



Llywodraeth Cymru
Welsh Government

Sustainable Farming Scheme – Optional Layer

Habitat Review: Technical Guidance – Capital Works

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Contents

Introduction	1
6501 Badger Gate	2
6503 Bramble/Scrub Control: Hand Knapsack Sprayer	4
6504 Cross Drains.....	5
6505 Dry Stone Wall Restoration	7
6506 Earth Bank Restoration	10
6507 Fencing: Post and Rail	13
6508 Fencing: Post and Stock Netting	15
6509 Fencing: Post and Wire.....	18
6510 Fencing: Rabbit Fencing supplement.....	20
6511 Fencing: Top Wiring on Walls	22
6512 Fruit Trees and Stake.....	23
6513 Gateway maintenance (Hardcore).....	25
6514 Hedge Coppicing and Gapping-Up.....	27
6515 Hedge Laying: Traditional.....	30
6516 Individual Tree Mesh Guards: >1.2m	33
6517 Individual Tree Mesh Guards: >1.8m	34
6518 Kerbing.....	35
6519 Ladder Stile	37
6520 New Hedge Planting for Pollinators	38
6521 Parkland Tree Stock Guards	40
6522 Piped Water Supply	43
6523 Pond restoration	45
6525 Rainwater goods: Downpipe.....	49
6526 Rainwater Goods: Guttering	50
6527 Replacement of stile with small metal pedestrian or bridle gate.....	51
6528 Replacement of stile with small timber pedestrian or bridle gate.....	54
6529 Slate Fence Restoration.....	57
6530 Sleeping Policemen	58
6531 Soft Engineering to Reduce River Bank Erosion	60

.....	64
6532 Spiral Rabbit Guards.....	67
6533 Spiral Rabbit Guards: Biodegradable.....	68
6534 Standard gate (Hardwood).....	69
6535 Standard gate (Softwood)	71
6536 Stone Faced Bank Restoration.....	73
6537 Timber Bridle Gate and Posts.....	75
6538 Timber Kissing Gate and Posts	77
6539 Tree Shelter: 60cm with stake	79
6540 Tree Shelter: 60cm with stake: Biodegradable	80
6541 Trees and Shrubs: Whip.....	82
6542 Trees and Shrubs: Transplant	86
6543 Trees and Shrubs: Sabre Planting.....	90
6544 Trees: Standard	93
6545 Water Gate	97
6546 Water Troughs	100
6547 Wooden Stiles.....	102
6601 Arable: cultivated fallow margins	104
6602 Arable: Protein crops - No weed control.....	106
6603 Arable: Retain stubble	108
6604 Arable: unharvested cereal headlands.....	109
6605 Arable: Unsprayed cereal and protein crop mix with stubbles retained.....	111
6606 Arable: Unsprayed cereal and protein crop mix.	113
6607 Arable: Unsprayed cereal and protein crop under sown with mixed ley.	115
6608 Arable: Unsprayed root or forage crop with ungrazed field margins.	118
6609 Arable: Unsprayed spring cereals under sown with mixed ley.	120
6610 Arable: Unsprayed spring cereals under sown with Red Clover.	122
6611 Arable: Unsprayed spring cereals with stubbles retained.	125
6612 Arable: unsprayed spring sown crop	127
6613 Mixed ley on improved land.....	129
6614 Mixed ley: with closed period for flowering.....	131
6615 Red Clover or Lucerne on improved land.....	133
6616 Under sowing maize (Spring / summer sown).....	135
6617 Wildlife cover crop margin. Retained for 2 years until 15 February two years following establishment.....	137

6618 Wildlife cover crop margin. Retained until 15 February in the following year	140
6701 Barn Owl Nest Boxes	143
6702 Bat Boxes	146
6704 Bat Grilles	149
6705: Bat Survey	151
6706 Bird Nest Boxes	153
6707 Create scrapes	157
6708 Deer Fencing	160
6709 Deer gate.....	163
6710 Ditch Casting	164
6711 Dormouse Nest Box	166
6712 Dry Stone Wall Restoration: Importing Stone	170
6713 Enhanced In Ditch Wetland	171
6714 Flexi Pipe Sluices	176
6717 Geojute Matting	180
6718 Geotextiles	183
6719 Green Hay	186
6720 Grip Blocking	189
6723 Hard Surfacing.....	192
6724 Heather Management: Burning.....	195
6725 Heather Management: Cutting	198
6726 Heather Management Cutting and Removal	200
6727 Molinia: Chemical control	202
6728 New Gateways	204
6733 Orchard Tree: Grafting & Budding	205
6734 Orchard Tree: Restoration Pruning	211
6736 Otter Holts	213
6737 Parkland: Iron Gates	216
6738 Parkland: Iron railing fencing	218
6739 Picnic Table with Bench Seat	219
6740 Pond Creation.....	220
6742 Reed Cutting.....	226
6744 Reed Planting: Seed From Existing Stands	227
6745 Relocation of sheep dips including any holding pens to a better site.....	230

6749 Re-spacing natural regeneration to favour native broadleaved species	234
6750 Ride & open ground mechanised mowing for conservation/firebreak reasons.....	235
6753 Scarification to encourage natural regeneration of trees or heather from seed.....	237
6754 Scrub/Tree Clearance: Hand	238
6755 Scrub/Tree Clearance: Mechanical.....	240
6766 Sediment Traps.....	242
6767 Seepage Barrier.....	245
6768 Soil Testing: Nutrients and pH	249
6770 Standard gate (Metal)	258
6772 Supplementary Bird Feed.....	259
6773 Swales.....	261
6774 Sward Enhancement Using local provenance seed (grassland or heathland)	262
6775 Terrestrial and Freshwater INNS Plants: Clearance by hand, pulling and digging of INNS vegetation	265
6776 Terrestrial and Freshwater INNS Plants: Foliar application herbicide	269
6777 Terrestrial and Freshwater INNS Plants: Monitoring effectiveness of treatment after INNS management	275
6779 INNS, Pests and Diseases - Biosecurity risk assessment	278
6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan	281
6781 Terrestrial INNS Plants: Weed wiping with herbicide	284
6782 Terrestrial INNS Plants: Cutting and stump treatment	288
6784 Terrestrial INNS Plants: Mowing (not Japanese knotweed or other knotweeds)	292
6785 Terrestrial INNS Plants: Rhododendron and Laurel Control, light.....	295
6786 Terrestrial INNS Plants: Rhododendron and Laurel Control, medium.....	304
6787 Terrestrial INNS Plants: Rhododendron Control and Laurel Control, difficult	314
6788 Terrestrial INNS plants: Stem injection with herbicide.....	324
6789 Terrestrial INNS Plants: Strimming and brush cutting (not Japanese knotweed or other knotweeds).....	328
6790 Terrestrial INNS: American mink raft	332
6791 Terrestrial INNS: American mink smart traps.....	335
6792 Terrestrial INNS: Grey squirrel traps	338
6793 Terrestrial INNS: Installation of traps, checking traps, dispatch and disposal of American mink	341
6794 Terrestrial INNS: Installation of traps, checking traps, dispatch and disposal of Grey squirrel	348
6795 Timber Sluice	356

6799 Tree Coppicing 359

6800 Tree Surgery (per day) 362

6802 Tree: Formative Pruning..... 364

6804 Tree: Pollarding..... 369

6805 Turf Stripping 372

6806 Weed Wiping 376

6858 Bracken Control: Mechanical Two Cuts or rolling /Year 378

6860 Breaking up or blocking field drains 380

6862 Chisel Ploughing 382

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Introduction

The following Technical Guidance sets out the minimum standards of each of the SFS Optional: Habitat Review Capital Works.

These are the minimum standards that you must follow if any of these Capital Works are included in your Management Plan and Schedule of Works and then implemented via a SFS Optional: Habitat Actions grant award.

The Welsh Government cannot guarantee that the requirements contained within this booklet will not be altered (e.g. as a result of legislative or policy changes). The Welsh Government will publicise any changes and where necessary contact you.

You can view the individual Capital Works by clicking on the title in the list of contents above. Alternatively scroll through the document to view the pages you require.

6501 Badger Gate

This technical note describes the minimum standard of work required to receive payments for 'Badger Gates'. Any variation must be approved by the Welsh Government prior to starting the work.

Badgers normally follow the same route when moving around their territory. Fencing to manage an area of habitat should take into account established badger runs. Badger gates can be used to allow badgers to cross stock proof boundaries without damaging the fences.

You must adhere to the following:

- Install a badger gate using the same dimensions as shown in the diagram below.
- Gates must be located directly on existing badger runs in order to encourage the use of the gate by badgers.
- Bury the fence on either side of the gate to a sufficient depth into the ground to prevent badgers burrowing around the gate.
- Position a wooden or stone base under the gate to prevent erosion of the ground.
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

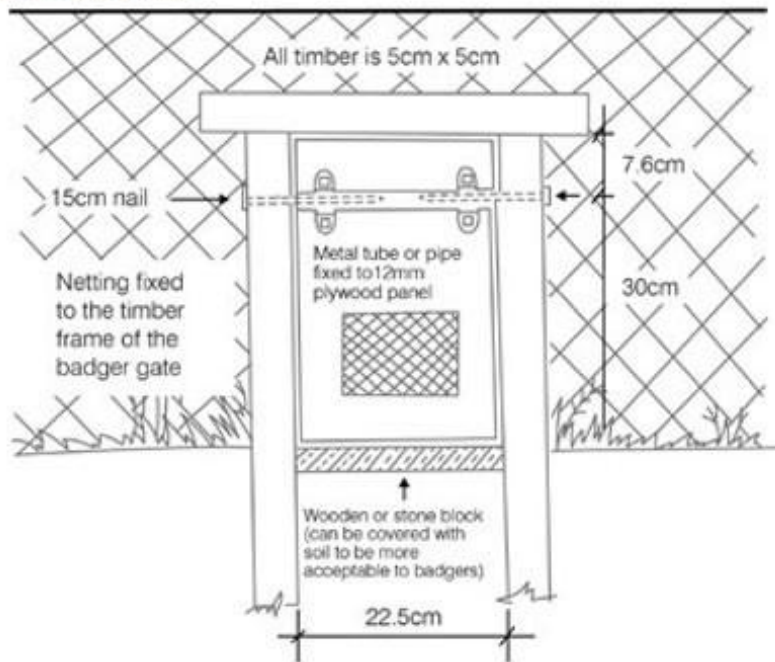
A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Requirements and guidance in addition to the specifications above:

- Best practice is to bury the fence to a depth of at least 15cm either side of the gate.
- Treat all timbers with a non-toxic, odorless preservative.

Example of a badger gate



6503 Bramble/Scrub Control: Hand Knapsack Sprayer

This technical note describes the minimum standard of work required to receive payments for control of Bramble / Scrub Control – Hand Knapsack Sprayer. Any variation must be approved by the Welsh Government prior to starting the work.

Bramble and scrub produce dense thickets and can have a negative impact on other vegetation. Before using pesticides (including herbicides) always consider whether control can be undertaken using non-chemical measures.

You must adhere to the following:

- Treat the area agreed with your Field Support Officer.
- Ensure you use a product approved for hand-held or knapsack application for bramble and or scrub. Product labels should be adhered to, retained and made available on request.
- Anyone applying plant protection products (pesticides) as part of their work must hold a recognised specified training certificate. Users, or those who cause or permit use, must ensure that all reasonable precautions are taken to protect human health and the environment, applications are confined to target areas and the amount used and frequency of use is as low as reasonably practicable.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Herbicide must not be applied within 6m of a watercourse or within 1m of field boundaries. Do not use within 50 metres of a spring, well, borehole or any public or private water supply. The code of practice for spraying near to water courses that is produced by the Natural Resources Wales should be followed.

[Natural Resources Wales / Using herbicides](#)

- All manufactures label recommendations regarding herbicide application should be strictly adhered to.

Requirements and guidance in addition to the specifications above:

Use of Herbicides

In all cases, the herbicide used must have a label recommendation for your intended use, and for the intended method of application.

More useful information may be found at the following locations:

[Code of Practice for Using Plant Protection Products \(hse.gov.uk\)](#) UKFS Guidelines:

6504 Cross Drains

This technical note describes the minimum standard of work required to receive payments for 'Cross Drains'. Any variation must be approved by the Welsh Government prior to starting the work. The purpose of a cross drain is to help manage overland flow of rainfall to prevent erosion, accelerated runoff pathways being created and redirect flow away from farmyards. Many streams and rivers in Wales are affected by pollution from agricultural runoff, impacting biodiversity, fisheries and drinking water quality. Eliminating clean water from areas generating contaminated water or slurry can reduce the volume of slurry storage required and enable possible use of clean water elsewhere on farm.

Cross drains can be used to intercept clean water from clean tracks and yards upslope of the dirty track/yard areas. This clean water can be diverted into an existing ditch, swale, or sediment trap. Alternatively, cross drains can be used to intercept contaminated water downslope of yards/ tracks. This contaminated water must be diverted into an appropriate slurry store. The open channel of the cross drain is easy to clear of accumulated silt and debris. Contaminated water must not be diverted into watercourses, drains or onto land.

If you are installing cross drains in farmyards to intercept clean water, you should consider whether you also need to apply for Item 6526 Rainwater Goods – Guttering and Item 6525 Rainwater Goods – Downpipes.

You can apply for multiple cross drains to span the whole width of wider tracks/yard areas or to install multiple tiers of cross drains across tracks carrying large volumes of water horizontally.

You must adhere to the following:

- Install purposely constructed cross drains, which can be cleared of debris, and which can support slow moving heavy machinery and livestock movements
- Ensure that all cross drains consist of new materials.
- Concrete work should be carried out in accordance with the relevant British Standards BS 8000 and BS 8500, as amended.
- Ensure that clean water from the cross drain is directed to a suitable drainage outlet such as a ditch, swale or sediment trap.
- Ensure that contaminated water which meets the definition of slurry in CoAPR is discharged into an appropriate slurry store.

Requirements and guidance in addition to the specifications above:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed. [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

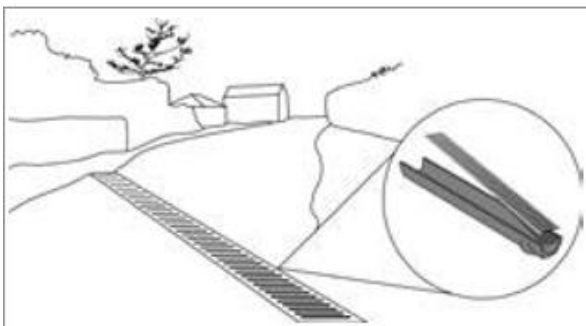
A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request**. See Terms and Conditions for more details.

How to install a cross drain – best practice

The work will include the purchase and installation of a polychannel drainage system with grating. The channel once installed should be able to support the weight of slow-moving heavy machinery and can easily be cleared of accumulated silt and debris.

- Excavate a trench across the width of the track or along part of the farmyard, allowing sufficient depth and width for the concrete bed and surround.
- Make sure the outlet of the trench runs into a suitable ditch or swale.
- Slope the bed of the trench towards the outlet, following the depth of the proposed channel.
- Ensure that any arrows on the side of the channel point towards the outlet i.e. in the direction of flow.
- Set levels and lay out the channels alongside the trench, always starting at the outlet point.
- Pour bedding – begin at the outlet position, a good quality concrete bedding should be poured into the trench.
- Working away from the outlet, lower the channels into position following the manufactures instructions.
- Check alignment of channel.
- The grating should be loosely laid and wrapped in plastic, spanning the channel joints to ensure a clean final installation.
- The concrete surround can now be poured into the trench, taking care not to disturb the line of the run. This should finish 3mm above the channel and grating top surface.
- Once the concrete has set, lift out gratings and remove the protective plastic.
- To support heavy slow-moving machinery a minimum concrete bed and surround of 200mm is required, unless specified otherwise with polychannel installation instructions.



6505 Dry Stone Wall Restoration

This technical note describes the minimum standard of work required to receive payments for 'Dry Stone Wall Restoration'. Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

Dry stone walls are an important landscape feature which can be an important record of historical land use, as well as important features for biodiversity and stock shelter.

Dry stone walls may not follow straight lines, a factor that contributes to both their landscape and historic importance.

Vehicle damage, theft and rubbing by livestock can all cause damage to the wall.

You must adhere to the following:

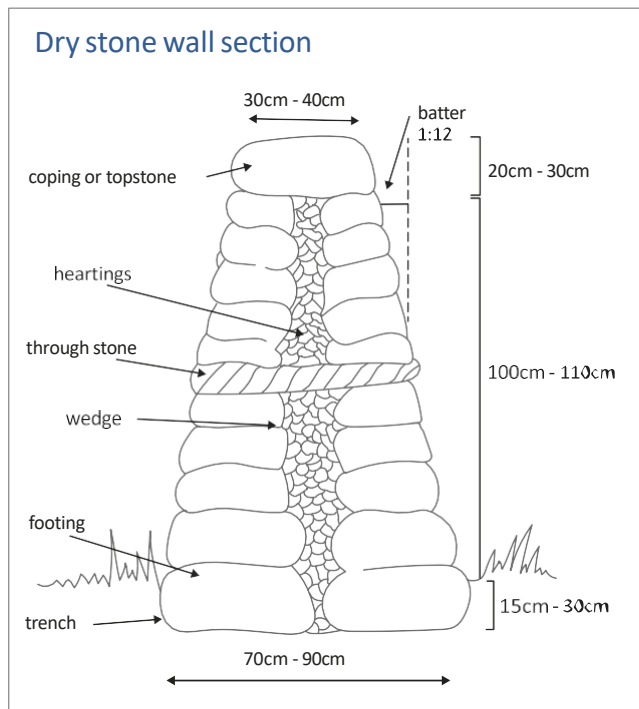
- Restore degraded dry-stone walls so that the height and the line of the restored wall follow that of the existing feature. Best practice guidelines for restoring dry stone walls are described below.
- All stone used to restore dry stone walls must match the stones in existing features.
- Retain and/or rebuild all stone stiles, sheep creeps, culverts and other traditional features.
- All surplus stone and earth should be removed from site on completion and the adjacent ground allowed to return to the original vegetation.
- Restore stone wall steps where required and other local features associated with dry stone walls.

Requirements and guidance in addition to the specifications above:

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Local stone should be used wherever possible, but do not raid stone from inappropriate places, such as ruins or other walls. Imported stone should be of local provenance, where possible.
- Decide if top wiring is to be incorporated before wall restoration commences.
- **Footings/foundations** – the first layer of large stones at the base. Footings should consist of two rows of the largest stones available laid in a trench 15cm to 30cm deep. In very soft conditions, a deeper foundation may be required. The gaps at the centre of the footings can be packed with irregular stones. The footings should be about 7.5cm wider than the base of the wall. When rebuilding a wall, the old footings must be carefully checked and replaced if they are insecure, out of line, tilted, or if the stone has crumbled.
- **Batter** – the inward taper of the wall from base to top. The wall should taper evenly on both sides to the top. The amount of batter may depend on the type of stock grazing next to the wall. For a 1.3m high wall, the base should be 70cm to 90cm wide, tapering to a width of 30cm to 40cm under the coping, depending on the size and type of stone of local style.

- **Face stones** – Walls should be built with two even faces which follow the batter. Face stones should be placed with the following rules in mind:
 - use the largest stones at the bottom, grading to the smallest at the top
 - build in even courses (unless style of building is not coursed)
 - place stones with their longest dimension running into the wall
 - each gap between stones must be securely covered by a stone in the next course so that there are no vertical breaks in the wall
 - stones must not slope into the wall
 - the face must be even with no stones protruding from the wall except 'through stones'
 - stones must be laid horizontally along the line of the wall, even when walling on a slope
 - wedges (small stones to secure larger stones) must only be placed on the inside and not the face of the wall.
- **Hearting** – small stones used as filling and packing. Gaps in the middle of the wall between face stones must be packed with smaller, irregular stones. Soil and other fine material must not be used as it will wash out. Each course must be hearted before starting the next.
- **Through stones** – heavy, large stones placed at intervals to tie the sides together. Ideally two rows of 'through stones' should be placed at 45cm and 90cm above ground level with 100cm between adjacent 'through stones' for a 1.3m high wall.
- If there is insufficient suitable stone, a single row of 'through stones' should be placed between 60cm and 75cm above ground level. The 'through stones' must be at least the full width of the wall and may protrude a few centimetres from the wall.
- **Coping** – top stones to give weight and protection. The top of the wall should be built to an even height and properly hearted. Coping stones must be the full width of the wall and should be 20cm to 30cm high. Normally, stones that are wider than the wall should be trimmed, but where there is no grazing stock on one side the coping stones may protrude up to 5cm on that side. The coping stones must be carefully placed so that they pack tightly together and provide weight onto every top face stone.
- **Wall heads** – vertical ends to a length of wall. They should be built of alternate courses of ties ('through stones' tying both sides of the wall together) and runners (long stones placed in line with the face). The end coping stone must be large and heavy enough to support the remainder of the coping. There must not be any stones protruding from the wall head which could be rubbed by stock.
- **Building a retaining wall** – Retaining walls are built into the face of a bank to prevent soil moving down slope. Retaining walls should be built in the same way as free-standing walls with two faces. The inner face need not be even, as is required for a free-standing wall. The inner face should be vertical, with a normal batter on the outer face. Where necessary, provision should be made for drainage.
- **Mortar** – Where walls are to be built next to busy roads, particularly those used by heavy vehicles, it may be necessary to use mortar to stop the wall being damaged by the vibration. In such situations, the hearting throughout the wall and the coping stones could be mortared, leaving an external appearance of a dry-stone wall. Where coping stones are likely to be dislodged because of people climbing the wall (e.g. next to a picnic site) the coping stones can be mortared. This should not be done for at least one year after a wall is built to allow it to settle.
- **Top wiring** – Wooden posts can be set into the wall to support a line of barbed along the length of the wall to prevent stock climbing the wall and causing damage.

- The finished wall must be solid with tight facing stones, on impact there should be no movement of the wall or heartings.



6506 Earth Bank Restoration

This technical note describes the minimum standard of work required to receive payments for 'Earth Bank Restoration'.

Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

Earth banks are an important landscape feature which can be an important record of historical land use, as well as important features for biodiversity and stock shelter.

They may or may not have hedgerows planted on top. Old hedges and banks may not follow straight lines, a factor that contributes to both their landscape and historic importance.

Prolonged bad weather, trampling by livestock and burrowing by rabbits can all cause damage to the bank.

You must adhere to the following:

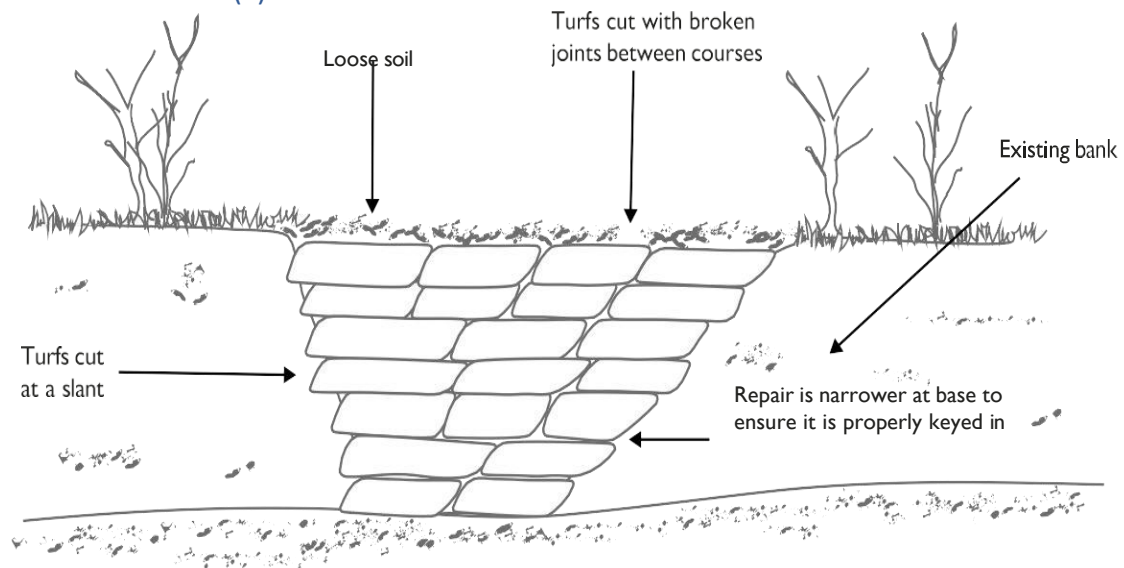
- Restore degraded earth banks so that the height and the line of the restored bank follow that of the existing feature. Best practice guidelines for restoring earth banks are described below.
- Ensure that grazing animals do not damage restored banks.
- Fill any trenches or pits from which soil has been taken with loose earth or discarded turfs. The area on both sides of the newly restored bank should be left level and tidy.
- The patterns of stone facing vary historically depending upon geology and local stone availability. Match the materials and style of stone facing to the existing banks.

Requirements and guidance in addition to the specifications above:

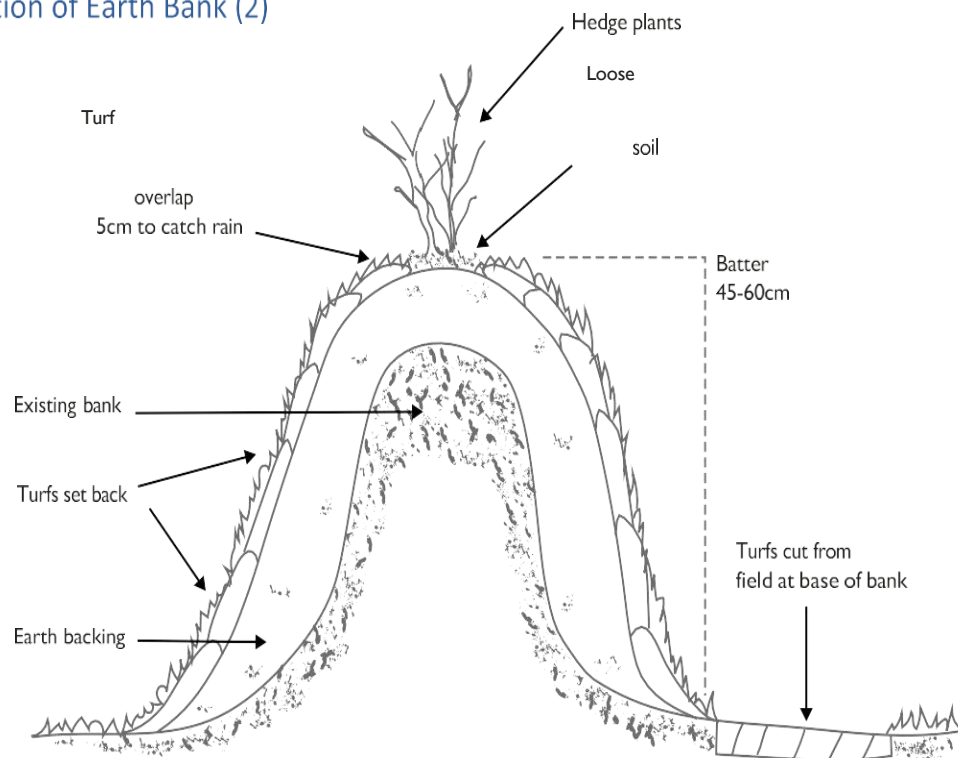
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ideally, turfs cut from the adjacent field should be used to re-surface the earth bank, however, if natural regeneration is taking place when the claim is submitted and geo-tagged 'after' photos show this, that would be acceptable.
- Excavate all loose turf and earth from the area to be repaired until a firm foundation is available. Retain loose soil for use during rebuilding. The cleaned area should slope inwards slightly as well as being wider at the top than the bottom (v-shaped or trapezoid in face view), as this will allow the repair work to key into the existing bank on both sides. Tamp down the newly formed foundation with a suitable hand tool to achieve as firm a surface as possible. (See diagram 1).

- Replacement turfs, where used, should be cut from the field at the foot of the bank. Smaller turfs are more likely to knit together once they have been placed in their new position.
- Turfs less than 30cm square are easier to handle and turfs cut on a slant will knit together more easily than those with squared edges (See diagram 1).
- Proper backing for the new turfs must be provided before they are placed in position. Use the previously retained earth together with any loose soil left in the trench, from which the newly cut turfs were removed. Keep the backing well filled and slightly above the level of each course of turfs as they are put in place. The backing should be keyed into the old bank and tamped down firmly to reduce the risk that heavy rain, or a severe frost will cause the new work to slip away. (See diagram 2).
- Best practice is to place turfs in a series of layers or courses. Break the joints between alternate courses as in brickwork. Turfs should slope inwards slightly with each turf tamped well down to eliminate as far as possible the visible joints between the courses. Set each course very slightly back from the course below by about 1-2.5cm. Together with the inward slope this will allow for some movement outwards when tamping down, and for rainwater to run into the root areas of each turf. (See diagrams 1 & 2).
- Finish with loose soil on the top of the bank, to just above the level of the turf to allow for settlement. The batter (the slope back from the vertical) may be varied according to the site and conditions, but the base of the bank will normally be some 45–60cm wider than the top.
- Infilling any large gaps with well compacted soil before replacing the surface turf will help prevent further erosion taking place. The short turf covering a well-maintained earth bank helps to maintain the shape of the structure.

Face View of Earth Bank (1)



Cross Section of Earth Bank (2)



6507 Fencing: Post and Rail

This technical note describes the minimum standard of work required to receive payments for 'Post and Rail Fencing'. Any variation must be approved by the Welsh Government prior to starting the work.

Post and rail fencing is generally used where appropriate in the landscape, normally in parkland areas or for stock control along waterside features.

You must adhere to the following:

- Ensure that you have obtained and adhere to any licences, consents or permissions that are needed.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Use posts that are at least 1.8m in length, and no less than 12.5cm x 7.5cm cross section.
- Use posts that are square or rectangular.
- Install posts at centres not exceeding 2m (normally 1.8m as the standard length of rails is 3.6m).
- Set posts at a sufficient depth into the ground to ensure stability. The face of the post must be square to the fence line. If the tops of the posts are sawn after setting, the cut surfaces must be treated with a suitable preserving fluid of the same colour as the original timber treatment.
- Attach at least three rails of 3.8cm x 8.7cm sawn timber, skew nailed to the posts. Additional rails may be added where necessary.
- Attach rails on the 'stock' side of the posts, to prevent stock pushing rails off posts.
- Alternate joints between rails on the posts, as shown on the diagram.
- Ensure there is at least 1m from the ground to the top of the uppermost rail.

Do not:

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.
- Use concrete to secure the posts as it promotes rotting of the posts at ground level.

Requirements and guidance in addition to the specifications above:

- Best practice is to set the posts at least 70cm into the ground to ensure stability and secure the posts with rammed earth and stone.
- If the fencing is replacing old, damaged fencing then the old fencing should be removed in its entirety before a new fence is installed. The old fencing should be removed from the field and disposed of appropriately.

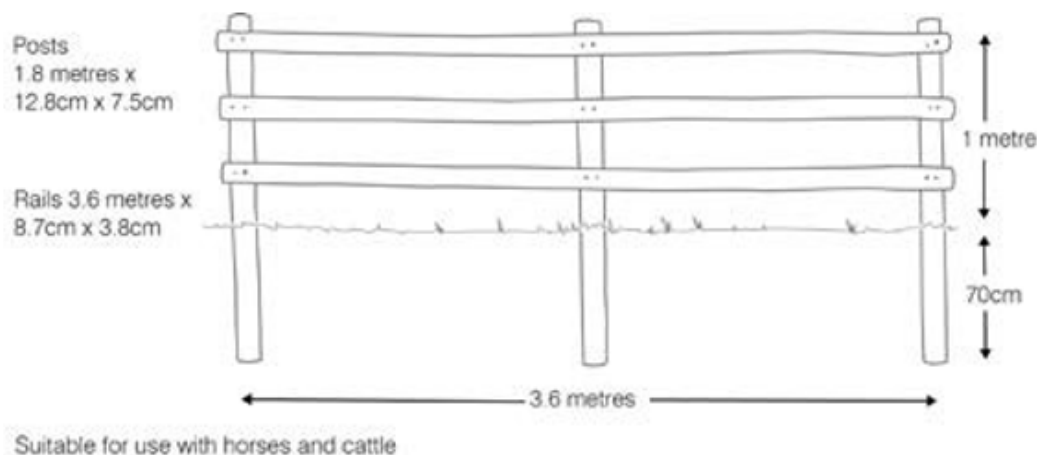
- This activity is excluded from needing a flood risk activity permit, as long as it is not carried out in or within 100m of a main river that is classified high morphological status. [Natural Resources Wales / Flood risk activity exclusions](#).
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request**. See General Rules for more details.

Example of a Post and Rail Fence



6508 Fencing: Post and Stock Netting

This technical note describes the minimum standard of work required to receive payment for 'Post and Stock Netting'. Any variation must be approved by the Welsh Government prior to starting the work.

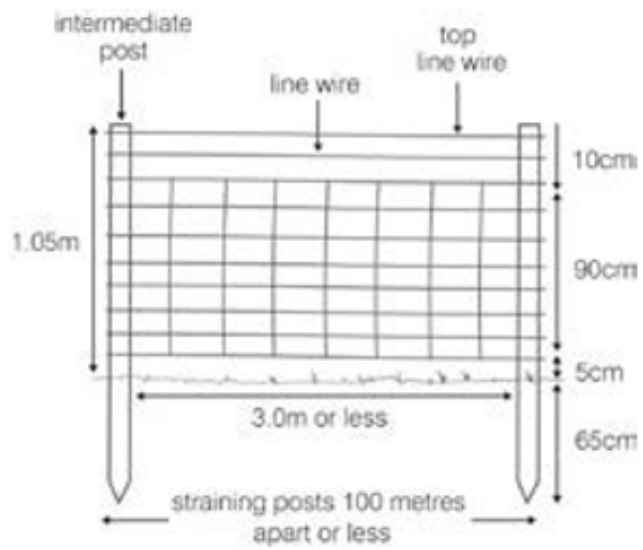
You must adhere to the following:

- Ensure that you have obtained, and adhere to any licences, consents or permissions that are needed.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire, netting and galvanised staples consist of new materials.
- Use straining posts that are a minimum of 12.5cm cross section and at least 2m long. Straining posts must be set into the ground at a sufficient depth to ensure stability. Straining posts must be placed at either end of the fence line and at centres of 100m or less, as well as at every horizontal or vertical change of direction.
- Attach struts at each end of the fence line and at all changes of slope and direction. Struts must have a top diameter of at least 6.5cm and must be supported to prevent them splaying outwards. Use intermediate posts that are at least 6.5cm diameter (round posts and sawn timber) and at least 1.7m long. Half round posts are acceptable provided they measure at least 6.5cm from the midpoint of the sawn side to the midpoint of the round side. Intermediate posts must be set at centres of 3m or less.
- Attach netting to posts with galvanised staples.
- Attach wire to posts with galvanised staples with the distance from the ground to the top wire no less than 1.05m. In cases where there is heavy pressure from sheep or cattle, a second line wire on top of the netting as well as an additional wire at the bottom should be added. The top wires of any fencing erected next to public access routes must consist of plain wire or an additional line of plain wire must be affixed to the outside of the posts closest to the route in question.
- Ensure that the new fencing conforms to British Standards 1722 and 4102, as amended.

Do not

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.

Example Diagram of Post and Wire with Stock Netting



Requirements and guidance in addition to the specifications above:

- Best practice is to set the posts at least 1m into the ground to ensure stability.
- Diagonal struts must be supported with either a base plate or a suitably positioned intermediate post to prevent them splaying outwards.
- Ensure that you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure.
- This activity is excluded from needing a flood risk activity permit as long as it is not carried out in or within 100m of a main river that is classified high morphological status and the wire mesh with greater than 100 millimetres spacing; [Natural Resources Wales / Flood risk activity exclusions](#). If the wire mesh is less than 100millimetres spacing and it is near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.** See General Rules for more details.

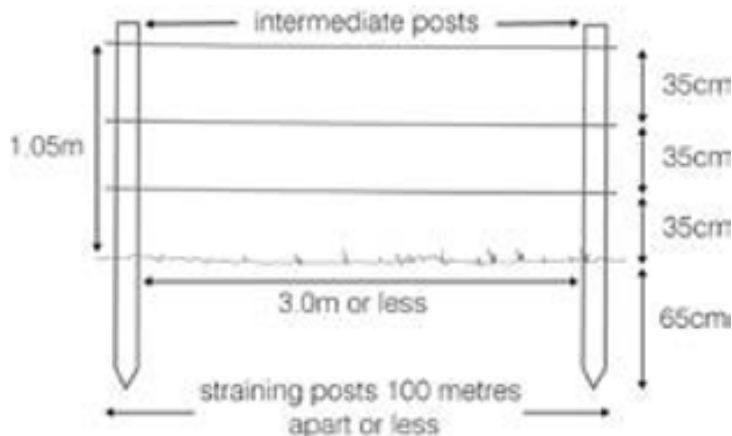
6509 Fencing: Post and Wire

This technical note describes the minimum standard of work required to receive payments for 'Post and Wire Fencing'. Any variation must be approved by the Welsh Government prior to starting the work.

You must adhere to the following:

- Ensure that you have obtained and adhere to any licences, consents or permissions that are needed.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire, netting and galvanised staples consist of new materials.
- Attach at least three lines of wire made up of either galvanised mild steel wire.
- (4mm gauge) or two ply twisted barbed wire (2.5mm gauge). The top wires of any fencing erected next to public access routes must consist of plain wire or an additional line of plain wire must be affixed to the outside of the posts closest to the route in question.
- Use straining posts that are a minimum of 12.5cm cross section and at least 2m long. Straining posts must be set into the ground at a sufficient depth to ensure stability. Straining posts must be placed at either end of the fence line and at centres of 100m or less, as well as at every horizontal or vertical change of direction.
- Attach struts at each end of the fence line and at all changes of slope and direction. Struts must have a top diameter of at least 6.5cm and must be supported to prevent them splaying outwards.
- Use intermediate posts that are at least 6.5cm diameter (round posts and sawn timber) and at least 1.7m long. Half round posts are acceptable provided they measure at least 6.5cm from the midpoint of the sawn side to the mid-point of the round side. Intermediate posts must be set at centres of 3m or less.
- Attach wire to posts with galvanised staples.
- Attach the top wire no less than 1.05m from the ground.
- Ensure that the new fencing conforms to British Standards 1722 and 4102, as amended.
- If the fencing is replacing old, damaged fencing then the old fencing should be removed in its entirety before a new fence is installed. The old fencing should be removed from the field and disposed of appropriately.

Example Diagram of Three Line Wire Fence



Do not:

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.

Requirements and guidance in addition to the specifications above:

- Best practice is to set the posts at least 65 cm where possible into the ground to ensure stability.
- Diagonal struts must be supported with either a base plate or a suitably positioned intermediate post to prevent them splaying outwards.
- This activity is excluded from needing a flood risk activity permit as long as it is not carried out in or within 100m of a main river that is classified high morphological status. [Natural Resources Wales / Flood risk activity exclusions](#).
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request**. See General Rules for more details.

6510 Fencing: Rabbit Fencing supplement

This Item is supplementary and can only be used against the following Items where they are also being installed:

6509 Fencing: Post and Wire

6508 Fencing: Post and Stock Netting

6521 Parkland Tree Stock Guards

This technical note describes the minimum standard of work required to receive payments for 'Rabbit Fencing Supplement'. Any variation must be approved by the Welsh Government prior to starting the work.

Rabbit fencing can be specifically used to prevent damage to specific landscape features such as newly planted trees and hedgerows.

You must adhere to the following:

- Attach all wire and netting to posts with galvanised staples.
- Use galvanised wire netting at least 1.05m high, with a mesh no larger than 3cm.
- Ensure the top edge of the netting is at least 0.75m above ground level.
- Ensure that timbers, wire, netting and galvanised staples consist of new materials.
- Ensure that the netting is fastened to the fencing with the bottom edge of the netting buried in the ground to a sufficient depth to prevent rabbits burrowing underneath.
- Where required, fix at least two strands of line wire to support the rabbit fence.
- Ensure any gates used in rabbit fences are appropriately proofed to prevent rabbit/hare access.
- Ensure that the new fence conforms to British Standards 1722 and 4102, as amended.

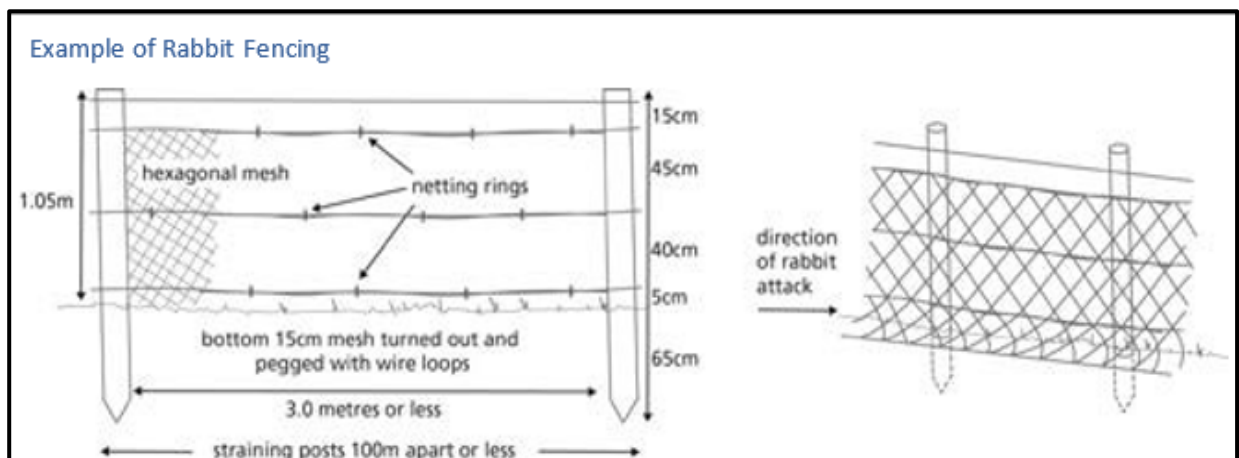
Do not:

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.

Requirements and guidance in addition to the specifications above:

- Prevent rabbits burrowing underneath by ensuring that the netting is buried in the ground to a depth of 15cm and then turned outwards a further 15cm and anchored securely.
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#).
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/ consent (or confirmation that a permit/ consent is not needed) should be retained and made available on request**. See Terms and conditions for more details.
- Activities that include the installation of access furniture such as stiles or gates etc. on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.



6511 Fencing: Top Wiring on Walls

This technical note describes the minimum standard of work required to receive payments for 'Top Wiring on Stone Walls'.

Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

You must adhere to the following:

- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire and galvanised staples consist of new materials.
- Use posts with at least 6.5cm top diameter. Posts must be set at centres of 3m or less. Posts should be set within the wall.
- Attach at least one line of wire (4mm gauge plain or 2.5mm two ply barbed) to the posts with galvanised staples.
- Remove any existing derelict fencing.

Do not:

- Use trees and shrubs as strainers or fencing posts, or attach wire, staples or netting to them.

6512 Fruit Trees and Stake

This technical note describes the minimum standard of work required to receive payments for planting 'Fruit Trees with a Guard and Stake'. Any variation must be approved by the Welsh Government.

In the past, nearly every farm would have grown varieties of fruit for domestic use and for marketing locally. As the trees aged, they were not replaced; the few surviving examples are a distinctive feature in the countryside and often have a high wildlife value.

The retention of old fruit trees should take priority over re-planting, as old trees are important for their biodiversity value and can be pruned to prolong their life.

You must adhere to the following:

- Use either M25 or MM111 rootstocks to give a traditional 'standard' size tree at maturity.
- Plant trees at a maximum density of 100 trees per hectare and space the trees throughout the area to be planted.
- Stake young trees and protect from grazing livestock by using a guard.
- All guards constructed from timber rails must be at least 1.2m high and set at least 1m from the tree to protect against sheep (or 1.5m to protect against cattle and horses). Each of the 4 corner posts should have a minimum diameter of 10cm x 10cm. At least 4 wooden rails with a minimum diameter of 10cm x 5cm should be fixed to the outside of the posts. Galvanised stock netting should then be fixed around the outside of the structure and held in place with galvanised staples.
- Triangular shaped enclosures are only acceptable where sheep are the sole livestock. Such enclosures must be at least 1.2m high and set at least 1m from the tree to protect against sheep. It is important to remember that as the tree grows it may be necessary to widen the guard.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire, netting and galvanised staples consist of new materials.

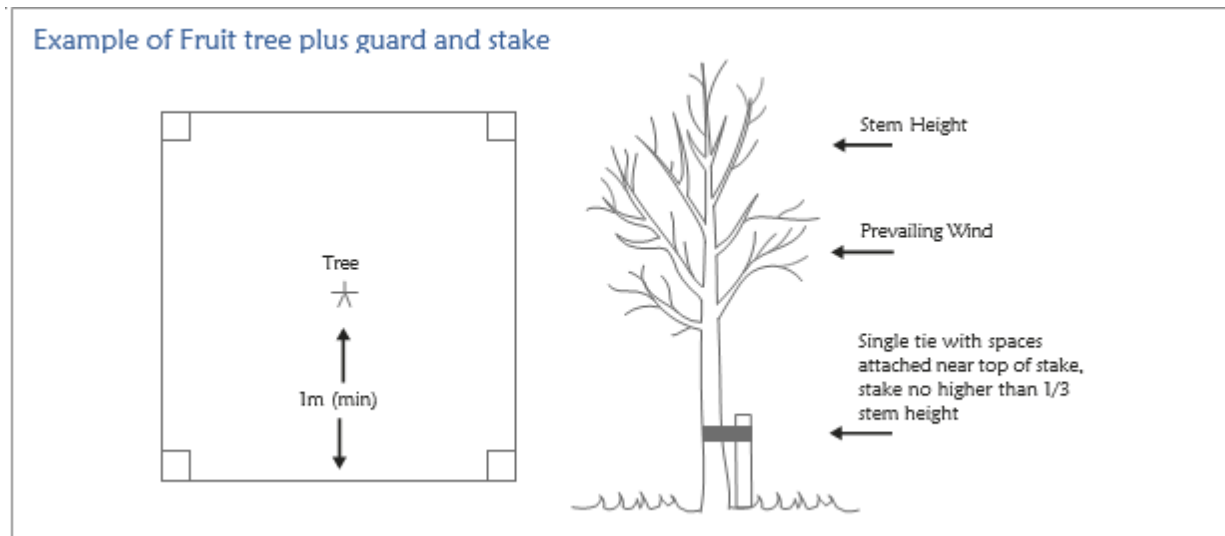
Do not:

- Use dwarfing rootstocks.

Requirements and guidance in addition to the specifications above:

- Plant a selection of trees including early and late flowering varieties, to assist with pollination and to reduce problems caused by frost or disease. The addition of a small number of plums, damsons or pears, as well as apple trees will add diversity.
- As a guide, trees should not be planted less than 6m apart.
- When constructing the guards, use a combination of vertical posts and horizontal rails to build a rigid structure. Fix wire netting around it to prevent access by livestock. The horizontal rails will prevent the posts from being loosened. A variety of stock might have access over time so the guard must be strong enough to withstand the worst-case scenario. Do not try to increase the distance of the top rail from the tree by slanting the posts outwards. This will make it difficult to fix the netting securely in place.
- It is not necessary to top the enclosure with barbed wire, as this is unlikely to stop animals leaning over, and you will make it more difficult to get into the enclosure to tend the tree.

- Additional sets of rails may also be placed midway up the posts to provide additional strength.



6513 Gateway maintenance (Hardcore)

This technical note describes the minimum standard of work required to receive payments for 'Maintenance of Gateways (Hardcore)'. Any variation must be approved by the Welsh Government prior to starting the work.

What is the purpose of this activity?

Gateways and other areas which are frequently used by livestock and farm vehicles can be at increased risk of compaction and erosion. Compaction leads to poor drainage where water collects and pools.

Gateways can also act as exit points for run off from a field. Many streams and rivers in Wales are affected by pollution from agricultural runoff, which impacts on biodiversity, fisheries and drinking water quality. Installing hardcore in gateways will help reduce compaction, erosion and any resulting run off.

You must adhere to the following:

- Lay stone to a minimum depth of 200mm across the gateway and approach to create a flat even hardcore pad.
- Repair any damage or excessive wear such as that caused by harvesting or natural events to area of hardcore immediately.

Do not:

- Use concrete to set the stone in place.
- Remove stone from rivers, habitats or geological features
- Use the gateway hardcore pad as a location for feeders, drinking troughs or to store vehicles and machinery.
- Use inert waste materials as hard core

Requirements and guidance in addition to the specifications above:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within and Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/ consent (or confirmation that a permit/ consent is not needed) should be retained and made available on request**. See Terms and Conditions for more details.

6514 Hedge Coppicing and Gapping-Up

This technical note describes the minimum standard of work required to receive payments for 'Hedge Coppicing and Gapping- up'. Any variation must be approved by the Welsh Government prior to starting the work.

Please note, hedge trimming with a flail cutter does not meet the technical specification necessary to fulfil the requirement of coppicing the hedge at the level set out below.

Hedge Coppicing and Gapping-up projects where a hedge has only been trimmed back, will be rejected.

Coppicing

Hedge coppicing must only be carried out on traditional hedgerows. It should not be carried out on lines of trees, such as riparian woodlands. Coppicing is generally undertaken when stems are too far apart to form a good hedge through laying or when the hedge stem is too wide (more than 12cm in width) to lay properly. In some circumstances, the stems may be so wide that you may need to obtain a Felling Licence from Natural Resources Wales. It is your responsibility to check whether this is the case. Where this action is undertaken, the Welsh Government will inform NRW, and they will provide information as to whether participants undertaking this option have applied for a felling licence.

You must adhere to the following:

- Coppice the hedge to within 7.5cm or less of ground level to allow re-shooting.
- Retain at least 1 tree per 50m as standard trees. This should include all large, mature trees, particularly those with features such as holes, splits, cracks or dense ivy cover; as these provide roosting sites for bats. The retention of trees can mitigate the impact from the temporary loss of hedge structure, continuing to provide shade and shelter for livestock.
- Re-plant any large gaps and sections where coppice stems are infrequent.
- Plant native trees and shrubs in a mix of at least three hedging species, with no one component of the mix comprising more than 75% of the total.
- Plant hedge plants that are at least 45cm – 60cm high and have a strong leader shoot.
- Plant up large gaps at a density of 7 plants per metre in a staggered double row, with 20cm between each row.
- Where coppice stems are thin, insert additional new trees or shrubs to create a density of at least 2 stems per metre.
- Prevent new plants from being killed by shading out from excessive weed growth.
- Protect newly coppiced and planted hedges from livestock.
- Replace any newly planted trees/shrubs that die within three years of planting.
- Ensure all redundant fencing or wire is removed.
- Ensure there is at least 1m between new planting and protective fencing.

- **Ensure the hedge is able to grow to a 3m width. There must be a gap of at least 3m between double fences.** Where a hedge is coppiced beside a road, a 1.5m gap from the centre of the hedge to the fence is permissible. **The fence must be located on the field side of the hedge.**
- Obtain your neighbour's written consent to place a fence on their land if you are carrying out hedge restoration on their boundary.

Do not:

- Plant ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxineus*), in any planting mix, either for woodlands or when establishing or restoring hedgerows. Existing ash trees should be retained where not a demonstrable hazard and may be selected to grow up as standard.
- Do not plant non-native broad-leaves or conifers.
- Cause damage to any existing hedge banks during ground preparation, planting or fencing.
- Use trees and shrubs as strainers or fencing posts, or use them to support fencing wire, staples or netting.

Requirements and guidance in addition to the specifications above:

- Depending on the volume of timber felled you may need to obtain a felling licence from Natural Resources Wales.
- Ensure that you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure. Alternatively, ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.** See General Rules for more details.
- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Where Capital - Environment activities include the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Carry out hedge restoration work between 31 August and the 1 March. Hedges coppiced before end December regrow faster than those coppiced later. Dormice could be present at any time and might have started nesting in March. Any active dormouse nests found should stop work and advice and licence sought.
- Ensure the best chances of survival, by planting new hedgerow plants in the winter months from November to March. Keep root balls damp during planting, and water liberally in dry spells until established.
- An additional 1 metre at the base between hedge and fence (on top of the minimum 3 metre width) will create additional wildlife habitat.
- Increasing the species mix beyond the minimum requirement of a 3 species mix will provide a greater selection of food sources for wildlife and make your hedge more robust to climate extremes, pests and disease.

- Select plants with well-developed root systems. Plants which are 3 – 4 years old are recommended.
- Avoid damaging historic banks during ground preparation by digging manually.
- You may incorporate some well-rotted manure if planting up large gaps on poor soils.
- Plant locally common native species where possible. Plants should be derived from locally collected seeds or cuttings if possible as these are likely to survive better and support more species of native wildlife.
- Where large gaps have been planted, control weeds by using a mulch of wood chippings or by securely pegging down a biodegradable weed control fabric, 1m – 2m wide at the base of the transplants.
- Encourage new growth by trimming the transplant back where large gaps have been planted. New trees/shrubs planted between existing coppice stools should not be trimmed as this will prevent them competing with established trees.
- Establish at least 2 hedgerow trees per 100m. Either plant new saplings (at least 1m tall) or identify existing plants that can develop into trees. It is sensible to tag the tree to avoid accidental damage when hedge trimming. Choose native tree species that grow well in local hedges, as they will contribute to an attractive landscape and can increase the wildlife value of the hedge.
- Spiral guards can be used to protect the hedge where rabbits are likely to cause serious damage. They are best avoided in most areas though as they prevent good dense growth at the base of the hedge.
- Where work is required to a tree/hedge that has been identified as a bat roost or a dormouse breeding site (either because bats/dormice are known to be present or where positive signs of bat/dormouse use have been found), a European Protected Species license from Natural Resources Wales must be obtained.

6515 Hedge Laying: Traditional

This technical note describes the minimum standard of work required to receive payments for 'Hedge Laying'. Any variation must be approved by the Welsh Government prior to starting the work.

You must adhere to the following:

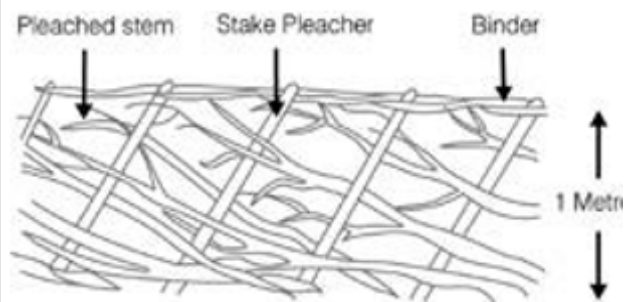
- Ensure that all redundant fencing or wire is removed.
- Lay the hedge by partially cutting through suitable stems, with a sloping cut at an angle of approximately 30°. The cut should end close to ground level.
- Lay the cut stems at the angle appropriate to the regional style (usually between 20 and 45°), and secure in place with stakes.
- Retain at least 1 tree per 50m as standard trees. This should include all large, mature trees, particularly those with features such as holes, splits, cracks or dense ivy cover; as these provide roosting sites for bats.
- Ensure there is at least 1m between newly laid hedges and protective fencing.
- **Ensure that the hedge is able to regrow to a 3m width. There must be a gap of at least 3m between double fences.** Where a hedge is laid beside a road, a 1.5m gap from the centre of the hedge to the fence is permissible. **The fence must be located on the field side of the hedge.**
- You must ensure the entire width of the hedge is laid. If part of the width of a hedge falls outside your boundary, you should not include this hedge, unless you obtain the written consent from your neighbour to do so.
- Obtain your neighbour's written consent to place a fence on their land if you are laying hedge on their boundary.

Do not:

- Use wire or baler twine to secure either the stakes or cut stems.
- Plant any ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxineus*), in any planting mix, either for woodlands or when establishing or restoring hedgerows. Existing ash trees should be retained where not a demonstrable hazard and may be selected to grow up as standard.
- Do not burn the cut material from laying the hedge. Use to make habitat piles or dead hedges.
- Cause damage to any existing hedge banks during ground preparation, planting or fencing.
- Use trees and shrubs as strainers or fencing posts, or use them to support fencing wire, staples or netting.
- Requirements and guidance in addition to the specifications above:
- Depending on the volume of timber felled you may need to obtain a felling licence from Natural Resources Wales.

- Ensure that you have the appropriate Flood Risk Activity Permit if you are planting or fencing near a main river, flood plain or flood defence structure. Alternatively, ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.** See General Rules for more details.
- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Carry out hedge restoration work between 31 August and the 1 March Hedges laid before end December regrow faster than those laid later. Dormice could be present at any time and might have started nesting in March. Any active dormouse nests found should stop work and advice and licence sought.
- Stems for laying should be about 5cm – 12cm thick at the base, and 2.5m – 3.5m in height. Beyond this stage coppicing should be considered as a more suitable alternative.
- An additional 1 metre at the base between hedge and fence (on top of the minimum 3 metre width) will create additional wildlife habitat.
- If planting any gaps, using the widest selection of species available will provide a greater selection of food sources for wildlife.
- Aim to lay hedges in the winter months between November and March.
- Whenever possible follow local traditional methods and customs.
- In the interest of biodiversity, remove only as much elder as is necessary and cut back any bramble, briar or other climbing growth where this impedes laying operations.
- Hedge laying should aim to be upslope or with the direction of adjacent water courses and in the same direction wherever possible.
- Maintain existing ash trees where possible.
- Retain all large mature trees where undertaking hedgerow renovation work, as these can provide roosting sites for bats.
- Where work is required to a tree/hedge that has been identified as a bat roost or a dormouse breeding site (either because bats/dormice are known to be present or where positive signs of bat/dormouse use have been found), a European Protected Species licence from Natural Resources Wales must be obtained.

Example of the 'stake and pleach' style of
hedge laying:



6516 Individual Tree Mesh Guards: >1.2m

This technical note describes the minimum standard of work required to receive payments for “Individual Tree Mesh Guards: > 1.2m”. Any variation must be approved by the Welsh Government prior to starting the work.

Tree mesh guards protect individual trees, such as trees in parklands and agroforestry plantings by deterring browsing animals from damaging the tree.

You must adhere to the following:

- Install tree mesh guard made from galvanised welded wire mesh.
- Guard manufactured from 12-gauge (2.5mm) 50x50mm or 25mmx75mm mesh.
- Minimum height 1.2m.
- Minimum diameter of mesh guard 40cm
- Secure mesh guard in place by a minimum of two wooden posts with a minimum diameter of 10cm x 10cm. Mesh guards should be secured to the posts with galvanised staples.
- Use posts comprising either hardwood or pressure treated softwood.
- Ensure all materials are new.
- Remove, or replace the tree guard before the growth of the tree is impacted by the tree guard.

Requirements and guidance in addition to the specifications above:

- Additional posts can be included to provide additional stability for the mesh guard.
- Wire mesh could incorporate a ‘spiked’ design. This item is only suitable in areas with no public access and where impact on livestock has been assessed.
- Maintain the tree guard until the trees are established and/or the risks of damage by browsing animals has stopped
- Monitor and maintain the trees, mesh guards and supports regularly. Remove and replace the mesh guard and its supports if they are damaging the tree.

6517 Individual Tree Mesh Guards: >1.8m

This technical note describes the minimum standard of work required to receive payments for “Individual Tree Mesh Guards: > 1.8m”. Any variation must be approved by the Welsh Government prior to starting the work.

Tree mesh guards protect individual trees, such as trees in parklands and agroforestry plantings, by deterring browsing animals from damaging the tree.

You must adhere to the following:

- Install tree mesh guard made from galvanised welded wire mesh.
- Guard manufactured from 12-gauge (2.5mm) 50x50mm or 25mmx75mm mesh.
- Minimum height 1.2m.
- Minimum diameter of mesh guard 40cm
- Secure mesh guard in place by a minimum of two wooden posts with a minimum diameter of 10cm x 10cm. Mesh guards should be secured to the posts with galvanised staples.
- Use posts comprising either hardwood or pressure treated softwood.
- Ensure all materials are new.
- Remove, or replace the tree guard before the growth of the tree is impacted by the tree guard.

Requirements and guidance in addition to the specifications above:

- Additional posts can be included to provide additional stability for the mesh guard.
- Wire mesh could incorporate a ‘spiked’ design. This item is only suitable in areas with no public access and where impact on livestock has been assessed.
- Maintain the tree guard until the trees are established and/or the risks of damage by browsing animals has stopped
- Monitor and maintain the trees, mesh guards and supports regularly. Remove and replace the mesh guard and its supports if they are damaging the tree.

6518 Kerbing

This technical note describes the minimum standard of work required to receive payments for 'Kerbing'. Any variation must be approved by the Welsh Government prior to starting the work.

What is the purpose of this activity?

The purpose of installing kerbs on and around farmyards and alongside tracks is to help separate clean and contaminated water. Many streams and rivers in Wales are affected by pollution from agricultural run-off, impacting on biodiversity, fisheries and drinking water quality.

Kerbs can be used to divert contaminated water away from on-yard gullies or other areas where it may contribute to run-off and potential pollution.

The contaminated water can then be channelled into an appropriate store or slurry store.

Alternatively, kerbs can be used to divert clean water away from contaminated track/yard areas.

Preventing clean water from diluting contaminated water at farmyard level means that clean water can be captured for later use, and contaminated water remains at more manageable quantities to be appropriately captured in slurry stores and dealt with appropriate manner.

If you are installing kerbs in farmyards to intercept clean water, you should consider whether you also need to apply for Item 6526 Rainwater Goods – Guttering and Item 6525 Rainwater Goods – Downpipes.

You must adhere to the following:

- Install kerbing with new kerbstones measuring 900mm x 255mm x 125mm (half battered)
- Concrete work should be carried out in accordance with the relevant British Standards BS 8000 and BS 8500, as amended.
- Ensure that clean water from the kerbing is directed to a stable drainage outlet such as a ditch, swale or sediment trap.
- Ensure that contaminated water is discharged into an appropriate slurry store.

Requirements and guidance in addition to the specifications above:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed. [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse. A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#).
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can

do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent or confirmation a permit/consent is not needed, should be retained and made available on request**. See Terms and Conditions for more details.

Kerbing – best practice

- Kerbing is likely to be more stable if a trench is excavated in the existing track to a minimum depth of 300mm.
- Fill with concrete and key in pre-cast concrete kerb stones protruding from the surface.
- Tamper the concrete on the outer side to the top edge of the kerb stone.
- Leave concrete on the inner side (the side that will divert the water) flat, below the top of the kerbstone.

6519 Ladder Stile

This technical note describes the minimum standard of work required to receive payments for 'Ladder Stile'. Any variation must be approved by the Welsh Government prior to starting the work.

Ladder stiles are used to allow walkers to cross walls and banks.

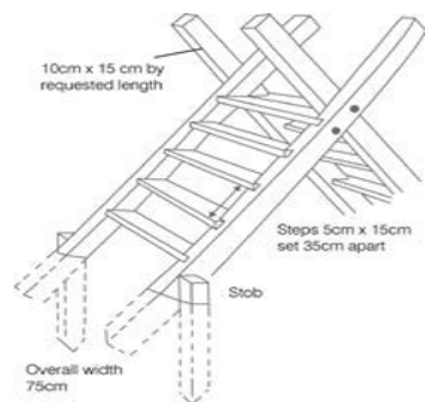
You must adhere to the following:

- Construct the ladder stile from pressure treated softwood or hardwood.
- Use timber with dimensions no less than those shown in the diagram. The steps can either be rebated into the 'A' frames or supported by extra pieces of timber. Secure the stile on both sides by burying the ends of the 'A' frame to a sufficient depth in the ground and anchoring them with stobs as shown.
- Construct a platform at the top of the stile to cross over wide walls or banks if needed.
- Where the activity includes the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Ensure the ladder stile is compliant with BS5709:2006, as amended. A gate is considerably less restrictive than a ladder stile and one should be installed wherever this is possible.

Do not:

- Use concrete to secure timber supports in the ground.
- Reduce the size of wide walls or banks to enable the ladder to span the boundary. Construct a platform at the top of the stile if needed.
- Requirements and guidance in addition to the specifications above:
- Best practice is to bury the ends of the 'A' frame at least 30cm into the ground to anchor the stile.

Example of a step ladder stile



6520 New Hedge Planting for Pollinators

This technical note describes the minimum standard of work required to receive payments for 'New Hedge Planting'. Any variation must be approved by the Welsh Government prior to starting the work.

You must adhere to the following:

- Plant native trees and shrubs in a mix of at least three hedging species. At least 90% of the planting mix must comprise of the following species; blackthorn, hawthorn, crab apple, wild plum or wild cherry. No one component of the mix should comprise more than 75% of the total.
- Plant hedge plants that are at least 45-60cm high, which should have a strong leader shoot.
- Plant new hedgerows at a density of 7 plants per metre in a staggered double row, with 20cm between each row.
- Prevent new plants from being killed by shading out from excessive weed growth.
- Protect newly planted hedges from livestock.
- Replace any dead plants.
- Ensure there is at least 1m between new planting and protective fencing.
- **Ensure that the hedge is able to grow to a 3m width. There must be a gap of at least 3m between double fences.** Where a new hedge is planted beside a road, a 1.5m gap from the centre of the hedge to the fence is permissible. The fence must be located on the field side of the hedge.
- Obtain your neighbour's written consent to place a fence on their land if you are planting a new hedge on their boundary.

