

FIELD BOUNDARIES



Department of
**Agriculture and
Rural Development**

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FIELD BOUNDARIES

IMPORTANT FACTS

- ~ Field boundaries, particularly hedgerows and dry stone walls, are a characteristic feature of the Northern Ireland landscape. Indeed, Northern Ireland has the highest density of field boundaries in the UK.
- ~ Throughout the countryside there are about 120,000 kilometres of hedgerow and over 8,000 kilometres of dry stone wall.
- ~ Field boundaries are a relatively new addition to the Northern Ireland landscape, most being less than 200 years old.
- ~ They are a tremendous asset to our farming system and to wildlife and an important part of our heritage.

Field Boundaries outlines the history of field boundaries in Northern Ireland, their structure, regional variations and place in folklore.

THE HISTORY OF LAND ENCLOSURE

After the last Ice Age most of Ireland was covered by oak, pine and birch woodland.

The arrival of the first Stone Age farmers, around 3000 BC, led to the clearance of the forests.

By the 1400s, only 12% of the island was forest and this was mainly in the lowland river valleys. Oak, ash and a few elm trees predominated, with oak and birch on higher ground.

THE FIRST FIELD BOUNDARIES

The first permanent field boundaries were erected around the 12th Century to mark townland boundaries. These subdivided the various districts and usually followed rivers and other features in the landscape.

The absence of enclosures over most of the rest of the country meant that leases in the early 17th Century required tenants to 'perambulate the bounds' every year and, in some cases, plant a number of thorn quicks to mark the perimeter of a holding.

Today's field pattern developed slowly from around 1650 until the early 1800s. Townlands and farms were continually divided to produce a pattern of irregular field boundaries. This is especially common in the area from Upper Lough Erne through the Lagan Valley to North Down.

In the North and Northwest, the open landscape without permanent field boundaries remained until the early 1800s. The increase in population led to the development of small villages or 'clachans', with farms, which were run on a partly collective system. These were inefficient and in the late 18th and early 19th Centuries, they were reorganised and the land was redistributed. This resulted in the regular grid-iron field pattern and ladder farms of the Glens of Antrim and South Derry/Londonderry.



TYPES OF FIELD BOUNDARY

Hedgerows

The earliest hedges were mostly planted on an earth bank or on a scarcement beside an earth bank. These hedges are common in the lowland drumlin belt from Fermanagh to North Down and are usually associated with an irregular field pattern. The stone-faced earth bank was not used before 1800 and is more common in upland areas where enclosure occurred later and field patterns are grid-iron and regular.

Around 1800 a variant of the stone-faced bank and hedge was introduced from County Louth. It has a large soil bank on the opposite side of the wall to the hedge. Another type from Galloway in South-west Scotland, lacked the large soil bank and was introduced into North Down.

Our oldest hedges are found in North Armagh around the original Brownlow Estate near Lurgan. These date back to the early 17th Century. Townland boundary hedges also harbour a large number of species because of their age and because they are mostly left untrimmed.

Hedgerow Species

The history of hedgerows is reflected in the various tree and plant species which occur in them today. Each county has its own cross-section of hedge species, often associated with the soil type or climate of the region. Townland hedges which are considered the oldest, most ancient, hedge type in Ireland, generally have a greater tree and shrub species diversity and are associated more with woodland areas.

Hawthorn is the most common in Counties Down and Armagh where it accounts for 80% of all hedge species. In Co Fermanagh, willow is a common hedgerow shrub, whilst holly and ash predominate around Draperstown in Co Londonderry. Whin and blackthorn are also very common hedgerow shrubs.

Hedgerows also contain over 60% of Northern Ireland's broadleaved trees, which further increases the importance of hedgerows for wildlife. They also provide colour in the landscape through blossoms in spring and berries in autumn. Our most common hedgerow trees are ash and alder.

THE HAWTHORN IN FOLKLORE

Irish folklore is full of superstition regarding common objects such as trees, gates, houses, doors and many others.

Solitary hawthorn trees, often known as fairy or gentry thorns, skeaghs or lone bushes, are said 'never to have been planted but to have grown of their own accord'. They are most often found in the middle of fields and also around historic monuments and holy wells.

The custom of leaving the solitary tree to grow without interference is thought to have come from the Mediterranean over 2,000 years ago where nature worship was common. This cult came to Ireland with the first farmers when they started to work the local soil.

Harming or removing a fairy thorn is thought to bring bad luck.

DRY STONE WALLS

Most dry stone walls date from 1780 to 1840 but some may be of Iron Age origin. They were built using stones and boulders removed from the land so that it could be worked and also to provide a field boundary to keep in livestock. They are most common where soils are shallow, with the stones making up each wall reflecting the underlying rock type of the area.

In the Mournes the roundness of the granite boulders gives the walls characteristic holes. Mourne walls are very similar to those found in the Lake District and Aberdeenshire.

Granite stone walls are also common around Slieve Gullion in South Armagh and limestone walls can be found at the lower end of Lough Erne and on Rathlin Island.

The stone walls of the Glens of Antrim and Braid Valley are mostly basalt boulders built in a single line. The basalt is darker than the granite of the Mournes, giving the walls a distinctive colour.

Some pre-Christian walls, known locally as Danish fences, can be found in Co Londonderry. These separated the very early enclosed farms from the rougher land outside. They are made of piled stone slabs with some set diagonally or vertically. They may be covered by bog and it is often only the vertical stones that remain. These were often left as standing stones as the peat was removed.

FIELD NAMES

In the past it was common practice to give every field a name. For example, taking just one farm we find names such as Cove Knowe, Forth (Fort) Field, Rodger's Field and Kiln Field. Without such names there is often no other obvious clue as to the field's past history. In everyday usage, the significance of the name often goes unnoticed.

Most of our field names were set when fields were enclosed, between 150 and 300 years ago. They often give the history of the area at the time.

On official and legal documents, field numbers tend to be used rather than field names. Some field names were lost when land changed hands or when fields were amalgamated. Survival of many field names therefore depends on word of mouth.

Field names represent an interesting and important part of our farming heritage and are worth retaining. Keep a record of all field names along with farm maps and documents and help preserve their history.

Before starting restoration or establishment of a new field boundary, check with DARD Countryside Management staff. Participants in agri-environment schemes can receive management payments for field boundary restoration.

For advice on hedge planting and management and dry stone walling contact local [DARD Countryside Management Staff](#).

ADDITIONAL READING

Irish Heritage: *E. Estyn Evans*

The Spread of Hedged Enclosure in Ulster: *Philip Robinson, Ulster Folk and Transport Museum*.

Dry stone Walling: *Alan Brooks, British Trust for Conservation Volunteers*.

A HEDGEROW CODE OF PRACTICE

IMPORTANT FACTS

- ~ Hedgerows should last for hundreds of years if properly managed.
- ~ Too many hedges are 'over manicured' being cut too short and too frequently. This is seriously limiting their life expectancy. Others are left unmanaged and have become overgrown and gappy at the base.
- ~ Hedgerows must not be cut between 1 March and 31 August inclusive to avoid disturbance of nesting birds.
- ~ DARD recommends waiting until late winter (January - February) to carry out hedge cutting operations. This allows berries and fruit to remain in hedges to provide food for wildlife over the winter.

The main objective of the DARD Hedgerow Code of Practice is to encourage farmers to maintain stockproof barriers, which are valuable for wildlife and attractive in the landscape. It emphasises the need to avoid hedge cutting operations during the bird nesting season, from 1 March until 31 August.

A Hedgerow Code of Practice gives practical advice on frequency, time and shape of cutting, development of hedgerow trees and management of the hedgerow base.

TIME OF CUTTING

Warning!

To comply with the requirements of Cross-Compliance, those in receipt of direct agricultural support (this includes the Single Farm Payment) must not cut, lay or coppice hedges between 1 March and 31 August inclusive. Birds nest in the majority of our hedges, and therefore hedge maintenance, cutting, laying or coppicing is not permitted during the bird nesting season. This is to avoid damaging the birds, nests or chicks and complies with The Wildlife (NI) Order 1985.

