

Site Assessment Guide

Restoration of Native Woodland on Ancient Woodland Sites



FOREST SERVICE

AN AGENCY OF THE DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT



Forestry Commission

Site Assessment Guide

This Site Assessment Guide accompanies the Forestry Commission Practice Guide *Restoration of Native Woodland on Ancient Woodland Sites*. The information in this booklet is summarised from the relevant sections of the Practice Guide and these should be consulted in full before site assessment is carried out. The numbered tables referred to in this text are from the Practice Guide.

The Guide is designed to assist the user in:

- Gathering information page 1
- Assessing restoration potential pages 2–5
- Identifying restoration methods pages 6–8

Pages from this Guide can be freely photocopied as templates so that information from a single site or from multiple sites can be recorded and summarised. Extra copies can also be downloaded from the Forestry Commission website www.forestry.gov.uk/publications. Select 'Practice Guides' from the drop-down menu.

Gathering information

Site name:

Off Site <i>(possible information sources in italics)</i>	Notes
Ancient Woodland Inventory <i>Forestry Commission (FC), conservation agency</i>	
Information on designations <i>Conservation agency, local authority</i>	
Regional HAP targets <i>Forest Habitat Networks, FC, Forest Service, conservation agencies</i>	
Local Woodland Habitat Action Plans <i>Local authority</i>	
Aerial photographs <i>FC, conservation agencies (National Park Authority)</i>	
Species records <i>Conservation agency, county wildlife trust</i>	
Long-term forest plans <i>FC, Forest Service</i>	
Archaeological records <i>Local authority, county trust, heritage agency</i>	

On Site	Notes
Remnant native trees and shrubs <i>(species, age, condition, number, distribution)</i>	
Ground flora <i>(extent, location, ruderal species, woodland specialists, NVC type if known)</i>	
Other niches for biodiversity <i>(e.g. rock outcrops, wet flushes, watercourses)</i>	
Former management <i>(i.e. wood pasture, coppice, high forest)</i>	
Adjoining native woodland <i>(structure and species diversity)</i>	
Invasive species within or adjoining the site <i>(e.g. R. ponticum)</i>	
Amount of young native trees in canopy	
Amount of advanced regeneration	
Amount of browsing pressure and ease of control	
Plantation trees <i>(species, quality, size, stability)</i>	
Recent management history <i>(i.e. thinning regime)</i>	
Archaeological features	
Public access <i>(amount, and features valued – e.g. large non-native trees/veterans)</i>	

ESC site type*	Type 1**	Type 2	Type 3
Soil moisture regime			
Soil nutrient regime			
Potential native woodland type (NVC)			

* Where users have access to the Ecological Site Classification decision support system.

** The woodland may be composed of several site types.

Assessing restoration potential

The five steps set out below (and illustrated in the flowchart opposite) provide a framework for assessing the overall restoration potential of a single site or number of sites. The checklist on page 4 should be completed for each site. Where there are a number of potential sites, the summary checklist on page 5 can be used to compare and rank results.

Section 4 in the Practice Guide provides worked examples of hypothetical case studies to illustrate how overall restoration potential can be determined.

It is important to consider how urgently restoration needs to be carried out. Sites with fast-growing, shade-casting conifers which are about to close canopy may need prompt action to maintain semi-natural features or key species. In most cases important features can be maintained by thinning.

STEP 1 Assessing the Ecological Potential (the potential gains for biodiversity and native woodland ecosystem development)

This is based on the **Ecological importance** and **Ecological development** criteria (Table 4.1a and b). In many cases simply adding up the *High*, *Medium* and *Low* values for each site should indicate the rating. However, this is not intended to be a quantitative exercise. The relative importance of the different criteria will vary according to local circumstances. There may be instances where sites rate highly for *Ecological importance* but low against *Ecological development* (or vice-versa). In these circumstances, decisions will have to be made locally on the balance for any given site. Where several sites are being considered, the Ecological Potential can be entered on the summary checklist for multiple sites (page 5) to allow their ratings to be ranked.

STEP 2 Considering Practical Factors (affecting the potential to achieve restoration)

Assess whether each factor has a *positive*, *negative* or *neutral* effect on the potential to achieve restoration. The overall assessment may be a simple average of individual values, but sometimes one factor will be critical. (See worked example for Site 3, page 26 of the Practice Guide: *Operational access*. Note the use of two minus symbols to highlight the severity of the constraint).

