

Economic Incentives and Barriers to Management of Undermanaged Woodlands in Southeast England

Laura Henderson describes a project that explains one major factor behind the disappointing statistic that 41% of woodlands in England are unmanaged or undermanaged.

Last year English Woodlands Forestry (EWF) was successful in obtaining funding from the Forestry Commission's Innovation Grant to examine the economic incentives and barriers to bringing undermanaged woodlands back into management. At a national scale a lack of management has been identified as a problem and currently approximately 41% of English woodland is unmanaged or under-managed (Forestry Commission, 2023).

At English Woodlands Forestry (EWF) we liaise with woodland owners on a daily basis. We are often struck by land owners' lack of awareness of the potential costs of woodland management and the similar lack of understanding about the potential value of any timber. Yet we also know that economics are a significant factor in decision making and this disconnect seems to us to be a significant barrier to woodland management activity. Concentrating on the economics of management therefore became the focus of our study.

Project

The aim for the project was to identify ten small, undermanaged woodlands in the southeast of England and provide an economic analysis for the introduction of management. To locate suitable sites we chose to work in collaboration with the South Downs National Park Authority. For each woodland the EWF team worked with the owners to identify designations, opportunities and constraints, and

to develop a small suite of recommended management priorities that were UKFS compliant. Once this had been agreed we used our professional expertise to estimate the costs and revenues that would accrue in the first five years when undertaking the recommendations. All figures were using EWF experience of similar sites; for example, the number of estimated days of ride mowing multiplied by our preferred contractor's standard day rate. Clearly other companies or contractors could repeat the exercise using different rates but the method produced a starting point for knowledge exchange and discussion with the owner. It also ensured the approach was consistent across all case studies for comparison purposes.

Where timber value was an objective or felling was required the team used basic mensuration techniques (top height and basal area) to provide estimated volumes. Through its sister company, Powell Forestry Ltd, who are specialists in harvesting and marketing round timber, EWF were also able to access accurate current production costs and market values relative to scale. Standard Countryside Stewardship grant values were also applied to the appraisals – including projected costs of applying for and administering the grants over a five-year period. In each case all proposed management activity was preceded by the production of a UKFS compliant management plan – the costs and grant for which was also factored into the balance sheets.

Table 1. Objectives of management in the ten case studies.

Specified objective for woodland	No of studies (out of 10) that listed objective
Biodiversity	10
Woodland health and resilience	8
Timber revenue	6
Amenity	3
Other	2
	(public access and rewilding)

Each woodland owner participating in the study received a written report of recommendations, a small selection of maps and a six-year budget (five years of grant/management and one to write the plan). The data from the ten studies was then assessed together to see if there were trends or collective points of learning. All lessons learnt, including the summary economics, were shared in a knowledge exchange day with over 35 staff from the local Forestry Commission Area Team. This was a fantastic opportunity to demonstrate the factors that can radically affect the bottom line of woodland management (e.g. challenges of access/high costs of grant administration etc). We also produced a 'How to Manage your Woodland Guide' to help people through the practicalities of realising a woodland management project.

Results

Across the ten case studies the following summary points or themes were noted:

- The mean size of woodland was 26ha (ranging from 9-56ha).
- The owners' objectives were generally similar as shown in Table 1. Note that the two most commonly cited objectives were not economic (but we know from experience that a major blocker to getting woodlands managed is the perceived and/or actual cost).
- Nobody considered an increase in capital value of the land as an objective.
- Based on a survey of each woodland the main threats/risks identified related to mammals, pests, diseases and invasive species (Table 2). The complexities (social and practical) of actively managing deer or squirrels were only included in the budget if this was a genuinely realistic prospect endorsed by the

Table 2. Threats and risks identified in the ten case studies.

Threat/risk identified	No of sites (out of 10) that identified threat
Deer browsing	10
Grey squirrel pressure	8
Ash dieback	8
Inadequate infrastructure	8
Invasive species	2
Other tree health issues (not ash dieback)	2

owner. In the case of small amenity woodlands, the challenges of this can be greater than on larger holdings but the minimum recommendation for each case study was to undertake surveys and erect deer enclosure plots to collect evidence on which to base future control decisions.

- Inadequate infrastructure that would negatively affect the economics of reintroducing management were also identified as a problem on eight of the ten sites.

One of the main (unanticipated) findings of the project was that many owners approached to be participants were not interested in taking part. This was despite the study being free of charge or obligation and through active partnership with the South Downs National Park Authority. We had anticipated that these factors would remove the potential perception that EWF had commercial interest in the exercise and the project partners struggle to account for the lack of interest. It took several months to get ten owners to agree to participate!