Do not:

- Plant any ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxineus*).
- Use trees and shrubs as strainers or fencing posts, or use them to support fencing wire, staples or netting.
- Cause damage to any existing historic hedge banks during ground preparation, planting, or fencing.

Requirements and guidance in addition to the specifications above:

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI

list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- If you are undertaking any activity near a main river, flood plain or flood defence structure, you must check whether a Flood Risk Activity Permit is needed and signpost to our webpage [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal drainage district.
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/ consent (or confirmation that a permit/ consent is not needed) should be retained and made available on request**. See Terms and Conditions for more details.
- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Ensure the best chances of survival, by planting new hedgerow plants in the winter months from November to March. Keep root balls damp during planting, and water liberally in dry spells until established.
- Select plants with well-developed root systems. Plants which are 3 – 4 years old are recommended.
- Prepare the ground for planting by either rotovating, ploughing or digging over during the previous summer. Avoid damaging historic banks during ground preparation by digging manually.
- You may incorporate some well-rotted manure if planting hedge plants on poor soils.
- Plant locally common native species where possible. Plants should be derived from locally collected seed or cuttings if possible as these are likely to survive better and support more species of native wildlife.
- Control weeds by using a mulch of wood chippings or by securely pegging down a biodegradable weed control fabric, 1-2m wide at the base of the transplants. Chemical control of grasses, thistles, docks, and ragwort may be undertaken.
- Any chemical used must have a label recommendation for use on the listed species and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide must be strictly adhered to.
- Encourage new growth by trimming the transplant back.
- Establish at least 2 hedgerow trees per 100m. Either plant new saplings (at least 1m tall) or identify existing plants that can develop into trees. It is sensible to tag the tree to avoid accidental damage when hedge trimming. Choose native tree species that grow well in local hedges, as they will contribute to an attractive landscape and can increase the wildlife value of the hedge.
- Spiral guards can be used to protect the hedge where rabbits are likely to cause serious damage. They are best avoided in most areas though as they prevent good dense growth at the base of the hedge.

6521 Parkland Tree Stock Guards

This technical note describes the minimum standard of work required to receive payments for 'Parkland Tree Stock Guards'. Any variation must be approved by the Welsh Government.

You must adhere to the following:

- Install tree guards that are large enough and designed correctly to protect from any livestock or browsing animals, such as deer, that will have access to the land.
- All guards constructed from timber rails must be at least 1.2m high and set at least 1m from the tree to protect against sheep (or 1.5m to protect against cattle and horses). Each of the 4 corner posts should have a minimum diameter of 10cm x 10cm. At least 4 wooden rails with a minimum diameter of 10cm x 5cm should be fixed to the outside of the posts. Galvanised netting should then be fixed around the outside of the structure and held in place with galvanised staples. Triangular shaped enclosures are only acceptable in parklands where sheep are the sole livestock.
- Use fencing timber comprising either hardwood or pressure treated softwood.
- Ensure that timbers, wire, netting and galvanised staples are new materials.
- If traditional metal guards are used rather than wooden guards, ensure they are sufficiently sized to protect from all livestock.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You should contact NRW as early as possible to discuss whether a permit is needed for any tree planting near a main river, its floodplain or flood defence structure.
- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal Drainage District.

Requirements and guidance in addition to the specifications above:

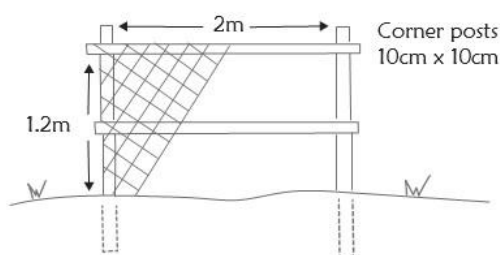
The choice of tree guard will depend upon:

- The size of tree to be protected.
- The type of damage expected, e.g. browsing, bark stripping, fraying.
- Type of animal most likely to cause damage.
- Period of time the tree is at risk from damage.

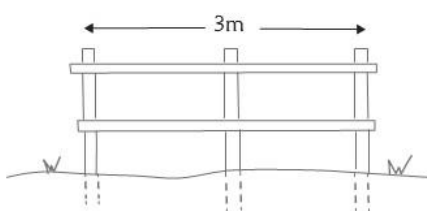
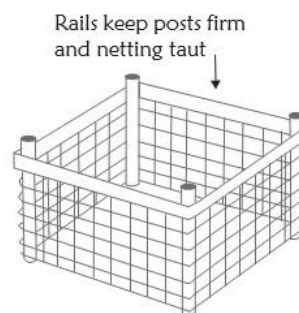
The visual appearance of the guard should, as far as possible, match the style and colour of any existing parkland fencing.

- Use a combination of vertical posts and horizontal rails to build a rigid structure. Fix wire netting around it to prevent access by livestock. The horizontal rails will prevent the posts from being loosened. A variety of stock might have access to the parkland over time so the guard must be strong enough to withstand the worst-case scenario. Do not try to increase the distance of the top rail from the tree by slanting the posts outwards. This will make it difficult to fix the netting securely in place.
- It is not necessary to top the enclosure with barbed wire, as this is unlikely to stop animals leaning over, and you will make it more difficult to get into the enclosure to tend the tree. Barbed wire may also cause injury to both you and your livestock.
- Additional sets of rails may also be placed mid-way up the posts to provide additional strength.
- Triangular shaped enclosures are only acceptable in parklands where sheep are the sole livestock. Such enclosures must be at least 1.2m high and set at least 1m from the tree to protect against sheep. It is important to remember that, as the tree grows, it may be necessary to widen the guard.
- Traditional metal types of guards are used in long established parklands. It is important that they are checked regularly to ensure that the tree does not grow into the metalwork and become deformed.
- Such guards were originally made out of wrought iron but are now available in mild steel.

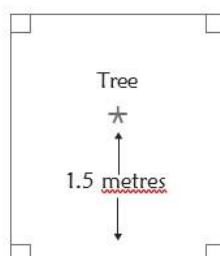
Examples of Parkland Tree Guards



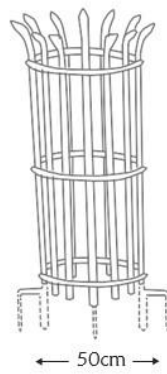
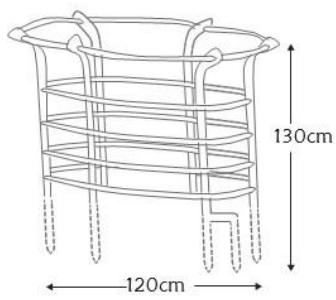
a) Suitable for use with



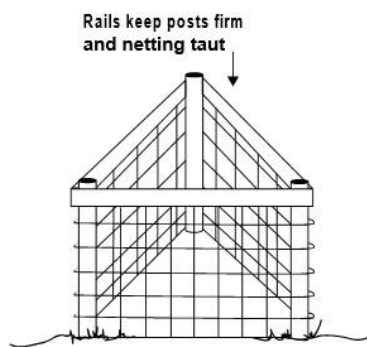
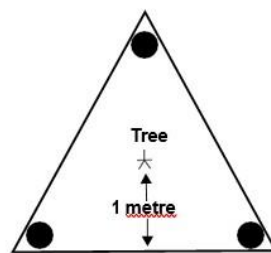
b) Suitable for use with horses and



3. Traditional Metal Types



2. Traditional Tree Guard



6522 Piped Water Supply

This technical note describes the minimum standard of work required to receive payments for 'Piped Water Supply'. Any variation must be approved by the Welsh Government prior to starting the work.

Piping can be used to supply drinking water to water troughs where stock have been prevented from accessing other water sources.

You must adhere to the following:

- Install piping made from medium density blue polyethylene with a minimum external diameter of 2.5 cm.
- Use watertight joints made of brass or plastic.
- Bury pipework to a sufficient depth to prevent damage from surface activities.
- Reinstate disturbed ground to match the surrounding ground once pipework has been completed.
- Protect any pipework above ground from animal or frost damage.
- Ensure any pipes crossing open ditches or tracks are suitably protected. The pipe must be covered by a tubular steel guard or sleeve pipe, laid sufficiently below the ditch to allow space for ditch cleaning. When crossing farm tracks, ensure the pipe is sufficiently protected below the track.
- Control water levels at the point of supply and at each trough with isolating valves/stop cocks. The isolating valves/stop cocks must be protected against frost and damage from stock and must be easily accessible.
- Where valve/stop cocks are buried, this must be at a minimum of 60cm, and access should be available through a covered inspection chamber.
- Ensure that the water is able to supply sufficient cold potable water to continuously refill all the water troughs along its length throughout the year within 10 minutes.
- Ensure all water supply works are compliant with British Standards Codes of Practice BS 6572, as amended.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You will need an abstraction licence if you take water from an inland water or from groundwater, unless it is exempt from licensing. Inland waters can include: a river or stream, a reservoir, lake or pond, a canal, a spring, a dock, channel, creek, bay, estuary or arm of the sea
 - [Natural Resources Wales / Find out if you need a water abstraction or impoundment licence](#)

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
 - A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife.

[Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

Do not:

- Damage other services, such as water supply, waste, gas, electricity or telephone.

Requirements and guidance in addition to the specifications above:

- Consider combining access to valve positions with field drains to make inspection access easier.
- Consider a range of factors when determining pipe diameter. These include: water pressure, water capacity, variable flow, length of pipe, changes in altitude, volume of water required, number of troughs, number and type of stock using each trough.
- Where joints are buried underground, it is advisable to mark their locations, on fence posts for example, to assist with future maintenance.
- Bury pipework to a minimum depth of 60cm although this may need to be deeper if future deep ploughing or sub-soiling is envisaged.
- Lay pipes by trenching, mole plough or sub-soiler, depending on soil type and machinery available.
- Best practice when laying pipes under a ditch is that it is laid 60cm below the ditch to allow space for ditch cleaning.
- Best practice when laying pipes under farm tracks is to lay the pipe on a 7.5cm bed of sand and then covered by a further 10cm of sand before being overlaid by backfill.

6523 Pond restoration

This technical note describes the minimum standard of work required to receive payments for 'Pond Restoration'. This capital work is to restore ponds which have less than 30% of Open Water. Any variation must be approved by the Welsh Government prior to starting the work.

Ponds and other small water bodies are important for freshwater biodiversity and storing water. Areas with large numbers of ponds can be particularly important because they provide habitats for a wider range of plants and animals.

Restoring ponds requires the removal of silt that has built up over a period of time to create open water.

There are many different types of 'good' pond, and you should not try to make all ponds on your farm look the same. A range of different sorts of ponds provide the widest range of habitats and can support some of our most threatened animals and plants.

If you have more than one pond, managing vegetation and silt on a staggered rotation of about 10 years will provide a range of different habitats.

Good ponds tend to have:

- Extensive areas of shallow water;
- Few or no fish or water birds;
- Clear water;
- A range of different water plants with no invasive species;
- Lightly grazed margins with no more than about half the pond shaded.

Ponds do not need to contain water all year, and some rare animals and plants need temporary ponds where predators cannot survive. Water levels must be allowed to vary naturally, but the pond should contain water for at least 6 months per year.

Do not introduce animals or plants to your pond, especially from a garden pond, or a garden centre. Native pond species are good dispersers and will arrive in healthy ponds by themselves.

The following types of pond are not suitable for this Capital - Environment pond restoration option:

- An inflow or outflow. This is because watercourses often carry silt and/or pollutants.
- Significant water quality problems that cannot be addressed by the restoration measures of this option. If there is serious risk of pollution, disposal of material can be problematic, and restoration is much less likely to be effective.
- Ponds with large numbers of fish or ducks make poor habitat for wildlife due to heavy predation.
- Ornamental ponds or ponds with non-native invasive species. These ponds make poor habitat for wildlife and restoration activities may encourage spread of invasive animals and plants.

You must adhere to the following:

- Protected species such as otter, water vole and great crested newt may be present in ponds. You are responsible for identifying the presence of such species and

ensuring that works are not detrimental to any protected species present. Ensure that any stock watering access is from a downslope direction or from level ground next to the pond. This is to minimize runoff and stock poaching.

- Any desilting work and tree / scrub clearance must be carried out between 15 October and 15 January to avoid damage to breeding invertebrates, amphibians and birds. A record of work carried out should be recorded in your activity diary.
- when removing excessive silt or vegetation to maintain open water, clear a maximum of one third of the pond area in any one year. This is to allow populations of invertebrates and amphibians that may be present in the silt to escape and survive amongst the remaining undisturbed areas.
- where a pond is heavily shaded, coppice a proportion of young trees and / or scrub on the south side of the pond to allow light to reach the water surface. If undertaking tree / shrub coppicing, ensure that felling cuts are 15cm above the ground level
- where present, maintain fenced out pond buffers in a stock-excluded condition
- ensure ponds and their banksides are not damaged through unfettered livestock trampling / poaching. The use of existing livestock drinking bays is acceptable
- Ensure that any stock watering access is from a downslope direction or from level ground next to the pond. This is to minimize runoff and stock poaching.
- Any spring or flush areas feeding the pond may be grazed between 1 April and 30 September only, to prevent excessive poaching and runoff of these areas during wetter parts of the year.
- Ensure you have prevented any sources of pollution and nutrients from reaching the pond including any run offs that may contain fertilisers, slurries, manures, silage effluent or other nutrients.
- Remove any scrap, redundant fencing or any other rubbish such as plastic wrap.
- Spread any removed silt thinly on adjacent land in compliance with waste exemption U10 and waste exemption D1.
- Different levels of stock access to different parts of the pond are beneficial, using a 'Four Seasons Fencing' approach to promote a diversity of different habitats.
- Where trees are present, create a mixed pattern of trees and shrubs around the pond by coppicing some scrub to allow more light onto the surface of the water and reducing leaf drop into the pond. There is no need to plant trees next to the pond.

Do not:

- Restore ponds between March and August.
- Dredge more than one third of the surface area of a pond at any time.
- Allow dredged silt to run back into the pond. Dredged material must be spread down slope from the pond, but not where it may run into adjacent watercourses.
- Create islands in the pond.
- Allow stock drinking access for more than 10% of the pond.
- Apply inputs of any kind within a 10 m buffer of the pond's bankside.

- Release fish or other animals into the pond
- Release any ornamental or aquatic plants into the pond, as many such plants are invasive
- Use machinery within 5m of water's edge and avoid any damage to bank and riparian vegetation where water voles are present
- Undertake any scrub removal or dredging if there is evidence of otters or a potential otter holt present in the pond or bank
- Remove any old trees from around the pond as they may contain bird nesting sites, bat roosts and rare mosses and lichens.
- Over-deepen the pond or create steep banks. Some ponds naturally dry up during the summer months. Wildlife ponds do not need to be any deeper than 1m and should have gently sloping banks
- Sow any seed inside the pond's fenced buffer area. Allow any such area to vegetate through natural colonisation only
-

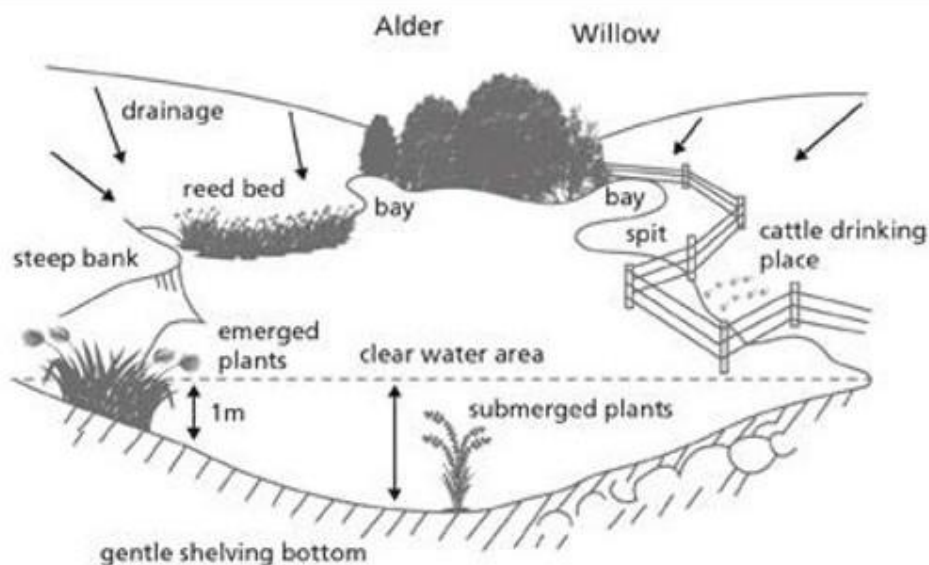
Requirements and guidance in addition to the specifications above:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request**. See General Rules for more details.
- This capital project includes dredging a maximum of one third of the pond per year. The remaining two thirds should be dredged in rotation in future years. This ensures that invertebrate populations are not totally removed.
- To minimise impacts on wildlife, restore ponds between September and January. Aim to

do work in dry weather when pond levels are low and machinery will run less risk of poaching the soil.

- Removing silt from the pond is appropriate when:
 - No submerged aquatic plants can be seen, either because the water is very turbid or because the bed is clearly covered by a deep, loose layer of silt or leaf litter.
 - The sediment is completely black and smells of rotten eggs, and large bubbles of gas can be seen bubbling up occasionally.
- If removing from the pond, scrape out loose sediment until a firmer layer such as clay, marl or other firmer sediment is reached. Take care not to break the natural seal of the pond bed.
- Do not create artificial islands as they encourage gulls and waterfowl, resulting in poor water quality.
- If there is a danger of leaching from adjacent intensively managed fields, consider establishing a strip of long vegetation adjacent to the pond which can act as a buffer strip.
- The Million Ponds website also has useful information regarding restoring ponds for other protected species such as Great Crested Newts and Water Vole:
<https://freshwaterhabitats.org.uk/projects/million-ponds/>
- More information on ghost ponds can be found at <http://ghostponds.wordpress.com/>
- More information on waste exemption U10
(<https://www.gov.uk/guidance/waste-exemption-u10-spreading-waste-to-benefit-agricultural-land>)
- More information on waste exemption (<https://www.gov.uk/guidance/waste-exemptions-disposing-of-waste>) D1 and registering waste exemptions.

Diagram – Cross Section of Pond



6525 Rainwater goods: Downpipe

This technical note describes the minimum standard of work required to receive payments for 'Rainwater Goods – Downpipe'. Any variation must be approved by the Welsh Government prior to starting the work.

What is the purpose of this activity?

The purpose of new rainwater goods is to help separate clean rain water from contaminated water on and around farmyards. Many streams and rivers in Wales are affected by pollution from agricultural run-off, impacting on biodiversity, fisheries and drinking water quality. Preventing rainwater from diluting dirty water at farmyard level means that dirty water remains at more manageable quantities to be appropriately captured in slurry stores and dealt with properly.

Downpipes can be used to intercept and capture rain water from farm building roofs.

This clean water can be diverted into an existing clean water drain or discharged to an existing ditch, swale, or sediment trap. Alternatively, it may be captured for later on-farm use.

Payments are available for the provision and installation of downpipes where existing ineffective or non-existent rainwater goods discharge clean water onto dirty yard areas.

This item is for existing buildings, traditional or modern, within the farmyard that currently do not have rainwater goods, or which have existing rainwater goods that are beyond their serviceable life and need replacement. Non-agricultural buildings and houses are not eligible.

Rainwater goods on proposed new buildings are not eligible for a grant as they should already have rainwater goods built into the design.

Listed buildings are not eligible for this item.

You must adhere to the following:

- Use 110mm downpipe and brackets that satisfy all relevant British Standards, as amended, such as BS EN 607, BS EN12200 and BS EN 1462.
- Installation work should satisfy all relevant British Standards, as amended, such as BS 5502 and BS EN1917.
- Ensure that all rainwater goods consist of new materials.
- Any underground drainage works should comply with all relevant British Standards, as amended, such as BS 8000, BS EN 752 and BS EN 1610.

Do not:

- Install plastic rainwater goods on Listed Buildings without consent from the Local Authority.

Requirements and guidance in addition to the specifications above:

- Where rainwater goods are at risk of being damaged by livestock, suitable protection should be installed.

6526 Rainwater Goods: Guttering

This technical note describes the minimum standard of work required to receive payments for 'Rainwater Goods – Guttering'. Any variation must be approved by the Welsh Government prior to starting the work.

What is the purpose of this activity?

The purpose of new rainwater goods is to help separate clean rain water from contaminated water on and around farmyards. Many streams and rivers in Wales are affected by pollution from agricultural run-off, impacting on biodiversity, fisheries and drinking water quality. Excluding clean rainfall from falling on contaminated yard areas can help prevent the creation of slurry which requires storage and is essential to help reduce agricultural pollution.

Guttering can be used to intercept and capture rainwater from farm building roofs. This clean water can be diverted into an existing clean water drain or discharged to an existing ditch, swale, or sediment trap. Alternatively, it may be captured for later on-farm use.

Payments are available for the provision and installation of new rainwater goods (guttering and downpipes), where existing ineffective or non-existent rainwater goods discharge clean water onto dirty yard areas.

This Item is for existing buildings, traditional or modern, within the farmyard that currently do not have rainwater goods, or which have existing rainwater goods that are beyond their serviceable life and need replacement. Non-agricultural buildings and houses are not eligible.

Rainwater goods on proposed new buildings are not eligible for a grant as they should already have rainwater goods built into the design.

Listed buildings are not eligible for this Item.

You must adhere to the following:

- Use guttering, typically 150mm half round PVC guttering, and appropriate brackets. All goods must satisfy all relevant British Standards, as amended, such as BS EN 607, BS EN12200 and BS EN 1462.
- Installation work should satisfy all relevant British Standards, as amended, such as BS 5502 and BS EN1917.
- Ensure that all rainwater goods consist of new materials.

Do not:

- Install plastic rainwater goods on Listed Buildings without consent from the Local Authority.

6527 Replacement of stile with small metal pedestrian or bridle gate

This technical note describes the minimum standard of work required to receive payments for 'Replacement of stile with small metal pedestrian or bridle gate'. Any variation must be approved by the Welsh Government prior to starting the work.

Pedestrian or bridle gates are used to allow access for walkers and horse riders.

Prior to replacing a stile with a small metal or pedestrian gate, you must:

- Have written approval from your **local Highway Authority** under **Section 147, Highways Act 1980**. Unauthorised gates are treated as *unlawful obstructions*.
- **Follow “least restrictive access” requirements**; Consider whether any form of barrier is necessary here, could a gap be left for walkers & riders? Highway Authorities are legally required (under **Section 69, Countryside and Rights of Way Act 2000**) to work on the principle of **least restrictive access** and consider users with mobility restrictions.

Metal Self-Closing Pedestrian Gate



When replacing a stile with a small metal gate you must adhere to the following:

- Remove and dispose of existing stile.
- Install a metal Pedestrian Gate within an integrated H frame.
- Gate and H frame to be galvanized.
- Install gates that are at least 1.0m wide and 1.3m high.
- Hang the gate so that it can be opened from both directions and is self-closing.
- The gate must comply with the British Standard BS5709:2018
- H frame to be secured with concrete.
- Install timber posts on either side of H frame to attach rails / wire. posts must be at least 10cm diameter.
- Smooth any rough zinc edges.

- Keep all fittings tight.

Metal Bridle Gate



When replacing a stile with a metal bridle gate you must adhere to the following:

- Remove and dispose of existing stile.
- Install a metal Bridle Gate within an integrated H frame
- Gate and H frame to be galvanized.
- Install gates that are at least 1.525m wide and 1.3m high.
- Hang the gate so that it can be opened from both directions and self-closes slowly.
- H frame to be secured with concrete.
- The gate must comply with the British Standard BS5709:2018
- Install timber posts on either side of H frame to attach rails / wire. Posts must be at least 10cm diameter.
- Fit a long reach handle that allows the gate to be opened without the rider dismounting.
- Smooth any rough zinc edges.
- Keep all fittings tight.
- Adjust so the gate **self-closes slowly** (for the safety of riders).
- Ensure there is enough room for path users to manoeuvre.

Do not:

- Install gates and posts on Public Rights of Way unless approval has been received from your local Highway Authority
- Lock the gate (illegal obstruction)
- Use barbed wire near the gate.

Requirements and guidance in addition to the specifications above:

- Install a gate that can open in both directions, except next to a road where the gate should open away from the road.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.

Ongoing responsibilities

You must ensure the gate remains:

- safe
- easy to use
- free from obstruction
- accessible for users with mobility needs

Help available:

Your **local authority Public Rights of Way Team** may provide advice or volunteers to assist with installation.

6528 Replacement of stile with small timber pedestrian or bridle gate

This technical note describes the minimum standard of work required to receive payments for 'Replacement of stile with small timber pedestrian or bridle gate'. Any variation must be approved by the Welsh Government prior to starting the work.

Pedestrian or bridle gates are used to allow access for walkers and horse riders.

Prior to replacing a stile with a small timber pedestrian or bridle gate, you must:

- Have written approval from your **local Highway Authority** under **Section 147, Highways Act 1980**. Unauthorised gates are treated as *unlawful obstructions*.
- **Follow “least restrictive access” requirements**; Consider whether any form of barrier is necessary here, could a gap be left for walkers & riders? Highway Authorities are legally required (under **Section 69, Countryside and Rights of Way Act 2000**) to work on the principle of **least restrictive access** and consider users with mobility restrictions.

Timber Self-Closing Pedestrian Gate



When replacing a stile with a small timber pedestrian gate you must adhere to the following:

- Remove and dispose of existing stile.
- Install timber pedestrian gate and posts constructed from either pressure treated softwood or hardwood erected so that it self-closes.
- Install gates that are at least 1.0m wide and 1.3m high.

- Use a ready-made gate or construct a gate.
- All gate timbers must meet the following dimensions:
 - Uprights should be at least 10cm x 7.5cm in cross section.
 - All rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.
- Hang the gate so that it can be opened from both directions.
- Ensure that all post timbers must meet the following dimensions;
 - Hanging posts must be at least 15cm diameter
 - Shutting posts must be at least 12cm in diameter
 - Posts must be set into the ground to sufficient depth to ensure stability.
 - The gate must comply with the British Standard BS5709:2018
 - The latch must be visible, able to be used one-handed, easy to operate from both sides and an extended handle type e.g. easy latch.
 - Offset the hinges (top close, bottom further out) to make the gate **self-close**.

Timber Bridle Gate



When replacing a stile with a timber bridle gate you must adhere to the following:

- Remove and dispose of existing stile.
- Install Timber Bridle Gate and Posts constructed from either pressure treated softwood or hardwood erected to self-close slowly.
- Install gates that are at least 1.525m wide (between posts) and 1.3m high.
- Use a ready-made gate or construct a gate. All gate timbers must meet the following dimensions:
 - Uprights should be at least 10cm x 7.5cm in cross section.
 - All rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.

- Hang the gate so that it can be opened from both directions.
 - Fit a long reach handle that allows the gate to be opened without the rider dismounting.
 - The gate must comply with the British Standard BS5709:2018
-
- Adjust so the gate **self-closes slowly** (for the safety of riders).
 - Ensure horse riders can manoeuvre safely and have **space to turn and pass**.
 - Ensure that all post timbers must meet the following dimensions;
 - Hanging posts must be at least 15cm diameter
 - Shutting posts must be at least 12cm in diameter
 - Posts must be set into the ground to a sufficient depth to ensure stability.

Do not:

- Install gates and posts on Public Rights of Way unless approval has been received from your local Highway Authority
- Use concrete to secure posts in the ground, as it can lead to rotting of the timber posts at ground level.
- Lock the gate (illegal obstruction)
- Use barbed wire near the gate.

Requirements and guidance in addition to the specifications above:

- Install a gate that can open in both directions, except next to a road where the gate should open away from the road.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.
- Best practice is to set the posts at least 70cm into the ground to ensure stability and keep the bottom of the gate 7.5cm above the ground.
- Ensure there is enough room for path users to manoeuvre.

Ongoing responsibilities

You must ensure the gate remains:

- safe
- easy to use
- free from obstruction
- accessible for users with mobility needs

Help available

Your **local authority Public Rights of Way Team** may provide advice or volunteers to assist with installation.

6529 Slate Fence Restoration

This technical note describes the minimum standard of work required to receive payments for 'Slate Fence Restoration'. Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

Slate fences are a feature in the landscape in areas where the slate has been quarried commercially, notably at Nantlle, Waunfawr, Llanberis and Bethesda in North Wales.

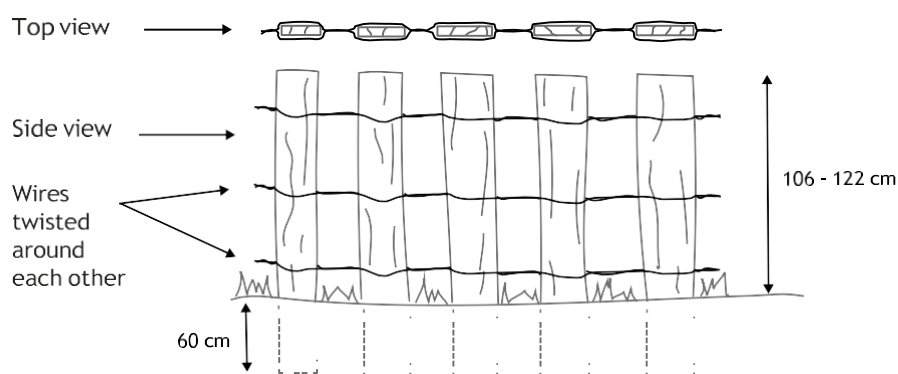
You must adhere to the following:

- Restore existing slate fences only.
- Seek to match the size and colour of existing slate fence, usually using up to 3 slates per metre to achieve a stockproof boundary. Set slates into the ground to a sufficient depth to ensure stability.
- Ensure that the top of the slates are at least 106cm from the ground.
- Reflect the existing style of slate fence wire reinforcement to match local fences.
- All slate used to restore slate fences must match the slates in existing features.

Requirements and guidance in addition to the specifications above:

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Set slate at a minimum of 30 cm into the ground, ideally 60cm where possible, compact ground around slate.

Example diagram of a slate fence



6530 Sleeping Policemen

This technical note describes the minimum standard of work required to receive payments for 'Sleeping Policemen'. Any variation must be approved by the Welsh Government prior to starting the work.

What is the purpose of this activity?

The purpose of a sleeping policeman is to help separate clean and contaminated water on and around farmyards and tracks. Many streams and rivers in Wales are affected by pollution from agricultural run-off, impacting on biodiversity, fisheries and drinking water quality.

Excluding clean rainfall from running onto contaminated yard areas can help prevent the creation of slurry which requires storage and is essential to help reduce agricultural pollution. Sleeping policemen can be used to intercept clean water from clean tracks and yards upslope of the contaminated track/yard areas.

Alternatively, they can be used to intercept contaminated water downslope of yards/tracks. This contaminated water must be diverted into an appropriate store or slurry store.

Installing sleeping policemen across farm tracks can also intercept and divert surface run-off, reducing flow rates at down slope locations and therefore helping to prevent erosion on farm track surfaces. By taking action to slow run-off, you can reduce water damage to tracks, minimise soil erosion and reduce the risk of water pollution.

If you are installing sleeping policemen in farmyards to intercept clean water, you should consider whether you also need to apply for Item 6526 Rainwater Goods – Guttering and Item 6525 Rainwater Goods – Downpipes.

You must adhere to the following:

- Create sleeping policemen to a height of at least 150 mm above track level, which can support slow moving heavy machinery.
- Concrete work should be carried out in accordance with the relevant British Standards BS 8000 and BS 8500, as amended.
- Ensure that clean water from the sleeping policemen is directed to a stable drainage outlet such as a ditch, swale or sediment trap.
- Ensure that contaminated water is discharged into an appropriate slurry store.

Requirements and guidance in addition to the specifications above:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed. [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make

existing flood risk worse. A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#).

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request**. See Terms and Conditions for more details.
- Sleeping policemen are likely to be more stable if a trench is excavated in the existing track to a minimum depth of 100mm, and then key concrete into the trench and up to a height of at least 150mm.

6531 Soft Engineering to Reduce River Bank Erosion

This technical note describes the minimum standard of work required to receive payments for 'Soft Engineering to Reduce River Bank Erosion'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any variation must be approved by a Field Support Officer. This should only be used under very limited circumstances the preferred approach is to allow natural processes around the river.

Live trees and shrubs, as well as dead trunks and brushwood, have been very successfully used to protect banks from erosion. The benefits of using woody material compared with 'hard' defences, such as rock and man-made materials, is that the woody materials creates 'natural' habitats for riverbank plant species to establish themselves. Trees and shrubs can also be effectively used in conjunction with hard defence materials, particularly where additional protection is needed or where high standards of protection are needed before the trees and shrubs have fully established.

The most typical forms of bank protection using woody material are: bundling (brushwood or brashings tied in bundles), spiling (weaving of typically willow withies around willow stakes) or hurdles. Other techniques include using logs and brush. Discuss with your Field Support Officer, which of the below techniques should be used in each individual case.

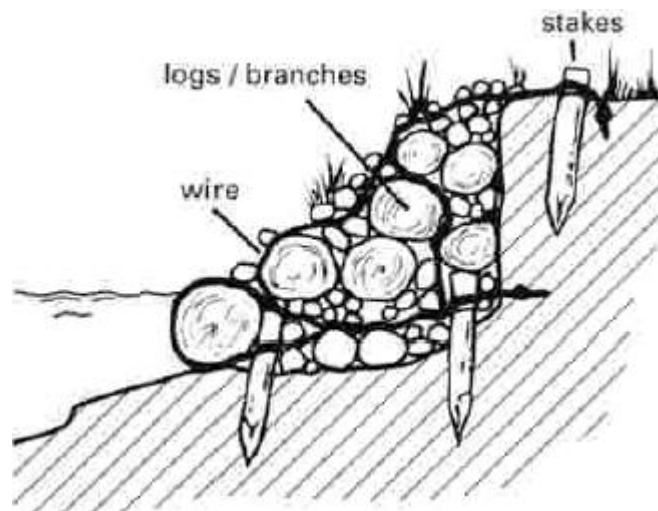
Logs and Brush

You must adhere to the following:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI

list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- Very large tree trunks can be used to halt erosion by laying them along the riverbank, half submerged. If they are willows, sprouting will occur along the trunk and additional protection, and habitat is provided in the future by the root systems and shoots.
- Trunks and large branches can also be used to fill scour holes between other trees to provide immediate protection and good submerged habitat. As with smaller logs used as bank protection, they need to be firmly wired in place, attached to stakes driven deeply into the edge of the river and bank. These areas provide habitat for water voles and otters as well as channel refuges for fish fry.



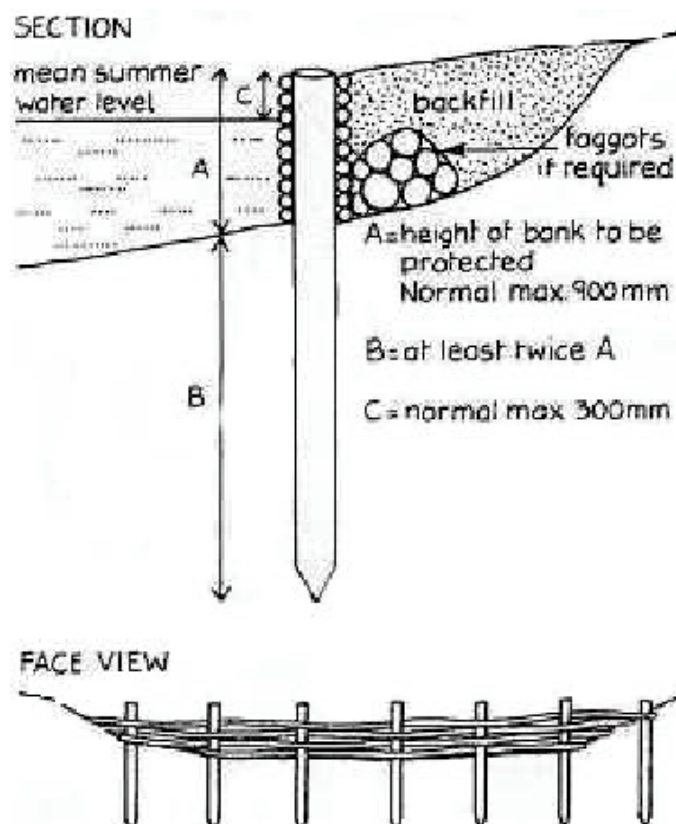
Willow Spiling

This is a woven structure, using the ancient technique for building wattle walls and fences. If freshly cut willow is used, it will root to produce a 'living' revetment.

You must adhere to the following:

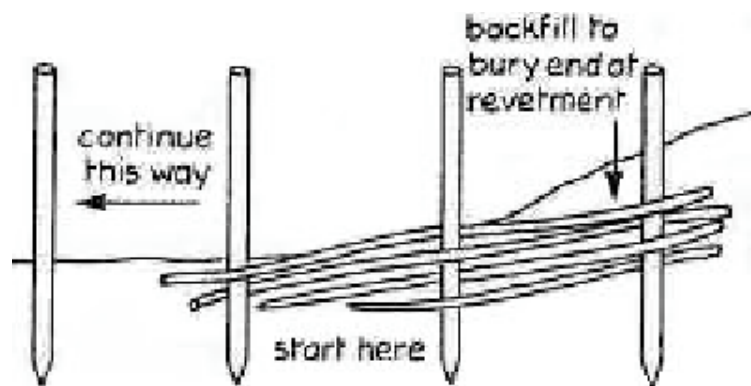
- Crack willow (*Salix fragilis*) or white willow (*Salix alba*), produces the best material for stakes, which should be about 65-100mm (2.5-4") diameter for spilings up to 600mm high. For spilings up to 900mm (3") high, thicker stakes of 100-130mm (4-5") diameter will be needed.

- Withies should be cut from osier (*Salix viminalis*), goat willow (*Salix caprea*) or grey willow (*Salix cinerea*). The withies should have a butt diameter of 10-20mm (0.25-0.75") and be of a length equivalent to five times the stake spacing, to give a close, tight wave. Where unavailable, the best alternative material will have to be used.
- November to February is the best season for working to ensure sprouting of the willow. Stakes and withies can be stored at this time for up to three weeks, provided they are kept cool and damp. Outside this season, they are best used within 48 hours of cutting.
- Visual inspection of the bank should be conducted before undertaking work as stakes can be damaging to nests and water voles. In some instances, there may also be cabbaging under the watercourse that should be identified beforehand.
- Pollarding or coppicing of bank side willow, or pruning of earlier spiling, will produce suitable material as detailed above.
- Knock the stakes in vertically along the line of the revetment, about half a metre apart and so that two-thirds of the stake is below soil level, then cut the tops to the finished height.
- Weave the withies between the stakes, alternating the direction of the butt ends and tucking both ends in so they don't protrude. At the end of each length of revetment the spiling should be run into the bank so that the last two to three stakes are completely buried after backfilling.
- To deter vandals, wire down the top withies and secure to the stake with a staple.
- Where there is a risk of backfill washing out, place bundles (see below) behind the spiling. Backfill to the required bank profile with soil.



The following alternative design of spiling produces a looser weave and is suitable for revetments above water level.

- Knock the stakes in as described above.
- To start the weaving, push the end of a short withy into the ground between the second and third stake from one end. Weave it between the stakes. Then push another withy into the ground next to it and weave along in the same direction. The withies will root at the ends.
- Continue weaving up to the top of the stakes, ensuring the top withies are tightly woven to secure the spiling.
- To deter casual vandalism, wire along the top or down through the spiling. Fencing should prevent stock from grazing the shoots for at least two to three years.



Hurdles

A similar weaving technique can be used to make wattle hurdles, which are constructed off-site and then carried to the bank and positioned to form the revetment. This is useful where working conditions at the bank side are difficult. Wattle hurdles for sheep fencing and garden use are available from hurdle makers, but are normally too expensive for bank side revetment work. On bank side revetment they should anyway become disguised with vegetation, so a neat finish is not so important, as long as the structure is strong enough to survive handling and positioning.

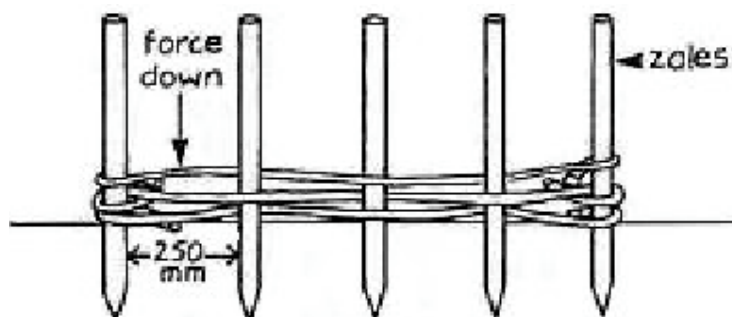
You must adhere to the following:

Works cannot be carried out in river between 15 Oct - 15 April, as this is the closed season to allow fish spawning.

Hazel is the best material for hurdle making, but willow is also suitable and its capacity to root is useful in most situations. If possible, use split hazel for the uprights or 'zales', as they hold the laterals better than do round poles.

Assemble the hurdles wherever convenient and take them to the site in ready-made sections. A traditional sheep hurdle is 1.8m (6') long by 1m (3.5') high, with ten zales 200mm (8") apart. For bank side revetment work the dimensions are not critical, but zales should be no more than 250mm (10") apart to give a sufficient tight weave. A hurdle of the dimensions shown below is easy to handle, but larger sections can be made as required.

- Push 900mm (3') zales about 300mm (1') into the ground, evenly spaced in a straight line as shown.
- Weave hazel or willow rods between the zales, tucking each end back under itself to lock the wands in place. Force the wands down with your foot to give a tight weave. It may be necessary to wire or tie the top wands to discourage vandalism.
- Lift out the sections for transport to the site. Place the hurdles in position, overlapping as shown and drive them in as far as the lower wands.
- Using two 1.5m (5') stakes per hurdle, knock the stakes into position on the outer side of the revetment and wire the hurdles to the stakes.
- Backfill with spoil as appropriate.



Bundles

Bundles or fascines are bundles of willow or brushwood, bound together and used for various stabilisation and revetment purposes. Bundling is an ancient technique, undergoing something of a revival as the advantages of 'soft' revetments are realised. The faggots slow the flow of moving water and trap silt and sediment, and the buried branches then help consolidate the sediments against renewed erosion.

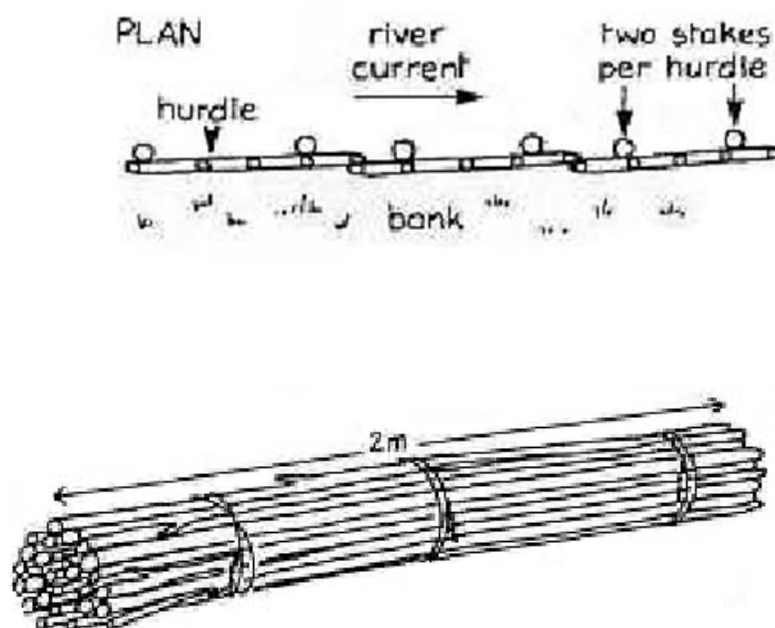
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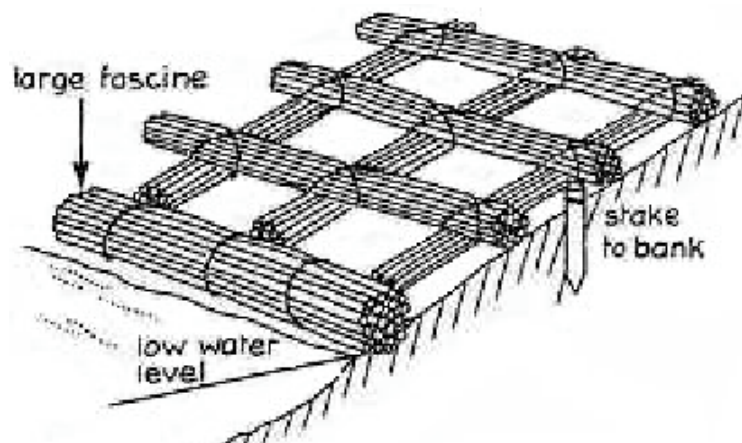
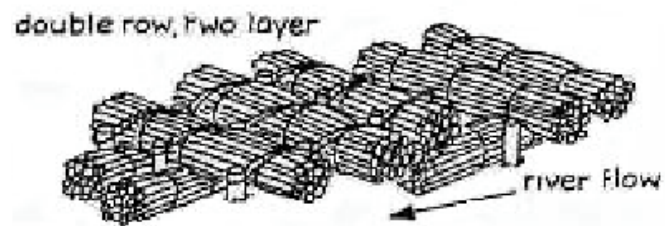
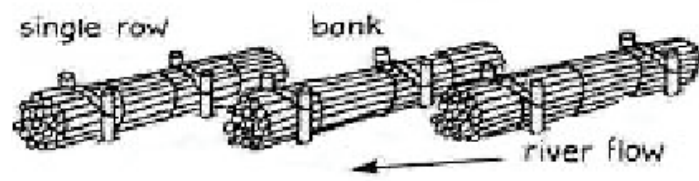
Bundles can be made of any brushings that are available. However, brushings of fresh willow are likely to take root and grow, especially if cut in winter. A considered choice should be made between using willow or non-willow Bundles for different situations. In small watercourses (<5m wide) growth may cause an unacceptable flood hazard or shading, and alternative materials should be used. In larger channels, growing willows may be beneficial, their roots helping to stabilise bank material and their shoots providing protection against bank scour.

Bundles are normally made to the maximum size which can be easily lifted by two people, but smaller ones can be made as necessary. The traditional size is about 2m (7') long and 300mm (1') diameter, bound at three points. This binding can be twisted willow, baler twine or wire.

To stabilise a bank the Bundles can be laid in a single or double row, secured by stakes and wire as shown. As necessary, another layer can be added cross-wise.

Smaller bundles, of about 100mm diameter can be bound together to form 'mattresses', for laying on banks, subject to boat wash or strong flows. The bundles should be laid in position and wired to stakes knocked well down into the bank. A large bundle at the base absorbs some of the wave energy.





6532 Spiral Rabbit Guards

This technical note describes the minimum standard of work required to receive payments for 'Spiral Rabbit Guards'. Any variation must be approved by the Welsh Government prior to starting the work.

Spiral rabbit guards are the most widely used form of tree protection against rabbits and voles.

You must adhere to the following:

- Ensure each spiral rabbit guard is supported by a bamboo cane.
- Spiral rabbit guards are made from a plastic material and are available in three sizes, (45cm, 60cm and 75cm).
- Ideally the bamboo cane should be pushed into the ground next to the newly planted tree. The guard is then wound or spiralled around both tree and cane so that small mammals are excluded.
- Requirements and guidance in addition to the specifications above:

Do not:

- Use guards that are taller than the tree it is to protect at the time of planting.

6533 Spiral Rabbit Guards: Biodegradable

This technical note describes the minimum standard of work required to receive payments for 'Spiral Rabbit Guards: Biodegradable'.

Any variation must be approved by the Welsh Government prior to starting the work.

Spiral rabbit guards are a widely used form of tree protection against rabbits and voles.

You must adhere to the following:

- Spiral guards should be fully biodegradable and not be made of recycled and / or recyclable plastic.
- Ensure each biodegradable spiral rabbit guard is supported by a cane.
- Maintain the spiral guard until the trees are established, this is particularly important for biodegradable spiral guards which can, depending on factors such as their biodegradable components and exposure of the site, last for different and/or variable periods of time

Do not:

- Use guards that are taller than the tree it is to protect at the time of planting.

Requirements and guidance in addition to the specifications above:

- Ideally the cane should be pushed into the ground next to the newly planted tree. The guard is then wound or spiralled around both tree and cane so that small mammals are excluded.

6534 Standard gate (Hardwood)

This technical note describes the minimum standard of work required to receive payments for 'Standard gate (Hardwood)'. Any variation must be approved by the Welsh Government prior to starting the work.

You must adhere to the following:

- Install gates that are at least 2.4m wide, but no more than 4.2m wide. Any openings greater than 4.2m must have two leaves.
- Use gates constructed from hardwood only, which complies with the dimensions set out in the diagram below.
- Use gates that conform to the specifications set out in the diagram below as well as those of British Standard 3470, as amended.
- Hang gates on timber gate posts at least 2.1m long. Hanging posts must be at least 200mm x 200mm in cross section. Shutting posts must be at least 175mm x 175mm in cross section.
- Set gateposts correctly into the ground, using concrete if necessary and fit with appropriate hangings and latches.

This activity is excluded from needing a flood risk activity permit as long as it is not carried out in or within 100m of a main river that is classified high morphological status and the wire mesh with greater than 100 millimetres spacing; [Natural Resources Wales / Flood risk activity exclusions](#).

If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

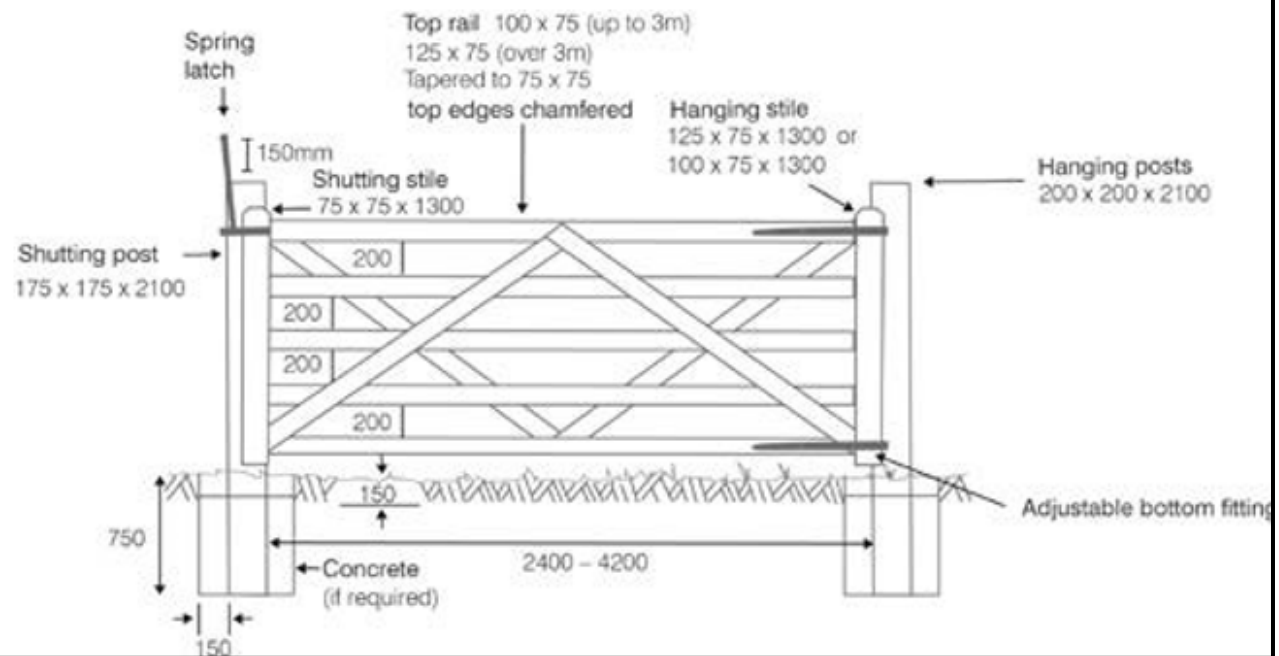
A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- Use hanging or shutting posts as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.
- Use secondhand material for constructing gates unless approved in advance by the Welsh Government.

Example of Timber Field Gate (Hardwood)



6535 Standard gate (Softwood)

This technical note describes the minimum standard of work required to receive payments for 'standard Gates (Softwood)'. Any variation must be approved by the Welsh Government prior to starting the work.

If any of the work claimed is found to have been carried out to a different standard, without the prior approval by Welsh Government, the project may be considered ineligible. This will result in claims being withheld (or recovered) with penalties applied in line with the scheme rules, unless work is assessed to have been delivered to an equivalent standard.

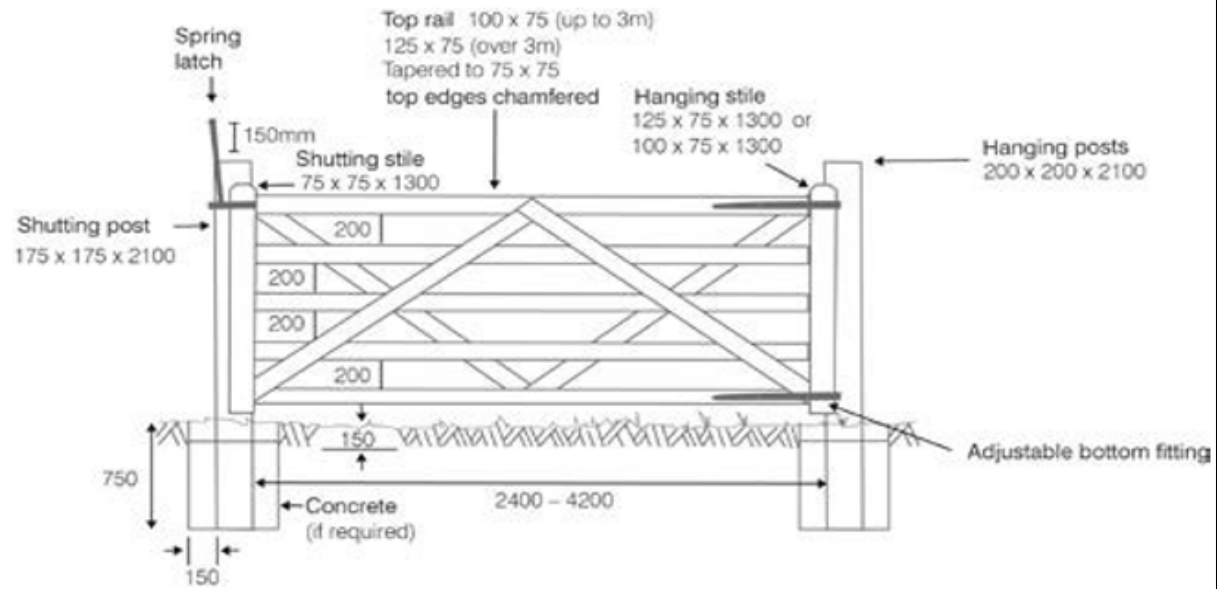
You must adhere to the following:

- Install gates that are at least 2.4m wide, but no more than 4.2m wide. Any openings greater than 4.2m must have two leaves.
- Use gates constructed from pressure treated softwood, which complies with the dimensions set out in the diagram below.
- Use gates that conform to the specifications set out in the diagram below as well as those of British Standard 3470, as amended posts must be at least 175mm x 175mm in cross section.
- Set gateposts correctly into the ground, using concrete if necessary and fit with appropriate hangings and latches.
- This activity is excluded from needing a flood risk activity permit as long as it is not carried out in or within 100m of a main river that is classified high morphological status; [Natural Resources Wales / Flood risk activity exclusions](#).
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- Use hanging posts or shutting posts as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.
- Use secondhand material for constructing gates unless approved in advance by the

Example of Timber Field Gate (Softwood)



6536 Stone Faced Bank Restoration

This technical note describes the minimum standard required to receive payments for 'Stone Faced Earth Banks Restoration'. Any variation from the standards set out must be approved by the Welsh Government prior to starting the work.

Stone faced earth banks are an important landscape feature which can be an important record of historical land use, as well as important features for biodiversity and stock shelter. They may or may not have hedgerows planted on top. Old hedges and banks may not follow straight lines, a factor that contributes to both their landscape and historic importance. Prolonged bad weather, trampling by livestock and burrowing by rabbits can all cause damage to the stonework and the underlying bank.

You must adhere to the following:

- Restore degraded stone-faced banks so that the height and the line of the restored bank follow that of the existing feature. Best practice guidelines for restoring stone faced earth banks are described below.
- Ensure that grazing animals do not damage restored banks.
- All surplus stone and earth should be removed from site on completion and the adjacent ground returned to the original vegetation.

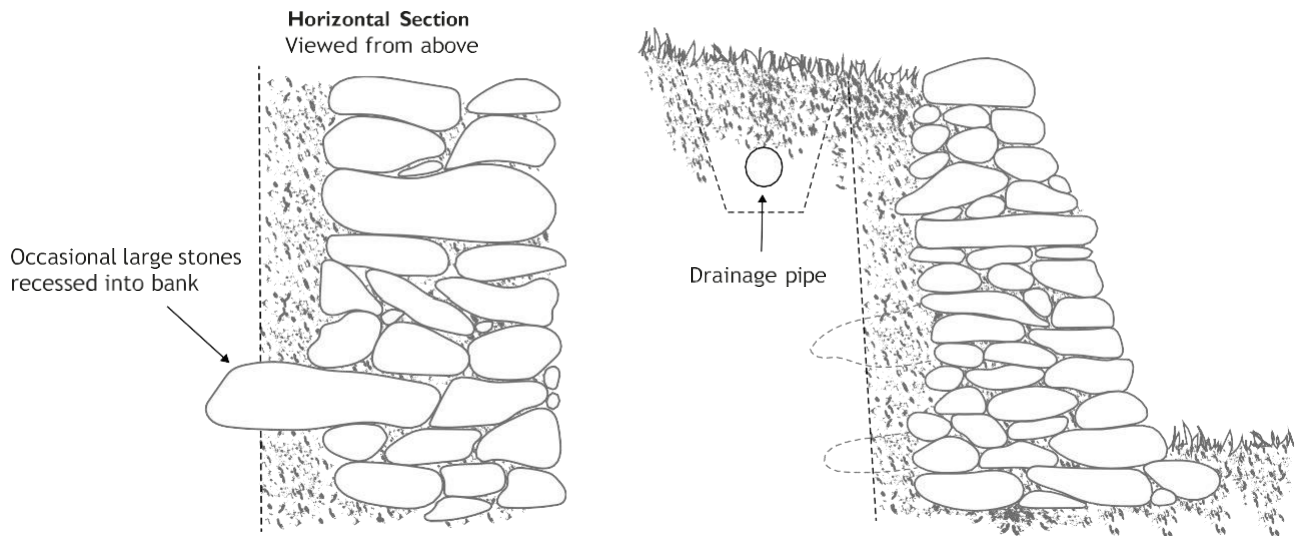
Requirements and guidance in addition to the specifications above:

- Local stone should be used wherever possible, but do not raid stone from inappropriate places such as old ruins or other walls.
- **Footings and Foundations** – Loose stones and earth fill must be cleared out until a good, sound earth bank is encountered. Replace the previously removed stones and earth in stages. During this work the earth infill should be allowed to settle at various stages before completion. This settling process will be sped up if it rains during rebuilding.
- Where complete restoration is specified, all of the stone facings should be removed down to the foundations and rebuilt from this level. Sound foundations or footings will consist of at least one row of the largest stones available, laid in a trench 15–20cm deep. Gaps between footings should be packed with smaller stones. The footings themselves should be at least 7.5cm wider than the base of the wall. (See diagram).
- **Batter** – Batter is the term given to the inward taper of the wall from the base to the top. If the stone facing is 70–90 cm wide at the base it should be 30–40 cm wide at the top. There must be sufficient batter to ensure a stable wall. The batter can be straight, 'A'-shaped or a concave depending upon the local style.
- **Drainage** – Where surface water runoff is liable to endanger the stability of the wall, a 40–60cm deep drain should be installed as shown in the diagram. Pipes should be laid in the trench bottom before refilling with loose stone.
- **Mortar** – Where stone faced earth banks are built next to busy roads or picnic sites, it

may be necessary to use lime mortar in places, especially between the coping stones on the top. Mortar should not be used throughout the structure as this can cause drainage problems. The external appearance should be of a dry stone wall.

- Once restored, stone-faced earth banks must be regularly maintained to prevent deterioration.

Stone Faced Earth Banks



6537 Timber Bridle Gate and Posts

This technical note describes the minimum standard of work required to receive payments for 'Timber Bridle Gate and Posts'. Any variation must be approved by the Welsh Government prior to starting the work.

Bridle gates are used to allow access for walkers, horse riders and cyclists.

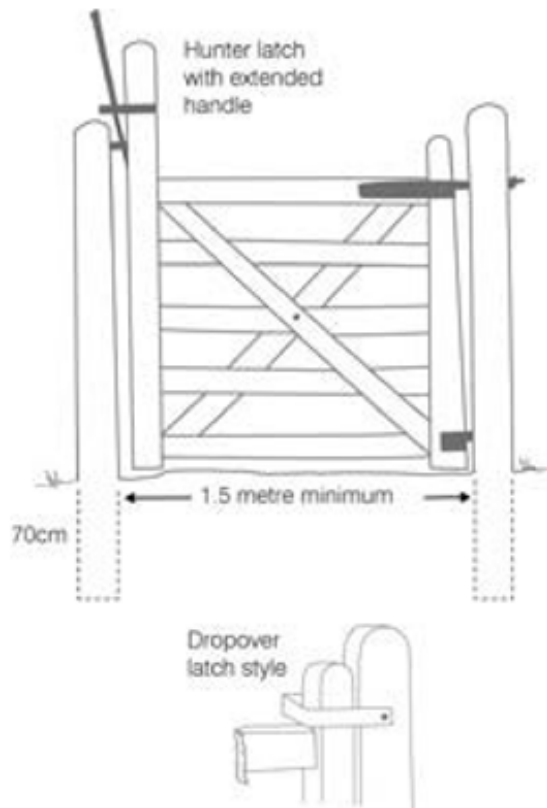
You must adhere to the following:

- Where the activity includes the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Install Timber Bridle Gates and Posts constructed from either pressure treated softwood or hardwood.
- Install gates that are at least 1.5m wide and 1.3m high. Ensure there is sufficient space on one side of the gate for the horse to stand while the gate is being opened.
- All gate timbers must meet the following dimensions:
 - Uprights should be at least 10cm x 7.5cm in cross section.
 - All rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.
- Hang the gate so that it can be opened from both directions.
- Fit latches that allow the gate to be opened without the rider dismounting.
- Ensure that all post timbers must meet the following dimensions;
 - Hanging posts must be at least 15cm diameter
 - Shutting posts must be at least 12cm in diameter
 - Posts must be set into the ground to a sufficient depth to ensure stability.

Do not:

- Use concrete to secure posts in the ground, as it can lead to rotting of the posts at ground level.
- Requirements and guidance in addition to the specifications above:
- Use an 'extended' or a 'drop over' latch to allow the gate to be opened without the rider dismounting.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.

Example of a timber bridge gate



- Best practice is to set the posts at least 70cm into the ground to ensure stability.

6538 Timber Kissing Gate and Posts

This technical note describes the minimum standard of work required to receive payments for 'Timber Kissing Gate and Posts'. Any variation must be approved by the Welsh Government prior to starting the work.

Kissing gates are used to allow walkers to cross field boundaries.

You must adhere to the following:

- Where the activity includes the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Install Timber Kissing Gates and Posts constructed from either pressure treated softwood or hardwood.
- Install a kissing gate that is stock-proof with the gate in any position, yet allowing free passage for pedestrians.
- Ensure that the kissing gate is an effective barrier against motorcycles and horses.
- All gates must meet the following dimensions;
 - The gate must be 1.2m wide and 1.2m high.
 - A 1m cylinder, must be able to pass through. Note that the 'throat' dimension (the narrowest space to pass through when the gate is opened) must be at least 1m.
- Ensure that post and rails meet the following dimensions;
 - Uprights should be at least 10cm x 7.5cm in cross section.
 - Rails should be 7.5cm x 2.5cm in cross section except the top rail which should be 10cm x 7.5cm.
 - Hanging posts must be at least 15cm diameter.
 - Shutting posts must be at least 12cm in diameter.
 - Posts must be set into the ground to a sufficient depth to ensure stability.
- Hang the gate so that the gate hooks are 'offset' by 3cm. This will cause the gate to close against one of the side posts when released.
- Ensure the gate is compliant with BS5709:2006, as amended. The least restrictive furniture must be used as possible e.g. a gate is less restrictive than a stile.

