Folksinger Bouwe Schaafsma always enjoyed singing a ballad known as “The Last Logger.” In it, a patron of a small café is approached by the waitress who tells him:

“I see you are a logger.
And not just a common bum.
For no one but a logger,
Stirs his coffee with his thumb.

She then relates the story of her logger lover who was a man of outstanding strength, but who was caught in a most extreme blizzard and succumbed to the intense cold. Since then, the waitress has come to this café to wait until another man stirs his coffee with his thumb.

This song offers strong parallels to the fate of logging railroads throughout North America. The first logging companies in Western Canada, as detailed by such historians as Robert Turner in his book “Logging by Rail,” operated along the seashores and required minimal effort to drag logs to tidewater or to local mills. Horses and even initially did the work, and later, steam donkeys. But by the late 19th and early 20th centuries, operations moved inland, and railroads began hauling logs greater distances.

As logging moved farther inland, hills, mountains, and their steep grades challenged even geared locomotives. With advancing capabilities, diesel trucks began hauling logs, particularly during the Great Depression and after World War II when truck technology made notable strides, thanks to wartime design advances.

One by one, logging railroads fell silent, their tracks removed as trucks took over. In Canada, out of the 70 logging railroads active in 1924, only one remains and still operates today: Englewood Logging Railway on Vancouver Island. Canadian Forest Products sold the railroad in 2006 to present owner Western Forest Products Co.

Decades after the demise of its peers, this operation still stirs its coffee with its thumb. So how did it survive, while all the others passed into oblivion? The short answer: It is still economical to log by rail!

No one has built a logging railroad in nearly a century, and it would take Herculean economic legerdemain to conceive of one built today ever paying back its cost of construction. “But if you have a railway already, it can be more efficient than trucks,” says Lance Wingrave, Western Forest Products railway supervisor. The Englewood rail line proves that an existing railroad, if it has the right scale of run and is operated efficiently, can thrive even in the current economic climate.

This remained true during the cold spell that beset the Canadian lumber industry when the U.S. imposed tariffs against its
products. The current recession has further chilled business, but not affected the long-term viability of the railroad. Because of the concern for depleting oil resources, the railroad has become even more competitive with trucks. A shorter haul would make it easier for trucks to compete.

Another factor in the line’s success is its location. Planners made sure the railroad was well-designed without challenging grades. The ruling grade along its entire run is 2.1 percent, which is modest for a traditional logging line. The line’s typical grades are in the 0.7 percent range. The attendant reduction in operating expenses has helped offset the increased maintenance on the numerous curves built into the line to reduce construction costs. The rail line has 377 curves, comprising 70 percent of its length. As locomotive engineer Duncan MacGregor puts it by quoting one of the line’s original designers, “A curvy railway is a cheap railway.”

THE HISTORY

Vancouver Island is a logging wonderland. The island is essentially a 260-mile-long raft of mostly volcanic basalt rock, erupted in the Pacific Ocean, which is now riding a conveyor belt of tectonic plate motion that will ultimately ram it onto the British Columbia mainland. When that happens, albeit a few million years later, the descendants of the English colonists of the city of Victoria may finally get their connection to the Canadian Pacific main line, for which they lobbied so strenuously as a condition of their colony joining the Canadian Confederation.

Because of its location, Vancouver Island’s mountains squeeze the first moisture from the Pacific’s westerly winds, producing a temperate rainforest of great bounty. A biologist once estimated that the total biomass per acre is likely higher on these slopes than anywhere else on the planet.

Other logging lines had tapped this forest for a long time, but this was subsequently pared down the coast of Vancouver Island. Nimpkish Valley logging license in 2006, the new management wanted to know whether the railroad still paid its way. So the company conducted cost-benefit analyses, and the results favored the railroad.

A huge key to the railroad’s success is its length. At 56 miles, it remains cost effective of the line’s original designers, “A curvy railway is a cheap railway.”

Here’s why the Englewood train runs: The truck carries just one load of cut logs from Vancouver Island, while the train (with unique homemade caboose on the rear) can move 40.

16-mile-long body of water extending into stands particularly rich in Douglas fir, hemlock, and balsam. Since the rail line reached the lake, Nimpkish had access to a wider area of loggable forest as felled trees along the shore’s full lengths could float to the rail terminus to be moved to the coast.

The company later extended the rail-road by building a second, unconnected section from the lake’s head farther into the Nimpkish valley in order to continue harvesting trees there. In that era, trains carried logs cut from this more remote area to the head of the lake. The logs were then transferred to lakewater to float to the lower rail section, where they were reloaded onto railcars. Finally, the logs completed their journey by rail to the coast, where they were sorted and towed in large booms to sawmills in Campbell River and farther down the coast of Vancouver Island. Nimpkish considered connecting the two rail-road sections, but deemed it too costly given the steep shoreline of Nimpkish Lake.

