) clear standards of good management practice, which involve demonstrating leadership and providing guidance to foster positive relationships and effective communication with operators to enhance skills and abilities and optimise resource utilisation;
b) uniform implementation of safe work systems (specific methods for carrying out work safely);
c) appropriate selection, provision, utilisation, and upkeep of work equipment;
d) clearly defined roles and responsibilities;
e) trained and skilled personnel;
f) efficient planning, supervision, and auditing.

3.5.4 Fundamental principles

This ICoP sets out a framework for the management of risks associated with working at height. The fundamental principles or risk hierarchy are:

Figure 5:
Risk hierarchy for tree work at height.



The primary climbing techniques utilised in tree work include work positioning, such as changeover climbing with a harness, friction knot, and climbing line, as well as rope access and positioning, like foot locking or single rope technique (SRT). It is essential that, in the tree, the system is securely attached to two load-bearing anchor points whenever possible. Each anchor point must have the strength to support the climber, work equipment, and any expected loading.
Work positioning systems should only be employed if there is a reliable backup system in place to prevent or stop a fall. If a second line is part of the backup system, the user must be connected to it. If having a backup system is not feasible, it is crucial to ensure that the work positioning system remains secure by:
providing proper training
Using appropriate equipment
Selecting dependable anchor points
Adhering to industry and HSE guidelines
Using tools correctly
Rope access and positioning should only be used when there are at least two separately anchored lines, one for work and the other for safety. The user must be connected to both lines using a suitable harness. The working line should have a safe means of ascent and descent and a self-locking mechanism to prevent falls if control is lost. The safety line should be equipped with a mobile fall protection system that is connected to the user and moves with them.
In rope access and positioning, a single rope can be utilised if a risk assessment has determined that using a second line would pose a higher risk and appropriate safety measures have been implemented.

HSE collaborated with the industry to define the concept of what is considered reasonably practicable in determining the necessity of utilizing two climbing lines and anchors. This effort led to the release of the ICoP for Arboriculture Tree Work at Height and the accompanying Technical Guide 1: Tree Climbing & Aerial Rescue.
In situations where load-bearing supplementary anchor points are implemented, it is crucial to properly organize the work position to reduce the likelihood of system failure.

Work at Height Regulations 2005

Tree work at height hierarchy – assessment and justification

Arboricultural ASSOCIATION trees.org.uk

Can the work be carried out from the ground?

- Yes → Carry out work from ground
- No
- Partially → Work from ground where possible, then:

Can the work be carried out from a MEWP?

- Yes, possible
- No, not possible

What are the hazards from using a MEWP to carry out the work? For example, consider:

Getting the MEWP to/from site:

- Unloading from/loading onto transport trailer?
- Are there any access and/or ground stability issues?
- Handling ground protection materials for access to the site?
- Set up/take down/pre-work checks?

Carrying out the work

- Can the most suitable type of MEWP be used on the site?
- Are there any obstructions (ground or aerial) to access the relevant parts of the tree?
- Does the climber need to access the tree from the MEWP to complete part of the operation?
- Can the MEWP be safely positioned outside the drop zone?
- Trained, experienced, competent operators and adequate supervision?
- Suitable rescue provision?
- Can all the arboricultural objectives be met?

Justify decision for not using MEWP, e.g:

- Inadequate access/road width
- Unstable/soft ground
- Cannot achieve the tasks from MEWP
- Services close/present
- Insufficient space (ground or aerial)
- Other

What are the hazards from climbing to carry out the work. For example, consider:

- Is the tree safe to climb?
- Size, age, structure, damage, decay
- Species, strength/brittleness of timber
- Form: suitable anchors for safe working
- Trained, experienced, competent operatives and adequate supervision?
- Suitable rescue provision?
- Can all the arboricultural objectives be met?

Compared to climbing, will working with a MEWP result in reduced risk, comparable risk or greater risk?

- MEWP safer → Risks as low as reasonably practicable (ALARP) → Carry out work with MEWP
- Comparable risk → **Consider difference in cost, time, resources, effort:**
  - Will use of MEWP reduce/increase duration?
  - Machine hire/use – time/cost
  - Delivery/collection/return – time /cost
  - Preparing access – time/cost
  - Set up/take down – time/cost
  - Reinstatement – time/cost

  → **Is the cost grossly disproportionate to the reduction in risk?**
  - No → Carry out work with MEWP
  - Yes → Carry out work by climbing
- Climbing safer → Risks as low as reasonably practicable (ALARP) → Carry out work by climbing

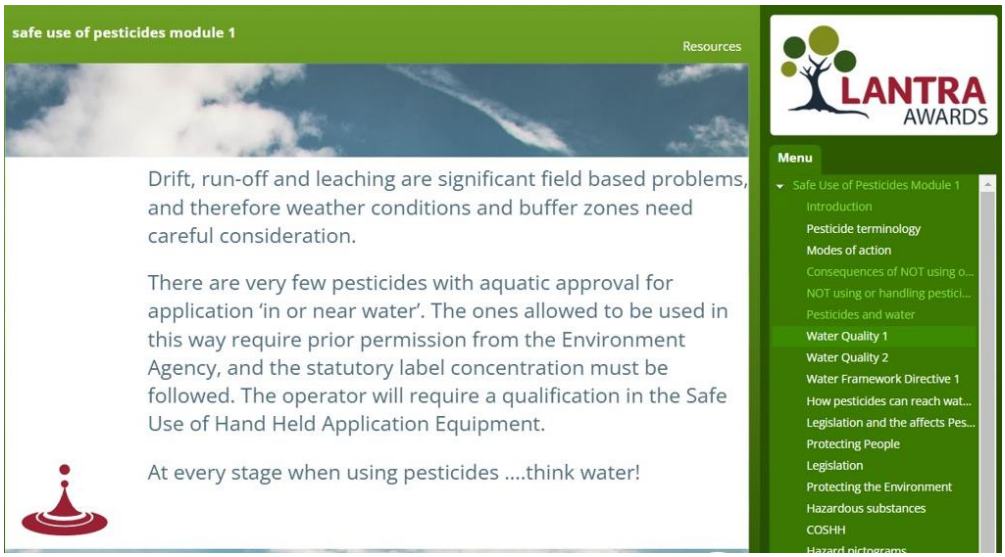
All work in accordance with current good practice? (See AA ICoP, Technical Guides and Safety Guides)

- Yes → Risks as low as reasonably practicable (ALARP) → Carry out work by climbing
- No → **Do not proceed.** Re-evaluate work required and consider what alternative methods could be used.

