

Wider application

Protecting local genetic integrity is valuable. This is particularly true where nursery grown trees and shrubs are to be planted close to ancient woodlands. This case study shows that, with sufficient lead time, local provenance nursery stock could become a standard component of landscape contracts. Increased demand would encourage refinement of appropriate nursery techniques.

Further information

National Urban Forestry Unit

This leaflet is one of a series produced by the National Urban Forestry Unit. NUFU is a charitable trust which provides a national focus for the exchange of information and good practice in urban forestry. If you would like further information on other case studies, or if you have examples of good practice to share, please contact:

National Urban Forestry Unit	Tel:	+44 (0)1902 828600
The Science Park	Fax:	+44 (0)1902 828700
Stafford Road	Email:	info@nufu.org.uk
WOLVERHAMPTON WV10 9RT	Website:	www.nufu.org.uk

Moore Environment

Moore Environment are landscape architects and environmental assessors. They can contribute to projects at all stages, from site selection and initial site planning through to long term management.

Moore Environment	Tel:	+44 (0)1675 466877
Griffin House, 9 Coventry Road	Fax:	+44 (0)1675 466899
Coleshill	Email:	mail@moore-environment.co.uk
BIRMINGHAM B46 3BB	Website:	www.moore-environment.co.uk

Maelor Nurseries Ltd

Maelor Nurseries Limited produce an extensive range of commercial forestry, Christmas tree and native broadleaf species, marketing approximately 20 million trees a year to customers throughout the UK & Europe.

Maelor Nurseries Ltd	Tel:	+44 (0)1948 710606
Fields Farm	Fax:	+44 (0)1948 710440
Bronington	Email:	sales@maelor.co.uk
Nr Whitchurch SY13 3HZ	Website:	www.maelor.sagenet.co.uk

Further reading

BTCV (2001) *Tree Planting and Aftercare*. BTCV, Doncaster

Conservation Volunteers Northern Ireland (1996) *Our trees: A guide to growing Northern Ireland's native trees from seed*, ed Dinah Browne, CVNI

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Herbert, R Samuel, S and Patterson, G (1999) *Using local stock for planting native trees and shrubs*. Forestry Commission, Edinburgh

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Urban Forestry in Practice

Contract growing of native trees and shrubs from seeds of local provenance



CASE STUDY 51

Contract growing of native trees and shrubs

Introduction

The genetic characteristics of "native" tree and shrub species may vary considerably in different geographical locations. Using tree and shrub stock originating from elsewhere in Europe can have an undesirable impact on local biodiversity in the UK. As a response to increasing concern, nursery stock of local genetic provenance is now frequently being specified, but it is not easy to procure.

In this project the client's commitment to the highest level of environmental performance ensured a production lead time which was adequate to allow for the sourcing of local seeds and the contract growing of all plant material.

Specific example

Project name and location

A53 HODNET BYPASS, near MARKET DRAYTON, Shropshire, UK
Grid reference: SJ 615 285

Project partners

- Shropshire County Council: client
- Mouchel Parkman: engineer
- Moore Environment: landscape architect
- Maelor Nurseries Limited: grower
- Lowther Forestry Group: landscape contractor

Project objectives

To produce nursery-grown native species of trees and shrubs for roadside planting and highway boundary hedges, propagated from seeds or cuttings collected as locally as possible to the scheme

Project description

The 6.6 km Hodnet bypass was commissioned by Shropshire County Council, constructed by Alfred McAlpine and opened in September 2003. The road corridor landscape scheme involved the planting of 90,000 native trees and shrubs as well as the creation of wetlands, wildflower meadows and heathland. Locally sourced material was specified throughout.

Seed collecting is carried out by hand and timing is critical



Project implementation

In 2001 a contract was let to:

- collect seeds and/or cuttings from local trees and shrubs
- propagate and grow to specified sizes and quantities
- supply resulting nursery stock for initial capital works and replacement planting

Contract documentation took account of the following conditions:

- timing to allow for optimum seed harvesting, differing germination characteristics and the changing needs of the scheme throughout the establishment period
- priority given to propagation sources certified as local to the planting site. Seeds from Forestry Commission Area 403, (Shropshire, Worcestershire and Powys) were specified as the second preference and other sources were only to be accepted as a last resort
- provide a complete audit trail recording seed provenance, stock growing and plant handling during transfer to site

Tenders were assessed on the basis of price and quality and following a site visit and interview to gauge organisational ability and commitment, Maelor Nurseries were appointed in late summer 2001.

Seeds of most of the native tree and shrub species, including oak, ash, cherry, rowan, field maple, crab apple, hawthorn and blackthorn were harvested from the local Hodnet area. However pines, aspen, crack willow, holly and hazel had to be sourced from elsewhere. Seed collection was carried out from autumn 2001 and the majority of species were sown from mid April to the end of May to ensure germination by the end of June 2002.

Regular meetings provided an early warning of any production problems, and any variations were agreed on a species by species basis. Most of the resulting seedlings satisfied the core requirement for 60 – 90 cm two year old transplants and the trees and shrubs were planted between January and March 2004. The management of the planting areas in the first five years formed part of the landscape contract. The established scheme will be handed over to Shropshire County Council in March 2009.

Results

The completed landscape scheme has been accepted into aftercare by the client and has met all the requirements of the specification.

Finding suitable source material and managing differing conditions for effective seed germination proved complex. The essential elements of success were:

- an innovative and exhaustive approach to material sourcing
- flexibility with regard to the provenance of problematic species
- technical precision with regard to the collection, storage, preparation and sowing of seeds
- close co-operation between all parties, with a shared commitment to the project

Final unit costs for the plant material proved slightly higher than expected but still compared satisfactorily with more conventional supplies.

A crop of seedlings in their second year. Thorough seed and seed bed preparation ensures successful germination and healthy growth



Forestry Commission certification guarantees the provenance of the seed