- ~ The best time of the year to cut hedges is during early February. Obviously ground conditions may not always permit this but there is no need to cut all hedges on the farm every year.
- ~ Avoid cutting during autumn and early winter. This removes berries and fruit, a very valuable source of food for birds and other wildlife over winter.
- ~ Do not cut during periods of hard frost.

TYPES OF HEDGE CUTTER

Flail – only suitable for light growth. The cut hedge looks untidy for a short time afterwards but flailing does encourage bud formation and helps thicken the hedge.

Circular Saw – generally used on heavier growth. Repeated cutting at the same height causes the hedge to become gappy at the base. Buds are not encouraged to break from lower down the stumps.

Cutter Bar – only suitable for trimming young growth.

FREQUENCY OF CUTTING

Internal Hedges

Cutting hedges every year to the same height shortens their life, irrespective of the type of hedge cutter used. Since most hedge cutters can cut through 2-3 years' growth, it is not necessary to cut all internal hedges on the farm every year. Instead the aim should be to trim hedges on a 2-3 year cycle. Hedge cutting operations may be slower as a result, but should not cost more overall.

Cutting on a 2-3 year cycle has important advantages:

- ~ Hawthorn is allowed to blossom, creating a spectacular feature in the countryside during late May.
- ~ Fruit and berries can develop, providing a welcome food source for wildlife during winter. Hedgerows which are cut every year produce few flowers or berries.

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Achieve a 2-3 year cutting cycle by:

- ~ cutting one half to one third of hedges every year, or
- ~ cutting one side of the hedge each year.

Avoid cutting all hedges in the same year. Trim hedges on the farm rotationally, always leaving a proportion untouched.

Roadside Hedges

It is important to ensure that roadside hedges do not endanger or obstruct the passage of vehicles and pedestrians or interfere with the view of drivers. Where health and safety is an issue, roadside hedges may be trimmed between 1 March and 31 August. However, it is important to make sure that you do not disturb nesting birds if you do need to cut at this time. Note that it is not always essential to cut the top or the field side of the hedge every year. Remember to brush up trimmings on roads and footpaths after hedge cutting.

More detailed information is provided in [Managing Roadside Hedges](#).

HEIGHT

During hedge cutting operations, the height of the hedge is an important consideration. To be effective as stockproof barriers, hedges need to be 1.8 - 2m high. Increasing the height of the hedge increases its shelter and wildlife potential. Cut the hedge 8 - 10cm higher each time until the desired height is reached.

SHAPE

From a wildlife point of view, the most valuable hedges are those which are wide at the base with gently sloping sides. This has the added advantage of helping to prevent the hedge from becoming gappy at the base. Avoid cutting the hedge to a box shape with straight sides and flat top. Roadside hedges should also be cut with a slight slope.

A wide, double-fenced hedgerow around the perimeter of the farm will reduce nose-to-nose contact with stock on neighbouring farms. This will help reduce the spread of tuberculosis (TB) and brucellosis and other diseases spread by contact.

THE HEDGEROW BOTTOM

The hedgerow bottom, if properly managed, supports a tremendous range of plants, insects, birds and small mammals. This diversity is easily maintained by keeping the fertiliser spinner, slurry tanker and sprayer well back from the hedgerow bottom. Open drains increase the diversity of species and should be kept open and not piped.

HEDGEROW TREES

In Northern Ireland a large number of broadleaved trees grow in hedgerows. They help to give the landscape a more wooded appearance, provide summer shade for livestock and nesting for birds. When cutting the hedge, always allow some saplings to develop.

Many of our existing hedgerow trees are mature and past their best. To allow a succession of trees, the ideal ratio in a hedge is six saplings: three young trees: two medium trees: one mature tree.

ESTABLISHING HEDGEROW TREES

Allow saplings to develop

The simplest and cheapest way to establish hedgerow trees is to allow strongly growing saplings to develop in the hedge. Select saplings which are not shaded by existing mature trees. These should be clearly marked to avoid 'accidents' during hedge cutting. The easiest way to do this is to tie brightly coloured strips of plastic around the sapling. Choose saplings without a kink or deformity. Always leave a group and select out the best after 2 - 3 years. Trim around selected saplings by hand.

Plant in gaps

Whips (young trees) can be used to plant up gaps in the hedge. A treeshelter will protect the young tree from rabbits and hares and make it visible to anyone who is cutting the hedge. Some well rotted farmyard manure in the planting pit will help to retain moisture and supply nutrients.

While standard trees have the advantage of creating immediate impact, they are relatively expensive and can be difficult to establish. Watering during dry periods is essential.

'Cut a notch'

In a wide hedge, hedgerow trees can be established by simply cutting a notch in the hedge and planting feathered whips. The existing hedge protects the newly planted tree.

General guidelines for hedgerow trees

- ~ Plant a mixture of species.
- ~ Avoid planting at regular intervals.
- ~ Avoid species that cast a dense shade, for example, beech, chestnut or sycamore, as they tend to shade out the hedge beneath.
- ~ Remember ash is shallow rooting and can be a problem if planted next to cultivated land.

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Suitable species of tree for planting in hedgerows include wild cherry, oak, whitebeam, rowan and crab apple. Willow, alder and birch are suitable on damper sites. Scots pine and holly add interest to the winter landscape and provide additional food for wildlife.

When trimming the hedge, take care not to damage trees.

FIELD BOUNDARY REMOVAL

Landowners receiving the Single Farm Payment, or Less Favoured Area Compensatory Allowance (LFACA) or agri-environment scheme payments, must not remove field boundaries without prior permission from DARD.

Field boundaries include dry stone walls, ditches (sheughs/open channels with or without water), hedges (hedgerows, hedgebanks, rows of trees and hedgerow trees) and earth banks.

'Remove' includes any operation which uproots or otherwise destroys a hedgerow, either directly or indirectly. DARD will assess and may grant derogations for field boundary removal after consideration of the area of the field, local landscape characteristics and the quality of the field boundary. Existing gateways can be widened up to 10 metres without permission.

Field boundary removal application forms and further information is available from your local DARD Office or at www.ruralni.gov.uk/countryside-management

HEDGES – PLANTING AND AFTERCARE

IMPORTANT FACTS

- ~ Hedge planting is relatively straightforward, but a lot of care and attention is needed afterwards to ensure successful establishment.
- ~ Weeds, if not kept in check, will result in poor establishment and a gappy hedge.

With the increasing concern for the countryside, many farmers are taking up the challenge by planting hedges and trees. Unfortunately, all too often hedge planting plans are over-ambitious. It is much better to plant a relatively short length of hedge and look after it well.

Hedges - Planting and Aftercare gives practical advice on site preparation, species selection, planting methods and weed control.

SITE PREPARATION

- ~ Do not remove existing earth/stone banks.
- ~ On new grassy sites spray off a 1m strip with glyphosate about 4 weeks before planting. Dig or cultivate a trench 600mm wide and 225mm deep for a double row hedge. A mini-excavator with 250mm bucket could be used.
- ~ Alternatively, spray a strip at least 600mm wide with glyphosate and plough 2 furrows back to back. Plant on the ridge that is formed.
- ~ Ensure the site has sufficient topsoil. Where a new hedge is to be planted on the site of an old field boundary, it may be an advantage to remove the soil and replace it with fresh topsoil and well rotted manure. Alternatively, if planting into existing soil, successful establishment can be encouraged by keeping hedging plants well watered during the summer months.
- ~ Do not plant in waterlogged or very exposed sites.

SPECIES SELECTION

- Hawthorn* - suits most lowland soils. Avoid waterlogged soils and sites that are exposed or more than 150-200 metres above sea level. Fast growing.
- Beech* - grows well on lowland soils and on exposed sites. Not stockproof. Best suited to gardens.
- Blackthorn* - hardy species which produces a good stockproof barrier. Suits most soils but is invasive.
- Holly* - must be bought root-balled and is therefore expensive. Provides good shelter. Prefers dry sites and tolerates shade and exposure. Slow growing.
- Hazel* - hardy species which stands severe cutting and provides good shelter. Good on steep slopes or shallow soils. Avoid wet sites. Good autumn colour and wildlife value.
- Whin (gorse)* - attractive spring flowers. Stockproof early in its life but becomes gappy later. Good on coastal or sandy sites but tends to be very invasive. Does not transplant well - best pot grown.