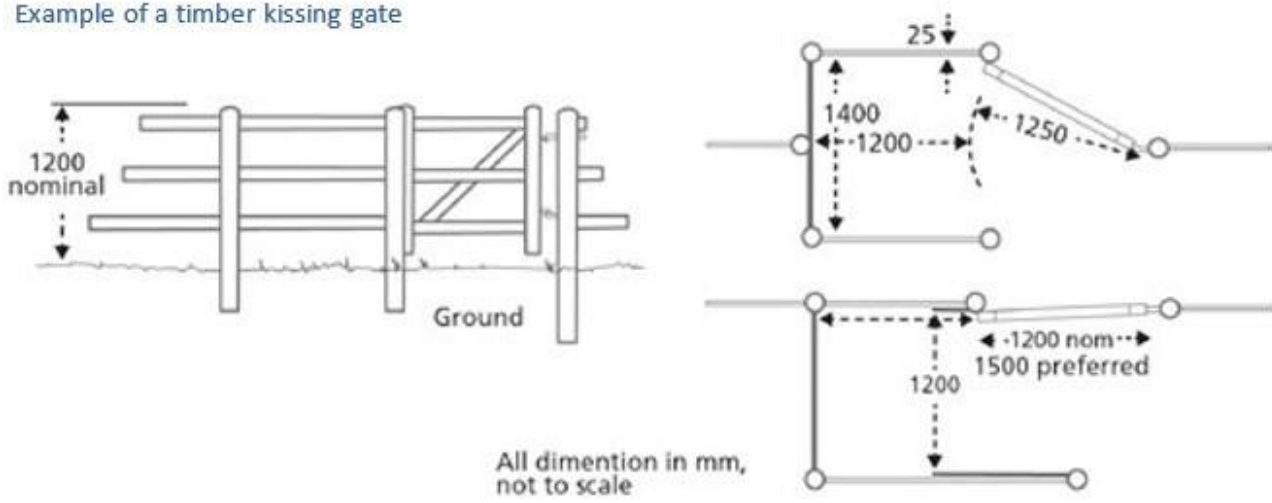
Do not:

- Use concrete to secure posts in the ground, as it can lead to rotting of the posts at ground level.
- Use any barbed wire on the kissing gate.

Requirements and guidance in addition to the specifications above:

- For added protection against stock, a self-closing latch can be fitted.
- In areas prone to vandalism, the top hook can be reversed to prevent the gate being lifted off.
- Best practice is to set the posts at least 70cm into the ground to ensure stability.

Example of a timber kissing gate



6539 Tree Shelter: 60cm with stake

This technical note describes the minimum standard of work required to receive payments for 'Tree Shelter (60cm with stake)'. Any variation must be approved by the Welsh Government prior to starting the work.

Newly planted trees and shrubs need protection from animals (agricultural, deer etc.) or machinery might damage them. Fencing will usually provide more economic protection for groups of trees and shrubs against machinery or large browsing animals, in combination with spiral rabbit guards to protect against rabbits and hares.

Individual tree shelters and stakes can also be used where lengths of fencing would be unsightly, for example in parklands.

You must adhere to the following:

- Insert a stake vertically into the ground next to each newly planted tree. The stake should have a diameter of 2.5cm x 2.5cm on sheltered sites and 3cm x 3cm on more exposed sites.
- Fix all tree shelters to the stake with wire or plastic cable clips.
- Ensure that the stake is no taller than the shelter.

Do not:

- Allow weeds to grow inside the shelters.

Requirements and guidance in addition to the specifications above:

- Tree shelters to protect young trees are translucent plastic tubes up to 2m in height, with a diameter of up to 12cm. They are constructed of twin wall polypropylene.
- Each shelter should provide support and protection for some 5 -10 years. When they no longer have a function use, they need to be collected and be correctly disposed of correctly. Although shelters come in a range of colours, there is little difference between them in terms of tree growth. When planting under established trees, where light intensity is likely to be low, it is generally better to use clear translucent tubes.
- Tree shelters need to be above the browse height of the animal. This can vary from 60cm for rabbits and hares, to 2m for Roe deer. Sheep can browse at 1.2m-1.5m high.
- The removal of weeds around trees and in shelters is crucial as the weeds can compete for nutrients and light. Trees in tree shelters must be weeded for the first 2-3 years of life. Weeds growing inside the tree shelter must also be removed. This can be done by lifting the shelter slightly and carefully pulling the weeds out from the tube by hand.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.

6540 Tree Shelter: 60cm with stake: Biodegradable

This technical note describes the minimum standard of work required to receive payments for 'Tree Shelter: 60cm with stake: Biodegradable'. Any variation must be approved by the Welsh Government prior to starting the work.

Newly planted trees and shrubs need protection from animals (livestock, deer, etc.) or machinery damage.

Individual tree shelters and stakes can also be used where lengths of fencing would be unsightly, for example, in parkland.

You must adhere to the following:

- Tree shelter should be fully biodegradable and not be made of recycled and / or recyclable plastic.
- Insert a stake (if a stake is required by the design of the biodegradable shelter) vertically into the ground next to each newly planted tree. The stake should have a diameter of 2.5cm x 2.5cm on sheltered sites and 3cm x 3cm on more exposed sites.
- Fix biodegradable tree shelters to the stake with wire or cable ties, or place the shelter over the tree and stake, depending upon the design and specifications of the product used.
- Ensure that the stake is no taller than the shelter.
- maintain the tree shelter until the trees are established, this is particularly important for biodegradable shelters which can, depending on factors such as their polymer components and exposure of the site, last for different and/or variable periods of time.

Do not:

- Allow weeds to grow inside the shelters.
- Use metal stakes.
-

Requirements and guidance in addition to the specifications above:

- Tree shelters to protect young trees are translucent plastic tubes up to 1.8m in height, with a diameter of up to 12cm.
- Each biodegradable shelter should provide support and protection for some 5 -10 years. When they no longer have a functional use, they need to be disposed of correctly.
- Although shelters come in a range of colours, there is little difference between them in terms of tree growth. When planting under established trees, where light intensity is likely to be low, it is generally better to use clear translucent tubes.

- Tree shelters need to be above the browse height of the animal. This can vary from 60cm for rabbits and hares, to 2m for Roe deer. Sheep can browse at 1.2m-1.5m high.
- The removal of weeds around trees and in shelters is crucial as the weeds can compete for nutrients and light. Trees in tree shelters must be weeded for the first 2-3 years of life. Weeds growing inside the tree shelter must also be removed. This can be done by lifting the shelter slightly and carefully pulling the weeds out from the tube by hand.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.
- Where possible, ensure that the stake/cane is lower than the top of the shelter to avoid the tree rubbing against the stake and suffer damage.

6541 Trees and Shrubs: Whip

This technical note describes the minimum standard of work required to receive payments for 'Trees and Shrubs – whips'. Any variation must be approved by the Welsh Government.

Planting small areas of woodland can provide benefits for wildlife and landscape. Growing trees removes carbon dioxide from the atmosphere (which has a positive impact on climate change) and absorbs a lot of water, reducing the amount of water running off farmland.

You must adhere to the following:

- Plant sturdy plants, which are at least 1m in height.
- Plant only native species as shown on the table below.
- Trees and shrubs need to be UK grown and ideally from Plant Healthy stock for biosecurity reasons

Do not:

- Plant ash trees as part of any planting mix due to ash dieback disease (*Chalara fraxinea*).
- Do not plant non-native conifers or broadleaves, including beech, outside of the south east Wales.
- Allow damage from machinery or browsing animals (including wild animals).

Requirements and guidance in addition to the specifications above:

- You can establish trees individually, scattered through the parcel or in small groups of trees.
- You must protect the trees from browsing, including by livestock.
- Any fenced areas should include a gate, to allow for management and potential stock access in the future.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You should contact NRW as early as possible to discuss whether a permit is needed for any tree planting near a main river, its floodplain or flood defence structure'.
- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal Drainage District.
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an

ordinary watercourse, so consent may be required. As such, **the permit/consent, or confirmation that a permit/consent is not needed, should be retained and made available on request.** See General Rules for more details.

- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Where Capital - Environment activities include the installation of access furniture, such as gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Whips are used for individual tree planting and for hedgerow trees – trees of 1m or taller with little branching. These should be used occasionally, in specific circumstances.
- Although more expensive and less sturdy than transplants, they are cheaper and easier to establish than standards. Usually, they are short enough not to require stakes and ties, they are tall enough to prevent the leading shoots being damaged by hares and are easier to protect from rabbits than transplants. Weeding is less critical, but they will need protection from browsing animals and machinery.
- Where possible, trees or shrubs should not be planted within 15 metres of ponds, to limit potential shade or impact on any Ground Water Dependent Terrestrial Ecosystems/Priority habitat other than native woodland or wood-pasture.
- Consideration should also be given when establishing scrub and tree cover to avoid any impact on water supply for ponds or the likelihood of damaging any pond lining.
- The planting season normally runs from 1 October to 30 April. In practice, frost and snow usually divides this period into two planting spells: October to December and during March. At higher altitudes, planting can be extended into early April.
- Autumn planting is preferred for broadleaved trees and shrubs, since roots will grow in warm spells and lessen the effect of any subsequent spring drought. In exposed sites or areas where winter gales are likely, spring planting may be preferable.
- Order as far in advance as possible to ensure the correct trees are available. Request that plants are delivered as close as possible to the planting date. It is best to choose an established local nursery because your transport costs should be lower. In addition, the plants will be out of the ground for the minimum length of time.
- Wherever possible try to obtain plants grown from locally obtained seeds or cuttings (native provenance), since these will do better under local conditions and are more valuable for wildlife than imported stock.
- Try to be on hand when plants arrive so you can ensure they are in good physical condition. Keep the roots covered at all times before planting to prevent damage and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying such as wind, can very quickly cause damage or kill the plants.
- If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, including small mammals.
- There are four main methods of planting using a spade, which are illustrated at the

end of this note. More specialised tools are available for use on large scale plantings.

- Use individual tree guards and stakes where lengths of fencing would be uneconomic or unsightly, such as single or widely spaced trees in parklands, or where damage from machinery is possible.
- Annual maintenance is essential to ensure both survival and healthy growth. Plants should be watered both regularly and liberally during prolonged dry spells. It is advisable to apply water slowly, so it has time to soak into the ground adjacent to the tree. A mulch may serve to reduce the frequency with which watering is needed.
- Plants should be kept clear of competing weeds and grasses (weeding will also reduce mouse and vole damage). Control can be achieved with a thick mulch of bark chippings or by using a 500-gauge black polythene sheet and pegging down securely. Alternatively, carefully cut back grass and other vegetation in the area above the tree roots. Sheep dags also act as a good mulch and, in the first 1-2 years, also provide nutrients to the tree.
- Weeding is advisable twice in the first year after planting and once a year thereafter, until the tree is clear of surrounding vegetation. Cut weeds by hand or use herbicides to control grasses, docks, thistles and ragwort.
- If using a strimmer take care to protect the tree stem from damage. Any chemicals used must have a label recommendation for use on the target species and for the intended method of application. All manufacturers label recommendations regarding method
- of application must be strictly adhered to.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.

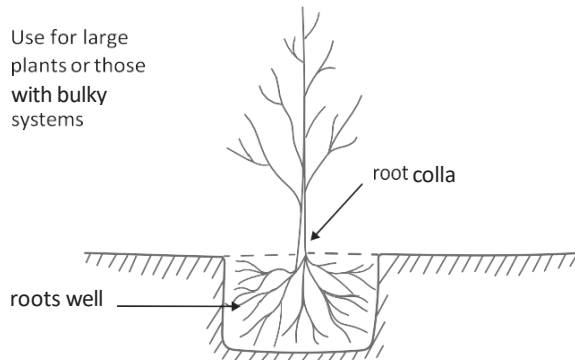
Suggested Native Trees and Shrubs Suitable for Planting			
Alder	Cherry (Wild & Bird)	Guelder Rose	Rowan (Mountain Ash)
Aspen	Crab Apple	Hawthorn	
Beech (SE Wales only)	Dog Rose	Hazel	Spindle
Birch (Silver & Downy)	Elder	Holly	Willow (Crack, Goat & Grey)
Blackthorn	Field Maple	Lime (Small & large leaved)	White Poplar
Black Poplar		Oak (Sessile & Pedunculate)	Yew

For an extensive list of trees native to Wales, see Forest Research's [Using Local Stock for Planting Native Trees and Shrubs](#) (zones 303 and 304 apply).

Example of the four main methods of planting using a

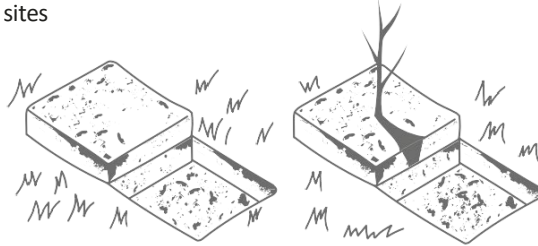
1. Pit Planting

Use for large plants or those with bulky systems



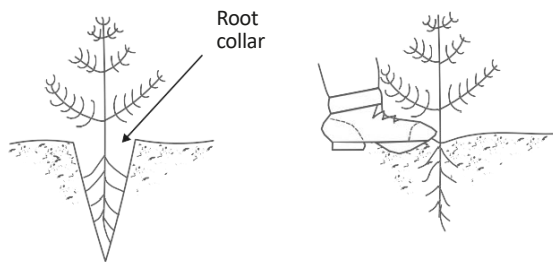
2. Turf Planting

Use on wet sites

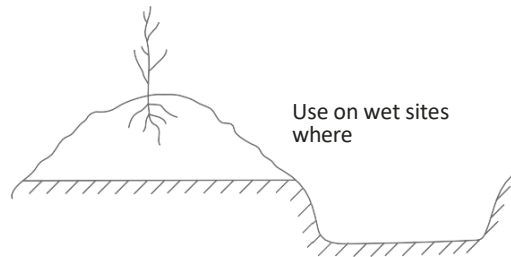


3. Notch or Slit Planting

Use for smaller plants with compact root systems



4. Ridge or Mount Planting



6542 Trees and Shrubs: Transplant

This technical note describes the minimum standard of work required to receive payments for 'Trees and Shrubs (Transplants)'. Any variation must be approved by the Welsh Government prior to starting the work.

Planting small areas of woodland can provide benefits for wildlife and landscape. Growing trees removes carbon dioxide from the atmosphere (which has a positive impact on climate change) and absorbs a lot of water, reducing the amount of water running off farmland into rivers.

You must adhere to the following:

- Plant sturdy plants, which are at least 50cm in height.
- Plant only native species, as shown on the table below.
- Trees and shrubs need to be UK grown and ideally from Plant Healthy stock for biosecurity reasons

Do not:

- Plant ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxineus*).
- Do not plant non-native conifers or broadleaves, including beech, outside of south east of Wales.
- Allow damage from machinery or browsing animals (including wild animals).

Requirements and guidance in addition to the specifications above:

- You can establish trees individually, scattered through the parcel or in small groups of trees.
- You must protect the trees from browsing, including by livestock.
- Any fenced areas should include a gate, to allow for management and potential stock access in the future.
 - If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You should contact NRW as early as possible to discuss whether a permit is needed for any tree planting near a main river, its floodplain or flood defence structure'.
- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal drainage district.
- Also, ensure you have the appropriate Ordinary Watercourse Consent if you are carrying out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent, or confirmation that a permit/consent is not needed, should be retained and made**

available on request. See General Rules for more details.

- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Where Capital - Environment activities include the installation of access furniture, such as gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Transplants are 1-2 year old plants with a large proportion of root in relation to shoot, which gives them good powers of survival, especially in poor soils and on exposed sites. They will generally outgrow whips in a few years to produce healthier, better-formed trees. A high degree of protection from machinery and animals is needed. Careful maintenance during the first few years is essential. They are considerably cheaper than whips and standards and are usually purchased in bulk.
- Where possible, trees or shrubs should not be planted within 15 meters of ponds to limit potential shade or impact on any Ground Water Dependent Terrestrial Ecosystems/Priority habitat other than native woodland or wood-pasture. Consideration should also be given when establishing scrub and tree cover to avoid any impact on water supply for ponds or the likelihood of damaging any pond lining.
- The planting season normally runs from 1 October to 30 April. In practice, frost and snow usually divides this period into two planting spells: October to December and during March. At higher altitudes, planting can be extended into early April.
- Autumn planting is preferred for broadleaved trees and shrubs, as roots will grow in warm spells and lessen the effect of any subsequent spring drought. In exposed sites or areas, where winter gales are likely, spring planting may be preferable.
- Order as far in advance as possible to ensure the correct trees are available. You should request plants are delivered as close as possible to the planting date. It is best to choose an established local nursery because your transport costs should be lower. In addition, the plants will be out of the ground for the minimum length of time.
- Wherever possible, try to obtain plants grown from locally obtained seeds or cuttings (native provenance), since these will do better under local conditions and are more valuable for wildlife than imported stock.
- Try to be on hand when plants arrive so you can ensure they are in good physical condition. Keep the roots covered at all times before planting to prevent damage and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying such as wind, can very quickly cause damage or kill the plants.
- If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, especially small mammals.
- There are four main methods of planting using a spade, which are illustrated in this note. More specialised tools are available for use on large-scale plantings.
- Use individual tree guards and stakes where lengths of fencing would be uneconomic or unsightly, such as single or widely spaced trees in parklands, or where damage from machinery is possible.
- Annual maintenance is essential to ensure both survival and healthy growth. Plants should be watered, both regularly and liberally, during prolonged dry spells. It is advisable to apply

water slowly, so it has time to soak into the ground adjacent to the tree. A mulch may serve to reduce the frequency with which watering is needed.

- Plants should be kept clear of competing weeds and grasses (weeding will also reduce mouse and vole damage). Control can be achieved with a thick mulch of bark chippings or by using a 500-gauge black polythene sheet and pegging down securely. Alternatively, carefully cut back grass and other vegetation in the area above the tree roots. Sheep dags also act as a good mulch and, in the first 1-2 years, also provide nutrients to the tree.
- Weeding is advisable twice in the first year after planting and once a year thereafter, until the tree is clear of surrounding vegetation. Cut weeds by hand or use herbicides to control grasses, docks, thistles and ragwort. If using a strimmer, take care to protect the tree stem from damage. Any chemicals used must have a label recommendation for use on the target species and for the intended method of application. All manufacturers' label recommendations regarding method of application must be strictly adhered to.

Suggested Native Trees and Shrubs Suitable for Planting			
Alder	Cherry (Wild & Bird)	Guelder Rose	Rowan (Mountain Ash)
Aspen	Crab Apple	Hawthorn	
Beech (SE Wales only)	Dog Rose	Hazel	Spindle
Birch (Silver & Downy)	Elder	Holly	Willow (Crack, Goat & Grey)
Blackthorn	Field Maple	Lime (Small & large leaved)	White Poplar
Black Poplar		Oak (Sessile & Pedunculate)	Yew

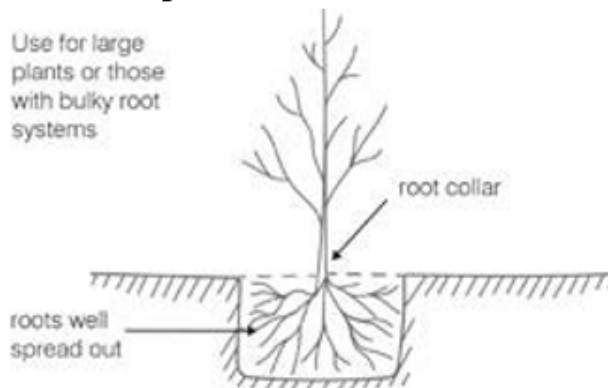
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing against tree guards.

For an extensive list of trees native to Wales, see Forest Research's [Using Local Stock for Planting Native Trees and Shrubs](#) (zones 303 and 304 apply).

Example of the four main methods of planting using a spade

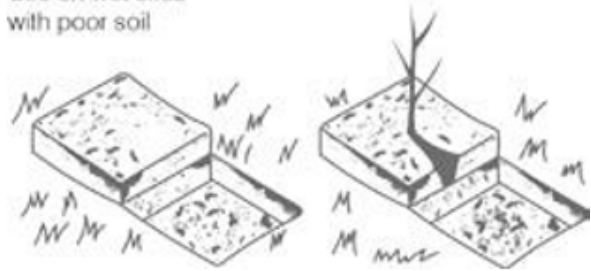
1. Pit Planting

Use for large plants or those with bulky root systems



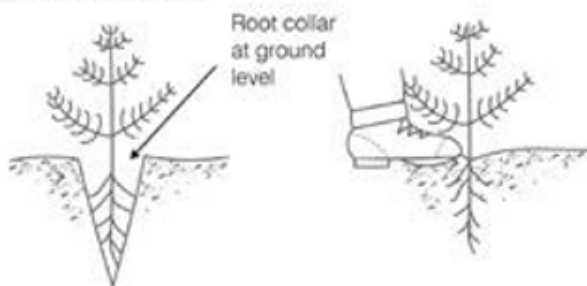
2. Turf Planting

Use on wet sites with poor soil

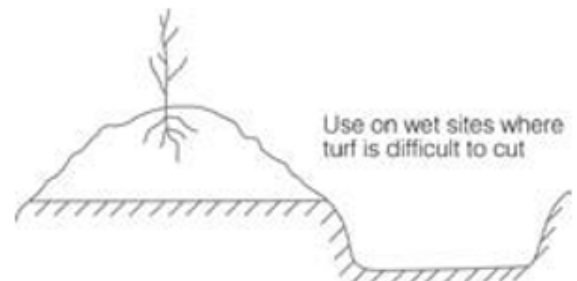


3. Notch or Slit Planting

Use for smaller plants with compact root systems



4. Ridge or Mount Planting



6543 Trees and Shrubs: Sabre Planting

This technical note describes the standard of work required to receive payments for 'Sabre Planting'. Any variation must be approved by the Welsh Government.

Pioneered by an independent local charity 'Bugeiliaid y Coed' (Tree Shepherds), the 'No Fence Planting' technique mimics the way in which self-sown trees establish themselves naturally on grazed farmland.

Trees over 1m in height can be 'sabre-planted' perpendicular to steep ground (rather than pointing straight up) so that the leading shoots cannot be reached by browsing sheep and cattle. Such trees typically have a 'sabre- shaped' profile and can be seen growing in most valleys in Wales.

You must adhere to the following:

- Plant sturdy plants, which are at least 1m in height.
- Plant at an angle perpendicular to the slope on steep ground.
- Plant only native species as shown on the table below.
- Trees and shrubs need to be UK grown and ideally from [Plant Healthy](#) stock for biosecurity reasons.

Do not:

- Plant ash trees as part of any planting mix due to ash dieback disease (*Chalara fraxinea*).
- Do not plant non-native conifers or broadleaves.

Requirements and guidance in addition to the specifications above:

- Trees can be planted amongst gorse.
- Steep and broken ground with bracken is ideal for 'Sabre Planting'.
- Other no-fence methods include the planting of 1.5m-2m trees.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You should contact NRW as early as possible to discuss whether a permit is needed for any tree planting near a main river, its floodplain or flood defence structure'.
- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal Drainage District.
- Where possible, trees or shrubs should not be planted within 15 metres of ponds, to limit potential shade or impact on any Ground Water Dependent Terrestrial Ecosystems/Priority habitat other than native woodland or wood-pasture.

- Consideration should also be given when establishing scrub and tree cover to avoid any impact on water supply for ponds or other wetlands.
- The planting season normally runs from 1 October to 30 April. In practice, frost and snow usually divides this period into two planting spells: October to December; and during March. At higher altitudes, planting can be extended into early April.
- Autumn planting is preferred for broadleaved trees and shrubs, since roots will grow in warm spells and thus lessen the effect of any subsequent spring drought. In exposed sites or areas where winter gales are likely, spring planting may be preferable.
- Order as far in advance as possible to ensure the correct trees are available. Request that plants are delivered as close as possible to the planting date. It is best to choose an established local nursery because your transport costs should be lower. In addition, the plants will be out of the ground for the minimum length of time.
- Wherever possible try to obtain plants grown from locally obtained seeds or cuttings (native provenance), since these will do better under local conditions and are more valuable for wildlife than imported stock.
- Try to be on hand when plants arrive so that you can ensure they are in good physical condition. Keep the roots covered at all times before planting to prevent damage and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying such as an east wind, can very quickly cause damage or kill the plants.
- If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, including rabbits and hares.

Suggested Native Trees and Shrubs Suitable for Planting			
Alder	Cherry (Wild & Bird)	Guelder Rose	Rowan (Mountain Ash)
Aspen	Crab Apple	Hawthorn	
Beech (SE Wales only)	Dog Rose	Hazel	Spindle
Birch (Silver & Downy)	Elder	Holly	Willow (Crack, Goat & Grey)
Blackthorn	Field Maple	Lime (Small & large leaved)	White Poplar
Black Poplar		Oak (Sessile & Pedunculate)	Yew

For an extensive list of trees native to Wales, see Forest Research's [Using Local Stock for Planting Native Trees and Shrubs](#) (zones 303 and 304 apply).

Examples of Sabre Planted trees

Mature self-sown tree



Young Sabre Planted tree



6544 Trees: Standard

This technical note describes the minimum standard of work required in order to receive payments for 'Trees Standards (no fencing)'. Any variation must be approved by the Welsh Government.

Planting small areas of woodland can provide benefits for wildlife and landscape. Growing trees remove carbon dioxide from the atmosphere (which has a positive impact on climate change) and absorbs a lot of water, reducing the amount of water running off farmland.

You must adhere to the following:

- Plant sturdy plants, which are at least 1.6m in height.
- Plant only native species as shown on the table below.
- Trees and shrubs need to be UK grown and ideally from Plant Healthy stock for biosecurity reasons

Do not:

- Plant ash trees as part of any planting mix due to ash dieback disease (*Hymenoscyphus fraxineus*).
- Do not plant non-native conifers or broadleaves, including beech, outside of the south east Wales.
- Allow damage from machinery or browsing animals (including wild animals).

Requirements and guidance in addition to the specifications above:

- You can establish trees individually, scattered through the parcel or in small groups of trees.
- You must protect the trees from browsing by livestock and wildlife.
- Any fenced areas should include a gate, to allow for management and potential stock access in the future.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You should contact NRW as early as possible to discuss whether a permit is needed for any tree planting near a main river, its floodplain or flood defence structure.

- You should contact NRW to discuss whether a land drainage consent is needed for any tree planting near water courses in an Internal Drainage District.
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying out works near an ordinary water course. What may be considered a ditch may be an ordinary watercourse, so consent may be required. As such, **the permit/consent, or confirmation that a permit/consent is not needed, should be retained and made available on request.** See General Rules for more details.
- If undertaking any spraying as part of this activity, ensure you have obtained any consents that may be necessary.
- Where Capital - Environment activities include the installation of access furniture such as gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under
- Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Standards – used in registered parkland – trees with at least 1.6m of clear stem before the branches. These should be chosen where individual or small groups of trees are required for an immediate effect. They are typically planted for landscaping purposes. They are less vulnerable to competition from weeds, but more expensive and, being drought susceptible, more difficult to establish than transplants and whips. They require tree stakes, ties and protection from machinery and browsing animals.
- Where possible, trees or shrubs should not be planted within 15 metres of ponds to limit potential shade or impact on any Ground Water Dependent Terrestrial Ecosystems/Priority habitat other than native woodland or wood-pasture. Consideration should also be given when establishing scrub and tree cover to avoid any impact on water supply for ponds or the likelihood of damaging any pond lining.
- The planting season normally runs from 1 October to 30 April. In practice, frost and snow usually divides this period into two planting spells: October to December and during March. At higher altitudes, planting can be extended into early April.
- Autumn planting is preferred for broadleaved trees and shrubs, since roots will grow in warm spells and lessen the effect of any subsequent spring drought. In exposed sites or areas where winter gales are likely, spring planting may be preferable.
- Order as far in advance as possible to ensure the correct trees are available. Request that plants are delivered as close as possible to the planting date. It is best to choose an established local nursery because your transport costs should be lower. In addition, the plants will be out of the ground for the minimum length of time.

- Wherever possible, try to obtain plants grown from locally obtained seeds or cuttings (native provenance), since these will do better under local conditions and are more valuable for wildlife than imported stock.
- Try to be on hand when plants arrive so you can ensure they are in good physical condition. Keep the roots covered at all times before planting to prevent damage and drying out. Whilst cold is unlikely to be harmful, hot sun and any form of drying, such as wind, can very quickly cause damage or kill the plants.
- If immediate planting is not possible, dig a trench before delivery and store plants in this with the roots covered so they are kept moist and cool. Protect the plants from animals, including small mammals.
- There are four main methods of planting using a spade, which are illustrated at the end of these tree planting notes. More specialised tools are available for use on large scale plantings.
- Use individual tree guards and stakes where lengths of fencing would be uneconomic or unsightly, such as single or widely spaced trees in parklands, or where damage from machinery is possible.
- Annual maintenance is essential to ensure both survival and healthy growth. Plants should be watered both regularly and liberally during prolonged dry spells. It is advisable to apply water slowly, so it has time to soak into the ground adjacent to the tree. A mulch may serve to reduce the frequency with which watering is needed.
- Plants should be kept clear of competing weeds and grasses (weeding will also reduce mouse and vole damage). Control can be achieved with a thick mulch of bark chippings or by using a 500-gauge black polythene sheet and pegging down securely. Alternatively, carefully cut back grass and other vegetation in the area above the tree roots. Sheep dags also act as a good mulch and, in the first 1-2 years, also provide nutrients to the tree.
- Weeding is advisable twice in the first year after planting and once a year thereafter, until the tree is clear of surrounding vegetation. Cut weeds by hand or use herbicides to control grasses, docks, thistles and ragwort. If using a strimmer take care to protect the tree stem from damage. Any chemicals used must have a label recommendation for use on the target species and for the intended method of application. All manufacturers label recommendations regarding method of application must be strictly adhered to.
- Any plants that have been loosened or partly lifted by winds and winter frosts should be trodden back in carefully. Regularly inspect fencing, tree guards, stakes and tree ties (loosen tight ties as these will constrict tree growth) and prevent trees growing through or chafing

against tree guards.

Suggested Native Trees and Shrubs Suitable for Planting			
Alder	Cherry (Wild & Bird)	Guelder Rose	Rowan (Mountain Ash)
Aspen	Crab Apple	Hawthorn	
Beech (SE Wales only)	Dog Rose	Hazel	Spindle
Birch (Silver & Downy)	Elder	Holly	Willow (Crack, Goat & Grey)
Blackthorn	Field Maple	Lime (Small & large leaved)	White Poplar
Black Poplar		Oak (Sessile & Pedunculate)	Yew

For an extensive list of trees native to Wales, see Forest Research's [Using Local Stock for Planting Native Trees and Shrubs](#) (zones 303 and 304 apply).

6545 Water Gate

This technical note describes the minimum standard of work required to receive payments for 'Water Gate'. Any variation must be approved by the Welsh Government prior to starting the work.

Water gates are required to control stock where fence lines cross rivers and streams. They are especially useful where the water level varies considerably throughout the year.

You must adhere to the following:

- Construct a gate comprising a series of wooden droppers attached to a length of cable or a round wooden rail which is suspended horizontally between straining posts. This needs to be higher than expected flood flows. Each gate has to be constructed to fit the profile of the individual stream.
- Ensure the water gate is separated from the main fence line by short lengths of wooden rail or netting, fixed to straining posts that have been suitably positioned.
- Attach droppers that are at least 5cm square in cross section. Droppers must be constructed from sawn untreated timbers. The droppers must be drilled and threaded onto the cable of fencing wire with 15cm lengths of plastic pipe acting as spacers. As a result, each dropper is 15cm apart.
- Increase the dimensions of the droppers to at least 7cm square, where the stream gully is over 1.5m deep. Hang droppers on a round wooden pole using loops of fencing wire.
- The bottom of the water gate should allow a clearance of 10-20cm from low flow level so doesn't block fish passage. It should hang vertically but has the capacity to swing.
- Inspect the water gate after each flood event and intervene as soon as possible if debris and gavels build up which may hinder the functioning and maintenance of the water gate.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

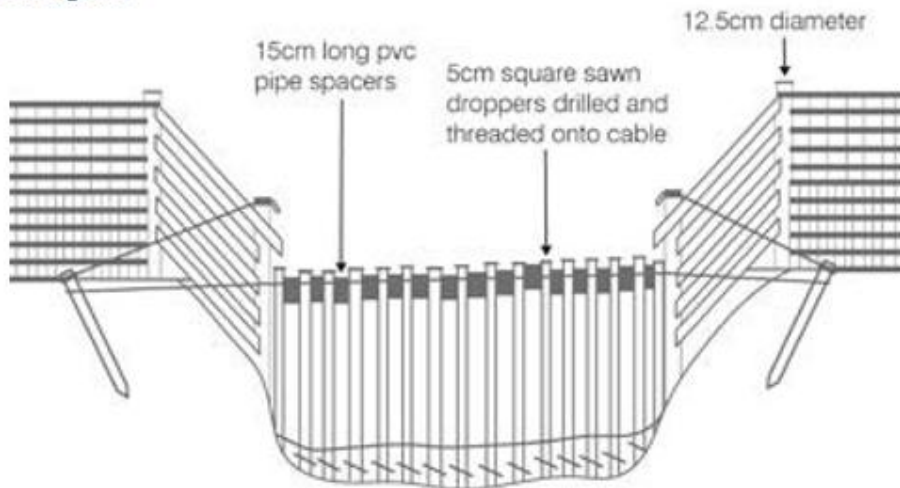
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

Requirements and guidance in addition to the specifications above:

- Suitable crossing points will have a hard river bottom and reasonable access from both banks. The correct choice of crossing points will make both construction and maintenance easier.
- Hanging the gate separately from the main fence allows the gate to be pulled off during heavy floods without damaging the main fence. Minimum damage will be caused to the gate which can then be recovered, repaired and repositioned.
- It is advisable to create larger water gates in several sections which will reduce the risk of the whole gate being lost or damaged during severe floods.
- It is advisable to periodically clear the base of the water gate, as the accumulation of debris at the base of the water gate will put pressure on both wires and stakes and can result in damage.
- Hang water gates at an angle, with the bottom of the gate resting on the stream bed on the downstream side. This prevents stock passing underneath when the water level drops.
- Water gates may not be suitable in many locations. Do not use on flash flood rivers that are further down the catchment.

Examples of water gates



Examples of water gates

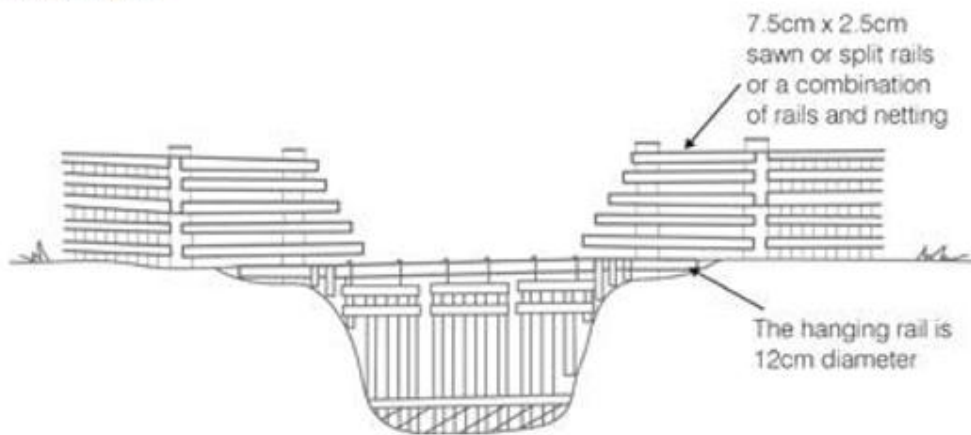


Figure 3: Swinging action



Figure 4: Good anchor & cantilever



6546 Water Troughs

This technical note describes the minimum standard of work required to receive payments for 'Water Trough'. Any variation must be approved by the Welsh Government prior to starting the work.

Water troughs can be used to supply drinking water to livestock where they have been prevented from accessing other water sources.

You must adhere to the following:

- Use water troughs made of galvanised steel, plastic or concrete.
- Install a trough at least 1.8m length. They must either be connected to a water supply or supplied from a bowser on a regular basis, in order to provide sufficient potable water. The standard payment includes the cost of fittings such as ball cocks etc.
- Use water troughs that have been specifically designed for the purpose.
- Install the trough so that it does not spill or leak water – the payment rate includes an allowance for base supports.
- Ensure that water troughs conform to current British Standard Codes of Practice.

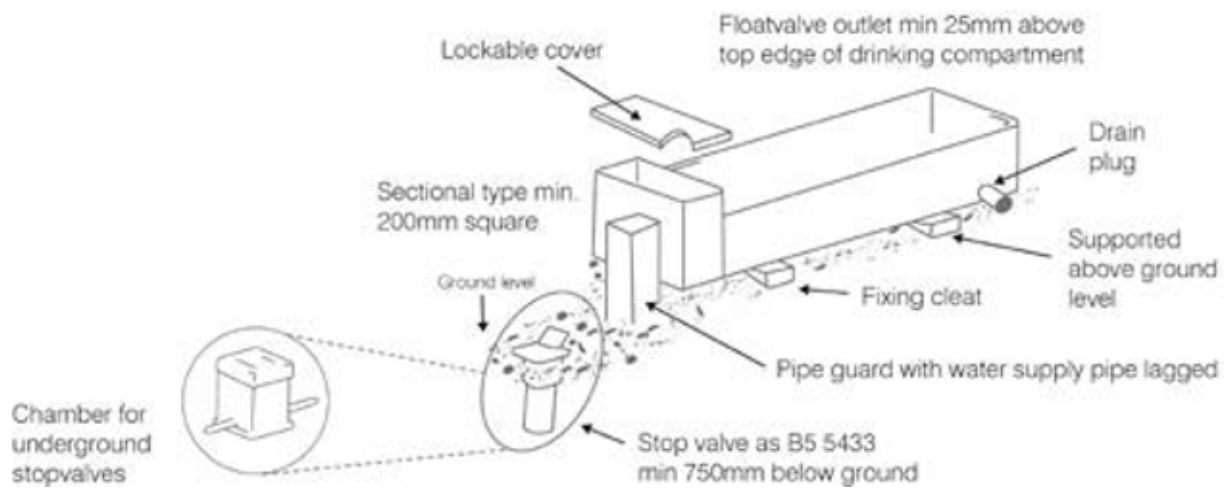
Do not:

- Locate water troughs in gateways or near footpaths.
- Locate water troughs in wet ground due to the risk of poaching.
- Locate water troughs in known areas of botanical or wildlife interest.

Requirements and guidance in addition to the specifications above:

- Aim to cause least landscape impact by locating the trough at the edge of fields and choose a material that has the minimum impact when viewed as part of the surrounding landscape.
- Install troughs of sufficient size to supply the type and number of stock in the field with their water requirements.

Example of a water trough



6547 Wooden Stiles

This technical note describes the minimum standard of work required to receive payments for 'Wooden Stiles'. Any variation must be approved by the Welsh Government prior to starting the work.

Wooden stiles are used to allow walkers to cross field boundaries.

You must adhere to the following:

- Where the activity includes the installation of access furniture such as stiles or gates on a Public Right of Way, it is your responsibility to ensure you obtain approval under Section 147 of the Highways Act, 1980, from the appropriate Highway Authority.
- Install wooden stiles constructed from either hard wood or pressure treated softwood.
- Use a ready-made stile kit, or construct a stile. For both narrow and wide stiles, they must meet the following dimensions;
 - Step width should be 200min
 - Hand posts should be 70 to 100mm diameter or across faces
 - Posts should be vertical to 1 in 30
 - Steps should level in all directions to 1 in 30.
- Install a third step on the downhill side on a steep slope if needed. This step must be twice the width of a standard step, and the 300mm step height rule applies.
- Ensure the stile is compliant with BS5709:2006, as amended. The least restrictive furniture must be used as possible e.g. a gate is less restrictive than a stile.

Do not:

- Allow the step tread boards to touch the cross-rails of the stile as a see-saw effect may develop, making the stile unsafe to use.
- Use posts as straining posts for fencing.

[illegible]

Technical drawing of a stockproof fence showing dimensions and construction details. The drawing includes a side elevation and a cross-section view.

Dimensions:

- Top width: 600 min 700 max
- Height from ground to top rail: 300 max
- Height from ground to middle rail: 300 max
- Height from ground to bottom rail: 300 max
- Height from ground to bottom rail (when stockproofness is required): 800 min 900 max
- Height from ground to top rail (when stockproofness is required): 500 min 700 max

Construction Details:

- The fence consists of three horizontal rails (top, middle, and bottom) supported by vertical posts.
- The bottom rail is shown with a cross-section view, indicating a specific construction detail.
- The fence is labeled "Ground" at the base.
- A note indicates that "when stockproofness is required" the height from the ground to the bottom rail must be 800 min 900 max.

6601 Arable: cultivated fallow margins

Description

Retain a cultivated, unsown margin next to a spring or autumn sown cereal crop to benefit farmland birds, invertebrates and rare arable plants. Cultivated unsown margin retained until harvest.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

Aims

To provide good conditions for rare arable plants to re-establish themselves

To provide a source of food for native seed-eating farmland birds such as tree sparrow, linnet, yellowhammer and grey partridge.

To provide a valuable habitat for a range of invertebrates, including pollinating insects such as bees and hoverflies in the summer and autumn. Increased insect abundance may also benefit local bat populations.

Management

Retain cultivated fallow margins that have a:

- Minimum area 0.1 ha
- Minimum margin width of 6m.
- Maximum margin width of 12m.

Complete the cultivation by 15th May.

Use appropriate cultivation to achieve a level seedbed, such as ploughing followed by cultivation or deep disking.

Retain the margin until the adjacent crop is harvested or the 15 July, whichever is the latest

Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.

A record of all field activity should be kept for inspection.

Restrictions

Do not:

- Use pesticides or mechanical weed control to be used.
- Use fertiliser.
- Top the margin.
- Use with maize.
- Graze

6602 Arable: Protein crops - No weed control

Description

Establish and harvest a protein crop with no weed control to benefit farmland birds, mammals and pollinators.

Where to apply

The crop may only be used to replace improved grassland or arable crops. It must not be grown on habitat land.

Aims

Encourage a diversity of cropping to:

- Break up improved grass monocultures
- Provide agronomic benefits within arable rotations
- Provide nectar sources for pollinators.
- Fix nitrogen from the atmosphere and reduce artificial fertiliser applications.
- Provide a diverse ration in livestock feed, leading to increased animal health and welfare.
- Reduce the reliance on imported, largely untraceable, protein crops

Management

- Eligible crops: Field beans, peas, lupins.
- Sow before 15 May.
- The crop must be grown in an appropriate location with consideration of soil type, topography and access for sowing and harvesting.
- Only use certified seed at the recommended seed rate.
- Can be harvested as grain, crimped and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- A record of all field activity, including evidence of sowing and harvesting date, fertiliser and pesticide applications should be kept for inspection.
- Establish through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic or undergoing conversion through an approved Organic Control Body)
- Pest control must be carried out using Integrated Pest Management principles. Where appropriate, consult a qualified agronomist for advice.

- Do not harvest before 15 July, or until 12 weeks after sowing, whichever is the latest.
- If harvested as forage, it is recommended that a nutrient analysis of the forage crop is undertaken to support the ration planning.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse.

Restrictions

Do not:

- Plough or cultivate land before 1 March.
- Under sow the protein crop.

6603 Arable: Retain stubble

Description

Retain areas of stubbles following harvest of a cereal crop to provide a source of food for native seed-eating farmland birds to survive over the winter, such as tree sparrow, linnet, yellowhammer and grey partridge. These birds are amongst the fastest declining group of birds in Wales.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown on habitat land.

Aims

- To increase structural diversity in the farmed landscape, supporting invertebrates and increasing water penetration
- To provide wild birds food and cover throughout the winter.
- To provide good conditions for rare arable plants to re-establish themselves

Management

- Remove straw within 2 weeks of harvest and allow the natural regeneration of grasses and broadleaved plants.
- Maize, sorghum and undersown stubbles are not acceptable.
- A record of all field activity, including evidence of harvesting date, should be kept for inspection.

Restrictions

Do not:

- Use pesticides unless to spot treat and control notifiable weeds or invasive non-native species. Pesticides may be used from 15 February. Any pesticides you use should be recorded in your activity diary.
- Cut vegetation after harvest before the 15 February.
- Apply slurry between harvest and 15 February.
- Store manure on the area.
- Supplementary feed on the area.
- Plough, cultivate or direct drill before 1 March.
- Graze until 15 February in the following year
- Use for regular vehicular access, turning or storage (for example, storing bales or machinery).

6604 Arable: unharvested cereal headlands

Description

Retain unharvested cereal headlands to benefit farmland birds. The unharvested headland must be retained until 15 February in the following year. The headland must not be fertilised or sprayed.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

This action is particularly valuable in areas that have populations of declining, seed-eating, farmland birds, such as tree sparrow, yellow hammer, grey partridge and linnet.

This action can be rotated or fixed as appropriate.

Using larger blocks or strips (greater than 0.4 hectares), where possible, will allow more seeds to remain undiscovered for longer and extend the area's value as a food source further into winter.

Where this action is selected, other actions, such as unsprayed crops and retaining stubbles, can be used for the remainder of the field.

Aims

To provide food and cover for farmland birds throughout winter.

To provide good conditions for rare arable plants to re-establish themselves.

Management

Eligible crops: Barley, Wheat, Oats, Triticale, Rye. (Unharvested headlands after maize are not eligible)

Retain unharvested cereal headlands that have a:

- Minimum area 0.1 ha.
- Minimum unharvested headland of 6m.
- Maximum unharvested headland width of 12m.

Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code

Retain the headland until 15 February in the following year.

A record of all field activity should be kept for inspection.

Restrictions

Do not:

- Plough or cultivate land before 1 March.
- Undersow the crop.
- Use pesticides or mechanical weeding, once sown, on proposed unharvested margin. (Fungicides can be used if applied to the seed before sowing.)
- Use fertiliser
- Use the unharvested headland for regular vehicular access, turning or storage (for example, storing bales or machinery).

6605 Arable: Unsprayed cereal and protein crop mix with stubbles retained.

Description

Establish an unsprayed, spring-sown cereal / protein crop mix with stubble retained until 15 February in the following year to benefit farmland birds.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

Aims

To provide a source of food for native seed-eating farmland birds to survive over the winter, such as tree sparrow, linnet, yellowhammer and grey partridge, which are the most endangered group of birds.

Management

Establish an unsprayed, spring-sown cereal / protein crop mix with stubble retained until 15 February in the following year.

Eligible crops: Barley, Wheat, Oats, Triticale, Rye / Field beans, peas, lupins, vetches.

Seed mixture to comprise 50% cereal and 50% protein seed by weight

- Sow between 1 March and 15 May.
- Only use certified seed at the recommended seed rate.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic)
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- If harvested as forage, a nutrient analysis of the forage crop must be undertaken to support the ration planning.
- The choice of crop needs to be appropriate to the location.
- The utilisation of the crop and earliest harvest date must be considered when selecting the crops and varieties.
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.

- A record of all field activity, including sowing and harvesting date, fertiliser applications and a nutrient analysis of the forage crop should be kept for inspection

Restrictions

Do not:

- Use pesticides unless to spot treat and control notifiable weeds or invasive non-native species. Pesticides may be used from 15 February. Any pesticides you use should be recorded in your activity diary.
- Cut vegetation after harvest before the 15 February.
- Apply slurry between harvest and 15 February.
- Store manure on the area.
- Supplementary feed on the area.
- Plough, cultivate or direct drill before 1 March, post harvest.
- Graze until 15 February, post harvest
- Use for regular vehicular access, turning or storage (for example, storing bales or machinery).

6606 Arable: Unsprayed cereal and protein crop mix.

Description

Establish an unsprayed, spring-sown cereal crop, under sown with a mixed ley seed mixture to benefit farmland birds, small mammals, pollinators and rare arable plants.

Where to apply

The crop may only be used to replace improved grassland or arable crops. It must not be applied to habitat land.

Aims

Encourage a diversity of cropping to:

- Break up improved grass monocultures
- Provide agronomic benefits within arable rotations
- Provide nectar sources for pollinators.
- Fix nitrogen from the atmosphere and reduce artificial fertiliser applications.
- Provide a diverse ration in livestock feed, leading to increased animal health and welfare.
- Reduce the reliance on imported, largely untraceable, protein crops.
- Encourage the growth of a wide range of broadleaved plants including rare species such as cornflower, corn buttercup and small-flowered catchfly.
- Provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- Protect and improve water quality.
- Protect and enhance landscape features and uncropped headlands.
- Provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right

Management

Establish an unsprayed, spring-sown cereal / protein crop mix.

Eligible crops: Barley, Wheat, Oats, Triticale, Rye / Field beans, peas, lupins, vetches.

Seed mixture to comprise 50% cereal and 50% protein seed by weight, as follows:

- Sow between 1 March and 15 May.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.

- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic)
- Only use certified seed at the recommended seed rate
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- If harvested as forage, a nutrient analysis of the forage crop must be undertaken to support the ration planning.
- A record of all field activity, including sowing and harvesting date, fertiliser applications and a nutrient analysis of the forage crop should be kept for inspection
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.

Restrictions

Do not:

- Plough or cultivate land before 1 March.
- Undersow the crop.
- Use pesticides or mechanical weeding, once sown. (Fungicides can be used if applied to the seed before sowing.)

6607 Arable: Unsprayed cereal and protein crop under sown with mixed ley.

Description

Establish an unsprayed, spring-sown cereal crop, under sown with a mixed ley seed mixture to benefit farmland birds, small mammals and pollinators.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be applied to habitat land.

Aims

To provide a diverse sward of deep rooting grasses, legumes and herbs following an unsprayed cereal crop with the aim of:

- Sequestering carbon through increased organic soil matter.
- Reducing greenhouse emissions through reduced inorganic fertiliser use and locking carbon in the soil layer.
- Providing a range of nectar sources and other food plants for pollinator insects and other invertebrates, particularly if the established ley is closed for a period to allow plants to flower. Some of these can assist with pest control, but others, such as butterflies and bumblebees are of conservation concern in their own right.
- Provide a seed source for farmland birds.
- Increasing water infiltration into the soil layer to mitigate flood risk.
- Retaining water for longer within the soil layer to mitigate the effects of prolonged dry weather.
- Providing a diverse feed ration for livestock leading to improved animal health and welfare
- Break up improved grass monocultures
- Provide agronomic benefits within arable rotations
- Provide nectar sources for pollinators.
- Fix nitrogen from the atmosphere and reduce artificial fertiliser applications.
- Provide a diverse ration in livestock feed, leading to increased animal health and welfare.
- Reduce the reliance on imported, largely untraceable, protein crops.
- Provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- Protect and improve water quality.
- Protect and enhance landscape features and uncropped headlands.

- Provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right

Management

Establish an unsprayed, spring-sown cereal / protein crop mix.

Eligible crops: Barley, Wheat, Oats, Triticale, Rye / Field beans, peas, lupins,

Seed mixture to comprise of 50% cereal and 50% protein crop by weight.

Undersown mixed ley, comprising maximum 5 grass (Species not individual varieties within species) and a minimum of 3 legume and 3 herb species.

Minimum seed rate 25 kg / ha.

Maximum total grass seed content 15 kg / ha

Maximum Ryegrass content, including all hybrids and cultivars, 6 kg / ha

Maximum other grass seed content 9 kg / ha

- Sow between 1 March and 31 May
- Only use certified seed at the recommended seed rate. (A reduced seed rate for the cereal crop should be used to aid the establishment of the mixed ley).
- The choice of cereal crop and mixed ley mixture needs to be appropriate to the location.
- Do not use inorganic fertilisers containing nitrogen following establishment until the following spring. It is recommended that nitrogen fertiliser use is avoided to achieve maximum benefit from the mixed ley.
- The utilisation of the crop and earliest harvest date must be considered when selecting the crops and varieties.
- **Mixed ley to be retained for a minimum 3 years from the date of establishment.**
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- Grazing of established mixed ley to be managed to maintain species diversity for the following season.
- If harvested as forage, it is recommended that a nutrient analysis of the forage crop is undertaken to support the ration planning.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required.
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.

- A record of all field activity, including sowing and harvesting dates and fertiliser applications should be kept for inspection.

Restrictions

Do not:

- Use pesticides or mechanical weeding, once sown.
- Plough or cultivate land before 1 March.

6608 Arable: Unsprayed root or forage crop with ungrazed field margins.

Description

Establish an unsprayed root or forage crop with ungrazed field margins. The ungrazed field margin is required to prevent soil run off.

Where to apply

- The crop may only be used to replace improved grasslands or arable crops. It must not be grown on habitat land.

Aims

To encourage the growth of a wide range of broadleaved plants, including rare species such as Cornflower, Shepherds Needle and Small-Flowered Catchfly.

To provide both nesting sites and feeding areas for birds such as Skylark, Grey Partridge, Yellowhammer and Barn Owl, as well as mammals such as Brown Hare.

To provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as native butterflies and bumblebees, are of conservation concern in their own right.

To protect and enhance water quality.

To reduce nutrient loss and soil erosion during the winter.

Management

- Establish an unsprayed root or forage crop **with ungrazed field margins**.
- Sow between 1 April and 31 July.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic)
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- Eligible crops: Swedes, Fodder beets, White turnips, Soft yellow turnips, Hardy yellow turnips, Brassicas, Forage rape, Chicory (or a combination of these crops).

- A minimum 50% of the field boundary to have a 10m ungrazed margin, retained until 15 February. The width of this buffer must be in addition to any buffers required by the Universal Code or by Universal Actions.
- An assessment on the suitability of the field for growing this option should be undertaken. The option should not be grown on fields with a history of soil erosion or fields with a slope that is sufficient to increase the risk of soil erosion.
- Where the field is next to a water course, all of the water courses must have a 10m ungrazed field margin. (This could require the ungrazed field margin to exceed the minimum 50% requirement) If the field has any slope, the ungrazed margin must be located at the bottom of the slope.
- Italian ryegrass, Westerwolds ryegrass or Rye can be included within the 10m retained field margin to enhance the capacity of the margin to reduce run-off.
- Only use certified seed at the recommended seed rate.
- The choice of crop must be appropriate to the location.
- 10m ungrazed margin to be retained until 15 February
- Mature crop can be harvested or grazed in situ.
- The utilisation of the crop and earliest grazing and harvest date must be considered when selecting the crop.
- Minimum area of 1 ha. (You can split the minimum 1ha area across one or more land parcels, provided the area is at least 0.1ha).
- A record of all field activity, including evidence of fertiliser and pesticide applications, grazing or harvesting should be kept for inspection.

Restrictions

Do not:

- Plough or cultivate land before 1 March.
- Use pesticides, once sown, except herbicides to spot treat or weed-wipe injurious weeds, soft and hard rush, nettles or bracken or invasive non-native species. (Fungicides can be used if applied to the seed before sowing.)
- Excluding the 10m margin, graze or harvest the crop until 15 October.
- Graze the margin until the 15 February

6609 Arable: Unsprayed spring cereals under sown with mixed ley.

Description

Establish an unsprayed, spring-sown cereal crop, under sown with a mixed ley seed mixture to benefit farmland birds, small mammals and pollinators.

Where to apply

The crop may only be used to replace temporary ley grasslands or arable crops. It must not be applied to habitat land.

Aims

To provide a diverse sward of deep rooting grasses, legumes and herbs with an unsprayed cereal crop with the aim of:

- Sequestering carbon through increased organic soil matter.
- Reducing greenhouse emissions through reduced inorganic fertiliser use and locking carbon in the soil layer.
- Providing a range of nectar sources and other food plants for pollinator insects and other invertebrates, particularly if the established ley is closed for a period to allow plants to flower. Some of these can assist with pest control, but others, such as butterflies and bumblebees are of conservation concern in their own right.
- Provide a seed source for farmland birds.
- Increasing water infiltration into the soil layer to mitigate flood risk.
- Retaining water for longer within the soil layer to mitigate the effects of prolonged dry weather.
- Providing a diverse feed ration for livestock leading to improved animal health and welfare.
- To provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- Protect and improve water quality.
- Protect and enhance landscape features and uncropped headlands.
- Provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right.

Management

Eligible crops: Barley, Wheat, Oats, Triticale, Rye.

Under sown mixed ley, comprising maximum 5 grass and a minimum of 3 legume and 3 herb species.

(Species not individual varieties within species)

Minimum seed rate 25 kg / ha.

Maximum total grass seed content 15 kg / ha

Maximum Ryegrass including all hybrids and cultivars content 6 kg / ha

Maximum other grass seed content 9 kg / ha

- Sow between 1 March and 31 May
- Only use certified seed at the recommended seed rate. (A reduced seed rate for the cereal crop should be used to aid the establishment of the mixed ley).
- The choice of cereal crop and mixed lay mixture needs to be appropriate to the location.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required.
- Do not use inorganic fertilisers containing nitrogen following establishment until the following spring. It is recommended that nitrogen fertiliser use is avoided to achieve maximum benefit from the diverse ley.
- The utilisation of the cereal crop and earliest harvest date must be considered when selecting the crop and variety.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.
- A record of all field activity, including sowing and harvesting date and evidence of fertiliser applications should be kept for inspection.
- **Mixed ley to be retained for a minimum 3 years from the date of establishment.**
- If harvested as forage, it is recommended that a nutrient analysis of the forage crop is undertaken to support the ration planning.
- Grazing of established mixed ley to be managed to maintain species diversity for the following season.

Restrictions

Do not:

- Plough or cultivate land before 1 March, post establishment.
- Use pesticides or mechanical weeding, once sown.

6610 Arable: Unsprayed spring cereals under sown with Red Clover.

Description

Establish an unsprayed, spring-sown cereal under sown with red clover to benefit farmland birds, small mammals and pollinators.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

Aims

- To encourage the growth of a wide range of broadleaved plants including rare species such as cornflower, corn buttercup and small-flowered catchfly.
- To provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- To protect and improve water quality.
- To protect and enhance landscape features and uncropped headlands.
- To provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right.
- Encourage a diversity of cropping to:
 - Break up improved grass monocultures
 - Provide agronomic benefits within arable rotations
 - Provide nectar sources for pollinators.
 - Fix nitrogen from the atmosphere and reduce artificial fertiliser applications.
 - Provide a diverse ration in livestock feed, leading to increased animal health and welfare.
- Reduce the reliance on imported, largely untraceable, protein crops.
- To encourage the growth of a wide range of broadleaved plants including rare species such as cornflower, corn buttercup and small-flowered catchfly.
- To provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- To protect and improve water quality.
- To protect and enhance landscape features and uncropped headlands.
- To provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right

Management

Eligible crops: Barley, Wheat, Oats, Triticale, Rye

Mixtures of red clover cultivars are permitted.

Under sown Red clover can be in combination with a grass species.

For Red clover sown as a monoculture, minimum seed rate is 12 kg / ha.

If Red clover is sown in combination with grass the minimum seed rate for Red clover is 7 Kg / ha.

Alsike clover can be included as part of the seed mixture at a maximum seed rate of 1 kg / ha, additional to the 7 kg Red clover

- Only use certified seed at the recommended seed rate. (A reduced seed rate for the cereal crop should be used to aid the establishment of the Red clover ley).
- The choice of cereal crop and clover mixture needs to be appropriate to the location.
- Do not use inorganic fertilisers containing nitrogen following establishment until the following spring. It is recommended that nitrogen fertiliser use is avoided to achieve maximum benefit from the ley.
- The utilisation of the cereal crop and earliest harvest date must be considered when selecting the crop and variety.
- **Red clover ley to be retained for a minimum 2 years from the date of establishment.**
- Sow between 1 March and 31 May.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- If harvested as forage, it is recommended that a nutrient analysis of the forage crop is undertaken to support the ration planning.
- Grazing of established ley to be managed to maintain the clover for the following season.

- A record of all field activity, including sowing and harvesting date and evidence of fertiliser applications should be kept for inspection

Restrictions

Do not:

- Plough or cultivate land before 1 March, post-harvest.
- Use pesticides or mechanical weeding, once sown.

6611 Arable: Unsprayed spring cereals with stubbles retained.

Description

Establish an unsprayed, spring-sown cereal with stubble retained until 15 February in the following year to benefit farmland birds.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

Aims

To provide a source of food for native seed-eating farmland birds to survive over the winter, such as tree sparrow, linnet, yellowhammer and grey partridge, which are the most endangered group of birds.

Management

Establish an unsprayed, spring-sown cereal with stubble retained until 15 February in the following year.

Eligible crops: Barley, Wheat, Oats, Triticale, Rye

- Sow between 1 March and 15 May.
- Only use certified seed at the recommended seed rate.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic)
- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- If harvested as forage, a nutrient analysis of the forage crop must be undertaken to support the ration planning.
- The choice of crop needs to be appropriate to the location.
- The utilisation of the crop and earliest harvest date must be considered when selecting the crops and varieties.
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.

- A record of all field activity, including sowing and harvesting date, fertiliser applications and a nutrient analysis of the forage crop should be kept for inspection.

Restrictions

Do not:

- Undersow the crop.
- Use pesticides unless to spot treat and control notifiable weeds or invasive non-native species. Pesticides may be used from 15 February. Any pesticides you use should be recorded in your activity diary.
- Cut vegetation after harvest before the 15 February.
- Apply slurry between harvest and 15 February.
- Store manure on the area.
- Supplementary feed on the area.
- Plough, cultivate or direct drill before 1 March, post-harvest.
- Graze until 15 February, post-harvest
- Use for regular vehicular access, turning or storage (for example, storing bales or machinery).

6612 Arable: unsprayed spring sown crop

Description

Establish an unsprayed, spring-sown cereal or linseed crop to benefit farmland birds, small mammals, pollinators and rare arable plants.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be grown to habitat land.

Aims

- To encourage the growth of a wide range of broadleaved plants including rare species such as cornflower, corn buttercup and small-flowered catchfly.
- To provide both nesting sites and feeding areas for birds such as lapwing, skylark, grey partridge, yellowhammer and barn owl, as well as mammals, such as brown hare.
- To protect and improve water quality.
- To protect and enhance landscape features and uncropped headlands.
- To provide a range of nectar sources and other food plants for pollinator insects and other invertebrates. Some of these can assist with pest control, but others, such as butterflies and bumblebees, are of conservation concern in their own right.

Management

Establish an unsprayed, spring-sown cereal crop.

Eligible crops: Barley, Wheat, Oats, Triticale, Rye.

- Sow between 1 March and 15 May.
- Only use certified seed at the recommended seed rate.
- The choice of crop needs to be appropriate to the location.
- The utilisation of the crop and earliest harvest date must be considered when selecting the crop and variety.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic)

- Can be harvested as grain, crimped, and stored using an additive or ensiled as forage (within a silage pit or as baled silage).
- Do not harvest before 15 July, or until 14 weeks after sowing, whichever is the latest.
- If harvested as forage, it is recommended that a nutrient analysis of the forage crop is undertaken to support the ration planning.
- A record of all field activity, including evidence of sowing date, fertiliser applications and harvesting date should be kept for inspection.

Restrictions

Do not:

- Plough or cultivate land before 1 March, post-harvest.
- Undersow the crop.
- Use pesticides or mechanical weeding, once sown. (Fungicides can be used if applied to the seed before sowing.)

6613 Mixed ley on improved land

Description

This action replaces either improved grassland or arable crops with a mixed ley. Key benefits include:

- Deep-rooted species (like chicory and lucerne) improve soil structure and increase organic matter, leading to better water infiltration and carbon sequestration.
- Legumes (clover, vetch) fix atmospheric nitrogen, reducing the need for inorganic fertilizers.
- The diverse diet can improve livestock performance and health.
- Diverse species make the sward more resilient to weather extremes and pests compared to ryegrass monocultures.
- Flowering herbs provide habitat and food for pollinators and birds.

Where to apply

The crop may only be used to replace improved grassland or arable crops. It must not be grown on habitat land.

Aims

To provide a diverse sward of deep rooting grasses, legumes and herbs with the aim of:

- Sequestering carbon through increased organic soil matter.
- Reducing greenhouse emissions through reduced inorganic fertiliser use and locking carbon in the soil layer.
- Providing a range of nectar sources and other food plants for pollinator insects and other invertebrates, if the established ley is closed for a period to allow plants to flower. Some of these can assist with pest control, but others, such as butterflies and bumblebees are of conservation value in their own right.
- Provide a seed source for farmland birds where cut for hay.
- Increasing water infiltration into the soil layer to mitigate flood risk.
- Retaining water for longer within the soil layer to mitigate the effects of prolonged dry weather.
- Providing a diverse feed ration for livestock leading to improved animal health and welfare.

Management

Establish a mixed ley, comprising minimum 5 grass species, 3 legume species and 3 herb species. (Species not individual varieties within species)

Minimum seed rate 25 kg / ha.

Maximum Ryegrass content, including all hybrids and cultivars, 6 kg / ha.

Maximum other grass seed content 9 kg / ha (Maximum total grass seed content 15 kg / ha).