Personal protective equipment (PPE) for aerial tree work includes several essential items that chainsaw users should wear. These items are recommended by AFAG and comply with specific safety standards.
Firstly, a safety helmet is crucial for protecting the head during tree climbing. AFAG suggests using a mountaineering-style helmet that complies with BS EN 12492.
Secondly, eye protection is necessary to shield the eyes from potential hazards. It is important to use eye protection that complies with either BS EN 1731 or BS EN 166.
Thirdly, hearing protection is essential to prevent damage to the ears. Chainsaw users should wear hearing protection that complies with BS EN 352.
Suitable gloves that are appropriate for the task and based on the operator's risk assessment should also be worn.
Leg protection and groyne protection are vital for aerial work. AFAG strongly recommends using Type C leg protection due to its high all-around chainsaw cut protection, as specified in BS EN 381-5. However, if wearing Type C is impractical, such as due to the increased risk of heat stress, it may be justifiable to use Type A after conducting a risk assessment.
Protective boots with good grip and protective guarding at the front vent and instep are necessary. These boots should comply with BS EN ISO 20345.
Lastly, it is important to wear non-snag outer clothing. Additionally, the use of high-visibility clothing may be appropriate to enhance visibility and safety.

Arborists utilize various pesticides for their work. Some examples include OP- Orthene/acephate, Carbamate-Sevin/Carbaryl, Daconil/chlorathalonil, Pyrethroid-Astro/permethrin, Onyx/Bifenthrin, Deltamethrin, and many others. They also use Neonicotinoid pesticides such as Imidacloprid, Safari/Dinotefuran, and Acetamiprid. Additionally, arborists may employ horticultural oil, insecticidal soaps, BT, Neem/azadiractin, and Avid/abamectin. For soil treatment, they may use Merit, Safari, Transtect, Zylam, or Xytect. Systemic basal bark spray options include Safari TM, Trastect, and Zylam. Trunk injection pesticides include Azasol (azadiractin), Arbormectin (Emane ctin benzoate), Imicide, Tree-Age, and TreeAzin. Lastly, arborists may use trunk/branch/foliar pesticides like Astro (permethrin), Onyx (Bifenthrin), Tempo (Cyflothrin), and Sevin SL (Carbaryl).

The condition of rivers and streams in England is currently concerning. Only 16% of water bodies are in good ecological condition, and none of them meet the overall good status due to chemical pollution. The main reasons for the failure of many water bodies are nutrient and sediment pollution caused by agriculture and wastewater. These issues are further worsened by low flow rates. Therefore, any efforts to reduce these pressures on the freshwater environment are highly appreciated.



The operator should wear waterproof, chemical-resistant Wellington boots, trousers, and gloves as the minimum protective equipment when using a direct applicator to apply herbicide. It is important to always read the product label to determine if additional protective clothing or equipment is necessary.

Chainsaw personal protective equipment (PPE) is crucial for individuals operating chainsaws, whether they are working on the ground or at elevated heights. They must be equipped with and utilise suitable PPE. Additional details can be found in the provided table and the safety topic section. It is worth noting that individuals who do not operate chainsaws may still require appropriate PPE, such as headgear, hearing protection, or eye protection, as outlined in the task risk assessment.

Working near power lines and cables

If you are working near overhead power lines (OHPLs) within a 10-metre distance or if your work has the potential to breach this distance, it is crucial to be aware of the risks involved. Contact with OHPLs can lead to fatal or severe electric shock and burn injuries, especially if a person or object is close enough to cause a flashover. Additionally, striking underground cables can result in burn injuries from explosions and electric shock if there is contact with live conductors. It is important to seek competent advice from the network operator (NO), who is usually the owner of the lines, before working near any electrical apparatus to ensure safety. Incidents involving live overhead electric lines and underground cables can have serious consequences, including death, injury, equipment damage, and electricity supply disruptions. Many of these incidents are associated with tree work near live electrical equipment.

When planning arboricultural works near overhead power lines within a 10-metre distance, it is crucial to take a risk-based approach. This involves seeking expert advice and guidance from the power line owner, typically the network operator, before proceeding with any work in this proximity. It is also important to assess the potential for breaches of the power lines, even if the work is more than 10 metres away. This can occur due to falling trees, debris, or the use of equipment that could collapse within 10 metres of the lines. Additionally, consider the risks posed by underground electrical cables and other utilities. When working near overhead power lines, it is necessary to coordinate with the network operator to ensure the lines are safely disconnected. The network operator can help establish a safe work system, which may involve switching off the electricity, adjusting safety distances based on the nature of the nature of the work and contractor expertise, or hiring a specialised arboricultural contractor. Prioritise conducting works without electricity, but if live works are necessary, ensure they are justified, documented, and compliant with the Electricity at Work Regulations, Regulation 14.

No individual shall participate in any work task on or near any active conductor (except for one adequately covered with insulating material to prevent danger) that may pose a risk, unless:
(a) It is impractical in all the given circumstances for it to be inactive; and
(b) it is justifiable in all the given circumstances for the individual to be working on or near it while it is active; and
(c) appropriate measures (including, if necessary, the provision of suitable protective equipment) are implemented to prevent injury.

To minimise the risk of injury associated with any task, it is essential to develop a work plan that includes:
Conducting a thorough risk assessment
employing competent staff
providing appropriate equipment
implementing safe work procedures.
When carrying out tree work near live electrical equipment, it is crucial to:
Follow the recommendations of the network operator.
Adhere to the specified working procedures established by the network operator with qualified and competent individuals.
Carefully plan various aspects such as the worksite, access routes, tree-felling and pruning operations, and timber extraction.
For guidance, contact the local network operator. In cases of conflicting safety guidelines, seek clarification from the network operator before proceeding.

