

Hedgerows: their socio-economic benefits

A study based in Devon

The labour-intensive nature of this work could improve economic activity in the county.

Summary

Within the UK's Biodiversity Action Plan (BAP) there is a specific Habitat Action Plan for ancient and/or species-rich hedges. It has the following targets:

- halt the **net loss** of species-rich hedgerows, through neglect or removal, by the year 2000 and **all loss** of ancient and species-rich hedgerows by 2005;
- achieve the favourable management of 25% (47,500 km) of species-rich and ancient hedges by the year 2000, and of 50% by 2005;
- maintain overall numbers of hedgerow trees within each county or district at least at current levels, through ensuring a balanced age structure.

A study* commissioned by English Nature, and co-sponsored by the Countryside Agency and Devon County Council aimed to identify the potential socio-economic impacts of achieving these targets in Devon. It was based on an assumption that the required expenditure within the county over the period 2000 to 2005 would be £1 million per year.

The objective of the BAP is to promote sustainable management of wildlife and landscapes and thereby improve wildlife diversity. However, wildlife also has the potential to increase economic prosperity being a basis of the tourist industry and a reason for small businesses choosing to locate to Devon. The study showed that the implementation of BAP targets can have socio-economic benefits for the local economy in terms of wealth and employment creation.

The study

The main objectives of the study were to identify:

- the employment and wages of those maintaining and restoring hedges as well as associated training staff;
- related local purchases of goods and services;
- supply of goods and services to local communities (eg firewood, hurdles etc);
- expenditure by visitors encouraged to visit Devon because of the hedgerow initiative;
- multiplier impacts associated with landowner, contractor, supplier and visitor expenditure.

The study was carried out by means of a literature review followed by telephone interviews with a sample of hedge contractors using a structured questionnaire. Additional information on funding, training, tourism and agricultural suppliers was derived from semi-structured interviews with key informants. This information was entered into a spreadsheet and multipliers applied to obtain the total socio-economic impacts of implementing £1 million of hedge restoration and management work in Devon.

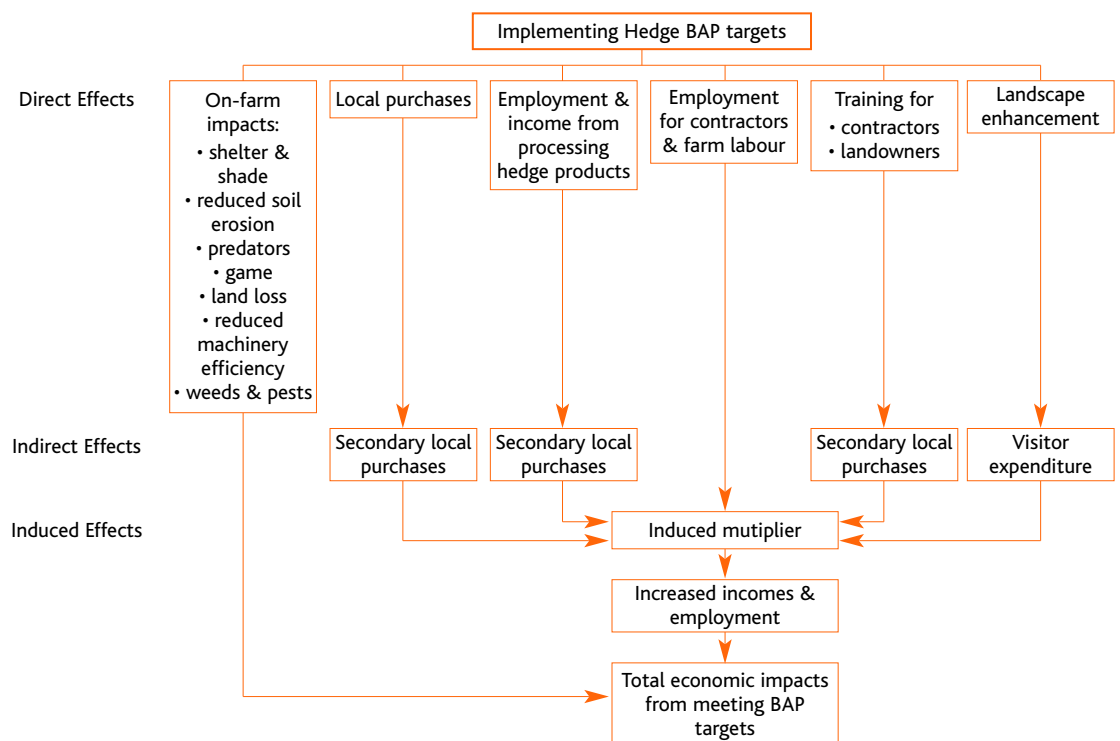
The aim of the analysis was to estimate the **additional** income and employment impacts to the local economy arising from an injection of £1 million per year for 5 years.

Two key assumptions were made. One was that the £1 million of expenditure would meet 60% of the costs of hedge restoration and the other was that no funds would be provided for hedge trimming.

Main findings

Any grant scheme providing funds for hedge restoration can generate and maintain employment in the local economy and provide the confidence for the establishment of new small businesses supplying contractor services. These would be particularly welcome in Devon at a time of substantial decline in the agricultural labour force. Small farms are being forced to restructure owing to declining agricultural support prices and CAP reforms have created a need to identify alternative rural employment opportunities. These new hedgerow-related jobs would be created in rural areas where alternative employment opportunities are scarce.

