

Case Study 25

Wilderness Wood, Sussex

Location and ownership of woodlands

This case-study deals with the small Wilderness Wood complex in East Sussex. These woodlands are located some 3 miles to the south-east of Crowborough. Their total current extent is 23ha (~58 acres). NGR is TQ 535237.

The woodlands have been owned for 33 years by the Yarrow family, who operate an innovative business from their woodland, offering outdoor education and family recreation activities, coupled with small-scale production of woodland craft products.

The vast majority of the site is an Ancient Woodland Site per the Ancient Woodland Inventory, some of that area being regarded as replanted/ PAWS, also with some remnant semi-natural woodland areas formerly managed as sweet chestnut coppices.

Significance/ reasons for selection as case-study example

This site has been selected as a case-study within this project for two main reasons:-

1. It is one of rather few examples of formalised, well quantified and recorded transformation to alternative silvicultural systems in smaller private woodlands (adoption scenario 15). Conversion has been pursued for over 30 years in relatively young mixed conifer-hardwood plantations. This reflected the enthusiasm of the current owner for ATC silviculture based on practice at Lord Bradford's estate at Tavistock. It shows what can be achieved by detailed work.
2. The experience of ATC working at Wilderness Wood is likely to be of interest to many recent purchasers of smaller amenity woodlands, even if they may not aspire to such a detailed approach. The woodlands meet common objectives of timber and woodfuel production, private amenity and innovative rural enterprise. As such it has notable demonstration and educational potential, by arrangement.

Owner objectives for management (including adoption of ATC systems)

The owners of Wilderness Wood have major management objectives of economic return and private amenity. Economic returns are secured from a combination of small-scale woodland production (craft products, woodfuel) and by use of the woodlands as the focus for a diversified outdoor education and recreational visitor enterprise. As such, one major aim of ATC adoption is to perpetuate the attractive woodland context for these activities, which could not be achieved with clearfelling.

The work at Wilderness Wood has also sustained a strong element of personal silvicultural interest and demonstration since the outset, based on the owner's knowledge of practice in Lord Bradford's woods at Tavistock Estate (see Case Study 18) and study of CCF elsewhere. Wilderness Wood thus serves as an interesting example of small-scale ATC demonstration in private woodlands that might well be used as a template elsewhere.

Biophysical characteristics of the site

The site is at 80-140m asl, occupying steadily sloping ground. Aspect is predominantly south-easterly.

The climate of the site is particularly warm and dry [ESC AT₅ 1788 dd, MD 203 mm, annual rainfall 795 mm] with a sheltered wind regime [DAMS = 102]. However the woodlands did suffer severe storm damage in the exceptional 1987 gale affecting southern England. The solid geology is lower Cretaceous Hastings beds/ Tunbridge Wells sands, forming part of the Wealden complex. Soils are generally thin acid sands, often with a thick humus [ESC SMR Fresh to Slightly Dry; ESC SNR Poor]. These climatic and soil conditions restrict species choice and a number of tree species tried on the site have not prospered due to either drought or infertile soil conditions.

Terrain is easy to moderate for forestry working across the site. There is a good network of pre-installed paths across the site for recreational and forestry purposes giving direct egress onto a public road. The owners have considerable capacity to process timber on site for small-scale craft products and local woodfuel markets.

Stand history and current composition

This site originally carried semi-natural broadleaved woodland that had been extensively modified by replanting with sweet chestnut as a commercial coppice crop for production of poles for local hop gardens and scattered conifers including E. Larch during the period 1700-1900. In the 1960's parts of the site were replanted with line-row mixtures of Scots pine and beech. These had first been thinned in the late 1970's, but much of the overstorey was later lost in the severe 1987 gale. Scots pine has proved relatively productive on the site, achieving YC12, and the beech, although suffering squirrel damage and of poor provenance, are retained in the interests of preserving a mature woodland environment for visitors and potential timber. The current management since 1980 has involved application of an intimate group selection approach based on that pioneered by Lord Bradford and Hutt at Tavistock Estate. Small square plots of (6m x 6m) or (9m x 9m) are felled and replanted with a variety of species, which, at Wilderness Wood, have included western red cedar, coastal redwood, Douglas fir, Norway spruce, larch, *Nothofagus*, and beech. Replanted areas have to be defended from rabbits browsing by use of Netlon tree guards or similar.