• INDG 317 Chainsaws at work

Chainsaw personal protective equipment (PPE) is crucial for individuals operating chainsaws, whether they are working on the ground or at elevated heights. It is imperative that they are equipped with and utilise suitable PPE. Additional details can be found in the provided table and the safety topic section. It is worth noting that individuals who do not operate chainsaws may still require appropriate PPE, such as headgear, hearing protection, or eye protection, as outlined in the task risk assessment.

Further information on Chainsaw Personal Protective Equipment

Equipment	BS or EN standard	Using a chainsaw on the ground	Using a chainsaw off the ground	Comments
Safety helmet	BS EN 397 BS EN 14052 BS EN 12492	✔ ✔ ✔	✔	Helmets to BS EN 397 or BS EN 14052 are only recommended for ground work. For tree climbing operations AFAG recommends a mountaineering style helmet complying with BS EN 12492. A helmet to this standard is also suitable for use on the ground where there is nothing in the task risk assessment to disqualify it. Helmets may be available which claim a BS EN 397 or BS EN 14052 shell and cradle but a BS EN 12492 chinstrap/retention system. Such hybrid helmets are also suitable for use on the ground where there is nothing in the task risk assessment to disqualify it.
Hearing protection	BS EN 352-1 BS EN 352-2 BS EN 352-3	✔ ✔ ✔	✔ ✔ ✔	
Eye protection mesh visor	BS EN 1731	✔	✔	Consider the need for eye and face protection from flying debris created by the chainsaw and other hazards such as branches. Also consider hazards caused by reduced quality vision when wearing the protection.
Safety glasses or goggles	BS EN 166	✔	✔	Consider the need for eye protection from flying debris created by the chainsaw and other hazards such as branches. Glasses may not stay on the head as well as goggles for working at height.
Gloves	BS EN 381-7	✔	✔	Suitable gloves for the task and subject to the operator's risk assessment. Consider the need for protection from cuts from the chainsaw, thorny material and cold/wet conditions. Where chainsaw protection is required this should be to BS EN 381-7
Leg and groin protection	BS EN 381-5	✔	✔	AFAG recommends Type C leg protection for aerial work, because of the high all-round chainsaw cut protection. Where wearing Type C is impractical (eg because of the higher risk of heat stress), it may be appropriate to use Type A, where justified by risk assessment.

Chainsaw boots	BS EN ISO 17249	✔	✔	Protective boots with good grip and protective guarding at front vamp and instep.
Gaiters	BS EN 381-9			For occasional users working on even ground where there is little risk of tripping or snagging on undergrowth or brash, worn in combination with steel toe-capped safety boots.
Outer clothing				Should be non-snag.
High visibility clothing				Where justified by risk assessment.

Lone Working

Working alone is a common occurrence in the forestry industry, where individuals may spend their entire day or a portion of it without any contact with colleagues or family members. However, it is crucial to recognise the importance of staying connected with others, particularly in situations where urgent assistance is needed due to an accident or incident.

To highlight the significance of maintaining contact throughout the working day, it is essential to review case studies of lone workers who were unable to reach out to their colleagues or family members.

If an employee sustains an injury and is unable to seek help themselves, it is imperative to establish a reliable system that ensures continuous communication.

Traditionally, the tree work sector has relied on informal contact arrangements, often waiting until the end of the day to establish communication with colleagues or family members.

To effectively address the risks faced by lone workers, it is necessary to:

1. Define and identify the employees who work alone.
2. Identify the specific risks they encounter.
3. Implement measures to control and mitigate these risks.
4. Develop comprehensive policies and guidelines that outline these control measures.
5. Ensure the implementation, management, and maintenance of these policies.

• **Wildlife legislation**

The Wildlife and Countryside Act 1981 (as amended) serves as the primary legislation that safeguards wildlife in the United Kingdom. The management of ash trees in woodlands, hedgerows, or gardens has the potential to disrupt or eradicate wildlife. In general, the Act establishes various offences, such as intentionally causing harm, killing, injuring, or capturing any wild bird, their active nests (whether being constructed or in use), their eggs, or their offspring. Additionally, the Act prohibits the intentional killing, injuring, or capturing of any wild animal listed on Schedule 5, and it forbids interference with locations utilised for shelter or protection, as well as intentionally disturbing animals inhabiting such areas. Furthermore, the Act criminalises the intentional picking, uprooting, or destruction of any wild plant listed in Schedule 8. It is also illegal to sell, offer for sale, or possess (for trade purposes), any live or deceased wild plant included in Schedule 8, or any part or derivative thereof. This encompasses bryophytes and lichens.

https://www.legislation.gov.uk/ukpga/1981/69

The Wildlife and Countryside Act 1981 is legislation that applies to the United Kingdom and has implications for individuals in England, Scotland, and Wales, with a few exceptions. However, Northern Ireland follows separate legislation known as 'the Wildlife Order'.

Both the Wildlife and Countryside Act 1981 and the **Wildlife Order** have the common objective of regulating and prohibiting actions that may have an impact on wild animals during open or closed seasons. Specifically, the act imposes restrictions on individuals from causing harm to protected species, even if it is unintentional.

Examples of activities that would constitute harm to animals and violations of the rules outlined in the 1981 Wildlife and Countryside Act include deliberate or accidental attempts to kill, disperse, capture, injure, harm, or disturb

endangered species. Additionally, any interference with their carcasses, eggs, habitats, nests, or roosts is also prohibited.