Other suitable species include hornbeam and willow. Avoid bramble, elder and privet.

A hedge with a good mix of species is more attractive and provides a better habitat for wildlife than a single species hedge. Why not try a mix such as fourteen hawthorn, two blackthorn, two beech, one holly and one hazel. Aim to have at least five different native woody species per

30m length of new hedge. Hedgerow trees such as oak, rowan, crab apple and wild cherry will also add to the attractiveness of the hedge in the landscape. Willow, alder and birch are suitable hedgerow trees on damper sites. Plant them at least 10m apart avoiding regular spacing. Details on tree planting can be found in the publication on [Trees](#).

CHOOSING HEDGING PLANTS

- ~ When choosing plants always 'shop around'. Avoid the temptation to buy cheap undersized plants. They should be well rooted and 450-600mm high, usually 3-4 years old, to give them every chance of good establishment. Any small plants should be kept and grown on for another year to replace ones that die.
- ~ Hawthorn quicks are inexpensive. The cost may vary depending on age and quantity. Many cheaper quicks originate outside Northern Ireland but native stock will be better adapted to our climatic conditions.
- ~ Species such as holly, beech and hazel are slightly more expensive. Holly is bought in root ball form so it is best to plant it in May.
- ~ When planting allow eight plants per metre for either a single or double row of plants in the hedge. A double row tends to give a better hedge.

PLANTING

- ~ Hedging plants can dry out and die very quickly.
- ~ Always handle young plants with care. Do not crush bags of plants. Bury the roots of the plants to keep them moist if there is a delay between buying and planting.
- ~ Keep the plant roots moist by soaking them in a bucket of water. Plant during good weather between November and early March but never in very wet or frosty weather. Generally, late autumn planting gives best establishment.
- ~ Hawthorn quicks planted at a 45 degree angle to the soil surface will produce many shoots along their length giving a thicker hedge than normal. Unfortunately this technique is very time consuming in practice.
- ~ When planting, work the soil in and around the roots and firm the plants into the ground at the same depth as they were in the nursery. This is marked by a dark ring around the bark.
- ~ Remove all damaged or dead shoots at the time of planting.

PLANTING DISTANCES

- ~ Single row – 150mm apart.
- ~ Double row – 250-300mm apart within the rows and about 300mm between the rows.

WEED CONTROL

Start off weed free and keep weed free

Newly planted hedges are very vulnerable to weed competition. Perennial weeds, such as docks and scutch, are a particular problem and must be tackled using glyphosate before planting. Thereafter grasses and other annual weeds need to be controlled. Most residual herbicides are not recommended in the first year after planting. Propyzamide, however, can be used. Mulching may also be valuable, helping to control weeds and conserve moisture. It can also stimulate root growth by increasing soil temperature.

Mulching

Mulching is a safe method of weed control but is only practical for shorter lengths of hedge. Many materials can be used as mulches:

- Bark chippings* – good, but expensive. Must be pre-composted to destroy toxic substances.
- Quarry Dust* – has the advantage over organic mulches in that it does not have to be removed before herbicides such as Propyzamide can be applied.
- Polythene / Landscape fabric (or old silo cover)* – ideal for predominantly thorn hedges. Weigh it down well with stones or gravel to prevent it blowing away. Holes cut for hedge plants must not allow too much light in.

Alternatively, plant the hedge, prune back to 100-150mm species such as hawthorn and others that can be cut back. Lay the polythene/landscape fabric over them and push the cut stems through. Weight it down with stones or gravel to hold it in place.

- ~ The mulching material must extend 300mm beyond the width of the hedge along both sides. Where an organic mulch is used a layer 100 - 150mm deep is needed to prevent weed growth. The mulch must not be allowed to smother the stems of the hedge plants. If it does, rotting can occur.
- ~ It is good practice to mulch the new hedge as soon as possible after planting so that weeds are not given a chance to germinate.



Herbicides for use after planting

Only use approved herbicides, always read the label before you buy and follow the manufacturer's instructions. Information on the safe use of pesticides is given in the [Code of Good Agricultural Practice for the Prevention of Pollution of Water, Air and Soil](#). Use herbicides as necessary until the hedge is established and is able to compete against weeds (usually 3 - 4 years after planting).

Herbicide Application Methods

- ~ Herbicides come in either granular or liquid form. Granular formulations are ideal for use along a newly planted hedge. They are easy to apply, there is no risk of drift and no spray equipment is needed.
- ~ Liquid herbicides can be applied using a knapsack sprayer.
- ~ Do not spray in windy weather.
- ~ Use a guard or a guarded sprayer to prevent spray getting onto the leaves of the hedge plants. Spray in a band alongside the plants to stop encroaching grass weeds.
- ~ Another option is to use a direct applicator, which delivers herbicide from a saturated wick directly onto the weeds. There is no risk of spray drift, although it can be difficult to control the application rate.

Approved Herbicides

- ~ *Propyzamide* – available in granular or liquid form as 'kerb'. Can be used immediately after planting to control grasses and most germinating weeds. It is only effective in cold weather and should be applied from the beginning of October to the end of December in lowland and the end of January in upland areas. It should not be used more than once in any nine month period.
- ~ *Glyphosate* – kills green foliage and is inactivated in contact with the soil. Weeds must be actively growing with adequate green leaf area for effective control. Always use a guard and never spray directly onto the leaves or stem of the hedge plants.
- ~ *Oxadiazon* – 'Ronstar Liquid' can be used on newly planted hedges. It can be used during the dormant months. It gives 4-6 months weed protection. It is also available as granules, 'Ronstar 2G'. If large actively growing weeds are present at the time of application, add 'Kaspar' to the spray tank.

FENCING

Always fence off a new hedge from livestock

- ~ Keep the fence back far enough to ensure that livestock cannot reach over. This is normally about 1m from the centre of the hedge, that is 2m between the two fences.
- ~ Where rabbits and hares are a problem, rabbit-proof netting wire will be needed. Alternatively, electric fencing can be used but this needs to be kept free of weeds and grass. Herbicides can be used for this purpose.

AFTERCARE

– GROWING A HEDGE THAT WILL LAST

A new hedge will make an effective stockproof barrier for hundreds of years if it is given the correct care after planting. Make sure to:

- ~ prune back species such as hawthorn, blackthorn and hazel to 100mm high either after planting or at the end of the first year to encourage buds to break from the base. Prune again when 450mm high;
- ~ water in dry weather, and
- ~ fill in gaps with new hedging plants at the end of the first year. Use this opportunity to introduce different woody species.

MANAGING GAPPY AND OVERGROWN HEDGES

IMPORTANT FACTS

- ~ The quality of hedgerows throughout Northern Ireland has deteriorated in recent years.
- ~ Many hedges are no longer stockproof and provide little shelter.
- ~ Restoration work is needed to improve the value of hedgerows as barriers for livestock and for wildlife.

Although in Northern Ireland over 120,000km of hedgerows remain, the problem is not the quantity, but the quality. Poor hedgerow management and increased sheep numbers have resulted in gappy hedgerows and the need for post and wire fencing. Positive hedgerow management is essential, otherwise the quality of hedgerows will continue to deteriorate.

Managing Gappy and Overgrown Hedges looks at the range of management options available to improve gappy and overgrown hedgerows.

