

Appendix 5: Natural colonisation guide

Purpose

This document is an Appendix to the [Grant Manual for the England Woodland Creation Offer \(EWCO\)](#). It describes EWCO's approach to natural colonisation and should be read in conjunction with the core EWCO Grant Manual.

Natural colonisation under EWCO aims to establish at least 60% woody cover and a minimum of 100 tree stems per hectare 10 years after any capital works have been undertaken¹. This document describes the method for the assessment of natural colonisation funded within a EWCO Agreement. It is informed by feedback from the England Woodland Biodiversity Group. This document has been written in line with the [Using Natural Colonisation for the Creation of New Woodland](#) guidance from the Forestry Commission.

Background

Natural colonisation is a woodland creation technique that relies on natural processes to create woodland. Natural colonisation is sometimes referred to as natural regeneration. Both terms refer to woodland expansion through natural processes. For ease, we will refer to woodland expansion through natural processes throughout this document as natural colonisation.

Successful natural colonisation offers a variety of benefits, including:

- a period of early successional and structurally diverse habitat with high biodiversity value
- contributing to national woodland creation targets without the need for nursery tree stock
- promotion of genetic diversity and associated adaptive capacity
- tree species that colonise are likely to be well-adapted to current site conditions

Areas of natural colonisation in a EWCO Agreement can sit alongside areas of woodland creation that use tree planting, to develop a diverse woodland that maximises opportunities to create woodland on a site. Areas that use natural colonisation are eligible for any of the Additional Contributions offered under EWCO for the provision of public benefits, unless there are restrictions on the type of tree species (for example, the Additional Contribution for woodland creation that expands red squirrel habitat).

¹ Requirement calculated from data collected at Monks Wood National Nature Reserve, Cambridgeshire.

Additional Contribution payments will be made once any standard cost items have been completed and claimed for (as with planting).

If you choose to use natural colonisation to establish areas of new woodland with support from EWCO, at least 60% woody cover and a minimum stocking of 100 tree stems per hectare will need to have established over the area by year 10. Woody cover encompasses any woody species, including bramble, thorny scrub such as hawthorn and blackthorn, and tree species.

Eligibility

Support for natural colonisation under EWCO will be awarded subject to the Forestry Commission Woodland Officer's discretion, supported where necessary with advice from a Forestry Commission Ecologist or Natural England Advisor.

Areas that use natural colonisation will need to:

- meet the general eligibility criteria for EWCO Agreements (minimum application area of one hectare, minimum size of 0.1ha for individual compartments, and minimum width of 20 meters or 10 meters for shelterbelts and riparian buffers)
- be within 75 meters of a viable seed source of at least 2 tree species, we may in exceptional circumstances agree to this distance being extended

The distance from seed source of 75m was established following the publication of 'Assessing the use of natural colonization to create new forests within temperate agriculturally dominated landscapes' ([Bauld, 2023, Restoration Ecology, Wiley Online Library](#)).

Sites can be adjacent to woodland or mature hedgerows including at least two seed bearing native trees species. There will be no need to buffer hedgerows with a gap of open space unless they are ancient hedgerows on parish boundaries or an important part of the historic landscape character – you should check local Historic Environment records for detail on this and include any relevant information in your Woodland Creation Plan. Where a gap is needed this should be marked as an area of managed open space in your Application Map and any EWCO Agreement will require this area to be maintained as open space.

Non-native species in appropriate locations would equally qualify for support for natural colonisation, for example to support the expansion of plantations or create mixtures of native and exotic species.

Ash will be treated as a viable species as the natural colonisation of ash will allow the establishment of resistant genotypes.

Any area(s) of existing tree cover that meet all the following criteria will not be eligible for Additional Contributions:

- the area is greater than 0.1ha in size
- the area is stocked at 1,100 stems per ha or more with tree species that are listed in the EWCO Application Form Part B and that align with the management objectives for the site
- the trees in the area are greater than 1.2 metres in height

These areas will be eligible for annual Maintenance Payments and can be included within the fence lines put in place to enable natural colonisation across the wider EWCO Agreement area.