The initial purpose of introducing the Act was to incorporate the existing laws that pertain to EU countries into the legislation of the UK. By enacting the Wildlife and Countryside Act 1981, the UK would be implementing the Birds Directive, which is the oldest environmental legislation of the EU, safeguarding all 500 species of wild birds found in Europe, as well as the Bern Convention, a legal instrument protecting natural heritage throughout Europe, but specifically in Great Britain. Additionally, it includes a version of the European Directive on the Conservation of Wild Birds that exclusively applies to the UK.
The 1981 Wildlife and Countryside Act, as an active piece of legislation, allowed the UK to adopt certain sections of EU laws and enforce them within the territories of Great Britain. This ensured that the UK did not overly rely on laws that exclusively applied to EU nations, which became a significant consideration after the UK departed from the EU through Brexit in December 2020.

Since its establishment in October 1981, the Wildlife and Countryside Act has undergone various modifications to address crucial aspects, adapt to evolving environmental laws, and incorporate other pertinent primary legislation. Notably, it has experienced positive amendments and integration with acts like the Countryside and Rights of Way Act 2000 and the Natural Environment and Rural Communities Act 2006 in England and Wales. Additionally, it has considered legislation in other regions of the UK, such as the Nature Conservation Act 2004 and the Wildlife and Natural Environment Act 2011 in Scotland, as well as the Nature Conservation and Amenity Lands Order 1985, the Wildlife Order 1985, and the Environment Order 2022 in Northern Ireland.
Over more than forty years, the Wildlife and Countryside Act, sometimes mistakenly referred to as the 'Countryside and Wildlife Act 1981,' has significantly influenced domestic legislation concerning the protection of wild animals. It has effectively prevented unnecessary harm to both native and non-native species, as well as their natural habitats. Enforced by the UK government, this act continues to serve as a barrier against potential harm posed by developers and others to the listed flora and fauna. Through numerous revisions and enhancements, its relevance remains undiminished, making it as significant today as it was in the early 1980s.

The 1981 Wildlife and Countryside Act consists of 17 schedules that are divided into four parts. These parts cover various aspects such as wildlife, nature conservation, public rights of way, and miscellaneous provisions of the Act. Each schedule within the Act contains a list of specific mammals, animals, and plants that are protected, along with detailed information about the protections in place. Let us take a closer look at some key schedules from the Act:
Schedule 5 of the Wildlife and Countryside Act 1981 focuses on animals that are protected from killing, taking, possession, disturbance, and sale. Section 9.1a protects animals from intentional killing and injuring, while Section 9.1b protects them from being taken. Section 9.2 ensures that animals are not possessed or controlled, whether they are alive or dead. Section 9.4a safeguards animals from intentional damage or destruction to their shelter or protection structures. Additionally, Section 9.4a specifically addresses the protection of the Cetacea or basking shark from intentional or reckless disturbance. Section 9.4b protects animals from intentional disturbance while occupying their shelter or protection structures, and Section 9.4c ensures that their access to these structures is not obstructed. Lastly, Section 9.5a prohibits the sale, offering for sale, or holding and transportation for sale of animals, whether they are alive or dead, whole or in part. Section 9.5b prohibits the publication or advertisement of animals as being for sale.
The Wildlife and Countryside Act of 1981 includes Schedule 9, which lists animals and plants that are established in the wild. Section 9 covers Part I, which includes animals that are established in the wild. Schedule 9 also includes Part II, which covers plants that are established in the wild.

Various entities are responsible for enforcing environmental legislation like the Wildlife and Countryside Act 1981, including the police, Natural England, Natural Resources Wales, Scottish Natural Heritage (depending on the location), the Environment Agency, the Joint Nature Conservation Committee, the Food, Farming, and Countryside Commission (FFCC), local authorities, the Partnership of Action against Wildlife Crime (PAW), public bodies, and relevant organisations related to the endangered species involved.
When a violation of the Act occurs, it will prompt a police investigation. The police are tasked with upholding the initial part of the Act, which prioritises the protection of wildlife and outlines what constitutes a breach of the regulations. Specialised police departments, such as the National Wildlife Crime Unit (NWCU) and Wildlife Crime Officers (WCOs), focus on enforcing environmental and wildlife laws.

Over the years, the Wildlife and Countryside Act has undergone multiple amendments to encompass a wider range of animal and plant species. Initially, the focus was primarily on wild birds, their protection, and the conservation of their habitats. Additionally, the Act addressed the welfare of injured birds, migratory species, and their dependent young. However, it is important to note that the policy extends beyond these categories and encompasses a diverse array of wild animals and plants.
Given the extensive number of species included in the Act, it is impractical to individually mention each one by their scientific or common names. Instead, we will provide an overview of the various types of animal and plant species covered:

Animals:

1. Adders
2. Badgers (also protected by the Protection of Badgers Act 1992)

Badgers, the largest indigenous and predatory wild animals in the British Isles, are safeguarded by the **Protection of Badgers Act 1992 (PBA)**. They are sometimes targeted by individuals looking to capture a live animal to pit against a pack of dogs in a confined area. This activity, commonly referred to as badger baiting, typically involves extracting a badger from its burrow, or "sett." Dogs equipped with radio collars are sent underground into the badger sett, and their signals are traced from above. Once the dog has located a badger, the perpetrators dig down until they reach both the dog and the badger. The badger is then thrown to the dogs to engage in a fight, resulting in significant injuries to both animals and often the death of the badger. In many cases, the dogs do not receive adequate veterinary care.
The persecution of badgers is a key wildlife crime concern in the UK. This encompasses badger baiting, as described above, as well as the disturbance and destruction of badger setts, which can occur during legal activities such as forestry or agricultural operations.
The primary focus of the Act is on animal welfare rather than conservation.
According to the Act, it is illegal to:
take, injure, or kill a badger, or have a dead badger
cruelly mistreat a badger, dig for a badger, or use specific items to capture or kill it.
engage in certain activities to disrupt a badger sett (or be reckless as to those consequences).
sell or possess a live badger
mark or tag a live badger (unless authorised by a license).
https://www.legislation.gov.uk/ukpga/1992/51/contents

