Report: ‘Irregular Silviculture in the Lowlands: Transformation in Practice’ The SelectFor course

by David Cracknell

As foresters we like to keep things simple. For centuries we have planted trees, clear-felled them, then replanted the same compartments. Wait 40 years. Repeat. We have convinced ourselves that regular patterns and even-aged tree stands are what make sense practically and economically.

Andy Poore

This is perhaps inevitable. As human beings, we are comfortable with regularity, patterns, repetition and sameness. The very dictionary definition of irregularity is “not being or acting in accord with laws, rules, or established custom”. We have not followed the wisdom of Marcel Proust, who declared that “the regularity of a habit is generally in proportion to its absurdity”.

But nature does not conform. It is lopsided, asymmetrical, and its patterns are Fibonacci sequences, not regular and uncomplicated designs. So why in the UK have we been unable to approach woodland stands more like our continental cousins, with a more “natural forestry” approach?

These questions came to me as I attended SelectFor’s fascinating “Irregular Silviculture in the Lowlands: Transformation in Practice” course in April 2019. We were stationed at Stourton (Western) Estate in Wiltshire, on the edge of the Cranborne Chase ANOB, and expertly tutored by the knowledgeable team of Andy Poore and David Pengelly. Over two days, including several site visits, we learned in detail how to apply a more natural form of forestry, one that our French amis have pioneered for decades, and some even centuries.

The *futaie irrégulière* approach – akin to “continuous cover forestry” (CCF) in the UK – involves a set of interventions, including selective felling and cleaning operations, which create structural and species diversity in the forest. The aim is for mixed, uneven-aged stands, just as nature intended.

The practice has the deepest respect for ecosystems; but this is not some wishy-washy New Age hippy activity. It is highly scientific, mathematical, and above all it seeks the continual harvest of the highest-quality timber, maximising growth potential of specimens and the best possible profit for the forester.

Trees are individually selected, or removed in groups, leaving free-standing clumps and canopy gaps where natural regeneration is encouraged. The harvest is a permanent one, has none of the devastating impact of a clear fell, and is arguably more profitable in the long run.

The principle of IF is brilliantly simple but ingenious: if you know precisely what is in the forest stand, and are measuring at regular intervals how much those trees are growing, then you can make accurate predictions about the standing value of the forest and run economic models of the effect of different levels of intervention.

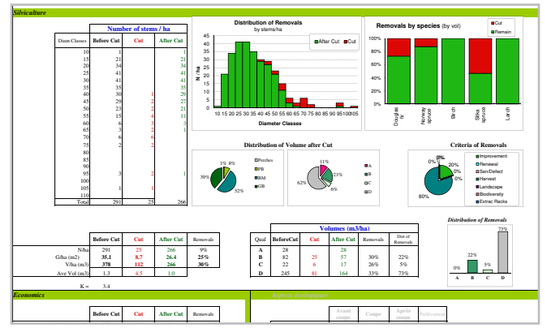
Image caption ?

Conventional forestry is mere informed guesswork based on past yield classes. Under irregular forestry, you are intelligently armed with the knowledge of what is actually happening in real time in your woodland. You can even spot the effects of diseases early on and adjust your silvicultural response before financial ruin beckons.

Poore and Pengelly certainly make a very compelling case for IF, with their detailed measurements of sample plots and stands, and working off spreadsheets and software which assist in making fine in situ judgments about which trees to remove and when: for profit, sustainable timber production, structural development, natural regeneration and stand stability.

To this pair of tree geeks, size is very important, and they are obsessed with charting things like “volume removed”, “size class distribution”, “growing stock size” and “increment across size classes”. The detail and complexity are at first intimidating; but once you get the idea and have completed the practical exercises on the ground, it all makes perfect sense. Like nature, irregular forestry thinks of everything, and has a satisfying completeness to it.

Of course, the advantage of CCF over conventional forestry is that you get money at regular intervals. This is all about working out to the last penny how much you could make by selectively removing a certain number of trees within the stand, and how much will be left standing in monetary terms.



Example of a Marteloscope

One of the practical exercises on the course was for us students to try a marking exercise ourselves. Armed with a precise map of every tree by specie and DBH in a one-hectare plot – known as a ‘Marteloscope’ - we were split into teams of two and told to mark-up individuals for removal based on various forestry objectives we decided to prioritise as would-be managers, e.g. immediate profit, biodiversity, improvement, renewal, landscape etc. (See figure xxx).

It was a fun competition between the different teams to see who could match Pengelly’s “ideal” scenario of balancing the need to take good quality harvestable specimens for profit now, and longer-term goals of regeneration and leaving enough sustainable standing volume for future income.

For example, you might choose to take all of the three or four “Grade A & B” Douglas Firs today, with a tempting roadside value of £2,000 each; but wouldn’t it be better to take profit on one or two now instead, and save the others as seed trees whose retention contributed to the landscape or ecosystem services.

But there might be other reasons for removals, such as cleaning out low grade, twisted or ailing specimens with poor crowns, or those carrying transmittable disease which could damage the best trees.

The following morning, Andy revealed our results he had inputted to spreadsheets developed by the AFI in France and revealed the “winners” who came closest to the optimal solution.

All round, as a student or a practitioner looking for more detail and confidence in irregular forestry, this was a fascinating two-day course. There was ample course lecture material, takeaways and time to ask questions. Oh, and the cakes during coffees breaks were excellent.