In the 1950s, Nimpkish built an extension farther into the interior in order to harvest a substantial stand of timber that had been seared by a large forest fire in 1952 but whose trees were still marketable. Triggered by the discovery of iron ore near the lake’s head, which the Nimpkish Iron Mines intended to tap, the line was extended even farther. The ore was of high quality, so high that when a mine worker was asked about its purity, he reputedly answered by taking a sample of the ore and welding a steel bar to it. The mining company also needed to transport its product to tidewater and struck an agreement in 1957 with Englewood to help finance the $4.5 million required to build a 24-mile section of track to connect the inland section to a new coastal terminal at Beaver Cove in return for having Englewood carry its ore.

Thus was born a single continuous line all the way from Beaver Cove to its farthest log-loading point: a line that at that time had a dual personality as both a logging and a mining railroad. This identity lasted from 1960 to 1965 at which time the iron ore pocket, despite its high grade, was exhausted. The mine then closed, and the Englewood line reverted to a purely logging road. Total trackage reached 100 miles at one time, but this was subsequently pared back when feeder lines were abandoned in favor of truck haulage. Today, the line in...
THE LAST LOGGER IN THE U.S.: Simpson Railroad

The Simpson Railroad holds the distinction of being the last logging railroad in the U.S. Based in Shelton, Wash., the railroad hauls wet logs from the Simpson Lumber Co.’s massive lumber mill in Shelton to its dry sort yard at Mill 5 in Dayton, Wash., 11 miles to the west. The railroad then brings dry logs and finished lumber from Mill 5 back to Shelton. The wet logs that the trains transport are floated to Shelton via various rivers and eventually end up in Oakland Bay, where an overhead crane places them onto log cars. Trucks also bring logs to the Shelton facility and Mill 5. Simpson Railroad has a small fleet of EMD SW1200s and one SW900, which replaced steam in the early 1950s. The trains typically make one to two daily runs between Shelton and Mill 5, usually departing Shelton at 6:30 a.m. and 1 p.m. Trains arrive back in Shelton at 9 a.m. and 4 p.m., respectively. Workers dry finished lumber, mostly Douglas fir and hemlock, in kilns and load it onto bulkhead flatcars at Shelton. Much of the lumber is shipped to China.

Simpson’s connection to the national rail system is with the Puget Sound & Pacific Railroad, which runs over a former BNFF Railroad (originally Northern Pacific) secondary line to Centralia, Wash., where cars interchange with BNSF. The Simpson Railroad is more than 100 years old and at one time had more than 200 miles of branches in the forests to collect logs. All but an 11-mile segment between Shelton and Dayton was abandoned by the 1950s. — Alex Mayes

The Operations

A railroad of sufficient scale, such as Englewood, must operate efficiently to survive. Englewood has made operational changes over the years in order to fine-tune its financial viability. Starting in 1956, the railroad replaced its Shays and rod engine steam power with four EMD SW1200 2-stroke diesel switchers. Nos. 301-304 have Flexicoil trucks for improved tracking and enlarged fuel tanks, which required the air tanks to be moved to the top of the car body. The units were equipped with dynamic brakes, which was an unusual feature for what was otherwise a relatively standard switcher. In the 1980s, the railroad modified its locomotives to allow multiple-unit operation.

In the late 1990s, the railroad repowered three of the SW1200s (301, 302, and 304) with 4-stroke Caterpillar diesel engines, offering a higher 1,500 hp. These modified engines were capable of producing 1,000 amps continuously at 1,250 rpm. This modification reduced fuel consumption from a typical 1,200 Imperial gallons (1,440 U.S. gallons) per shift to only 400 gallons (480 U.S.). Increasing the fuel tank size further increased the range of the units. The railroad has also improved communication and rebuilt the locomotives’traction motors.

Railway Supervisor Lance Wingrave and his predecessors introduced other innovations. The typical loading and delivery routes and schedules were tweaked to make them more efficient. “We are like Purolator: We pick up and deliver,” Wingrave says.

Rail greasing, performed by an hourly employee using a greasing truck, has made the line more efficient, given its numerous curves. Fuel consumption decreased with the reduced wheel flange friction, to as low as 600 Imperial gallons (720 U.S.) per shift. The railroad also experienced major savings from this greasing program with the reduced wear on the rail head and the wheels of the cars and locomotives saving about $200,000 a year in operational costs. Previous Englewood Logging Railway Supervisor Mike Gaudet showed operating speeds from 30-plus mph to 20 mph, to reduce derailments caused by instances of “wide gauge,” engineer MacGregor says. The move worked, cutting derailments to virtually rail.

In addition, Englewood has installed steel crossties. The line normally uses yellow cedar ties, which are untreated but last almost as long as red cedar at 8 years while being much stronger. Steel ties are more expensive, but much more durable. Also, steel ties hold the proper gauge much better for curves, an important consideration for a line with so many of them and operating through a temperate rain forest where the grade is subject to high precipitation during much of the year.