3. Bats

All bat species and their roosts in Britain are protected under both domestic and international laws. It is illegal to take, injure, or kill a wild bat, disturb a bat in its roost, damage or destroy a bat roost, possess, or trade a bat species found in the wild, or obstruct access to a bat roost.
The preservation of bats in urban areas depends on several key factors: providing roosting opportunities, ensuring there is enough foraging and commuting habitat, and managing and protecting existing roosts and habitats appropriately.
Legal protection is in place to safeguard structures or locations used by bats for shelter or protection, whether they are currently occupied or not. This legislation is integrated into planning policies, making it mandatory for planning authorities to assess the potential impact of a proposed development on bats.
https://www.bats.org.uk/advice/bats-and-the-law

4. Beetles
5. Butterflies
6. Crickets
7. Dolphins
8. Dormice
9. Dragonflies
10. Frogs
11. Grasshoppers
12. Leeches
13. Lizards
14. Martens
15. Moles
16. Moths
17. Mussels

18. Newts
19. Otters
20. Porpoises
21. Sharks
22. Shrimps
23. Snails
24. Snakes
25. Spiders
26. Squirrels
27. Toads
28. Turtles
29. Voles
30. Walruses
31. Wildcats
32. Worms.

Plants:

- Algae
- Fungi
- Lichens
- Liverworts
- Mosses
- Vascular plants

https://www.legislation.gov.uk/ukpga/1981/69/schedule/5

Since the introduction of the Wildlife and Countryside Act 1981, a strong connection has been established between safeguarding animals and development initiatives. Protected species under the Act may inhabit any land or property subject to development, and it is the responsibility of the developer overseeing the project to ensure their safety during the construction process.
Moreover, the local planning authority will not entertain any planning permission applications unless there is proof that the site has been properly surveyed for the presence of wildlife and that all regulations under the Act have been adhered to. Ecological surveys carried out by qualified ecologists will demonstrate compliance with the Act to the satisfaction of the local council's planning department, thereby meeting the necessary criteria for planning permission on the development site.

Irrespective of the current condition of the development site, it is recommended to schedule a preliminary ecological appraisal (PEA) or Phase 1 habitat survey. The appointed ecological consultant will conduct an ecological desk study and a walkover survey to identify any existing protections, relevant national archives, and records of protected species on the site. Subsequently, the entire site will be surveyed to gather evidence of animal and plant species. A comprehensive report will be compiled, documenting all plant life and wildlife, which can then be submitted to the local planning authority as part of the planning consent application.
During the reporting stage, the ecological surveyor may propose additional surveys on the site, particularly if endangered native or non-native species have been identified. These surveys will be specific to the ecological feature and aim to gather more information, providing assurances to the local authority regarding the safety of these species despite the proposed development. In the case of wild birds and bats, a preliminary roost assessment (PRA) or scoping survey will be necessary. Based on the survey's findings, the ecologist may recommend further surveys, such as a Bat Emergence and Re-Entry Survey (BERS), which will determine the bat species, entry and exit points, and probable roosting locations.
Regarding other protected species surveys, assessments for plant life will include surveys for invasive species like giant hogweed, Himalayan balsam, injurious weeds, or Japanese knotweed. Wildlife assessments will encompass surveys for badgers, barn owls, bats, birds, newts, and reptiles, as well as other mammal surveys for dormice, otters, or water voles. Alternatively, the ecological consultant may propose other ecological surveys, such as a biodiversity net gain assessment, an ecological walkover survey, or a BREEAM assessment.

The Wildlife and Countryside Act 1981 imposes severe **penalties for any violations**, regardless of the scale of harm caused to the environment or wildlife. Those found guilty of breaching the Act, whether it involves a single animal or habitat, may face an unlimited fine, a maximum of six months imprisonment, or both.

The Wildlife and Countryside Act 1981 protects not only animals but also rare or valuable wild plants, habitats, and other materials associated with specific species listed in the Act. The term 'protected species' encompasses a wide range of wildlife that is safeguarded under this legislation.
These sections contain provisions designed to safeguard wild birds from being killed, injured, or "taken". Engaging in certain activities that would harm wild birds in these ways is considered a **criminal offence**.
The WCA also prohibits the possession of any wild bird, whether alive or dead, as well as the eggs of such birds. Sections 1(3) and 3ZA provide a legal defence if the bird or egg was lawfully obtained (i.e., by other provisions). However, aside from this exception, the offence is one of strict liability, as established in the case of Kirkland v. Robinson (1987), 151 JP 377.
In situations where multiple individuals may be in possession (e.g., eggs found in a car with several occupants), it may be possible to establish joint responsibility by considering other items discovered in the same location (e.g., maps, hiking or climbing equipment, thermos flasks potentially lined with grass for egg transportation, etc.). There are clear parallels to be drawn with drug-related cases. However, it is not always necessary to recover the eggs themselves to prove possession. The possession of wild bird eggs can be inferred from other evidence, even if the eggs themselves are not found.
A recent example of a successful case under such circumstances involved a defendant who had filmed himself removing bird eggs from nests in the wild. The court, upon viewing the footage, was convinced that the items depicted were indeed wild bird eggs, despite not being found in the defendant's possession at the time of arrest.
It is important to note that under Section 18(2) of the WCA, the possession of any item that can be used to commit an offence under Part 1 of the Act is itself an offence and subject to the same punishment as that offence. Refer to Section 18(2) of the WCA for further details.
The identification of the species of wild birds to which the eggs belong must be carried out by an experienced ornithologist. Once the contents of an egg have been removed by blowing, there is no scientific method to determine the age of the shell.
If there is any uncertainty regarding the source of certain eggs, the information may pertain to multiple eggs. In such cases, where there is doubt about whether the eggs were obtained before the Act was implemented and are therefore legally possessed, it is advisable to treat them as separate pieces of information. It is also important to differentiate between the eggs of Schedule 1 birds and those of other wild birds.
It is considered a violation under Section 1(1)(a) of the Wildlife and Countryside Act 1981 to deliberately kill, harm, or capture any wild bird.
The term "take" in this instance refers to the act of capturing a live bird, as established in the case of Robinson v. Everett [1980] Crim. LR 699.
The capturing of wild birds may be linked to the global trade of such birds, and the potential commission of offences under the Control of Trade in Endangered Species (Enforcement) Regulations (COTES) should also be considered. Please refer to the section on "International Trade in Endangered Species: CITES and COTES" for further information.