ASSESS HEDGE CONDITION

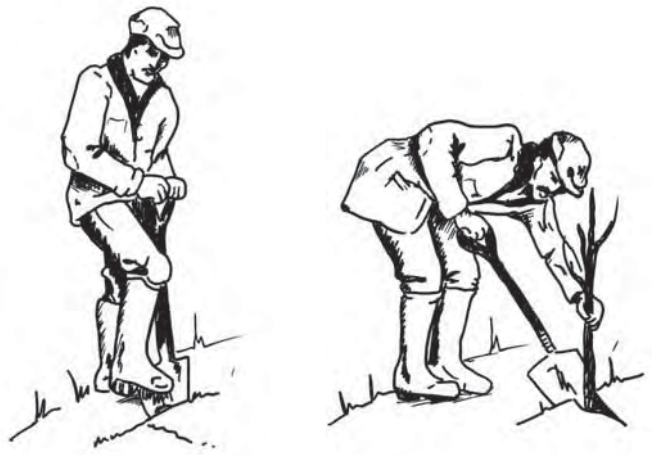
Assess the condition of the hedgerow before starting any restoration work. Where possible, it is better to rejuvenate the existing hedge using techniques such as laying, coppicing and interplanting than to plant a completely new hedge. Some have, however, deteriorated to such an extent that they would be better replanted, for example, where a high proportion of the stumps are dead or rotten, or the hedgerow is particularly gappy.

Hedgerow restoration is one of the measures funded under agri-environment schemes. Contact local [DARD Countryside Management staff](#) for details.

PLANTING UP GAPS

- ~ Small gaps can be filled by planting hawthorn quicks or species such as blackthorn and beech.
- ~ First clear away grass and weed growth.
- ~ Cut a 'T' notch in the bank and lift the sod with a spade. Alternatively, use a crowbar to create a hole.
- ~ Slip the roots of the plant into the hole and firmly trample the sod around it. Take care not to damage the bark of the hedging plant.

Small gaps in the hedgerow can also be blocked by simply bending over the side shoots of neighbouring hawthorn or blackthorn bushes. Cut half way through the side shoot and bend over across the gap. Side shoots quickly develop sprouts, which grow up to fill the gap. Always lay side shoots close to the bottom of the hedgerow.



- ~ Larger gaps should be completely replanted.
- ~ Control grasses and weeds in the gap by spraying with glyphosate about four weeks before planting.
- ~ Dig a trench along the length of the gap, 600mm wide and 225mm deep, if possible.
- ~ In an established hedgerow the soil is often said to be prone to 'thorn sickness' and hawthorn quicks may be difficult to establish. Dig some well rotted farmyard manure into the base of the trench and, if possible, replace the soil with some fresh topsoil. Alternatively, if planting into existing soil, successful establishment can be encouraged by keeping the hedging plants well watered during the summer months.
- ~ On stony banks where it is not possible to dig a trench, cut a 'T' notch with the spade, lever the sod and plant the hedge plant. Alternatively use a crowbar but extra care must be taken to ensure the roots are completely covered with soil.

- ~ Where possible, plant the replacement plants in double staggered rows with 25cm between the plants and 30cm between rows.
- ~ It is essential to fence off the newly planted length of hedgerow to prevent damage from livestock. Fences should be not less than 1.05m high and at least 1m away from the centre of the hedge to prevent cattle from stretching over.
- ~ Where rabbits and hares are likely to cause problems, add fine mesh netting wire to the bottom of the fence. The netting should be 0.75m high to prevent rabbits from jumping over.

GENERAL GUIDELINES

- ~ Plant between late October and early March.
- ~ Ensure plants are well watered during the summer. This is particularly important when planting on banks.
- ~ It is essential to keep the area around the hedge plants relatively weed free for the first few years after planting. There are two alternatives:
 - use a mulch. Strips of black polythene/landscape fabric 1m wide also help retain moisture;
 - apply a herbicide. Granular herbicides such as propyzamide are effective in controlling grass weeds.

Information on hedge planting can be found in [Hedges - Planting and Aftercare](#).

COPPICING

Hawthorn and blackthorn will readily produce shoots from cut stems. Cutting the hedgerow down, close to ground level can rejuvenate gappy hedgerows, which are still relatively young. Cut the hedge at about 10cm above the ground; stems cut higher than this will produce a hedge with bushy heads and a thin base.

- ~ Coppice hedges in winter before buds break but avoid frosty weather.
- ~ Where a hedge is particularly gappy, coppice it and replant a new hedgerow alongside it.
- ~ Always fence off coppiced hedgerows to prevent livestock nipping off new growth.
- ~ Do not coppice during the bird nesting season (1 March until 31 August inclusive).

HEDGE LAYING

While hedge laying is widely practised in England, it has never been a tradition in Northern Ireland. There is, however, an increasing interest in the technique, which is often the best solution for a gappy hedgerow. DARD organises training courses for those interested in learning the skill. Contact the College of Agriculture, Food and Rural Enterprise on (028) 9442 6879 e-mail: enquiries@cafre.ac.uk for details of training courses.

Ideally hedge laying should be carried out every 15-20 years. It is best suited to hedges where the stems are 15cm in diameter and 2.5-3m high. With due care and attention, however, it is possible to lay thicker stems.

All hedge laying should be carried out during the winter months, but not during periods of hard frost. No hedge laying should take place between 1 March and 31 August inclusive during the bird nesting season.

Laying a hedge

- ~ Use a bill hook, or slasher, to cut out briars and elder and trim back bushy growth along the near side of the hedge. Leave the tops of the hawthorn shrubs bushy, so that they will form an effective barrier when laid.



- ~ Partially cut through the main stem of plants at 3-10cm above ground level. Cut half to three-quarter way through the stem to allow it to be lowered into place without breaking. If using a chainsaw, always make sure all safety measures are observed.
- ~ Lay the cut stems or pleachers over at an angle of about 30 degrees. Always work in the same direction. Angle the pleachers out approximately 20cm from their base to stem ends. Take care not to break the bark on the underside when laying over the stems. Where the hedge is on a slope, always lay uphill.

- ~ Hold the cut stems in position using ash or hazel stakes, 3-5cm in diameter, driven into the ground at 40-60cm spacing.
- ~ The stakes can be secured by weaving willow or hazel binders (3m long and 2.5cm diameter) along the top of the newly laid hedge. This is not always necessary but it does help stabilise the hedge.
- ~ Trim off stakes just above the binders.
- ~ Fence off both sides of the newly laid hedge for at least two years, to protect developing shoots from livestock damage.

FENCING OFF

Where a hedgerow is in reasonably good condition, fence it off to prevent damage by livestock, especially sheep. The fence should be 1.05m high and placed 1m out from the centre of the hedge. Electric fencing can be particularly useful.

DRY STONE WALLS

IMPORTANT FACTS

- ~ Northern Ireland has some 8000km of stone walls.
- ~ They are a feature of the landscape particularly in the Mourne, West Fermanagh and parts of County Antrim.
- ~ They are an important part of our farming heritage.
- ~ While many have been well maintained over the years and remain effective stockproof barriers, others are now derelict or in various stages of disrepair.

Dry Stone Walls outlines the origin of the various types of stone wall and gives guidance on their reconstruction and maintenance.

THE ORIGIN OF STONE WALLS

- ~ Most dry stone walls date from 1780-1840 but some may be of Iron Age origin.
- ~ These boundaries arose from the need to remove the many stones and boulders from the land so that it could be worked. The width of the walls in an area is a guide to the amount of stone that had to be removed.

REGIONAL DIFFERENCES

The Mournes

- ~ The most complete field pattern of stone walls in Northern Ireland is found in the southern Mournes, around Kilkeel and Annalong.
- ~ They are mostly made of granite or occasionally schist. Normally they are about 1.5m high and 1m wide at the base, tapering to 0.25m at the top.
- ~ The most famous stone wall in Northern Ireland is the Mourne Wall, which extends for 35km and links 15 mountain peaks. It was built between 1904 and 1922 to demarcate the Belfast and District Water Commissioners' 3600ha catchment. It is 2-2.5m high along most of its length.

Antrim

- ~ The walls of the Glens of Antrim and Braid Valley are mostly basalt boulders in a single line. They are darker than the granite walls of the Mournes.

Rathlin Island and West Fermanagh

- ~ Walls built using limestone are relatively rare in Northern Ireland, but some examples can be found on Rathlin and around Belleek in West Fermanagh.

Derry/Londonderry

Some pre-Christian walls, known locally as Danish fences, are found in Co Derry/Londonderry.

- ~ These separated the very early enclosed farms from the rougher land outside.
- ~ They are made of piled stone slabs with some set diagonally or vertically.
- ~ They may be covered by bog and it is often only the vertical stones that remain. These were often left as standing stones when the peat was removed.

