



Harvesting in the Highlands

Though there are differences, there are also some striking similarities to the harvesting that goes on in Scotland with that of Canada, as Jim Stirling's recent visit to the Scottish Highlands revealed.

By Jim Stirling

It looked like a typical log harvesting scene on British Columbia's northern coast.

A harvester/forwarder combination were working a steep, rocky slope in a wind-driven rain falling and collecting Sitka spruce, Douglas fir and lodgepole pine timber for delivery to roadside.

But appearances can be deceptive. This particular road led down the hillside to a lake where a purpose-designed floating dock jutted into the water. The dock is used to load timber on to ships for transport to sawmills and other markets and plays a key role in the continuing success of the Glen Etive Project.

Loch Etive and its glen form a deep indentation along Scotland's coastline in Invernesshire, northwest of Glasgow. The forest management plan for the Glen Etive Project was developed and is being implemented by contractors for Scottish Woodlands, an integrated firm delivering a range of forestry-related services to its clients.

Point man on the project is Stuart Wilkie, senior forest manager with Scottish Woodlands based in Fort William. He expects the Glen Etive Project to yield about 250,000 tonnes of timber in a 10 year period and anticipates about 30,000 tonnes of recoverable timber from the block that was being harvested by March 2011.

Harvesting typically takes place all year around—an advantage for regional logging contractors—and is measured by weight, not volume as it is in Canada. But overall, there are more similarities than differences.

The familiar tree species thrive in the west coast of Scotland's mild, wet climate, notes Wilkie.

Many of the regional seedlings being planted come from provenances in B.C.'s Haida Gwaii (Queen Charlotte Islands) and the Skeena valley, in northwestern B.C.

Wilkie estimates about 95 per cent of regional timber is harvested by short wood systems using harvester and forwarder machines familiar to Canadian logging contractors.

There are a few one machine owner/operators. But most contractors working the region have 10 to 12 machines to capture economies of scale. "The rates (paid to the contractors) have not increased much lately but the contractors have become more efficient and use better machines," outlines Wilkie—another familiar-sounding scenario to Canadian loggers.

The typically rocky terrain resembles both Swedish forests and parts of the southern Cariboo in B.C. The pockets of peat in varying depths and extents, however, add a home-grown element for machine operators to accommodate.



Sorting timber at roadside depending on destination and end use is also part of the logging contractor's responsibility.

At Glen Etive, the typical sawlog sorts ranged from 4.8 metre to 3.1 metre lengths, with the additional separation of other material destined for pulp or chip production and alternate products like siding and fencing.

Much of the log hauling is done by specialist sub-contractors rather than forming a component of the log harvesting contract business.

Many of the secondary roads in the Scottish Highlands and islands are single lane tracks. Wilkie says they're poorly constructed and not designed for industrial traffic. They can also become impassable in winter with blowing snow and ice. Experiments with different tire configurations to reduce road damage and spread weights across the road surface occur, notes Wilkie. But even when successful, they become more expensive for the trucker.

Scottish Woodlands circumvents many of the road transportation issues where it can with the innovative use of floating bridges. "The floating element is at the end," says Wilkie, "and the bridges can be dissembled and re-used." The one in Loch Etive had been used on at least two previous occasions.

The floating bridges are relatively simple to install and dismantle and cause little environmental damage, he adds.

The logs are placed on board incoming ships using conventional grapple loaders.

Refining systems and responding to changes characterizes forestry on the west coast of Scotland as much as it does in the B.C. interior and north. Commercial forest industry development in Scotland has consistently been subject to changing political and social mores governing land base use. There again, there's a familiar ring. At various times, the industry has been viewed as vehicle for creating an employment base in some of the country's remote glens, explains Wilkie.

Timber plantations of generally non-native species have been respectively encouraged and discouraged through changing government incentives. The overall goal, however, remains to increase forest cover from the present 17 per cent of land area to 25 per cent by around 2050.

Wilkie notes the growth in China—and that of India in the wings—is gradually improving the demand for home-grown natural resources and particularly timber. Biomass for power production is also a growing component of Scottish forestry (see sidebar story on page 27).

Wilkie sounds a universal note with which every forester, everywhere would readily concur: "There needs to be a long term view that the forest is something that produces timber," he muses. "And that the forest is the greatest renewable natural resource on the planet."



Biomass in Scotland—like in Canada—is big and growing

Wood biomass heating is big in Scotland and growing.

The public and private sectors have discovered wood fuel heating can equate to savings compared to fossil fuels, is carbon neutral and sustainable.

The diversified business interests of the Kingairloch Estate are poised to benefit further from a biomass district heating system fed by chips made from timber grown and harvested on its lands. The 220 Kw system will provide heating for several houses, greenhouses and other uses on the isolated 5665 hectare estate on Morvern, in the county of Argyll and Bute, on the west coast of Scotland. The Estate is about a three-hour drive from Glasgow.

Look familiar? It should. Scottish Woodlands' Stuart Wilkie estimates about 95 per cent of regional timber is harvested by short wood systems using harvester and forwarder machines familiar to Canadian logging contractors.

Kurt Larson, who helps co-ordinate the estate's business interests—which range from red deer management and forestry activities to top-end visitor services—predicts a five year payback on the wood fuel system. Carbon credits are due to kick in during 2011.

Scottish Woodlands circumvents road transportation issues where it can with the innovative use of floating bridges (below). The floating element of the bridge is at the end, and the bridges can be dissembled and re-used.

“The Forestry Commission has been very helpful with the provision of timely funding (through grants) for conversion to biomass heating,” says Larson.

Using biomass for heating fits well with the estate's forest planning.

The top third of most trees harvested on the estate are unsuited for conversion to dimension lumber, notes Larson. But they are eminently chippable to augment the wood supply for heating.

“Good quality fuel is the key to the system,” notes Bobby MacKellar, who oversees the estate's wood heating installations. Ideally chips are less than half an inch in size and below 18 per cent in moisture content, adds MacKellar.

The heating systems—a smaller vented one for hot water provision and the larger pressure system for heating—have performed well and create only small amounts of ash. The units were installed by Highland Wood Energy Ltd., of Fort William.