

## **HARDWOODS IN THE HIGHLANDS**

### **Timber production and other benefits**

As with the production of many natural raw materials, the production of timber has many related benefits. While the purpose of this information sheet is to encourage growers to consider hardwood species for the production of timber, it should also be noted that woodlands encourage wildlife, create shelter and screening, and land that is uneconomic for other uses can become productive. While in the short term, the rewards from timber may appear limited, when considered over decades the figures are less off-putting, and in the same way as taking out a pension plan appears to be low in our priorities when we are 18, five decades later we may have cause to be thankful. Twenty acres of mature woodland could also be a more worthwhile inheritance than twenty acres of poor grass.

### **The hardwood market**

In the first half of the century there was a steady demand for timber for the mining industry, but this has now disappeared and the increased use of plastics has further decreased the market share of hardwoods. In the early eighties and nineties many hardwood sawmills either closed or converted to softwood processing for which there was a more reliable supply and demand. The market for hardwoods in Scotland thus contracted and most of the hardwood timber left the country to be processed in England before being shipped back north as sawn timber.

Although higher quality markets may be enjoying a small revival at present, consumers are becoming more wary of buying timber from sources that are perceived to be less sustainable. Campaigns by environmental groups have focussed the consumers mind on the potential unseen cost of timber from Canada, Scandinavia, Siberia, and the Baltic States, as well as the equatorial forests which have been in the glare of unfavourable publicity for many years. This should point to a great opportunity for locally grown timber, but the difficulty for the domestic timber producers trying to supply these new markets is matching the durability, appearance, consistent quality and continuity of supply that is taken for granted with imported timbers. At present we can only overcome these constraints by design and education.

### **The hardwood resource**

Most broadleaved woods in the highlands are less than 20ha in size, and many are scattered on farms and estates. Although there are exceptions, in general they are un-managed and contain a range of tree species of varying timber quality. The table overleaf indicates the area (ha) of the main hardwood species in the Highland Council area.

### **Area (ha) of the main hardwood species by Forest type in The Highland Council area**

	<b>Oak</b>	<b>Ash</b>	<b>Birch</b>	<b>Elm</b>	<b>Totals</b>
<b>High forest</b>	2435	454	3472	389	6750
<b>Scrub</b>	2160	185	23239		25584
<b>Totals</b>	4595	639	26711	389	32334

The table shows that the bulk of the timber resource consists of Oak and Birch with smaller quantities of Ash and Elm. Much of the Birch is of small diameter with the majority destined for fuelwood production with a smaller amount going for sawn timber. The fuelwood market should not be viewed with scepticism, as increases in the price of oil will persuade customers to look elsewhere for their fuel requirements. By initially managing the resource for fuelwood, this will provide the economic incentive to manage the next generation of trees to produce timber. Much of the Oak resource is of poor to medium grade timber, but this material can be directed into less demanding specifications such as flooring manufacture and glue-lamination for windows. Even within these undermanaged woodlands there are still decent trees which will command a reasonably high price.

#### **Processing the resource**

Processing of our existing poor quality trees poses certain problems. Because of their irregular shape, length and quality, sawing to standardised sections is likely to be most efficient, but this will only be adopted if downstream markets can be developed for standard-section home-grown hardwoods. Joiners and carpenters are used to being able to acquire imported timbers in standard sizes, but would have to be convinced that a regular supply of predictable quality home-grown species was available. A range of products is now being developed from standard section timber such as flooring, glulam beams and production furniture.

Extraction of small parcels of timber will always be more expensive than larger parcels. Although large diameter high quality logs should always be taken to a sawmill, on-site conversion of smaller or poor-quality trees might be more efficiently carried out by the use of a mobile sawmill. This method means that only the higher value material is transported and the lower value offcuts can be directed into the fuelwood market. This method of adding value can be enhanced by storing the sawn timber in spare buildings to allow it to season over a couple of years. This seasoned timber is much more valuable than green timber. However, sawing, stacking and storage requires a great deal of experience and advice should be sought before embarking on this type of adding value. Highland Birchwoods can put interested parties in touch with both sawyers and millers who can advise on the particular requirements such as dimensions of sawn boards, stacking peculiarities etc.

#### **Processing at present**

The low volume available and the varied quality means that there is no major industrial use for hardwoods in the Highlands at present. The single biggest users of hardwoods are firewood merchants with the typical price being £20-£30 per tonne at roadside. In general this industry is unsophisticated and the standard of presentation and quality of produce varies greatly. There is a small but lucrative market in woodturning with around 2000m<sup>3</sup> of hardwood timber used in Scotland per annum. More unusual woods are highly sought after and can command higher prices.

Over the past few years Highland Birchwoods have been assessing the market for a Highland-manufactured flooring product. This flooring product is now being produced by a partnership of two local companies and is being produced in Birch, Ash, Oak and Elm. These products have been enthusiastically received and end users are very positive, although there is still reluctance on the part of architects and builders to use a product that is less predictable than laminate alternatives. However the floors are seen to be different, attractive, and ecologically sound, all of which are very positive selling points.

