

A forester's perspective in Dumfries & Galloway



Dan Haslam,

Scottish
Woodlands,
Castle Douglas

Plant health is undoubtedly one of the biggest challenges we face in the forest industry due to the UK's commercial forest resource consisting primarily of the single species, Ye 'Olde Faithful, Sitka spruce (*Picea sitchensis*). Of course, the logical strategy is to diversify as much as possible, consequently increasing resilience...

Diversifying conifer forests and pest resilience

In the majority of our commercial forests in Dumfries and Galloway (D&G), diversification means planting the closest possible species related to Sitka - Norway spruce (*Picea abies*). Larch (*Larix spp*) was previously the popular choice for its landscape and biodiversity attributes, its reasonable yield and good timber qualities. However, with *Phytophthora ramorum* having swept the region, infecting our much-loved larch, foresters are hardly left with a plethora of species to choose from.

Lodgepole pine (*Pinus contorta*) was often a natural choice in the region as it will withstand severe exposure, dry out peat soils and is far more tolerant of heather competition than Sitka. However, the importance of pines has diminished considerably due to the slow growth rates and the more recent spread of the fungus *Dothistroma* needle blight (*D septosporum* and *D pini*), which has suppressed growth rates and therefore reduced interest in establishing the conifer. Furthermore, pines are also the prime host of our most popular pine weevil (*Hyllobius abietis*) which have certainly been flouting the rules during lockdown.

Most true firs (*Abies spp*) have a poor reputation due to their timber quality and are generally costly to establish. Douglas fir (*Pseudotsuga*



Pines are the prime host of our most popular pine weevil which have certainly been flouting the rules during lockdown

menziesii) does produce great timber (if of a suitable provenance), however, it is very site-specific and like all firs it is often first choice on the menu for any browsing pests. Western red cedar (*Thuja plicata*) has potential too but again, it is very site-specific, preferring to establish under the canopy as opposed to the relative exposure of a new woodland creation/restock site. Additionally, Western hemlock (*Tsuga heterophylla*) establishes best with shelter but it is very prone to butt rot (*Heterobasidion annosum*) so foresters tend to avoid it, influenced as well by its characteristic of prolific natural regeneration that poses more of a constraint than an opportunity. So what can we do?

In order to fulfill our UKFS 10%

mixed conifer obligation we resort to planting monocultures of Norway spruce (often on unsuitable sites) adjacent to our monocultures of Sitka spruce; is this really increasing our forests' resilience? In December 2018 there was an outbreak of the Larger eight-toothed European spruce bark beetle (*Ips typographus*) in Kent, a beetle that has decimated its prime host Norway spruce, all over Europe (also known to infect Sitka, firs, pines and larch). Although *Ips* is a secondary pest, preferring to infect stressed or dead trees, it is known to spread the blue stain fungus (*Endoconidiophora polonica*), both working in tandem which greatly increases its threat. Furthermore, the Great spruce bark beetle (*Dendroctonus micans*) has also developed cravings for spruce in Britain, with first attacks dating back to 1973, but only discovered here in south Scotland in 2003. One female beetle can colonise a single tree, lay up to 300 eggs and live for as long as 18 months. Fortunately however, there is a successful biological pest control system available to keep *D micans* in check.

Norway spruce

Continued on p26

Continued from p25

Yet even with some successful pest control, and diverse genetics within our Sitka (see Forestart's article - *Forestry & Timber News*, February 2020), are we simply providing a stressed vulnerable host for these little critters? Live adult Ips have occasionally been trapped in the UK during routine monitoring at sawmills and at ports that handle imported wood. In addition, Charles Beaumont (Trees Please - *Forestry & Timber News*, April 2020) confirmed that larger trees for the landscaping industry are still imported from the continent. If the coronavirus pandemic has taught us anything about the 'known unknown' (as David Richardson (Forestart) put it), it's not 'if', but when it happens.

Diversification in productive D&G conifer forests

The scope for diversifying commercial conifers in D&G is essentially slim. Few other conifers are suitable or commercially viable for the ma-

majority of sites unless and until higher quality land becomes available for afforestation. So, we are torn between choosing the correct species for the site and choosing a species that is commercially viable, leaving all fingers pointing to the one and only, Sitka spruce, and with the majority of the sawmilling sector dedicated to white wood it is difficult to justify a major shift away from what the market demands.

The Scottish Forestry Grant Scheme (FGS) has tried to facilitate additional diversity with the Restructuring & Regeneration Woodland Improvement Grant, and with some success, but in the majority of cases in D&G it's still far more economically viable to plant Sitka provided we don't see the 'known unknown'. Alternatively, the Conifer Breeding Coop is also trying to address this issue, but what is needed in D&G is to change the species site requirements, while still being commercially viable - as an example, can you breed a Douglas fir to grow on

an exposed peaty gley? Unlikely. Perhaps it would be quicker and more cost effective to selectively breed *Pythophthora* resistant larch so we can start planting that again? Whichever potential solution they pursue, the industry can't expect much progress on the government's limited budget. The private sector already supports the Conifer Breeding Coop and more help may be required to address this issue.

Whatever future challenges plant health and climate change bring to our industry, we must be flexible so we can adapt and work with the environment, ie flexibility within funding mechanisms (FGS), perhaps even embracing new management systems so we can better utilise the alternative species available but ultimately, Sitka spruce is very well suited to the majority of D&G. So, all we can do is continue to do what we know works, plant the good stuff and protect it from its known pests and diseases!

www.scottishwoodlands.co.uk



SURREY FORESTRY LIMITED | ARBORICULTURE AND FORESTRY EXPERTS

- WOODLAND MANAGEMENT
- VEGETATION CLEARANCE
- TREE SURGERY
- WHOLE TREE CHIPPING SERVICE
- BIOMASS/DRIED G30/G50 AVAILABLE
- SAWMILLING
- FORESTRY SERVICES
- SITE CLEARANCE

Established 18 years ago, we have built a reputation for quality arboriculture and forestry services

 **OPERATING SINCE 1990**
 **CHECK A TRADE RATING 9.7/10**
 **FULLY INSURED FOR £5,000,000**
 **WE COVER SURREY, SUSSEX, HAMPSHIRE, KENT**

01483 285951 | 07768 034538 | info@surreyforestry.co.uk | www.surreyforestry.co.uk
 Tollgate Farm, Guildford Road, Effingham, Surrey KT24 5QI