Requirements

EWCO requires that by year 10, 60% of the area(s) of natural colonisation are under woody cover, with a stocking of tree species of at least 100 stems per ha. Woody cover is defined as being any species listed in EWCO Application Form and other woody vegetation such as bramble.

At years 5 and 10, a Forestry Commission Woodland Officer will visit the Agreement site and check whether the site is developing as agreed. The review at year 5 will be to check that conditions remain suitable for woodland establishment. At year 10 a check will be made to ensure the minimum requirements have been met.

If the assessment at year 10 shows that remedial work is needed to increase the stocking density to meet or exceed the minimum required stocking density the Agreement Holder can commit to undertake remedial planting in the following planting season. This approach is summarised in Table 1 below. Funding for any remedial planting may be possible through the government support mechanisms for afforestation or agri-environment schemes available at that time.

Checks to confirm capital works are complete may be undertaken at any time, including before year 5, and could trigger remedial action sooner (for example, to ensure fencing is secure and any agreed ground preparation has been undertaken).

If at any point the Agreement Holder does not undertake the required remedial work within the required time period, the Grant paid to date will be recovered and the Agreement may be reduced or terminated.

Table 1: Maintenance monitoring and potential interventions for natural colonisation

Year	Action and Potential Remedial works
5	Inspection – to ensure the conditions remain suitable for tree establishment. We may assess the site's development to gather

Year	Action and Potential Remedial works
	information to increase our knowledge of the natural development of sites. There will be an option to undertake Supplementary Planting from this point in the Agreement period if the Agreement Holder wishes to do so.
10	<p>Inspection – to confirm that there is at least 60% woody cover and at least 100 trees per ha across the area.</p> <p>If this is confirmed, there will be no remedial action required. Otherwise, one of the following scenarios will apply:</p> <ul style="list-style-type: none"> • Remedial planting will be required • The Agreement will be reduced in area or closed with a reclaim • The Agreement Holder will be able to move the scheme under an alternative afforestation or agri-environment scheme option if this is possible at the time
11 to 15	If a remedial planting option is taken at year 10, we will review the Agreement to confirm that the agreed works have been completed. If so, there will be no further action. If not, the Grant funding on the failed area will be reclaimed.

Grant support

Capital items

Requirements for tree protection (capital items) will be assessed on a site-by-site basis, but it is anticipated that fencing will be required on the majority of sites unless evidence indicates that the risk of damage from deer is low.

Where deemed appropriate by your local Woodland Officer, you may be able to claim for up to 100 Tree Shelters per hectare.

Requirements for ground preparation should be assessed on a site-by-site basis, with Woodland Officer support to decide where the scarification item should be used to ensure natural colonisation is viable.

On sub-optimal or large sites where parts of the establishment area are some distance from mature seed-bearing trees, applicants will have the option of clump or very low-density tree planting (with support from EWCO for the capital costs) to help meet the minimum stocking requirement, or greater stocking if this is required to meet the land manager's objectives for the scheme.

Supplementary planting

Under EWCO, Supplementary planting is not obligatory in compartments of woodland creation using natural colonisation. However, applicants can apply for supplementary planting at a rate of up to 100 stems per hectare for areas of natural colonisation within their EWCO Agreement.

Where there is supplementary planting within an agreement, this must be undertaken during the capital funding period. However, you will not be obligated to undertake supplementary planting if it is no longer considered necessary.

Please be aware that we cannot amend EWCO agreements to include advanced supplementary planting after the agreement has been signed. However, you may be required to undertake remedial planting at your own cost where the area of natural colonisation does not meet the minimum stocking density of 100 stems per hectare by the end of year 10.

Additional Contributions

Where EWCO Additional Contributions form part of the EWCO Agreement, they will be paid as a one-off payment after capital works are complete and at the same rate as for planting areas.