Figure 1: Socio-economic impacts of implementing the BAP targets for species-rich hedges in Devon



This figure presents only those impacts analysed in the research.

Other important findings include:

- approximately 180 km of hedge could be restored for £1 million if 60% of the hedge restoration work is funded. Hedge laying would be the main operation undertaken;
- an estimated 27 hedge contractor jobs (including part-time and casual jobs) would be created. An additional 5.6 jobs would be created for farm labour. The total income for contractors was estimated at £677,500;
- total expenditure by contractors and farmers on supplies such as tools, materials, machinery and fuel amounted to £439,300. Most contractors buy their supplies locally and five jobs would be created in the supply industry;

Provided there is a market for hedge products, they have significant potential value and can benefit the local economy.

- approximately 300 people in Devon are trained in hedging skills. Expenditure on training by contractors and farmers was estimated at £7,000 with 0.9 jobs created;
- a number of hedge products can result from hedge restoration work. Their potential value (considering direct impacts only) could range from £2,700 for walking sticks to £25,500 for hurdles;
- an estimated £28,000 of visitor expenditure would be generated, based on an assumption that 100 visitor groups would be attracted to Devon by the landscape enhancement resulting from hedge restoration work. This would create 0.62 of a job in the local economy;
- the costs of managing and retaining species-rich hedges in Devon were significantly greater than the benefits attached to such features;
- a final multiplier analysis identified that expenditure on hedge restoration contributed directly and indirectly to local income generation, producing an output of £2,176,000. The greatest income impact was on wages to contractors and farmers and the spending of these in the local economy generates a further £222,000 of expenditure.

Table 1: Value of hedge by-products

Wood products	% of hedges laid and coppiced suitable for products (a)	Length of hedge laid and coppiced suitable for products (km) (b)	Volume of suitable wood/km of hedge (m ³ /km) (c)	Volume of wood/product (m ³) (d)	No. of products per km (e=c/d)	Price per product (£) (f)	Total (£) (g=b x e x f)
Firewood	20%	27.0	25.0	1	25	30	20,250
Hurdles	5%	6.8	5.0	0.04	125	30	25,500
Thatching spars	5%	6.8	10.0	0.24	42	70	19,992
Walking sticks	1%	2.7	0.1	0.002	50	20	2,700
Green wood chairs	1%	2.7	2.0	0.02	100	45	12,150
Fruit products	% of hedge laid, coppiced and planted suitable for blackberries	Length of hedge laid, coppiced and planted suitable for blackberries (km)	Quantity of fruit per km (kg)	Quantity of fruit per pot (kg/pot)	No. of pots per km	Price per pot (£)	Total (£)
Blackberry jam	10%	17.7	200	0.45	444	1.5	11,788
Potential Total							92,380

The mechanism for delivering grants is already available in the form of agri-environment schemes.

Grants are already available to assist farmers and landowners in hedge restoration work. However, there was evidence that farmers are often deterred from applying for these grants because, if they just wish to restore a few hedges, the process is too cumbersome and complex for their needs.

Conclusions

Implementing the BAP targets for species-rich hedges in Devon, assuming an expenditure of £1 million per year over a 5-year period, will have a positive socio-economic impact on the local economy.

Expenditure on hedge restoration can:

- generate additional spending by farmers and contractors in the local economy over and above the money provided by a capital grant, multiplying the impact of the grant payments. Most hedge contractors and farmers purchase their supplies locally;
- both generate and maintain employment on the farm and for contractor businesses;
- provide the confidence for the establishment of new small businesses supplying contractor services.

Approximately 180 km of hedge can be restored for £1 million expenditure, assuming these funds cover 60% of the costs of hedge restoration work. The BAP target for species-rich hedges in Devon is to achieve the favourable management of 50% by the year 2005. An expenditure of £5 million over five years would achieve the favourable management of 5% by the year 2005 and not the 50% proposed in the BAP targets.

Recommendations

The study assumed that Devon contains 20% of the country's species-rich hedgerows but no data was available to quantify the condition of the county's hedges. Further research into this is needed.

The findings indicated that visitors value the presence of hedges in the landscape. It is recommended that a valuation survey be undertaken to estimate visitors 'Willingness to Pay' for the improved environmental quality of Devon's hedges.

A marketing study for hedge products should be conducted in order to identify demand.

**These Research Notes can also be viewed on our website:
www.countryside.gov.uk**

Further reading

*Countryside and Community Research Unit - Cheltenham and Gloucester College of Higher Education, 2000, *The socio-economic impacts of implementing the UK Biodiversity action plan for species-rich hedges in Devon*, Report to English Nature, Countryside Agency and Devon County Council.

Barr C.J. Britt C.P. and Sparks T.H., 1995, *Hedgerow management and wildlife - a review of research on the effects of hedgerow management and adjacent land on biodiversity*. ADAS/ITE Contract report to MAFF.

Catherine Bickmore Associates, 1996, *Hedgerow Incentive Scheme. Evaluation and monitoring report*, Countryside Commission.

Devon Biodiversity Partnership, 1998, *The nature of Devon: A Biodiversity Action Plan*.

Devon County Council & Devon Hedge Group, 1997, *Devon's hedges: conservation and management*.

Harrison-Mayfield L., Dwyer J. & Brookes G., 1998, *The Socio-Economic effects of the Countryside Stewardship Scheme*, *Journal of Agricultural Economics*, Vol 49, No. 2, pp 157-170.