Another series of building products that have been promoted by Highland Birchwoods are windows. Two local firms now offer window frames that utilise locally grown timber. One of these firms uses European Larch and Douglas Fir, while the other uses Oak which is Glue-laminated to give strength and stability. These glulam Oak windows have recently gone into full production.

### **Future potential**

With improved management of our woodlands, there should be a large increase in timber production in the next few decades. Sawlogs will be produced and find a ready market, hardwood floors, windows and doors will be the norm rather than the novelty that we see today. The consistent supply of quality timber will enable businesses to become established and furniture makers, architects and carpenters will be able to rely on a locally produced quality product.

In order to achieve this there are several measures which require to be taken now. Broadleaved woodlands must be managed well with the production of quality timber a prime objective. The other benefits that accrue from having woodlands are **not** an alternative to timber production, but such things as shelter, landscaping, game and shooting cover, are all compatible with management for timber production.

### **Existing woodlands**

There is considerable potential in most under/un-managed woods at the present time. There will be some good quality sawlogs together with many sawlogs that would have been more valuable but for some flaw that could have been corrected by some judicious management. This could have been formative pruning of the young tree, correcting forks in the main stem and later pruning of side branches to produce knot free sawlogs, with final high pruning to extend the useful length of the sawlogs. Although these operations will all have a cost, the objective must be to aim to produce quality sawlogs. This is, by necessity, a long term objective, but had the majority of woodlands had some management input in the last 50 years we would already be at the endpoint and producing quality timber. Note; **quality will always sell!**

There may be funding available to carry out management in woodlands through the Woodland Grant Scheme (WGS) Woodland Improvement Grant (WIG), which is administered by the Forestry Commission. The Forestry Commission office is in Dingwall and the local Woodland Officers will be able to give advice on the likelihood of grant assistance for work aimed at bringing woodlands back into management.

### **New Woodlands**

New plantings of broadleaved trees are very often planted at the minimum spacing allowed under the WGS, which is 1100 stems /ha. Although in practice this is often increased to perhaps 1500 stems/ha, this stocking is still too low to ensure the production of quality timber. This is understandable given the nature of the grants, but there are benefits from a higher initial stocking. There is a higher number of trees from which to select the final crop trees; it can allow for some losses without the need to beat up the crop; a close spacing will allow earlier capture of the site and decrease the need for weeding; close spacing will draw the trees up and improve their form.

As mentioned earlier, many of the existing broadleaved woods are small and scattered over farms and estates. A co-operative system can be used to simplify the supply of logs to the milling industry. At present most farms and smaller estates produce few trees and many that are wind blown or felled for any reason fail to reach the sawmills because the woodland owner is unaware of the market. A co-operative approach that would enable the woodland owner to access this market has been to set up whereby someone who has a tree(s) for sale can contact the **Highland Machinery Ring** who will record the details of the timber and pass these on to the hardwood sawmills and firewood merchants. The sawmill will uplift those logs that are suitable for its purposes and this avoids the woodland owner having any haulage costs. This will allow those valuable trees that would have gone for firewood to be directed to a higher value market, with only the

offcuts and poorer trees going for firewood. This system will allow the sawmillers to know exactly what trees are available in the Highlands at any one time, and fewer good trees will end up as firewood through ignorance.

An alternative option for the woodland owner may be to saw the trees on site, using a mobile sawmill, and then store the resultant planks to air-dry, increases the income from the wood significantly, as air-dried wood is considerably more valuable than fresh-sawn. Highland Birchwoods can advise on the range of mobile mills available in the Highlands and their relative strengths and weaknesses (see HB Information sheet 2-A *guide to mobile sawmills*), and give advice on the requirements for successful stacking and air-drying.

### **Fuelwood**

The firewood sector is nonetheless important, as it utilises low value timber and creates a higher value product. There is considerable potential for the firewood market to be increased but the key to unlocking this market is providing a well-presented product that is consistent, easy to handle, easy and clean to use and burns well. Much of the present firewood sold is unseasoned, and is sold in a range of sizes, most of them claiming to be a tonne! By simply cutting, seasoning and delivering firewood in a professional manner, this fuel would begin to be a serious contender in the market place. A co-operative approach can co-ordinate the supply from the source, while good use can be made of un-used farm and estate buildings to maximise the seasoning and storage of the finished product. With a reliable product on the market at a comparable price, the consumer would once again be able to decide on the benefits of this most useful fuel as opposed to oil or coal.

With the current debate over global warming, there is a great potential for woodfuel to play an important role. The burning of wood does not contribute to this effect as the fuel only releases the carbon that it has locked up as it was growing. As young trees are planted this cycle continues and as a result there is no net increase in CO<sub>2</sub>.

If you would like any further information on any other aspects of woodland management or timber utilisation contact

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For information on the Woodland Grant Scheme, please contact the Forestry Commission at  
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