STEP 3 Assessing Restoration Potential (the potential of a site taking into account Practical Factors)

Review and adjust, if necessary, the rating from STEP 1 in light of the Practical Factors considered in STEP 2. The Restoration Potential rating should only differ from the Ecological Potential rating where the Practical Factors are very significant.

STEP 4 Considering Economic and Other Factors (the potential effects of restoration)

Assess each factor in terms of whether restoration would have a *positive*, *negative* or *neutral* effect. The overall assessment may be a simple average of individual values, but sometimes one factor will be critical.

STEP 5 Assessing Overall Site Rating (the overall potential of a site taking into account Practical, Economic and Other Factors)

Review and adjust, if necessary, the rating from STEP 3 in light of the Economic and Other Factors considered in STEP 4. The Overall Site Rating should only differ from the Restoration Potential rating where the Economic and Other Factors are very significant.

Based on the Overall Site Rating obtained by working through STEPS 1–5, identify the degree to which you intend to restore the site; i.e. **Full** restoration, **Partial** restoration or **Maintenance** of existing biodiversity (see pages 28–29 of the Practice Guide). Where Overall Site Rating is *High*, full restoration will normally be the most suitable choice (see *Identifying restoration methods*, pages 6–7). The *Alternative options* (page 8) may be appropriate for sites with *Low* or *Medium* ratings.

It is important not to consider this framework as a prescriptive methodology; owners and managers should work with the Forestry Commission, Forest Service, conservation agencies and other organisations at a local level to develop and adapt the framework to suit their particular circumstances.

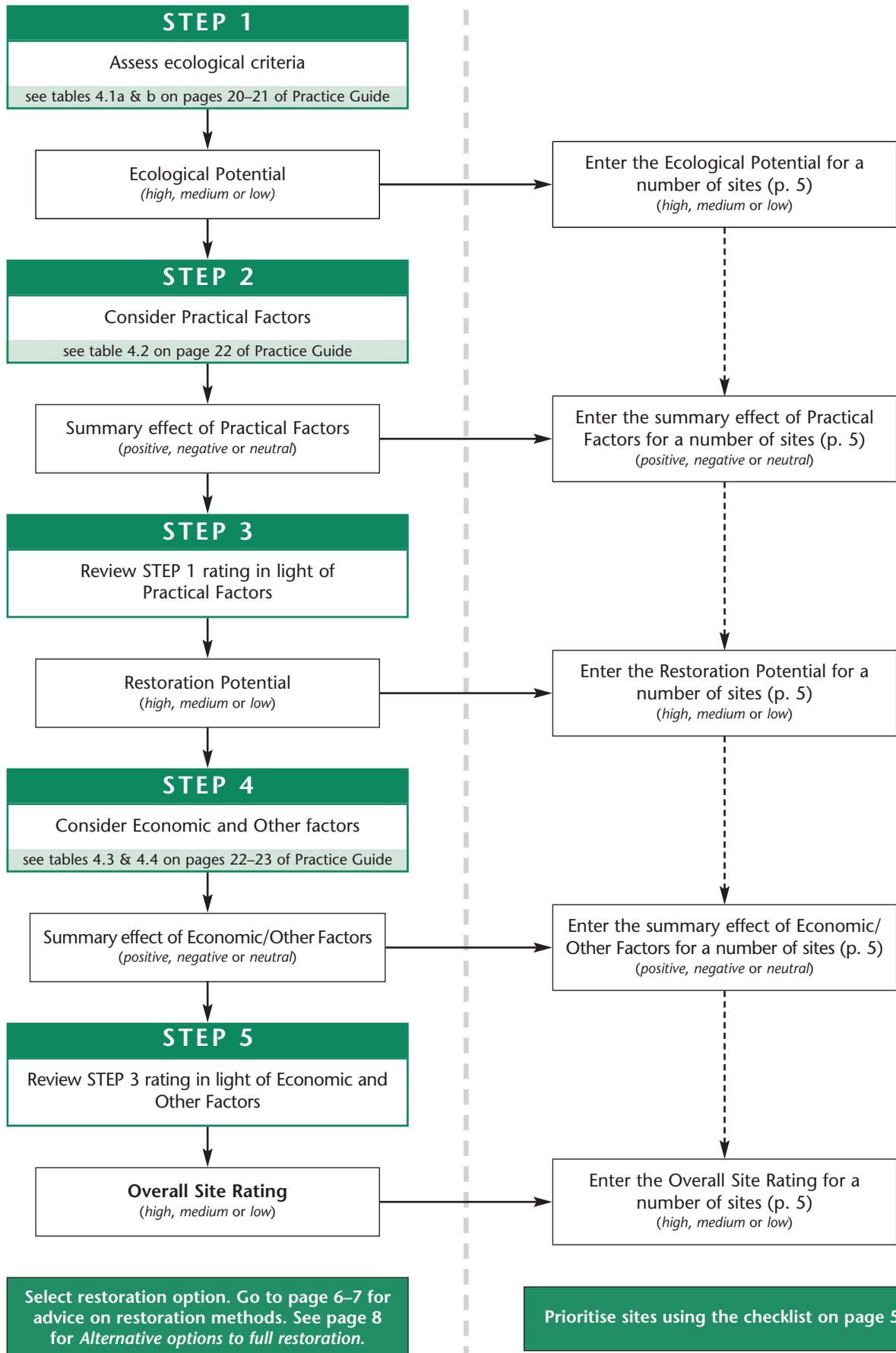
Flowchart to illustrate the site assessment process