- Sow between 1 April and 31 August
- Only use certified seed at the recommended seed rate.
- The choice and mix of species must be appropriate to the location.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic).
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- Mix the seed in the hopper immediately before sowing a seed mix to stop an uneven spread of crops.
- Roll after sowing to retain moisture.
- Seed can be broadcast or drilled, but no deeper than 1cm.
- Do not use inorganic fertilisers containing nitrogen following establishment until the following spring. (It is recommended that nitrogen fertiliser use is avoided to achieve maximum agronomic and environmental benefits from the diverse ley.)
- A record of all field activity, including sowing date, evidence of fertiliser and pesticide applications and grazing or cutting dates should be kept for inspection.
- **Mixed ley to be retained for a minimum 3 years from the date of establishment.**

Restrictions

Do not:

- Plough or cultivate land before 1 March
- Use pesticides, once established, except herbicides to spot treat or weed-wipe injurious weeds or invasive non-native species, soft and hard rush, nettles or bracken.

6614 Mixed ley: with closed period for flowering

Description

Establish a mixed ley seed mixture with a closed period of 6 weeks to benefit farmland birds, small mammals and pollinators.

Where to apply

The crop may only be used to replace improved grasslands or arable crops.

This action should be applied to whole fields or parts of fields where the area is at least 1 ha.

Aims

To establish a diverse, productive sward including deep rooted species.

To reduce fertilizer or sediment run-off into adjacent water bodies or other habitats.

To improve soil structure and increase soil organic matter.

To provide pollen and nectar sources for invertebrates and in turn increase food resources for birds and bats.

Management

Establish a mixed ley to be retained for a minimum 3 years from the date of establishment.

Do not graze or cut for a period of 6 weeks between 1 May and 31 July in years 2 and 3 following establishment. Following the period, a hay/silage cut can be made and or livestock can be reintroduced. One closed period can be applied for the whole parcel, or parts of parcel can be closed in staggered sequences.

Note: Geotagged photographs of closed areas will be required for year 2 and 3. As a minimum this will include a photograph at the beginning of the closed periods and at 6 weeks. Where evidence of closed period is not provided, payment for this option will be withheld or recovered.

The seed mix should comprise of a minimum 5 grass species, 3 legume species and 3 herb species. (These should be different species not separate varieties within the same species)

Minimum seed rate 25 kg / ha.

Maximum Ryegrass including all hybrids and cultivars content 6 kg / ha

Maximum other grass seed content 9 kg / ha

(Maximum total grass seed content 15 kg / ha)

Minimum of 10 kg/ ha comprising a minimum of 3 legumes and 3 herbs

- Only use certified seed at the recommended seed rate above.

- The choice and mix of species must be appropriate to the location.
- Sow between 1 April and 31 August.
- Crop can be established through ploughing, traditional cultivations followed by broadcasting, drilling, minimum tillage or direct drilling.
- Mix the seed in the hopper immediately before sowing a seed mix to stop an uneven spread of crops.
- Seed can be broadcast or drilled, but no deeper than 1cm.
- Roll after sowing to retain moisture.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic).
- It is recommended that nitrogen fertiliser use is avoided to achieve maximum benefit from the diverse ley.
- Once sown, do not use pesticides, except herbicides to spot treat or weed-wipe injurious weeds or invasive non-native species
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- Manage to maintain sward diversity, to encourage the flowering and seeding of the mixed ley and to avoid poaching.
- Keep an Activity Diary each year and make it available as required. This should include a record of all field activity, including sowing date, evidence of fertilisers and pesticide applications, closed period and grazing or cutting dates.

Restrictions

Do not:

- Plough or cultivate land before 31 March in the year of establishment.
- Use inorganic fertilisers containing nitrogen following establishment until the following spring

6615 Red Clover or Lucerne on improved land

Description

This action replaces either improved grassland or arable crops with red clover or lucerne. Key benefits include:

- Deep-rooted species improve soil structure and increase organic matter, leading to better water infiltration and carbon sequestration.
- Legumes fix atmospheric nitrogen, reducing the need for inorganic fertilizers.
- The diverse diet can improve livestock performance and health.
- Diverse species make the sward more resilient to weather extremes and pests compared to ryegrass monocultures.
- Flowering herbs provide habitat and food for pollinators and birds.

Where to apply

The crop may only be used to replace improved grasslands or arable crops. It must not be applied to habitat land.

Aims

Encourage a diversity of cropping to:

- Provide additional nectar sources for invertebrates, particularly pollinators, including threatened species such as the shrill carder bee and brown-banded carder bee if taken as a hay crop
- Break up improved grass monocultures
- Provide agronomic benefits within arable rotations
- Fix nitrogen from the atmosphere and reduce artificial fertiliser applications.
- Provide a diverse ration in livestock feed, leading to increased animal health and welfare.
- Reduce the reliance on imported, largely untraceable, protein crops.

Management

Establish a Red clover or Lucerne ley.

Mixtures of Red clover cultivars are permitted.

Red clover can be sown as a monoculture or in combination with grass species or with lucerne.

For Red clover sown as a monoculture, minimum seed rate is 12 kg / ha.

If Red clover is sown in combination with grass the minimum seed rate for Red clover is 7 Kg / ha.

Alsike clover can be included in the seed mixture at a maximum seed rate of 1 kg / ha, additional to the 7kg Red clover

Where lucerne is to be sown as a monoculture, minimum seed rate is 20 kg / ha.

- Sow between 1 April and 31 August.
- Only use certified seed.
- The location must be appropriate for the crop.
- Can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code
- Do not use inorganic fertilisers containing nitrogen following establishment until the following spring. (It is recommended that nitrogen fertiliser use is avoided to achieve maximum agronomic and environmental benefits from the red clover ley)
- Mix the seed in the hopper immediately before sowing a seed mix to stop an uneven spread of crops.
- Roll after sowing to retain moisture.
- Seed can be broadcast or drilled but no deeper than 1cm.
- Established sward to be managed to maintain clover content.
- A record of all field activity, including sowing date, evidence of fertiliser and pesticide applications and grazing or cutting dates should be kept for inspection
- Clover ley to be retained for a minimum 2 years from the date of establishment.

Restrictions

Do not:

- Plough or cultivate land before 1 March, post-harvest.
- Use pesticides, once sown, except herbicides to spot treat or weed-wipe injurious weeds or invasive non-native species, soft and hard rush, nettles or bracken.

6616 Under sowing maize (Spring / summer sown)

Description

Establish an undersown maize crop to ensure vegetated ground cover post-harvest.

Where to apply

The option may only be used where maize is grown.

Aims

To prevent soil erosion by maintaining a sward cover post maize harvest.

To protect and enhance water quality.

To reduce nutrient loss and soil erosion during the winter

To improve soil structure by breaking up compaction in the soil and encouraging water uptake.

To increase soil organic matter, structure and mineral composition through aeration and locking in nitrogen, making it available to the following spring sown crop.

To provide winter shelter and feeding areas for farmland birds and small mammals.

Management

- Maintain a 1m grass buffer strip adjacent to a hedge, earth bank or watercourse in line with the universal code.
- A record of all field activity should be kept for inspection
- Establish a cover crop within a growing maize crop.
- Seed mixture to include a minimum of 2 crop species which are suitable for growing within the shade of a maize crop.
- Only use certified seed at the recommended seed rate.
- Minimum area of 1 ha. (You can split the minimum 1ha area across one or more land parcels, provided the area is at least 0.1ha).
- Crop to be sown by 10 July.
- Minimum undersown seed rate 15 kg / ha
- Sow between rows of recently established maize (usually 4-5 leaf stage) by direct drilling or target broadcasting, followed by tines.
- Cover crop must remain in situ until 15 February in the year after establishment.
- Crop may be grazed, but do not over-graze so that winter crop cover is maintained and poaching avoided.

Restrictions

Do not:

- Broadcast seeds across the fields.
- Use artificial fertiliser, manure, or slurry between harvesting the maize crop and 15 February in the following year.

6617 Wildlife cover crop margin. Retained for 2 years until 15 February two years following establishment

Description

Wild bird seed crop is designed to provide food for farmland seed-eating birds. Lowland farmland birds, such as yellow-hammer, linnet, grey partridge and tree sparrow, are the fastest declining group of birds in Wales. This option provides additional food in their environment and is particularly valuable over the winter when seed sources are scarce.

Where to apply

This action is only available on improved land.

It will usually help if you sow the wild bird seed crop on sites that:

- receive plenty of sunlight, to help the plants establish.
- are weed-free, as a high weed burden will affect crop establishment.
- are close to nesting, roosting and other farmland bird feeding habitats, where possible. In grey partridge and yellow hammer areas, this action is ideally located adjacent to rough grass margins.
- are next to a field edge, but they can extend into the field.
- are away from buildings to reduce the risk of vermin.
- are away from roads or public rights of way, as regular disturbance stops birds from feeding.
- are away from shaded areas next to dense woodland where establishment will be difficult and deer and rabbit grazing can be a problem.

Choosing to locate the wild bird seed crop to square up cultivated areas could help to speed up farm operations.

Using larger blocks or strips (greater than 0.4 hectares), where possible, will allow more seeds to remain undiscovered for longer and extend the area's value as a food source further into winter.

Where this action is selected, other actions, such as unsprayed crops and retaining stubbles, can be used for the remainder of the field.

This action is particularly valuable in areas that have populations of declining, seed-eating, farmland birds such as tree sparrow, yellow hammer, grey partridge and linnet.

Aims

- To provide wild birds food and cover throughout winter and to provide cover during the summer.

- To provide a valuable habitat for a range of invertebrates, including pollinating insects, such as bees and hoverflies, in the summer and autumn. Increased insect abundance may also benefit local bat populations.
- To provide good conditions for rare arable plants to re-establish themselves

Management

- Establish a wild bird seed crop. Retain the wild bird seed crop until 15 February in the second year following establishment
- Establish as a block in a field or margin along the edge of a field.
- Size requirements:
 - Minimum area 0.1 hectare
 - Minimum 6 metre minimum width
 - Individual block of wild bird seed crop to be a maximum area of 1 hectare
- Establish the crop by sowing a seed mix as follows:
 - Minimum seed rate 40 kilograms per hectare
 - Seed mixture to include a minimum 6 species that includes seeds from each of the lists for cereals, biennial species and other species lists, below.
 - Maximum of 50% content by weight for a single species.
- Species that can be included within the mix:
 - Cereals: barley, oats, wheat, rye, triticale
 - Biennial species (minimum 20% content by weight): kale, stubble turnip, teasel, chicory
 - Other species: sunflower, linseed, common vetch, quinoa, red millet, white millet, white mustard, brown mustard, sorghum (**not** giant or intermediate), buckwheat, oil radish, fodder radish
- Establishment:
 - Maintain a 1 metre grass buffer strip adjacent to a hedge, earth bank or watercourse.
 - Do not plough or cultivate land before 1 March.

- Sow wild bird seed crop between 1 March and 1 July.
- The crop can be established through ploughing, traditional cultivations and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as organic).
- Re-sow any area of failed crop.
- Keep a record of all field activity in the Activity Diary, including evidence of the sowing date and make it available for inspection when requested.

Restrictions

- Do not under sow the crop.
- Do not sow maize or other species not listed.
- Do not graze or cut before 15 February in the second year following establishment
- Do not apply molluscicides, unless direct drilled along with the seed. Any molluscicides you use should be recorded in your Integrated Pest Management (IPM) Plan.
- Do not use the wild bird seed crop block or strip for regular vehicular access, turning or storage (for example, storing bales or machinery).
- Do not use pesticides or mechanical weeding. (Fungicides can be used if applied to the seed before sowing).

6618 Wildlife cover crop margin. Retained until 15 February in the following year

Description

Wild bird seed crop is designed to provide food for farmland seed-eating birds. Lowland farmland birds, such as yellow-hammer, linnet, grey partridge and tree sparrow, are the fastest declining group of birds in Wales. This action provides additional food in their environment and is particularly valuable over the winter when seed sources are scarce.

Where to apply

This action is only available on improved land.

This action can be rotated or fixed as appropriate.

It will usually help if you sow the wild bird seed crop on sites that:

- receive plenty of sunlight, to help the plants establish.
- are weed-free, as a high weed burden will affect crop establishment.
- are close to nesting, roosting and other farmland bird feeding habitats, where possible. In grey partridge and yellow hammer areas, this action is ideally located adjacent to rough grass margins.
- are next to a field edge, but they can extend into the field.
- are away from buildings to reduce the risk of vermin.
- are away from roads or public rights of way, as regular disturbance stops birds from feeding.
- are away from shaded areas next to dense woodland where establishment will be difficult and deer and rabbit grazing can be a problem.

Choosing to locate the wild bird seed crop to square up cultivated areas could help to speed up farm operations.

Using larger blocks or strips (greater than 0.4 hectares), where possible, will allow more seeds to remain undiscovered for longer and extend the area's value as a food source further into winter.

Where this action is selected, other actions, such as unsprayed crops and retaining stubbles, can be used for the remainder of the field.

This action is particularly valuable in areas that have populations of declining, seed-eating, farmland birds such as tree sparrow, yellow hammer, grey partridge and linnet.

Aims

- To provide wild birds food and cover throughout winter and to provide cover during the summer.

- To provide a valuable habitat for a range of invertebrates, including pollinating insects, such as bees and hoverflies, in the summer and autumn. Increased insect abundance may also benefit local bat populations.
- To provide good conditions for rare arable plants to re-establish themselves

Management

- Establish a wild bird seed crop as a block in a field or margin along the edge of a field.
- The wild bird seed crop to be retained until 15 February in the year following establishment.
- Size requirements:
 - Minimum area 0.1 hectare
 - Minimum 6 metre width
 - Individual blocks of wild bird crop to be a maximum area of 1 hectare
- Establish the crop by sowing a seed mix as follows:
 - Minimum seed rate 12.5 kilograms per hectare
 - Seed mixture to include a minimum 6 species that includes species from both the cereal and the other species lists, below.
 - Maximum cereal content of 80% by weight.
 - Species that can be included within the mix:
 - Cereals: barley, oats, wheat, rye, triticale
 - Other species: sunflower, linseed, common vetch, quinoa, red millet, white millet, white mustard, brown mustard, sorghum (**not** giant or intermediate), buckwheat, oil radish, fodder radish
- Establishment:
 - Maintain a 1 metre grass buffer strip adjacent to a hedge, earth bank or watercourse.

- Do not plough or cultivate land before 1 March.
- Sow the crop between 1 March and 1 July.
- The crop can be established through ploughing, traditional cultivation and drilling, minimum tillage or direct drilling.
- If using minimum tillage or direct drilling, the use of an appropriate, approved herbicide to spray off an existing grass sward is required. (This requirement not applicable for farmers certified as Organic)
- Once established, do not use pesticides or mechanical weeding on the wild bird seed crop (fungicides can be used if applied to the seed before sowing).
- Re-sow any area of failed crop.
- Keep a record of all field activity in the Activity Diary, including evidence of the sowing date and make it available for inspection when requested.

Restrictions

- Do not under sow the crop.
- Do not sow maize or other species not listed.
- Do not graze or cut before 15 February in the year following establishment.
- Do not apply molluscicides unless direct drilled along with the seed. Any molluscicides you use should be recorded in your Integrated Pest Management (IPM) Plan.
- Do not use the wild bird seed crop block or strip for regular vehicular access, turning or storage (for example, storing bales or machinery).
- Do not use pesticides or mechanical weeding. (Fungicides can be used if applied to the seed before sowing).

6701 Barn Owl Nest Boxes

This technical note describes the minimum standard of work required to receive payments for 'Barn Owl Nest Boxes'. Where there are local traditional methods or styles that vary from this standard, these may be used, but the Welsh Government must approve any significant variation.

The barn owl hunts small mammals, especially voles, over rough grassland. It uses quiet barns and cavities in trees for nesting and roosting where its presence is often given away by pellets and droppings. Since barn owls are sensitive to disturbance, it's best to place boxes in quiet locations. You can provide a box inside barns or on trees or the outside of buildings.

Barn owls are listed under Schedule 1 of the Wildlife and Countryside Act (1981) making it an offense to disturb an active nest containing, eggs, or dependent young. While normal activities within the building can take place, checking the contents can only take place under licence from NRW [Natural Resources Wales / Bird licensing](#). **You must adhere to the following: Indoor Boxes**

Construction

These should be constructed from 9mm plywood as shown in the diagram. The lift-off lid allows access for cleaning after the chicks and parents have left.

Positioning

- Fix as high up in the building as possible, but leaving enough room to remove the lid. A height of 3m is ideal.
- Position the box in a completely dry position so that the owl will have a clear flight path from the point at which it is most likely to enter the building.
- If possible, position the box so that emerging nestlings will be able to walk on beams or other flat surfaces. The landing tray on the front of the box will also provide space for the nestlings
- There is no need to put any lining into the box as the eggs will be laid on the pellet material regurgitated by the owl.

Outdoor Boxes

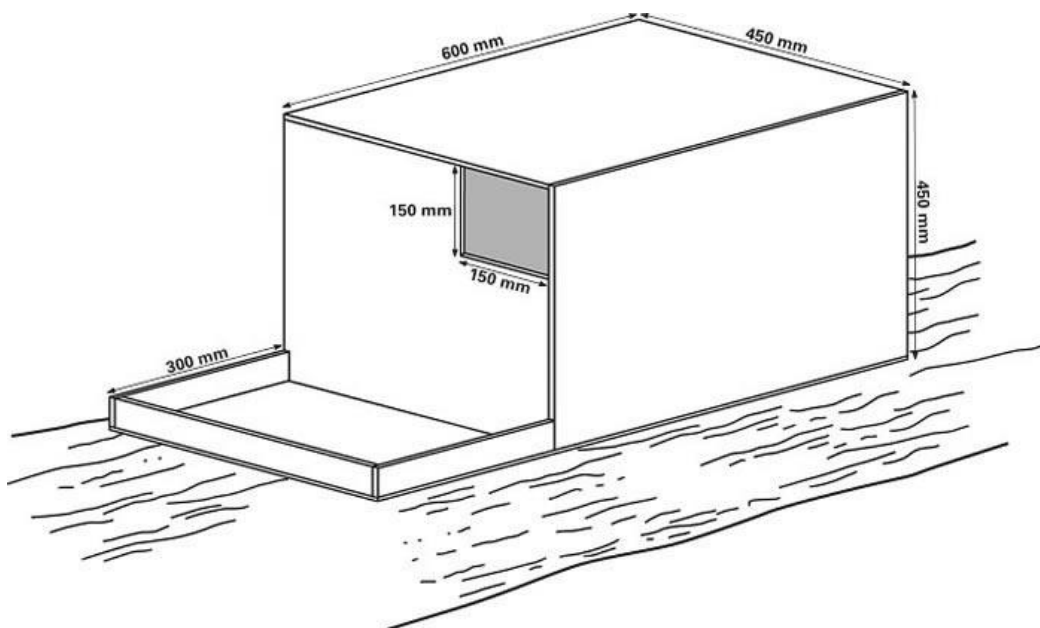
Construction

- These should be constructed from 15–20mm plywood that has been given 2 coats of preservative before assembly. Marine or exterior grade plywood should be used for boxes that will be erected outside of buildings.
- As you make up the A-frame box, attach a 200 x 485mm piece of rough-sawn timber to the inside of the back panel. The fixing to the tree will go through this reinforcement.
- Don't attach the front panel until the box is hung up.

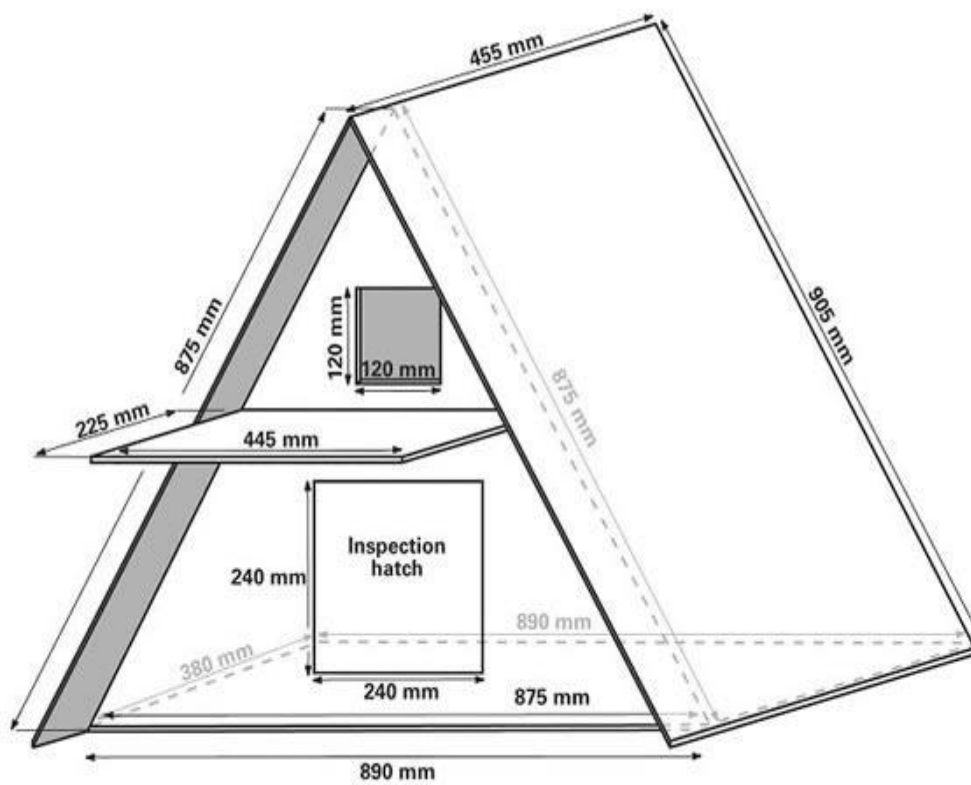
Positioning

- Avoid facing the entrance into the prevailing wind and rain. Generally, this means avoiding both the west and south west
- Boxes can be installed on either trees or buildings. To avoid damaging trees, a batten should be lashed to the trunk using cord and the box nailed or screwed to the batten.

Barn Owl Nest Boxes – Indoor Box



Barn Owl Nest Boxes – Outdoor Boxes



6702 Bat Boxes

This technical note describes the minimum standard of work required in order to receive payments for 'Bat Boxes'. Where there are local traditional methods or styles which vary from this standard these can be used, but significant variation must be approved by the Welsh Government.

You must adhere to the following: -

Making a Bat Box

Bat boxes take many shapes and sizes; below are the details for a simple wooden bat box known as the Kent Bat Box. It has proved to be successful in attracting bats whilst being simple to construct, self-cleaning and low maintenance. This box requires approximately 1.6m of rough wood to construct; it is important not to use treated timber.

Further information can be found here: [Wooden bat boxes - Bat Boxes - Bat Conservation Trust](#)

Buying a ready-made bat box

Bat boxes made of 'woodcrete' (a mixture of wood shavings and cement) are highly successful in attracting bats, having the advantage of better thermal insulation, resistance to rot and damage by woodpeckers and squirrels and are longer lasting. These can be purchased from a number of suppliers. Different models are available, depending whether you want to put them on trees or buildings.

Siting of Boxes

Whatever type of box you select, they are most likely to be used if they are located in places where bats are known to feed. Woodland, parkland and river banks are good places, as are gardens close to ponds, rivers or parks. Sites should be sheltered from strong winds and away from artificial light sources. Boxes should be exposed to the sun for part of the day (usually facing south, south-east or south-west) and ideally at least 4m above the ground (where safe installation is possible). Boxes should be positioned so that the bats' approach to them is clear of impediments such as tree branches.

Bats require a range of roosting condition throughout the year and putting up multiple boxes, in a range of locations and facing in different directions, bats can select the most suitable roosting location. Avoid facing boxes into the prevailing direction of the wind and rain.

Once the bat box is in use

- Once the box is being used by bats (or any other protected species!) it will be legally protected, and you must treat it as you would any other protected roost. Once in use, you must not damage or destroy the bat box or disturb the occupants.

Kent Bat Box:

Design and measurements

Simple to construct, self-cleaning and low maintenance, the Kent bat box (designed by the Kent Bat Group) is a great way to encourage bats in your garden or your green space. The box should be rainproof and draught-free.

The only critical measurement is the width of the crevices: between 15-25mm. Other measurements are approximate. Timber should be approximately 20mm thick.

Measurements for one Kent bat box kit would be as follows:

Part	Quantity	Size (mm)
Roof (A)	1	x 160 x 20
Back (B)	1	x 200 x 20
Centre (C)	1	x 200 x 20
Front (D)	1	x 200 x 20
Centre Rails (E)	2	x 20 x 20
Front Rails (F)	2	x 15 x 15
Stand-offs (optional)	2	x 20 x 20

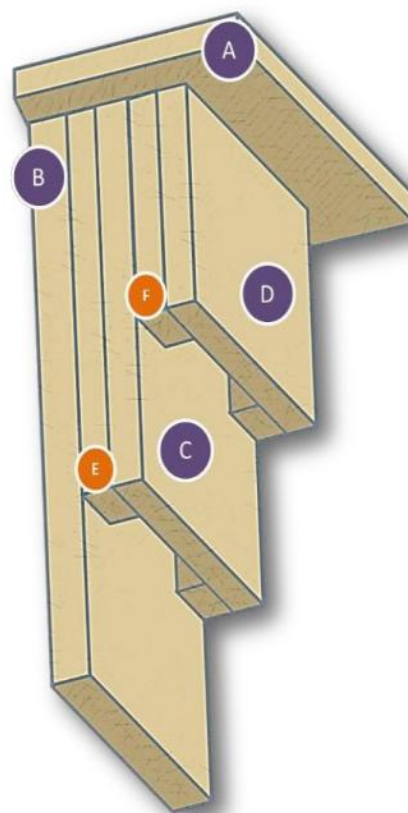
Material and Tools

This kit requires approximately 1.6m of rough wood and 25 screws (8 x 1 ½ inches) to assemble. You can rough it up by scraping with a suitable tool – possibly a saw blade or even a screwdriver but make sure you use untreated wood as some preservative chemicals can kill bats.

Pre-drill the holes to prevent the wood splitting. Alternatively you can assemble your bat box kit with nails although they tend to be less robust than boxes made with screws.

The hanging screws may either be at the edges of the front panel or in the side centre block (not in the rails!). Fixing may be by use of brackets, durable nylon cord or wires.

When installing the box, assess the risks of working at height, use the appropriate fittings and assess where the box will be located, in relation to any public access. Regular checks should be made to ensure the box remains securely fitted, especially after high winds.



Above example courtesy of the Bat Conservation Trust.

6704 Bat Grilles

This technical note describes the minimum standard of work required to receive payments for 'Bat Grilles'. Where there are local traditional methods or styles which vary from this standard these can be used, but variation must be approved by the Welsh Government.

The most frequently required conservation measure for caves and mines is protection against excessive disturbance. This is generally achieved by fitting a grille, which permits the free passage of bats but not people, although other measures, such as security fencing, may be appropriate in certain cases.

Each site will be different and will require a bat survey by a licenced bat consultant to determine what bats are present, whether a grille is needed and, if so, to the best design and installation method for that location. The following principle must be applied when designing grilles:

- Grilles must be designed in accordance with Eurobats published guidelines: [EUROBATS PubISer No2 English 5th edition 2017.pdf](#). Grilles must be designed not to impede bat access.
- Human access gates must be included in any grilles and secured with padlocks. Gates should be about 1000mm x 1000mm (minimum 500mm x 500mm). They can be either hinged or sliding, depending on the circumstances. If hinges are fitted, these should be of robust construction or concealed so that they cannot easily be cut through with a hacksaw.
- The grille should be coated against rust by galvanising at the time of manufacture (a hot-dip process).
- The grille must be fitted so that it does not impede air flow into the site. It is generally inadvisable to fit the grille into the narrowest part of an entrance, where it could critically affect air flow.
- The grille must be securely fitted into solid rock, if available.

The bat survey report and proposed method statement must be submitted to Natural Resources Wales for approval. Grilling works may require a European Protected Species (EPS) Conservation Licence; your bat consultant will advise you, and apply for the licence on your behalf if required. Where a licence is required, work must not start until the licence has been obtained from Natural Resources Wales (NRW).

You must adhere to the following: -

- All work must be undertaken according to the detail of the method statement and if required any EPS conservation licence conditions.

6705: Bat Survey

This technical note describes the minimum standard of work required to receive payments for 'Bat Survey'.

Background

Bats are small flying nocturnal mammals, which eat insects and use echolocation to forage for prey. There are 17 native species of bat resident in the UK, all of which are European Protected Species and, as such, are afforded full legal protection under the Wildlife and Countryside Act 1981 and the Habitat Regulations 2017 as amended. Bats are often a consideration in planning and development projects, since they use buildings and trees within which to roost and are vulnerable to development impacts. It is an offence to kill, injure, capture, or disturb bats, or to damage or destroy their roosting habitats (bats do not have to be in occupation at the time), although actions that are prohibited by the legislation can be made lawful by the granting of a licence by Natural Resources Wales.

You must adhere to the following:

- It is essential that a bat survey is undertaken before any work is carried out on any building, structure or tree where a bat may roost.
- The survey should be carried out by a suitably qualified consultant, licensed to undertake bat surveys by Natural Resources Wales (NRW).
- The survey must adhere to published best practice guidelines: [Bat Surveys for Professional Ecologists: Good Practice Guidelines 4th edition - Guidance for professionals - Bat Conservation Trust](#)
- A preliminary survey may be undertaken at any time of year and will help to inform the requirement for emergence surveys; these can only be undertaken between May and September. Planning ahead will help to prevent delays.
- A detailed report should be compiled by the consultant following completion of surveys. The report must also clearly reference the surveyors NRW licence number.
- If bats are found and will be impacted by your proposed works, a European Protected Species Development Licence may be required from NRW before any works may be undertaken. The consultant ecologist will advise you on this and will be able to apply for the required licence on your behalf. Once issued, you must comply with all licence conditions.

If the Capital Works item, listed below, is included in your Grant Award you must not commence work on them prior to the bat survey and European Protected Species

Development Licences being approved. If you do commence work on them without approval, you will not be paid for them, and penalties may be applied to your claim.

6706 Bird Nest Boxes

This technical note describes the minimum standard of work required in order to receive payments for 'Bird Boxes'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any significant variation must be approved by the Welsh Government.

You must adhere to the following: -

Making a Bird Box

Bird boxes are usually made of wood, but do not use treated timber as the leachates may harm birds; boards of about 2cm thickness give sufficient strength and insulation. Drainage holes in the bottom of the boxes are essential, and softwood boxes may be treated on the outside only, with water-based preservatives known to be safe to animals to prolong their life. Fit metal plates around the entrance holes of boxes for smaller species as protection against woodpeckers and squirrels. Care should be taken to shelter boxes from the prevailing wind, rain and strong sunlight. An entrance facing somewhere from north to east is best.

Nest boxes have the highest conservation value if used in a targeted way, for example to boost numbers of tree sparrow. You can search for records of bird species in your area using [Aderyn](#). Willow and marsh tits can be outcompeted by blue and great tits. For this reason, it is best to avoid placing boxes in woodland containing marsh or willow tits. You can search [Aderyn](#) for willow or marsh tit populations near you.

Monitoring the progress of the nesting attempts of the birds using your nest boxes is not only rewarding but can provide valuable information for conservation. More information about this can be found via the BTO's [Nest Record Scheme](#).

Boxes for Hole Nesters

These may be used by hole nesting species such as great tit, blue tit, coal tit, nuthatch, pied flycatcher, redstart, house sparrow and tree sparrow.

Construction

The basic box is made from rough-sawn plank 130cm long x 15cm wide x 2cm thick. Following the cutting diagram construction is relatively simple, the joints being held with screws or 5cm oval nails, but do not nail down the lid as it will need to be removed annually for cleaning. The

entrance hole should be positioned on the front, as it provides the entrance with more protection from the overhanging roof, and should be at least 125mm from the floor of the box.

The lid may be hinged with a rustless metal, plastic or rubber hinge (piece of old bicycle tyre) or held under a metal flange, in which case a suitable small retaining block should be fixed in the appropriate position on the underside of the roof. An entrance hole of 3cm diameter will suit most species:

- 25mm for blue, coal and great tits
- 28mm for great tits, tree sparrows and pied flycatchers
- 32mm for house sparrows and nuthatches
- 45mm for starlings

Siting of Boxes

For most of the species listed, boxes may be positioned at the heights of between 1.2 and 5m on either trees or buildings. Convenience for inspection (where necessary) should be carefully assessed, in the light of the need to protect boxes from human or predator interference.

Open Fronted Boxes

The design of the open-fronted nest box is suitable for both robin and pied wagtail and, when carefully sited, may be used by redstart, wren, grey wagtail and dipper.

Construction

The cutting diagram illustrates how this open fronted box can be made from a plank of 2cm thick rough-sawn timber, 120cm long x 15cm wide. Slightly larger open-fronted boxes with a floor area 17.5cm² and heights at the front of 22.5cm have been used with success to attract dippers. Grey wagtails will use similar boxes suitably situated.

- 10cm high front for robins and pied wagtails
- 14cm high front for wren
- 6cm front for spotted flycatcher

Siting

The positioning of open-fronted boxes requires some care. Robin and wren prefer boxes placed in concealed positions among vegetation on the side of tree trunks, garden walls and

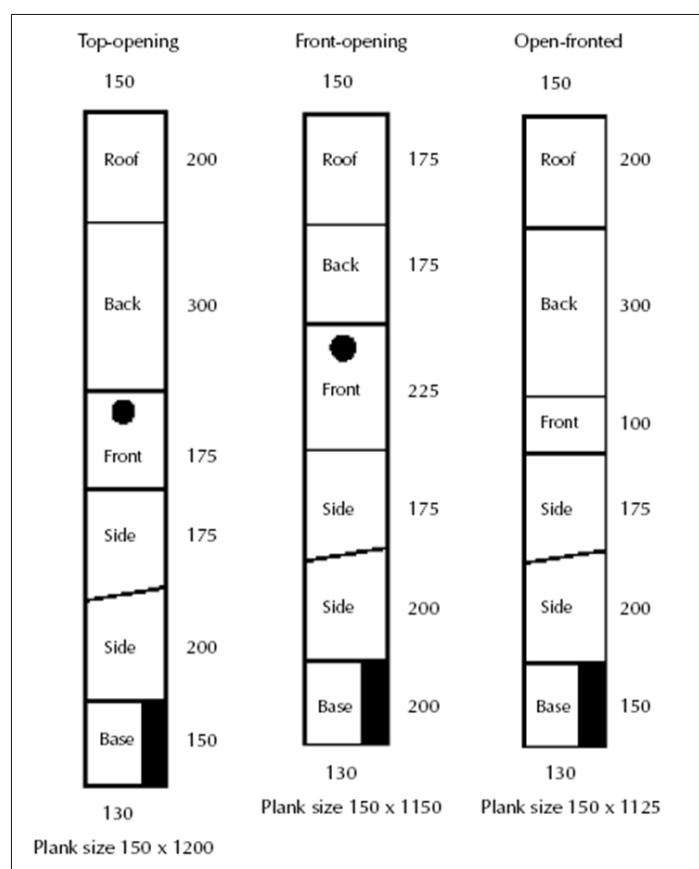
houses, but this may increase the vulnerability of the nest to predators. Pied wagtails will use open-fronted boxes in more exposed positions:

Requirements and guidance in addition to the specifications above:

Specialist Boxes

Modified designs are necessary to suit birds such as spotted flycatcher and treecreeper, as well as larger species such as woodpecker. Visit the RSPB website www.rspb.org.uk for more details.

Cutting diagrams for small boxes



Strap box to tree or use headless or domed aluminium nails (less damaging to saws and chipping machinery) which are not fully hammered home as this allows the tree to push the box off without splitting.

The above diagrams are reproduced by kind permission of the British Trust for Ornithology. Further details are available in BTO Guide No 23 'Nest boxes' by Chris de Feu.

Once the nest box is in use

- Once the box is being used by birds (or any other protected species!) it will be legally protected, and you must treat it as you would any other protected nest. Once in use, you should avoid damaging or destroying the nest box or disturbing the occupants.

6707 Create scrapes

This technical note describes the minimum standard of work required to receive payments for 'Scrapes'. Where there are local traditional methods or styles which vary from this standard these can be used, but any variation must be approved by your Field Support Officer.

A 'scrape' is a very shallow small pool with gently sloping edges which provides insect rich areas for species like breeding lapwing and their chicks, as well as other breeding waders. The water level will rise and fall according to the weather. The objective is to ensure there is an extensive area of mud and soft wet ground where the chicks can feed throughout the breeding season (until mid-July).

You must adhere to the following:

Scheduled Monuments. If you are undertaking this work within or on the boundary of a scheduled monument you must obtain scheduled monument consent from Cadw prior to undertaking the works or allowing someone else to carry out the works. Failure to obtain the necessary consent prior to undertaking the works is an offence under the Historic Environment Wales Act, 2023.

You can submit an application for scheduled monument consent online via:

[Application Form — Scheduled Monument Consent | Cadw](#)

If you require further information email: scheduledmonuments@gov.wales

You can find the location, extent and a description of all scheduled monuments in Wales at: [Search Cadw records | Cadw](#)

Registered Historic Parks and Gardens. If you are undertaking this work within or on the boundary of a Registered Historic Park and Garden, you must contact Heneb for advice prior to prior to undertaking the works or allowing someone else to carry out the works

If you require further information email: heritagemanagement@heneb.org.uk

You can find the location, extent and a description of all Registered Historic Parks and Gardens in Wales at: [Search Cadw records | Cadw](#)

Historic Environment Features. If you are undertaking this work within or on the boundary of a Historic Environment Feature you must contact Heneb for approval prior to prior to undertaking the works or allowing someone else to carry out the works

You can find the location and extent of all Historic Environment Features in Wales at: [Historic Environment Records \(HER\) - Heneb](#)

If you require further information or advice email: heritagemanagement@heneb.org.uk

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Subject to certain conditions a FRAP exemption may apply (where located within 8/16m of a main /tidal main river. [Exemption 25 GN 044 Technical Guidance: Flood risk activity exemptions ENG.](#)
- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent.](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Preparation and Timing

- The digging of the scrape should be completed by mid-March. Ideally the scrape should be dug in the previous autumn, to reduce compaction of the ground at the edges of the scrape by the digger and allow time for it to fill up and the bottom to become more impervious.

Location

- Scrapes should be sited in large, open, relatively level, low-lying fields, so their shape, size and location are in keeping with the landscape character. Fields over 3ha are best.
- They should be dug in natural depressions in known damp areas, in the part of the field which is naturally wettest.
- They should not be directly overlooked by trees or close to hedgerows, which provide perches or cover for potential predators.
- Locate scrapes at least 100m from field boundaries such as hedges and woodland and away from overhead lines, to help reduce predation risk.
- Free-draining soils are generally unsuitable, unless the water table is close to the surface or the water level can be controlled.

Design

- Water depths in the scrape are important. Edges should grade very gradually from the existing ground surface towards the centre. Aim for a maximum water depth in the winter of 50cm, with an average depth of about 25cm. In early spring the water level should be between 25 and 50cm in the central half of the scrape, and between 0-25 cm in the outer half of it.
- The slope edges must be very gentle (not more than 15°), with a twisting edge and uneven finish so chicks can easily range over them in search for food.



- Each scrape should be around 5m in diameter. Several small scrapes are better than one big one as this maximises the edges which are important features.
- The earth removed to create the scrape should be widely distributed and levelled around the scrape, any remaining piles of earth could act as a predator patch.

6708 Deer Fencing

These are the minimum standards of work required in order to be eligible to receive payments for 'Deer Fencing'.

You must adhere to the following:

- Fencing timber must comprise either hardwood produced from Welsh woodlands or pressure treated softwood.
- A minimum life of 10 years is required for all timbers used.
- Fencing timbers, line wire, netting and staples used to construct approved fence lines must always consist of new materials.
- All materials and construction standards must also conform to the following detailed ~~specification~~ in addition to British Standards 1722 and 4102.

Materials And Construction – Deer Fencing

- Strainer posts to be situated at change of direction (either horizontal or vertical) or maximum 200m (ca. 600ft) on straight run.
- Dug or driven a minimum 90cm (3ft) into the ground.
- The strainer struts to be notched and nailed to straining posts stabilised with a sawn rail thrust plate of 50cm x 38cm x 76cm (1ft 9" x 1½" x 3").
- Intermediate posts to be spaced at 5m (16ft 6") intervals maximum.
- The netting must be properly strained and fixed to give a maximum gap of 5cm (2") between the bottom of the net and the ground.
- A single top wire to be set 10cm (4") above the top of the netting.
- The line wires to be set such that the bottom strand runs along the bottom of the netting; the middle strand runs at a height of 1m (3ft 4") from ground level and the top strand to run along the top of the netting.
- All line wires to be fixed securely to the netting with pig rings or lashing rods.

Do not:

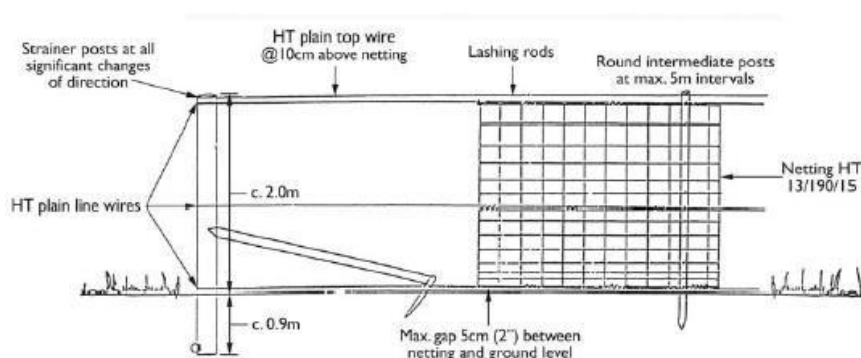
- Use trees and shrubs as strainers or fencing posts and nor may they be used to support fencing wire, staples or netting.

Requirements and guidance in addition to the specifications above:

- The standard payments include an allowance for the dismantling, removal and safe disposal of existing derelict fences.

Straining posts	3m x 15cm top diameter minimum	10ft x 6"
Struts	2.75m x 10-13cm top diameter round timber	9ft x 4-5"
Intermediate posts	2.75m x 8-10cm top diameter round timber	9ft x 3-4"
Netting	Either High Tensile type Or Light Weight High Tensile type	HT/13/190/15 LHT/13/190/15
Top wire	1 x 12 ½ g high tensile plain wire	
Line wire	3 x 12 ½ g high tensile plain wire	
Staples	4cm (1 ½ ") 8g	
Finished height	1.9m – 2m (6ft4" – 6ft 6")	

Diagram – Deer Fencing



If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

6709 Deer gate

This technical note describes the minimum standard of work required to receive payments for 'Deer gate'. Any variation must be approved by the Welsh Government prior to starting the work.

If any of the work claimed is found to have been carried out to a different standard, without the prior approval by Welsh Government, the project may be considered ineligible. This will result in claims being withheld (or recovered) with penalties applied in line with the scheme rules, unless work is assessed to have been delivered to an equivalent standard.

You must adhere to the following:

- Install gates that are at least 2.4m wide, but no more than 4.2m wide and a minimum 1.8m in height.
- Use gates constructed from hot-dip galvanised steel.
- Hanging and slamming posts should be either galvanised steel 100mm diameter or treated softwood or hardwood 200mm square.
- Set gateposts correctly into the ground, using concrete if necessary and fit with appropriate hangings and latches.
- This activity is excluded from needing a flood risk activity permit as long as it is not carried out in or within 100m of a main river that is classified high morphological status; [Natural Resources Wales / Flood risk activity exclusions](#).
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- Use hanging posts or shutting posts as straining posts for fencing. A short length of split timber should be used to form a horizontal strut between the gate post and adjacent straining post.
- Use secondhand material for constructing gates unless approved in advance.

6710 Ditch Casting

This technical note describes the minimum standard of work required to receive payments for 'Ditch Casting'. Where there are local traditional methods or styles which vary from this standard these can be used, but any variation must be approved by your Field Support Officer. Special and unique areas, such as the Gwent Levels, may well follow a different prescription and your Field Support Officer will advise on these accordingly.

Drainage channels can often be very diverse habitats hosting a range of water-loving plants and animals. Both the water depth and the profile of a drainage channel have a considerable influence on its wildlife value. The majority of aquatic plants are normally found in shallow water up to 1m in depth where they receive maximum sunlight.

You must adhere to the following:

- Cleaning operations should be carried out on one side of the ditch only, preferably the southern side where possible.
- Marginal shelves or berms should be incorporated wherever appropriate.
- Allow cleaned stretches to re-colonise before cleaning adjacent sections.
- Aim for a rotation of 1–10 years, depending upon vegetation growth.
- Ditch casting programmes should be combined with appropriate management of water levels through existing or new ditches. Seek advice from your Field Support Officer.

Do not:

- Carry out work during the period 1 September–28 February, in order to protect wildlife. Where there is over-wintering or breeding bird interest in adjacent fields the 'window' for such work may be more restrictive and your Field Support Officer will advise on procedures.

Requirements and guidance in addition to the specifications above:

- Your Field Support Officer can advise you on the establishment of a rotational ditch-cleaning programme. This will prevent a build up of excess sediment blocking the flow of water and impeding the drainage. It will also allow a range of different ditch profiles and water depths to develop across your land so providing maximum benefit for wildlife.
- The ideal ditch profile will incorporate a range of water depths. By retaining gently sloping sides or including a marginal shelf, it is possible to maintain good habitats at the same time as ensuring the drainage channel can function properly.

- Natural Resources Wales and/or the local Internal Drainage Board may be able to offer advice on suitable machinery and methods.

6711 Dormouse Nest Box

This technical note describes the minimum standard of work required to receive payments for 'Dormouse Nest Box'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any variation must be approved by the Welsh Government

You must adhere to the following:

Making a Dormouse Nest Box

Below are the details for a simple wooden nest box that has been known to work well. Timber used should be untreated:

- Drill drain holes in the base (4 x 4mm diameter)
- Attach side panels to base using 35mm screws
- Attach back panel using 35mm screws
- Drill entrance hole in front panel (28mm diameter)
- Attach two battens to the front panel, above and below the hole. Each batten should stick out 18mm (use 30mm screw to attach battens)
- Attach front panel (using 35mm screw)
- Cut or plane angle of the third batten to correspond to the angle of the roof (approx. 15°)
- Attach the third batten to the front of the roof (using 30mm screw)
- Cover the roof with piece of damp-course so that it overhangs the box by over 2.5cm on each edge (Extending the lifetime of the nest box)
- Fix one screw into the middle of each side (ensuring that they do not stick out into the inside of the box) as anchors to secure the lid.
- Wind the wire tightly around one screw and pass over the roof to hold it in place, winding the wire onto the second screw. Leave a long enough piece of wire to allow it to be unwound and rewound when monitoring in the field.

Siting of Boxes

Dormice will occupy the boxes during the summer, both to sleep and to breed. During the winter, the mice will hibernate at ground level or in burrows and crevices below the ground.

The boxes are attached by separate wires to hazel stems with the hole nearest the stem. The battens on the front, space the entrance hole from the stem, allowing the dormice to enter the boxes. The Field Support Officer will advise the appropriate positioning of the boxes within an area of suitable habitat.

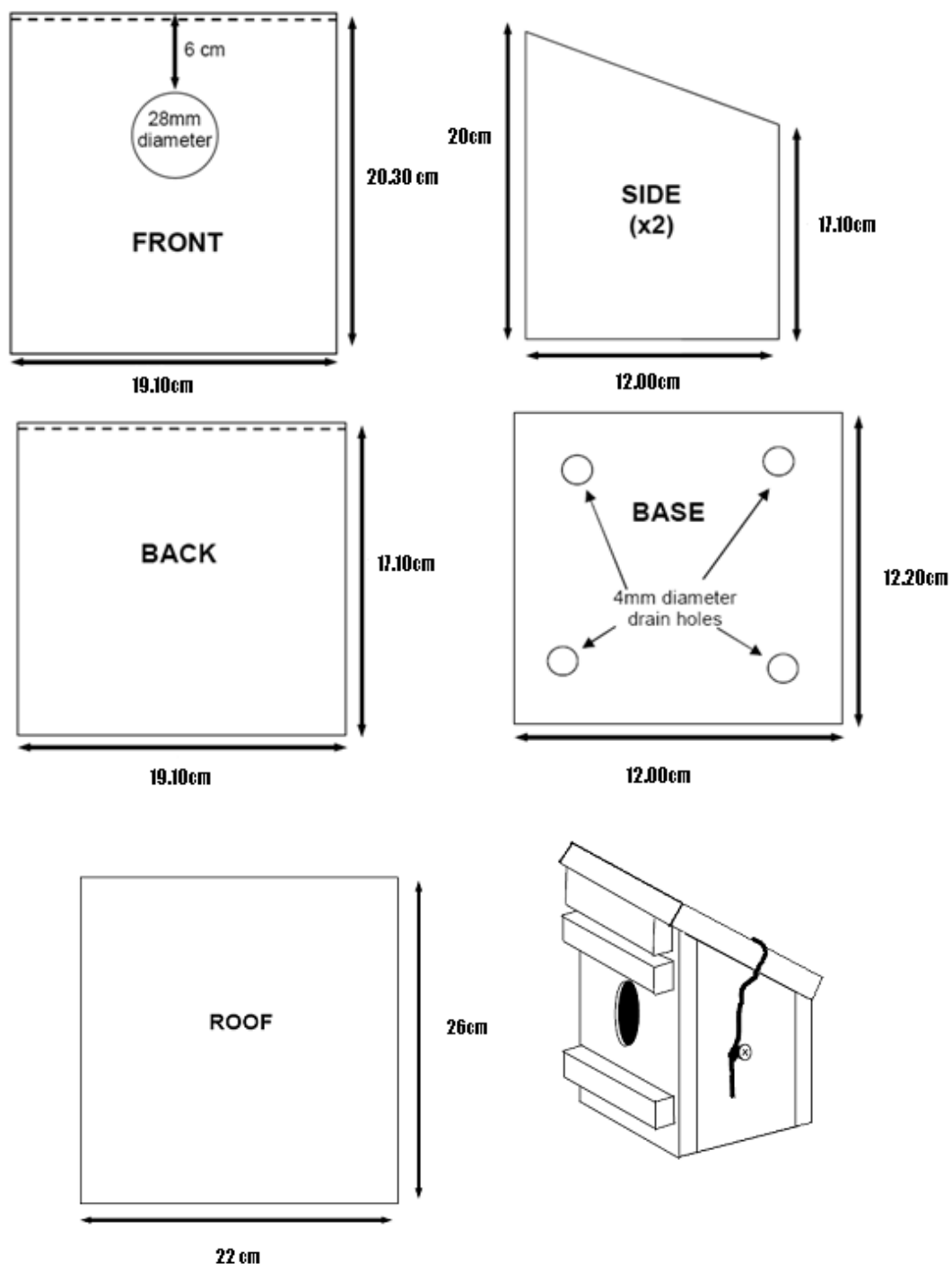
Legislation and Monitoring Boxes

The Dormouse is strictly protected under the Wildlife and Countryside Act 1981 (as amended), and the Conservation (Natural Habitats &c.) Regulations 1994 (as amended).

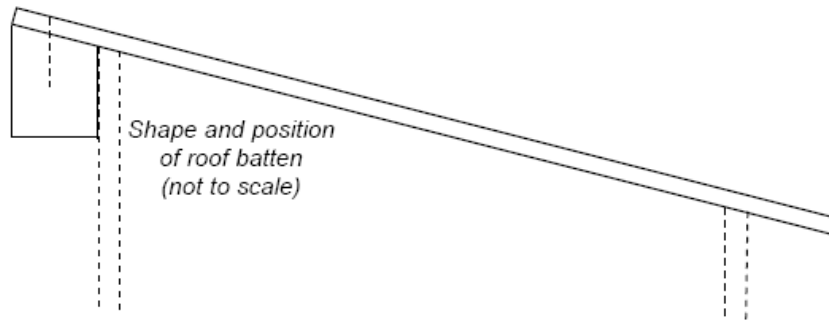
Dormouse nestboxes can be used for monitoring population numbers, providing valuable data. Contact the People's Trust for Endangered Species if you wish to include your nestboxes in the [National Dormouse Monitoring Programme \(NDMP\)](#).

Maintenance of nestboxes can be undertaken during winter when dormice are less likely to be present. It is worth removing any old nesting material, including bird's nests. Dormouse nests have a distinctive structure: [Hazel dormouse ecology - People's Trust for Endangered Species](#)

Diagrams for Dormouse Nest boxes



All panels are made of 2.54cm (1") thick wood
 3 x battens = 18mm x 25mm x 120 mm long
 Wire for roof = Medium Garden wire (Green Coated)



Once the nest box is in use

- Once the box is being used by Dormice (or any other protected species) it will be legally protected and you must treat it as you would any other protected nest. Once in use, you must not damage or destroy the nest box or disturb the occupants. Look for signs around the boxes and check out of breeding season for signs it has been used.

6712 Dry Stone Wall Restoration: Importing Stone

Subject to approval, a payment can be claimed to import stone to restore stone walls where original stones are no longer present or usable. The payment will be based on each metre square of wall that has been restored using imported stone. An invoice or proof of purchase should be kept for inspection. Farm sourced stone is not eligible for a payment.

You must adhere to the following:

- Local stone should be used wherever possible, but do not 'raid' stone from inappropriate places, such as historical landscape features, ruins or other walls.
 - The imported stone should be of local provenance and should closely match the type of stones found in nearby walls.
- Follow the 'dry stone walling' specification

6713 Enhanced In Ditch Wetland

This technical note describes the minimum standard of work required to receive payments for 'Enhanced In Ditch Wetland'. Any variation must be approved by the Welsh Government prior to starting the work.

In-ditch wetlands are ditches that have been widened to create a broader, shallower wetland area. They are designed so the shape and vegetation slows the flow of water, to increase sediment deposition from field surface runoff, field drains and ditches.

The purpose of an in-ditch wetland is to:

- Improve water quality: In-ditch wetlands trap sediment carried in runoff from fields and farmland, which could otherwise adversely impact rivers and lakes downstream.
- Reduce flooding: In-ditch wetlands slow the flow of water by providing valuable space where runoff can disperse, providing storage for floodwater which helps reduce flooding downstream.
- Create a wildlife habitat: In-ditch wetlands provide additional positive benefits to the nature conservation (nesting habitat for wetland birds in particular reed buntings, reed, sedge and Cetti's warbler) and landscape value at the farm scale.

You must adhere to the following:

- Choose a location within existing man-made field ditches with a low gradient, where the land on either side is within your control. These tend not to have continuous flow year round and are also known as Stage 1 ditches. The diagram below shows a typical ditch network.
- Widen the chosen area to a minimum of 10m in length and to a maximum of 3m wide and flatten the bed.
- Create a soil bund with a pipe at the lower end of the ditch to act as an outflow. The bund should be made wider than the ditch. The top should be level and at least 50cm above the intended water line. The bund should have slightly sloping sides.
- Insert one or two pipes within the bund to act as an outflow. The pipes should be between 8 –10" in diameter, and located 30cm (12") below the top of the bund.
- Extend the pipe beyond the bund base on the downstream side of the bund to prevent the outflow eroding the bund.

Do not:

- Locate in-ditch wetlands on natural watercourses.
- Damage other habitats, such as reed beds, to create in-ditch wetlands.

- Create this action from 1 March to 31 August.

Requirements and guidance in addition to the specifications above:

Ensure that you have the relevant permissions

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife.

[Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife.

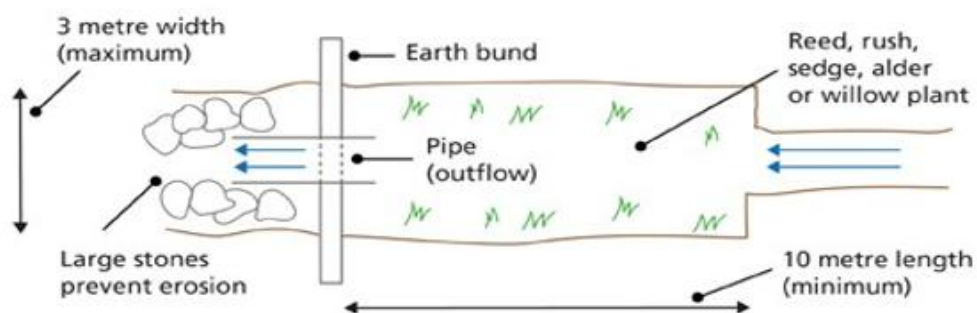
[Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer "yes" to any of the checklist questions, you should apply for an impoundment licence. If you answer "no" to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).
- Ensure you have the appropriate Ordinary Water Course Consent if you are carrying

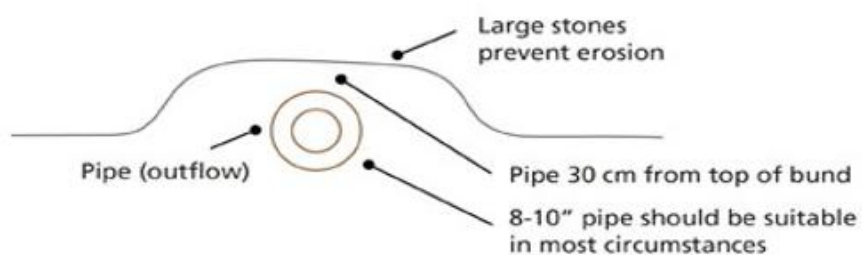
out works near an ordinary watercourse. What may be considered a ditch may be an ordinary watercourse, so consent may be required

- **Any permits/consents (or confirmation that a permit/consent is not needed) should be retained and made available on request.**
- This action must not be used on natural watercourses
- Carry out this activity when ground conditions are as dry as possible from September to February. Temporarily bund the water flow into this area if needed, which will improve access for excavating.
- Spread the excavated material thinly over the top of the banks so as to prevent weeds, such as common nettle, creeping thistle, etc., from dominating. Ensure the silt cannot run straight back into the in-ditch wetland. A relevant waste exemption will need to be registered with NRW.
[Natural Resources Wales / Register or renew your waste exemptions.](#)
- When constructing the bund, remove topsoil and scarify the subsoil to improve the seal between the dam and the ground surface. Build the bund slowly in layers 15cm thick and compact each layer in turn.
- Take care during completion of the activity to ensure no sediment laden water is allowed to escape the in ditch wetland.
- Once trees establish, coppice willow and alder species every 3-5 years. Reed, rush and sedges plants should be cut every other year to prevent them from dominating the wetland. Cut in early spring before bird nesting to provide maximum roosting cover in the winter.
- This activity should be sited and managed to ensure no risk of flooding results.

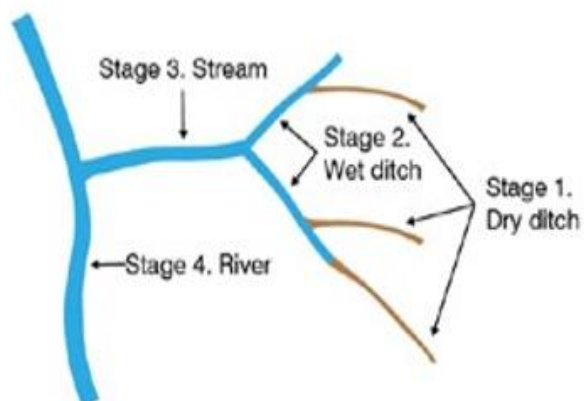
In-ditch wetland (aerial view)



In-ditch wetland (x-sectional view of earth bund)



Watercourse stages





6714 Flexi Pipe Sluices

This technical note describes the minimum standard of work required in order to receive payments for 'Flexi Pipe Sluices'. Where there are local traditional methods and styles which vary from this standard, these can be used, but any significant variation must be approved by your Field Support Officer.

Payments are available for creating soil bunds or dams and for installing flexi pipe sluices in existing grasslands, fens, swamps and reed beds, as well as when creating new wetland areas. A bund or embankment will maintain the water table at a higher level than that to which it would naturally drain.

You must adhere to the following:

- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer "yes" to any of the checklist questions, you should apply for an impoundment licence. If you answer "no" to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).
- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife.

[Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

Requirements and guidance in addition to the specifications above:

The most suitable type of bunds or sluices for your location will depend upon a number of factors:

- The level of precision that is required in controlling water levels.
- The range of water depths required.
- The labour you have available to operate and maintain the structures.
- The likely extent of seasonal and other variations in water flow.
- Susceptibility of the structures to vandalism.
- Susceptibility of the structures to blockage from debris and plant growth.

Soil Bunds / Earth Dams

General principles to be used when building bunds or earth dams:

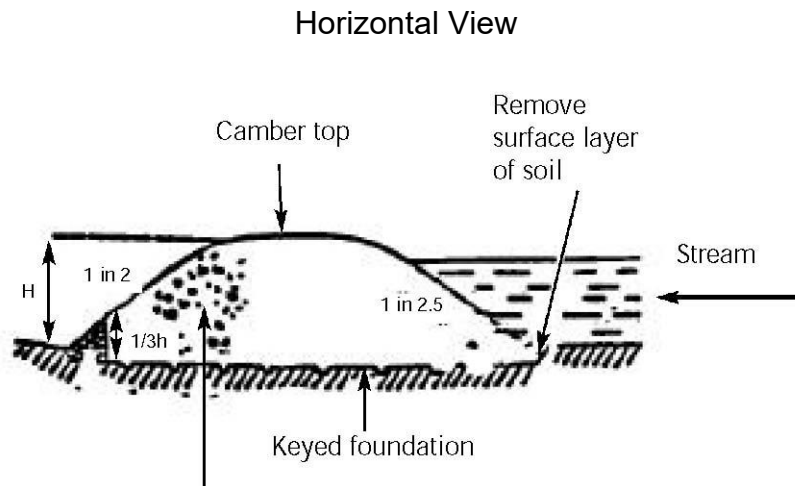
- Construct when water levels will be low.
- Use temporary dams to block existing drainage channels and pump dry before construction.
- Temporary dams can be made from double rows of sandbags or wooden boards with a clay infill.
- Remove topsoil and scarify the subsoil to improve the seal between the dam and the ground surface.
- Build the bund up slowly in layers 150cm thick and compact each layer in turn.
- Allow extra material to compensate for settling out (10% when using machinery and 20% if compacting by trampling).
- Topsoil can be replaced above the normal water level and sown with grass to stabilise the surface and discourage deeper rooting weeds. Locally sourced creeping bent and rough meadow grass are ideal.
- Bund construction is easier in areas with loamy or clay soils. Clay or silt bunds can be used effectively across drainage channels up to 5m wide. The use of peat for bund construction should be avoided. Field Support Officer approval should be obtained before peat is used. Peat can hold back water if well compacted, but the effective width may be less than 5m. In general, the base of the bund should be at least 5 times as wide as its height. The top should be level and at least 50cm above the intended water line.

Flexi pipe Sluices

- Flexi pipe sluices consist of a flexible ribbed plastic pipe about 35–50cm in diameter. This is incorporated into an earth bund and by raising or lowering each end of the pipe with a rope; the water level can be controlled, as shown in
- Figure (2). A sluice will provide an opportunity to vary the water level as needed.

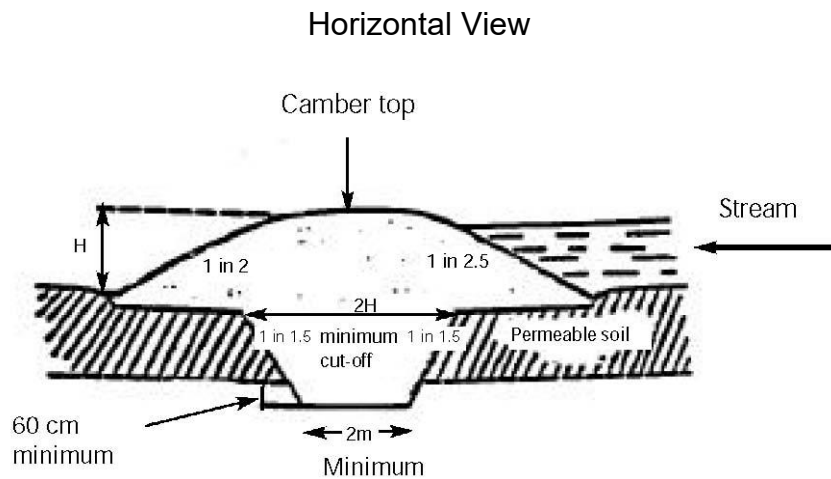
Figure 1. Soil Bund or Earth Dam

a) Dam on impermeable soil



Place any coarse material in downstream section

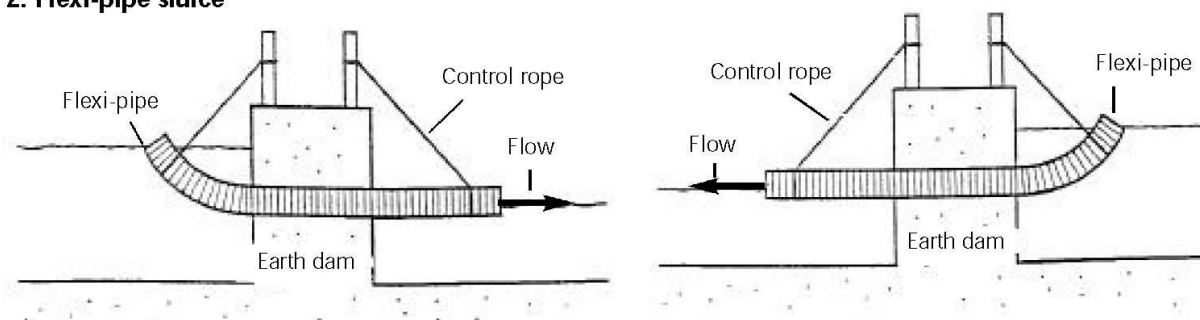
b) Dam on permeable soil



Impermeable subsoil with at least 20% clay content

Figure 2. Earth bund with flexi pipe sluice tied with a rope

2. Flexi-pipe sluice



Diagrams © British Trust for Conservation Volunteers

6717 Geojute Matting

This technical note describes the minimum standard of work required to receive payments for 'Geojute Matting'. Where there are local traditional methods or styles which vary from this standard these can be used, but any variation must be approved by a Field Support Officer

Geojute matting is an erosion fabric made of natural fibre. The matting provides shade, insulation against temperature extremes and maintenance of humidity, whilst not inhibiting plant growth. Over time, the cellulose fibres become incorporated into the soil as the material decomposes, improving long-term resistance to erosion. The fabric absorbs a considerable amount of water, which also lessens initial run-off and provides moisture reserve for plant growth.