The police have a crucial role in investigating and enforcing laws related to the conservation of wildlife. They work alongside the Crown Prosecution Service (CPS) to ensure that offenders are prosecuted by the Code for Crown Prosecutors. For more information on the police's relationship with other prosecution agencies, please refer to the relevant section in the legal guidance.
Wildlife crime refers to any activity that violates the current legislation aimed at protecting wild animals and plants. This includes various offences such as hare coursing, fish and deer poaching (please consult the Hare Coursing legal guidance for more details), hunting of wild mammals (please refer to the Hunting Act 2004 legal guidance), illegal badger persecution (including baiting, shooting, snaring, lamping, poisoning, and interference with badger setts), bat persecution, bird of prey persecution (through poisoning, trapping, shooting, disturbance of nests, theft of chicks, and egg theft/collection), and the illegal trade of protected species covered by CITES (such as ivory, tortoises, caviar, Traditional Chinese Medicines, orchids) as well as the non-registration of certain birds and animals that require licensing through DEFRA/Animal and Plant Health Agency if kept in captivity or sold.
It is important to note that incidents involving domestic animals like dogs (except when used for hunting mammals), cats, rabbits, budgies, etc. are not within the scope of wildlife crime. Additionally, wild animals involved in road traffic accidents are also not included.
The CPS collaborates closely with the police, the National Wildlife Crime Unit, Defra, and various other interested organisations to address all forms of wildlife crime. The CPS actively participates in several working groups dedicated to combating wildlife crime, such as the UK Tasking and Coordinating Group (UKTCG) of the National Wildlife Crime Unit (NWCU) and the Partnership for Action Against Wildlife Crime (PAW UK). In situations where prosecutors are handling early advice requests, they may consider directing officers to PAW's Forensic Working Group (www.pawfwg.org), which can potentially aid the police regarding the forensic aspects of their investigation.

The UK Tasking and Coordination Group (UKTCG), led by the NPCC lead for wildlife crime, is responsible for determining the priorities for combating wildlife crime. These priorities are established based on recommendations provided in a strategic assessment, which is prepared by the NWCU. The identified priority areas are those that pose the greatest current threat to the conservation status of a species or exhibit a high volume of criminal activities. Currently, the following areas have been designated as priorities:
1. Badger persecution
2. Bat persecution
3. CITES issues, including the illegal trade in European eel, raptors, ivory, medicinal and health products, reptiles, rhino horn, and timber
4. Freshwater Pear Mussel (FWPM)
5. Poaching, encompassing deer poaching and coursing, fish poaching, and hare coursing
6. Raptor persecution, which includes poisoning, egg theft, chick theft, taking from the wild, and nest disturbance or destruction. Particular attention is given to the golden eagle, goshawk, hen harrier, peregrine, red kite, and white-tailed eagle.
7. Cyber-enabled wildlife crime
The NPCC has developed a comprehensive strategy to address wildlife crime effectively.

Contractors should take into consideration the following measures:
1. Conduct regular toolbox talks to educate employees about nesting birds. These talks should cover what signs to look for and what actions to take if nesting activity is observed in the trees or vegetation being worked on.
2. Maintain records of all pre-work wildlife assessments, specifically noting that there are no nesting birds or nests within the tree. This documentation serves as an additional backup in case there are any inquiries or concerns regarding disturbances to nesting birds. It should also be included in the Site-Specific Risk Assessment (SSRA).
3. Ensure that all staff members are fully aware and supportive of the company's decisions regarding nesting bird protection. It is crucial to avoid situations where the right decisions are made for the company only to face criticism for the resulting downtime or the impact on development.
4. Establish an open and fair reporting system to encourage immediate reporting of any accidental damage or disturbance caused by staff. This enables prompt remedial action to be taken, minimising the impact on wildlife and nesting birds.
5. Continuously strive to adhere to best practices, stay updated with current legislation, and collaborate with relevant statutory and volunteer organisations in the area. This proactive approach ensures that contractors are working in line with the most effective methods and are actively involved in conservation efforts.

Example
Samantha Noble
BBC News, Derby
Published
3 May 2024
A sum of £10,000 is being offered as a reward for any information regarding the shooting incident involving a peregrine falcon in the Peak District.
The injured bird was discovered at Hey Clough, near Crowden, off the A628 Woodhead Pass, last month.
After being taken to a veterinary practice, it was determined that the adult female falcon had been shot and subsequently euthanised.
To bring the perpetrator to justice, the Royal Society for the Protection of Birds (RSPB) and the Peak District National Park Authority have jointly announced the reward for anyone who assists in securing a conviction.

Mark Thomas, from the RSPB, said this was just the latest incident of raptor persecution in the Dark Peak

The bird, discovered on April 4th, was humanely put down because of the severity of its injuries.
According to the RSPB, X-rays indicated that the bird had been shot with pellets in its elbow and shoulder on the left wing.
Furthermore, a post-mortem examination showed a gunshot wound in the bird's chest, likely caused by pellets.
The examination determined that the bird was shot either at the location where it was discovered or nearby, as the injuries sustained would have hindered its ability to fly.

X-rays showed shotgun pellets lodged in the elbow and shoulder of the bird's left wing

Mark Thomas, from the RSPB, expressed his dismay at the discovery of the bird being shot at Dove Stone, a location managed by the organisation to protect species like the peregrine. He emphasised the alarming trend of raptor persecution in the Dark Peak, an area known for being hostile towards birds of prey.
Phil Mulligan, the chief executive of the Peak District National Park Authority, echoed these sentiments, highlighting the distress caused by such incidents during the crucial breeding season for these majestic birds. He emphasised the broader impact of losing a single peregrine on future generations of these iconic raptors.
The RSPB reported that between 2018 and 2022, 30 peregrines were either killed or injured in England, with 19 falling victim to shootings. Chris Wilkinson, representing the Derbyshire Police Rural Crime Team, acknowledged the unfortunate reality of ongoing bird-of-prey crimes in the region.
Individuals with any relevant information are urged to contact the authorities promptly.

https://www.bbc.co.uk/news/articles/c8vz02lrnz7o#:~:text=A%20reward%20of%20%C2%A310%2C000,%2C%20near%20Crowden%2C%20last%20month.

