LOCH LOMOND & THE TROSSACHS NATIONAL PARK

National Park Trees & Woodland Strategy

Appendix 2

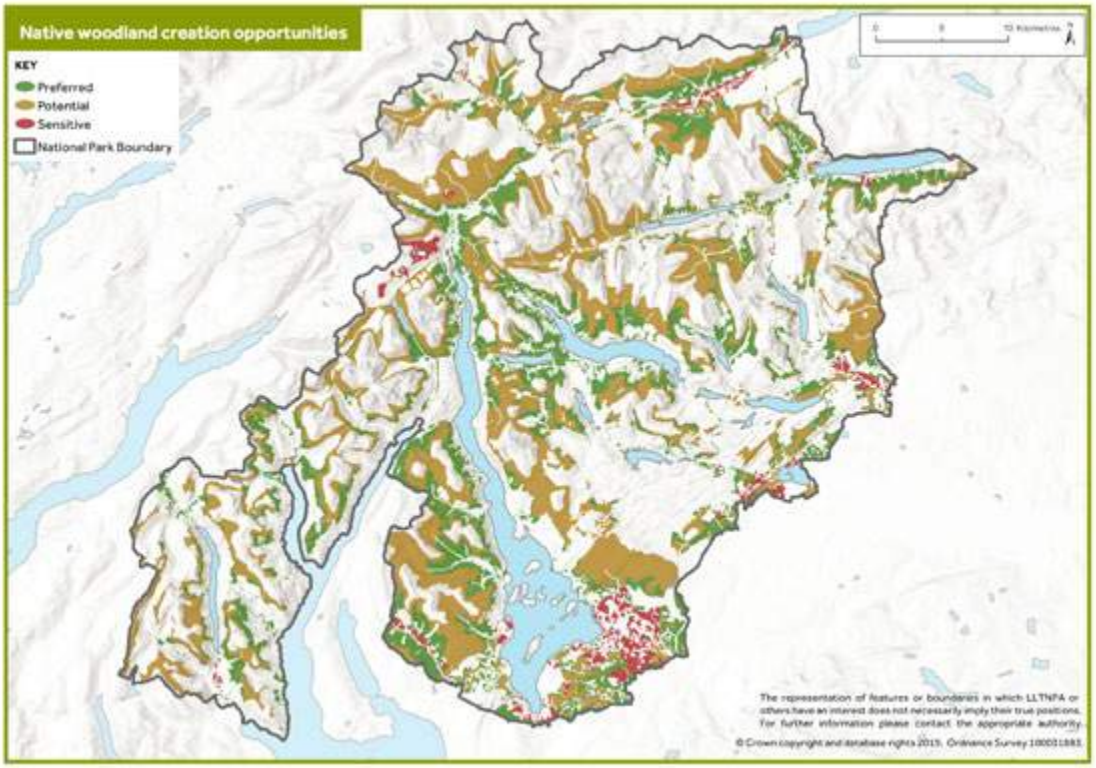
Native Woodland Creation Opportunity Mapping

2019 – 2039

Summary

In order to target native woodland creation and to identify priority areas which would a) provide the greatest benefits to habitat connectivity and b) be suitable for potential grant uplift, spatial analysis was undertaken using GIS software. This primarily consisted of multi criteria evaluation (MCE) utilising a number of publicly available national datasets from Forestry Commission Scotland and Plantlife International.

Subsequent analysis was then undertaken to identify both sensitive areas and areas with potential for native woodland creation. The identification of sensitive areas was undertaken by the assessment of individual potential constraints using expert opinion.



Methodology

Identification of preferred areas

Spatial Analysis was undertaken using the following datasets:

- Scottish Government Woodland Expansion Advisory Group (WEAG). (2008). Rationale for Woodland Expansion.
- Forestry Commission Scotland. (2015). Native Woodland Integrated Habitat Network.
- Forestry Commission Scotland. (2014). Climatic Suitability for Forestry Grant Schemes.
- Plantlife International. (2015). Important Plant Areas (Western Atlantic Woodlands) and Zones of Opportunity.
- Forestry Commission Scotland. 2017 National Forest Inventory. (This was used to remove any existing woodland from subsequent analysis.)

Multi criteria evaluation was undertaken using the following scoring process with the higher score indicating greater potential for woodland creation.

Data classification

Data set	Score		
	1	2	3
Rationale for Woodland Expansion (WEAG)	Land that is predominantly not available for woodland expansion	Land that is affected by national designations and policies which impose varying degrees of constraint on woodland expansion	The remaining land area which is therefore most likely to have potential for woodland expansion
Native Woodland Integrated Habitat Network (IHN)	Secondary zones that are within a 2km "least-cost" distance from core native woodlands	Primary zones that are within a 500m "least-cost" distance from core native woodlands	Core native woodlands
Climatic Suitability for Forestry Grant Schemes	Marginal	Suitable	Very Suitable
Important Plant Areas (IPA)	Within 4 km of core area for Atlantic Woodlands	Within 3 km of core area for Atlantic Woodlands	Within 1 km of core area for Atlantic Woodlands

The WEAG data provided an initial assessment of the land available for woodland creation. To promote the expansion of native woodland within a 500 metre buffer of SSSIs with woodland features the data was modified where necessary to increase the score to its maximum.