Silvicultural treatments applied to date and intended future silviculture

Having diversified the stocking by means of the small group replanting regime described, management involves regular thinning through of all stands on an individual tree selection basis to favour development of the better timber trees of whichever species. Success has varied between species with local site factors. For example, larch and beech have not proven a success, whereas Douglas fir and western red cedar have been better performers on the right sites. The group size has had to be adjusted - if retained at the 6m x 6m recommended by Bradford and Hutt, this tends to restrict the planting to heavy shade bearers such as western red cedar or, potentially, hemlock. Where it is desired to use Douglas fir or hardwoods, for example, larger groups must be used to avoid unacceptable losses of transplants nearer the edges of groups. Norway spruce are mainly produced as Christmas trees, whereas thinnings of

various conifers are marketable as tepee poles (a niche market). Some larger 20-year old Douglas fir and western red cedar were self-processed as carcassing for the owners' house-build and this suggests the future potential of those species as the woodland matures. Hardwood timber produced from stored sweet chestnut has been planked for furniture production. Second-grade hardwood and conifer material is produced as firewood. The current mode of management is expected to continue, with reliance on group replanting possibly being alleviated in time by more natural regeneration of desirable species such as Douglas fir and western red cedar. Use of pine, larch, and sweet chestnut is potentially vulnerable to current disease impacts occurring in the region. Ash, in any case, is unsuited to the site.

Evaluation of current silvicultural status in terms of ATC adoption/ regeneration

Although the stands within Wilderness Wood are typically young (post 1960's), the intensive approach to silvicultural transformation adopted, with small group and enrichment plantings, means that much of the woodland can be considered in *developmental category 2* (progressive/ maturing adoption) with the remainder of younger material in *developmental category 3* (early-stage transformation). So far natural regeneration has not formed an important part of the work at Wilderness Wood, with small-group artificial regeneration being the norm. While the owner plans to continue with the current regime of ATC management, smaller woodlands like this can be subject to some silvicultural uncertainty due to human/ environmental factors.

Commentary on inventory and monitoring protocols/ demonstration potential

Unusually for such a small private woodland, Wilderness Wood has now been under conversion to an alternative silvicultural system for over 30 years and has had one complete enumeration, completed in 2008. It was the subject of a report in *Quarterly Journal of Forestry Oct* that same year and has won a number of awards for woodland management. The woodland has hosted an ICF regional visit in 2009 and continues to be an active venue for outdoor education and training. Hence it can fulfil an ATC demonstration function simply by continuing in that vein. Given the nature of the woodlands, operating as a commercial visitor attraction, self-guided visits are usually possible and the owner will be happy to provide information as to their management.

Commentary on economic and operational implications of ATC adoption

Alongside challenges posed by storm damage and grey squirrels, the economics of small-scale productive woodland management in Britain remain challenging. Wilderness Wood shows how adoption of ATC approaches can allow for a diversity of income sources where an innovative approach to management is adopted.

Other relevant field examples recorded within the project

This example can usefully be compared with the ATC experience in small private woodlands elsewhere, such as Newbyth Wood (Case Study 3) and Whittingehame and Abbey St. Bathan's Estates (Case Study 26). There is a similarity with Hooke Park (Case Study 22) in the mid-rotation beech stands under management at both sites. There is also a specific point reference with the work at Tavistock Estate (Case Study 18) in terms of adoption of the Bradford-Hutt methods.