The **Regulations on the Conservation of Habitats and Species in 2017** pertain to the preservation of natural habitats and wildlife. The second schedule of these Regulations provides a list of European protected species, including bats, butterflies, dolphins, the Greater Crested Newt, otters, and turtles.

Section Three focuses on safeguarding species, animals, and plants.
Under Regulation 43, it is considered a violation to intentionally capture, harm, kill, or disrupt a wild animal classified as a European protected species, or to intentionally take the eggs of such an animal. Additionally, damaging or destroying the breeding site of such an animal is also prohibited. The absence of a requirement for deliberate action in the case of damaging breeding sites underscores the significance of these sites in the life cycle of such animals, particularly bats.

National Parks and Access to the Countryside Act 1949 (Chapter 97)

This legislation pertains to national parks, protected areas, and countryside access. The regulations outlined in this section of the legislation are aimed at preserving and improving the natural beauty, wildlife, and cultural significance of these protected regions. The legislation covers the creation, administration, and preservation of national parks and nature reserves, as well as the compulsory acquisition of land for the purposes outlined in the legislation.
Additionally, the legislation addresses public rights of way and access to open countryside. Local planning authorities have the authority to establish access agreements for this purpose and are also empowered to enforce access.

https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97#:~:text=An%20Act%20to%20make%20provision,and%20improvement%20of%20public%20paths

The **Hedgerow Regulations (1997)** were implemented on June 1, 1997, by **Section 97 of the Environment Act 1995**.
These regulations were introduced to safeguard significant hedgerows in both rural and urban areas by establishing a notification procedure before any work is carried out. It is important to note that garden hedges are exempt from these regulations.
Under the Hedgerows Regulations 1997, it is now illegal to remove most countryside hedgerows without obtaining prior permission from the Local Planning Authority. To obtain permission for hedgerow removal, it is necessary to notify the Local Planning Authority. If the authority decides to prohibit the removal of an important hedgerow, they must inform you within six weeks by issuing a hedgerow retention notice. It is possible to appeal against a hedgerow retention notice.
Removing a hedgerow without permission can result in an unlimited fine and may require the replacement of the hedgerow.
It is important to note that the Hedgerow Regulations do not apply to every hedge. Permission is required to remove a hedgerow if it is located on agricultural land, common land, forestry land, paddocks, a local nature reserve, or a site of special scientific interest.
You do not require permission under these regulations if:
The hedge is under 20 metres in height and not linked to other hedgerows.
It is within or borders your garden.
You are taking it out to gain access.
either to replace an existing one (which must be replanted),
- or when there are no other entry points available or only at a disproportionate cost.
to gain temporary access to assist in an emergency.
to adhere to a statutory plant or forestry health order
to comply with a statutory notice to prevent interference with electric lines
about statutory drainage or flood defence work
to carry out planning permission (excluding permitted development rights).
However, it is essential to verify that there are no agreements or planning conditions that mandate the retention of the hedges.
The removal of a hedgerow involves uprooting it and other activities that lead to the destruction of the hedgerow. Coppicing, laying, and the elimination of dead or diseased shrubs or trees are considered standard management.
https://www.oadby-wigston.gov.uk/pages/hedgerow_regulations#:~:text=Under%20the%20Hedgerows%20Regulations%201997,notify%20the%20Local%20Planning%20Authority.

Safety subjects

This part of the tree work site offers direction on various important subjects and serves as the foundation of health and safety recommendations for individuals involved in forestry and arboriculture. Every subject page offers information and recommendations, along with links to some of the most pertinent HSE publications.

Each subject section is particularly useful for Arborists, tree surgeons, and forestry workers, aiding in locating crucial information and guidance on best practices and necessary actions to prevent accidents.
https://www.hse.gov.uk/treework/safety-topics/index.htm

Conclusion

When comparing the profession of a tree surgeon to that of an office worker, it is evident that tree surgery entails a higher level of danger. As a professional tree surgeon, one must confront various hazards, including working at elevated heights, operating powerful chainsaws, and being in proximity to trees with branches that may fall unexpectedly. Therefore, if you seek a completely safe occupation devoid of any risks, do not become a tree surgeon. Conversely, if you thrive on challenges and are prepared to manage a reasonable level of risk daily, in exchange for a competitive salary and opportunities for professional growth, tree surgery may be an excellent career choice.

The risks associated with tree surgery can be effectively reduced by implementing suitable safety measures once they have been recognized. Thus, the cornerstone of maintaining safety during tree surgery operations is the ability to identify potential hazards and mitigate them appropriately. To develop these skills, it is essential to study the personal protective equipment (PPE) utilized by tree surgeons and to learn how to assess trees for potential risks.