STONE WALL DESIGNS

Dry stone walls in the Mournes, or ditches as they are called locally, show great variation in design. The type constructed depended upon the shape and the number of stones available and on the type of livestock to be enclosed. Cattle require a wall 1.5m high.

The main types are:

Single ditch – this is the most common type of wall. It is normally 5-6 stones high. A variation is the 'lacey' or compact single ditch.

Double ditch – there are many variations on the plain double ditch. It may be filled with small stones, or earth and small stones. It may have interlinking cross stones where flat stones from derelict buildings or quarries are inserted at intervals in the wall. In some areas, where there are insufficient stones to make walls stockproof, a fence is erected on top of the ditch.



Combination of single and double ditch – in certain areas of the Mournes a filled double ditch with a single ditch on top can be found. The single wall was constructed with boulders, left over after the double ditch had been built. A single ditch can be sandwiched by a double ditch. This type was originally built as a single ditch after land reclamation with a wooden plough. When deeper metal ploughs became popular, more stones were unearthed and were used to surround the original wall.

Ditches can also be faced with whin or occasionally with fuchsia. The growth of the shrubs and digging by vermin, means that this type of ditch needs more regular maintenance.

STRUCTURE OF A STONE WALL

Traditional stone walls were built without the aid of modern machinery. Boulders can weigh up to 175kg (1 cubic foot of stone weighs 1cwt), so the craft of stone wall building required great strength as well as precision. Now diggers and specially strengthened 'buck-rakes' are used to carry large stones across the fields and lift them into position. Final placement is carried out by hand. More recently, some have been built entirely with the use of machinery without attention to traditional design.

Each area has its own terms for describing the stones used. In the Mournes these are:

- ~ Topper (at top of wall)
- ~ Cog
- ~ Seconder
- ~ Butt
- ~ Scraw (at base of wall)



REBUILDING A SINGLE STONE DITCH

- ~ Remove the top layer of soil and grass, scraw, from the proposed line of the wall and level the ground. It must be free of boulders to allow even settlement of the wall. If building on a slope, start working from the lowest point.
- ~ Insert ranging rods into the centre of the wall at intervals so that it follows the desired line.
- ~ Select suitable *butt* stones, which will allow others to be built on top of them. They need to be about 1m wide.
- ~ The butt stones may need to have *bites* removed from them with a *scrabble hammer* to give them a relatively flat top. A ditch using worked stone is described as a 'dressed' ditch.
- ~ Place the next row of stones, the *seconders*, on top of the butts. They may need to be secured using *cog* stones. Seconders are always smaller than the butt stones so that the wall tapers towards the top. The seconders must also lie across the joint between the butts to give stability.
- ~ Each successive row of stones is placed with the aid of a pinch-spar and must be checked for balance and taper as before.
- ~ Check that the angle of taper is the same on each side of the wall. An uneven wall can collapse.
- ~ Most walls are 5-6 stones high but the ultimate height depends on the availability of stones.

COUNTRYSIDE MANAGEMENT PUBLICATIONS

FIELD BOUNDARIES

Coping stones can be used on top of the wall. They are equal sized and are more rounded than the rest of the stones in the wall.

TOOLS

Scrabble hammer – 5½–6½kg hammer used as a cutting tool for taking bites out of stones.

Hand Hammer – 1kg hammer used for setting smaller stones.

Crowbar – 1.5-1.8m long with a chiselled point at one end and a round point on the other. Used for moving large boulders.

Pinch-spar – short metal bar held in one hand for manoeuvring stones into place when they are on the wall.

REPAIRING AN EXISTING WALL

A collapsed wall can be easily repaired using the original stones. The technique used is the same as for the construction of a new wall. It may be necessary to demolish parts of the wall next to the collapsed area to ensure stability in the repaired section. No stones should be sourced from other existing walls.

STONE DITCH FURNITURE

The term 'stone ditch furniture' refers to the building of stone in the wall for a particular purpose.

Lunkey hole - one of the most common items of stone furniture built either to allow sheep through, or to carry the wall over a stream or ditch.

Sheep gap - an open gap in the wall tapering to a V near the ground. They can be temporarily filled with stone when stock are to be kept in the field.

Dry stone style - a long stone slab is placed through the wall and less than half way up.

Stone gate - similar to the sheep gap except that the opening is rectangular and extends to ground level.



MAINTAINING A DRY STONE WALL

Dry stone walls need regular maintenance if they are to remain stockproof. Years of neglect have taken their toll on some. A recent survey in the Mourne's has shown that just over 50% are stockproof.

Dry stone walls can be effective stockproof barriers for many years where:

- ~ small gaps are repaired as soon as they develop;
- ~ fallen top stones are replaced regularly. A gap attracts livestock, which will further damage the wall.

Management payments are available under DARD'S agri-environment schemes for repairing dry stone walls.

Dry stone walls are well worth retaining and will survive for future generations to enjoy if they are well maintained in a stockproof condition using traditional methods and materials.

ADDITIONAL READING

Ireland: Stone Walls and Fabled Landscapes – Alen MacWeeney and Richard Conniff.

Dry Stone Walling – Alan Brooks, British Trust for Conservation Volunteers.

ACKNOWLEDGEMENTS

DARD gratefully acknowledges the valuable help of Mr. Phelim Doran and the Ulster Folk and Transport Museum who assisted with the technical detail of this publication.

GATES, PILLARS AND POSTS

IMPORTANT FACTS

- ~ Heavy iron gates held between imposing stone built pillars or granite gate posts are a characteristic feature of the Northern Ireland landscape.
- ~ Their contribution to enhancing the appearance of our farms and the countryside is often overlooked.
- ~ Unfortunately, many traditional gates, pillars and posts have been lost completely as they are generally unsuitable for modern farming on account of their narrow entrances and heavy gates. Many that remain are in poor condition and are continuing to deteriorate.

The traditional gates, pillars and posts which remain form a small but significant part of our farming heritage.

Gates, Pillars and Posts looks at their history, the range of types to be found and how they can be maintained and adapted to modern use.

HISTORY

Iron gates, made from 'flat iron', and stone built pillars first became widespread in Ulster in the early-mid 1800s following the enclosure of land into fields by hedges and stone walls. There was little need for them before this except for farmyard entrances. While their main purpose was to prevent stock from straying, they were also considered to give status to the farm occupier.

Iron gates were made by the local blacksmith, often from the discarded iron tyres or wheel hoops of the country carts. Delighting in good craftsmanship, he often added some individual scrollwork or ornamentation, leading to a large variety of shape and style. It may still be possible to trace some details about where gates were made as many blacksmiths stamped their names (or sometimes their trademark) onto their gates and occasionally the year of manufacture as well. These marks will often be found on the top of the vertical bar in the centre of the gate.

COUNTRYSIDE MANAGEMENT PUBLICATIONS

FIELD BOUNDARIES

The origins of pillars may derive from prehistoric times and account for some of the esteem in which pillars were held and the beliefs sometimes associated with them. This may have been due to their obvious similarity to 'standing stones' or to the portal stones which guarded the entrance to megalithic graves.

In his book *Irish Folk Ways* (published 1957), Professor Estyn Evans states that *'pillars at farmyard entrances were often described as man and wife of the house and that one of the pair may have a flat top on which it is said the fairies like to dance'*. He describes every farmyard as *'having the air of a fortress, an independent unit within its jealously guarded boundary fences, defended by a heavy iron gate hung between stout gate pillars...'*

Stone built pillars are more frequently found in Ulster than elsewhere. Prior to land reform in the 1900s, tenants on Ulster farms had greater security of tenure than elsewhere in Ireland and thus more encouragement to improve their holdings. In England, contemporary gates tended to be either mass manufactured iron gates hung on iron gate posts or made of timber and hung on oak gateposts. There were few of these in Ireland since good oak timber was hard to find and, in any case, may have been stolen for use as fuel.

In most districts pillars were built from natural stone and lime mortar. Most were round with a flat, conical or domed top and were often white-washed annually, not only for appearance but also for its weatherproofing effect.