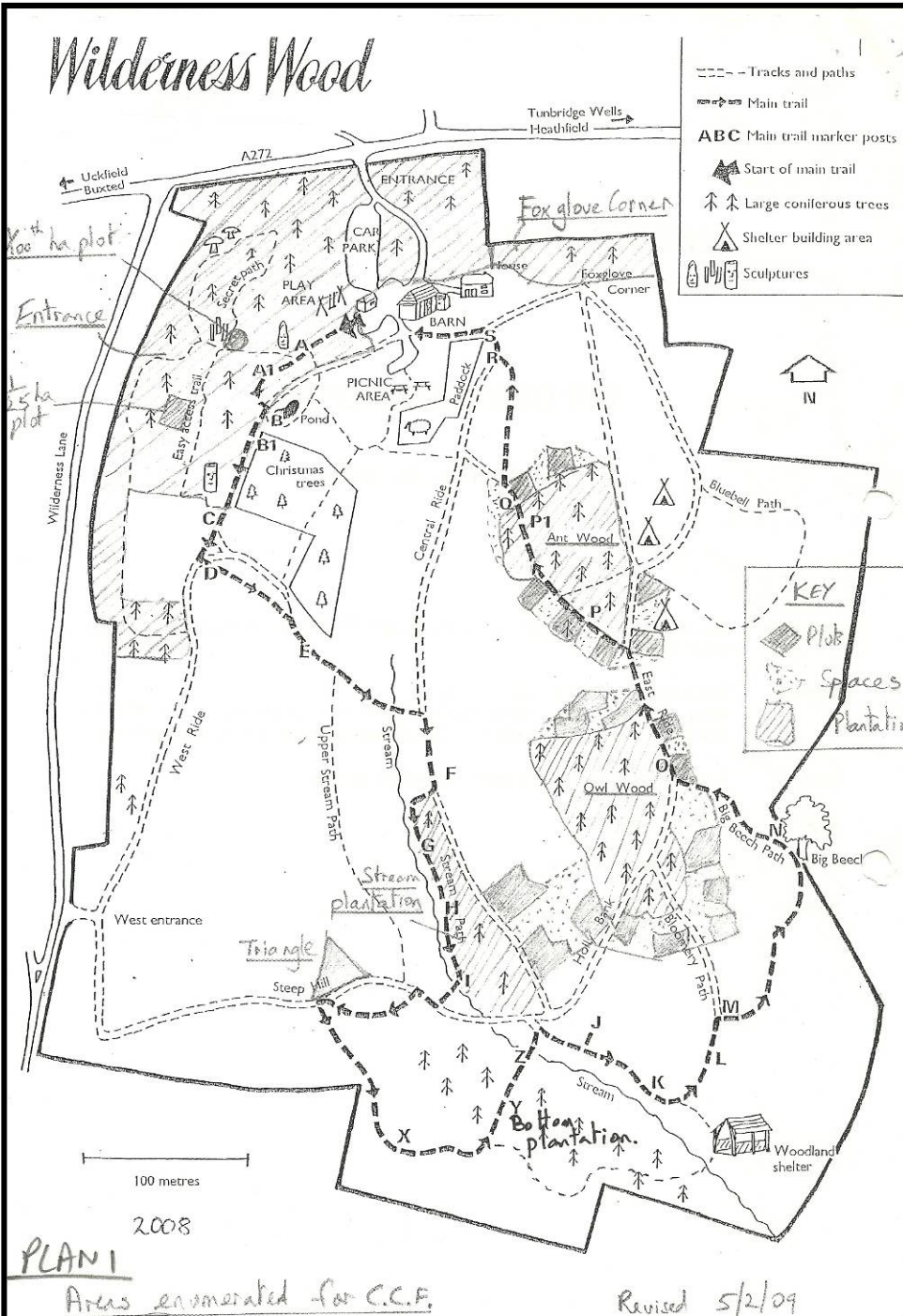
Photographic record



Left: Tree surgery over children's play area with Scots pine-beech stands (photo: Chris Yarrow)



Right: recreational trails through Scots pine, underplanted with red cedar (photo: Chris Yarrow)



additional photographic imagery is available from the Wilderness Wood website:-

www.wildernesswood.co.uk