Source

https://www.hse.gov.uk/foi/internalops/sims/ag_food/010705.htm
https://www.hse.gov.uk/treework/safety-topics/height.htm
https://www.hse.gov.uk/foi/internalops/sims/ag_food/010705.htm
https://webarchive.nationalarchives.gov.uk/ukgwa/20200806201337/https://www.hse.gov.uk/aboutus/meetings/iacs/aiac/afag/index.htm
https://www.hse.gov.uk/treework/resources/index.htm
https://www.visitorsafety.group/publications/
https://ukfisa.com/
https://www.trees.org.uk/Trees.org.uk/media/Trees-org.uk/Documents/ICoP/ICoP-Tree-Work-at-Height-May20-web.pdf
https://www.trees.org.uk/News-Blog/Latest-News/Work-at-Height-%E2%80%93-interpreting-the-hierarchy
https://www.hse.gov.uk/work-equipment-machinery/loler.htm
https://www.hse.gov.uk/work-equipment-machinery/planning-organising-lifting-operations.htm
https://www.hse.gov.uk/treework/safety-topics/arboriculture.htm
https://www.hse.gov.uk/work-equipment-machinery/loler.htm
https://www.hse.gov.uk/treework/safety-topics/mewps.htm
https://www.hse.gov.uk/work-equipment-machinery/thorough-examinations-lifting-equipment.htm#reports
https://www.hse.gov.uk/work-equipment-machinery/thorough-examinations-lifting-equipment.htm
https://www.hse.gov.uk/pubns/indg383.pdf
https://www.hse.gov.uk/msd/index.htm
https://www.hse.gov.uk/riddor/
https://www.hse.gov.uk/riddor/specified-injuries.htm
https://www.hse.gov.uk/riddor/occupational-diseases.htm
https://www.hse.gov.uk/riddor/reportable-incidents.htm
https://www.hse.gov.uk/treework/areyou/index.htm
https://www.legislation.gov.uk/uksi/2017/407/contents/made
https://www.hse.gov.uk/treework/articles/planting-pesticide-treated-trees.htm
https://ctpa.org/wp-content/uploads/Arborist-Pesticide-Safety-Presentation.pdf
https://www.trees.org.uk/Trees.org.uk/files/b1/b1b2a8ef-870d-44ec-83d4-bedceb62128b.pdf
https://www.trees.org.uk/Trees.org.uk/files/25/25d9eb5f-74b2-41cb-87e3-991973e5dd78.pdf
https://cdn.forestresearch.gov.uk/2022/04/fcpg015.pdf
https://cdn.forestresearch.gov.uk/1989/03/fcop021.pdf
https://cdn.forestresearch.gov.uk/1979/03/fcop005.pdf
https://www.legislation.gov.uk/uksi/2002/2677/contents/made
https://www.trees.org.uk/Training-Events/Webinar-Archive

https://www.hse.gov.uk/treework/safety-topics/ppe.htm
https://youtu.be/WCNbpexIbhw?feature=shared
https://www.legislation.gov.uk/ukpga/1981/69
http://www.arborecology.com/articles/pdfs/don%27t_fall_fowl_of_the_wildlife_law.PDF
https://www.trees.org.uk/Help-Advice/Public/So-what-actions-can-contractors-take-to-ensure-com
https://www.animallaw.info/sites/default/files/Wildlife%20and%20Countryside%20Act%201981.pdf
https://www.cps.gov.uk/legal-guidance/wildlife-offences
https://consult.defra.gov.uk/nature-recovery-green-paper/nature-recovery-green-paper/supporting_documents/Background%20Doc%202%20%20Regulation%209%20Requirements.pdf
https://www.legislation.gov.uk/ukpga/1992/51/contents
https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97
https://faolex.fao.org/docs/pdf/uk143117.pdf
https://www.legislation.gov.uk/ukpga/Geo6/12-13-14/97#:~:text=An%20Act%20to%20make%20provision,and%20improvement%20of%20public%20paths
https://www.bats.org.uk/our-work/buildings-planning-and-development/building-or-development-works/planning-and-the-law
https://www.legislation.gov.uk/uksi/1997/1160/contents/made
https://assets.publishing.service.gov.uk/media/5a80b10aed915d74e33fbdca/hedgerow_your_questions_answered.pdf
https://assets.publishing.service.gov.uk/media/5a817aee40f0b6230269788e/hedgerow__guide_part_1.pdf

Hedgerow

https://www.oadby-wigston.gov.uk/files/documents/the_hedgerow_regulations_1997_statutory_instrument_1997_1160/Hedgerow%20Regulations%20SI%201997%201160.pdf
https://www.oadby-wigston.gov.uk/files/documents/the_hedgerow_regulations_1997_a_guide_to_the_law_and_good_practice_part_1_of_3/hedgerow%20guide%20part1.pdf
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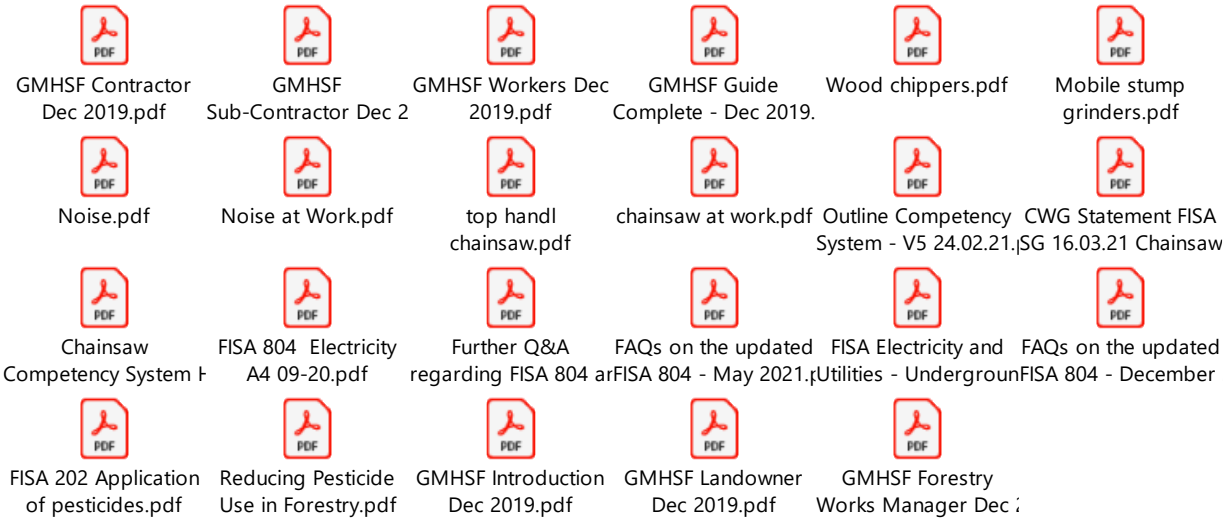

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