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FOREST MANAGEMENT

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Dear Doug

Hillyfield woodland management – letter of support

Introduction

I am writing, as discussed, in support of the woodland management work and related activities you are carrying out at Hillyfield, specifically in the context of your forthcoming Planning Inquiry.

Dartmoor National Park Authority's (DNPA's) action in pursuing a number of specific planning issues appears to risk not taking into account a number of important wider national and local policy objectives relating to woodland management. The practical difficulties of delivering effective woodland management are not inconsiderable, yet the benefits are potentially significant: potentially jeopardising these by pursuing one element of policy at the expense of others seems counter-productive. DNPA's apparent lack of support for your efforts to bring Hillyfield into active, profitable and sustainable management therefore strikes me as somewhat discordant, troubling and risks creating a very unhelpful and undesirable precedent.

Objective

The purpose of this letter is to explain a number of woodland-related issues which may not be readily apparent to those convening the Inquiry, so as to help ensure that their consideration of matters is as fully informed as possible.

Background and experience

By way of background, I am a professional Chartered Forester with over 33 years' industry experience. I graduated with a B.Sc. (Hons) in Forestry in 1984, became a Member of the Institute of Chartered Foresters in 1988 and a Fellow in 2007. Throughout my career I have

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practiced in both the private and state sectors of the British forest industry, managing woods myself and through teams of foresters, and advising owners and others on the best options for managing woods, all to achieve specific objectives and agreed outcomes including financial & commercial, conservation & biodiversity, landscape and public access, recreation & community involvement. My experience includes 4 years with a national private commercial management company, 22 years with Forestry Commission (20 of which as District Manager in south west England) and latterly 7 years as a self-employed consultant and manager.

My responsibilities as a District Manager with FC included maintaining and developing positive relations with a wide range of stakeholders and partner organisations, and in this context I engaged with DNPA throughout the period 1996 to 2010.

Purpose of National Parks

It is worth noting at this stage that while the statutory purpose of National Parks in England and Wales is to

- conserve and enhance the natural beauty, wildlife and cultural heritage, and
- promote opportunities for the understanding and enjoyment of the special qualities of national parks by the public

they also have a duty in carrying out these purposes to:

- seek to foster the economic and social well-being of local communities within the national parks

DNPA's approach to woodland management

Early during my period of engagement, DNPA's attitude to commercial forestry, as expressed through its own policy framework and management plans, was mildly antagonistic. Upland conifer plantations such as those on the open moor were considered out of place in a National Park and were not looked upon favourably. When woodland featured in a DNPA publication, coniferous plantations were used to describe and illustrate aspects of forestry which were felt to be negative, whereas examples of native mixed broadleaved or amenity woodland were used to highlight what was felt to be positive about woodland.

Although DNPA's position and attitude towards commercial coniferous forestry improved steadily throughout my tenure (there was progressive recognition of the multiple benefits arising from consistent and positive management, which began featuring in policy documents following consultative revisions and industry-wide representations) it seemed consistently evident to me that the kind of woodland DNPA would prefer to see featuring within the National Park boundary was amenity woodland - native mixed broadleaved

woodland such as that typically found in the steep-sided valleys around the edge of the moor.

Hillyfield is just such a woodland, located in just such a situation. Indeed DNPA's own small woodland estate – which I believe is currently unmanaged – also comprises just such woodlands.

Multiple-benefit woodland management

It does not follow from the comments above that commercial forestry is incapable of delivering amenity; nor that amenity woodland cannot be managed commercially. They are not mutually exclusive, merely two ends of a continuous spectrum. All woodlands are quite capable of delivering a range of environmental, social and economic benefits together, and generally speaking the more actively they are managed the greater the potential for such benefits. It is quite normal to manage woodland to produce so-called 'multiple benefits'. Outputs are many and varied. Very simplistically, they could typically be considered to include:

- an attractive landscape setting (as viewed both externally and internally)
- nature conservation & biodiversity (by providing a wide range of habitats)
- opportunities for recreation and enjoyment (both passive and active)
- timber and wood products (for both local use and as an industrial commodity)

While much of the theory behind forest and woodland management is based in science, its application - and therefore the extent to which the different benefits can be delivered - is more an art and can be considered slightly subjective.

However, managing for the first three of the outputs noted above costs money. Only one of these outputs – timber - is a tangible, tradeable forest product capable of raising the revenue necessary to pay for the delivery of the others. As we operate in a market economy, it follows, indeed history shows us, that the production and sale of timber is the cornerstone of sustainable woodland management.