Granite posts were a unique feature of the Mourne's where they were manufactured as a by-product of local stone working. An approximate date of manufacture can be deduced in many cases from the marks left on the post during production, as different tools were used at different periods.



DESCRIPTIVE DETAILS OF GATES, PILLARS AND POSTS

~ Gates

Structure: The oldest gates were made from robust flat iron. Their short width, typically only 2.5 to 3m, is doubtless a reflection both of the difficulties involved in hanging a wider and therefore heavier gate and of the narrow width of horse drawn vehicles and implements.

These were succeeded earlier in this century by lighter iron gates in which the main framework was made from 'angle' iron. The now ubiquitous modern tubular gates became popular in the 1960s. They have the advantage of lightness and lower cost but lack decoration, variety and character.

Patterns: The range of patterns of flat iron gates appears to be almost infinite! Local blacksmiths invariably took a pride in their work and wanted to produce attractive patterns that carried the stamp of their own individuality. In many cases, the pattern produced involved the curving of flat iron – a skilled process. The pattern employed was a compromise between a gate which was strong enough to resist pressure from mature cattle and horses, the need to have the lower bars set close enough to prevent smaller livestock getting through and the desire of both the farmer and the blacksmith to have an attractive design.

Colour: Where gates are painted, the two main colours used are red and black. A coat of paint prolongs the life of the gate as well as enhancing its appearance.



~ Round pillars

These are most common in the east of Northern Ireland (except for the Mourne area where square pillars or granite posts are found instead).

The cylindrical part is usually 1.5–2m high and 0.75-1m in diameter, although pillars at entrances to farmyards or farm avenues can be larger – a status symbol!

While some pillars are flat-topped, most have stone built caps. These vary in shape, according to locality, from low domes to high conical points, although variations in cone height can sometimes be found, even in close proximity on the same farm. This may be a result of pillars being built at different times or by different builders. In some cases the cap is irregular, being constructed of stones set upright.

Pillars and caps are built of natural stone (sometimes dressed) and may be left exposed or plastered. The pillar and cap are often whitewashed, although smooth plastered caps are often painted, usually red or black.



~ *Square Pillars*

Traditional square pillars are less common than round pillars in Northern Ireland, except for the Mourne area where round pillars are rare. The material used for traditional square pillars varies from unbroken natural stones to square dressed stone blocks. Typical dimensions are 1.5-2 m high and 0.5-1m square.

Where a cap is provided, more recent constructions will usually be of concrete while older pillars may have one-piece caps of granite or sandstone.



~ *Granite gate posts*

These are restricted to the Mourne area, although occasional examples are found in other parts of mid and south Down. In the Mourne area they are usually associated with stone walls.

Granite gate posts vary in height and width. The post on which the gate swings is typically around 1.5m high and 0.25-0.3m square, although many examples are slightly rectangular rather than square. The post to which the gate latches is usually 0.3-0.6m shorter.

Posts made before 1860 were split out of rock using wide wooden wedges, which left little or no impression on the post. However, the 'plug and feather' method employed after 1860 used narrow wedges, which left relatively deep and easily recognisable marks on the post.



MAINTENANCE AND REPAIR

~ Gates

Most traditional gates are 'harr-hung'. The bottom of the upright at one end of the gate is set into a stone socket or 'spud-stone' in which it swivels, while the top end of the upright is held by an iron eye set into the pillar.

In a few cases an older arrangement may be found where the top of the upright is held by a perforated stone which protrudes from the pillar.

The most common problem encountered is the iron eye pulling out of the pillar, causing the gate to sag. This leads to several problems:

- if the bottom of the gate touches the ground, the gate will be difficult to open and close;
- if it still swings freely, when opened it will automatically tend to swing closed unless propped open;
- the gate bolt and pillar socket will be out of line; and
- if the eye comes totally out of the pillar, the gate will probably fall, especially once the bolt is withdrawn.

Repairing a loose eye (providing it is serviceable) involves concreting the eye and surrounding stones into place. This usually requires dismantling part of the pillar around the eye socket taking into account that the shaft attached to the eye reaches as far as 400mm into the pillar. If a small crosspiece can be welded to the shaft before it is rebuilt into the pillar, any risk of the eye pulling out of the pillar in the future is much reduced. Ensure that the eye is correctly positioned so as to hold the end of the gate perfectly vertical.

If the gate is sagging because the stone socket or 'spud stone' has moved, the gate should be temporarily removed and the socket returned to its correct position and embedded in concrete. Ensure that you have adequate help for the safe removal, handling and re-fitting of the gate.

Rust is obviously the main enemy of the traditional gate which, having served its function for perhaps a hundred years or more, may be a little the worse for wear. Such gates can be sandblasted, primed and painted in traditional colours. They can be galvanised before painting, although this may prove expensive because galvanising is charged on a weight basis, and traditional gates are usually very heavy.

Missing rivets to fasten diagonals or uprights should be replaced before painting. Short bolts can provide a useful alternative. Likewise any broken bars should be mended by welding.

~ *Pillars*

The cap of the pillar serves a protective function as well as a decorative one. It should be kept waterproof to prevent the penetration of water into the stone and mortar which will eventually lead to deterioration in the strength and structure of the pillar.

- Where constructed of exposed stone and mortar, which has deteriorated, the cap should be removed and re-built using a sand/cement mixture to make the structure waterproof. When rebuilding, bed the cap in concrete and ensure that the structure of the cap overhangs the body of the pillar by 2.5-5.0cm. Arrange the stones in such a way that water will drip off the edge of the cap rather than run down the main body of the pillar.
- Where the cap is plastered and cracks appear, replace the original plaster using a scratch coat and one or two plaster coats.

The same principles apply to the maintenance and repair of the main structure of the pillar.

- Where exposed stone and mortar have deteriorated, the pillar needs to be repointed using either traditional lime mortar or a sand/cement mixture.
- Where pillars are plastered, cracks allow the penetration of water, which will cause further damage. Replace the original plaster as above.

ADAPTING FOR TODAY'S NEEDS

Traditional gates, usually 2.4-3.0m wide, were not designed for modern farm machinery. Even where machinery is able to pass through, the risk of damage to gates and pillars is high.

Rather than replace one or both stone pillars with modern hanging posts and a wider modern gate, the following options could be considered:

- make a new wider field entrance elsewhere (DRD Roads Service approval may be necessary before making a new opening onto a public road), or
- widen the existing gateway by removing and rebuilding one of the stone pillars. The iron gate may be extended by welding in new sections. Alternatively, if a similar disused gate is available, a gate could be hung from each pillar, fastening in the centre.

RECONSTRUCTING A STONE PILLAR

Use the appropriate style when reconstructing pillars or caps. This can be done by noting the original shape and size or, if necessary, by reference to other examples on the farm or in the locality.

Before commencing reconstruction, ensure that the foundation is firm. If erecting pillars in a new location, provide foundations of adequate depth and strength for their size.

Use local naturally occurring stone for the visible parts of the pillar, using it dressed as appropriate. Any sound building material can be used for the pillar interior. The use of a cement based mortar is recommended instead of the original lime and sand mortar.

The traditional construction method is to build around a central vertical post, the location of the outer edge of the pillar being measured out using a string attached to the central post. If possible, the post should be removed before the pillar is completed.

A common means of shaping the bottom of the cap was to use two flat layers of roughly shaped slate, 2.5-5.0cm apart at the edge of the pillar top. These protruded over the edge of the pillar but were concealed by mortar or plaster when the cap was completed. Alternatively, one layer of flattish stones was used. For reconstruction this may be the most practical method.

The pillar may be left either with the stonework exposed or finished with a rough plaster finish, while the cap is often finished in a smooth plaster finish instead.

Where pillars are to be removed as a result of road widening or road realignment schemes, the DRD Roads Service should be asked if they can replace with reconstructed pillars to a similar pattern. If the new pillars are to be set further apart, consider using an extended traditional gate by welding in new sections.

Do not plant trees next to pillars. Through time their roots may lift the pillar foundations, causing the pillar to tilt.

FUNDING

Funding may be available for the repair and reinstatement of traditional gates and pillars. Contact local [DARD Countryside Management](#) staff for details.