A summary of the economic results is shown in Figure 1; key points from the analysis show that:

- Only two sites had a clearly positive cashflow over a six-year period (£78,864 and £11,610).
- At two sites cashflow was largely neutral (-£3,352 to £5,409).
- Six sites had cashflow that was strongly negative (-£20,098 to -£38,650).
- The figures on a per hectare basis ranged between -£3,240 and £2,253; note that this is only over a six-year period and the potential balance sheet for any woodland will be variable over time. Initial capital investment will only be recouped over longer time periods and is dependent on timber value and grants (Figure 1).

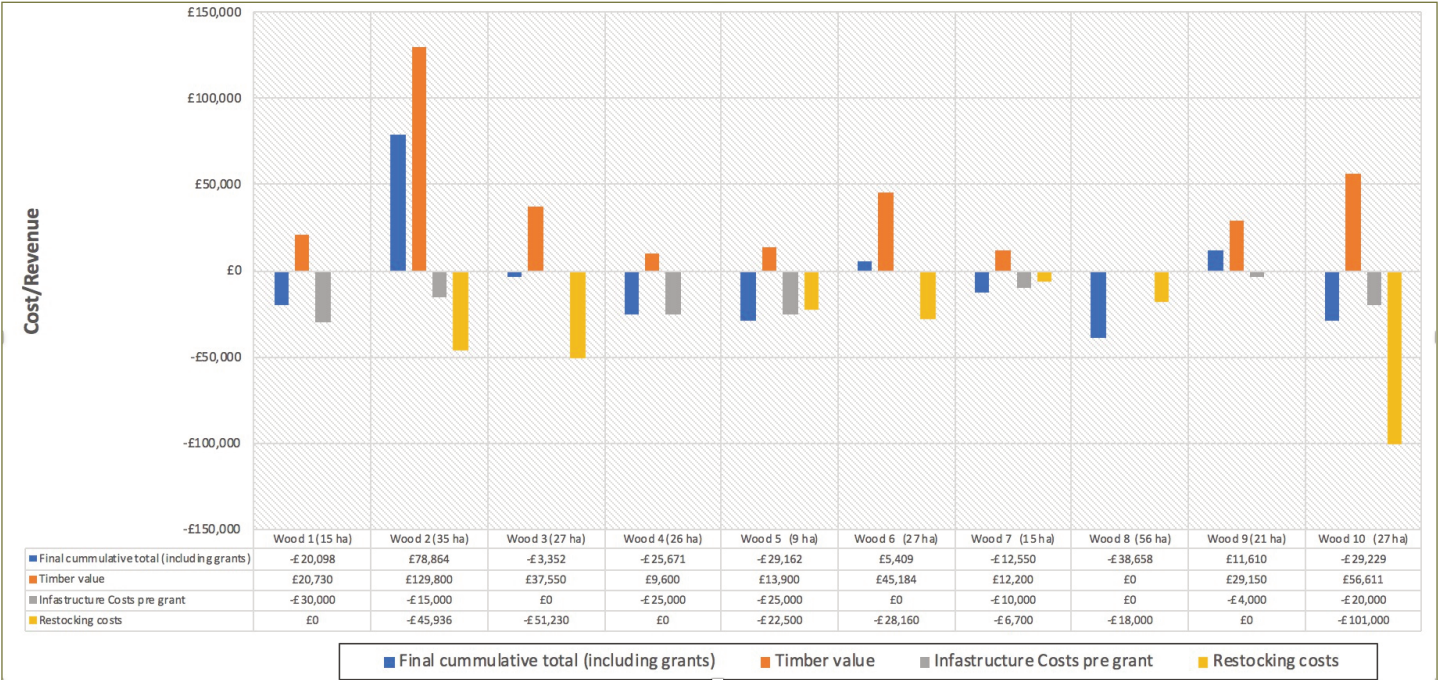


Figure 1. Summary five-year revenues and costs for the ten case study woodlands.



Figure 2. Example of infrastructure that needs improving in order to extract timber from woodland – in this case study the timber was diseased ash and the old culvert would not stand the width or weight of a forwarder.