Annual Maintenance Payments

Natural colonisation is eligible for annual Maintenance Payments (see the EWCO Grant Manual). To receive these payments the Grant Recipient must follow the following prescription once any capital works are complete:

- maintain any fencing throughout the EWCO Agreement Period and dispose of it appropriately when no longer required
- undertake control of [invasive non-native plants](#) present
- herbicides should only be used to control invasive non-native plants and not close to any watercourse
- maintain planned temporary open space
- remove and dispose of any tree shelters used for supplementary planting in an appropriate manner and in accordance with waste disposal regulations (for example, collect and recycle them) when no longer required
- at year ten and in consultation with your Forestry Commission Woodland Officer, undertake any supplementary planting required to ensure the minimum requirements for the level of woody cover, tree density and species mix are met or exceeded

Methodology

Step 1 – Pre-application site assessment

Before making a EWCO application you should complete a site assessment, with support from a Forestry Commission Woodland Officer, to determine if the site is eligible. You will need to consider and present this information during the EWCO application process.

The [EWCO Natural Colonisation Initial Site Assessment Form](#) should be used to record this assessment. A thorough site and risk assessment is necessary before any EWCO Agreement is offered to ensure the proposal meets the EWCO eligibility requirements and has a good chance of success.

The following features should be surveyed during the pre-application site assessment:

Evidence of existing colonisation on the site

- Is there evidence of natural colonisation of tree species, and if so, can these areas be protected?
- Is there evidence of natural colonisation on adjacent or similar sites?

Seed availability

- Are there sufficient quantities of suitable source material (at least two viable tree species), and is all of the area within 75 metres of the woodland or hedgerow tree boundary (if appropriate, what is the basis for extending the distance beyond this)?
- Will the identified source trees bear seeds, and are the tree species present suitable for delivering the land manager's management objectives?
- If relying on wind dispersed species, are these located in suitable places (for example, upwind of the proposed natural colonisation site)?

Site suitability

- Is the soil type, vegetation, and land use history suitable for supporting natural colonisation?
- Are germination sites present, and will scarification provide suitable conditions for seed germination?
- Is ripping or subsoiling required to break an indurated layer (such as a plough-pan)?
- Will vegetation management be needed?

Browsing and grazing:

- Is the land used for grazing? If so, how this will be controlled to ensure natural colonisation is successful?

- Is there evidence of browsing or grazing by deer, rabbits, or hares? If so, how will this be controlled to ensure natural colonisation is successful?

Following a thorough assessment of the site, a Forestry Commission Woodland Officer will determine whether natural colonisation is a feasible method for delivering objectives on that site. If this is in doubt, they will seek advice from a Forestry Commission Ecologist or a Natural England Advisor. If it is determined that natural colonisation is appropriate, the approach that will be taken should be set out in the EWCO application. If natural colonisation is not deemed appropriate, alternative methods of woodland establishment should be considered.

Step 2 - Identify ultimate objective

The management objectives for the site must be identified to determine whether natural colonisation is an appropriate method for creating new woodland. Natural colonisation is more likely to be suited to objectives related to nature recovery and social or recreational benefits.

A comprehensive Woodland Creation Plan is required to support EWCO applications and will help aid the successful delivery of projects. As the creation of new woodland is a legal change of land use, any land involved in natural colonisation must be subject to the Environmental Impact Assessment (Forestry) Regulations 1999 (as amended).

EWCO requires a minimum of 60% woody cover across the area of natural colonisation and 100 tree stems per ha as the goal by year ten.

Supplementary planting may be required to achieve the land manager's objectives for the site. This is optional unless remedial planting is required because the above minimum requirements for EWCO have not been met at year ten. The specification of any supplementary planting (for example, in which year to undertake the planting, and with which species) should be assessed on a site-by-site basis. There are three types of supplementary planting, detailed in Table 2 below.

Table 2: The timing and objective of additional planting in a natural colonisation area

Category	Timing	Objective
Advanced supplementary planting	Around the time of initiation of natural colonisation (0 to 1 years).	<ul style="list-style-type: none"> • Enrich species composition (where it is apparent in advance which species are likely to dominate colonisation that later takes place, or desired species are missing or lost from the local seed sources). • Add bird perches to improve seed dispersal.

		<ul style="list-style-type: none"> Speed up the development of woodland structure, recognising that this may reduce the biodiversity benefits associated with a slower succession.
Responsive supplementary planting	Five or more years after the time of initiation of natural colonisation (5 to 10 years)	<p>In response to the initial development of natural colonisation, to:</p> <ul style="list-style-type: none"> Enrich species composition. Support the development of woodland structure. Infill areas of no colonisation (especially those further from seed source).
Remedial supplementary planting	Following unsuccessful natural colonisation (5 or more years, depending on objectives)	<p>In response to natural colonisation not meeting EWCO minimum requirements in the expected time period:</p> <ul style="list-style-type: none"> Ensure the site develops into woodland within the required timescale.