Timber trade

Timber is a globally traded commodity and the UK is one of the largest importers by both quantity and value (currently the UK is second only to China). As a country we import roughly 80-85% of the timber and wood-based products we consume. Sellers of domestically produced timber in the UK (ie woodland owners) are therefore price-takers not price-setters, because our domestic wood processors have to match or beat the price of imported dockside timber in order to stand a chance of competing and selling theirs into the same markets. There are a great many variables at play in the global timber markets, not least the country of origin and relevant currency exchange rates.

Typically a sawmill's total operating costs – ie the cost of converting a cubic metre of round sawlog into a cubic metre of sawn timber, allowing for waste etc - are two and a half times the cost of buying the round timber in the first place. So if you do the sums in reverse, what they can afford to pay a grower for round timber is determined by deducting their operating costs (plus a margin!) from the cost of equivalent imported timber, then deducting the cost of hauling the round timber from the wood to their mill - what's left is available to offer the grower.

Management options

Growers have a limited number of options for selling their timber:

- the lowest value option is simply to sell the timber standing to a third party for them to fell, extract and sell on. Standing prices have to allow for the cost of felling and extracting the timber which can vary enormously from site to site depending on site conditions. The more considerations and constraints, the greater the working costs and consequently the standing sale price is reduced to compensate.
- working the woods directly is an alternative ie felling and extracting the timber to roadside, and selling it on at that stage (ie at roadside rather than standing) - either doing the work themselves if they have the time, inclination, skills and equipment; or by hiring-in contractors; either with or without guidance from an agent.

In both these instances it becomes necessary to engage one or more sets of 'middle men'. All of these people will not only need to ensure their costs are fully covered, but that they make a profit as well. So there's less for the grower again, because the middle men take more and also because there is a clear ceiling to the prices they can obtain which is fixed by wider market considerations beyond their influence.

Commercial foresters tend to rely on one of these two approaches - they specialise in growing the timber, often benefitting from economies of scale and good access – and thus they leave harvesting, transport and processing to specialists in their fields.

Options in small woodlands

Applying these options in small woodlands does not often yield a positive financial result because, for a variety of reasons, working costs frequently exceed the value of the timber.

Smaller woodlands obviously offer no economies of scale. They are often less accessible, located on ground which is difficult to work (steep, wet) and contain mixed growing stock. The impact of any environmental constraints (protected species, seasonal working, and other management activities on surrounding land) is usually commensurately greater.

Small woodland owners, also for a variety of reasons, often lack motivation. They have higher priorities to attend to (a farm, a shoot, other business interests), lack industry contacts or are sometimes just not interested. A consequence of these factors is that woodland management is ignored and the potential benefits are simply not realised.

By FC's own estimate around half of England's woodland is currently unmanaged, and an increasing number of central & local government initiatives, incentives and encouragement are aimed at trying to improve this situation by bringing more woodland into active management.

The key to profitable management of small woodland lies in adding value to the raw material – timber – by processing it in some manner, and this inevitably involves more intensive management input than would otherwise be the case. (There are clear parallels with the food production sector.) This might range from cutting up felled trees into logs for sale as firewood, through to milling timber to convert round logs into square timber, to machining or treating the milled timber for end use. Historically many traditional estates adopted this approach and some larger ones still do, but specific financial pressures caused a great many others to abandon the practice. Ironically, this situation is now beginning to reverse because of other financial pressures, perhaps coupled with a need to diversify.

It is still relatively uncommon to find small independent woodland owners willing to take this approach, but an increasing number are doing so. Case studies suggest that many are not only managing their woodlands profitably as a result, but that several are developing highly successful woodland-related small businesses.

Some recent case studies published by the Royal Forestry Society in their Quarterly Journal of Forestry include:

- Coed Caeau-gwynedd (Powys) - vol 105 no 2 April 2011
- Alvecote Wood (north Warwickshire) - vol 108 no 2 April 2014
- Sandhurst Copse & Sheepwalk (Surrey) – vol 110 no 4 October 2016

and further examples also feature on the RFS website <http://www.rfs.org.uk/learning/case-studies/> including a number of prize-winning woodlands. A well-known example is Wilderness Wood in East Sussex <http://www.wildernesswood.org/>. A less well-known example I am aware of locally is Huish Moor Plantation in Somerset, and there are numerous others as well.