This capital works item can only be considered if there is significant erosion in the area. The environmental benefit of the geojute matting must be coupled with grip blocking work within the water catchment of the eroded area (if located on peat). This will reduce the pressure on the eroded area and extend the lifetime of the geojute matting.

Geojute matting can also be used to repair historic features such as hill forts where the sides have been eroded and soil is exposed.

You must adhere to the following:

- Dig a small trench across the top of the slope where you will install the rolls of Jute matting. The trench acts as an anchor for the matting. Dig the trench approximately 30cm wide by 30cm deep the full width of the slope. Install the roll of erosion control fabric in the trench you've just dug. Place at least 40cm of matting above the trench extending up the hill. Install anchoring staples through the matting and into the bottom of the trench. The staples should be placed horizontally in the trench no more than 30cm apart. If the soil is loose make sure the anchors are long enough to install deeper in the trench.
- Reinstate the soil back on top of the geojute matting and make sure it's compacted to help hold the matting. Bring the 40cm of matting above the trench down over the trench and install more stakes and staples, 30cm apart, across the length of the fabric.
- Unroll the remaining geojute matting over the slope. Dig another anchor trench beyond the foot of the slope to anchor the tail of the Jute matting.
- If you need more than one roll, install with an overlap of at least 10cm, overlap wherever the geojute matting ends and another begins, whether horizontally or vertically. Overlap all seams as well.
- Install staples and stakes at every seam as this will help decrease the weight and pull on the geojute matting.

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

▪ **Scheduled Monuments.**

If you are undertaking this work within or on the boundary of a scheduled monument you must obtain scheduled monument consent from Cadw prior to undertaking the works or allowing someone else to carry out the works. Failure to obtain the necessary consent prior to undertaking the works is an offence under the Historic Environment Wales Act, 2023.

You can submit an application for scheduled monument consent online via:

[Application Form — Scheduled Monument Consent | Cadw](#)

If you require further information email: scheduledmonuments@gov.wales

You can find the location, extent and a description of all scheduled monuments in Wales at: [Search Cadw records | Cadw](#)

Registered Historic Parks and Gardens.

If you are undertaking this work within or on the boundary of a Registered Historic Park and Garden, you must contact Heneb for advice prior to prior to undertaking the works or allowing someone else to carry out the works

If you require further information email: heritagemanagement@heneb.org.uk

You can find the location, extent and a description of all Registered Historic Parks and Gardens in Wales at: [Search Cadw records | Cadw](#)

Historic Environment Features.

If you are undertaking this work within or on the boundary of a Historic Environment Feature you must contact Heneb for approval prior to prior to undertaking the works or allowing someone else to carry out the works

You can find the location and extent of all Historic Environment Features in Wales at: [Historic Environment Records \(HER\) - Heneb](#)

If you require further information or advice email: heritagemanagement@heneb.org.uk

- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Requirements and guidance in addition to the specifications above:

- Additional information and guidance can be found in UKFS Guidelines: general Forestry Practice 2, Forests and Historic Environment 1-30

6718 Geotextiles

This technical note describes the minimum standard of work required to receive payments for 'Geotextiles for Paths'. Where there are local traditional methods or styles which vary from this standard these can be used, but any variation must be approved by a Field Support Officer.

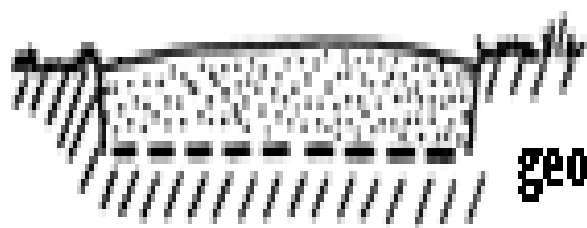
Geotextiles are synthetic membranes which are strong and porous fabrics which can be useful in creating a sub-base material. They work on the principle that they act as a barrier and prevent the surfacing materials above mixing with the weak sub-grade below.

In footpath work, geotextiles have been used for many years for supporting aggregate paths on soft ground. An aggregate path laid directly on soft ground will soon fail as the stone gets 'punched' into the sub-grade and fine material from the sub-grade is 'pumped' upwards by the action of walkers. The geotextile keeps the layers separate and by keeping the aggregate together, gives structural strength to the path. Geotextiles have the advantage over other types of sub-base of being light to handle and easy to install.

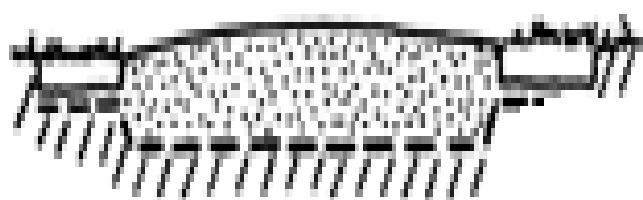
This capital works item should only be considered on sites with gentle gradients over damp mineral soils or shallow peat. It should not be used on upland paths that are susceptible to erosion.

You must adhere to the following:

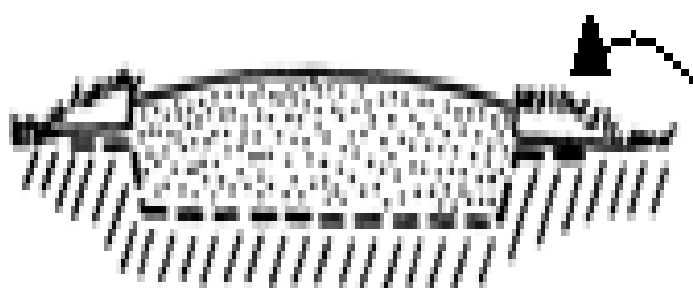
- Excavate the path to the required depth (please see technical notes for specific path requirements), removing any large stones which may distort the geotextile and making as level a bed as possible. This excavation is called the path tray.
- Lay the geotextile either only across the base of the tray, or with the edges part way up the sides and covered with turf, as shown below. For upland areas where vegetation growth is slow, it is not recommended to bring the edges up to the surface to fully contain the aggregate, as even if then covered with turf the edge of the fabric is likely to become exposed. In most situations there is little problem with aggregate moving 'sideways' into the soil, and geotextile laid only on the base of the path tray is sufficient.
- If you need more than one roll, install with an overlap of at least 30cm, overlap wherever the matting ends and another begins.
- Geotextiles should be stored out of sunlight and unprotected geotextile should never be driven over by a vehicle. Aggregate is tipped by dumper, barrow or from a helicopter hopper, spread by grader or rake and compacted with a vibrating roller or plate. Please see relevant technical notes for what is expected as depth of base course and wearing course layers.



geotextile on tray base



geotextile part-way
up sides of tray



liable to erode in
uplands

Requirements and guidance in addition to the specifications above:

- Geotextiles should be stored out of sunlight and unprotected geotextile should never be driven over by a vehicle.
- Aggregate is tipped by dumper, barrow or from a helicopter hopper, spread by grader or rake and compacted with a vibrating roller or plate. Please see relevant technical notes for what is expected as depth of base course and wearing course layers.

Scheduled Monuments. If you are undertaking this work within or on the boundary of a scheduled monument you must obtain scheduled monument consent from Cadw prior to undertaking the works or allowing someone else to carry out the works. Failure to obtain the necessary consent prior to undertaking the works is an offence under the Historic Environment Wales Act, 2023.

You can submit an application for scheduled monument consent online via:

[Application Form — Scheduled Monument Consent | Cadw](#)

If you require further information email: scheduledmonuments@gov.wales

You can find the location, extent and a description of all scheduled monuments in Wales at: [Search Cadw records | Cadw](#)

Registered Historic Parks and Gardens. If you are undertaking this work within or on the boundary of a Registered Historic Park and Garden, you must contact Heneb for advice prior to undertaking the works or allowing someone else to carry out the works

If you require further information email: heritagemanagement@heneb.org.uk

You can find the location, extent and a description of all Registered Historic Parks and Gardens in Wales at: [Search Cadw records | Cadw](#)

Historic Environment Features. If you are undertaking this work within or on the boundary of a Historic Environment Feature you must contact Heneb for approval prior to undertaking the works or allowing someone else to carry out the works

You can find the location and extent of all Historic Environment Features in Wales at: [Historic Environment Records \(HER\) - Heneb](#)

If you require further information or advice email: heritagemanagement@heneb.org.uk

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

6719 Green Hay

This technical note describes the minimum standard of work required to receive payments for 'Green Hay'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government.

The Field Support Officer will identify areas where green hay introduction could be beneficial and indicate the target community to be restored.

This technique can be used where species-rich grasslands (donor site) is within a 2 hours maximum from the site being restored (receptor site).

You must adhere to the following:

Preparation of Receptor Site

- The aim is to create gaps in the sward to allow seeds to germinate and establish free from competition. The site should have a short sward through cutting or grazing, with at least 50% bare ground created through livestock or
- power harrowing, standard harrow or discing.
- The receptor site must be suitably prepared so that it is ready when the hay is cut (by late July to early August).

Grazing with Heavy Animals

- Cattle are effective in creating gaps as their hooves break up the sward easily.

Donor Site Selection

- The donor site should be similar in characteristics to the receptor site, for example soil type, soil pH and hydrology. More species-rich donor sites should, ultimately, give better results.
- Important factors to consider include a weed free site and one which includes a number of preferred species. It is good practice to take off no more than about half of a site's grass/herbage,

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Preparation of Donor Site

- All operations should be carried out the same day, although the mown grass can be left in situ for one day (before picking up) to reduce the weight and bulk. This may lead to some loss of yellow rattle and other species which are very ripe at the time of harvest.
- Mow the hay when the main grasses, such as red fescue and 'crested dog's-tail' hold ripe seed, and the 'yellow rattle' seed is still on the plants (July to early August).

Suggested method:

- Use a mower without a conditioner to mow the grass.
- Rake the mown grass into lines / swathes.
- Pick up the grass with a Forage Harvester and transfer into a Rear Discharge Muck Spreader which will make it easy to spread at the receptor site. A flail spreader can be used also.
- Alternatively, pick up the grass and make up to six round bales at a time.
- Load the bales on to the trailer and cart them to the receptor site.
- Load each bale into a straw chopper; chop and spread the chopped grass across the field at a ratio of at least 1:3 (for every hectare mown on the donor site, spread over no more than three hectares on the receptor site).
- If the hay is not chopped it must be spread thinly and not left in heaps on the receptor site.
- This technique can be scaled down for small sites, using standard machinery that is available on the farm, or done by hand. Pedestrian machinery e.g. mini-baler, brush-cutter or petrol lawn mower, can be used for harvesting green hay.
- Soon after hay spreading, introduce light grazing or light rolling to help 'bed in' the seed. The sward should be kept short in the weeks following spreading so that light can aid germination.

Do not:

- leave the hay in the bales to stand for more than one hour to prevent the bales from heating up and the seed from deteriorating.

6720 Grip Blocking

This technical note describes the minimum standard of work required to receive payments for 'Grip Blocking'. Where there are local traditional methods or styles which vary from this standard these can be used, but any variation must be approved by your Field Support Officer.

Grip blocking, using peat dams, is a simple and effective method in reducing peat land drainage. Holding back water in the grip encourages the silting up process which can become rapidly colonised by sphagnum moss and other plant species. Payment can be made towards grip blocking where an agreed management plan has been drawn up with your Field Support Officer.

You must adhere to the following:

- The process involves an excavator with low impact tracks creating dams from peat within the grip or from an area adjacent to the grip (Borrow pit).
- Before the dam is built, the vegetation should be removed in thick 'turfs' from the edges of the grip and replaced on top at the end. This prevents bare peat from being exposed and eroding.
- Borrow pit vegetation should also be removed and reinstated in the same manner. If a borrow pit is used, the vegetation taken from the grip edges should be placed onto the borrow pit and the vegetation from the borrow pit be placed onto the top of the dam.
- Prior to the dam construction a short (2m) section of the grip should be dug out and re-profiled, to ensure a sound plug of peat is formed, and the bottom of the drain is exposed (see diagram).
- This peat should be 'churned up' and then smoothed to create the face of the dam.
- The peat dams should be formed using peat extracted from the grip itself, upstream from the proposed dam or from a borrow pit to the side of the drain and then compacted into the grip. The grip above the dam should be re-profiled by pressing in the sides with the excavator bucket to give a shallow sloping edge.
- Dams should be installed at regular intervals with those intervals reduced on slopes. The crest height of the dam and the water held back by it, should be above the base of the nearest up-slope dam. This is to ensure the base is not exposed to drying out which may cause the dam to fail.
- In general, the dams should not be more than 10m apart on any slope to avoid the possibility of them failing. On very steep slopes the grip should be fully blocked or in specific cases left alone. Your Field Support Officer will state this in the management plan.
- The height of the dam should be slightly raised to exceed the height of the grip to prevent the water over spilling the dam, as over time the dam will settle.
- Water should be encouraged to seep out of the sides of the grip rather than around the dam and back into the grip.

- Care must be taken to minimise the hazards, impacts and disturbance to livestock and wildlife whilst carrying out the work.
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer "yes" to any of the checklist questions, you should apply for an impoundment licence. If you answer "no" to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).

Do not:

- Take peat from undisturbed areas of moorland.
- Undertake grip blocking in the summer to protect nesting birds.

Heather Bales

Bales of heather can be incorporated into peat dams to give extra strength, or inserted into grips between dams to fully block them. Bales on their own do not provide good dams. However, this option can only be considered if the area surrounding the grip is appropriate for heather bailing.

You must adhere to the following:

- Use of machinery should be carried out in a sensitive and considered manner to reduce the amount of compaction and rutting of the peat (i.e. mow at the highest setting and avoid sphagnum hummocks or lawns).
- Mowing for heather bales should take place on the dry heath near to the blanket bog areas. Your Field Support Officer will include any area of heather bailing within your management plan.

Do not:

- Use woody brash material in peat dams
- Use invasive plant material, such as Rhododendron.
- Use material which may be contaminated with invasive plant material.

6723 Hard Surfacing

This technical note describes the minimum standard of work required to receive payments for 'Hard Surfacing'. Where there are local traditional methods or styles that vary from this standard these can be used, but any variation must be approved by the Welsh Government

Payments are available for hard surfacing where it is necessary to provide:

- A feeding pad on improved grassland, positioned in such a way as to help conserve archaeological features or habitats which might be affected by existing practice.
- A hard standing in a gateway or around a water trough positioned in such a way as to prevent sedimentation of adjacent watercourses.
- A car parking area for a permissive access feature.

You must adhere to the following:

Hard Surfacing of Feeding Pads

Feeding Pads should be constructed in three stages:

- Formation of profile
- Base course
- Wearing course

Side ditches may be formed during the execution of the work where required.

Dimensions must be at least 20 square metres with a minimum width of 2.5m.

Formation of Profile

The ground should be excavated to remove all vegetation and soil to a depth of no less than 15cm or down to a naturally occurring hard surface whichever is less. Spoil may be spread on the verges of the pad provided you have prior permission from your Field support officer

Soft pockets in the profile should be dug out, drained and filled with well compacted hardcore. The profile should be trimmed to the required dimensions before being compacted

Different types of ground have different load bearing capacities. Hard Surfacing should not be located on deep peat. The following table gives an indication of the depth of stone needed to form a profile on these different soil types.

Type of Ground	Depth of Stone	Comments
Firm Shade	No need for stone, self metalling	As shale cam wash out easily avoid steep gradients
Brown Earth and Weaker Shales	20-30cm	
Thick Clay	30-45cm the clay with	After formation 'blind' or cover fine stone before adding coarser stone for strength

Base Course

The base course should be no less than 15cm thick and should be constructed in layers each of which should not exceed 12.5cm thick after compaction. The stated thickness corresponds to the average depth of compacted hardcore including blinding. (Hardcore is classified as 'MOT Type 1' and ranges from 37mm diameter down to dust.)

The surface of the base course should fall to one or both sides of the hard standing or car park. The recommended fall or camber is 1 in 25.

Wearing Course

The surface of the base course should be covered with a wearing course of mixed hardcore binding material and should be well compacted. The components of the wearing surface are classified as 'MOT Type 2' and range from 18mm diameter down to dust. The compacted depth of the finished wearing course should be no less than 2.5cm and no more than 5cm.

Car Parks

Construction, as for hard surfacing for feeding pads constructed of broken stone, but increase the depth of the base course to 30cm, laid in layers of not more than 15cm.

Additional Notes

The width of hard surfacing is measured across the top of the wearing surface and not the width of the base course.

A heavy road roller or vibrating roller should be used to give adequate compaction.

Lay stone to a minimum depth of 200mm across the gateway and approach to create a flat even hardcore pad.

Repair any damage or excessive wear such as that caused by harvesting or natural events to area of hardcore immediately.

Do not:

Use coated tarmacadam, asphalt or other bituminous surface or concrete.

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal drainage district, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#).

6724 Heather Management: Burning

This technical note describes the minimum standard of work required to receive payments for 'Heather Management: Burning'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer

Fire has been used by land managers for many thousands of years. Carefully planned, controlled burning can be a valuable habitat management tool. However, irresponsible burning is a dangerous activity and can cause injury and damage to people, property and the environment. Over frequent burning and burning of sensitive habitats can cause harm to the vegetation and its associated wildlife.

Controlled burning should primarily be used as a management tool on areas of dry heath dominated by common heather, '*Calluna vulgaris*'. In the lowlands, heathlands with a good mixture of common heather, bell heather and western gorse can also be burnt. Highly degraded areas of dry heath should only be burnt as part of a restoration plan.

You must adhere to the following:

- Agree on areas to burn with a Field Support Officer.
- Agree the rotation length with a Field Support Officer.
- Agree an appropriate grazing regime for areas that have been burned with a Field Support Officer.
- Burn when the heather reaches 20-30cm in height
- Ensure you comply with the Heather and Grass Burning Regulations 2008.
- Keep to the rules outlined in the 'Heather and Grass Burning Code for Wales' booklet, and complete the 'Burning Management Plan for Wales' section.
- a proportion of the vegetation should be retained uncut or unburned to develop into taller and older heather where the branches open out and allow more light into the canopy and layering occurs.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Burning is only allowed between:

- **1st October – 31st March** in upland areas
- **1st November – 15th March** in the lowlands

Do not:

- burn the same piece of vegetation more than once in five years
- burn in the following areas:

- **Woodland, woodland edges and scrub**

Broadleaved and coniferous woodlands, scrub and small trees such as birch, ash, hawthorn and willow, are valuable habitats. Fire is not an appropriate management tool for woodland and scrub and the spread of fires into these habitats is likely to be very damaging, especially if juniper is present as it will not re-sprout after burning.

- **Bog, fen and wet heathlands**

Blanket bog occurs where peat develops over large, relatively flat expanses of the uplands, effectively blanketing them with peat. Wet heath, raised bogs and fens occur in the uplands and lowlands. Wet heath develops where drainage is impeded often on shallow peat. Fens and bogs often develop in waterlogged valley bottoms.

Springs, flushes and pools often occur within other more extensive habitats in both the uplands and lowlands. They often contain specialist mosses, higher plants, invertebrates and amphibians, which are especially sensitive to burning.

- **Coastal heathland**

The thin soils can be damaged, and the heath may be very slow to regenerate in the exposed maritime conditions.

- **Areas where there is soil erosion**

Soil erosion can occur naturally but is most commonly associated with human activities in the uplands and lowlands. Common examples in the uplands are peat hags and erosion gullies. Burning into peat may ignite the peat, creating a high risk of a wildfire.

- **Areas where the soil is very thin**

These are defined in the 'Heather and Grass Burning Code' as having "less than 5cm (2in) of soil over underlying rock". They occur throughout the uplands, lowlands and on the coast, both naturally and where human activities have caused extensive soil erosion. They are often easily identified by the presence of protruding bedrock. On

the coast maritime heath is particularly sensitive to burning. Conditions are frequently too dry for burning as the soil drains very quickly.

- **Steep hillsides and gullies**

These areas are defined as slopes with a gradient of 1 in 2 or less. Fires take longer to spread on steep slopes, resulting in a hot and slow fire that damages the moss layer and impedes regeneration and may be at greater risk of erosion. They are also difficult to control and can widen as they progress uphill.

Gullies are a common feature of upland Wales. They can act like a chimney, greatly increasing the intensity and rate of spread of a fire.

- **Areas within 10m of watercourses**

A range of natural (e.g. streams) and artificial (e.g. grips) watercourses occur throughout the uplands and on lowland heathlands and grasslands. Burning should stop within 10m of the watercourse to ensure the bankside vegetation remains intact, creating a wildlife corridor and a 'buffer' for surface runoff

- **Sensitive Species**

There are some very scarce species-rich dry heath areas which are vulnerable to burning. These habitats identified by thick mats of wine-red mosses along with a diversity of fern, heath and lower plants Areas containing juniper should also not be burnt

- **Areas with rock outcrops and boulders**

Controlled burning programmes must ensure that areas of rock outcrops, boulders and scree are not within burn areas.

Further information

For further guidance, information leaflets and booklets are available from:

Natural Resources Wales www.naturalresourceswales.gov.uk

The Heather and Grass Burning Code for Wales
<https://www.gov.wales/sites/default/files/publications/2018-01/heather-and-grass-burning-code.pdf>

UKFS Guidelines

The RSPB www.rspb.org.uk

6725 Heather Management: Cutting

This technical note describes the minimum standard of work required to receive payments for 'Heather Management: Cutting' Where there are local traditional methods or styles that vary from this standard these may be used, but any variation must be approved by the Welsh Government.

Heather Cutting

Cutting can be used as an alternative to burning on all areas where burning would normally be permitted. Cutting may be a preferable management tool on sites where burning should not be undertaken, where fire is difficult to control, or where land managers are unable to comply with burning guidelines. However, changing from burning to cutting may have implications for the composition of the vegetation. Heather cutting should only be considered on blanket bog where heather cover is very high (>85%) with suppressed hare's tail cotton grass

You must adhere to the following:

Cutting is only allowed between:

- **1 October – 31 March** in upland areas
- **1 November – 15 March** elsewhere

Agree a five year vegetation cutting management plan with your Field support officer in accordance with the following rules:

- Cut patches between 0.25 and 1ha.
- Cut to height of not less than 5cm and not more than 10cm tall.
- Cut to encourage the regeneration of a diversity of dwarf-shrub heaths so that within 5 years the cut area contains at least 2 of the following; common heather, bell heather, bilberry, cowberry, crowberry or cross-leaved heath.
- Avoid cutting the same piece of vegetation more than once in five years
- Avoid cutting short heath vegetation (<10cm) or heath on thin soils (<5cm deep) or on steep slopes (1 in 2 or less), or where there is more than 50% rock or scree.
- Avoid cutting sites where juniper has been recorded.
- A proportion of the vegetation should be retained uncut or unburned to develop into taller and older heather where the branches open out and allow more light into the canopy and layering occurs.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the

activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- cut more than a third of the heathland vegetation in the five year period
- allow cutting to encourage the spread of acid grassland or bracken.
- allow cutting to increase the cover of western gorse above 50%
- cut areas of exposed, suppressed maritime heath close to the sea.

Requirements and guidance in addition to the specifications above:

Consent will only be given where the following conditions are met;

- cutting management does not conflict with any strategic objectives for the site
- a long-term cutting programme has been agreed with the landowner or land manager
- an appropriate grazing regime is in place.

Cutting can also be used on the following areas:

- ***For cutting areas of upland moorland with little or no heather, e.g. dense purple moor-grass or rush, to encourage the growth of heather and other typical heathland and bog species.***
- For cutting firebreaks on areas of very woody heather where there is a high risk of wildfires or prescribed fires getting out of control.
- On heaths dominated by western gorse where common heather and bell heather are scarce or absent.
- As an alternative to spot burning of 'western gorse.
- On wet and humid heaths and bogs where there is a high proportion of Purple moor-grass and/or where mats of sphagnum moss are present
- To create fire breaks adjacent to woodland and forestry.
- Adjacent to pockets of bracken but cut plots should be monitored to detect bracken invasion and further cutting halted if this occurs.

6726 Heather Management Cutting and Removal

This technical note describes the minimum standard of work required in order to receive payments for 'Heather Management Cutting and Removal'. Where there are local traditional methods or styles that vary from this standard these may be used, but any significant variation must be approved by the Welsh Government.

Heather Cutting and Removal

Cutting can be used as an alternative to burning on all areas where burning would normally be permitted. Cutting may be a preferable management tool on sites where burning should not be undertaken, where fire is difficult to control, or where land managers are unable to comply with burning guidelines. However, changing from burning to cutting may have implications for the composition of the vegetation. Heather cutting should only be considered on blanket bog where heather cover is very high (>85%) with suppressed hare's tail cotton grass.

You must adhere to the following:

Cutting is only allowed between:

- **1 October – 31 March** in upland areas
- **1 November – 15 March** elsewhere

Agree a five year vegetation cutting and removal management plan with your Field support officer in accordance with the following rules:

- Cut patches between 0.25 and 1ha.
- Cut to height of not less than 5cm and not more than 10cm tall.
- Cut to encourage the regeneration of a diversity of dwarf-shrub heaths so that within 5 years the cut area contains at least 2 of the following; common heather, bell heather, bilberry, cowberry, crowberry or cross-leaved heath.
- Avoid cutting the same piece of vegetation more than once in five years
- Avoid cutting short heath vegetation (<10cm) or heath on thin soils (<5cm deep) or on steep slopes (1 in 2 or less), or where there is more than 50% rock or scree.
- Avoid cutting sites where juniper has been recorded.
- Cut vegetation should be removed from the site by either using a forage harvester or by baling the vegetation. Removing the cut vegetation will help to encourage re-growth and also continues the process of nutrient depletion which maintains heathland conditions.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have

received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- cut more than a third of the heathland vegetation in the five year period
- allow cutting to encourage the spread of acid grassland or bracken.
- allow cutting to increase the cover of western gorse above 50%
- cut areas of exposed, suppressed maritime heath close to the sea.

Requirements and guidance in addition to the specifications above:

Consent will only be given where the following conditions are met;

- cutting and removal management does not conflict with any strategic objectives for the site
- a long-term cutting programme has been agreed with the landowner or land manager
- an appropriate grazing regime is in place.

Cutting can also be used on the following areas:

- ***For cutting areas of upland moorland with little or no heather, e.g. dense purple moor-grass or rush, to encourage the growth of heather and other typical heathland and bog species.***
- For cutting firebreaks on areas of very woody heather where there is a high risk of wildfires or prescribed fires getting out of control.
- On heaths dominated by western gorse where common heather and bell heather are scarce or absent.
- As an alternative to spot burning of 'western gorse.
- On wet and humid heaths and bogs where there is a high proportion of Purple moor-grass and/or where mats of sphagnum moss are present
- To create fire breaks adjacent to woodland and forestry.
- Adjacent to pockets of bracken, but cut plots should be monitored to detect bracken invasion and further cutting halted if this occurs.

6727 *Molinia*: Chemical control

This technical note describes the minimum standard of work required to receive payments for 'Molinia: Chemical Control'.

Molinia (*Molinia caerulea*) dominated monocultures cover a significant area of blanket bog land throughout Wales. Most of these areas have only relatively recently been overgrown by *Molinia* and, without appropriate management techniques, are not likely to revert back to the once biodiversity rich dwarf shrub dominated habitat.

You must adhere to the following:

Spraying Glyphosate

- Selected areas of '*Molinia*' should be sprayed during June or July with 'Glyphosate' at a rate of 6 litres/ha in 200-300 litres of water, with no additives.
- This rate will kill the *Molinia* as it has wide leaves, but the finer leaved species such as the 'Cotton Grasses', 'Deer Sedge', as well as mosses and higher plant species that grow sparsely underneath the Purple Moor-Grass cover, should not be killed and will recover subsequently.
- Use a sprayer that can work horizontally rather than vertically. This should accommodate rough ground and will also deposit the Glyphosate on the top of the vegetation rather than pushing it down underneath the *Molinia*.
- Re-spray the following mid-June at a rate of 2-3 litres/ha of Glyphosate in 150 litres of water if too much *Molinia* or rushes were to re-grow. This would have to depend on the level of desirable species that had emerged and the dominance possibly in patches, of the less desirable species. Re-spraying may only be necessary in selected areas.
- Spray the *Molinia* using either a quad bike or equivalent low ground pressure vehicle such as a tractor with dual wheels, or the most effective machine for spraying would be a softrac or equivalent tracked vehicle, especially where the *Molinia* tussocks are larger and the ground wetter.
- Record in your integrated pest management plan
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do Not

- Herbicide must not be applied within 6m of a watercourse or within 1m of field boundaries. Do not use within 50 metres of a spring, well, borehole or any public or private water supply. The code of practice for spraying near to water courses that is produced by the Natural Resources Wales should be followed. [Natural Resources Wales / Using herbicides](#)

Managing Dead Litter after Treatment by Burning

- After spraying with herbicide, the dead litter will need to be burnt off since it takes a year or more to rot.
- Follow the heather and grass burning code and ensure you burn dead 'Molinia' with appropriate controls and in the burning season.
- Ensure that a barrier or brake is in place to stop the fire from spreading.
- If burning is not possible, restoration will take much longer. One effective means of destroying some of the litter is to allow stock to congregate on the treated area for a short time to trample it. But these would then need to be removed before seeding.

6728 New Gateways

This technical note describes the minimum standard of work required in order to receive payments for 'New Gateways'.

This capital works item is to be used where the locations of current gateways are a high risk of creating pollution problems from soil runoff. Discuss and agree with your Field Support Officer on a suitable area to relocate the gateway.

You must adhere to the following:

- The existing gate must be relocated to a place where there is a lower risk of pollution from soil runoff.
- Before opening a new gateway, make sure that the correct consents, permissions or licenses are obtained, since any new gateways that give access onto highways will need planning permission. Ensure that you carry out the works in line with the licenses or permission issued.

Requirements and guidance in addition to the specifications above:

- Open a gap for placing a new gateway in a suitable position as agreed with your Field Support Officer, this might involve removing a section of wall, hedgerow or earth bank by using appropriate machinery.
- If needed, use the 'hard surfacing' capital works grant to create an area of hard surfacing in and around the new gateway.
- Additional capital works grants can also be included if a new gate is required.
- The gap created as a result of moving the old gateway should be filled to form a semi-permeable barrier, using boundary materials in accordance with local traditions. Additional capital works can be added, including hedgerow planting or stone walling, for example.
- Trackways associated with the gateway should be re-routed and the disused sections made good.
- Where possible, retain and / or re-use stone gateposts.

6733 Orchard Tree: Grafting & Budding

This technical note describes the minimum standard of work required in order to receive payments for 'Grafting and Budding'. Where there are local traditional methods or styles which vary from this standard these can be used, but a Field Support Officer must approve any significant variation.

Grafting is a form of propagating new fruit trees using buds or twigs. It involves combining the scion wood from an existing tree and fusing it onto a branch or stem of another tree (the rootstock). Different rootstocks are chosen for size, site suitability, and tolerance of certain soil conditions.

You must adhere to the following:

Fruit tree grafting and budding is a skilled job, and you may need to attend a training course.

Selection of Root Stock

- Look for healthy seedling trees, free of pests and disease.
- Cut from plants that are growing vigorously.
- Use single-stem pieces.
- Start watering and weeding a week before grafting or budding.

Grafting

A short piece of scion wood is attached to the rootstock in late winter/early spring.

Selection of Scion (Cuttings)

- Be sure to take it from the desired cultivar.
- Take it from a healthy mother tree, free from pests and diseases.
- Use a mature tip of a shoot, preferably with pushing eyes that protrude.
- Collect from the middle branches, not from the top or the bottom and from branches that are 6 to 12 months old.
- The diameter should be similar to that of the root stock (about a pencil thick).
- Cut scions 15 to 20cm in length, to allow for cutting back during grafting.
- A scion has to have 3 to 4 bud eyes for a successful grafting.
- Remove all leaves to reduce evaporation.
- Transport scions in a clean moist cloth, keep them cool and in the shade, a cool box is best.
- The success rate in grafting and budding is best if the scions are fresh. (Preserved for 2 to 3 days)

Cleanliness

- Clean your tools and hands several times, before and during the work (use systematic fungicide or household disinfectant for sterilization).
- Make sure neither your hands nor the scions touch the soil while you are grafting.
- Cut scions and rootstock with a single clear cut.
- Never touch the cut areas of the scion or rootstock.

Preparing the Rootstock for Grafting

- Choose rootstock with a single stem in a good shape and well-watered.
- Cut back the rootstock to between 15-30cm, using a diagonal cut at a 45° angle.
- Compare the diameter of your scions. The diameter of the scion and rootstock must match.

Preparing the Scion for Grafting

- Remove any end of the scion that is dry.
- Do not touch the surface of any of the cuts. Look for a scion that matches exactly with the diameter of your rootstock.
- Make a 45° cut that mirrors your cut on the rootstock. The cuts should be smooth and straight.

Attach the Scion to the Rootstock.

- Attach the scion smoothly to the rootstock. Do not press too strongly or touch the surface of the cut.
- Bark to bark (rootstock and scion) rule: Ensure that the bark of the scion and the rootstock match properly. The best result is if both sides match completely. At least one side of the scion and the rootstock must match or the grafting will not take place. Only the soft parts of the scion and the rootstock underneath the bark (cambium) are able to grow over the wound and heal it.

Tie the Union with Tape

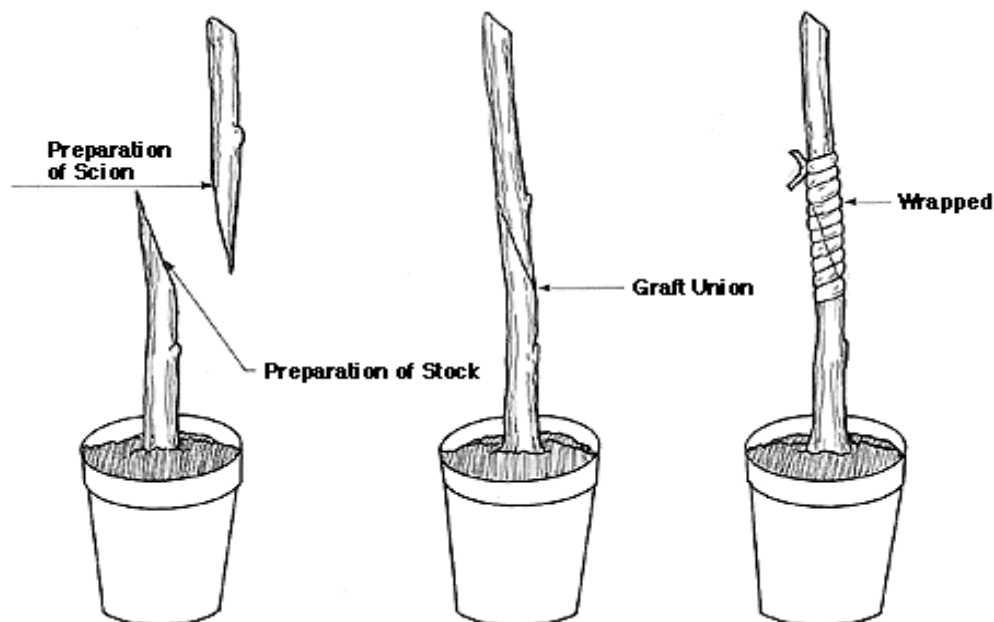
- To protect the grafting union from water, disease and drying, tie it with a thin polythene strip. Tie immediately after grafting.
- The strip should be 25cm long and 1cm wide.
- Start tying at the rootstock below the grafting union and wind the tape upwards.
- Overlap the rounds of tape, so that water cannot enter.
- Cover the grafting union towards the top of the scion.
- When only 6 or 7cm of tape remain, wind back downwards, overlapping the tape again.

- Fix the tape with a simple knot.
- Or completely cover the cuts with horticultural wax.

Protect the Scion and the Grafting Union

Cover the scion and the grafting union with a transparent polythene bag to minimise water loss.

- Cover immediately after grafting
- Handle the grafted tree carefully. If you move the container, hold at the bottom. Water all grafted trees immediately after grafting
- Do not expose the grafts to direct sunlight or strong wind.



Budding

Budding is another way of vegetative propagation where a single bud is attached to actively growing rootstock in summer. It follows the same principle as grafting and requires the same cleanliness, skills and inputs.

- Instead of a scion with 3 to 4 bud eyes, only 1 is used in budding. The criteria for collecting scion are the same as for grafting.
- T-budding can be done only if the bark of both rootstock and scion are soft and lift easily. T-budding is so called because the grafting cut made resembles the letter 'T'
- Budding is common for propagating citrus cultivars and peach.

Common Methods of budding

- T- budding and inverted T-budding (upside down 'T')
- Chip-budding. A bud is cut off together with part of the stem, thus the term 'chip'.

Prepare the Rootstock for Budding

- Use selected rootstock (single stem, good shape, weeded and watered). Rootstock plant should be approximately 45 cm (1.5ft) high.
- Do not cut the rootstock. Leave it with the top of the stem until the budding has taken.
- If the rootstock has many leaves, take off some of the lower ones that are close to the ground.
- In budding, rootstock is often raised in nursery beds, not in containers
- Select the budding location at the rootstock stem that is smooth, does not have bud eyes and is approximately 30cm (1ft) high
- Cut a T-shape in the bark, with two straight cuts. The size depends on the diameter of the rootstock (see diagram 4)
- Carefully lift the soft bark from the wooden stem of the rootstock without damaging it
- Do not touch the cut.
- Keep soil or dust from entering the cut.
- Immediately prepare the bud eye.

Prepare the Bud Eye

The scion from which the bud eyes are cut, called the 'bud stick', should contain growth of the current or previous season. Do not use either the developing buds at the end of a branch or the mature part of branches with strong bark.

- Hold the bud stick with one hand, the top pointing towards your body.
- Choose one bud eye to cut. Start cutting from 0.5cm below the eye.
- Cut through the bark and slightly into the wooden portion of the bud stick. Now make a straight cut beneath the bud eye. Pass the cut under the bud eye and then guide the knife upwards. Reaching the soft bark, strip off the bud eye.
- Do not touch the cut of the bud eye.
- Remove the wooden portion in the inner part of the bud eye with great care, with the tip of your knife. Do not disturb the bud eye itself. (See diagram 1 to 3)

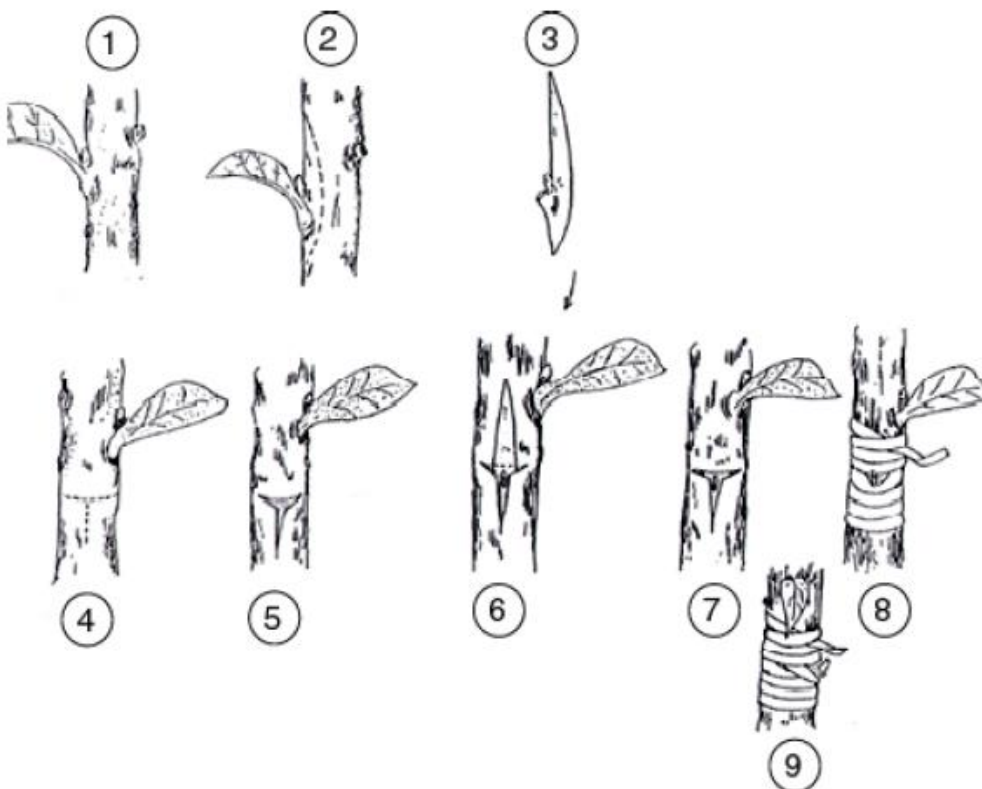
Insert the Bud Eye in the T-cut of the Rootstock

- Inset the bud eye in the T-shaped cut in the rootstock, gently pushing it from the top downwards.

- The bud eye must remain in the same position in which it was growing on the bud stick. Do not insert it in the rootstock upside down.
- Insert the bud eye into the bark of the rootstock about 1.5cm.
- Remove the overlapping bark of the bud eye by repeating the horizontal cut of the T-shape. (See diagram 6 and 7)

Tie the Bud Eye to the Rootstock.

- Tie the bud eye with polythene tape, working from the bottom to the top
- Tighten the tape firmly at the bottom and the top of the bud eye.
- Cover the top of the T-cut. Overlap the rounds of the tape and change the direction downwards.
- Do not cover the bud eye. Leave a small space for the bud to sprout. Tighten the tape at the top with a simple knot. (See diagrams 8 and 9)
- Handle the budded tree carefully
- Water all containers or nursery beds with budded trees immediately after budding. Do not expose the trees to direct sun or strong wind



In the following spring, prune off the tip of the rootstock branch as soon as the grafted bud begins to grow.

Requirements and guidance in addition to the specification above:

Until the early part of the twentieth century almost every farm had an orchard, growing many varieties of fruit for domestic use and for marketing locally. As the trees aged, these orchards often fell into decay. The surviving examples are a distinctive feature in the countryside and often have a high wildlife value.

Grafting and budding encourages uniformity and cultivar quality. Fruiting is generally earlier 3 to 4 years. Also, both techniques have a dwarfing effect on the fruit tree, which makes it easier to harvest the fruit.

Fruit tree grafting and budding is a skilled job, and you may need to attend a training course. Your Field Support Officer can advise you on training.

6734 Orchard Tree: Restoration Pruning

This technical note describes the minimum standard of work required to receive payments for 'Restoration Pruning of Orchard Trees'. Where there are local traditional methods or styles which vary from this standard these can be used, but a Field Support Officer must approve any significant variation.

You must adhere to the following:

- Pruning of apple and pear trees should take place between October and April, avoiding cold weather and carried out in such a way to prolong the life of the tree.
- Pruning of cherry, damson and plum must be done between May and September to reduce the risk of silver leaf infection.
- The tree must be cut cleanly with cuts angled so that they slope away from the crown and allow water to run off.
- Pruned timber should be stacked in a semi-shaded location within the orchard.

Do not:

- cut through the branch halfway along its length
- remove any more than a quarter of the canopy per year
- burn any timber without written permission from a Field Support Officer, as cuttings may bear valuable mosses and lichens whilst the heat generated by fires can be very damaging to both fruit trees and their associated wildlife.

Requirements and guidance in addition to the specification above:

Until the early part of the twentieth century almost every farm had an orchard growing many varieties of fruit for domestic use and for marketing locally. As the trees aged, these orchards often fell into decay. The surviving examples are a distinctive feature in the countryside and often have a high wildlife value.

Established fruit trees benefit from regular pruning. This encourages fruit production, maintains an open crown which reduces the possibility of disease, and prevents trees becoming top-heavy and vulnerable to autumn gales. Fruit tree pruning is a skilled job, you may need to seek professional help or attend a training course. A Field Support Officer can advise you on both local contractors and training courses. Neglected fruit trees need to be pruned gradually over at least three years to avoid damaging the tree and maintain fruiting. Following restoration, trees must be maintained by regular pruning.

Pruning Objectives

- bring light to the centre of the tree to help ripen the fruit and stimulate the production of new shoots.
- encourage air movement through the tree to reduce disease.
- create a healthy balance of old fruiting wood and young replacement shoots.

First Year

During the first year of pruning, you should remove:

- suckers growing from the base or from below the graft they are probably from the rootstock.
- large dead branches and lower branches that interfere with grazing or mowing, cut back to a short stump or a suitable branch, do not cut through the branch halfway along its length.
- large branches that cross over in the centre of the crown or are rubbing on each other.
- vigorous upright growth.
- diseased wood

The aim is to re-create a framework of 5-12 radially spaced branches or leaders while still maintaining the natural shape of the tree. The leaders are the natural skeleton on which fruiting laterals and spurs are borne. If achieving this shape will require removal of more than one quarter of the canopy, spread this pruning phase out over 2 or more years.

In Subsequent Years

- Reduce the crown by thinning out any congested laterals and overgrown spurs leaving stubs of about 1cm. New shoots which spring from the base of these cuts will eventually bear fruit.
- Remove or shorten inward facing branches.
- Any strong, well-placed young shoots growing from near the centre of the tree can be trained into new leaders.

6736 Otter Holts

This technical note describes the minimum standard of work required to receive payments for 'Otter Holts'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government.

Otters are now present on many streams and rivers in Wales after a decline in the 1950's. Provision of otter holts will enable otters to use areas that lack the dense cover required to lie up during the daytime and thus secure them more areas to use for protection from disturbance.

Streamside scrub, overhanging vegetation and mature trees with hollowed-out root systems can all provide necessary shelter. Provision of an artificial Otter Holt can enhance this still further and is a quick and effective way to provide a resting site.

You need to adhere to the following:

Before constructing an artificial holt, it is important to evaluate existing habitats. Good habitats near watercourses can be protected by:

- Leaving wetlands undrained
- Fencing off scrub
- Encouraging long vegetation to grow by reducing mowing frequency and cutting areas in rotation
- Fencing off bank sides to protect trees and banks from grazing livestock. Large root cavities in mature trees are often used as lying-up sites by otters.
- Allowing trees to regenerate on river banks
- Reducing levels of disturbance especially by humans and dogs
- Avoiding pollution.

New otter habitat can be created by:

- Fencing and planting up meanders and field corners with willow, hawthorn and blackthorn
- Planting bare banks with trees especially oak, sycamore, alder, elm and willow to create future otter holt sites or allow scrub cover to develop naturally.
- Constructing artificial holts if no other suitable sites are available.

Key points to consider when constructing an artificial holt:

Location

- Build close to the water's edge, where otters can easily climb the bank
- Choose a site which has minimal disturbance from humans and dogs
- In Internal Drainage Districts, ensure that holts are not placed within 7m maintenance strips

Materials

- 20–25 logs about 1m long and 30-40cm in diameter
- A quantity of fairly straight poles and tree branches, about 3–10cm in diameter x 3m long. (Any shorter poles can be used to infill gaps.)
- Brashings, large amounts of small branches from hedgerows or coniferous trees.
- Larger timber should preferably be taken from fallen trees or trees thinned as part of a planned woodland management programme.

Construction

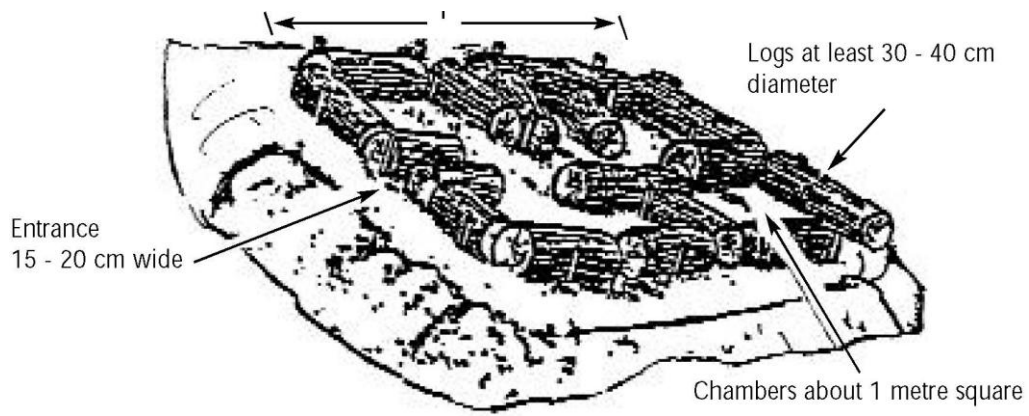
Construction takes place in three stages. The aim is to provide several dark and dry inter-connecting chambers. The overall shape depends upon the site and can be rectangular, square or circular:

- Place the logs to form 6-8 chambers of about 1 square metre each. Leave gaps about 15–20cm wide as entrances. One or two entrances should be immediately at the water's edge with other entrances on the landward sides.
- Place the poles across the chambers to form the roof. Fill in gaps with small pieces of wood to make the chambers darker and more weather proof.
- Pile the brashings on top to completely hide the logs and poles and leave the chambers dry and dark. Branches should lie flat and be packed down. Lay branch stems inwards with the smaller branches/fronds overlapping the logs and poles to form an outer fringe.

If the site is liable to flooding, stretch sheep netting over brashings and stake the netting down on both sides of the holt taking care to ensure no sharp wire can cause injury. Place more brashings on top to hide the wire.

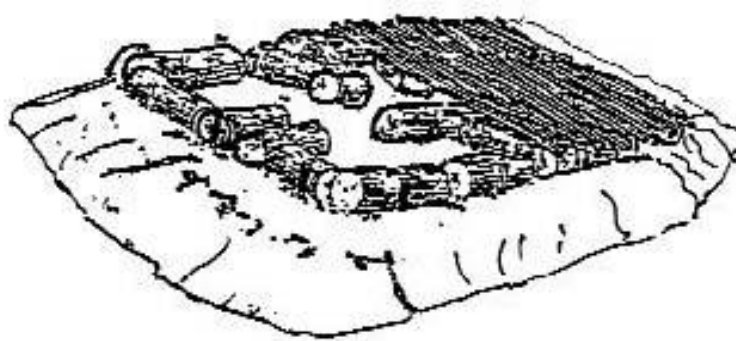
Stage 1

Build basic structure with logs 3 metres across. Secure using stakes:



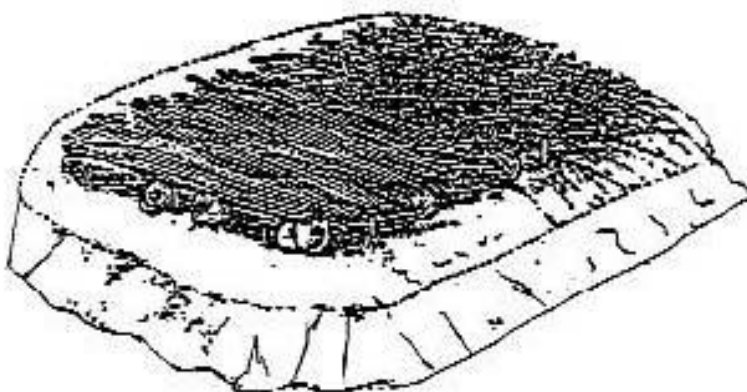
Stage 2

Lay thick poles to form roof



Stage 3

Cover with branches



6737 Parkland: Iron Gates

This technical note describes the minimum standard of work required in order to receive payments for 'Parkland Iron Gates'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any significant variation must be approved by a Field Support Officer.

You must adhere to the following:

- A five bar rail gate with two sets of cross bars, one vertical bar in the middle and two cylindrical iron posts, as seen in the photograph below.
- It will need to be a standard galvanised finish to BS EN ISO 1461.
- Posts must be at least 2100mm long and the gates themselves must have a width of between 900mm and 3000mm.
- Any openings greater than 3000mm must have two leaves.
- All gate posts must be installed 750mm into the ground and if necessary concrete mortar can be used to set them in place.
- Overall height should be 1200mm comprising of a 20mm top horizontal cylindrical rail and 4 lower RSF flat rails. Vertical RSF posts are separated on the ground at 1000mm intervals.



Requirements and guidance in addition to the specifications above:

- When replacing old iron gates it will be necessary to paint the new iron railings in a colour that matches the original in black.



- Below, an example of a typical iron gate latch is shown, and if the design varies from this it will be acceptable as long as it matches the original design of the area



- When replacing runs of old iron railings it will be necessary to paint the new iron railings in a colour that matches the original. Usually a dark colour (e.g. black) to blend into the landscape.

6738 Parkland: Iron railing fencing

This technical note describes the minimum standard of work required in order to receive payments for 'Parkland Fencing'. Any variation from the standards set out must be approved in advance by your Field Support Officer.

A standard payment is available for traditional metal parkland fencing associated with the management of wildlife, landscape, archaeological and historic features. Parkland fencing should maintain the open appearance of the landscape as a characteristic feature. Usually a dark painted metal (e.g. black) to blend into the landscape.

You must adhere to the following:

- Parkland fencing must feature a continuous 5 bar rail fence in a galvanised finish to BS EN ISO 1461. Any variation from this standard must be approved in advance by your Field Support Officer.
- In an undulating landscape, care must be taken during installation to ensure the rails are parallel to each other and the ground.
- Repairs should use traditional materials and methods.



Requirements and guidance in addition to the specifications above:

- When replacing old iron rail fencing, it will be necessary to paint the new iron railings in a colour that matches the original in black.

6739 Picnic Table with Bench Seat

This technical note describes the minimum standard of work required in order to receive payments for 'Picnic Table with Bench Seat'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer.

Payments are available for the provision of facilities to assist with public use of permissive access paths and areas. We will grant aid the provision of picnic tables in appropriate locations.

You must adhere to the following:

- All timber must be pressure treated softwood or hardwood.
- The design of all furniture should be simple and functional, yet robust enough to cope both with vandalism and bad weather.
- They should be designed considering the ability of potential users.
- Where suitable they should allow access for people in wheelchairs. There must be an overhang at either end to accommodate wheelchair users.
- Dimensions for a Picnic tables should be at least: Table - 238cm long. Bench 50cm high. Overall width 150cm from bench to bench.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Requirements and guidance in addition to the specifications above:

Generally, picnic table designs that incorporate high horizontal beams between the table and bench are best avoided because they can cause problems for users, especially those with mobility difficulties.

6740 Pond Creation

This technical note describes the minimum standard of work required to receive payments for 'Pond Creation'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any variation must be approved by your Field Support Officer.

New ponds can create significant benefits for wildlife, but this is unlikely to take place if construction involves the destruction of remaining pockets of wildlife habitat such as marshy grassland. Relative to their size, ponds are extremely biodiverse. Ponds are a key habitat for many types of wildlife, as well as being an important water source and feeding location for terrestrial wildlife.

Pond construction and maintenance are skilled operations and detailed discussions with specialist advisors will bring both long term and short term benefits.

Payments are available towards the cost of creating new ponds in suitable locations which are agreed with your Field Support Officer.

You must adhere to the following:

Water Supply

The water source should be unpolluted and where possible, available throughout the year. Avoid using field drains if possible, since these may carry fertiliser from adjacent land.

Construction

Off-stream ponds provide greater control over winter flooding and silting than on-stream construction. If constructing on-stream, build a smaller silt pond upstream of the main pond and clean out gravels and silts regularly.

- **Scheduled Monuments.** If you are undertaking this work within or on the boundary of a scheduled monument you must obtain scheduled monument consent from Cadw prior to undertaking the works or allowing someone else to carry out the works. Failure to obtain the necessary consent prior to undertaking the works is an offence under the Historic Environment Wales Act, 2023.

You can submit an application for scheduled monument consent online via:

[Application Form — Scheduled Monument Consent | Cadw](#)

If you require further information email: scheduledmonuments@gov.wales

You can find the location, extent and a description of all scheduled monuments in Wales at: [Search Cadw records | Cadw](#)

- **Registered Historic Parks and Gardens.** If you are undertaking this work within or on the boundary of a Registered Historic Park and Garden, you must contact Heneb for advice prior to undertaking the works or allowing someone else to carry out the works

If you require further information email: heritagemanagement@heneb.org.uk

You can find the location, extent and a description of all Registered Historic Parks and Gardens in Wales at: [Search Cadw records | Cadw](#)

- **Historic Environment Features.** If you are undertaking this work within or on the boundary of a Historic Environment Feature you must contact Heneb for approval prior to undertaking the works or allowing someone else to carry out the works

You can find the location and extent of all Historic Environment Features in Wales at: [Historic Environment Records \(HER\) - Heneb](#)

If you require further information or advice email: heritagemanagement@heneb.org.uk

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.

[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#).

- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer “yes” to any of the checklist questions, you should apply for an impoundment licence. If you answer “no” to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Impermeable soil, such as clay, is ideal for water retention. Permeable soil, such as shale, may need an artificial liner or imported clay which may be expensive. Dig trial holes before starting work to check water-holding capacity.

Excavated soil should be used for landscaping the site where possible since removal will add to the cost. Ensure that this is not in a location where it can wash into the pond or a nearby watercourse. Construction is easier if this can be completed without the need for a down slope embankment.

Subsoil excavated during digging may be used for landscaping the area around the pond, or to cap the liner, if one is used.

Where a liner is used, ensure that protective underlay is used both above and below, and cap the upper layer of underlay with at least 15cm depth of subsoil or sharp sand. This protects the liner and provides an environment for aquatic plants to root in.

Size and Shape

The size of the pond created will be agreed with the Field Support Officer and included in the Schedule of Works.

Wildlife ponds must be at least 10m² in area with shallow sloping margins, and hold water for at least 9 months of the year in a normal rainfall year.

- Large ponds can provide a wider range of habitats, but several small ponds will incorporate a variety of conditions and may be more valuable for wildlife.
- Increase the length of pond 'edge' by creating an irregular shoreline with projecting spits and small bays to provide more shelter and cover for wildlife. Emergent vegetation will provide shelter from both wind and sun.
- Do not include islands as these are likely to attract ducks or Canada geese

Depth and Profile

- The maximum depth of the pond will depend on its area. Small ponds should not be greater than 1m in depth. Larger ponds may have a greater depth, but there is no need

for any pond to have a maximum depth of more than 3m unless it is expected to fluctuate greatly in depth. Include plentiful shallow water which slopes gradually into deeper areas (up to 2-3 m depth).

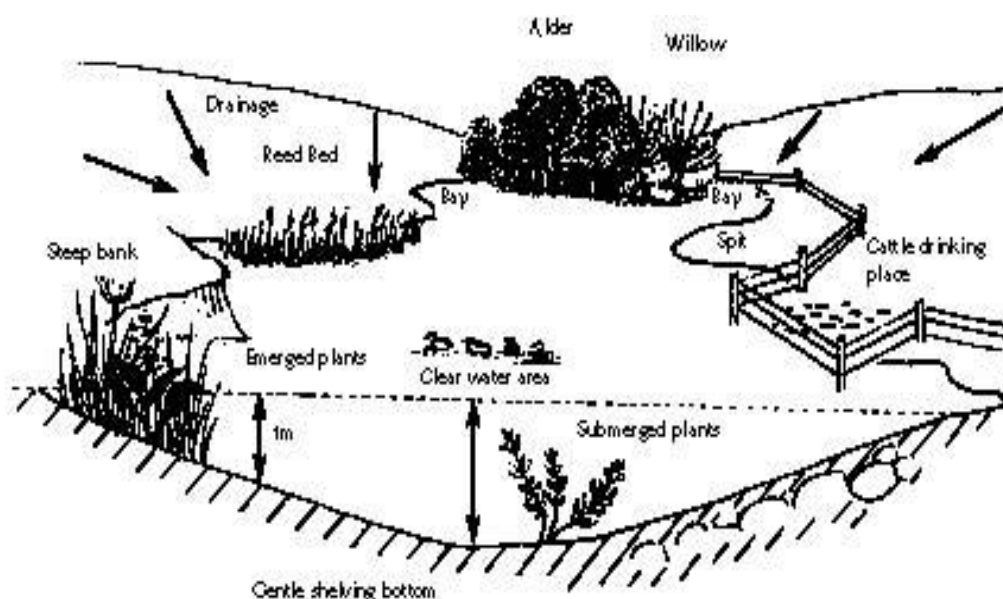
- The key requirement is that the pond has shallow sloping margins. Make sure that the profile of the pond reflects this. Very shallow water, 20cm in depth or less, is of greatest importance for wildlife. The maximum depth of the pond should reflect the amount of flow into the site. Ponds with a reliable water source (e.g. with a larger catchment or a reliable groundwater source) can be shallower.
- Water levels will vary during the year, so it is best to profile the pond so that it slopes gradually rather than with any shelves / abrupt changes in depth.
- Areas of deeper water are less likely to dry out in the summer and provide a refuge for species which are unable to adapt to major changes in conditions.

Stocking and Planting

Vegetation will usually establish quickly from the surroundings and new ponds should be left to colonise naturally as far as possible. Seed will germinate from the seed bank, or colonise naturally. Do not plant with pond plants, as these often include invasive non-native species.

Tall, emergent vegetation in the shallow margins such as long grass will provide good cover for waterfowl. Scrub, including willow, bramble and gorse, can be allowed to establish on western and northern edges for wildlife and landscape interest. Overhanging branches provide good perches for birds.

Diagram – Cross Section of Pond



Requirements and guidance in addition to the specifications above:

Choosing a site

A suitable location for the creation of a new pond must be agreed with your Field Support officer.

Consider the existing wildlife value of the site; it may be of greater value without a pond. Choose a relatively undisturbed area away from buildings and avoid sites with a high risk of fertiliser run-off and nutrient enrichment. Beware of underground or overhead hazards such as electricity cables.

Try to link existing habitats such as unimproved grassland and scrub. Many pond species such as newts and other amphibians spend only part of their lives in water and need suitable conditions on dry land to complete their life cycle.

It is sensible to avoid siting a pond next to tall trees as this may cause problems with leaf-fall and increased siltation levels. Ensuring the pond is open to the south will allow sunlight to warm the water in spring, but some scrub and resultant shade is likely to be beneficial.

Identify a low-lying location in the landscape where clean water tends to collect. The locations of former ponds can be very suitable - on improved land, this can sometimes be visible on aerial photographs (see the [Ghost Ponds Project](#)).

The best locations are where the pond is fed by groundwater, rainwater or surface water draining relatively low intensity land. A sunny position is preferable. Ponds are very suitable for combining with suitable lower intensity land use such as green hay application and sward enhancement.

Do not:

- site where the pond receives water from a nutrient-rich situation such as a yard or field on which manures or slurry are regularly spread;
- create by damming an existing watercourse. You may however widen an existing field ditch.
- site under or close to trees where the pond will receive heavy leaf fall, unless there is some flow entering the pond.
- remove fallen wood in or adjacent to the pond.
- fell or coppice any trees identified by NRW staff as of key importance for wildlife.
- plough or otherwise cultivate within 10m of the pond.
- introduce waterfowl or fish.
- feed livestock or wildfowl close to the pond.
- apply fertilizers, slurries, manures or digestate within 10m of the pond or any ditches, flushes or other flow pathways that feed it.
- dispose of sheep dip within 50m of the pond.
- apply pesticides, except for the purposes of invasive species control where herbicides are identified as the most effective option.
- use for vehicle activities or washing vehicles.

Further Guidance

For more guidance on creating and maintaining a pond and information about planning permission etc. visit the Freshwater Habitats Trust: [Freshwater Habitats Trust – homepage](#)

6742 Reed Cutting

This technical note describes the minimum standard of work required to receive payments for 'Reed Cutting'. Where there are local traditional methods or styles which vary from this standard these can be used, but significant variation must be approved by the Welsh Government.

Reed cutting is an effective method in managing reed beds. The specific type of management will depend on the site and a Field Support Officer will be able to advise on this. Generally, depending on the site, the reeds can be cut annually or biannually using a special reed cutting machine or other aquatic weed harvesters. Another method is to cut by hand using scythes.