FIELD BOUNDARIES AND WILDLIFE

IMPORTANT FACTS

Field boundaries, particularly hedgerows, are important wildlife habitats, especially on intensive grassland farms.

Hedgerows are essentially linear woodlands and many of our plants and animals depend on them for survival.

Field boundaries and wildlife outlines the common wildlife species found within hedgerows and stone walls and illustrates the best types of field boundaries for wildlife.

FIELD BOUNDARIES AS WILDLIFE HABITATS

Hedgerows

Hedgerows are the most valuable type of field boundary for wildlife. Over 170 species of trees, shrub and wild flowers have been recorded in hedges in Northern Ireland. There is tremendous variation, however, in the number of wildlife species found in hedgerows depending on factors such as management.



~ *A variety of species*

In general, the more plant species within a hedge, the higher its wildlife value. In Northern Ireland the most species rich hedges are associated with less intensively managed farmland and tend to be tall, wide and unmanaged.

- A recent survey has shown that over 70% of hedgerows in Northern Ireland are dominated by hawthorn. Other common species include blackthorn (particularly in the tall, wide hedgerows of County Fermanagh), whin, hazel, dog rose, elder, honeysuckle, brambles and ivy.
- The flowers of the hedgerow bottom are mostly of woodland origin. Where fertilisers, slurry and pesticides are kept back from banks and ditches, primroses, violets, bluebells, foxgloves, cow parsley and herb-robert can be found. Damp ditches support plant species such as wood sorrel, ferns and wood anemone.
- Hedges provide valuable nesting habitats and song posts for breeding birds. In Northern Ireland some 36 bird species regularly rely on hedgerows for breeding, shelter and feeding and another ten species occasionally use hedges. Tall, overgrown hedges that are structurally diverse have been found to support more breeding birds than well trimmed hedges. Common hedgerow birds include tree sparrow, chaffinch, robin, blackbird, mistle thrush and blue tit.
- A hedgerow flora attracts insects and provides food for birds and small mammals. Hawthorn, blackthorn and whin are particularly good for wildlife, supporting a large number of insect species. Many of these are beneficial and provide natural pest control, for example ladybirds which eat aphids. Wrens and hedge sparrows feed on hedgerow insects while thrushes and blackbirds feed on earthworms and other grubs found in the hedgerow bottom.
- In autumn haws, blackberries, rose hips, elderberries and sloes provide rich pickings for yellowhammers, bullfinches, chaffinches and winter visitors, such as redwings and fieldfares.
- Small mammals including field mice, shrews and hedgehogs take nuts and berries from the hedge. They often collect and store them for times when food is scarce. Stoats, foxes and barn owls prey on the small mammals and birds of the hedge.

~ *A wide base*

The best hedgerows for wildlife are tall with a wide base.

- Some 30 species of farmland bird nest in hedges. Wrens, robins, hedge sparrows, whitethroats and linnets nest on or near the bottom of the hedge, while song thrushes, blackbirds, chaffinches and greenfinches prefer to nest well above ground level.

- Shrews and field mice often live entirely within the base of the hedge, making their runs under the leaf litter and foraging on the invertebrates they find there. Hedgehogs commonly feed, breed and hibernate within the bottom of the hedgerow.

~ *Hedgerow trees*

- Trees are particularly valuable in the hedgerow. Mature timber provides sites for hole-nesting birds such as blue tits and kestrels while mistle thrushes and rooks nest in the upper branches.
- Trees are also a source of food. Oak trees are particularly valuable because of the range of insect species they support. Insect larvae provide food for nestlings as well as blue tits and robins.
- Other good hedgerow trees include crab apple, wild cherry, rowan and birch.

~ *A damp ditch*

- Damp ditches or 'sheughs' increase the variety and number of wildlife species that the hedge will attract. In summer they are home to colourful damselflies and dragonflies which feed on insects on the herbage. Throughout the year, birds, such as hedge sparrows, robins and song thrushes, take earthworms and other soil insects.
- Frogs hibernate in damp ditches at the base of hedgerows. During spring they may travel several miles across country via ditches and damp hedgerows in search of breeding pools and mates.

~ *Links with other habitats*

- Where hedgerows link other valuable habitats on the farm, such as bog, scrub, woodland, wetlands or rivers, they serve as corridors for wildlife including badgers, stoats, rabbits, hares and bats. This enhances the wildlife value of the hedge and the habitats which it links.
- Travelling in the open in search of food is a hazardous business for small mammals such as shrews and hedgehogs. The hedge provides cover from foxes and birds of prey.
- Badgers, stoats and foxes travel between areas of scrub and woodland under the cover of hedgerows, safe from man and his vehicles. Badgers and foxes also use hedgerows to mark their territories.

UK BIODIVERSITY ACTION PLAN PROGRAMME

Within Northern Ireland hedgerows are important for a number of UK Priority Species identified as part of the UK Biodiversity Action Plan Programme. These include red squirrel, common pipistrelle bat, linnet, reed bunting, spotted flycatcher, tree sparrow, bullfinch and song thrush. In addition, Northern Ireland Priority Species associated with hedgerows include yellowhammer, barn owl and Irish hare.

STONE WALLS

Stone walls, at first glance, may appear forbidding places for wildlife. The nooks and crannies between the stones, however, are important habitats for a range of plants and animals.

~ *Life on stone walls*

- Lichens and mosses are characteristic of stone walls, with many different species being recorded in Northern Ireland. These simple plants have no roots and absorb rainwater and gases through their upper surfaces. Mosses are found where the wall remains damp. Dust and debris gather around them and hold moisture, thus allowing other plants to take root.
- Ferns, such as wall-rue and maidenhair-spleenwort are often found growing on damp shady walls.
- Crevices between stones create shelter for invertebrates such as slugs, snails, woodlice and spiders. During the day wall butterflies and other insects settle on stone walls to bask, providing an easily available source of food for birds.
- Many bird species make use of stone walls. Blue tits, pied wagtails and house and tree sparrows use spaces between stones for nesting.
- Small mammals seek safety in stone walls, whilst squirrels have been known to nest under the stones. Stoats will hide and hunt along walls, while foxes and badgers use walls to mark their territories and for shelter.

MANAGING ROADSIDE HEDGES

IMPORTANT FACTS

- ~ Most farms have hedgerows bordering public roads.
- ~ Roadside hedges make a significant contribution to landscape and wildlife conservation and are valuable stockproof boundaries.
- ~ Hedgerows alongside roads and footpaths should be managed to ensure that they are not a danger to the public.
- ~ Farmers are responsible for maintaining roadside hedges and trees.
- ~ The Department of Regional Development (DRD) Roads Service is responsible for trimming and maintaining grass verges along public roads.

ROADSIDE HEDGES

Frequency of cutting

Roadside hedges should be cut once a year. It is not necessary, however, to cut the 'field' side of the hedge each year – only cut the side which faces the road. On narrow country lanes and alongside public footpaths it may be necessary to trim twice a year. Special attention is needed at junctions, crossroads, sight lines at farm entrances and at road signs. This is the landowner's responsibility. Hedges away from the road edge should be cut only every 2-3 years.

Timing

If possible, roadside hedge cutting should be undertaken during February. This allows birds to use the berries over the winter months when food is in short supply. If possible, avoid trimming during the bird nesting season from 1 March until 31 August inclusive.

Height and Shape

There is no requirement to keep roadside hedges at a particular height. Cut to leave sloping sides – this allows the hedge to develop a good stockproof base.

Keep hedge trimming machinery in good condition. Clear trimmings from footpaths and roads as they can puncture bicycle and car tyres and cause lameness in livestock.

ROAD SAFETY

It is your responsibility to sign and guard your works safely.

Carry out work when there is a good visibility and during periods of low risk. Ask yourself this question:

“Will someone coming along the road or footway from any direction understand exactly what is happening and what is expected of them?”