- The one case study with a clearly positive cashflow had, in previous decades, focussed on growing timber (Case Study Wood number 2) – in this case the crop was conifer.
- The deficits were almost always caused by a combination of access/infrastructure costs and restocking costs exceeding the value of the standing timber. These calculations included any grant likely to be available. Less significant costs (e.g. labour and materials for woodland management) were identified in the study but are not separated out in Figure 1 because their overall effect is not so significant.
- The frequent need for upfront capital investment for infrastructure was identified as a major initial outlay and a significant barrier to woodland management (Figures 2 and 3).
- Due to the high costs of making grant applications and administration the equivalent cash value of grants is dramatically reduced and, in some cases, contributes more significantly to the deficit. As Countryside Stewardship Woodland Management grant is an area-based payment its potential to contribute to overall costs is much reduced on small woodlands. This is in part because the administration and reporting requirements of a small scheme is similar to that of a large scheme – and in part due to the economies of scale of the



Figure 3. Another example of the challenge of extraction routes and the need for appropriate access/infrastructure to ensure protection of the water environment.

obligatory management activity (e.g. machine hire/haulage costs etc). Our view is that the level of support offered by Countryside Stewardship for woodlands less than 20-30ha is not worth the time and outlay. Given the average area of woodlands across England this is a serious policy concern as the intended support is unlikely to constitute an incentive.

- Restocking costs – especially after felling due to ash dieback – are high and not met by the Tree Health Grant. This is likely to be a disincentive to fell diseased trees potentially leading to fewer managed woodlands, reduced timber value and/or increasing tree safety issues. Inflexible conditions and short time frames for restocking on felling licences, combined with frequently high deer numbers, make it difficult to encourage alternative methods of restocking which otherwise may be possible.

Main outcomes of the project

Despite being a relatively small project with only ten case studies our team at EWF were not surprised to see some significant themes developing.

We would be interested to understand in more detail why the appetite to participate was not greater. This could be the subject of further study. Our speculation is that it could be one or more of the following: owners having an intrinsic lack of interest in managing their woodland (whether advice is freely available or not), failure by project managers to 'sell' the benefit of the study, owner's distrust of delivery partners (whether commercial, NGO or government), fear of commitment to activities that mean greater regulation.

The main outcomes/learning from the project can be summarised as the following:

- Ten woodland owners have an increased understanding of the recommendations and costs for sustainable

woodland management. It is hoped that at least some of them may now choose to undertake some of this management despite a potential cost. It is too soon to know if this impact will be realised.

- Grants intended to incentivise certain activity may in fact be a distraction from core objectives or create an unnecessary cost to the owner. Grant developers should consider how the funds are directed towards the priority needs of undermanaged woodlands and at what scale. This might include developing upfront grant payments or loans to cover initial capital outlay and be preferentially targeted to solving particular financial shortfalls, such as greater contributions than currently available for infrastructure and restocking following disease. The obligations of some grants (e.g. CS WD2) simply don't align with many owner's objectives or purse strings.
- Woodland owners should be encouraged to consider the ongoing natural and asset value of investing in their



Figure 4. Even in undermanaged woodland there are usually trees that could have considerable future timber value if access is possible and the right silviculture is deployed.



Figure 5. Management often leads to interventions in woodlands that can improve tree health, resilience and biodiversity as well as providing income to the landowner (Photo: Elliot Gooch, Harvesting Manager at Powell Forestry Ltd.)

woods. Spending on infrastructure and woodland management can significantly increase the revenue potential of the woodland into the future and also the capital value of the land. The latter was not considered in this study but would be an interesting extension to the project. Natural and economic capital can go hand in hand! As the project only assessed five years of management the potential longer term gains from initial investment were not demonstrated.

Knowledge exchange opportunities (such as undertaken with the FC Area Team) between the public and private sector are extremely beneficial for shared learning/understanding and networking. Feedback from the day was positive as it gave everyone a chance to appreciate differing challenges and viewpoints. The staff time costs of attending or organising these events for a private company are however considerable, so grant to support this is invaluable. Public bodies may wish to consider increasing training for their staff on the economics of land management as this is such an important part of decision making and is generally less well understood.

Concluding remarks

Despite the small scale of this study we feel that it has successfully demonstrated some key factors about the economics of woodland management that are under-recognised by land owners, grant funders and regulators alike. The project could certainly be scaled-up or extended geographically.

It was clear to the team at EWF when visiting these small woodlands that the short- and long-term risk of their neglect

is significant. In many cases they are already in a state of ecological decline. Better targeted and tailored grants, increased awareness of the economics of woodland management and longer-term thinking are all likely to help restore these woodlands and contribute to our collective need for enhanced biodiversity and other natural capital benefits (Figure 5). There is so much untapped potential for smaller or more isolated woods. Understanding the economics is part of human ecology from which our decisions about our wider environment flow.

References

Forestry Commission (2023) Regional woodland restoration Innovation Fund. <https://www.gov.uk/guidance/regional-woodland-restoration-innovation-fund>.

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