

## **Case Study 22**

### **Hooke Park, Beaminster, Dorset**

#### **Location and ownership of woodlands**

This case-study deals with the Hooke Park woodlands in Dorset. These woodlands are located some 3 miles to the south-east of Beaminster, Dorset. Their total current extent is 140ha (345 acres). NGR is SY 526993.

The woodlands are owned by the Architectural Association (School of Architecture), London, hosting their rural teaching and architectural innovation demonstration campus, having been under Forestry Commission management until the 1970's.

The vast majority of the site is an Ancient Woodland Site per the Ancient Woodland Inventory, much of that area being regarded as replanted/ PAWS, with some remnant semi-natural woodland areas. The sites adjoins the Mapperton & Poorton Vales SSSI.

#### **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. Although stands involved remain at a relatively early stage of silvicultural conversion, Hooke Park provides an interesting illustration as to how a change of woodland ownership, management and objectives can promote interest in alternative silvicultural systems. Here, former Forestry Commission plantation woodlands have been acquired by a residential academic institution with interests in using home-grown timbers for pioneering architectural applications and decorative joinery. This situation has many common elements with contemporary acquisition of woodlands by community groups and new private businesses.
2. The example covers varied stand types, but with major emphases on quality hardwoods, diversification of beech plantations, management of Norway spruce, perpetuation of Douglas fir and red cedar (adoption scenarios 2, 7, 8, 9, 14).

#### **Owner objectives for management (including adoption of ATC systems)**

The Architectural Association (AA) wish to manage their woodlands at Hooke Park, using ATC, in support of their educational and demonstration objectives for innovative and sustainable rural architecture. Timber building is a major element of that work and produce harvested from the woodland estate is expected to provide a source of building material and a locus for architectural demonstration activities on site. Some timber and woodfuel that cannot be used on site is sold to generate additional income. The woodlands are also managed for conservation and amenity.

The AA are currently devising plans to initiate ATC in these mixed woodlands (dating mainly from the period 1950-1970), with emphases on selection forestry in beech stands and continuous cover management of mixed coniferous stands (Douglas fir, red cedar and Norway spruce). Pure oak would still be managed as high forest.

### **Biophysical characteristics of the site**

The site is at 100-200m asl, occupying mainly gentle ground but with some steeper slopes. Aspect is varied, but predominantly north-westerly round to south-westerly.

The climate of the site is fairly warm and dry [ESC AT<sub>5</sub> 1693 dd, MD 147 mm, annual rainfall 929 mm] with moderate wind regime [DAMS = 13]. The solid geology is transitional from Cretaceous upper greensand to Jurassic oolitic limestone, forming part of the complex Dorset “landslip country”. Soils vary from acid greensand loams [ESC SMR Slightly Dry to Fresh; ESC SNR Poor to Medium] through a transitional landslipped greensand/ Gault clay zone to calcareous Fullers earth clays [ESC SMR Moist; ESC SNR Rich to Very Rich]. This variation affects species/ silviculture.

Terrain is easy to moderate across the site with some steeper banks. Areas with clay soils may impose constraints on mechanised working in the wetter seasons. There is a good network of pre-installed paths and extraction tracks across the site giving direct egress onto a minor public road. The owners have considerable capacity to process timber on site for architectural applications and available local woodfuel markets.

### **Stand history and current composition**

This is a long-established woodland that carried primarily native hardwood stock until large-scale clear-felling during, and particularly after, the Second World War. The area was then restocked by the Forestry Commission during the period 1950-70 with a variety of stand types reflecting local soil conditions. Small areas on the upper greensand part of the site were stocked with pine and larch. The mid-slope “landslip” sites were generally stocked with pure beech crops, but with some western red cedar and local Douglas fir. Lower areas with heavy clay soils were stocked with oak-Norway spruce nursing mixtures, together with some pure oak and oak-ash blocks. Remnants of the semi-natural hardwood stocking persist in places. Management in the intervening 30-50 years has been intermittent and the Norway spruce nurse was not removed from many of the oak plantations as should have been the case at 20 years. Other stands of red cedar and oak are underthinned, less importantly in the beech. In the 1980's the Forestry Commission sold the site to a private furniture-making concern, with the Architectural Association only acquiring the ground in 2002.