Existing areas of woodland that are currently recorded as part of the National Forest Inventory dataset were removed from the WEAG and Native Woodland – IHN datasets and therefore excluded from any subsequent analysis. This included some areas classified as core native woodland as part of the IHN data.

The IPA data only covers the western areas of the National Park and was therefore only included in analysis of the 4 oak woodland types.

To apply the MCE process, the park was divided into 50m by 50m cells with a score for each dataset being applied to every cell. Simple addition of the individual scores from each dataset resulted in an overall suitability score between 3 and 12 for the four woodland types applicable to IPA data and 3 to 9 for non IPA types. In order to create consistent categories across the park the following categories were used:

Score	3	4 – 6	7 – 9	10 – 12
Suitability	Low	Medium	High	Very High (IPA areas only)

Summary results

The analysis identifies and ranks areas where new native woodland would lead to an improved woodland habitat network. These locations are climatically suitable, acceptable in terms of WEAG, and where appropriate in areas suitable for Atlantic oak woodlands.

However the maps do not take into account any constraints other than ones detailed in the WEAG, for example; important habitats, species or other land use priorities. Therefore any woodland creation opportunities "supported" by these maps would still need further assessment including more detailed surveys or data such as Golden Eagle territories to ensure these features are taken into account.

The spatial analysis does not assess whether woodland creation in location X leads to a greater increase in connectivity compared with woodland creation in location Y. However by including the Integrated Habitat Network data a weighting is incorporated to increase the suitability category for locations that are in closer proximity to core native woodlands.

Subsequent analysis

Highest score for woodland creation suitability

Initial analysis on suitability scoring was applied to each of the NVC woodland types classified under the Climatic Site Suitability data. Further analysis utilised this initial scoring to produce an overall maximum suitability score for each 50 m cell.

Including IPA data	Excluding IPA data
W10 – Oak (penduculate) with with Bluebell/wild Hyacinth	W4 – Native Upland Birch
W11 – Oak (sessile), Downy Birch with Bluebell/wild Hyacinth	W6 – Alder with Stinging Nettle
W16 – Oak, Birch	W7 – Alder-Ash with Yellow Pimpernel
W17 – Oak (sessile), Downy Birch with Bilberry/Blaeberry	W8 – Alder, Field maple with Stinging Nettle
	W9 – Ash, Rowan with Dogs Mercury
	W18 – Native Scots Pine

By comparing the suitability score for each of the above individual woodland types a maximum overall suitability score was applied to each relevant 50 m cell. The maximum score was then classified as either low or high suitability.

Score	3 – 6	7 – 12
Suitability	Low	High

The scores between 7 and 12 are the areas which have high suitability and are therefore considered preferred for native woodland creation

Identification of Potential and Sensitive areas

Further spatial analysis was undertaken to identify potential areas for woodland creation in the park where the benefits and suitability were not as great as preferred areas.

In addition an assessment was carried out to identify areas which presented constraints or sensitivities for woodland creation. The table below details the datasets used in this process and that were analysed by expert opinion from the National Park's ecologist and landscape advisor.

Potential areas are those areas that have not been previously identified as preferred areas (with high suitability), that do not have existing landscape or environmental constraints and are suitable for woodland creation (i.e. they are located below 500 m ASL, are not currently woodland cover, not inside an identified settlement boundary and are not water).

The spatial analysis utilised the same 50 m by 50 m raster cell grid for the National Park area as that for the preferred areas analysis. Initially any cell which intersected an area not suitable for woodland creation was categorised as unsuitable. Subsequently any cells which intersected sensitive areas were classified as sensitive. The remaining cells were classified as either preferred or potential based on previous analysis.

Spatial datasets used for suitability analysis:

Dataset	Source	Criteria
Mastermap	Ordnance Survey	Water Theme
Terrain 50 Contours	Ordnance Survey	Areas above 500 m contour line
Settlement Boundaries	Loch Lomond & The Trossachs National Park Authority	
National Forest Inventory	Forestry Commission Scotland	Woodland Areas
Native Woodland Survey of Scotland	Forestry Commission Scotland	Woodland Areas

Spatial datasets used for sensitivity analysis:

Dataset	Source	Criteria
Sites of Special Scientific Interest	Scottish Natural Heritage	Site-by-site analysis see appendix 4
River Endrick Feeding Areas	Scottish Natural Heritage	400 m buffers of identified feeding areas for Greenland white fronted Geese
Glen Fruin and Glen Dochart Wading Birds Project Areas	Royal Society for the Protection of Birds	
Loch Lomond Special Protection Area	Scottish Natural Heritage	Areas of SPA selected by NPA ecologist as being sensitive based on compatibility of habitat for Greenland white fronted goose
Glen Etive and Glen Fyne Special Protection Area	Scottish Natural Heritage	Areas of SPA selected by NPA ecologist as being sensitive based on compatibility of habitat for Golden Eagle
Local Designed Landscapes	Loch Lomond and the Trossachs National Park Authority	Site by site determination by NPA Landscape Advisor – see appendix 5
Gardens and Designed Landscapes	Historic Environment Scotland	Site by site determination by NPA Landscape Advisor – see appendix 5

PÀIRC NÀISEANTA
LOCH LAOMAINN IS NAN TRÒISICHEAN

Published by:
Loch Lomond & The Trossachs National Park Authority
Carrochan, Carrochan Road, Balloch G83 8EG

t: 01389 722600
w: lochlomond-trossachs.org
e: info@lochlomond-trossachs.org

October 2019