Cut reed should be taken off site and used, perhaps for thatching if it is of sufficient quality, or as a biomass crop.

Care must be taken to minimise the hazards, impacts and disturbance to wildlife whilst carrying out the work. Protect nesting birds by restricting the cutting to end of November to end of March.

If the aim of cutting is to suppress reed, then this should take place in late summer.

You must adhere to the following:

- Adhere to the programme of reed cutting agreed with the Field Support Officer.
- All cut material must be removed from the site.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do Not:

- burn as a method of reed management.



6744 Reed Planting: Seed From Existing Stands

This technical note describes the minimum standard of work required to receive payments for 'Reed Planting: Seed or Rhizomes from Existing Stands'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government.

Reedbeds are a common feature around many Welsh lakes and ponds, as well as in places on both river valleys and the coast where the water table lies at or above ground level for most of the year. Most reedbeds are very small in size with many of the larger examples having been lost due to a combination of drainage and other management factors.

Although a wide variety of plants occur in reedbeds, the most dominant plant is usually the common reed (*Phragmites australis*), which can form dense stands underlain by a thick ground layer of decaying stems and leaf litter. Over time, the gradual accumulation of this leaf litter tends to raise the reed bed above the water table with the result that shrubs such as willow and birch can begin to colonise. Control of such scrub is often necessary to maintain the value of reedbeds for wildlife.

Typical birds associated with reedbeds include sedge warbler, reed warbler and water rail. Larger and more secluded sites may also hold bittern or cetti's warbler. Reedbeds also support a variety of scarce plants and invertebrates.

General Principles

- Reed planting involves the following steps:
- Site preparation
- Planting the reed rhizomes
- Aftercare

Preparation works may involve topsoil stripping followed by the raising of water levels using bunds or sluices, for which capital payments are available. Topsoil stripping of peat soils and more generally the use of this measure on peat soils must only be undertaken under guidance from the Field Support Officer.

Additional advice may be sought from Natural Resources Wales.

You must adhere to the following:

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a

copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Preparation Work

- The control of competing vegetation is an important factor in establishing a reed-bed. Weed control can be achieved by stripping existing vegetation followed by flooding. Prolonged flooding through several growing seasons may also help to control unwanted species.

Rhizome Planting

- Planting can be carried out by spreading soil that contains rhizomes. Obtain rhizomes from a site with similar growing conditions, preferably another part of the same site or from a nearby location.
- You must ensure that the owner of the donor site has given permission for any such harvesting before starting such work and that the soil does not contain any invasive non-native species material.
- Excavate the topsoil from an existing reed bed to a depth of about 30-50cm, ensuring that the rhizomes are present and protected by soil. Spread the soil to at least 25cm depth across the new site, ensuring that the soil is moist but not saturated. Do not allow the site to dry out.
- Work should be carried out over the winter, ideally during November to February, when plants are dormant. The aim is to achieve a density of at least 20,000 plants per ha (equivalent to an inter plant spacing of 70cm).
- Water level is critical as young plants can be killed by flooding and also by lack of water. Ideally, start with damp soil where the water table is at ground level or just below. Once rhizome shoots have developed, flood the site to a shallow depth, ensuring that the top third of the shoot is above water; this will maintain the oxygen supply to the roots. Best results are achieved in water depths of no more than 5cm.

Do not:

- over-handle the rhizomes or store them for more than a week.

Requirements and guidance in addition to the specifications above:

Aftercare

- Aftercare of newly planted reed-beds is essential. Competition from unwanted plants is the greatest problem but grazing losses and climatic factors also need to be considered.

Plant Competition

- The usual methods for dealing with unwanted plants are manual removal, or controlled flooding. Controlled flooding up to 5cm in depth, keeping the top third of the reed above water, is an effective method for controlling flood-intolerant plants such as nettle and thistle.

Grazing Losses

- Reeds can be planted at a higher density to compensate for losses from grazing animals. Suitable fencing can be erected to protect against birds, rabbits and deer where appropriate.

Weather

- An adequate supply of water throughout a dry summer is essential.

6745 Relocation of sheep dips including any holding pens to a better site

This technical note describes the minimum standard of work required to receive payments to support the 'Relocation of Sheep Dips and Holding Pens to a better site'.

Research has shown that pollution from sheep dip can be a major cause of damage, for example, to vegetation, soils, watercourses and groundwater as well as to public health. If good facilities are provided, handling and dipping can be carried out with the minimum of stress, effort and pollution risk.

A. Relocation of sheep dips including any holding pens

This payment applies for relocating an existing sheep dip and associated pens to a more suitable site.

You must adhere to the following: -

Site Suitability

- Agree with your Field Support Officer on site location and suitability by following guidance from Natural Resources Wales and the Welsh Government Groundwater Code of Practice: Sheep Dip.
- This also applies when using mobile dipping equipment or treating sheep with sprays and pour-on products.
- Do not site on improperly filled ground or other unsuitable ground conditions, peat, soft ground or ground liable to subsidence.
- Choose a site close to a piped water supply or a site which can be accessed to use a bowser filled from an alternative supply.
- You must contact Natural Resources Wales if you plan to carry out dipping on land that is part of a protected site.
- You must not use dip baths or drains pens on roads or tracks, or on a slope that drains directly towards a watercourse.

Dipping and Draining Facilities

- Design and build to prevent water pollution. Refer to the Groundwater Protection Code for Wales: Sheep Dip, and Environmental Permitting Regulations 2016, the Water Code, the Green Code and Natural Resources Wales Guidelines.
- Conform to Health and Safety Executive guidelines on chemical stores and washing facilities.
- Accommodating the sheep dip and pens within a properly designed building will eliminate rainfall and potential overflow problems
- If a sheep dip is not roofed, avoid filling if rain is expected. Rain covers should be available. A below ground watertight tank may be needed to collect and store excess contaminated run-off water
- Design and construct the building to conform to BS 5502 Parts 22 & 41
- Design pens and barriers to meet the welfare standards for sheep
- Make draining pens large enough to hold each group for 10 minutes after dipping. Drainage from pen areas should be directed back into the dip-bath
- Provide a race to guide the sheep to the dip
- Construct impermeable concrete floors with watertight sealed joints to the dip area and the draining pens. Use RC40 mix concrete to BS5328 and joint sealants to BS 6213.
- Contour the floors so that spillage is collected and drained back into the dip-bath. Collection channels must be watertight
- The dip-bath must not have a drainage hole
- The dip should have an entry slope to help reduce splashes
- Fix screens at entry points and other places where operators could be splashed
- Provide a piped water supply for top up, decontamination and rinsing. Make sure the dip chemicals cannot siphon back into the pipe
- The dip-bath must be impermeable. Use a proprietary manufactured bath that conforms to BS 5502 and is guaranteed to remain impermeable for up to 20 years. Circular and rectangular dips are available in composite concrete or glass-reinforced plastics. Consult the manufacturer about the need to surround with concrete below ground level to give additional strength, especially if heavy tractors or tankers are likely to be used adjacent to the dip. Loading conditions for similar tanks are given in BS 5502 Part 50
- Do not attempt to construct the actual dip-bath yourself; it is better to use a factory manufactured bath, preferably of one-piece construction. Watertight construction is a specialist job
- Dipping facilities must be child-proof to comply with Health and Safety Regulations and a secure child-proof cover fixed over the dip when not in use.

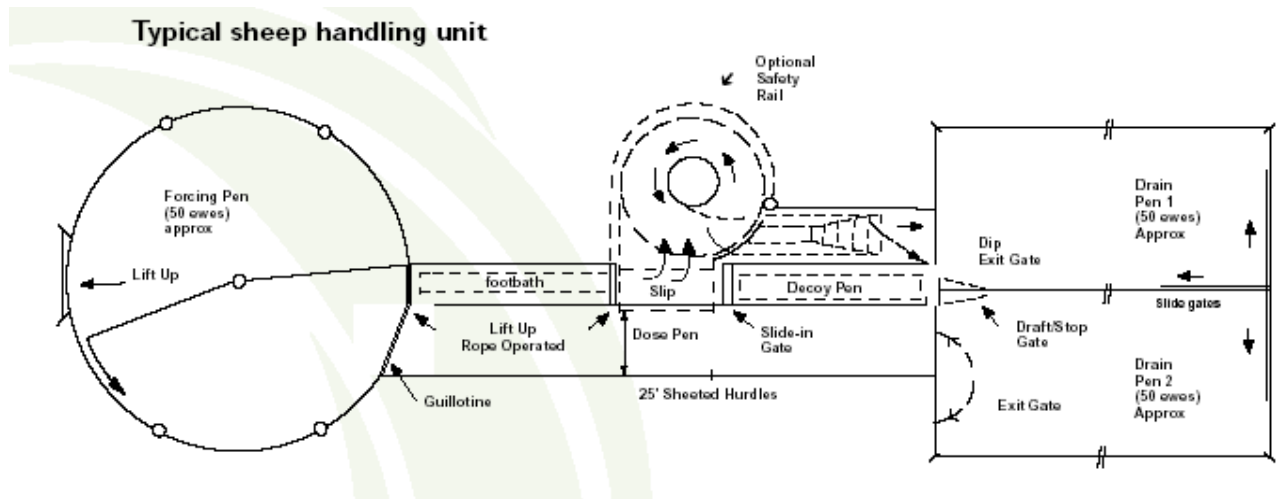
Pens and Races

- Forcing pens; usually circular or diamond shaped leading to treatment pens or races, should hold at least 30 ewes, have a space allowance of 0.3m^2 per ewe and have fences 1.07m high. Fences must be solid and have a smooth surface.
- Treatment Pens used to drench, inject etc, have a space allowance of 0.3m^2 per ewe and have a width 0.75 -1.05m. Fences should be 0.84m high, must be solid and have a smooth surface
- Drafting race designed to arrange the sheep into single file leading towards a drafting gate, should have a minimum length of 4.50m, have sloping sides to give a width of 0.30m at floor level and 0.60m between top of fences. They should have fences 0.90m high for drafting only (but 0.84m high if used as a treatment race) and must be solid and have a smooth surface
- Footbath race; ideally a bath with two sections. The first containing water to clean the feet, the second containing medication and should be constructed as drafting race
- Drafting pen; preferably two. The smaller pen to hold 50% and larger pen to hold 75% of the number of sheep to be handled at any one time
- Drying pen; leading from the draining pens where the sheep can dry off before going out on pasture, should be capable of holding the whole flock
- Holding pens; which must be included in every handling unit, should be capable of holding half the flock, have access to both drafting and collecting pens so that sheep can be moved without mixing, have a maximum width of 4.5m, have a space allowance of 0.5m^2 per ewe and have fences 1.07m high. Fences need not be solid.

Advice on the Disposal of waste Dip

- Waste dip is dangerous to health and the environment.
- Under no circumstances can it be disposed of to groundwater or surface waters.

- Follow Natural Resources Wales guidance on how to safely dispose of waste dip:



6749 Re-spacing natural regeneration to favour native broadleaved species

This technical note describes the minimum standard of work required to receive payments for 'Natural Regeneration: Re- spacing to favour native broadleaved species'. Where there are local traditional methods or styles that vary from this standard, these can be used. Any significant variation must be approved by a Field Support Officer.

You must adhere to the following:

- The re-spacing should be carried out by competent persons to produce a broadleaved tree stocking density agreed with your Field Support Officer which reflects the objectives for which natural regeneration is being managed.
- Prioritize site-native, locally adapted broadleaves over competitive non-natives or invasive scrub.
- Retain some cut stems and brash on the ground to provide deadwood habitat for invertebrates and fungi, but keep it clear of the selected saplings to minimize vole habitats.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

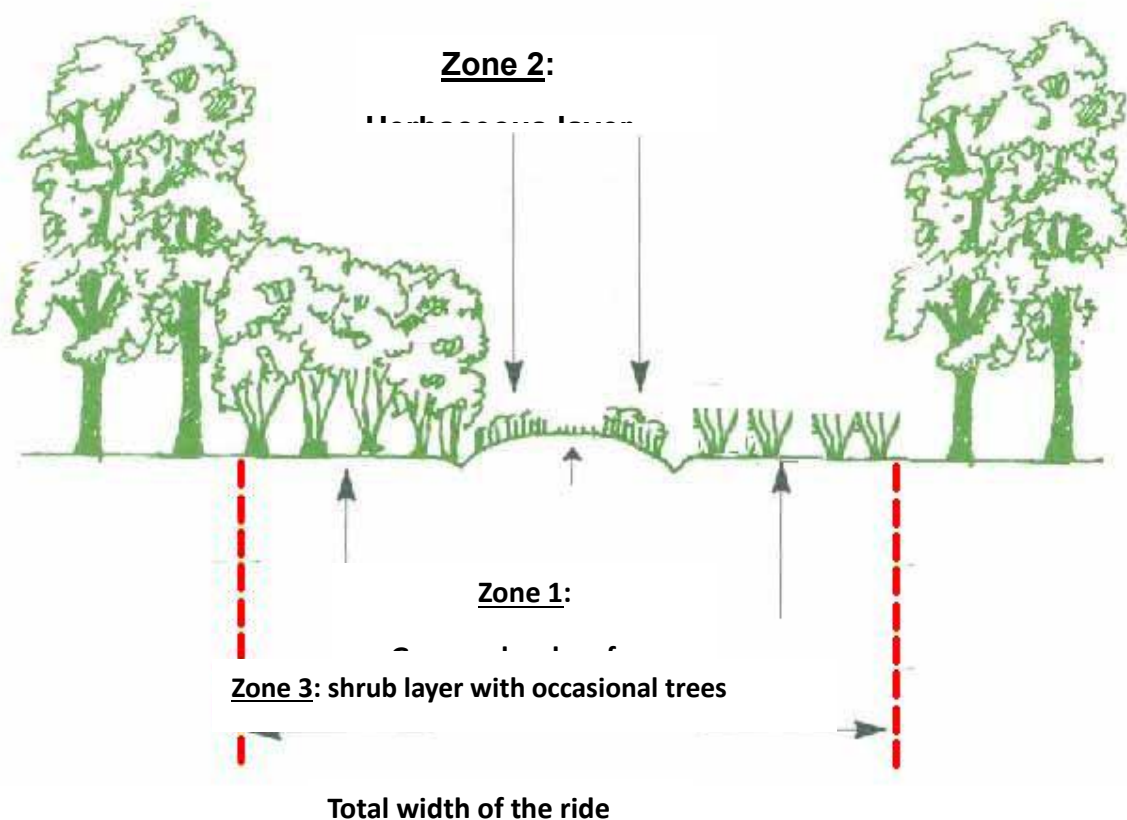
Requirements and guidance in addition to the specifications above:

Re-spacing is the cutting to waste of closely stocked and established regenerated trees at an early stage before canopy closure. In both cases the average stem diameter will be less than 7cm. Re-spacing will only be grant aided once in the same location during the five-year plan of operations and only to produce native woodland.

6750 Ride & open ground mechanised mowing for conservation/firebreak reasons

This technical note describes the minimum standard of work required to receive payments for 'Ride and Open Ground Mechanised Mowing for Conservation/Firebreak Reasons'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Welsh Government.

For the purpose of this technical note, a ride is a linear open space within woodland, derived from the need for access. Rides may have a hard surfaced track making up part of the width or, more commonly, are un-surfaced, the ride is usually made up of several zones. Most commonly, rides consist of a central grass zone with a mixed herbaceous and shrub zone on one or both sides. A ride should be managed to produce a short sward (a sward less than 20cm) that encourages butterflies, in particular, but also other invertebrates that provide food for woodland birds and bats.



You must adhere to the following:

- Ride management is based on a two-zone cutting regime under which the central zone is cut at least once a year and alternate outer zones biannually. The average width of the ride should be at least 5m.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).
- Additional Guidance can be found in UKFS Guidelines: General Forestry Practice 1-3, 9, 12, 14, Forests and Biodiversity 1-2, 25-30.

6753 Scarification to encourage natural regeneration of trees or heather from seed

This technical note describes the minimum standard of work required to receive payments for 'Scarification to encourage natural regeneration of trees or heather from seed'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer.

This Capital Works is to be used when preparing sites for suitable natural regeneration.

You must adhere to the following:

- The key to successful natural regeneration of trees and shrubs is that scarification is done at an appropriate time of year, which is usually in later summer.
- The area that requires scarification should have the soil exposed by a disc trencher, patch scarifier, excavator or similar.
- Undertake scarification during the window agreed with your field support officer for the desired outcomes.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do Not

- Undertake scarification on historic sites
- Undertake scarification during the bird nesting season (1st March to mid-August)

6754 Scrub/Tree Clearance: Hand

This technical note describes the minimum standard of work required in order to receive payment for 'Scrub/Tree Clearance by hand'. Scrub can be an important and desirable habitat. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer prior to starting the work.

You must adhere to the following:

- Cut trees and scrub at ground level leaving no protruding stumps using saws, loppers or chain saws. Alternatively remove small seedlings using tree poppers or pulling by hand. When pulling ensure that the root is removed and the seedling is not just snapped otherwise regrowth will occur.
- When carrying out partial scrub clearance (e.g. on the edge of a heathland or peatland or when breaking up a dense stand of scrub into smaller blocks), ensure that the scrub edges retain a natural and uneven appearance. Small bays and other sheltered locations are particularly valuable for butterflies and other wildlife.
- Cut no more than a third of the scrub in each year.
- You must seek advice from a Field Support Officer if protected species such as badger, dormice are likely to be present.
- Cut material should be removed unless agreed with the Field Support Officer or the work is being undertaken to manage a woodland. Brash piles can easily smother ground flora. In such circumstances, cut material should be stacked carefully under the remaining scrub patches which are not planned for removal where it can be left to decay and provide additional cover for wildlife or in sunny spots to provide micro habitats for insects. Alternatively, cut material may be burned in previously agreed locations well away from standing scrub and trees.
- If scrub has established for multiple years, then it may be necessary to remove the thatch that has built up. Particularly with gorse - there can be a very thick mulch layer established from the needles/leaves.
- Removal of stumps/runners by hand e.g. mattock/spade must not be undertaken without agreement from your field support officer.

It may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide, but this must be agreed by a Field Support Officer.

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- clear scrub in the bird nesting season 1 March to 31 August.
- Remove stumps using heavy machinery.
- burn standing scrub without the written agreement from a Field Support Officer.

Requirements and guidance in addition to the specification above:

Scrub consists of woody shrubs or trees such as hawthorn, willow, gorse and birch which are pioneer or opportunist species. Scrub needs to be controlled and/or removed where it threatens to replace more valued wildlife habitats, causes damage to archaeological remains, or obscure routes used for public access.

Whilst capital payments are available for scrub clearance, many areas of scrub are also of significant landscape and wildlife value in their own right.

After cutting, many species will respond by sending out new shoots rather than being killed outright. This growth may be controlled by grazing pressure or by mowing, but it may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide when it is cut.

Use of Herbicides

It may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide, but this must be agreed by a Field Support Officer.

Any chemical used must have a label recommendation for treating scrub (either re-growth or cut stumps) and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide should be strictly adhered to.

Follow the recommendations of the [Code of Practice for using plant protection products](#)

Scrub Clearance on Archaeological Sites

Archaeological features such as barrows, forts, deserted medieval villages or even simple boundary banks are often best preserved under a cover of grass or heath. A light grazing or mowing regime is all that is required to maintain this cover following scrub removal.

You must ensure that earthworks are not disturbed and that a cover of grass or heath is quickly re-established.

6755 Scrub/Tree Clearance: Mechanical

This technical note describes the minimum standard of work required in order to receive payment for 'Scrub Clearance – Mechanical'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer prior to starting the work.

You must adhere to the following:

- Cut scrub at ground level leaving no protruding stumps using machinery.
- When carrying out partial scrub clearance (e.g. on the edge of a heathland or peatland or when breaking up a dense stand of scrub into smaller blocks), ensure that the scrub edges retain a natural and uneven appearance. Small bays and other sheltered locations are particularly valuable for butterflies and many other invertebrates.
- Cut material should be kept on site but where possible away from valuable habitats unless agreed with the Field Support Officer.
- You must seek advice from the Welsh Government if protected species, such as badger, are likely to be present.
- Removal of stumps/runners must not be undertaken without agreement from your field support officer.
- It may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide, but this must be agreed by a Field Support Officer.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- clear scrub in the bird nesting season 1 March to 31 August.
- burn standing scrub without the written agreement from a Field Support Officer.

Requirements and guidance in addition to the specification above:

Scrub consists of woody shrubs or trees such as hawthorn, willow, gorse and birch which are pioneer or opportunist species. Scrub needs to be controlled and/or removed where it threatens to replace more valued wildlife habitats, causes damage to archaeological remains, or obscure routes used for public access.

Whilst capital payments are available for scrub clearance, many areas of scrub are also of significant landscape and wildlife value in their own right.

After cutting, many species will respond by sending out new shoots rather than being killed outright. This growth may be controlled by grazing pressure or by mowing, but it may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide.

Use of Herbicides

It may be necessary to treat either the cut stump or the bushy re-growth with a suitable herbicide, but this must be agreed by a Field Support Officer.

Any chemical used must have a label recommendation for treating scrub (either re-growth or cut stumps) and for the intended method of application. All manufacturers label recommendations regarding application of the herbicide should be strictly adhered to.

Follow the recommendations of the [Code of Practice for using plant protection products](#)

Scrub Clearance on Archaeological Sites

Archaeological features such as barrows, forts, deserted medieval villages or even simple boundary banks are often best preserved under a cover of grass or heath. A light grazing or mowing regime is all that is required to maintain this cover following scrub removal

You must ensure that earthworks are not disturbed and that a cover of grass or heath is quickly re-established.

6766 Sediment Traps

This Technical Note describes the minimum standard of work required to receive payments for Sediment traps

Some areas e.g. farm or forestry/woodland tracks, tram lines or natural slopes of fields can accelerate overland flow, resulting in localised flooding and soil loss. This option is one of a number of tools available that can help reduce this problem, but should not be used as a substitute for managing your soils appropriately.

Sediment traps capture run off from tracks and fields by slowing movement through run-off pathways which will help reduce localised flooding and capture sediment and reduce impacts on sensitive receptors. They also provide additional positive benefits to the nature conservation and landscape value at the farm scale.

You must adhere to the following:

- Locate the ditch, bund or berm which creates the sediment trap near a place of run-off such as a farm or forestry / woodland track or by leading off tramlines.
- Situate within existing grass buffer strips if possible.
- The sediment trap should be approximately 8 metres long x 8 metres wide x 1 metre deep (internal measurements) and constructed ideally from a clay dominated soil.
- Consolidate the sides of the bunds that form the trap which will force water to infiltrate down into the groundwater and so removing sediment.
- Seed the bunds which form the trap using native grass species. Trim annually or biannually after 31st July to prevent scrub invasion and to prevent any disturbance to nesting birds.
- Clean out the sediment between two and five years. Sediment deposition will depend on runoff rate, soil type and weather conditions. Spread the sediment as thinly as possible on arable land or temporary leys.
- You should have the relevant waste exemption. [Natural Resources Wales / Register or renew your waste exemptions](#).
- You will need to provide evidence that you have fully consulted with and followed the recommendations provided by Natural Resources Wales regarding this capital work and this evidence must be submitted along with your Capital Works Claim Form before your capital works can be paid.
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

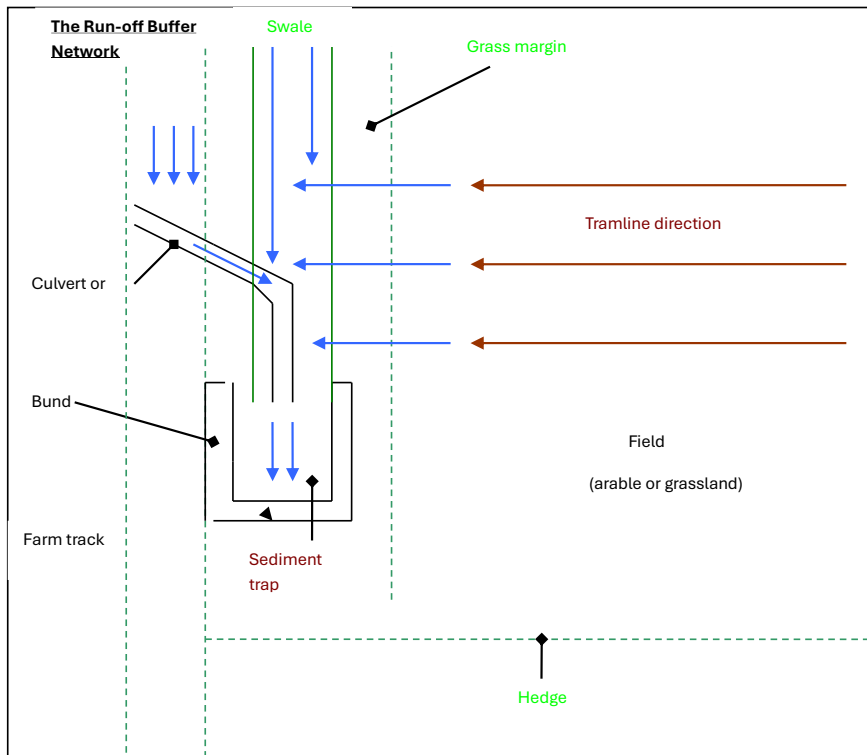
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- remove hedgerows
- divert runoff from a public highway.
- pile sediment removed from the trap in heaps as it will be rich in nutrients and will be a suitable growing medium for injurious weeds, such as common nettle, broad-leaved dock and creeping thistle.

Requirements and guidance in addition to the specifications above:

- This option is suitable for all land use systems such as arable, horticultural, grassland and forestry where overland flow and soil loss are an issue.
- Run-off buffers are easily incorporated into existing field margin systems with minimal disruption to existing habitats and the cropping area.
- Run-off flow is rerouted through culverts, sleeping policemen or swales. Velocity is reduced and sediment is allowed to settle in the sediment trap.
- This option cannot be used for farmyard areas where there is livestock housing, movement or manure storage.



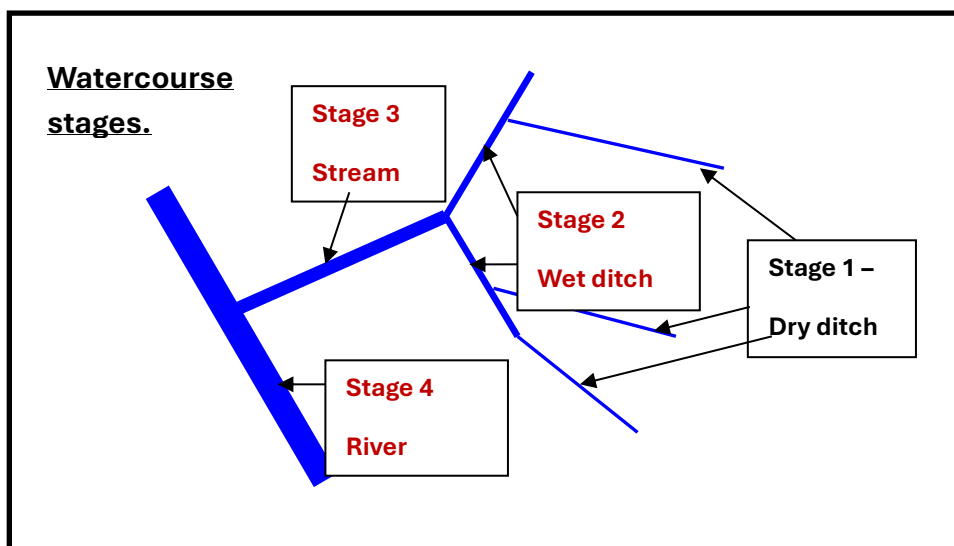
6767 Seepage Barrier

This technical note describes the minimum standard of work required to receive payments for 'Seepage Barrier'. Where there are local traditional methods or styles which vary from this standard, these can be used, but any variation must be approved by a Field Support Officer.

Seepage Barriers capture run-off from tracks and fields which will help reduce localised flooding and reduce impacts on sensitive areas. They also expand and complement existing field margin networks and to integrate into existing agricultural operations without forfeiting large areas of land.

You must adhere to the following:

- Choose a suitable location with your Field Support Officer. **Locate in stage 1 ditches.**





- Create a barrier in the ditch measuring no more than 4m wide and 1m high. Wooden slats (pressure treated) should be formed either vertically or horizontally (if less than 2m wide) leaving 1 or 2mm gap between each barrier. In effect, water should seep through the barrier over a period of time. It is important to make the water seep between slats, so as to allow movement of water. Galvanised steel girders may be used as holding posts for the slats. You can use natural materials from local woodland or hedgerows or recycled plastic barriers. The slats must be of sufficient strength to resist the force of fast flowing water and also have the durability to last the term of the Grant Award.
- If you are undertaking work within and Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.

A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)

- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a

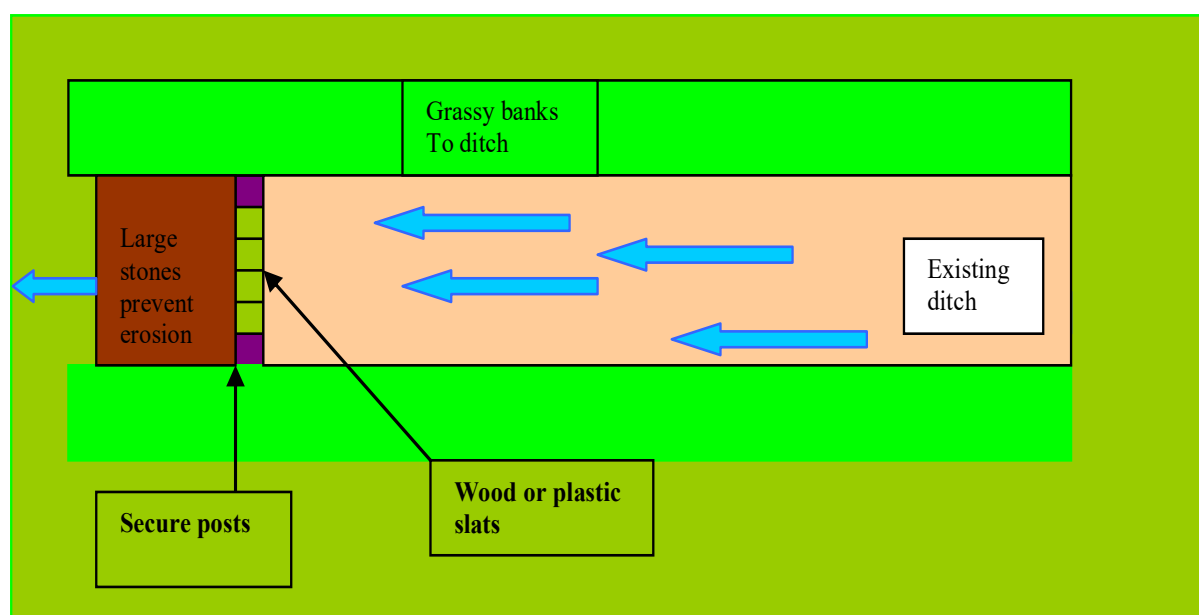
copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer “yes” to any of the checklist questions, you should apply for an impoundment licence. If you answer “no” to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).

Do not:

- treat wood with a chemical wood preservative product as these are toxic to aquatic life.
- locate near to houses and premises to minimise the risk of localised flooding.

Seepage Barrier construction.



Requirements and guidance in addition to the specifications above:

- Seepage barriers should be located within a ditch where land on either side is in the farmer's control and there is a low risk to land or property if the structure was to cause local flooding.
- Seepage barriers can store up 25m³ of water and sediment and more if the ditch has a low gradient. They must only be located in the first upper stages of ditches and must not be constructed on natural watercourses. This option is best placed where the ditch system carries a fast flow of water during intensive rain events. The number of barriers in any one ditch would depend on the gradient, with more barriers used on steeper gradients.
- These are suitable for locating next to a track with a ditch running alongside and can be linked in with a run-off buffer.
- This option is suitable for all land use systems such as arable, horticultural, grassland and forestry.



Seepage Barrier across a ditch.

6768 Soil Testing: Nutrients and pH

This technical note describes the minimum standard of work required to receive payments for 'Soil Testing: Nutrients and pH'.

Background

The chemical analysis of soils is necessary to precisely characterise the soil being studied and facilitate accurate fertiliser or habitat creation recommendations. When sampling a field, it is vital that the sample obtained is representative, i.e. there is a high probability that a similar sample obtained in the same way would produce a similar chemical analysis.

This technical note describes the equipment and techniques to be used to take representative soil samples for pH and nutrient analysis. The sample taken will also be suitable for other types of analyses, e.g. organic matter content and texture.

You need to adhere to the following:

- Prepare sample bags with field name sample number and date. You may need more than one sample if you know that there is significant variation in your soils in the field
- Work out which sampling strategy you are going to use.
- Ensure you know what sample size your preferred laboratory requires and identify information you need to send with the sample.

Materials and Equipment

Ideally soil samples should be taken with the following equipment:

- An Auger
- Screw auger (see Appendix 2). Screw augers are NOT suitable for sampling grassland or uncultivated soils, e.g. fruit plantations
- Cheese corer (see Appendix 2). Suitable for most crops and soil conditions. Hand held corers without a foot bar are suitable for peaty soils
- Pot corer (see Appendix 2). Mainly used for grassland sampling
- Tubular corer (see Appendix 2). Suitable ONLY for stone-less soils or soils with very few stones with a diameter about half that of the corer tube.

- Soil spatula, for use with cheese corer
- Ruler graduated in cm
- Adjustable spanner (for use with the tubular corer)
- Bucket or pot for combining the sub samples and mixing before taking subsample
- New clean polythene bags 300 x 200mm to 500 x 400mm which is big enough to provide the sample size required by your preferred laboratory
- Rubber bands or ties
- Tie-on or self-adhesive labels
- Permanent marker pen
- Farm field map with field names as appropriate

Procedure

Safety considerations

There is a risk of contracting tetanus from soil. Anyone who takes soil samples should ensure they maintain a course of injections to protect themselves against tetanus infection.

Efficient soil sampling tools have sharp edges; care should be taken when they are used.

Back injuries can occur when using soil sampling tools. This risk can be minimised by using the correct equipment and a good lifting technique, i.e. keep the back straight and bend the knees. If you are unsure of this technique or have never used a soil sampling tool, you must ensure that you receive full training before taking soil samples.

When to take Samples

Leave as long as possible between the last fertilizer or manure application. Sample after the last fertiliser or manure application has been cultivated into the soil. **Do NOT** sample within three months of lime, fertilizer or manure application. Do not include grass or crop residues in the sample and remove any stones

Labelling

Labelling should include field name/number, farm/farmers name, depth of sampling if other

than 0-15cm and date sampled. Three alternative methods of sample identification are recommended:

- a) Write directly onto polythene bag with a permanent marker pen.
- b) Write on self-adhesive or tie-on labels.
- c) Print self-adhesive labels using a computer with suitable labelling software and printer.

Where appropriate, place an identical additional label inside each bag for extra security. This should be waterproof e.g. wrapped in a thin polythene bag

Guidelines for taking representative soil samples from fields

Each sample should consist of not less than 25 cores of soil taken from separate points, evenly distributed across the area to be sampled, irrespective of its size. Use a 'W'-shaped or regular grid pattern traverse. Appendix 1 gives examples of suitable sampling schemes.

Samples collected should be sub-sampled after thorough mixing to provide the appropriate sample size as stated by your preferred laboratory. No single sample should represent more than 10ha.

Take separate samples from areas with known differences of:

- a) Soil type,
- b) Cropping history,
- c) Lime and fertilizer applications,
- d) Organic manure applications,
- e) Areas within fields which have a history of better or worse performance than the rest of the field.

If fields are sub-divided, mark field maps with sample divisions for future correlation with results. Avoid small untypical areas such as old manure heaps, headlands, gateways, fire sites, around trees, around ring feeders and stock-congregating areas.

Cores should be taken from 0 to 15cm for arable rotations, short-term leys and long-term leys

if they are about to be ploughed out. For permanent grass and long-term leys which are to remain undisturbed and grassland creation sites, the sampling depth should be 0 to 7.5cm. Recently ploughed land and other ridged surfaces (e.g. potato ridges) should not be sampled. If for any reason, this cannot be avoided, the sample should be taken to ensure that the depth of sampling is as required and that no subsoil is included. In loose arable soils, it may be necessary to consolidate the sampling point with your foot to ensure an even sampling depth. If possible, avoid sampling in very dry soil conditions.

Taking soil samples using a screw auger

Following an appropriate sampling pattern (see Figure 1), go to the first sampling point:

Step 1: Screw the auger vertically into the soil until the auger reaches the required sampling depth, e.g. screw in 15cm for a 0 to 15cm sample.

Step 2: Pull the auger out of the ground keeping your knees bent and your back straight.

Step 3: Inspect the sample obtained. If there are any missing sections of soil, discard the sample and repeat the sampling process, within 1m of the original sampling point, until a sample is obtained without any missing sections.

Step 4: Remove the soil sample from the auger and place it in the sample bag or tray. Techniques vary for transferring the soil from the auger to the sample bag. The most common technique is to hold the auger bit over the opened sample bag and rotate the auger with your right hand whilst lightly gripping the auger bit between the thumb and forefinger of your left hand.

Move to the next sampling point and repeat steps 1 to 4.

When all the sampling points have been sampled the bag can be sealed and, if not already, labelled.

Taking soil samples using a Cheese corer

Following an appropriate sampling pattern (see Figure 1), go to the first sampling point:

Step 1: With one foot on the ground and the other on the foot bar of the corer, press the corer vertically into the soil until the depth the corer is inserted to the required sampling depth, e.g. press in 15cm for a 0 to 15cm sample. Rotate the corer once to cut a vertical cylinder of soil.

Step 2: Pull the corer out of the ground, keeping your knees bent and your back straight.

Step 3: Inspect the sample obtained. If there are any missing sections of soil, discard the sampling by scraping it off the corer with the spatula and repeat the sampling process within 1m of the original sampling point, until a sample is obtained without any missing sections.

Step 4: Remove the soil sample from the corer, by scraping it off with the spatula into the sample bag.

Move to the next sampling point and repeat steps 1 to 4.

When all the sampling points have been sampled the bag can be sealed and, if not already done, labelled.

Taking soil samples using a pot corer

Following an appropriate sampling pattern (see Appendix 1), go to the first sampling point:

Step 1: With one foot on the ground and the other on the top of the pot, press the corer vertically into the soil until the bottom of the pot is resting on the soil surface.

Step 2: Twist and pull the corer out of the ground keeping your knees bent and your back straight.

Move to the next sampling point and repeat steps 1 to 2.

After about six sampling points have been sampled, tip the soil which has collected in the pot into the sample bag.

When all the sampling points have been sampled, the bag can be sealed and if not already done, labelled.

Taking soil samples using a tubular corer

Use the spanner and rule to adjust the position of the depth control plate so that the distance between the tip of the cutting edge and the base of the depth control plate is the same as the required sampling depth.

Following an appropriate sampling pattern (see Appendix 1), go to the first sampling point:

Step 1: With one foot on the ground and the other on the foot bar of the corer, press the corer vertically into the soil until the base of the corer depth control plate rests on the soil surface. Twist and pull the corer out of the ground keeping your knees bent and your back straight.

Step 2: Remove the soil sample by tipping the corer and, if necessary, carefully pressing the base of the soil sample with your thumb, letting the soil sample drop into the sample bag.

Move to the next sampling point and repeat steps 1 to 2.

When all the sampling points have been sampled, the bag can be sealed and if not already done, labelled.

Dispatch of samples to the laboratory

Samples should be despatched to an accredited laboratory together with a completed laboratory sample submission form as soon as possible after sampling.

Ensure paperwork sent with soil samples is protected from degradation in transit i.e. keep away from wet sample bags. Place paperwork in an addressed envelope and clean polythene bag as necessary.

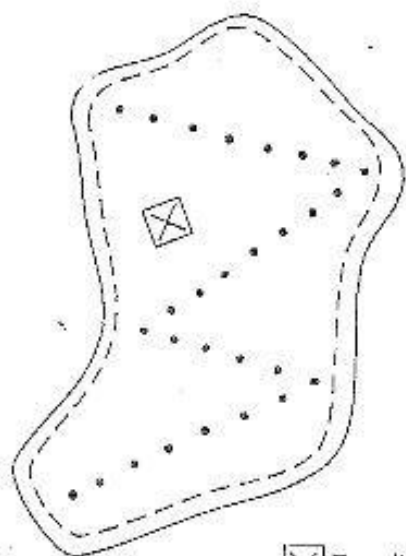
If samples will not be sent to the laboratory within 5 days they should be stored securely, in

the dark, between 1 and 4°C (samples must not be frozen).

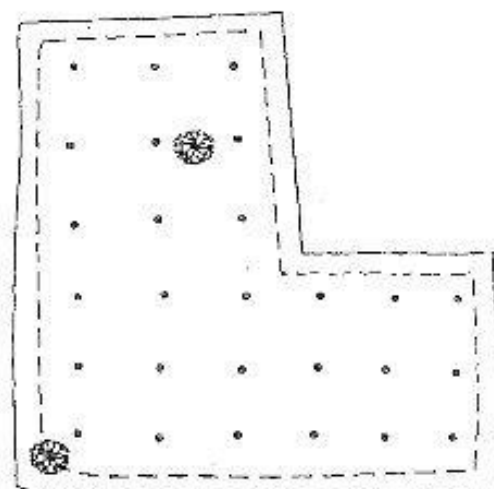
Please note that full details of the laboratory used and all paper work relating to the sampling results must be retained for inspection.

APPENDIX 1

SPECIMEN SAMPLING PATTERNS



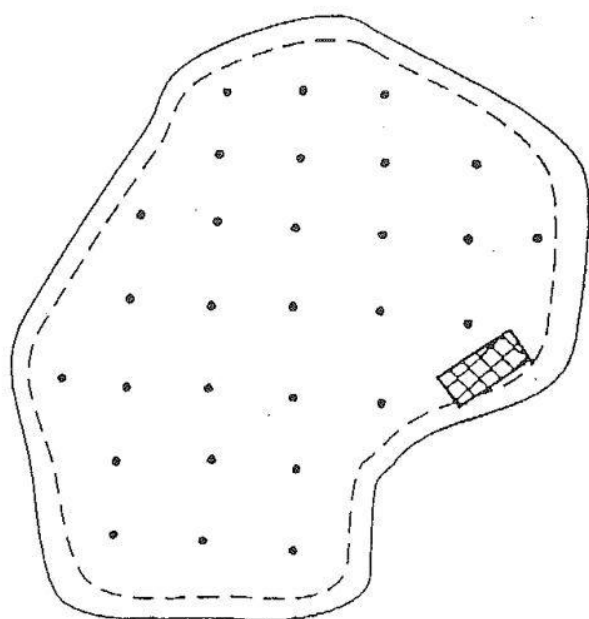
☒ Feeding Troughs



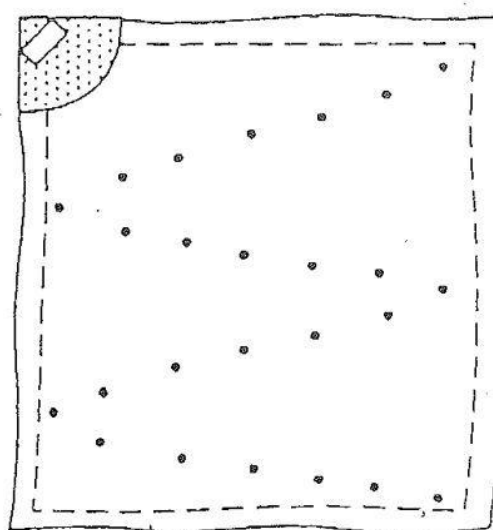
⊗ Trees

1. Irregular Field, "W" Pattern

2. Regular Field, Grid Pattern



⊞ Straw Stack



⊞ Drinking Trough

3. Irregular Field, Grid Pattern

4. Regular Field, "W" Pattern

Diagram © ADAS 2009

APPENDIX 2

TYPES OF SOIL SAMPLING TOOLS

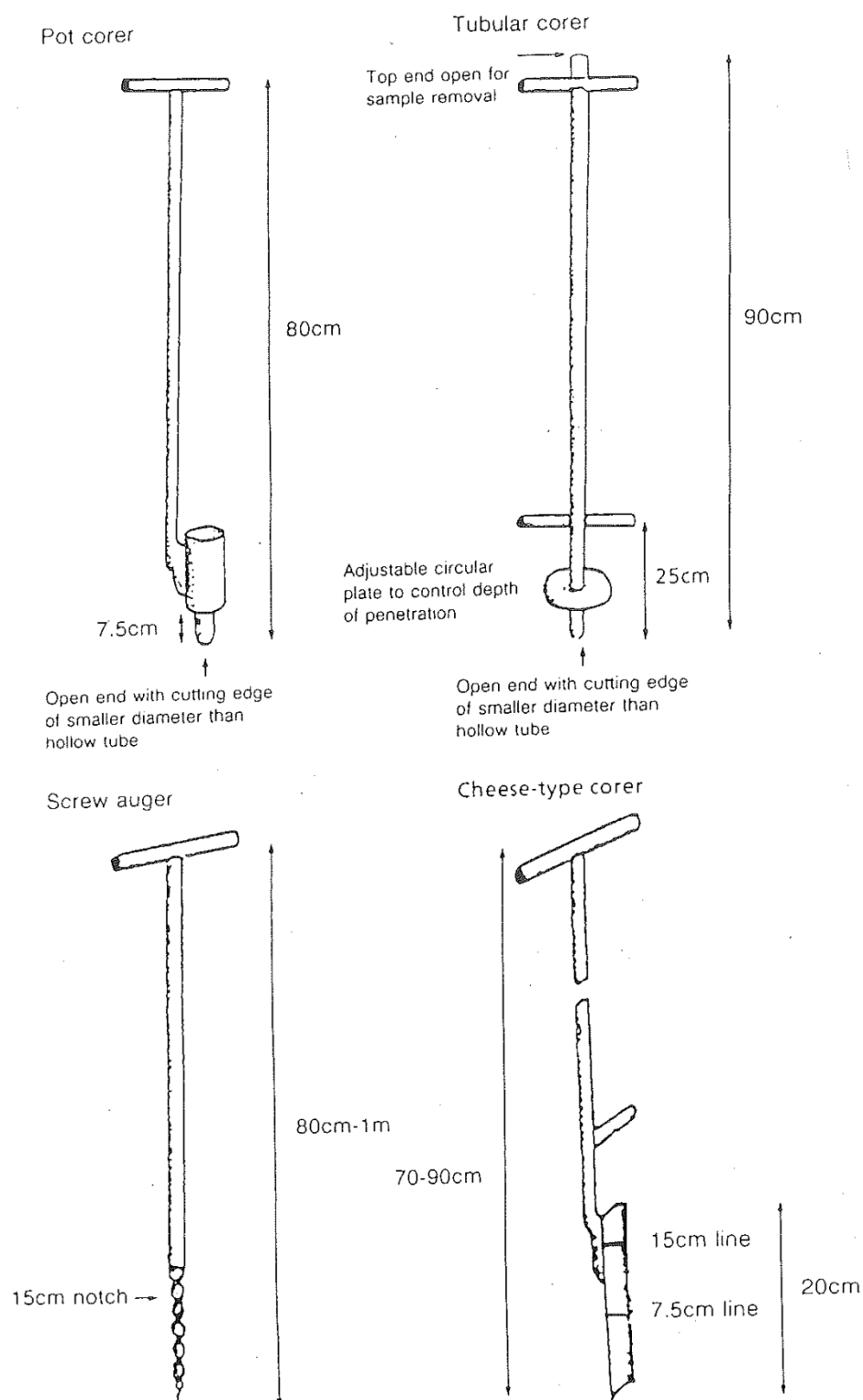


Diagram © ADAS 2009

6770 Standard gate (Metal)

This technical note describes the minimum standard of work required in order to receive payment for 'Standard gate (Metal)'.

You must adhere to the following:

- A standard new 12ft galvanised seven bar pattern field gate made of hot-dip galvanised steel.
- Top and bottom rails should be at least 41mm diameter tubes and middle rails at least 32mm. Hanging and slamming posts should be either galvanised steel 88mm diameter tubes or treated softwood or hardwood.
- 200mm square.

6772 Supplementary Bird Feed

This technical note describes the minimum standard of work required to receive payments for 'Supplementary Bird Feed'.

Putting out seed through the winter and in the summer, can support seed-eating birds in areas without stubbles or wild bird cover crops. Species such as yellowhammer, tree sparrow, and twite need seed food throughout the year to survive. Providing seed food from October through to March will help them to survive the winter. Twite is almost totally dependent on seed food, and it is more beneficial to supplementary feed them in the spring/summer. You should, therefore, provide seed for twite from March through to October. You should only supplementary feed in the summer if your farm is within a twite target area. The feeding of all other bird species should be during the winter.

Tailings, the by-product of the grain cleaning process, can also be used to supplement over-winter stubbles or wildlife cover crops. The quality of over-winter stubbles depends on the amount of seed food within them. Likewise, wildlife cover crops will vary in terms of the abundance of seed produced and, therefore, how long they last as a good feeding site. Seed can be spread on adjacent tracks to supplement these feeding areas. Providing seed food for birds from February until April can also help with filling a gap in food availability, when wildlife cover crops and winter stubbles have become depleted of seed.

You must adhere to the following:

Where to Put a Feeding Station

The feeding station should be in an area used by farmland birds and close to a hedge or bushes, so that birds can quickly find cover if they are disturbed.

If you choose an open site away from hedges you may attract skylarks, but you are also more likely to attract woodpigeons and crows. A non-cropped area such as a farm track or area of short grassland is ideal, as you will then avoid reintroducing weed seed onto your arable land.

A firm, free-draining surface is best, as there is less risk of the seed rotting or germinating. It is important that the seed is not spread in thick vegetation, as it needs to be clearly visible to attract the birds.

What Feed to Use

The choice of feed should be altered to suit the birds you are targeting. Yellowhammer feed on a variety of seeds, including grain and small weed seeds. Tailings can be used if they are mostly weed seed and chipped or small grains. Pure cereal grain can also be used, but they prefer wheat to barley or oats because it has no husk. Do not use tailings that are mostly husk or chaff as they are of no benefit to the birds. Twite prefer 'Nyjer' (or Niger) seed placed in yards or tracks.

When and How to Feed

For all bird species, except twite, start feeding in early October so that the birds become used to a reliable food source before their other food supplies run out. Carry on feeding until the end of March. The seed should be replenished once a week throughout the period. The demand for seed will depend on how many birds are attracted and demand will be higher in periods of cold weather. The average weekly amount of seed should be 20kg/week (500Kg per year) or an amount agreed with your Field Support Officer as stated in your Grant Award

For twite, start feeding with nyjer seed in March through to the end of October. The seed should be replenished once a week throughout the period. The average weekly amount of nyjer seed should be 8kg/week (200kg per year), or an amount agreed with your Field Support Officer as stated in your Management Plan.

Do not wait more than a week before putting fresh food down. It is a good idea to use an adjacent stretch of track each time so that new food does not pile up on top of old food. This will reduce the risk of diseases, such as salmonella, spreading through the bird populations. It will also reduce the use of the feeding stations by rodents, as farmland birds are more able to make use of a mobile feeding station that moves along a track or hedgerow through the winter. However, if you suspect a disease outbreak, such as [Trichomonosis](#), then it may be necessary to cease feeding or move feeding to a different location as far away as possible. Speak to your Field Support Officer if you suspect an outbreak of disease.

6773 Swales

This technical note describes the minimum standard of work required to receive payments for 'Swales'. Where there are local traditional methods and styles which vary from this standard these can be used, but any variation must be approved by your Field Support Officer. Special and unique areas such as the Gwent Levels may well follow a different prescription and your Field Support Officer will advise on these accordingly.

Swales are grassed depressions which lead surface water overland. When compared to a conventional ditch, a swale is shallow and relatively wide, providing temporary storage for storm water and reducing peak flows.

You must adhere to the following:

- The work should consist of site preparation and excavation of the swale.
- You should construct the swale and the contour at a longitudinal slope of normally no greater than 2°.
- Mark the layout of the swale on the ground and excavate the swale to a centre depth of 750mm and a width of at least 2.5m.
- Topsoil should be stockpiled separately and used in the bottom of the swale and on the graded slopes.
- Side slopes should be graded to no more than 1 in 3.
- Excavate the floor of the swale for a further 150–250mm and replace the excavated material with topsoil.
- Establish a dense grass sward on the sides and floor of the swale. A seed mixture should be sown at a seed rate of 25g/m² and consist of a multi species grass mix such as creeping red fescue (70%), smooth meadowgrass (20%) and creeping bent (10%).

Requirements and guidance in addition to the specifications above:

- Swales slow down the rate of runoff or provide temporary storage. This will encourage infiltration of runoff into the ground, depending on soil and groundwater conditions and evaporation. They also treat runoff through filtering by the vegetation, through the subsoil and/or infiltration into the underlying soil.
- Other capital works such as sluices, earth bunds and seepage barriers, may be added as check dams to reduce the flow of water on grater slopes. These should be located at regular intervals along the swale, though the steeper the gradient of the swale the shorter the distance between them should be.
- Additional advice may be sought from Natural Resources Wales.
- For grant claim purposes, measurement should start at the inside edge of the created bank.

6774 Sward Enhancement Using local provenance seed (grassland or heathland)

This technical note describes the minimum standard of work required in order to receive payments for 'Sward Enhancement Using Local Provenance Native Seed (grassland or heathland)'.

A Field Support Officer will identify areas where native seed introduction could be beneficial and indicate the target community to be restored

Sward Enhancement for Grassland

You must adhere to the following:

- Sow only species that are characteristic of the community to be restored and the locality. Your Field Support Officer can supply you with a list of species made to the requirements of the site and local seed sources if known.
- Always ask for source-identification, evidence of seed origin; suppliers should know the source of seeds for all native species they sell. Organise your seed order well ahead of the planting time. e.g. not SE England or N Scotland
- Include Yellow Rattle (*Rhinanthus minor*), if possible, in the crop-grown seed mixes for neutral grassland
- Do not use agricultural cultivars of grasses or wild flowers that have been developed for forage production as they may either dominate or disappear after a few years.
- Use only source-identified seed of native wild origin to the region or locality of planting.
- Use seed rates: 5-10 kg/ha of a wildflower and grass seed mix (usually including at least 10% wildflower seed). 1-2 kg/ha of a pure wildflower seed mix.

Preparation of restoration site

The restoration site must be suitably prepared so that seed can be sown during July to mid-September (before mid-September in upland areas).

Patch or strip-spraying method, using no soil disturbance

This method involves no soil cultivation so minimises nitrate leaching and disturbance that could lead to a flush of perennial weeds.

Prior to spraying the sward should be grazed or mown and harrowed if there any grass mats. Areas should be chosen to patch or strip-spray with a total kill herbicide. Herbicide should be applied to the sward when there is sufficient leaf area to absorb the chemical, but not on tussocky grassland or where thick grass mats are present. The size and number of patches or strips will depend on the size of the area to be enhanced. The total area killed should not exceed 30% of the site, and the patches should be well distributed across the field. Native seeds will be sown over killed areas of the sward.

Whole-field treatments, using mechanical preparation methods.

This technique is not suitable for sites with a recent history of Dock or Creeping Thistle infestation, or for highly improved swards that have been regularly fertilised

Create 50% bare ground across the whole site by, for example, power harrowing or discing or livestock. Seeds should be sown over the bare areas of the field

Sowing Native Seeds

Sowing depth

Seed should be broadcast or drilled on the soil surface. It should not be buried by slot-seeding, because all wild seed requires light to germinate. Burying seed only a few millimetres may significantly reduce the germination rate of the seed sown.

When to sow

The ideal time to sow seed is late summer, early autumn (July to mid-September, but before mid-September in the uplands). Sowing in mid-late July can work well, but in dry summers drought conditions can lead to some losses if germination occurs. Plants germinating late in autumn can be prone to frost damage.

Spring sown is not recommended, except for areas prone to winter flooding or where rain may wash seed away. Spring sowing can also be prone to spring or early summer drought.

Some wild flowers, such as Yellow Rattle, must over-winter and will not germinate until the following spring. Yellow rattle seed should always be sown in late summer/autumn, using seed harvested that year.

Machinery and equipment for sowing seed

Seed mixtures are best sown using a fertiliser spinner or small micro-seeder. Please clean a fertiliser spinner before use, as fertilizer residue may affect the germination rate of the seed. The rate can be calibrated by driving at a known speed, using

measured weight of seed over the know distance and by measuring the breadth of seed distribution from the spinner.

Aftercare

After sowing, seed must be bedded in to ensure good contact with the soil, by trampling with livestock (preferably cattle) or light rolling.

6775 Terrestrial and Freshwater INNS Plants: Clearance by hand, pulling and digging of INNS vegetation

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial and Freshwater INNS Plants - Clearance by hand, pulling and digging of INNS vegetation

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

This payment covers the cost of clearance of an area of plant INNS by hand, this can include using hand tools to pull or dig plants and cut roots.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action:6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.
- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of

spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.

- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- hand clearance of plant INNS would primarily be used for controlling small infestations of newly arrived plants or in areas where the use of other methods is not possible or desirable (e.g. use of machinery on rocky or inaccessible ground or use of herbicides).
- ensure that every last fragment of Japanese knotweed (or other knotweeds) is removed as they can regrow from very small fragments of stem, crown and rhizomes and can extend many metres underground.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- make sure you wear appropriate personal protective equipment such as gloves.

Do not:

- use this action to control Rhododendron or Laurel – see the SFS management actions for: Terrestrial INNS Plants - Rhododendron and Laurel Control.
- use this action to control native invasive species such as injurious weeds, bracken, gorse, rush infestations, brambles or nettles.

Requirements and guidance in addition to the specifications above:

Hand pulling, digging or cutting is suitable for most plant INNS but special consideration should be given to the following plants:

Giant hogweed:

Hand pulling is not recommended. Cut the taproot below ground using a spade or specialist equipment at least 15cm below the lowest leaves (basal rosette); plants cut above this may continue to grow, flower and set seed. Cut three times per year; undertake the first cut between February and April, the second cut in April/May and the third cut in May/June.

The sap of Giant hogweed can cause photosensitivity on contact with skin leading to recurring blisters and scarring; appropriate protective clothing should be worn to prevent any skin contact with any part of this plant.

The flowering heads of Giant hogweed can be removed before they set seed to reduce the risk of spreading new plants, this can be a method of control rather than eradication. The same approach can be taken with the fruiting stems of American skunk cabbage.

Japanese knotweed (and other knotweeds):

Hand pulling or root cutting should not be used. Hand digging is only suitable when the plant is very newly arrived in a small area. It is essential to remove every last fragment of rhizome as the plant can grow from fragments only 1 cm in length. Rhizomes can spread many metres underground.

Knotweed species include:

- Japanese knotweed
- Dwarf knotweed
- Giant knotweed
- Bohemian knotweed.
- Himalayan knotweed

Visit Welsh Government website for further information: Welsh Government:

<https://gov.wales/japanese-knotweed-public-information-controlling-invasive-species>

<https://gov.wales/japanese-knotweed-advice-community-and-voluntary-groups>

Monitoring and follow up treatment

Monitor the effectiveness of the control treatment in subsequent years. If any regrowth or new growth is present, retreat using an appropriate method of control.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

Disposal of plant material

Off site:

Plant INNS material or contaminated soil is a controlled waste. If moved offsite, it must be transported by a registered waste carrier and disposed of at a suitably licensed or permitted waste facility, you may need to check that they will accept the waste.

On site:

It is often less costly and better for the environment to dispose of plant INNS material on the site where it has been grown.

When treating or disposing of plant INNS on site you will need to apply for a waste permit unless you can follow the conditions in NRW's Regulatory Statement 058.2:

[Regulatory statement 058.3 Treatment and disposal of invasive non-native plants](#)

If the plant material contains no viable seeds, stems or roots and is unlikely to regrow (for example Himalayan balsam pulled before flowering) then it can be composted on site.

Composting is not an option for disposal of Japanese knotweed (or other knotweeds).

Burning of untreated green waste must be done in line with local bylaws and waste legislation:

[Register or renew your waste exemptions](#)

6776 Terrestrial and Freshwater INNS Plants: Foliar application herbicide

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial and Freshwater INNS Plants - Foliar application herbicide

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

Foliar application is an effective way to spot treat certain plant INNS. Spot treatment refers to several methods of treatment using herbicides in a targeted way including foliar application, cut and stump treatment and stem injection.

This payment covers the cost of clearance of an area of plant INNS by foliar application of herbicide.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.

- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- the herbicide must be approved and must have a label recommendation for its intended use and for its intended method of use. Herbicide should be applied at the recommended dilution. Adjuvant can be added to the herbicide to improve uptake.
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- foliar application of herbicide needs to be carried out with care by a skilled and suitably qualified operator to ensure precise application.
- make sure appropriate personal protective equipment such as gloves are worn.

- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline ([SMR 10](#)) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.
 - keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
 - pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
 - dispose of unused herbicide safely at the end of each day.

Do not:

- use this action to treat Rhododendron or Cherry laurel with herbicides – see the SFS management actions for: Terrestrial INNS Plants - Rhododendron and Laurel Control.
- use this action to control native invasive species such as injurious weeds, bracken, gorse, rush, brambles or nettles.
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 6 hours with no rain forecast for knapsack application with adjuvant added, 12 hours without, preferably 24).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

As a standalone method or as a follow up treatment to other methods of control such as stem injection or cut and stump treatment, foliar application can be very successful.

Use foliar application of herbicide for plant INNS such as Japanese knotweed (and other knotweeds), Giant hogweed, giant rhubarb species, American skunk cabbage, invasive Cotoneaster species and Himalayan balsam (though other treatments such as hand-pulling before flowering may be more effective).

It can also be used for certain freshwater plant INNS with appropriate permissions for herbicide use near water on species such as Parrot's feather, Floating pennywort and Australian swamp stonecrop (also known as New Zealand Pygmyweed).

Herbicide can be applied with a:

- knapsack sprayer at low pressure fitted with a hollow cone nozzle
- forestry spot gun with solid stream nozzle
- micro weed wipe – sponge applicator
- paint brush
- clearing saw with suitable attachment.
- controlled droplet application (CDA)

The herbicide should be made up to the appropriate dilution with water and needs to be thoroughly mixed (at least two minutes) as it is an oil and water solution.

An adjuvant can be added to help improve covering of leaf surfaces and rainfastness. Adding adjuvant is not recommended when working near water.

To be effective, herbicide should be sprayed onto every leaf to the point of foliar wetness (i.e. the point just before run-off).

Care should be taken to avoid spray or run off causing damage to surrounding native vegetation as it can take many years to recover.

Plant INNS that can be treated by foliar application of herbicide

This payment can be used to treat other plant INNS not listed here as agreed with your advisor.

Terrestrial

Japanese knotweed (and other knotweeds): foliar spraying of herbicide with an appropriate adjuvant can be applied after the plant has flowered from August to October. Applying herbicide earlier in the year may stunt growth, but it will not kill the plant. Large, mature stands of Japanese knotweed will need to be treated once per year for two or three years to achieve control. Visit Welsh Government website for further information: Welsh Government:

<https://gov.wales/japanese-knotweed-public-information-controlling-invasive-species>

<https://gov.wales/japanese-knotweed-advice-community-and-voluntary-groups>

Giant hogweed: foliar spraying can be effective before the production of seeds in August. Visit Welsh Government website for further information:

<https://www.gov.wales/sites/default/files/publications/2022-03/giant-hogweed-public-information-controlling-invasive-species-wales.pdf>

Himalayan balsam: Visit Welsh Government website for further information:

<https://www.gov.wales/sites/default/files/publications/2022-03/himalayan-balsam-public-information-controlling-invasive-species-wales.pdf>

Invasive Cotoneaster species: Foliar spraying can take place year-round, but March/April until September/October is recommended (during the active growing season prior to seed production). A dye can be added to the solution so that treated plants can be identified later. Further guidance is available:

<https://www.nonnativespecies.org/assets/OGN-239-Controlling-cotoneaster.pdf>

Giant rhubarb species: foliar spraying of herbicide is only effective when applied later in the growing season (August to September) when foliage is sufficiently large enough for a lethal dose of herbicide to be taken up, two or more treatments may be required per year.

American skunk cabbage: foliar spraying of a suitable herbicide, approved for use in aquatic environments where applicable, can be effective. Follow manufacturers' instructions for application timing.

Montbretia: foliar spraying of herbicide can be applied early in growing season (March to June) before flowers appear, a single annual treatment may need to be repeated.

Variegated yellow archangel: foliar spraying of herbicide can be applied throughout the year. A single annual treatment, repeated for at least two years may be needed.

Hottentot fig: foliar spraying of herbicide can be applied throughout the growing season from June to August, several annual treatments may be required.

Invasive bamboo: foliar spraying of herbicide can be applied from late summer to autumn; several annual treatments may be required over at least three years.

