SUMMARY

Just shy of 20 of us experienced the warm, early Summer sunshine for an interesting and thought provoking insight into the FC’s experiences of shelterwood systems in the New Forest and surrounding areas. Dr Jens Haufe, the FC’s silvicultural trainer led the group around four sites prompting debate, criticism, agreement and frank exchange along the way.

The group, made up of land managers, forestry practitioners, former woodland owners, students and researchers met at the Forestry Commissions’ woodlands just South of Lyndhurst. Jens gave an introduction to the sites and the purpose of the days visit highlighting the importance of discussion. He was not to be disappointed.

The first stop looked at a brave and controversial attempt to promote regeneration in an even-aged, 160 year old oak stand underplanted with beech and pine in the 1930’s. We looked at the part of the stand that had not been recently worked and agreed that the underplanting had done a good job of reducing the occurrence of oak epicormics and resulted in a sessile oak stand of above average quality. There was regeneration present but no recruitment into the lower or mid canopies with the seedlings losing their fight for light after just a year or two. The FC explained that they had tried various thinning intensities elsewhere to promote recruitment of regeneration but with limited success. Frustrated by the apparent reluctance of the woodland to regenerate they decided to enclose an area against the deer and ponies and to adopt a shelterwood system. A series of thinning interventions reduced the Basal area from an average of 70 (parts were an unbelievable 100m2/Ha) down to just 20m2/ha. The understorey beech and pine were removed first leaving a thinly stocked oak stand. A further intervention reduced the BA down to its current level (an estimated 10ish) and was timed to coincide with an oak seed year. The result is an even-aged shelterwood system of widely spaced mature oaks over a carpet with oak seedlings and remarkably little bramble.

The first debating point centered around the economics of felling most of the trees in a stand before they had reached their optimum size. The oaks clearly had some time to go before they reached their optimum marketable value and it was suggested that successive, regular thinning operations would have given them the opportunity to significantly increase in girth and give a much greater return in a relatively short timescale.
The debate moved on to whether harvesting operations should be timed to seed production years. Richard Burke, the beat forester who initiated the transformation told us that the work was triggered by a good oak mast year and suggested that the timing of seed production should come first. This was backed up by Jens who offered the opinion that the open soil would only remain so for a couple of years before being colonized by competitors such as bramble and other tree seedlings therefore the felling of the overstorey should be timed for the same season or at latest the following year. It was questioned that in private practice it might be difficult to react that quickly given operational restraints and the other objectives of the owner. Dr Gary Kerr warned against ‘chasing’ seed years suggesting it was very difficult to predict when they would happen although it was agreed that seed years were becoming more frequent. Instead, he preferred the concept of going ahead with the transformation irrespective and relying on ‘stored’ regeneration.

Then came the question about what to do with the remaining overstorey trees. How should they be harvested and what impact would this have on the regeneration. It was generally agreed that the very large numbers of seedlings meant that some damage to some of the understorey could be tolerated. One option that was touted was to fell the overstorey trees in a decade or so and plant new trees in the areas of damaged regeneration thus adding species diversity and another storey to the woodland.

Finally, should this model be used elsewhere and how should it be modified to take into account different conditions such as soil fertility and tree species. Significantly, on sites with more fertile soils, how much could be stand be opened up without losing control of the understorey.

The shelterwood system here has clearly met the objectives of the managers in regenerating the oak stand ensuring successive crops without planting in a brave and contentious way. However, was this continuous cover forestry? Jens suggested that it was, given that the woodland still exhibited a woodland climate and the transformation was carried out in a low impact manner. Other members of the group said it clearly wasn’t, pointing out that the crops remaining were still even-aged and regular. Also that the economics of the stand had not been optimized.

Thanks to Richard Burke, the previous manager and Michael Pittock, the current manager for sharing their vision with us.

The second stop looked at a similar stand that was in the process of transformation to a shelterwood system. The basal area had been reduced to around 20 (estimated) and regeneration was beginning to establish. However, the felling work was not tied to an oak mast year and as a result the regeneration was principally beech with the few oak seedlings that were there being overshadowed by the sheer numbers of beech seedlings. Direct seeding of oak probably wasn’t the answer as it was uncertain when the next oak mast year would be and besides the numbers of acorns that would be needed to survive predation would be prohibitive.

Interestingly, Jens referred to the proportion of ‘canopy cover’ as a more useful method of light measurement than basal area alone when dealing with shelterwood systems as basal area figures could be ambiguous. A stand of closely spaced young pole stage trees may have the same basal area a stand of coppice with standards but offer greatly lower light levels.
The third stop offered similar conditions to the first two but with a different management approach. Instead of a shelterwood system the FC have begun group regeneration fellings within temporary deer fences. Again there was considerable regeneration with a more diverse mix of young trees. It was commented that the regeneration area was quite small given that the surrounding stand had not been thinned at the same time. It was reiterated again that indirect light needed to be given as much consideration as direct, overhead light. It was suggested that if the stand had been thinned more regularly, regeneration may have started without the need to group fell at all.

The regeneration area had been cleaned and the dead birch prompted more discussion about the merits of clearing/respacing. Some claimed that it was imperative as the birch was out-competing the young oak with probably long lasting implications. Jens referred to German models where limited respacing around carefully selected final crop trees can be done with relatively little outlay. Gary suggested however that generally speaking there is not much difference in the biggest trees in respaced stands compared with uncleared/respaced stands. The best trees will be so dominant that they will develop anyway.

The final stop left the New Forest for the much more fertile, loamy soils of Cranbourne Chase, Southwest of Salisbury where we were confronted by a magnificent beech stand. The next crop of beech trees had already regenerated and were awaiting their chance to join their much taller parents. The current manager for the FC informed us about previous thinning interventions being aimed at continual stand improvement. His question for the group was – what to do next? Should he begin group fellings to break up the monoculture or should he continue thinning using individual tree selection. The group overwhelmingly supported the latter suggestion which was later supported when we viewed a previously felled group and noted the bramble and bracken had clearly overwhelmed the regeneration.

Any differences between the group were put aside when the subject of harvesting discipline reared its head. All agreed the importance of clearly defined, permanent racks and effective supervision of harvesting contractors. We inspected areas where forwarders had seemingly wandered around and admitted we all had similar examples in our woodlands and that more emphasis should be given to the protection of woodland soils than is currently afforded. We learnt that in Germany it is legally forbidden for harvesting machinery to stray off clearly marked racks and we discussed how to ensure our forwarder drivers do likewise.

The day ended with a greatly appreciated round of applause for all the organizers especially Jens, Gary and the rest of the FC managers who subjected themselves to scrutiny and were thanked for their honesty and openness.

These are the notes I took from the days discussions and may not represent the views of everyone attending but the thing I’ll remember most from the day:

The best thing about forestry is that there are so many right answers to the same question!

Neil Chamberlain
For Chiltern Forestry

This picture was taken in an area adjacent to the site being visited. This shows the beech understorey with the mature oak standards. This is similar to Site 2A prior to the thinning and seeding harvest in 2011. Note the lack of seedling regeneration on the forest floor. Photo: E. R. Wilson. — at New Forest.

Site 4. The stand is mostly composed of beech, with small elements of ash, wild cherry and oak. Photo: E. R. Wilson. — in Martin, Wiltshire, United Kingdom