Any supplementary planting should use groups of 10 or more trees with regular, close spacing (1 to 2 metres). By planting in this way, the time over which vegetation management is required to ensure successful establishment is minimised.

A Forestry Commission Woodland Officer will work with you to decide the extent of advanced supplementary planting (if any) on sites of proposed natural colonisation.

Step 3 – Site assessment at year five

At year 5, a Forestry Commission Woodland Officer will visit the site to determine whether conditions on the site remain suitable to meet the minimum requirements at year ten. The maintenance of the land will be assessed by a Woodland Officer to ensure the objectives under the maintenance specification are being met. The following will be assessed:

- any fencing is maintained (and disposed of appropriately when no longer required)
- planned temporary open space has been maintained

As long as the site remains suitable to meet EWCO minimum requirements, no remedial action will be required.

If any supplementary planting has occurred, the following will also be assessed:

- any trees that die have been replaced to ensure stocking density is maintained
- trees are suitably protected from competing vegetation and grazing animals
- tree protection is maintained (e.g., fencing, shelters, spiral guards) and disposed of appropriately when no longer required (by year 10)
- herbicides have not been used to control weeds around trees planted next to a water course

On highly suitable sites, canopy closure can occur from year five onwards. This can impact light levels reaching the understory. The site should be assessed by a Woodland Officer, and if necessary, re-spacing of the trees and shrubs could be considered to enable the development of the target tree species and woodland ground flora, but this must not undermine achieving the EWCO minimum requirements by year 10.

Step 4 – Site assessment at year ten

At year 10, a Forestry Commission Woodland Officer will assess whether the minimum threshold of 60% woody cover and 100 tree stems per hectare have been established. During the site assessment, the Woodland Officer will determine the following:

Structure

- age and range of tree saplings and seedlings
- size of saplings (less than or greater than 50 cm)

Species

- Are the species colonising the agreement land consistent with the species list in the EWCO Application Form and other woody vegetation such as bramble?
- Are any [invasive non-native plants](#) present on the site?

Woody cover levels

- Are woody cover levels developing at an appropriate rate?
- Is there evidence of seedling establishment, growth, height distribution and survival?

Stocking density

- estimated density of tree stems

Spacing

- Is respacing necessary for the delivery of management objectives?

The maintenance of the land in the EWCO Agreement will also be assessed by the Woodland Officer to ensure the objectives under the [annual Maintenance Payments specification](#) are being met. The following will be assessed:

- fencing is maintained and disposed of appropriately when no longer required
- planned temporary open space has been maintained

If any supplementary planting has occurred, the following will also be assessed:

- any trees that die have been replaced to ensure stocking density is maintained
- trees are suitably protected from competing vegetation and grazing animals
- tree protection is maintained (e.g., fencing, shelters, spiral guards) and disposed of appropriately when no longer required
- herbicides have not been used to control weeds around trees planted next to a water course

If the site has not achieved 60% woody cover and 100 tree stems per hectare by year ten, the Agreement Holder will be required to do one of the following:

- undertake remedial planting
- repay the EWCO Grant on the failed area

Alternatively, the Agreement Holder may be able to break their EWCO Agreement without penalty, having secured a place in an appropriate future environmental scheme, if this option is available at the time.

If remedial planting is required at year ten, a second site visit will be arranged to ensure the work is sufficient to achieve the ultimate objectives before the Agreement's Obligation Period ends, 15 years after the capital works are complete.

How will we identify the minimum requirements?

Natural colonisation supported by EWCO aims to establish 60% woody cover and 100 tree stems per ha by year 10. A Forestry Commission Woodland Officer will assess woody cover and number of tree stems at year 10.

Due to the nature of natural colonisation, it is unrealistic for a Woodland Officer to manually count the number of stems per ha, because stems may be hidden by developing thorny scrub. The density and species of tree stems will therefore be estimated by a Woodland Officer inspecting the site in the Agreement to determine approximate stems per ha.