Basic requirements

Vehicles must:

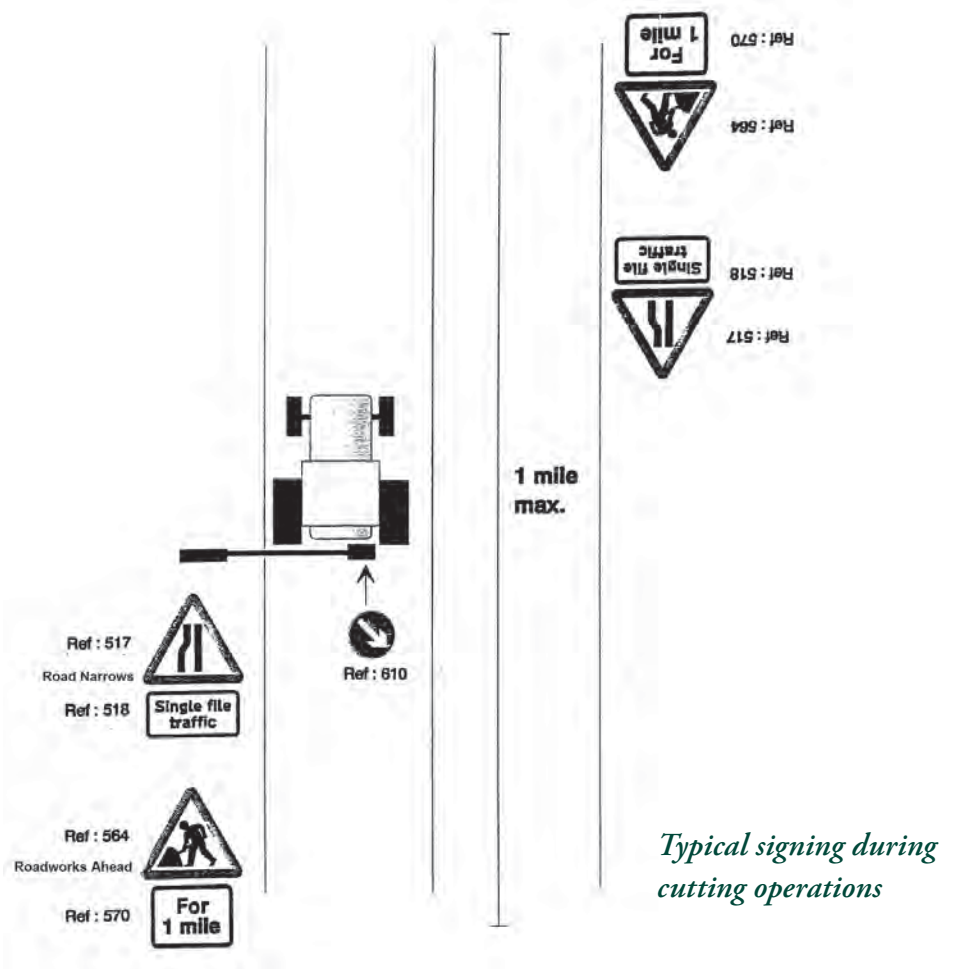
- ~ be conspicuously coloured;
- ~ have one or more roof-mounted beacons operating; and
- ~ display an arrow sign, fitted to the vehicle, to tell approaching drivers on the same side of the carriageway on which side to pass.

Note: The arrow sign must be covered when the vehicle is travelling to and from the site. Do not simply turn the sign to point up or down. The beacon(s) should be switched off when the vehicle is not engaged in work on the roadside.

Additional requirements

Additional static signs must be used when any of the following conditions apply:

- ~ The works vehicle cannot be seen clearly because of hills, bends in the road etc.,
- ~ Traffic build up, or
- ~ There is not enough space for two-way traffic to pass the works vehicle.



In cases like these, use 'Roadworks Ahead' signs with appropriate plates and 'Road Narrows' signs with 'Single File Traffic' plates to warn drivers approaching in each direction (see diagram). Work should not be carried out further than one mile from these signs.

A 'Roadworks Ahead' sign should be displayed to drivers approaching on a side road if work is taking place near a junction.

Obtaining road signs

The appropriate road signs are widely available from traffic sign suppliers and equipment hire shops. Look in Yellow Pages under 'Sign Makers' or 'Hire Services – Tools & Equipment'.

Works on high speed dual carriageways

Additional measures may be necessary for works adjoining a dual carriageway (typically one with hard shoulders). You should consult your local [Roads Service Section Office](#) for advice.

ROADSIDE TREES

In Northern Ireland, 60% of broadleaved trees grow in hedgerows. They help to give the landscape a more wooded appearance and provide summer shade for livestock and nesting sites for birds. Furthermore, trees add height, variety and colour to an attractive hedgerow.

- ~ Prune low growing branches from trees which overhang the road. In most cases it is not necessary to remove the entire tree.
- ~ Remove any dead trees along the roadside if they pose a danger. Leave a hollow stump as high as possible; this may provide a roost for bats or a possible nest site for barn owls.
- ~ Control ivy growing on trees along a roadside. While ivy is valuable for wildlife, excessive growth puts an extra strain on the tree, particularly in stormy weather.
- ~ When cutting a hedge, allow some saplings to develop or plant trees in any gaps.

Many of our existing hedgerow trees are mature and past their best. To allow a succession of trees, the ideal ratio in a hedge is six saplings: three young trees: two medium trees: one mature tree.

Allow saplings to develop

The simplest and cheapest way to establish hedgerow trees is to allow strongly growing saplings to develop in the hedge.

Select saplings that are not shaded by existing mature trees, clearly marking them to avoid 'accidental' cutting during hedge trimming.

The easiest way to do this is to tie brightly coloured strips of plastic around the saplings. Always leave a group of saplings and select out the best after 2-3 years. Choose saplings without a kink or deformity caused by previous hedge cutting operations.

Trim around selected saplings by hand. Suitable species to leave include ash, holly and hawthorn.

Planting in gaps

Whips can be used to plant up gaps in the hedge. A tree shelter will protect the young tree from rabbits and hares and make it visible to anyone who is cutting the hedge. An application of well rotted farmyard manure in the planting pit will help to retain moisture and supply nutrients.

While standard trees have the advantage of creating immediate impact, they are expensive and can be difficult to establish. For success, regular attention, such as watering during dry periods, is needed.

When establishing trees in roadside hedges, keep them within the hedge rather than next to the road.

Suitable tree species for planting in hedges include wild cherry, oak, rowan, crab apple and Scots pine. Willow, alder and birch are more suitable for damp sites.

THE HEDGEROW BOTTOM

The base of the hedgerow supports a tremendous range of plants, insects, birds and small mammals.

- ~ Do not spray hedgerow bottoms or roadside verges with herbicides.
- ~ Leave a 1m uncultivated strip adjacent to the edge of the hedge canopy.
- ~ Do not cultivate right up to the hedge in the adjacent field. Keep the fertiliser spinner, slurry tanker and sprayer well back from the hedgerow bottom.
- ~ Open drains increase the diversity of species and where possible, should be left open rather than piped. They should be maintained and kept clear of excess vegetation to prevent flooding.

Replacing roadside hedges

When hedges are removed in the course of roadworks, they should normally be replaced or replanted on the landowner's ground. A protective fence on the field side of the hedge may be needed to protect young plants from grazing livestock.

DRD Roads Service is responsible for the maintenance of the new hedgerow during the first year after planting. This includes weed control and replacement of any plants that do not establish. Any problems with the new hedgerow should be reported to the local [Roads Service](#) engineer as soon as possible.

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After a year, such hedges become the farmer's responsibility. It is in the farmer's interest to care for them, as they will outlast any wire fence. Good management throughout the first few years will produce an effective barrier that will last for hundreds of years.

Advice

Practical information on site preparation, species selection, planting methods and weed control is provided in [Hedges – Planting and Aftercare](#).

For advice on hedgerow management, or any other aspect of countryside management, contact locally based [Countryside Management staff](#).

A Code of Practice called [Safety at Street Works and Road Works](#) gives further guidance on traffic safety measures to use on all roads except motorways and dual carriageways with hard shoulders.

If you have a concern about a particular roadside hedge, contact your local [DRD Roads Service](#) office.

Dinah Browne Associates produced the original text for this on-line publication.

FURTHER INFORMATION

For advice on any issue relating to countryside management contact:

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