Single site

Use the table on page 4 of this guide and see pages 24–27 in the Practice Guide for worked examples

Multiple sites

Use table on page 5 of this guide and see Table 4.5 on page 23 in the Practice Guide for worked example



Checklist to assess restoration potential

Site name:

STEP 1: Ecological criteria		Notes	Rating
Ecological Importance: potential gains for biodiversity (see Table 4.1a)			H/M/L
Designations			
Contribution to UKBAP habitat strategies			
Contribution to forest habitat network			
Potential to conserve endangered species			
Rarity of native woodland type			
Rarity of stand type			
Diversity of habitats and features			
Size of site			
Ecological Development: potential for native woodland ecosystem development (see Table 4.1b)			H/M/L
Mature remnant semi-natural trees and shrubs			
Specialist woodland ground flora			
Adjacency of existing semi-natural woodland			
Quality and type of adjacent semi-natural woodland			
Adjacency of other non-wooded semi-natural habitats			
Ecological Potential (weight relative values)			
STEP 2: Practical Factors (affecting the potential to achieve restoration (see Table 4.2))			Effect
			+/0/-
Operational access			
Protection			
Vegetation management			
Presence of young native trees and seed supply			
Practical Factors (weight relative values)			
STEP 3: Restoration Potential	Review rating from STEP 1 in light of Practical Factors? (H/M/L)		
STEP 4: Economic and Other Factors (the potential effects of restoration)			Effect
Economic (see Table 4.3)			+/0/-
Value of existing plantation			
Potential value of future rotations			
Other (see Table 4.4)			+/0/-
Visual			
Cultural			
Archaeological			
Economic and Other Factors (weight relative values)			
STEP 5: Overall Site Rating	Review rating from STEP 3 in light of Economic and Other Factors? (H/M/L)		
Restoration Option	Full	Partial	Maintenance