Spanish bluebell: foliar spraying of herbicide with an appropriate adjuvant can be applied in May until the end of flowering until the middle of June, most effective when also combined hand excavation of bulbs. Treatment will need to be repeated annually for at least the following two years.

Freshwater

Foliar application of herbicide is not effective for most freshwater plant INNS except for the following species.

Australian swamp stonecrop: foliar application of herbicide with an appropriate adjuvant (both suitable for use in aquatic environments) is effective only on terrestrial infestations. If it is possible to drain the waterbody, treatment may be more successful as foliar application may not affect plants growing under the surface. The treatment can be carried out every two months in the growing season (March to October) with repeated treatments over several years.

Parrot's feather: larger infestations can be treated with a foliar application of herbicide with an appropriate adjuvant (both suitable for use in aquatic environments) to plants growing above water level, carried out every two months during the growing season (March to October) with repeated treatments over several years. If it is possible to drain the waterbody, treatment may be more successful as foliar application may not affect plants growing under the surface. If applied in waterbodies there is a risk of deoxygenation if biomass is not removed.

Floating pennywort: plants growing above water level can be treated with a foliar application of herbicide with an appropriate adjuvant (both suitable for use in aquatic environments) from June to September (1 to 4 times each year). This may be useful where the plant is not submerged and hand or mechanical removal is not possible for practical or environmental reasons. If applied in waterbodies there is a risk of deoxygenation if biomass is not removed.

Monitoring and follow up treatment

Monitor the effectiveness of the herbicide treatment in subsequent years. If any regrowth or new growth is present, retreat using an appropriate method of control. If using foliar application as a method, ensure that regrowth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant.

New growth from seeds can be hand-pulled.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

6777 Terrestrial and Freshwater INNS Plants: Monitoring effectiveness of treatment after INNS management

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

INNS can impact the prosperity of Wales by affecting agricultural, forestry and horticultural productivity.

INNS impact the environment as they can outcompete native plants and animals, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

Very often a single treatment or even multiple treatments may not be effective to control or eradicate an INNS. Monitoring carried out for a number of years will be necessary to understand whether the treatment has been successful. This will require revisiting the site at intervals to look for regrowth (following herbicide treatment) or new growth from seedlings or fragments of plants.

This payment will cover the cost of monitoring treated INNS plants for new growth or regrowth each year following management as outlined in your INNS management plan.

You must adhere to the following:

- agree a schedule for monitoring the effectiveness of INNS management according to the timings below and record this in your INNS management plan.
- when monitoring sites, you must record the date, location and extent of the area monitored and record whether there is no growth, new growth or

regrowth (keep photographs of any visits showing the area that is checked). This information can be used as evidence that the monitoring has been undertaken.

- report any new growth or regrowth of INNS to your Field Support Officer and use this information to update your INNS management plan.

Requirements and guidance in addition to the specifications above

If new growth or regrowth is found, see relevant SFS management actions for payments covering methods of INNS control.

Below are recommended timings for carrying out monitoring. The plants listed are a non-exhaustive list of INNS that might be found on agricultural land.

Terrestrial INNS

Japanese knotweed (and other knotweeds): Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth.

Giant hogweed: Monitor after treatment annually between April and August until three full growing seasons have passed without new or regrowth and with a further visit two years later.

Himalayan balsam: Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth.

Invasive Cotoneaster species: Monitor after treatment annually in July until at least three full growing seasons have passed without regrowth.

Giant rhubarb species: Monitor after treatment annually in July for four years or until at least two full seasons have passed without new or regrowth, with a further visit four years later.

American Skunk cabbage: Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth, with a further visits every two years for a six-year period.

Montbretia: Monitor after treatment annually in summer until at least three full growing seasons have passed without any new or regrowth.

Variegated yellow archangel: Monitor after treatment annually between June and September until at least two full growing seasons have passed without any new or regrowth and ideally for 5 years.

Hottentot fig: Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth.

Tree of heaven: Monitor after treatment annually in late July until at least two full growing seasons have passed without any new or regrowth.

Creepers (Virginia etc.): Monitor after treatment annually in late July until at least three full growing seasons have passed without any new or regrowth.

Rhododendron: Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth, with a further visits every two years for a six-year period.

Japanese rose: Monitor after treatment annually until at least three full growing seasons have passed without any new or regrowth.

Himalayan knotweed: - Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth or ideally up to 5 years, include potential areas suitable for seed growth in the vicinity.

Butterfly bush (Buddleia): Monitor after treatment annually until at least two full growing seasons have passed without any new or regrowth, with a further visits every two years for a four-year period.

Invasive bamboo: Monitor after treatment annually between April and August until two full growing seasons have passed without new or regrowth and with a further visit two years later.

Spanish bluebell: Monitor after treatment annually in May/early June (before seeds have formed) until at least three full growing seasons have passed without regrowth.

Freshwater INNS

Australian swamp stonecrop: Monitor after treatment annually in summer until at least three full growing seasons have passed without any new or regrowth, with a further visit three years later.

Parrot's feather: Monitor after treatment annually in summer until at least three full growing seasons have passed without any new or regrowth, with a further visit three years later.

Floating pennywort: Monitor after treatment annually in the growing season until at least three full growing seasons have passed without any new or regrowth.

Nuttall's and Canadian water weeds: Monitor after treatment annually in summer until at least three full growing seasons have passed without any new or regrowth, with a further visit three years later.

Curly waterweed: Monitor after treatment annually in July until at least three full growing seasons have passed without any new or regrowth, with a further visit three years later.

6779 INNS, Pests and Diseases - Biosecurity risk assessment

This technical note describes the minimum standard of work required in order to receive payments for:

INNS, Pests and Diseases - Biosecurity risk assessment

Any variation must be approved by the Welsh Government.

The environmental, economic and social threat posed to our natural resources by pests, diseases and invasive non-native species (INNS) has never been greater because of the increasing movement of goods and people across the globe.

Pests, diseases and INNS can have significant financial impacts on agriculture, forestry, and other sectors.

Many pests, diseases and INNS can be transported in soil, water and contaminated material via clothing, footwear, vehicles, machinery and equipment.

Preventing the introduction of pests, diseases and INNS is key as, once established, they can be extremely difficult and costly to contain or eradicate.

Biosecurity is a way of working that reduces the risk of introducing or spreading pests, diseases (including bacteria, fungi and viruses) and INNS. Carrying out biosecurity, such as ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, and using disinfectant where there is a risk of disease will reduce the risk of spread and ensure you stay within the law.

A biosecurity risk assessment identifies key biosecurity risks associated with on-site activities and pathways of spread and sets out appropriate measures to mitigate those risks.

This payment covers the cost of drafting a biosecurity risk assessment and can include the cost of specialist advice.

You must adhere to the following:

- draft a biosecurity risk assessment for your land holding using the SFS INNS, Pests and Diseases Biosecurity risk assessment template. It is not a mandatory requirement to have an approved biosecurity risk assessment in place before making an application for payment for biosecurity equipment (see SFS management action: Terrestrial and freshwater INNS, Pests and Diseases - Biosecurity equipment).

- when addressing the risk of notifiable animal disease in your risk assessment, follow Welsh Government guidance on [biosecurity](#) for control of animal disease.
- when considering tree health issues follow government guidance on biosecurity in relation to disease control for [tree health](#).
- when addressing the risk of plant pests and diseases consider [government guidance](#).
- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild. New plants can grow from seeds, rhizomes or very small fragments of plant. When addressing the risk of INNS consider biosecurity guidance for INNS on the [GB Non-Native Species Secretariat website](#).
- when addressing the risk of aquatic INNS, use the [Check Clean Dry](#) protocol i.e. checking clothing, equipment and machinery for the presence of INNS, cleaning with water, ideally at minimum temperature of 45 °C and allowing to dry, if possible for more than 48 hours.
- if using disinfectant for notifiable animal disease control it must be [approved by Defra](#) for the disease and purpose it will be used for and all Health and Safety and [Control of Substances Hazardous to Health](#) (COSHH) requirements met.
- consider the use of arboricultural disinfectant with the active ingredient isopropanol in areas where *Phytophthoras* and other harmful tree and plant pathogens are present. All Health and Safety and [Control of Substances Hazardous to Health](#) (COSHH) requirements must be met.
- any movement off site of discarded waste material must be in accordance with [waste legislation](#).

Do not:

- use disinfectants to prevent the spread of INNS as they are not effective at killing INNS.
- remove forestry material ([timber](#)) off sites known to harbour regulated tree disease or pests unless authorised by the Forestry Commission (who issue licences in Wales on behalf of Natural Resources Wales).
- remove infected Rhododendron or Laurel plant material off sites unless you have permission to do so under a Statutory Plant Health Notice.

Requirements and guidance in addition to the specifications above

- Consider updating your biosecurity risk assessment when new threats appear.
- Plan ahead:
 - understand the biosecurity risks for your land and the activities that you carry out. Risk will be high if your activities involve (or are likely to involve) contact with disease infected or pest infested material.
 - plan work so that the most risky area is visited last in the day.
 - where possible avoid areas of known INNS, pest or disease risk.
 - consider whether some areas need restricted access.
 - make sure you have adequate protective clothing such as gloves and eye protection.
 - Be responsible:
 - arrive at and leave a site with clean footwear, vehicle and equipment.
- Be practical:
 - where possible do not take vehicles onto other premises, if necessary, then keep to established tracks and park vehicles on hard standing.
 - make use of wash-down facilities where available.

6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan

This technical note describes the minimum standard of work required for:

Terrestrial and Freshwater INNS - Invasive non-native species management plan

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

INNS impact the environment as they can outcompete and prey on native plants and animals, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing native pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

An INNS management plan will help improve the effectiveness of managing INNS and reduce the risk of adversely impacting sensitive features. By documenting planned management, it can be used as a baseline to monitor the effectiveness of treatments.

An INNS management plan must be completed by the field support officer (FSO) in conjunction with the applicant in order to access the related Optional management actions and capital items. These will only be available via the Designated Sites Management Plan (DSMP) or Habitat Review (HR) delivery processes.

An INNS management plan is **not** required where INNS are not present, or where INNS may be present, but the FSO deems their risk of spread to be low and not a priority for action, and the farmer does not wish to complete INNS actions.

Where a FSO identifies INNS that are deemed to be at risk of spread but the applicant does not wish to carry out Optional management to control it the FSO can at their discretion mandate that an INNS MP is completed as part of the DSMP or HR to highlight and make clear actions to reduce the risk of its likely spread.

Individual INNS management plans will be needed for each of the following type of INNS as required:

- Invasive non-native plant species
- American mink
- Grey squirrel

You must adhere to the following:

- Complete an SFS INNS management plan template to create a management plan for one or more of the following types of INNS listed below.
 - Invasive non-native plant species
 - American mink
 - Grey squirrel
- for plant INNS, one INNS management plan can be used to cover all species on your land.
- biosecurity is a way of working that reduces the risk of introducing or spreading INNS, pests and diseases. Some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information). Consider how biosecurity will be carried out when controlling INNS to prevent their spread.
- consider the sensitivity of the land when selecting the method of control, for example, on Ancient Woodland sites the use of herbicides may impact ground flora. veteran trees, coppice stools or wood banks.
- for plant INNS take an integrated pest management approach including minimal use of herbicides. Read more information: [UA2: Integrated Pest Management \(IPM\)](#)

- when using herbicide, comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline ([SMR 10](#)) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.
 - keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
 - pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
 - dispose of unused herbicide safely at the end of each day.

Do not

- carry out management: for controlling INNS before agreeing the INNS management plan.

Requirements and guidance in addition to the specifications above

- Consider updating your INNS management plan as necessary, for example, if new INNS occur on your land.
- Plant INNS can spread across boundaries via rivers, wind, animals, machinery and other disturbances, so management on a single site can be undermined by reinvasion. Likewise, removing American mink or grey squirrels at one location can be quickly undone as animals can move in from surrounding areas. Consider a coordinated, catchment or landscape scale management approach with other landowners or organisations as this is likely to reduce the risk of reinvasion and achieve sustained, long-term reductions in both plant and animal INNS populations.
- Consider how long management needs to be carried out for on your land holding to reduce the impact or eradicate the INNS and how long the period of monitoring needs to be to assess the effectiveness of your management methods.

6781 Terrestrial INNS Plants: Weed wiping with herbicide

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial INNS Plants - Weed wiping with herbicide

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

Weed wiping involves applying herbicide directly to the foliage of target plant INNS using a wick or roller applicator soaked in herbicide solution. The applicator is passed over the plant tops, transferring the herbicide only to taller or specific plants that stand above surrounding vegetation.

This payment covers the cost of clearance of an area of plant INNS using a weed wiper to apply herbicide.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.

- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- the herbicide must be approved and must have a label recommendation for its intended use and for its intended method of use. Herbicide should be applied at the recommended dilution. Adjuvants can be added to herbicides to improve uptake.
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- make sure appropriate personal protective equipment such as gloves are worn.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.

- be a registered user of plant protection products.
- keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
- pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
- dispose of unused herbicide safely at the end of each day.
- the weed wiper should be mounted on a tractor or all-terrain vehicle (ATV) and applied at the correct height above the plant. The choice of tractor or ATV will depend on conditions such as access to site, topography, uneven terrain and whether near water.

Do not:

- use this action to cut and treat freshly cut stumps of Rhododendron or Cherry laurel with herbicides – see the SFS management actions for: Terrestrial INNS Plants - Rhododendron and Laurel Control.
- use this action to control native invasive species such as injurious weeds, bracken, gorse, rush, brambles or nettles.
- use on Himalayan balsam or other seed producing plants when seeds have been set.
- allow herbicide to drip off the applicator, the applicator should be damp not wet.
- apply herbicide in wet conditions or when high winds or rain or heavy dew is forecast (minimum of 12 hours with no rain forecast).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Use weed wipers during the growing season on actively growing plant INNS; it is not effective to use this treatment on recently cut plants, or those that are drought-stressed or on plants that are dying back.

Apply to the target plant INNS from above, wiping downwards where possible.

Ensure that herbicide is applied to leaves not just stems.

Avoid repeated passes as this could cause the spread of plant fragments or sap.

Species that can be weed wiped

Japanese knotweed and other knotweeds: can be weed wiped in late summer when canes are tall and foliage fully developed and stand above native vegetation.

Himalayan balsam: can be weed wiped before seeds are set, when plants stand above the height of native vegetation.

Giant hogweed: can be weed wiped before seeds are set, when plants stand above the height of native vegetation. Wear appropriate personal protective equipment as all parts of the plant contain toxic sap that can cause blisters and recurring photosensitivity.

Monitoring and follow up treatment

Monitor the effectiveness of the herbicide treatment in subsequent years. If any regrowth is present in subsequent years, retreat using an appropriate method of control when regrowth is above the surrounding vegetation and when foliage is large enough for herbicide to be delivered in effective doses to be lethal to the plant.

New growth from seeds can be hand-pulled.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

6782 Terrestrial INNS Plants: Cutting and stump treatment

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS Plants - Cutting and stump treatment

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

Cutting and treating stumps is an effective way to spot treat certain INNS. Spot treatment of plant INNS refers to several methods of treatment using herbicides in a targeted way including foliar application, cut and stump treatment and stem injection.

This payment covers the cost of clearance of an area of plant INNS by cutting and treating stumps with herbicide.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.

- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work, and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide, on request, any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements where a receipted invoice is unavailable should be kept as evidence.
- take an integrated pest management approach, including minimal use of herbicides. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- the herbicide must be approved and must have a label recommendation for its intended use and for its intended method of use. Herbicide should be applied at the recommended dilution. Adjuvants can be added to herbicides to improve uptake.
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- herbicides must be applied with care by a skilled and suitably qualified operator to ensure precise application.
- make sure appropriate personal protective equipment, such as gloves, are worn.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.

- keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
- pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
- dispose of unused herbicide safely at the end of each day of use.

Do not:

- use this action to cut and treat freshly cut stumps of Rhododendron or cherry laurel with herbicides – see the SFS management actions for Terrestrial INNS Plants - Rhododendron and Laurel Control.
- use this action to control native invasive species, such as injurious weeds, bracken, gorse, rush, brambles or nettles.
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 12 hours with no rain forecast).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Use cut and stump treatment for INNS such as invasive bamboos, buddleia (butterfly bush), invasive cotoneaster species, Virginia creeper (also false Virginia creeper and Boston ivy), giant rhubarb, Japanese rose and tree of heaven.

All stems are to be cut at ground level.

Herbicide should be applied to freshly cut stems as soon as possible in the same day as cutting.

Herbicide can be applied with a:

- knapsack sprayer at low pressure fitted with a solid cone nozzle
- spot gun with solid stream nozzle
- paint brush
- dabber
- clearing saw with suitable attachment.

Ensure that the stem is saturated.

As the herbicide is not selective, damage to surrounding native vegetation can occur, even if care is taken. All reasonable precaution should be taken to avoid contact with non-target species. Damaged native vegetation can take years to recover.

Treatments

Bamboo: Cut stems should be treated once per year in winter, follow up with foliar spraying of regrowth over three years.

Butterfly bush (Buddleia): Cut stems should be treated once per year in winter, treating once may be effective otherwise follow up with foliar spray of any regrowth over two years. Seedlings may need to be hand pulled over three to four years depending on soil conditions.

Cotoneaster: Cut stems should be treated once per year in winter, treating once may be effective otherwise follow up with foliar spray of any regrowth over two years. Seedlings may need to be hand pulled over five years.

Virginia creeper (also False Virginia creeper and Boston ivy): Cut stems should be treated once per year in winter, ensuring the rim of the stem is saturated, treating once may be effective otherwise follow up with foliar spray of any regrowth over at least two years.

Giant rhubarb: Cut stems should be treated at least twice during the growing season (March – November). Monitor for regrowth and retreat cut stems if needed.

Japanese rose: Cut stems should be treated at least once during summer to autumn. Monitor for regrowth and retreat cut stems if needed.

Tree of heaven: Cut stems should be treated during the growing season April to October. Treat once annually until plant shows no sign of growth.

Monitoring and follow up treatment

Monitor the effectiveness of the herbicide treatment in subsequent years. If any regrowth or new growth is present, retreat using an appropriate method of control. If using foliar application as a method, ensure that regrowth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant.

New growth from seeds can be hand-pulled.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

6784 Terrestrial INNS Plants: Mowing (not Japanese knotweed or other knotweeds)

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial INNS Plants - Mowing (not Japanese knotweed or other knotweeds)

Any variation must be approved by a Field Support Officer.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productive area and yield.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that are dependent on them. Some plant INNS are allelopathic, which means they can release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses, they can cause winter soil erosion, or they can clog waterways, increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions, like asthma, or cause physical harm, such as rashes or blisters.

This payment covers the cost of mowing an area of plant INNS using a tractor or all-terrain vehicle mounted mower.

Requirements - You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.
- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).

- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as the completed work, and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide, on request, any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence of payment defrayed.
- use a tractor or all-terrain vehicle mounted mower or ride on mower.
- make sure you wear appropriate personal protective equipment, such as gloves.

Do not:

- do this action to control **native** invasive species, such as injurious weeds, bracken, gorse, rush infestations, brambles or nettles.
- mow Japanese knotweed (or other knotweeds) as this will cause it to spread and is not an effective method of control. Knotweed species include:
 - Japanese knotweed
 - Dwarf knotweed
 - Giant knotweed
 - Bohemian knotweed
 - Himalayan knotweed
- set the cutter/topper above ground level for plant INNS. Cutting at the plant base (below first node) is required for effective control and to minimise the risk of spread.

Requirements and guidance in addition to the specifications above:

Mowing is only suitable for controlling certain plant INNS, for example, Himalayan balsam, invasive bamboo and giant hogweed, as it may cause spread, and is not an effective method of control for many other plant INNS.

Himalayan balsam and giant hogweed can only be mowed before flowers are formed, to prevent spread of seeds.

Plants will need to be mowed low to the ground (for Himalayan balsam this is under the first node) and the plants will need to be repeatedly mown at intervals across the growing season and for a number of years to prevent regrowth (timings of cuts will depend on the plant being targeted).

Monitoring and follow up treatment

Monitor the effectiveness of mowing in subsequent years. If any regrowth or new growth is present, mow again or retreat using an appropriate method of control.

The SFS management action covering payments for: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management includes schedules for monitoring.

Disposal of plant material

On site:

It is often less costly and better for the environment to dispose of plant INNS material on site where it has been grown.

When treating or disposing of plant INNS on site you will need to apply for a waste permit, unless you can follow the conditions in Natural Resources Wales Regulatory Statement 058.2: [Regulatory statement 058.3 Treatment and disposal of invasive non-native plants](#)

If the plant material contains no viable seeds, stems or roots and is unlikely to regrow (for example Himalayan balsam pulled before flowering) it can be composted on site.

Burning of untreated green waste must be carried out in line with local bylaws and waste legislation: [Register or renew your waste exemptions](#)

Off site:

Plant INNS material or contaminated soil is a controlled waste. If moved offsite, it must be transported by a registered waste carrier and disposed of at a suitably licensed or permitted waste facility, you may need to check that they will accept the waste. If considering off-site disposal, it is recommended to discuss this approach in advance with your Field Support Officer, with any agreed action set out in the INNS Management Plan.

6785 Terrestrial INNS Plants: Rhododendron and Laurel Control, light

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS Plants -Rhododendron and Laurel Control - Light

Any variation must be approved by the Welsh Government.

This technical specification applies to all three invasive non-native Rhododendrons (all called Rhododendron in this guidance), to Cherry laurel (*Prunus laurocerasus*) and Portuguese laurel (*Prunus lusitanica*), both called Laurel in this guidance.

There are many non-native ornamental species of Rhododendron in the UK but only three types are known to be invasive: *Rhododendron ponticum*, its hybrid *Rhododendron ponticum* x *Rhododendron maximum* and Yellow azalea *Rhododendron luteum* (also known as Yellow rhododendron).

Common Rhododendron *Rhododendron ponticum* is a non-native, purple-flowered, waxy-leaved shrub originally introduced as an ornamental plant or game cover into parks, gardens and estates in Britain around 1763. Once mature it can reach 2.5 metres high. It can hybridise with *Rhododendron maximum*, a larger garden plant with white-pink flowers that can grow to more than 4 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3004>.

Yellow azalea (or Yellow rhododendron) *Rhododendron luteum* produces large fragrant flowers in May, with seed capsules produced in autumn. It can reach between 1.5 and 2.5 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3003>.

All of these plants can rapidly colonise a range of habitats including woodlands, heathlands and bogs. They spread through suckers or dispersal of extremely light and numerous seeds (around a million seeds per bush) through wind, human or animal transport. Flowering can take place when they reach 10 - 20 years old.

Very few native birds or animals live within dense stands of Rhododendron and few native-plants and trees are able to survive in the deep layer of leaf-litter underneath the dense and heavily shaded canopy. Recovery of native habitat and species following control can take decades.

The leaves, roots, nectar, flowers, and pollen contain grayanotoxins, compounds that are poisonous to some grazing animals, dogs and humans if ingested. The nectar can be lethal to some species of honeybees. Honey from Rhododendron can also have toxic effects on humans.

There are also economic impacts including the loss of productive land for agriculture and forestry and the costs of direct management. Both *Rhododendron* and Laurel can be a host for fungal diseases such as *Phytophthora ramorum* that affect trees and many other plants.

Cherry laurel (*Prunus laurocerasus*) is a glossy, waxy-leaved, white-flowered invasive non-native shrub spread by stem layering and bird dispersal of abundant fruits. It forms dense stands that has similar effects to *Rhododendron* in that it outcompetes and shades native plants. The leaves, seeds and bark contain cyanogenic glycosides, which can release cyanide when metabolized in the body. It is toxic to humans, grazing animals and birds. For more information read:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/2853>

Portuguese laurel (*Prunus lusitanica*) is a large evergreen shrub or small tree of spreading habit, the dark red shoots bearing deep green ovate leaves. Small, fragrant white flowers in racemes to 25cm in length in early summer, are followed by small, dark purple fruits readily spread by birds. As with Cherry laurel, the foliage and fruit are toxic. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/2854>

Effective control of *Rhododendron* and these Laurel species is achieved through a combination of methods including stem treatment, manual cutting and chemical treatment of regrowth and hand pulling. The methods used will depend on a number of factors including site terrain, access, and the density and size and maturity of plants. As seeds can be dispersed by the wind, the direction of the prevailing wind should also be taken into account when planning operations.

Control is likely to be needed over a five to seven-year period using the most appropriate method/s. A programme of control will usually have three phases, an initial full treatment in the first year, follow up phase (recommended 18 – 24 months after initial phase) and maintenance and monitoring phase (in years 5 - 7 after initial control).

Capital payments are available to cover the cost of *Rhododendron* and Laurel control where an agreed invasive species management plan has been drawn up.

The payment is designed to cover the cost of the initial clearance of the site followed by herbicide treatment of re-growth in subsequent years, or initial stem treatment followed by subsequent treatment of any regrowth. In addition, it is likely that seedlings will appear for several years following the initial clearance. These will need to be pulled by hand to prevent re-establishment.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.
- destroy all Rhododendron and Laurel within the target area. Control is to be carried out in a systematic way to ensure no plants are left untreated.
- some plant INNS, including Rhododendron, are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site to remove seeds, will reduce the risk of spread. When dealing with infected Rhododendron or Laurel additional biosecurity, i.e. the use of approved disinfectant, will be required. You may want to undertake a biosecurity risk assessment before starting any work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- deal with infected plant material appropriately. Directions to do so may be given under a [Statutory Plant Health Notice](#) (SPHN) issued by Natural Resources Wales.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- consider the sensitivity of the site when selecting the method of control, for example on Ancient Woodland sites the use of herbicides may impact remnant features such as veteran trees/coppice stools/hedge banks and Ancient Woodland flora. Limiting the number of new access routes will also help to prevent damage to ancient woodland features and minimise compaction and disturbance to soils.

- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides, using non-chemical methods where possible. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.
 - keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
 - pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
 - only spray when weather conditions are suitable to minimise the risk of spray drift.
 - dispose of unused herbicide safely at the end of each day.
- make sure you wear personal protective equipment such as gloves where appropriate.

Do not:

- remove infected Rhododendron or Laurel plant material off sites unless you have permission to do so under a Statutory Plant Health Notice. Any movement off site of discarded material must be in accordance with waste legislation.

- remove forestry material ([timber](#)) off sites known to harbour regulated tree disease or pests unless authorised by the Forestry Commission (who issue licences in Wales on behalf of Natural Resources Wales).
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 6 hours with no rain forecast for knapsack application with adjuvant added, 12 hours without, preferably 24).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Control Methods

An effective programme of control is likely to involve a combination of the following methods, depending on the site, density and size of plants. The same methods can be applied to the control of both *Rhododendron* and *Laurel*.

The recommended method of control under this scheme is based on the experience of the Snowdonia National Park and the Celtic Life project:

<https://celticrainforests.wales/resources/rhododendron-ponticum-toolkit>

Stem Treatment

Stem treatment, or stem injection is a very simple and highly effective method, especially for large bushes with stems of 3 cm or more diameter.

This treatment involves drilling 12 mm diameter holes as near as vertically downwards as possible close to the base of every stem (8 mm in thinner stems) to create a 20 mm deep well (deeper if using an 8 mm hole) sufficient to take 2 ml of herbicide solution (30 mm for a 10 mm bit, 20 mm depth for 12 mm bit, 10 mm depth for 16 mm diameter bit).

One hole should be sufficient for each 3 cm in stem diameter; for thicker stems, treatment holes should be evenly spaced every 5 cm around the circumference.

Herbicide should be administered as soon as possible after drilling. Each hole should be carefully filled using a suitable applicator, such as a spot gun or veterinary injector, to avoid spillage.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

A strong vegetable marker dye can be added. Using dye will ensure that treated plants can be identified later. Plants can also be marked by snapping foliage of the highest branch or marking with an appropriate non-toxic spray paint.

For stems thinner than 3 cm, holes can be made using a hatchet or billhook or by scraping the bark from the stem with a chainsaw. Herbicide solution (2 ml) can be applied into the cut with a paintbrush.

Take care to treat all stems separately, including lateral stems.

Layered stems, i.e. those that have taken root from the parent plant, should be detached from the parent plant and treated by the method described for hand pulling.

Stem treatment can be carried out throughout the year, with March to October being optimal. Nesting birds must not be disturbed by the work. See Table 1 for timings of treatment.

Standing wood does not need to be cut or removed unless there is a risk to public safety or property.

Monitor the effectiveness of the herbicide, and if regrowth is present, follow up this treatment with foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Stem treatment can be followed by manual cutting followed by burning / stacking if necessary when it is clear that the treatment has been successful. To ensure this, plants should be left for at least one growing season before the dead stems are cut.

Manual cutting followed by burning / stacking

This method is suitable for large areas where growth is too dense to allow access to all bushes or where the stems are too thin to drill to apply herbicide through stem injection. This may occur on sites that may have previously been treated using a cut and burn / stack method but have not had follow up treatment.

Effective for plants over 1.3 m in height and over 1.5 m in diameter.

All growth should be cut as close to ground level as possible using a chainsaw.

It is not recommended that cut stumps are treated with herbicide as soon as they are cut. It is more effective to apply foliar spray to any regrowth after cut stumps have been left to regrow and foliage is sufficiently large to receive a lethal dose of herbicide from the spray.

Regrowth will regenerate within months. It is recommended that the follow up foliar spraying is carried out within 12-18 months of cutting. The optimum height for spraying of regrowth from cut stems is 50 cm and not over 1.5m.

Hand pulling of seedlings may also be required.

Manual cutting should not be carried out in bird-nesting season (March – August) unless a daily survey detects that no nesting birds are present. See Table 1 for timings of treatment.

The cut material should be stacked and left to rot or burnt. Cut stems can be stacked in windrows, at least 5 m away from footpaths or watercourses, with passages left between to allow access for regrowth spraying.

All fires should be carried out in safe conditions and in accordance with local by-laws and waste legislation.

Take care to minimise the impact of burning in sensitive areas such as Ancient Woodland by identifying suitable areas for burning. These must be agreed and included in the Management Plan

Chipping is not a recommended option, unless directed to do so under a SPHN, as chipped material can hinder natural regeneration and potentially harbour disease, of particular importance in designated sites.

Mechanical mulching/flailing

For large infestations where the terrain is accessible for large machinery and qualified operators are available, mechanical mulching or flailing may be effective particularly if no other treatment has been carried out. It can be used in combination with stem injection and manual cutting on sites where not all areas are accessible to machinery.

Follow up this treatment within 24 months with foliar spray when regrowth is sufficiently large for the herbicide to be effective.

Hand pulling of seedlings may also be required.

The method should not be used during the bird nesting season from March to August. See Table 1 for timing of treatment.

Foliar spraying with herbicide

As a standalone method or as a follow up treatment foliar spraying of plants no more than 1.5 m in height or 200 cm diameter with all-round access or where stems are too thin for stem injection (such as regrowth) can be very successful.

Foliar spraying needs to be carried out with care by a skilled and suitably qualified operator to ensure precise application.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

The herbicide should be made up to the appropriate dilution with water and needs to be thoroughly mixed (at least two minutes) as it is an oil and water solution. A dye should be added to the solution so that plants can be identified after treatment.

An adjuvant can be added to help improve covering of the waxy leaf surface and rain fastness. Adding adjuvant is not recommended when working near water.

Knapsack sprayers with a hollow cone nozzle are usually used to apply the herbicide. Controlled droplet application (CDA) can also be used ensuring the herbicide is applied at the correct rate.

To kill the plant, herbicide should be sprayed onto every leaf to the point of foliar wetness (i.e. the point just before run-off).

Spraying can take place throughout the year if weather conditions are appropriate to reduce drift, with March to October being optimal. See Table 1 for timing of treatment.

As the herbicide is not selective, damage to surrounding native vegetation from spray drift, can occur even if care is taken. Damaged native vegetation can take years to recover.

Monitor the effectiveness of the herbicide in subsequent years, and if regrowth is present, follow up with further treatment of foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Hand pulling

Any plants that are small enough (60 cm or less in height) can be pulled up by hand. To avoid re-rooting all the soil should be knocked off and left or hung in a stable position off the ground to dry out.

Ensure that the basal node on each stem is removed with the stem as the plant can regrow from this node. The basal node is the point on the lower, woody part of the stem where a leaf or new shoot emerges, typically appearing as a slightly swollen area or a small bump typically just above or even below the soil line.

In difficult to access areas (e.g. growing in dense vegetation etc) you may need hand tools to dig out the root system.

It is essential that a methodical approach to searching for plants is taken by using rows of workers every 10 metre intervals or using spaced markers. Team working is encouraged from a safety perspective.

This method can be used all year but is most effective in late winter to early spring before dense growth can conceal smaller plants. See Table 1 for timing of treatment.

Table 1. Timings of treatment

Key: Yes with caution - proceed at this time with caution

Yes - optimal timing of action

No action - do not take action at this time

Method	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Stem injection	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Manual cutting	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes
Mechanical cutting/flailing	Yes	Yes	No action	No action	No action	No action	No action	No action	Yes	Yes	Yes	Yes
Foliar spray	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Hand pulling	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes

Monitoring

Monitor the effectiveness of treatments in subsequent years. The SFS management action covering payments for: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management includes schedules for monitoring.

6786 Terrestrial INNS Plants: Rhododendron and Laurel Control, medium

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS Plants - Rhododendron and Laurel Control - Medium

Any variation must be approved by the Welsh Government.

This technical specification applies to all three invasive non-native Rhododendrons (all called Rhododendron in this guidance), to Cherry laurel (*Prunus laurocerasus*) and Portuguese laurel (*Prunus lusitanica*), both called Laurel in this guidance.

There are many non-native ornamental species of Rhododendron in the UK but only three types are known to be invasive: *Rhododendron ponticum*, its hybrid *Rhododendron ponticum* x *Rhododendron maximum* and Yellow azalea *Rhododendron luteum* (also known as Yellow rhododendron).

Common Rhododendron *Rhododendron ponticum* is a non-native, purple-flowered, waxy-leaved shrub originally introduced as an ornamental plant or game cover into parks, gardens and estates in Britain around 1763. Once mature it can reach 2.5 metres high. It can hybridise with *Rhododendron maximum*, a larger garden plant with white-pink flowers that can grow to more than 4 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3004>.

Yellow azalea (or Yellow rhododendron) *Rhododendron luteum* produces large fragrant flowers in May, with seed capsules produced in autumn. It can reach between 1.5 and 2.5 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3003>.

All of these plants can rapidly colonise a range of habitats including woodlands, heathlands and bogs. They spread through suckers or dispersal of extremely light and numerous seeds (around a million seeds per bush) through wind, human or animal transport. Flowering can take place when they reach 10 - 20 years old.

Very few native birds or animals live within dense stands of Rhododendron and few native-plants and trees are able to survive in the deep layer of leaf-litter underneath the dense and heavily shaded canopy. Recovery of native habitat and species following control can take decades.

The leaves, roots, nectar, flowers, and pollen contain grayanotoxins, compounds that are poisonous to some grazing animals, dogs and humans if ingested. The nectar can be lethal to some species of honeybees. Honey from Rhododendron can also have toxic effects on humans.

There are also economic impacts including the loss of productive land for agriculture and forestry and the costs of direct management. Both *Rhododendron* and Laurel can be a host for fungal diseases such as *Phytophthora ramorum* that affect trees and many other plants.

Cherry laurel (*Prunus laurocerasus*) is a glossy, waxy-leaved, white-flowered invasive non-native shrub spread by stem layering and bird dispersal of abundant fruits. It forms dense stands that has similar effects to *Rhododendron* in that it outcompetes and shades native plants. The leaves, seeds and bark contain cyanogenic glycosides, which can release cyanide when metabolized in the body. It is toxic to humans, grazing animals and birds. For more information read:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/2853>

Portuguese laurel (*Prunus lusitanica*) is a large evergreen shrub or small tree of spreading habit, the dark red shoots bearing deep green ovate leaves. Small, fragrant white flowers in racemes to 25cm in length in early summer, are followed by small, dark purple fruits readily spread by birds. As with Cherry laurel, the foliage and fruit are toxic. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/2854>

Effective control of *Rhododendron* and these Laurel species is achieved through a combination of methods including stem treatment, manual cutting and chemical treatment of regrowth and hand pulling. The methods used will depend on a number of factors including site terrain, access, and the density and size and maturity of plants. As seeds can be dispersed by the wind, the direction of the prevailing wind should also be taken into account when planning operations.

Control is likely to be needed over a five to seven-year period using the most appropriate method/s. A programme of control will usually have three phases, an initial full treatment in the first year, follow up phase (recommended 18 – 24 months after initial phase) and maintenance and monitoring phase (in years 5 - 7 after initial control).

Capital payments are available to cover the cost of *Rhododendron* and Laurel control where an agreed invasive species management plan has been drawn up.

The payment is designed to cover the cost of the initial clearance of the site followed by herbicide treatment of re-growth in subsequent years, or initial stem treatment followed by subsequent treatment of any regrowth. In addition, it is likely that seedlings will appear for several years following the initial clearance. These will need to be pulled by hand to prevent re-establishment.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. See the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan.
- destroy all Rhododendron and Laurel within the target area. Control is to be carried out in a systematic way to ensure no plants are left untreated.
- some plant INNS, including Rhododendron, are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site to remove seeds, will reduce the risk of spread. When dealing with infected Rhododendron or Laurel additional biosecurity, i.e. the use of approved disinfectant, will be required. You may want to undertake a biosecurity risk assessment before starting any work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- deal with infected plant material appropriately. Directions to do so may be given under a [Statutory Plant Health Notice](#) (SPHN) issued by Natural Resources Wales.

- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- consider the sensitivity of the site when selecting the method of control, for example on Ancient Woodland sites the use of herbicides may impact remnant features such as veteran trees/coppice stools/hedge banks and Ancient Woodland flora. Limiting the number of new access routes will also help to prevent damage to ancient woodland features and minimise compaction and disturbance to soils.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides, using non-chemical methods where possible. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.
 - keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
 - pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
 - only spray when weather conditions are suitable to minimise the risk of spray drift.
 - dispose of unused herbicide safely at the end of each day.

- make sure you wear personal protective equipment such as gloves where appropriate.

Do not:

- remove infected Rhododendron or Laurel plant material off sites unless you have permission to do so under a Statutory Plant Health Notice. Any movement off site of discarded material must be in accordance with waste legislation.
- remove forestry material ([timber](#)) off sites known to harbour regulated tree disease or pests unless authorised by the Forestry Commission (who issue licences in Wales on behalf of Natural Resources Wales).
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 6 hours with no rain forecast for knapsack application with adjuvant added, 12 hours without, preferably 24).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Control Methods

An effective programme of control is likely to involve a combination of the following methods, depending on the site, density and size of plants. The same methods can be applied to the control of both Rhododendron and Laurel.

The recommended method of control under this scheme is based on the experience of the Snowdonia National Park and the Celtic Life project:

<https://celticrainforests.wales/resources/rhododendron-ponticum-toolkit>

Stem Treatment

Stem treatment, or stem injection is a very simple and highly effective method, especially for large bushes with stems of 3 cm or more diameter.

This treatment involves drilling 12 mm diameter holes as near as vertically downwards as possible close to the base of every stem (8 mm in thinner stems) to

create a 20 mm deep well (deeper if using an 8 mm hole) sufficient to take 2 ml of herbicide solution (30 mm for a 10 mm bit, 20 mm depth for 12 mm bit, 10 mm depth for 16 mm diameter bit).

One hole should be sufficient for each 3 cm in stem diameter; for thicker stems, treatment holes should be evenly spaced every 5 cm around the circumference.

Herbicide should be administered as soon as possible after drilling. Each hole should be carefully filled using a suitable applicator, such as a spot gun or veterinary injector, to avoid spillage.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

A strong vegetable marker dye can be added. Using dye will ensure that treated plants can be identified later. Plants can also be marked by snapping foliage of the highest branch or marking with an appropriate non-toxic spray paint.

For stems thinner than 3 cm, holes can be made using a hatchet or billhook or by scraping the bark from the stem with a chainsaw. Herbicide solution (2 ml) can be applied into the cut with a paintbrush.

Take care to treat all stems separately, including lateral stems.

Layered stems, i.e. those that have taken root from the parent plant, should be detached from the parent plant and treated by the method described for hand pulling.

Stem treatment can be carried out throughout the year, with March to October being optimal. Nesting birds must not be disturbed by the work. See Table 1 for timings of treatment.

Standing wood does not need to be cut or removed unless there is a risk to public safety or property.

Monitor the effectiveness of the herbicide, and if regrowth is present, follow up this treatment with foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Stem treatment can be followed by manual cutting followed by burning / stacking if necessary, when it is clear that the treatment has been successful. To ensure this, plants should be left for at least one growing season before the dead stems are cut.

Manual cutting followed by burning / stacking

This method is suitable for large areas where growth is too dense to allow access to all bushes or where the stems are too thin to drill to apply herbicide through stem injection. This may occur on sites that may have previously been treated using a cut and burn / stack method but have not had follow up treatment.

Effective for plants over 1.3 m in height and over 1.5 m in diameter.

All growth should be cut as close to ground level as possible using a chainsaw.

It is not recommended that cut stumps are treated with herbicide as soon as they are cut. It is more effective to apply foliar spray to any regrowth after cut stumps have been left to regrow and foliage is sufficiently large to receive a lethal dose of herbicide from the spray.

Regrowth will regenerate within months. It is recommended that the follow up foliar spraying is carried out within 12-18 months of cutting. The optimum height for spraying of regrowth from cut stems is 50 cm and not over 1.5m.

Hand pulling of seedlings may also be required.

Manual cutting should not be carried out in bird-nesting season (March – August) unless a daily survey detects that no nesting birds are present. See Table 1 for timings of treatment.

The cut material should be stacked and left to rot or burnt. Cut stems can be stacked in windrows, at least 5 m away from footpaths or watercourses, with passages left between to allow access for regrowth spraying.

All fires should be carried out in safe conditions and in accordance with local by-laws and waste legislation.

Take care to minimise the impact of burning in sensitive areas such as Ancient Woodland by identifying suitable areas for burning.

Chipping is not a recommended option, unless directed to do so under a SPHN, as chipped material can hinder natural regeneration and potentially harbour disease, of particular importance in designated sites.

Mechanical mulching/flailing

For large infestations where the terrain is accessible for large machinery and qualified operators are available, mechanical mulching or flailing may be effective particularly if no other treatment has been carried out. It can be used in combination with stem injection and manual cutting on sites where not all areas are accessible to machinery.

Follow up this treatment within 24 months with foliar spray when regrowth is sufficiently large for the herbicide to be effective.

Hand pulling of seedlings may also be required.

The method should not be used during the bird nesting season from March to August. See Table 1 for timing of treatment.

Foliar spraying with herbicide

As a standalone method or as a follow up treatment foliar spraying of plants no more than 1.5 m in height or 200 cm diameter with all-round access or where stems are too thin for stem injection (such as regrowth) can be very successful.

Foliar spraying needs to be carried out with care by a skilled and suitably qualified operator to ensure precise application.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

The herbicide should be made up to the appropriate dilution with water and needs to be thoroughly mixed (at least two minutes) as it is an oil and water solution. A dye should be added to the solution so that plants can be identified after treatment.

An adjuvant can be added to help improve covering of the waxy leaf surface and rain fastness. Adding adjuvant is not recommended when working near water.

Knapsack sprayers with a hollow cone nozzle are usually used to apply the herbicide. Controlled droplet application (CDA) can also be used ensuring the herbicide is applied at the correct rate.

To kill the plant, herbicide should be sprayed onto every leaf to the point of foliar wetness (i.e. the point just before run-off).

Spraying can take place throughout the year if weather conditions are appropriate to reduce drift, with March to October being optimal. See Table 1 for timing of treatment.

As the herbicide is not selective, damage to surrounding native vegetation from spray drift, can occur even if care is taken. Damaged native vegetation can take years to recover.

Monitor the effectiveness of the herbicide in subsequent years, and if regrowth is present, follow up with further treatment of foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Hand pulling

Any plants that are small enough (60 cm or less in height) can be pulled up by hand. To avoid re-rooting all the soil should be knocked off and left or hung in a stable position off the ground to dry out.

Ensure that the basal node on each stem is removed with the stem as the plant can regrow from this node. The basal node is the point on the lower, woody part of the stem where a leaf or new shoot emerges, typically appearing as a slightly swollen area or a small bump typically just above or even below the soil line.

In difficult to access areas (e.g. growing in dense vegetation etc) you may need hand tools to dig out the root system.

It is essential that a methodological approach to searching for plants is taken by using rows of workers every 10 metre intervals or using spaced markers. Team working is encouraged from a safety perspective.

This method can be used all year but is most effective in late winter to early spring before dense growth can conceal smaller plants. See Table 1 for timing of treatment.

Table 1. Timings of treatment

Method	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Stem injection	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Manual cutting	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes
Mechanical cutting/flailing	Yes	Yes	No action	No action	No action	No action	No action	No action	Yes	Yes	Yes	Yes
Foliar spray	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Hand pulling	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes

Key

Yes with caution - proceed at this time with caution

Yes - optimal timing of action

No action - do not take action at this time

Monitoring

Monitor the effectiveness of treatments in subsequent years. The SFS management action covering payments for: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management includes schedules for monitoring.

6787 Terrestrial INNS Plants: Rhododendron Control and Laurel Control, difficult

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS Plants - Rhododendron and Laurel Control - Difficult

Any variation must be approved by the Welsh Government.

This technical specification applies to all three invasive non-native Rhododendrons (all called Rhododendron in this guidance), to Cherry laurel (*Prunus laurocerasus*) and Portuguese laurel (*Prunus lusitanica*), both called Laurel in this guidance.

There are many non-native ornamental species of Rhododendron in the UK but only three types are known to be invasive: *Rhododendron ponticum*, its hybrid *Rhododendron ponticum* x *Rhododendron maximum* and Yellow azalea *Rhododendron luteum* (also known as Yellow rhododendron).

Common Rhododendron *Rhododendron ponticum* is a non-native, purple-flowered, waxy-leaved shrub originally introduced as an ornamental plant or game cover into parks, gardens and estates in Britain around 1763. Once mature it can reach 2.5 metres high. It can hybridise with *Rhododendron maximum*, a larger garden plant with white-pink flowers that can grow to more than 4 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3004>.

Yellow azalea (or Yellow rhododendron) *Rhododendron luteum* produces large fragrant flowers in May, with seed capsules produced in autumn. It can reach between 1.5 and 2.5 metres high. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/3003>.

All of these plants can rapidly colonise a range of habitats including woodlands, heathlands and bogs. They spread through suckers or dispersal of extremely light and numerous seeds (around a million seeds per bush) through wind, human or animal transport. Flowering can take place when they reach 10 - 20 years old.

Very few native birds or animals live within dense stands of *Rhododendron* and few native-plants and trees are able to survive in the deep layer of leaf-litter underneath the dense and heavily shaded canopy. Recovery of native habitat and species following control can take decades.

The leaves, roots, nectar, flowers, and pollen contain grayanotoxins, compounds that are poisonous to some grazing animals, dogs and humans if ingested. The nectar can be lethal to some species of honeybees. Honey from *Rhododendron* can also have toxic effects on humans.

There are also economic impacts including the loss of productive land for agriculture and forestry and the costs of direct management. Both *Rhododendron* and Laurel can be a host for fungal diseases such as *Phytophthora ramorum* that affect trees and many other plants.

Cherry laurel (*Prunus laurocerasus*) is a glossy, waxy-leaved, white-flowered invasive non-native shrub spread by stem layering and bird dispersal of abundant fruits. It forms dense stands that has similar effects to *Rhododendron* in that it outcompetes and shades native plants. The leaves, seeds and bark contain cyanogenic glycosides, which can release cyanide when metabolized in the body. It is toxic to humans, grazing animals and birds. For more information read:

<https://www.nonnativespecies.org/non-native-species/information-portal/view/2853>

Portuguese laurel (*Prunus lusitanica*) is a large evergreen shrub or small tree of spreading habit, the dark red shoots bearing deep green ovate leaves. Small, fragrant white flowers in racemes to 25cm in length in early summer, are followed by small, dark purple fruits readily spread by birds. As with Cherry laurel, the foliage and fruit are toxic. For more information read: <https://www.nonnativespecies.org/non-native-species/information-portal/view/2854>

Effective control of *Rhododendron* and these Laurel species is achieved through a combination of methods including stem treatment, manual cutting and chemical treatment of regrowth and hand pulling. The methods used will depend on a number of factors including site terrain, access, and the density and size and maturity of plants. As seeds can be dispersed by the wind, the direction of the prevailing wind should also be taken into account when planning operations.

Control is likely to be needed over a five to seven-year period using the most appropriate method/s. A programme of control will usually have three phases, an initial full treatment in the first year, follow up phase (recommended 18 – 24 months after initial phase) and maintenance and monitoring phase (in years 5 - 7 after initial control).

Capital payments are available to cover the cost of Rhododendron and Laurel control where an agreed invasive species management plan has been drawn up.

The payment is designed to cover the cost of the initial clearance of the site followed by herbicide treatment of re-growth in subsequent years, or initial stem treatment followed by subsequent treatment of any regrowth. In addition, it is likely that seedlings will appear for several years following the initial clearance. These will need to be pulled by hand to prevent re-establishment.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.
- destroy all Rhododendron and Laurel within the target area. Control is to be carried out in a systematic way to ensure no plants are left untreated.
- some plant INNS, including Rhododendron, are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site to

remove seeds, will reduce the risk of spread. When dealing with infected Rhododendron or Laurel additional biosecurity, i.e. the use of approved disinfectant, will be required. You may want to undertake a biosecurity risk assessment before starting any work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.

- deal with infected plant material appropriately. Directions to do so may be given under a [Statutory Plant Health Notice](#) (SPHN) issued by Natural Resources Wales.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- consider the sensitivity of the site when selecting the method of control, for example on Ancient Woodland sites the use of herbicides may impact remnant features such as veteran trees/coppice stools/hedge banks and Ancient Woodland flora. Limiting the number of new access routes will also help to prevent damage to ancient woodland features and minimise compaction and disturbance to soils.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides, using non-chemical methods where possible. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.

- be a registered user of plant protection products.
- keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
- pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
- only spray when weather conditions are suitable to minimise the risk of spray drift.
- dispose of unused herbicide safely at the end of each day.
- make sure you wear personal protective equipment such as gloves where appropriate.

Do not:

- remove infected Rhododendron or Laurel plant material off sites unless you have permission to do so under a Statutory Plant Health Notice. Any movement off site of discarded material must be in accordance with waste legislation.
- remove forestry material ([timber](#)) off sites known to harbour regulated tree disease or pests unless authorised by the Forestry Commission (who issue licences in Wales on behalf of Natural Resources Wales).
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 6 hours with no rain forecast for knapsack application with adjuvant added, 12 hours without, preferably 24).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Control Methods

An effective programme of control is likely to involve a combination of the following methods, depending on the site, density and size of plants. The same methods can be applied to the control of both Rhododendron and Laurel.

The recommended method of control under this scheme is based on the experience of the Snowdonia National Park and the Celtic Life project:

Stem Treatment

Stem treatment, or stem injection is a very simple and highly effective method, especially for large bushes with stems of 3 cm or more diameter.

This treatment involves drilling 12 mm diameter holes as near as vertically downwards as possible close to the base of every stem (8 mm in thinner stems) to create a 20 mm deep well (deeper if using an 8 mm hole) sufficient to take 2 ml of herbicide solution (30 mm for a 10 mm bit, 20 mm depth for 12 mm bit, 10 mm depth for 16 mm diameter bit).

One hole should be sufficient for each 3 cm in stem diameter; for thicker stems, treatment holes should be evenly spaced every 5 cm around the circumference.

Herbicide should be administered as soon as possible after drilling. Each hole should be carefully filled using a suitable applicator, such as a spot gun or veterinary injector, to avoid spillage.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

A strong vegetable marker dye can be added. Using dye will ensure that treated plants can be identified later. Plants can also be marked by snapping foliage of the highest branch or marking with an appropriate non-toxic spray paint.

For stems thinner than 3 cm, holes can be made using a hatchet or billhook or by scraping the bark from the stem with a chainsaw. Herbicide solution (2 ml) can be applied into the cut with a paintbrush.

Take care to treat all stems separately, including lateral stems.

Layered stems, i.e. those that have taken root from the parent plant, should be detached from the parent plant and treated by the method described for hand pulling.

Stem treatment can be carried out throughout the year, with March to October being optimal. Nesting birds must not be disturbed by the work. See Table 1 for timings of treatment.

Standing wood does not need to be cut or removed unless there is a risk to public safety or property.

Monitor the effectiveness of the herbicide, and if regrowth is present, follow up this treatment with foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Stem treatment can be followed by manual cutting followed by burning / stacking if necessary when it is clear that the treatment has been successful. To ensure this, plants should be left for at least one growing season before the dead stems are cut.

Manual cutting followed by burning / stacking

This method is suitable for large areas where growth is too dense to allow access to all bushes or where the stems are too thin to drill to apply herbicide through stem injection. This may occur on sites that may have previously been treated using a cut and burn / stack method but have not had follow up treatment.

Effective for plants over 1.3 m in height and over 1.5 m in diameter.

All growth should be cut as close to ground level as possible using a chainsaw.

It is not recommended that cut stumps are treated with herbicide as soon as they are cut. It is more effective to apply foliar spray to any regrowth after cut stumps have been left to regrow and foliage is sufficiently large to receive a lethal dose of herbicide from the spray.

Regrowth will regenerate within months. It is recommended that the follow up foliar spraying is carried out within 12-18 months of cutting. The optimum height for spraying of regrowth from cut stems is 50 cm and not over 1.5m.

Hand pulling of seedlings may also be required.

Manual cutting should not be carried out in bird-nesting season (March – August) unless a daily survey detects that no nesting birds are present. See Table 1 for timings of treatment.

The cut material should be stacked and left to rot or burnt. Cut stems can be stacked in windrows, at least 5 m away from footpaths or watercourses, with passages left between to allow access for regrowth spraying.

All fires should be carried out in safe conditions and in accordance with local by-laws and waste legislation.

Take care to minimise the impact of burning in sensitive areas such as Ancient Woodland by identifying suitable areas for burning.

Chipping is not a recommended option, unless directed to do so under a SPHN, as chipped material can hinder natural regeneration and potentially harbour disease, of particular importance in designated sites.

Mechanical mulching/flailing

For large infestations where the terrain is accessible for large machinery and qualified operators are available, mechanical mulching or flailing may be effective

particularly if no other treatment has been carried out. It can be used in combination with stem injection and manual cutting on sites where not all areas are accessible to machinery.

Follow up this treatment within 24 months with foliar spray when regrowth is sufficiently large for the herbicide to be effective.

Hand pulling of seedlings may also be required.

The method should not be used during the bird nesting season from March to August. See Table 1 for timing of treatment.

Foliar spraying with herbicide

As a standalone method or as a follow up treatment foliar spraying of plants no more than 1.5 m in height or 200 cm diameter with all-round access or where stems are too thin for stem injection (such as regrowth) can be very successful.

Foliar spraying needs to be carried out with care by a skilled and suitably qualified operator to ensure precise application.

The herbicide must be approved and have a label recommendation for its intended use and for its intended method of use, including use near watercourses where applicable.

The herbicide should be made up to the appropriate dilution with water and needs to be thoroughly mixed (at least two minutes) as it is an oil and water solution. A dye should be added to the solution so that plants can be identified after treatment.

An adjuvant can be added to help improve covering of the waxy leaf surface and rain fastness. Adding adjuvant is not recommended when working near water.

Knapsack sprayers with a hollow cone nozzle are usually used to apply the herbicide. Controlled droplet application (CDA) can also be used ensuring the herbicide is applied at the correct rate.

To kill the plant, herbicide should be sprayed onto every leaf to the point of foliar wetness (i.e. the point just before run-off).

Spraying can take place throughout the year if weather conditions are appropriate to reduce drift, with March to October being optimal. See Table 1 for timing of treatment.

As the herbicide is not selective, damage to surrounding native vegetation from spray drift, can occur even if care is taken. Damaged native vegetation can take years to recover.

Monitor the effectiveness of the herbicide in subsequent years, and if regrowth is present, follow up with further treatment of foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant. Hand pulling of seedlings may also be required.

Hand pulling

Any plants that are small enough (60 cm or less in height) can be pulled up by hand. To avoid re-rooting all the soil should be knocked off and left or hung in a stable position off the ground to dry out.

Ensure that the basal node on each stem is removed with the stem as the plant can regrow from this node. The basal node is the point on the lower, woody part of the stem where a leaf or new shoot emerges, typically appearing as a slightly swollen area or a small bump typically just above or even below the soil line.

In difficult to access areas (e.g. growing in dense vegetation etc) you may need hand tools to dig out the root system.

It is essential that a methodological approach to searching for plants is taken by using rows of workers every 10 metre intervals or using spaced markers. Team working is encouraged from a safety perspective.

This method can be used all year but is most effective in late winter to early spring before dense growth can conceal smaller plants. See Table 1 for timing of treatment.

Table 1. Timings of treatment

Method	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Stem injection	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Manual cutting	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes
Mechanical cutting/flailing	Yes	Yes	No action	No action	No action	No action	No action	No action	Yes	Yes	Yes	Yes
Foliar spray	Yes with caution	Yes with caution	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution
Hand pulling	Yes	Yes	Yes	Yes	Yes	Yes with caution	Yes with caution	Yes with caution	Yes with caution	Yes	Yes	Yes

Key

Yes with caution - proceed at this time with caution

Yes - optimal timing of action

No action - do not take action at this time

Monitoring

Monitor the effectiveness of treatments in subsequent years. The SFS management action covering payments for: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management includes schedules for monitoring.

6788 Terrestrial INNS plants: Stem injection with herbicide

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial INNS plants - Chemical control - Herbicide - Stem injection

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

Stem injection is an effective way to spot treat certain plant INNS. Spot treatment refers to several methods of treatment using herbicides in a targeted way including foliar application, cut and stump treatment and stem injection.

This payment covers the cost of clearance of an area of plant INNS by stem injection of herbicide.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods. Read the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.
- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (read the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You may want to undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as photographs of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide on request any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements (where a receipted invoice is unavailable) should be kept as evidence.
- take an integrated pest management approach including minimal use of herbicides. Read further information: [UA2: Integrated Pest Management \(IPM\)](#).
- the herbicide must be approved and must have a label recommendation for its intended use and for its intended method of use. Herbicide should be applied at the recommended dilution. Adjuvants can be added to herbicides to improve uptake.
- [use herbicide](#) safely and with appropriate permissions, including for use near watercourses and on protected sites.
- herbicides should be applied with care by a skilled and suitably qualified operator to ensure precise application.

- make sure appropriate personal protective equipment such as gloves are worn.
- comply with the restrictions on using plant protection products according to the restrictions in the SFS regulatory baseline [SMR 10](#) including:
 - be suitably qualified to use herbicides or employ a suitably qualified contractor.
 - be a registered user of plant protection products.
 - keep records of application of plant protection products including herbicides in your Integrated Pest Management Plan.
 - pesticide application equipment, other than knapsacks and hand-helds, must have passed a test conducted by the National Sprayer Testing Scheme.
 - dispose of unused herbicide safely at the end of each day.

Do not:

- use this action to stem inject Rhododendron or Cherry laurel with herbicides – see the SFS management actions for: Terrestrial INNS Plants - Rhododendron and Laurel Control.
- use this action to control native invasive species such as injurious weeds, bracken, gorse, rush, brambles or nettles.
- apply herbicide in wet conditions or when high winds, rain or heavy dew is forecast (minimum of 12 hours with no rain forecast).
- apply herbicide in hot or sunny conditions due to evaporation of herbicide nor in cold conditions (<7°C) as uptake by the plant is reduced.

Requirements and guidance in addition to the specifications above

Use this method of control for certain fleshy, thick stemmed plant INNS such as Japanese knotweed, other knotweeds and Giant rhubarb (*Gunnera* species).

Each hole should be carefully filled using a suitable applicator, such as a spot gun or veterinary injector, to avoid spillage.

Herbicide should be administered as soon as possible after drilling holes.

Stem injection of knotweeds can be carried out once per year in late summer to autumn of stems greater than 8 mm in diameter. The treatment may need to be repeated over two or three years. For stems less than 8 mm in diameter, foliar application is likely to be more effective.

For plant INNS with woody stems such as Giant rhubarb (*Gunnera* species), holes should be drilled into the rhizome (root ball).

Stem injection of Giant rhubarb should be carried out at least twice during the growing season from March to November.

Monitoring and follow up treatment

Monitor the effectiveness of the herbicide stem treatment in subsequent years. If any regrowth or new growth is present, follow up with foliar spray when new growth is sufficiently large for herbicide to be delivered in effective doses to be lethal to the plant.

New growth from seeds can be hand-pulled.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

6789 Terrestrial INNS Plants: Strimming and brush cutting (not Japanese knotweed or other knotweeds)

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS Plants - Strimming and brush cutting (not Japanese knotweed or other knotweeds)

Any variation must be approved by the Welsh Government.

Invasive non-native species (INNS) are any non-native species that can spread causing damage to the environment, the economy, our health and the way we live.

Plant INNS can impact the prosperity of Wales by affecting agricultural, forestry, and horticultural productivity.

Plant INNS impact the environment as they can outcompete native plants, negatively affecting the wildlife that dependent on them. Some plant INNS release harmful chemicals into the soil that can prevent other plants from growing. When found in dense stands along watercourses they can cause winter soil erosion, or they can clog waterways increasing the risk of localised flooding. They can also disrupt pollination by drawing native pollinators away from native plants, which reduces pollination and seed production.

They can pose risks to human health, either by exacerbating conditions like asthma or cause physical harm such as rashes or blisters.

This payment covers the cost of strimming or brush cutting an area of plant INNS.

You must adhere to the following:

- the action is to be undertaken in line with an agreed INNS management plan. The INNS management plan will describe the characteristics of the site, including key animals and habitats, designated sites, any INNS present and their extent, potential pathways and risk of spread, methods of control, actions taken to prevent spread, monitoring and details of any restoration methods.

See the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan for more information.

- some plant INNS are covered by legislation and it is an offence to plant or otherwise cause to grow in the wild (see the SFS regulatory baseline [SMR 15](#) for more information).
- carrying out biosecurity, including ensuring all equipment, kit and vehicles are clean on arrival and are cleaned before leaving site, will reduce the risk of spreading plant INNS. You should undertake a biosecurity risk assessment before starting any INNS work, see the SFS management action: 6779 Terrestrial and Freshwater INNS, Pests and Diseases - Biosecurity risk assessment for more information.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work.
- you must keep Geotagged photographs to demonstrate the condition of the site prior to work commencing, as well as of the completed work and keep a record of treatment (e.g. timings, method and area treated). You must also keep and provide, on request, any consents or permissions connected with the work. Where relevant, receipted invoices or bank statements, where a receipted invoice is unavailable, should be kept as evidence.
- make sure you wear appropriate personal protective equipment such as visors, gloves and ear protection.

Do not:

- do this action to control **native** invasive species such as injurious weeds, bracken, gorse, rush infestations, brambles or nettles.
- strim or brush cut Japanese knotweed (or other knotweeds) as this will cause it to spread and is not an effective method of control. Knotweed species include:
 - Japanese knotweed
 - Dwarf knotweed
 - Giant knotweed
 - Himalayan knotweed
 - Bohemian knotweed

- strim or brush cut giant hogweed, as it is not an effective means of control. The sap of giant hogweed can cause photosensitivity on contact with skin leading to recurring blisters and scarring.
- set the cutter/topper above ground level for plant INNS. Cutting at the plant base (below first node) is required for effective control and to minimise the risk of spread.

Requirements and guidance in addition to the specifications above:

Strimming or brush cutting is only suitable for controlling certain INNS (e.g. Himalayan balsam and invasive bamboo), as it may cause spread, and is not an effective method of control.

Himalayan balsam can only be strimmed or brush cut before flowers are formed, to prevent spread of seeds.

Plants will need to be cut low to the ground (for Himalayan balsam, below the first node) and the plants will need to be repeatedly strimmed / brush cut at intervals across the growing season and for a number of years to prevent regrowth (timings of cuts will depending on the plant being targeted).

Monitoring and follow up treatment

Monitor the effectiveness of strimming or brush cutting in subsequent years. If any regrowth or new growth is present, strim or cut again or retreat using an appropriate method of control.

See the SFS management action: 6777 Terrestrial and Freshwater INNS Plants - Monitoring effectiveness of treatment after INNS management and other management actions for methods of INNS control.

Disposal of plant material

Off site:

Plant INNS or contaminated soil is a controlled waste. If moved offsite, it must be transported by a registered waste carrier and disposed of at a suitably licensed or permitted waste facility. You may need to check that they will accept the waste.

On site:

It is often less costly and better for the environment to dispose of plant INNS material on site where it has been grown.

When treating or disposing of plant INNS on site, you will need to apply for a waste permit, unless you can follow the conditions in Natural Resources Wales Regulatory Statement 058.2: [Regulatory statement 058.3 Treatment and disposal of invasive non-native plants](#)

If the plant material contains no viable seeds, stems or roots and is unlikely to regrow (for example Himalayan balsam pulled before flowering), it can be composted on site.