Justifiable requirements for profitable woodland management

Adding value to timber inevitably involves some kind of processing for which additional provision needs to be made:

- Labour is needed!
It is increasingly difficult to find skilled people to undertake physically arduous work, especially outdoors in all weather conditions. Put simply and materialistically, there are plenty of easier ways of making more money. Providing even the most basic welfare facilities such as overnight drying space, wet weather shelter and a toilet can make a tremendous difference to recruiting and retaining labour. Such facilities are

not common, but are increasingly the subject of comparison with other industries (eg construction) - expectations are rising and it is not difficult to foresee increased regulatory burdens on the horizon. It makes little difference whether the labour is paid or voluntary.

- **Portable tools and protective equipment.**
Even basic tools and equipment are costly, but they are also portable. In small quantities they are usually removed from site on a daily basis and kept in a vehicle overnight. But their size, value and portability can makes them an easy target for thieves and most commercial vehicle insurers now exclude overnight contents cover.
- **More substantial machinery and equipment: some mobile, some fixed.**
Tractors, trailers, winches, specialised tree harvesters, firewood splitters, mobile sawmills and much more are all common place in working woodlands. They can also be targeted by vandals and by thieves specialising in theft to order.
- **Secure on site storage is necessary to guard against pilfering and theft.**
This is a sensible safety precaution as well – basic woodworking tools and larger machinery and equipment are inherently dangerous, involving sharp cutting blades and fast-moving components, so keeping them secure helps protect non-users from the potential risks of being close by. Undercover storage also helps protect against the much faster deterioration which is a natural function of keeping costly tools, machinery and equipment outdoors. It is prudent to incorporate provision for workshop space to effect basic repairs.
- **Covered, hard-floored space for working**
Until it is processed, timber is generally a bulky commodity. It is quite common in my experience to see physically constrained, dirty sites, often ankle deep in mud during wet weather, being used for storing and handling timber. Such sites are patently unsafe. Providing a covered workspace which provides shelter against the elements – a barn or enclosed building – can transform the efficiency and safety of such a site, whatever form of storing, handling or processing is being used.
- **Covered space for seasoning timber**
Along with milling, the other significant aspect of adding value is seasoning timber. The primary purpose of seasoning is to render timber as stable as possible, so that movement in its end use is so negligible as to be practically non-existent. Other benefits include arresting the development of incipient decay in timber (freshly felled timber contains about 50% water, and most wood-rotting and all sap-stain fungi can grow in timber if the moisture content is above 20%, while most indoor end uses require the moisture content to be around 10%); reducing the weight of

the timber and therefore handling costs; and preparing timber for finishing processes. The strength properties of timber also increase as it dries. All these benefits help add value.

Three factors have to be balanced in a steady and controlled manner if moisture content is to be reduced without inducing distortion and highlighting defects in the wood – humidity, circulation and temperature. Control of these climatic factors is best achieved in a properly constructed, well ventilated shed, and is the only feasible and readily affordable way of reducing moisture content to the critical 10 – 20% level. A Dutch-type barn would be the simplest example, but a better approach altogether is a building consisting of a roof with a generous all-round overhang, a hard floor and at least three, ideally four louvered walls. Air can then circulate freely, moisture can be kept well away from the timber and rubbish (which can be a fire & safety hazard and can provide opportunities for fungi and insects to breed & spread) can easily be cleared away.

The building needs to be generously proportioned to allow for adequate stock (a rule of thumb when drying hardwood is to allow one year for every inch of thickness, so the process can take some time), air circulation between stacks and access for inspection and handling equipment.

Alternative approaches might involve kiln drying on one hand, and the use of tarpaulins or corrugated tin sheets on the other. The former offers an ultimately controlled environment but is relatively expensive in both capital and running costs, and is generally only used by large scale industrial processors. The latter can really only be regarded as appropriate for the lowest value cordwood or firewood as neither tarpaulins nor sheets achieve any of the benefits that a proper building can, while they can also be quite hazardous to use.

Having said that, an increasing number of firewood merchants no longer use tarpaulins or sheets; they are now using converted shipping containers as kilns, heated with wood-fuelled boilers, producing a drier & more consistent product to satisfy increasingly high consumer expectations. Such kilns are considerably cheaper than purpose-built kilns and are highly effective for firewood but generally far too fierce and uncontrolled for higher quality timber.

It is evident that careful design could combine multiple functions into a relatively few buildings, and that these could easily be rationalised based on your early experiences of temporary facilities to make best use of the site.

Yours sincerely



C J Marrow FICFor