Identifying restoration methods

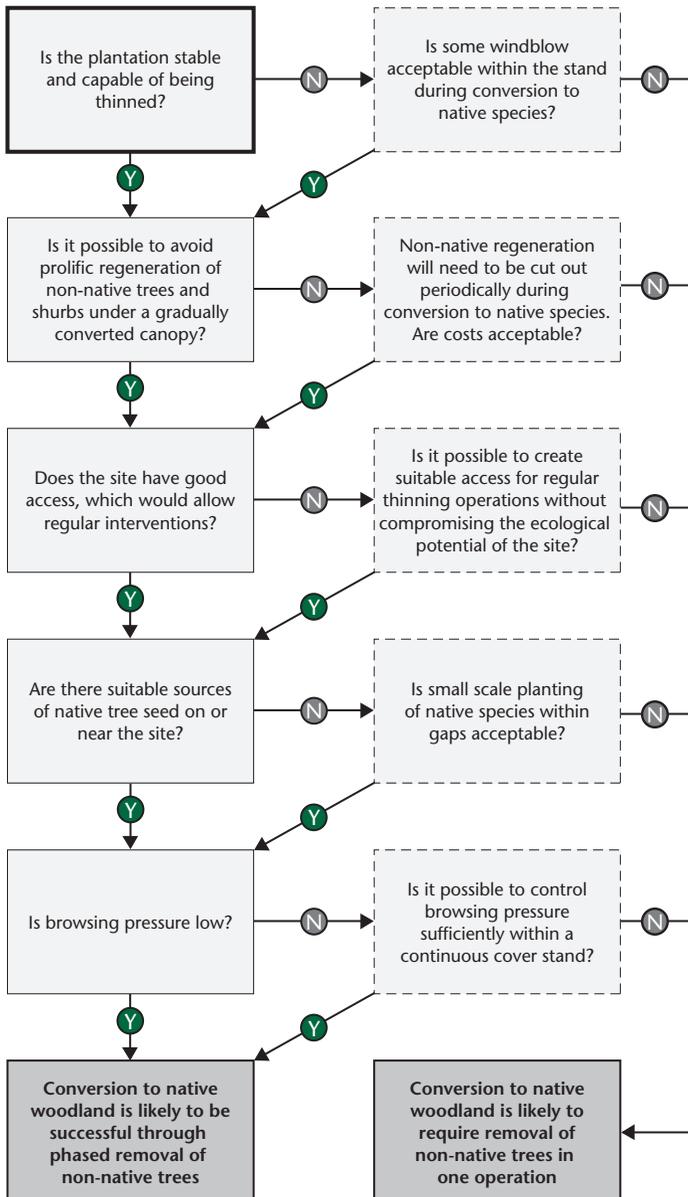
Choosing an appropriate silvicultural system

Site name:

Ecological and landscape considerations

Question	Yes/No	Notes
Would the natural pattern of disturbance in the former native woodland type create small gaps? (e.g. landslides or death of mature trees as opposed to large areas of windblow or fire)		
Does the stand contain fauna which would be sensitive to major disturbance? (e.g. bats, dormice)		
Are there features which would suffer from sudden increases in exposure? (e.g. moist deadwood invertebrates, lichens)		
Are remnant native trees likely to suffer from sudden increases in the water table and levels of exposure?		
If the site is clear felled, are coarse grasses or ruderal weeds likely to dominate? (i.e. are soils moist and fertile)		
If the site is within a highly sensitive landscape, would clearfelling cause visual problems?		

Silvicultural considerations



Notes

Is natural regeneration likely to be appropriate and successful?

Site name:

Subject	Questions	Notes
Objectives	What are they?	
	Do they have any order of priority?	
Native trees and shrubs	What is the target woodland type and can it be achieved through species present on and around the site?	
	Where are they located?	
	How many are there?	
	What is their seed-bearing capacity?	
	How is their seed dispersed?	
Soils	Are these fertile/impooverished; heavy/well drained?	
	How will they influence tree and weed growth?	
	Is any manipulation desirable and how will it affect weed growth?	
Climate	Is it wet/dry; warm/cold?	
	How will it affect plant growth?	
	Will there be sufficient seed production?	
Felling regimes	How much will the site conditions change under different treatments?	
	What will the consequences be for weed and tree growth?	
Ground flora	What species are present?	
	What changes will occur during restoration?	
	What weeds will become a problem?	
	How can competitive weeds be controlled?	
Protection	What animals and how many are present?	
	What is the likely damage?	
	What protective measures are needed?	

Alternative options to full restoration

Site name:

Partial restoration

Where the benefits of full restoration to native species are not obvious, record which of the following management options can be undertaken to secure and enhance biodiversity values

Option	Include in management plan?
Use an alternative silvicultural system to clear felling	
Retain and/or create standing and fallen deadwood	
Manage the canopy around native trees carefully	
Maintain and create habitats of important species	
Retain veteran trees	
Extend the rotation length of even-aged stands and grow some non-native trees to biological maturity	
Aim to replace shade-casting trees with light canopied species <i>(e.g. replacing spruce with larch in subsequent rotations)</i>	
Manage the stand to maintain and enhance important niches for biodiversity <i>(e.g. base-rich flushes, patches of woodland flora, rock outcrops etc.)</i>	

Maintenance of existing biodiversity

Where there would only be very limited benefits from restoration and the intention is to maintain a high percentage of non-native trees, record the features that exist and what management will be necessary to maintain their current value

Feature	Management requirements	Record in management plan?



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