Burning of untreated green waste must be done in line with local bylaws and waste legislation: [Register or renew your waste exemptions](#)

6790 Terrestrial INNS: American mink raft

This technical note outlines the minimum standards required to qualify for payments related to:

Terrestrial INNS - American mink raft

Any variation must be approved by the Welsh Government.

American mink have contributed significantly to the decline of water vole populations in Wales and also impact other wildlife, such as ground-nesting birds. Without effective control of American mink, water voles may face local extinction.

American mink territories typically span 5 km for males and 3 km for females, so isolated trapping can create a territorial vacuum quickly filled by new individuals. While local control may protect key water vole colonies, catchment-scale efforts offer more sustainable outcomes.

Rafts are used as a floating base on which to set mink traps in water. Using floating rafts reduces the risk of capturing non-target animals.

This payment covers the cost of purchasing a mink raft.

You must adhere to the following:

- Mink rafts must be deployed in line with the SFS management action: 6793 Terrestrial INNS - Installation of traps, checking traps, dispatch and disposal of American mink.
- Only purchase rafts suitable for use with a smart mink (cage) trap i.e. a trap with a remote trap monitoring unit (as outlined in the SFS management action: 6791 Terrestrial INNS – American mink smart trap).
- Keep receipted invoices for the mink raft or material used to construct the raft.

Do not:

- Use a mink raft with a kill (spring) trap due to the risk of killing non target animals (e.g. otter; water vole; birds).

Requirements and guidance in addition to the specifications above:

Mink rafts should:

- be floating platforms securely tethered to the bankside using ropes attached to eye bolts at the corners of the raft
- include a central tunnel designed to hold a live capture (cage) trap with an otter guard/excluder and a remote trap monitoring unit

The raft's minimum surface area should be approximately 115 cm × 59 cm, depending on the trap size and materials used, and must allow mink to climb onto the raft before entering the tunnel.

Traps typically measure around 60cm x 18cm x 16cm (L x W x H), and the tunnel must also accommodate an otter guard or excluder (e.g. metal grill or wooden or wire battens) to prevent adult otters entering the trap.

Depending on the set up, the remote trap monitoring unit may be located above the trap and the tunnel must be able to accommodate the unit.

Information about how to set up a smart mink trap on a raft is available on the Waterlife Recovery Trust website:

<https://www.waterliferecoverytrust.org.uk/the-smart-mink-trap-raft/>

Mink rafts are available to purchase online from various suppliers or could be built (see Figure.1) following guidelines from the Game & Wildlife Conservation Trust available on their website (GWCT Mink Raft Guidelines):

<https://www.gwct.org.uk/advisory/guides/mink-raft-guidelines/building/>

Considerations before purchasing/building a mink raft

Mink rafts help reduce bycatch of terrestrial species but may not be suitable for rivers with rapid depth changes, tidal systems, or during certain times of the year (i.e. if the area is likely to flood). Site conditions should be assessed before deciding whether to purchase a mink raft.

While clay pads were previously used on mink rafts to detect mink presence before trapping, remote trap monitoring units now allow trapping to start straight away unless signal issues prevent the use of such a unit. This needs to be considered when deciding on the design of the raft that is purchased/constructed.

Trap density is recommended at a maximum approximately 1 trap per 1 km of bankside habitat though density of traps can be lower depending on the quality of the habitat (1 per 5-10 km of bankside). An example of low quality habitat would be straight high sided drainage ditches while higher quality habitat would be

confluences, meandering streams, and areas with bankside vegetation and overhanging trees.

A local American mink trapping group may be able to advise on mink rafts and smart mink traps.



Figure 1. Photo of a homemade mink raft

6791 Terrestrial INNS: American mink smart traps

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS - American mink smart traps

Any variation must be approved by the Welsh Government.

American mink have contributed significantly to the decline of water vole populations in Wales and also impact other wildlife, such as ground-nesting birds. Without effective control of American mink, water voles may face local extinction.

American mink territories typically span 5 km for males and 3 km for females, so isolated trapping can create a territorial vacuum quickly filled by new individuals. While local control may protect key water vole colonies, catchment-scale efforts offer more sustainable outcomes.

Remotely monitored traps (smart traps) send alerts when an animal is captured, enabling prompt checks and reducing the need for unnecessary visits to empty traps.

Scent lures help attract the target species and improve capture rates. They are typically placed on a cigarette filter inside a hollow plastic practice golf ball attached to the inside of the trap.

Traps can be mounted on floating rafts or used on land.

This payment covers the cost of purchasing a scent lure, a smart trap consisting of a live capture (cage) trap with a trap guard and a remote trap monitoring unit.

You must adhere to the following:

- Smart traps for American mink must be deployed in line with the SFS management action: 6793 Terrestrial INNS - Installation of traps, checking traps, dispatch and disposal of American mink.
- Only purchase live capture (cage) traps suitable for trapping mink.
- The remote trap monitoring unit must be suitable to use with the live capture (cage) trap for trapping mink.

- The trap opening should be small enough to exclude otter or be restricted by adding a trap guard with a maximum width of 60mm.
- Keep receipted invoices for the smart trap(s) i.e. receipts for the live capture (cage) trap, trap guard and remote trap monitoring unit.

Do not:

- Purchase kill (spring) traps as part of this action due to the risk of killing non target animals (e.g. otter, water vole and birds).

Requirements and guidance in addition to the specifications above:

Under current law, only two trap types are permitted: live capture (cage) traps and kill (spring) traps.

Kill (spring) traps pose a high risk to non-target species such as juvenile otters, polecats, and water voles, so the Sustainable Farming Scheme requires the use of live capture (cage) traps only.

A smart trap for American mink combines a live capture (cage) trap with a remote trap monitoring unit and a trap guard.

Live capture (cage) traps come in various sizes, but they must be suitable for mink; commonly used dimensions are approximately 60 cm × 18 cm × 16 cm (L × W × H). These traps are widely available from hardware and specialist retailers (see Figure 1).

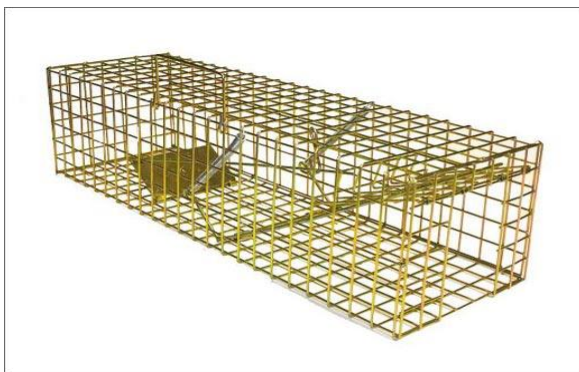


Figure 1 Live capture (cage) trap for mink

When selecting a live capture (cage) trap ensure it has a handle as it provides a safe method to move the trap (especially when there is a trapped animal inside). If necessary, a handle should be added to a cage trap.

Preferred traps are single-entry wire mesh boxes that close when the animal steps on the foot plate and are made out of heavy-duty, galvanised welded mesh.

To avoid capturing otters, restrict the trap opening with an otter guard (wire mesh section) or reduce the entrance size using strong wire or wooden battens at a maximum width of 60 mm. Where appropriate a water vole excluder could also be installed on the trap to reduce the risk of trapping water vole.

A remote trap monitoring unit is attached to a trap to detect door closure and will immediately alert nominated contacts via email or text; it should also send an alert if the signal is disrupted. This will enable the trap to be monitored remotely reducing the amount of time spent physically checking the trap.

Most units require an annual subscription as they communicate through the provider's network. They rely on mobile signals, so effectiveness may be limited in remote areas.

The local American mink trapping group may be able to provide advice on the most suitable type of remote trap monitoring unit for your area.

6792 Terrestrial INNS: Grey squirrel traps

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial INNS - Grey squirrel traps

Any variation must be approved by the Welsh Government.

Since their introduction into Britain between 1876 and the 1920s, grey squirrel have spread rapidly and displaced the native red squirrel throughout most of Wales, through direct competition or disease. In addition to displacing this species they cause damage to woodlands by stripping bark from the main stem and branches of trees.

One of the most effective methods of reducing grey squirrel populations is by live trapping using baited (cage) traps followed by dispatch, this enables non target species to be released (i.e. red squirrel, pine marten).

This payment covers the cost of purchasing a live capture (cage) trap for grey squirrel.

You must adhere to the following:

- Grey squirrel traps must be deployed in line with the management action for Terrestrial INNS - Installation of traps, checking traps, dispatch and disposal of grey squirrel.
- Only purchase live capture (cage) traps suitable for trapping grey squirrel.
- Single capture traps must be the only traps used in red squirrel areas.
- Keep receipted invoices for the live capture (cage) traps.
- Grey squirrel should be trapped for one of the following reasons:
 - To control grey squirrel in areas where there are red squirrel populations
 - To benefit biodiversity or for conservation purposes
 - To control grey squirrel populations to protect woodlands and trees from damage

Do not:

- Purchase kill (spring) traps as part of this payment due to the risk of killing non-target animals (i.e. red squirrel).
- Use multi-capture traps in red squirrel areas.

Requirements and guidance in addition to the specifications above:

Only live capture (cage) traps are allowed for trapping Grey squirrel under the Sustainable Farming Scheme.

Kill (spring) traps cannot be used to trap Grey squirrel as part of this payment because they pose a high risk to non-target species such as red squirrel and pine marten.

The Trap

Live capture (cage) traps are wire mesh cages with sprung, drop, or lift doors. Mesh size must not exceed 25mm x 25mm, and wire diameter must be at least 1.6mm. Wood and plastic are unsuitable as grey squirrels can gnaw through them. Two live capture (cage) trap types can be used: single-capture and multi-capture.

Single-Capture Traps

Single-capture traps catch one grey squirrel at a time; the trap must be reset after each capture. The mechanism uses a treadle linked to a wire holding the door open. When triggered, the door closes by weight or spring action (Figure 1).

Only single-capture traps are permitted in red squirrel areas.

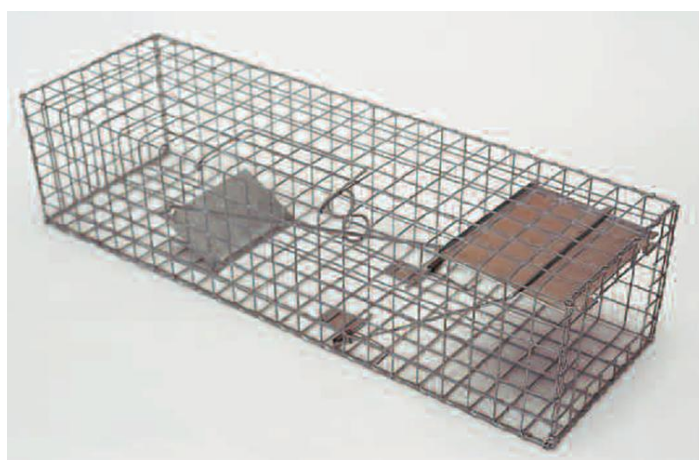


Figure 1 Single live capture (cage) trap

Multi-Capture Traps

Multi-capture traps catch continuously and typically hold 1–3 grey squirrel (up to 7). They have two tunnel doors (Figure 2); the second prevents escape when new grey squirrel enter. Mesh doors improve effectiveness as grey squirrel can see the bait. Baffle bars behind doors prevent escape.

Some traps are permanently baited with maize in a tray beneath the floor, protected from mice, voles and grey squirrel by fine mesh (mesh must not be greater than 6mm x 6mm).

Multi-capture traps must not be used in red squirrel areas.



Figure 2 Multi-capture live (cage) trap

6793 Terrestrial INNS: Installation of traps, checking traps, dispatch and disposal of American mink

This technical note describes the minimum standard of work required in order to receive payments for:

Terrestrial INNS - Installation of traps, checking traps, dispatch and disposal of American mink

Any variations must be approved by the Welsh Government.

American mink have contributed significantly to the decline of water vole populations in Wales and have also impacted other wildlife, such as ground-nesting birds. Without effective control of American mink, water voles may face local extinction.

American mink territories typically span 5 km for males and 3 km for females, so isolated trapping can create a territorial vacuum quickly filled by new individuals. While local control may protect key water vole colonies, catchment-scale efforts offer more sustainable outcomes.

American mink can be trapped using live capture traps that can be remotely monitored (smart trap). The traps can be installed on land or on secured rafts. Measures should be taken to make sure other species such as otter are not trapped.

This payment covers the cost of the installation of traps, checking traps, dispatch and the disposal of American mink.

To be eligible for this payment, the trap must be maintained/employed for at least six months during the most effective periods (January – March and August – November). See 'When to trap' guidance below.

You must adhere to the following:

- only smart Mink traps (live-capture traps) that meet the specifications outlined in the SFS management action: Management action – 6791 Terrestrial INNS - American mink smart traps - should be used.

- only rafts suitable for use with an American mink smart trap (live-capture traps) as outlined in the SFS management action: 6790 Terrestrial INNS – American mink raft should be used.
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) are obtained prior to carrying out work. You may need to register a [Flood Risk Activity Permit exemption](#) for placing mink rafts in a main river. A [protected species licence](#) may need to be obtained if trapping is to be carried out if water vole, otter or other European protected species are likely to be affected by activities.
- tenants must check tenancy agreements and if necessary, seek landlord consent before trapping American mink. Where sporting rights are separate from ownership/tenancy agreements, permission from the rights holder would be required to undertake shooting.
- the action is to be undertaken in line with an agreed INNS management plan. See the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan.
- keep evidence that you have completed the action including:
 - relevant consents or permissions
 - proof of expenditure for capital items to complete this action e.g. receipted invoices or bank statements where a receipted invoice is unavailable
 - records of location, when and how often American mink traps were set and when they were inspected
 - details of American mink dispatched (how many, sex and whether juvenile or adult)
 - details of by-catch (species, whether released alive, dead)
 - photographs of trap/raft deployment
 - photographs of dispatched American mink
- trapping is to be carried out in or adjacent to waterbodies, including rivers, canals, ponds, lakes, drainage channels, ditches, and wetlands with open water.
- the trap opening should be small enough to exclude otter or be restricted by adding an otter guard with a maximum width of 60mm.

- make sure appropriate personal protective equipment such as gloves are worn.
- obtain any required training, qualifications, or licences for equipment and practices.

Do not:

- use spring (kill) traps to trap American mink due to the risk of killing non target animals (e.g. otter, water vole and birds).
- place rafts in or near entrances to known otter holts.

Requirements and guidance in addition to the specifications above:

American mink identification

American mink typically inhabits wetlands, lakes, rivers, and coastal areas. They are generally dark brown, almost black, with a distinctive white chin patch that rarely extends beyond the lower lip. American mink are smaller than adult otters but larger than stoats or pine martens. You must be sure that you can identify American mink to avoid harming protected species such as otters.

An identification sheet is available from the GB Non-native Species Secretariat website:

https://www.nonnativespecies.org/assets/Uploads/ID_Mustela_vison_American_mink-v2.pdf

Adult male mink (900 g–2 kg) are approximately twice the size of adult females (550–850 g). Juvenile males can overlap in weight with adult females, so sexing by size alone is unreliable. In these cases, sex can be determined from the genital region: in males, the anus and urinary opening are widely separated (approximately 6–7 cm in adults), while in females they are close together (approximately 1 cm).

When to trap

Trapping is lawful year-round but most effective during the mating season from late January to the end of March and when the young disperse in August to November.

Avoid setting traps in severe weather (heavy rain or storms) to prevent animal distress and equipment loss. Traps should not be set in extreme heat as captured animals are highly vulnerable to heat stress and dehydration.

Trap density and location

Smart traps (live capture) for American mink can be used on land or on mink rafts.

Place traps and rafts where American mink are most likely to travel, such as pond inlets/outlets, watercourse confluences, or where hedges, fences, or drains meet water courses. If traps are placed on land, ensure they are positioned in the shade.

Recommended density:

- High-quality habitat (e.g., confluences, meandering streams, vegetated banks): approximately 1 trap per 1 km
- Low-quality habitat (e.g., straight, high-sided ditches): 1 trap per 5–10 km

Choose sites that are accessible year-round and avoid steep banks.

Where possible, position traps away from public access to reduce vandalism, theft, and animal distress.

Mink rafts help reduce bycatch of terrestrial species but may not be suitable for rivers with rapid depth changes, tidal systems, or during certain times of the year (i.e. if the area is likely to flood). Select sites with stable water levels and, if possible, avoid sluices and outfalls.

For effective landscape-scale trapping consider covering the widest area possible, collaborate with neighbours and/or join an American mink eradication scheme or project in the local area.

Raft deployment

Use rafts designed for smart (cage) traps for American mink as specified in the SFS management action: 6790 Terrestrial INNS – American mink raft.

Position in areas of slack water.

Secure rafts at both ends onto strong structures or stakes (50 mm x 1.5 m) using durable polypropylene rope (at least or greater than 6 mm in diameter), allowing extra length for water-level changes. Avoid thin twine.

To set up: launch raft, check ropes, clear obstructions, pull raft to bank, insert and set trap, then push raft back into position.

Installation of American mink smart traps (live-capture traps)

A smart trap consists of a live-capture trap (cage trap) with an otter guard and a remote trap monitoring unit.

Smart traps send alerts when an animal is captured, enabling prompt checks and reducing the need for unnecessary visits to empty traps.

A remote trap monitoring unit relies on mobile signals, so effectiveness may be limited in remote areas.

The local American mink trapping group may be able to provide advice on the most suitable type of remote trap monitoring unit for your area.

Read guidance on installation of smart traps for American mink from the Waterlife Recovery Trust website:

<https://www.waterliferecoverytrust.org.uk/the-smart-mink-trap-raft/>

Read further advice about trapping on the British Association for Shooting and Conservation (BASC) website:

<https://basc.org.uk/pest-and-predator-control/mink-control-guidance/>

The use of scent lures improves capture rates. Lures may be sourced from American mink glands or purchased commercially. They are typically placed on a cigarette filter inside a hollow plastic practice golf ball attached to the inside of the trap.

Welfare

American mink are protected under the Wild Mammals (Protection) Act 1996 and the Animal Welfare Act 2006.

The Animal Welfare Act 2006 covers any animal under the control of 'man' meaning that the person setting the trap is responsible for the welfare of any animal caught in that trap.

Section 2 of the Animal Welfare Act defines animals 'protected' under the Act and includes wild animals temporarily held, caged, or restrained by human action, such as in traps or during transport.

Causing unnecessary suffering to American mink is illegal and may result in fines or imprisonment.

Checking traps

Use smart mink traps wherever possible as they enable the trap to be monitored remotely, reducing the need for frequent physical checks. Smart traps send alerts when triggered or if there are signal issues; traps should be checked immediately in these cases.

If smart traps cannot be used (e.g. poor signal), they must be physically checked once in the morning every 24 hours when they are set.

Release non-target native species immediately.

American mink are listed on Schedule 9 of the Wildlife and Countryside Act 1981 and must not be released. The Mink Keeping (Prohibition) (Wales) Order 2012 prohibits the keeping of American mink in Wales.

Routinely check the trap (and raft) to ensure both are in good working order.

Traps - inspect for debris in the traps, check the mechanism and ensure that the connection between the remote monitoring unit and the trap door is undamaged.

Rafts - inspect ropes, knots and tether points.

Routine checks to be carried out:

- During every visit
- After flooding
- At least every 3 months if no activations

Dispatch

Further Guidance will be provided by your FSO.

Disposing of American mink

Further Guidance will be provided by your FSO.

Recording effort

Further Guidance will be provided by your FSO.

6794 Terrestrial INNS: Installation of traps, checking traps, dispatch and disposal of Grey squirrel

This technical note describes the minimum standard of work required in order to receive payments for: Terrestrial INNS - Installation of traps, checking traps, dispatch and disposal of Grey squirrel.

Any variation must be approved by the Welsh Government.

Since their introduction into Britain between 1876 and the 1920s, grey squirrel have spread rapidly and displaced the native red squirrel throughout most of Wales, through direct competition or disease. In addition to displacing this species they cause damage to woodlands by stripping bark from the main stem and branches of trees.

One of the most effective methods of reducing grey squirrel populations is by live trapping using baited (cage) traps followed by dispatch, this enables non target species to be released (i.e. red squirrel, pine marten).

The use of live capture (cage) traps involves selecting suitable sites and placing traps at appropriate densities. Initially the traps are not set and the area surrounding the traps are pre-baited to allow grey squirrel to get used to the presence of the traps. Traps can then be baited and set. They must be checked regularly and any captured grey squirrel humanely dispatched.

This payment covers the installation and checking of live capture (cage) traps and the dispatch and disposal of grey squirrel.

The payment will be paid for one trap at an agreed density.

To be eligible for this payment, the trap must be maintained/employed for at least three months across the calendar year.

You must adhere to the following:

- Grey squirrel can be managed for one or more of the following reasons to:
 - control grey squirrel in areas where there are red squirrel populations
 - benefit biodiversity or for conservation purposes
 - control grey squirrel populations to protect woodlands and trees from damage
- ensure that all relevant [SSSI](#) or [Scheduled Monument](#) consents, [waste permissions](#) and [protected species licences](#) are obtained prior to carrying out work. A [protected species licence](#) will need to be obtained if trapping is to be carried out in a red squirrel area and/or if pine marten are known to be present.
- only live capture (cage) traps that meet the specifications outlined in the SFS management action: 6792 Terrestrial INNS - Grey squirrel traps should be used.
- the action is to be undertaken in line with an agreed INNS management plan. See the SFS management action: 6780 Terrestrial and Freshwater INNS - Invasive non-native species management plan.
- keep evidence that you have completed the action including:
 - relevant consents or permissions
 - proof of expenditure for capital items to complete this action e.g. receipted invoices or bank statements where a receipted invoice is unavailable
 - number of traps, duration of trapping
 - record when grey squirrel traps were set and how often they were checked
 - number of grey squirrel dispatched
 - details of by-catch (species, whether released alive, dead); for red squirrel only record whether disease infected and record where carcass sent for analysis
 - photographs of trap deployment
 - photographs of dispatched grey squirrel
- obtain any required training, qualifications, or licences for equipment and practices.

- tenants must check tenancy agreements and if necessary seek landlord consent before trapping grey squirrel. Where sporting rights are separate from ownership/tenancy agreements, permission from the rights holder would be required to undertake shooting.
- make sure appropriate personal protective equipment such as gloves are worn.
- use appropriate disinfectant to reduce the risk of spreading disease.

Do not:

- Use kill (spring) traps to trap grey squirrel as part of this payment due to the risk of killing non target animals (e.g. red squirrel or pine marten). This does not exclude their use as a method of dispatch when used in combination with a live capture (cage) trap.
- Use multi-capture traps in red squirrel areas.

Requirements and guidance in addition to the specifications above:

Planning to capture grey squirrel

Key things to consider before selecting sites and how to trap:

- establish the reason for trapping
- assess the local situation:
 - suitable grey squirrel habitat
 - access
 - presence of grey squirrel based on sightings or other information
 - proximity of protected species such as red squirrel or pine marten
 - location of likely grey squirrel dispersal corridors
 - others trapping nearby
- select a suitable programme of trapping
- select suitable traps

This information will be recorded in your invasive non-native species management plan.

To be effective, management of Grey squirrel should be considered in the longer term i.e. over 10 years.

The presence of grey squirrel can be confirmed using trail cameras, feeding signs (note that feeding signs look similar for both species) or direct observation. Dreys of both species are similar.

There are three known focal areas in Wales where red squirrel are present (Anglesey, Clocaenog Forest in north Wales and an area in mid-Wales with smaller pockets) with buffer areas around them where both red and grey squirrel are present.

The preferred habitat of grey squirrel is mature woodlands with a diverse understory however they are commonly found in agricultural land, planted forests, scrub and urban areas.

Effective grey squirrel control may be difficult where the land holding and adjacent damage-vulnerable woodlands are in different ownership. Collaborative control, through either informal or formal grey squirrel control groups, will enable better planning of grey squirrel control over wider geographic areas.

Record-keeping is a requirement to evidence that this activity has taken place. Recording effort and monitoring the effectiveness of control informs current and future operations. For example, changes in capture rates highlight when traps need to be relocated.

Read more advice about trapping grey squirrel from Forest Research:

https://cdn.forestresearch.gov.uk/2019/12/ukfstn022_m7ldper.pdf

Grey squirrel identification

Accurate identification is essential during trapping to avoid harming native red squirrel which are a protected species.

Grey squirrel: Larger build (body 24–29 cm, tail 19–24 cm). Grey with brown tinges and white underside, may have melanic (dark) or erythristic (reddish) forms that can resemble red squirrel in terms of colour. Grey squirrel do not have ear tufts. Grey squirrel always have the ‘halo’ effect of white or silver guard hairs around the tail, a feature that red squirrel never has.

Red squirrel: Smaller build (body 18–24 cm, tail 17–18 cm). Usually reddish-brown (can range from blonde to black), distinctive ear tufts, especially in winter, ear tufts are not always present in summer. Tails usually match body colour.

Selecting trap type

Live capture (cage) traps are wire mesh cages with sprung or lift doors, available as **single-capture** or **multi-capture** designs. Mesh size should not be larger than 25 mm with wire equal or thicker than 1.6 mm for rigidity. New traps should be weathered outdoors before use. One person can manage approximately 20 traps per day.

Single-capture traps hold one squirrel and must be reset after each capture. They use a treadle mechanism or lift door with baffle bars to prevent escape. Open-door traps are more appealing to grey squirrel than lift-door traps.

Multi-capture traps are larger traps, with holding areas and two lift doors to allow continuous capture (typically 1–3 squirrels per visit). They are not suitable for use where red squirrel are present due to stress and disease risk from Squirrelpox.

Bait trays placed under the entry tunnel of a trap can improve efficiency and reduce bait theft by small mammals (e.g. mice) as it is more difficult to access the bait, this will mean that the traps remain baited for longer.

Trap Site Selection

Best habitats for targeting trapping are mature or semi-mature mixed broadleaved woodlands.

Place live capture (cage) traps where grey squirrel feed or move (near stumps, fallen trees, bases of large trees). Avoid open areas, dense cover, or waterlogged sites. Hide traps from tracks and footpaths to reduce disturbance.

Start in high-density grey squirrel areas and expand outward.

Trap Layout

Live capture (cage) traps can be spaced as follows:

- Single-capture: 1 per hectare (~100 m apart)
- Multi-capture: 1 per 2 hectares (~140 m apart)

Adjust spacing for grey squirrel density; place pairs of single-capture traps in high-density grey squirrel areas.

When to trap

Trapping is lawful year-round and most effective in broadleaf woodlands when food is scarce.

In red squirrel areas trapping should not be carried out in breeding periods between March to May or July to September.

In non-red squirrel areas carry out trapping between December to July. Periods may need to vary depending on local variations, weather, site specific reasons and breeding season.

It is recommended that no trapping of grey squirrel be undertaken during pine marten breeding period 1st March to 31st July where pine marten have been recorded/known population or where pine marten den box schemes are located nearby.

Carrying out trapping

Trap set up

Live capture (cage) traps can be located on the ground or placed off the ground on platforms in trees to reduce by-catch and maintain efficiency.

If the trap is to be placed on the ground choose level, shaded ground. Clear debris from the area, dig a shallow depression for the bait tray and align the depression with the entrance of the trap. Fill the bait tray with soil and yellow maize and place in the depression, position the trap flush with the ground. Secure the trap with pegs to the ground and wire the trap doors open during setup. Cover the trap with black plastic or roofing felt for shelter and camouflage.

Mount single-capture traps 1–2 m high on platforms in trees if a ground disturbance risk exists (e.g. badger, fox). For tree-mounted live capture (cage) traps, use a waterproof cover or attach a nest box for shelter, secure the trap to the tree and wire the doors open during setup.

Position multi-capture traps behind stumps, banks, or fallen trees, away from public paths.

Bait

Yellow whole maize is the most effective bait because it is cheap, stores well, and its bright colour attracts squirrels. Squirrels eat only the germ, leaving the husks, which is helpful for detecting the presence of squirrel. They may also bury maize, leaving small 2 cm holes near traps. If attraction of grey squirrel to the trap is poor, it is possible to supplement the bait with higher-quality food items (e.g. hazelnuts).

Pre-baiting

Leave traps wired open and baited before setting the trap. Place maize inside the trap (2 handfuls) and a few grains in the entrance tunnel and then scatter 4–5 handfuls within 10m of the trap. Check after 2–3 days for eaten maize germs and replenish bait if needed. Repeat the process in the same location if there are no grey squirrel signs (up to 5 days). The period of time needed to pre bait may be longer in conifer forests than native woodland. If there are no signs of grey squirrel after 5 days move to another location.

Setting traps

After pre-baiting and once grey squirrel activity has been established, set the live capture (cage) traps. For all traps test door mechanisms, clear debris and adjust if needed. Replenish maize inside the trap, scatter a small handful at the entrance only. Replace black plastic/roof felt covers before leaving.

Checking traps

Check live capture (cage) traps regularly to ensure animal welfare. Check traps twice a day - once in the morning and once in the evening. Do not hold squirrels for more than 12 hours.

Where there is a risk of red squirrel being trapped during the breeding season (March – May or July – September), inspect traps every 4 hours.

Carry approved veterinary disinfectant and spray traps after each use to prevent the spread of disease.

Remove any uneaten and spoilt food. When necessary, scrub the traps with a mild solution of detergent and water to remove greasy residues and rinse with clean water before spraying with disinfectant.

It is important to clean the trap after a Stoat or Weasel has been captured in it to remove their scent.

Top up bait regularly.

If grey squirrel visit the trap but do not enter it consider making small adjustments to the trap's location (e.g. move the trap 10–20 m or rotate it 180°). Tree-mount traps if large animals interfere with ground traps.

Release non-target native species immediately (e.g. red squirrel). Red squirrel with Squirrelpox symptoms (scabs on eyes, nose, mouth, feet) should not be released and should be sent for testing if dead or taken to a vet if alive. Do not re-release infected animals.

Moredun Group carry out Squirrelpox testing: www.moredun.org.uk

Read advice on disease risk at APHA Animal disease scanning surveillance: <https://www.gov.uk/guidance/animal-disease-scanning-surveillance-at-apha>

The local red squirrel group may also be contacted for information and advice.

Welfare

Grey squirrel are protected under the Animal Welfare Act 2006 and the Wild Mammals (Protection) Act 1996 causing unnecessary suffering is illegal and may result in fines or custodial sentences. Covering traps with black plastic or roofing felt to keep them dark and weatherproof will protect any animals caught and reduce stress.

Place traps in shade, provide enough bait and secure traps to the ground or trees to prevent movement or exposure.

Trapping cycle

Use a rolling trapping schedule by relocating live capture (cage) traps after 7–10 days.

- Day 1: Place traps and pre-bait
- Day 3: Check and re-bait
- Day 6: Set traps
- Days 7–10: Check daily, on day 10, lift traps for redeployment

Extend trapping beyond day 10 if grey squirrel are still being caught. Most captures occur early, move traps sooner if trapping success declines.

Dispatch

Further Guidance will be provided by your FSO.

Disposing of grey squirrel

Further Guidance will be provided by your FSO.

6795 Timber Sluice

This technical note describes the minimum standard of work required to receive payments for 'Timber Sluice'. Where there are local traditional methods and styles which vary from this standard these can be used, but any variation must be approved by your Field Support Officer.

Payments are available for creating or installing timber sluices in existing grasslands, fens, swamps and reed beds, as well as when creating new wetland areas. A timber sluice will maintain the water table at a higher level than that to which it would naturally drain.

Permission must be obtained from Natural Resources Wales before a timber sluice is constructed, because water is being impounded and sluices may prevent fish movements, such as salmon migration.

You must adhere to the following:

- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)
- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
- A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

- You need to consider how your proposal may affect water flow, levels, or quantity. Where a new impoundment, or the modification or removal of an existing impoundment, could result in either permanent or temporary changes in water level, quantity, or flow continuity, an impoundment licence will typically be required. This applies unless the activity is exempt under relevant statutory provisions or can be demonstrated to be low risk, with little impact on the environment, other water users and rights. You should refer to the information and checklist [here](#) to determine whether a licence is required. If you answer “yes” to any of the checklist questions, you should apply for an impoundment licence. If you answer “no” to all questions, or can provide sufficient supporting evidence or justification to demonstrate that the proposal will not have a negative impact, a licence will not normally be required. If you are not sure if you need a licence you can ask for pre-application advice at [Natural Resources Wales / Pre-application advice service for water abstraction and impoundment licences](#).
- Advice on suitable construction materials and methods can be obtained from Natural Resources Wales or your Field Support officer.

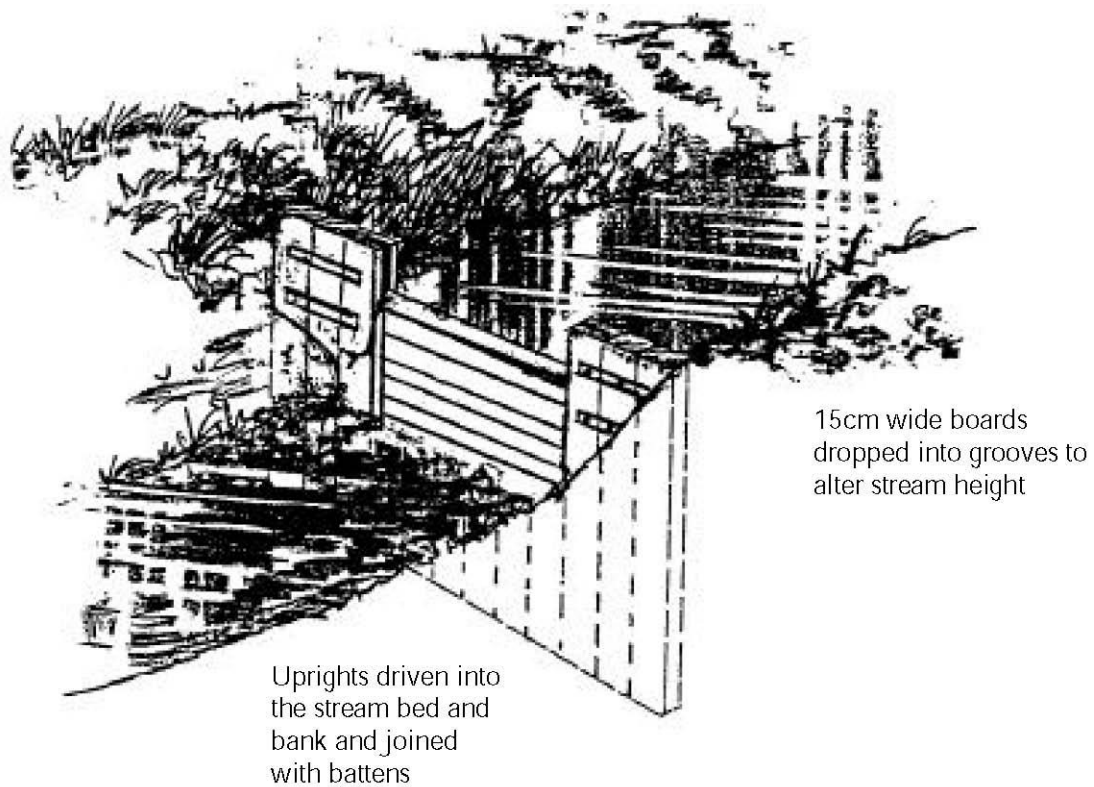
Requirements and guidance in addition to the specifications above:

- The most suitable type of sluices for your location will depend upon a number of factors:
 - the level of precision that is required in controlling water levels;
 - the range of water depths required;
 - the labour you have available to operate and maintain the structures;
 - the likely extent of seasonal and other variations in water flow;
 - susceptibility of the structures to vandalism;
 - susceptibility of the structures to blockage from debris and plant growth.

Timber Sluices perform the same function as pipe sluices, but are designed to deal with larger volumes of water. There are three main types:

Drop Board Sluice

These are relatively simple structures comprising a series of boards which drop into a grooved spillway (see diagram). To counteract seepage, 2 parallel sets of boards can be used.



Diagrams © British Trust for Conservation Volunteers

Drop Board Sluice

Lifting Gate Sluice

These are characteristic of old water meadow systems. Repairing an old system may be practical, but a new installation of this type would be complex and expensive. Water level control is difficult with this type of sluice.

Lifting Weir Sluice

These can be effective but are uncommon. They are based on a hinged weir that can be adjusted to give precise water level control. However as with lifting gates, they are expensive.

6799 Tree Coppicing

This technical note describes the minimum standard of work required in order to receive payments for 'Coppicing'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by the Field Support Officer.

You must adhere to the following:

- Undertaken coppicing in the area agreed with the Field Support Officer in line with the guidance below.
- Stems should be cut at an angle so that water runs off the stumps, preventing water pooling and the wood from rotting.
- Monitor damage and seek specialist advice if required. Develop a strategy for protection e.g. in areas where deer are a threat consider deer management in co-operation with local deer management groups.
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- coppice under a heavy tree canopy.

Requirements and guidance in addition to the specification above:

- The term coppicing is used to describe the felling of multi stemmed broadleaved trees, with a stem diameter at breast height (dbh) of 15cm or less.
- Coppicing is an ancient form of woodland management that involves repetitive felling of the same stump near ground level, and allowing the shoots to regrow from the main stump (also known as the coppice stool).
- The practice or tradition of managing coppice has recently been resurrected for mainly environmental reasons. However, stands of broadleaved trees with multiple stems over 50 years old are still quite common. Stands such as this,

may have been dedicated coppice at one time, or simply the result of being clear felled and left at the last intervention. The felling or thinning of stands such as this would be classed as just that, and not as coppicing.

Operational considerations

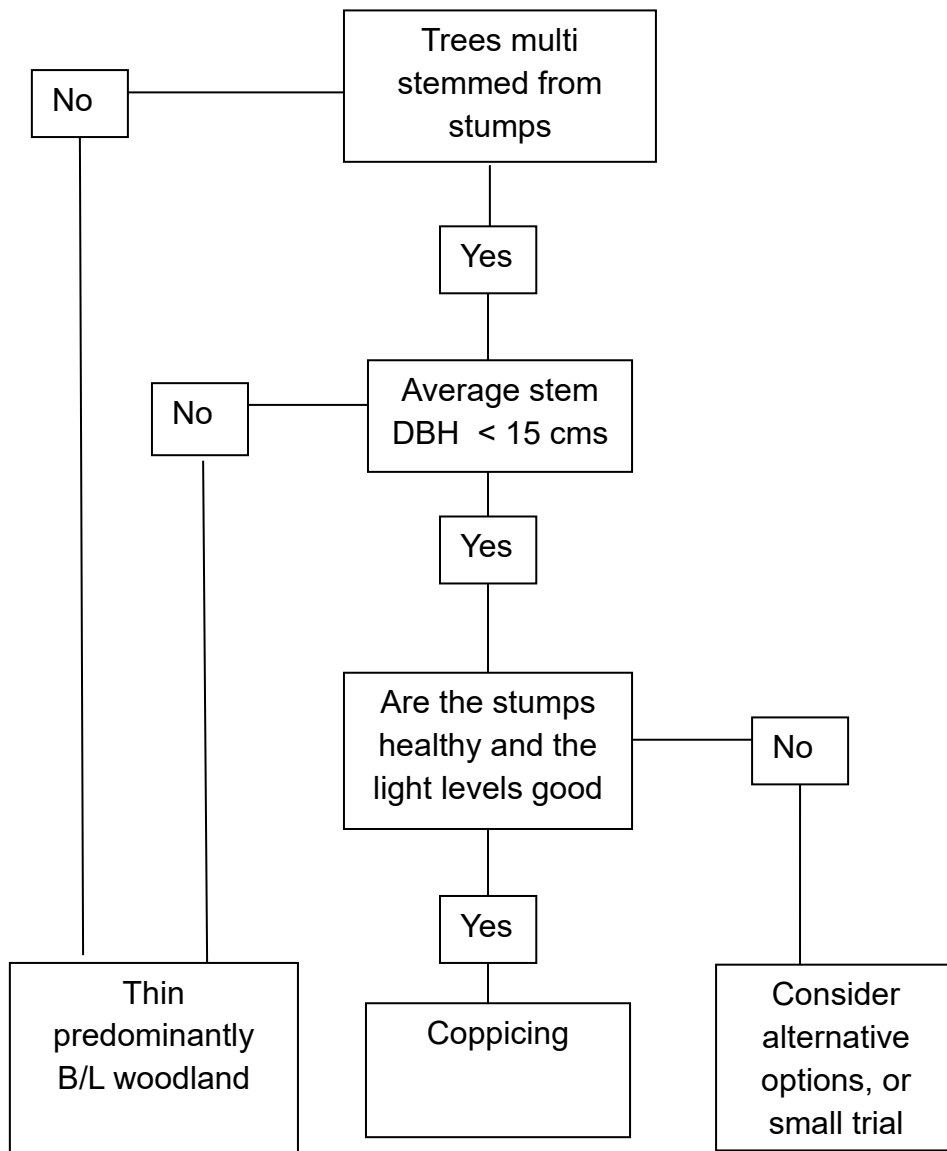
When planning coppicing operations, the following issues need to be considered:

- The health of the coppice stools, very old stools may not be healthy enough to stand being coppiced.
- Light levels are also important, even when coppicing shade tolerant species such as hazel. Ensure there is sufficient light to the woodland floor.
- Coppice regrowth is very attractive to grazing animals, for deer, rabbit and hares. Some protection can be provided by piling the cut material around the stools, but very high levels of grazing may make coppicing unwise.

If you are unsure of any of these factors, it is wise to carry out a small-scale trial before going further.

Coppicing is generally carried out in small areas to create diversity within woodlands.

The flow diagram below takes you through the decision process:



6800 Tree Surgery (per day)

This technical note describes the minimum standard of work required to receive payments for 'Tree Surgery (per day)'. This capital works item can only be considered if there is significant environmental or social benefit. Your Field Support Officer will include any Tree Surgery works as part of your management plan if applicable.

You must adhere to the following:

All tree surgery work should be carried out by a suitable qualified tree surgeon and all works must be undertaken to BS 3998:2010.

The assumption is that works undertaken under this specification would be carried out under the Felling Licence exemption of 5m³/quarter, which for SFS entrants is further limited to 5m³/calendar quarter for the Autumn and Winter quarters only. If the works planned would be in excess of these limits, Felling permission would be required (either via a Felling Licence or via a Forest Management Plan/Woodland Management Planning Scheme approved plan).

Do Not:

Carry out Tree Surgery between 1 March to 31st August to protect nesting birds.

Requirements and guidance in addition to the specifications above:

Trees are important structural features in the landscape and they provide a variety of habitats for numerous other organisms. Some dependent organisms are rare or in decline and so they are protected by law. The main protected species, which are likely to be affected by tree surgeons in Wales are: bats (all species), dormouse, great crested newt and otter. The species most commonly impacted by tree surgery operations are bats and nesting birds.

Protection of these species has implications for the timing, extent, or method of tree management operations. Certain tree features are often used by protected species and a qualified tree surgeon will be suitably trained to identify them and recommend appropriate action. Care must also be taken to minimise impacts and disturbance to birds, bats and other wildlife. Natural Resources Wales has published [guidance](#) that explains how to lawfully carry out forest operations in the presence of protected species and what to do when you cannot avoid harming protected species or damaging their habitats.

The Tree Surgery payment can be used for the following works:

- Limb removal to support tree health and longevity
- Tree surgery to facilitate public access to woodlands (e.g., crown lifting, removal of limbs which impede existing or planned access)

Tree surgery may be necessary to prolong the life of some veteran trees. As they are particularly vulnerable to environmental stresses and insensitive tree surgery, surgery should be kept to a minimum that is essential to the maintenance of the tree or for health and safety reasons.

Standing dead wood in the form of branches and whole trees is an important habitat for many insects and fungi. Avoid removing standing deadwood unless it poses a hazard. All offcuts should be piled and left as deadwood in a mixture of sunlit and shaded areas in the area near to the tree, unless otherwise agreed with your Field Support Officer.

6802 Tree: Formative Pruning

This technical note describes the minimum standard of work required in order to receive payments for 'Formative pruning in mixed broadleaves'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer.

You must adhere to the following:

- For most species, formative pruning is best done in the late spring, just before trees come into leaf. This ensures the wounds heal quickly. With the trees free of leaves, it is easier to see the crown architecture, so the best branches to prune are visible.
- Wild cherry (gean) and walnut must be pruned in late June or early July. In cherry this is to minimise the risk of bacterial canker and silver leaf disease and in walnut to avoid excessive bleeding. Ash, oak and poplar can be pruned in winter (December- or January).
- Ideally branches should be removed before they reach 2cm in diameter at the joint with the main stem. Generally, they should not be larger than 4cm.
- When removing a branch, it is often better to cut off the branch at approximately 6cm from the stem, before making the final cut which should be as close as possible to the outer edge of the branch-bark ridge, to avoid the risk of tearing (step cutting).
- The branch-bark ridge is the crease or fold of bark that appears where the branch enters the trees main stem. All cuts should be made on the branch side of this 'ridge' as it is this area that the tree will more rapidly grow over the 'open' cut, protecting the tree from infection and avoiding degradation of timber.

Do not:

- remove more than one third of the crown (branches) of the tree in one season.

Requirements and guidance in addition to the specification above:

Formative pruning

Formative pruning is the removal of branches or leaders at an early stage (2 – 8 years), in order to improve the shape (form) of the tree, to allow for the maximum timber potential to be realised. Broadleaved trees have a tendency to produce coarse and excessive branch growth

and multiple leaders, especially when planted at wider spacings. These factors can also be caused by browsing, bird-perching, insects, frost and wind.

In formative pruning you should aim to produce a single, straight stem up to 3 metres in height with a third of the overall height retained as crown (with branches). Not every tree needs to be pruned –it is a matter of ensuring that there are enough trees that have the potential to become timber,

Field Support Officer will specify the number of trees to be pruned.

Consideration should be given to current or anticipated mammal damage especially grey squirrels where control may be necessary. Pruning is a costly operation with long-term aims that may be wasted if extensive damage is caused.

Timing

Pruning should commence once the crop is well established, usually between the second and fourth growing seasons and could continue until the crop is 3 metres tall, after which high pruning could be considered.

Tools

Secateurs (sharp) for branches up to 2cm.

For larger branches then loppers and handsaws can be used as long as they are also kept sharp.

Remember to always clean all cutting equipment with disinfectant sprays when moving between trees.

Examples

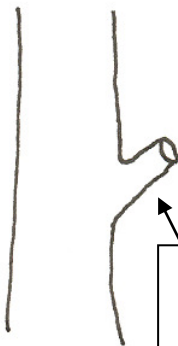
Correct practice



Both cuts follow branch-bark ridge or are cut slightly away to reduce area of open wound.

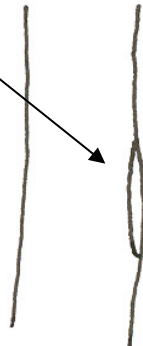


Bad practice



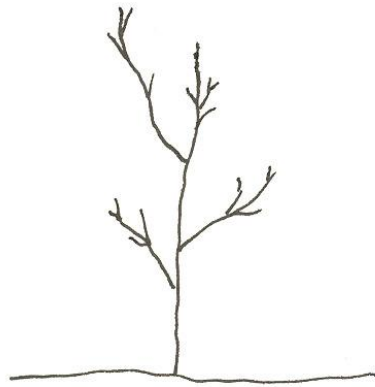
Do not leave lengths of un-cut branch as these will reduce future timber quality.

Do not use cuts that are flush to the main stem, as this leaves a large wound and removes the tissues and mechanism that promote healing.



Remove dominating branches.

- Remove either the offending branch or the weakened leader.
- Remove some of the small lower branches to encourage upward growth.



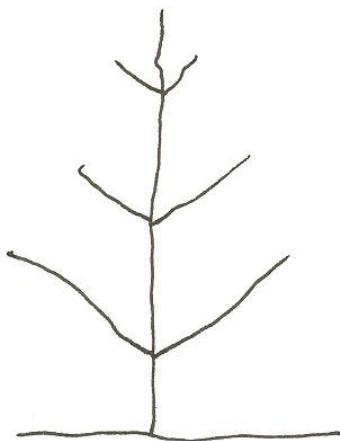
Before



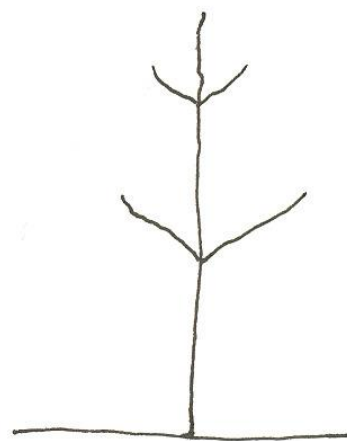
After

Remove coarse branches.

- Remove lowest whorls (ring) of branches in successive years.
- Remove lowest branches ideally before they get bigger than 2cms in diameter.
- Don't forget to only prune Cherry in June/July/August.



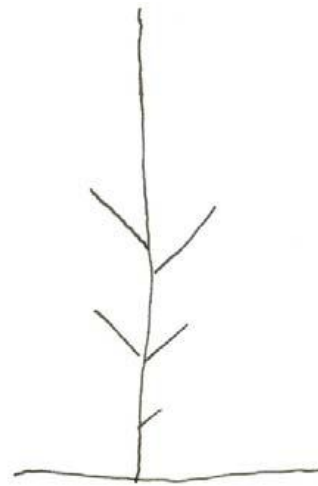
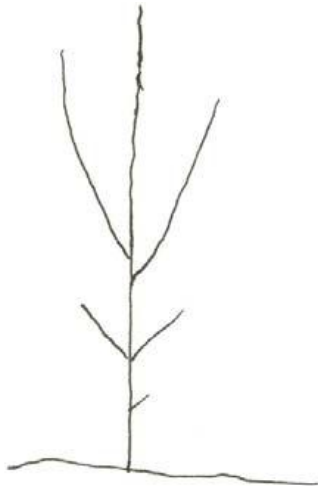
Before



After

Cut back dominating branches by about a third.

- By not removing the branch completely, the tree is less likely to produce a 'whippy leader'. Remember the tree needs some leafy branches to grow.

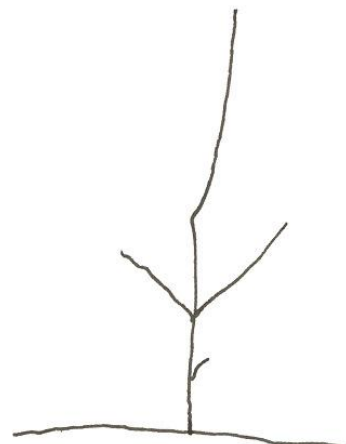
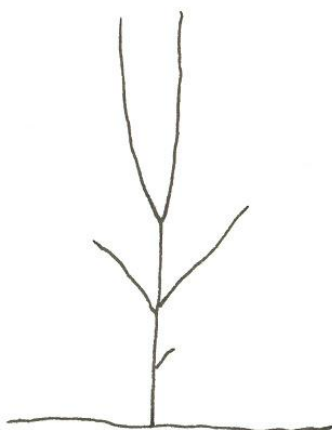


Before

After

Remove forked branches.

- Common in Ash, remove all but the straightest, most vigorous leader.



Before

After

6804 Tree: Pollarding

This technical note describes the minimum standard of work required in order to receive payments for 'Tree Pollarding'. Where there are local traditional methods or styles which vary from this standard these can be used, but a Field Support Officer must approve any significant variation.

Pollarding is a traditional method for producing poles and firewood from trees. It involves cutting the tree at a height of approximately 2.5m to 4m above the ground and out of the reach of grazing animals. Pollarding can be used to provide fodder for livestock and also firewood and is a useful technique to extend the lifespan of many native broad-leaved species.

You must adhere to the following:

- Pollard only healthy and vigorous trees
- Pollard before bud burst.
- Only carry out pollarding in the winter months, while the tree is dormant (December, January and February)
- Limbs should be removed individually over a period of years so that the tree survives.
- Cut on an angle to increase the perimeter of cut bark from which shoots can grow, cuts should be angled so they slope away from the centre of the crown to allow water run-off.
- Leave stubs at least 50cm long and should be left untreated.
- Cut on a regular basis once pollarding is re-established
- Pollard in stages (particularly relevant for beech and very old pollards).

Do not:

- Remove old trees unless absolutely necessary. Seek professional advice and assess the risk before removing such trees.
- Cut in frosty weather,
- Cut after a drought year, as this will reduce the chances of the tree surviving
- cut trees that are densely shaded or over-exposed to the sun;
- Cut flush with the trunk
- Pollard any tree between 1st March and 30th November.
- Cut more than 50% of the branches in any one operation. Return to cut those branches previously retained only after regrowth has taken place. This is likely to involve a gap of several years between cuts.

Requirements and guidance in addition to the specification above:

Trees which have been pollarded can live to a great age. In many parts of Wales they form an integral part of the historic landscape. Pollards can be found singly, in lines along boundaries or scattered in large numbers across parkland. All are remnants of a method of tree management that was once commonplace and has now all but vanished.

In pollarding New shoots will sprout from just below the cut surface; these shoots are allowed to grow into branches which are harvested every 10-25 years, depending upon tree species, growth rate and the proposed end use of the timber.

After many cycles of pollarding the tree trunk becomes swollen and gnarled. Pollarding rejuvenates trees, allowing them to attain a much greater age than an unmanaged tree of the same species. As a result, pollards provide a diversity of habitats for wildlife.

Re-pollarding large pollards and creating new pollards is important because:

- many tree-living plants and invertebrates depend on old trees for their survival.
- the character of a particular landscape or parkland can be maintained or even be enhanced
- without management the crown of the tree will become top-heavy and may collapse under its own weight
- old rotting branches which overhang paths, roads or car parks may need to be dealt with on safety grounds.

Pollarding Maiden Trees

Look for a tree of approximately 25-30 years old, with at least some branches below the point at which the cut is to be made. Pollard at a convenient height but above that which can be grazed by browsing animals Make the cut above a whorl of branches that should be left intact for at least the next two growing seasons. After this time the tree can be re-shaped if required. The cut should be made on a slant but left untreated. This will stimulate re-growth, as it increases the perimeter of cut bark from which shoots rise. If the new pollard is designed to maintain a historic landscape, then the initial cut should be made at the same height as on the existing pollards.

Re-introduction of Pollarding on Trees

All existing pollard trees are of historical and biological importance.

The longer the period since the tree was last pollarded, the poorer the chance of re-establishing the pollard cycle. Where trees are 200+ years old, it is important to leave some branches and living twigs around the trunk and ensure that the cuts are made above these healthy side branches.

Different species have various tolerances to pollarding. Willow, lime, hornbeam and ash are likely to respond well to re-pollarding, whilst beech re-pollards very badly and will need special care. Old pollards that have many burrs and twigs may re-pollard

more successfully than those which are smooth barked, as the burrs indicate a concentration of buds.

Problems Which Can Arise After Pollarding:

- unbalanced crown, where branches are retained ensure that the remaining crown is well balanced.
- not enough light, surrounding trees may need to be coppiced or topped.
- too much light, growth may check following sun scorch if the tree has been opened up from dense shade.
- fungal infection, some large heart-rotting bracket fungi are not a problem, as they only decay dead heartwood, others may attack living wood causing severe damage;
- frost damage on young shoots.

6805 Turf Stripping

This technical note describes the minimum standard of work required to receive payments for 'Turf Stripping'.

Your Field Support Officer will identify areas where turf stripping could be beneficial. This technique can only be used on areas of improved grassland to reduce soil nutrient levels and encourage regeneration of dunes, heath and species-rich grasslands. Heather generally develops where there is thin, nutrient poor acidic soil.

Turf stripping should only be used in exceptional circumstances when other less invasive management practices will not attain the desired outcome.

You must adhere to the following:

Turf Removal

- Expose the topsoil by removing turf to a depth of between 5 to 10cm. This can be done using a turf stripping machine or mechanical hoe or 'dozer' attachment fitted to an excavator.
- Topsoil should not be placed on habitat land.
- Turf stripping is not suitable for sites with any historic features except in exceptional circumstances.
- **Scheduled Monuments.** If you are undertaking this work within or on the boundary of a scheduled monument you must obtain scheduled monument consent from Cadw prior to undertaking the works or allowing someone else to carry out the works. Failure to obtain the necessary consent prior to undertaking the works is an offence under the Historic Environment Wales Act, 2023.

You can submit an application for scheduled monument consent online via:

[Application Form — Scheduled Monument Consent | Cadw](#)

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Registered Historic Parks and Gardens.

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- If you are undertaking work within an Internal Drainage District, you may need to obtain a land drainage consent to ensure that your activities do not cause a risk of flooding or make existing flood risk worse.
 - A consent is also necessary to ensure your work will not interfere with our flood risk management assets or adversely affect the local environment, fisheries or wildlife. [Natural Resources Wales / Apply for land drainage consent](#)
- If you are undertaking any activity near a main river, floodplain or flood defence structure you must check whether a Flood Risk Activity Permit is needed and obtain a permit if required. Any permit/consent (or confirmation that a permit/consent is not needed) should be retained and made available on request.
- [Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

Establishing Heath or Species Rich Grassland

If the site is on relict heathland, adjacent to existing heath or species rich grassland, consider allowing natural regeneration. On these sites there is likely to be an existing seedbank and suitable soil conditions. Heath species are sensitive to pH, sites with a pH of less than 4.5 are needed. The seed bank can remain viable for up to 90 years.

On other sites, it may be appropriate to create new habitat, through heather or species rich grass seeding.

Heather Seeding (Additional payment - Sward Enhancement Using local provenance seed (grassland or heathland))

With the agreement of the Field Support Officer select a donor site with similar ground conditions to the recipient site. If the recipient site is wet, select a wet heath and likewise select a dry heath donor if the recipient site is dry.

Cut the heath on the donor site in the autumn using a mower without a conditioner. The heath should be cut when the heather begins to shed seed when shaken. Avoiding a mower with a conditioner will reduce seed loss. Bale the heather, transport to the donor site and unroll the bale before it has begun to heat. Heating will reduce the amount of viable seed. Spread the heather brash using a hay tedder. Leaving the heather brash in place encourages the germination of heather seedlings.

Species Rich Grass Seeding (Additional Payment – Sward Enhancement Using local provenance seed grassland or heathland or Green hay)

With the agreement of the Field Support Officer select a suitable species rich seed mix. After turf removal, roll and lightly chain harrow the site with the aim of achieving a fine firm friable seedbed. Apply the seed mix using a fertilizer spreader, chain harrow and roll. Please refer to species rich guidance for further details and payment.

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6806 Weed Wiping

This technical note describes the minimum standard of work required to receive payments for 'Weed Wiping'.

Weed wiping is a good alternative option to spraying in sensitive habitat areas used to control undesirable species where there is a height difference between the target species and ground plants.

You must adhere to the following:

- When controlling the spread of undesirable species, herbicide should only be considered as a last resort, since the approved chemicals are broad spectrum herbicides that will also destroy other non-target plants.
- Apply herbicide when the undesirable species stands higher (at least 10cm or 4") than the other vegetation in the field, then herbicide should be applied using a weed-wiper set above the height of the rest of the sward.
- The herbicide used must have a label recommendation for your intended use, and for the intended method of application.
- Herbicide must not be applied within 6m of a watercourse or within 1m of field boundaries. Do not use within 50 metres of a spring, well, borehole or any public or private water supply. The code of practice for spraying near to water courses that is produced by the Natural Resources Wales should be followed.
- [Natural Resources Wales / Using herbicides](#)
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- Allow herbicide to damage biodiversity-rich habitat, e.g. through dripping.
- Weed-wipe rushes or use any other rush control between 15th March and 15th July in any year.

- weed wipe when the vegetation is wet or when rain is imminent. If herbicide is applied in these conditions, the dripping of dilute herbicide onto the crop/plants below will result in crop damage.

Herbicide must not be applied within 6m of a watercourse or within 1m of field boundaries. Do not use within 50 metres of a spring, well, borehole or any public or private water supply. [Natural Resources Wales / Using herbicides](#)

6858 Bracken Control: Mechanical Two Cuts or rolling /Year

This technical note describes the minimum standard of work required to receive payments for 'Bracken control (Mechanical cutting)'. Any variation must be approved by the Welsh Government prior to starting the work.

Bracken is a vigorous perennial fern which grows from an underground rhizome system. Above ground, bracken fronds are fully open from about mid-June to August, and it is at this time that the plants have deployed most of their nutrient reserves. This action is available to clear areas of bracken so that ground flora can develop or to allow new trees and hedgerows to be established. The cutting action is preferred over rolling and mechanical is the preferred approach over chemical control.

It should be noted that controlling dense stands of bracken is likely to take at least a few years to achieve the desired result.

You must adhere to the following:

- Control the bracken by bruising, crushing, or cutting only.
- Control bracken by cutting or rolling at least twice during the growing season. Additional guidance on the best time to control bracken is listed below.
- This should be undertaken for 3 consecutive years to achieve good control
- If you are undertaking this work within a SSSI and it is listed as an operation likely to damage the special interest (OLDSI) of that SSSI, you must notify NRW in writing and obtain SSSI consent before you carry out, or allow someone else to carry out, the activity. You can do this online using the form available [here](#). You should have received a copy of the OLDSI list when the site was being designated. You can also find the list using NRW's [designated sites search](#).

Do not:

- Control bracken using chemicals.
- Control bracken by burning.

Requirements and guidance in addition to the specifications above:

- Crushing and cutting should be timed so that the fully extended frond is taken out before the plant has time to translocate food reserves from the frond back to the rhizome. The plant has expended considerable food reserves in producing the frond and well-timed removal causes substantial weakening. The period from June to mid-August will generally be the best time to crush or cut depending on weather conditions. Leave 6 weeks between each rolling or cut.
- Where the main purpose is to increase diversity of the herb layer, cut bracken should be removed from the cut area to prevent smothering.
- Control should ideally be followed up by grazing with heavy livestock, such as cattle or ponies if tree planting is planned for the area, since this will help to prevent frond regrowth. Heavy livestock-grazing during the early growth period (May and early June) in subsequent years will help to suppress bracken regrowth.
- It is important to bear in mind that stands of bracken can contribute to landscape diversity and may well be of considerable value to wildlife in their own right. Where intermixed with scattered trees and shrub, bracken is often important for birds such as whinchat, yellowhammer and nightjar. Open bracken with an understorey of violets may support populations of fritillary butterflies. Even dense stands with heavy litter may provide cover for overwintering birds of prey such as hen harrier and short eared owl, as well as mammals such as bank vole, badger, and deer.
- Further information can be found in the [UK best practice guidance - bracken management](#)

6860 Breaking up or blocking field drains

This technical note describes the minimum standard of work required to receive payments for 'Breaking up Field Drains'. Where there are local traditional methods or styles which vary from this standard these can be used, but any significant variation must be approved by a Field Support Officer.

The breaking up of field drains is a simple and effective method of increasing ground water levels to maintain or enhance existing habitats and trap carbon in the soil. It can also be used for water management by reducing the risk of flash floods during heavy rainfall and pollutant entering lakes and rivers.

This capital works item can be used as part of a re-wetting management action to increase the groundwater levels over certain habitats and also on organo-mineral soils on improved land.

You must adhere to the following:

1. Locate field drain and mark its location with canes.
2. Dig down to the drain at a location as close to the wetland edge (or area to be re- wetted) of the buffer zone as possible, so that the new elevated water level will not affect adjacent cultivated land not included in the re-wetting action.
3. Once located, break the drain and block the lower end with soil or other impervious material.
4. Remove some of the permeable backfill above the downslope drain and place it in the bottom of the hole above the break.
5. Seal the drainage backfill on the down-slope side of the hole by placing and compacting soil on this face of the hole. Backfill the hole.
6. Create a hole with stepped sides around the break. The width of the hole should be 2 times the depth of the hole. Use the spoil from the hole to create a shallow crescent (30 to 50cm high) downslope (3 to 5m) from the break. The crescent will retain a pool of water and will increase the spread of the surface flow down-slope.

Requirements and guidance in addition to the specifications above:

- Care must be taken to minimise the hazards, impacts and disturbance to livestock and wildlife whilst carrying out the work.

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[Natural Resources Wales / Check if you need a flood risk activity permit \(FRAP\)](#)

6862 Chisel Ploughing

This technical note describes the minimum standard of work required to receive payments for 'Chisel Ploughing'.

Chisel ploughing breaks up the surface of the sward and creates small hummocks and divots within the uniformed surface of improved grassland, which creates a more attractive sward for breeding lapwing.

You must adhere to the following:

- The action can only be used on improved grassland.
- The chisel-plough is towed by a tractor to break up sections of the field. This will give a mosaic of tight and broken sward.
- Chisel plough depth should be between 5 and 10 cm for most soils and 5-7 cm for clay soils
- A chisel ploughing plan should be agreed with your Field Support officer.
- Retain the surface that has been created by chisel ploughing.
- Ensure you meet the requirements of Universal Code: Part 1: soil protection

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Do not:

- Chisel plough between 1 March and 31 August.

Requirements and guidance in addition to the specifications above:

This capital works action can only be considered as part of a plan to manage for lapwing.