### **Silvicultural treatments applied to date and intended future silviculture**

The Architectural Association are currently preparing a long-term management plan for their woodlands, with the aspiration that most areas will be managed under some form of ATC system. Initial intervention after the Architectural Association assumed ownership involved felling of some even-aged conifer blocks on about 10% of the area and restocking these with mixtures of native hardwoods (primarily oak-ash) and an element of Douglas fir. It is intended that these areas will in future be managed by selection forestry as mixed stands. There is a concern that the ash component might be affected by *Chalara* dieback with sycamore a potential alternative hardwood timber crop for these sites, also silviculturally compatible in mixtures with Douglas fir. At present Norway spruce (an overstood nurse) is being thinned out of oak plantations. In some cases these may continue indefinitely as mixed stands under

selection systems but the overall aim is that these and smaller pure oak plantations will be managed as even-aged high forest. It is likely to be extremely difficult to secure natural regeneration of oak on these fertile, weedy sites under any uniform system, and replanting of oak may eventually be required. In due course the extensive areas of beech plantations will be thinned with the intention of moving them onto a perpetual selection forestry system of the Cotswold type (see Case Study 23). The stands of pine and larch on the upper part of the site are likely to be very susceptible to the *Dothistroma* and *Phytophthora* respectively and probably will have to be felled and restocked with hardwoods in the future. In addition to traditional hardwoods, the owners would like to produce quality conifer beams and cladding material from their woodlands for demonstration use in architectural projects. With larch unlikely to be viable, emphasis will be placed on Douglas fir for beamwork and western red cedar/coastal redwood for cladding materials, these being grown in mixed selection stands. Harvested Norway spruce can provide carcassing for less demanding applications.

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

These woodlands remain primarily regular and even-aged, but with some natural regeneration of native hardwoods where canopy gaps are formed. Hence they are at *developmental category 3* (early-stage adoption) or *developmental category 4* (preliminary-stage adoption) depending on the view taken of recent thinning operations in Norway spruce - oak mixtures. The main interest here is in the decision-making process leading to planned adoption of ATC across an entire forest holding.

### **Commentary on inventory and monitoring protocols/ demonstration potential**

To date monitoring at this site has not been directed at ATC and has concentrated on standard semi-quantified compartment mapping and growing stock assessment for management planning. Visual assessments of natural regeneration are recorded. This site has very considerable potential for organised and self-guided demonstration of progressive ATC adoption in mid-rotation stands and such work is likely to be very compatible with the owners' objectives for and existing activities on the site. Interpretation material would need to be prepared, ideally with AFI enumerations.

### **Commentary on economic and operational implications of ATC adoption**

ATC working is not likely to pose any significant challenges for the current forest manager, who has previous experience. This site might be a good candidate for systematic economic comparison with suitable woodland of similar type in the same locality which is managed on conventional coupe-fell and replant working systems.

### **Other relevant field examples recorded within the project**

This example can usefully be compared with the hardwood silvicultural experiences at Dalmeny and Dalkeith Estates (Case Study 21) and at Cirencester Park Estate (Case Study 2) . Smaller private woodland examples such as Wilderness Wood (Case Study 25) and Whittingehame and Abbey St. Bathans Estates (Case Study 26) highlight the range of ATC approaches applied to similar immature mixed woods. Chiltern Beechwoods (Case Study 24) is also relevant, especially Ipsden and Ramscoat Wood.

## Photographic record



Left: p1950's beech plantations to be managed using ATC systems



Right: p1950's beech plantations to be managed using ATC systems



Left: western red cedar crops to be perpetuated as a desirable species



Right: western red cedar crops to be perpetuated as a desirable species



Left: Norway spruce currently forms a major crop element



Right: semi-mature pine and larch stands are now vulnerable to disease



Left: p1950's oak plantations may continue as even-aged oak crops



Right: p1950's oak plantations may continue as even-aged oak crops



Left: use of Douglas fir, a desirable species, for coupe-fell restocking - will be later managed under ATC



Right: tending of thicket-stage Douglas fir crops



Left: restocking of coupe-fell areas with mixed hardwoods for future ATC management



Right: existing semi-mature ash crops - subject to *Chalara* risk