Wingrave hopes to replace 6,000 of the line’s wooden ties this year, particularly on the tighter curves, some of which approach 20 degrees. The railroad mixes steel ties with wooden ones; a steel tie is inserted into a series of wooden ties, with the ratio depending on the requirements of the particular curve. Steel ties are more amenable to intermixing than concrete ties, which are too rigid in comparison.

All of these operational characteristics have created a line that can operate for much of the year, from February to November, typically hauling 170 to 210 million board feet of lumber, on 8,000 to 10,000 carloads. Operation in the spring ramps up slowly, as snow in the higher mountains requires time to melt before the line is clear.

Each year, the parent logging company hopes to work right on through the summer. However, it can be forced to leave the woods for up to four weeks when the forest fire risk exceeds defined levels. Weather conditions trigger such interruptions when the temperature exceeds 86 degrees Fahrenheit and humidity drops below 30 percent. Logging operations are then shut down, and with them, the railroad. The risk of a fire being started by a train is

Western Forest Products’ Englewood Railway is the location of rare switchers set up to run in multiple-unit format. A rubber tired tractor picks up another load of logs for the storage pond at Beaver Cove. Skeleton log cars are long-lived with wooden ties, but the railroad has replaced them as the line lengthened. It’s dusk at the Beaver Cove dry sorting yard, where machines pick through the logs delivered by the day’s train.
No. 113 is on static display, after many years of faithful service during which its flangeless middle driving wheels needed doubled rails on the tightest curves to keep from slipping off the track. No. 113 was the last steam locomotive on Vancouver Island to make a revenue log-hauling run when it filled in during 1971 for the diesels that had replaced its kindred.)

Runs are split into two sections. The southern crew operates out of Woss with one shift per day using No. 301 to switch the loads except Camp A and takes their loads to Siding 6. The northern crew works with two shifts out of Beaver Cove on the coast using Nos. 302 and 304 to pick up loads the southern crew leaves at Siding 6 and switches to Camp A. (The line has several sidings where trains could pass in addition to Siding 6, but these are used for the occasional interchange of cars between the two divisions, since only one train operates at a time on each section of track.

The railroad performs locomotive maintenance at its shops at the old hamlet of Nimkish a few miles north of Woss. The shop crew, with the assistance of Cat-erpillar, performed the repowering of the locomotives entirely on site. The railroad does not need to hire its motive power to the mainland for work. The shop crew also rebuilds the railroads’ 370 logging cars as needed. Some of the original skeleton cars are still in operation after nearly a century of service. These cars had two or more complete rebuilds during their lives. The line owns a number of homemade cabooses and speeders, along with a tamper and crane. The railroad’s skilled track maintenance crew of 10 to 12 employees keep all the trains running smoothly.

Workers deliver logs to the coastal terminus of the line for “dry land sort” where they are graded by species and quality. Once grouped, the logs are dumped into the waters of Beaver Cove where small “gozerguns” push them into booms, which are then periodically towed by full tugs along the “inside passage” to saw mills as far away as Washington state. The Beaver Cove yard has five tracks, but only four are used. These tracks can store 40 or more cars each, with a typical length of 670 feet on the line. A pair of locomotives could pull a longer train, but the limits of dynamic braking on the descent into Beaver Cove restrict trains to 40 cars.

THE PLANT

The railroad’s current plant consists of the 56-mile run from the coast of Queen Charlotte Strait well into the interior of Vancouver Island. The line connects to a number of locations in Western Forest Products’ Tree License 37, where tree felling occurs on slopes as steep as 70 percent. The harvested logs are then trucked to the railway. A filled trackhead is hoisted in one move to fill a skeleton railcar, making these transfers efficient.

Four “reloaded” locations exist where these transfers take place: Camp A, Woss, Maquilla, and Vernon. The logging company’s operations are centered in the town of Woss, some 36 miles inland along the line. (In Woss, Englewood’s veteran Alco A-2, No. 304 idles as engineer Duncan MacGregor prepares to shut down the unit. Another day on the Englewood Railway has ended.)

The forest abounds in elk, deer, black bears, and cougars, however animal strikes are rare, Duncan says. Trains move at moderate speeds, and engineers sound the horn to warn animals of the trains’ presence. The one exception, Duncan says, is banana slugs, which sometimes flit along the head of the rails. They seem to ignore the horn and wind up below the diesel’s wheels. “But they grease the rails really well!” Duncan says.

Darkness reveals the thrill of those beasts have been set to cross in order to provide better visibility to the engineer around curves and enable them to see potential rock falls quicker, a practice also used on the old British Columbia Railway on the mainland.

Upon arriving at Beaver Cove, the crew sometimes must again switch empty cars off the Dry Land track and pull loaded cars back into it. Tonight, this is not needed as there are still sufficient loads in that track to keep the sorters busy. Duncan parks the diesel by the fueling stand, inspects the engine, and shuts it down for the night. The crew finishes its shift at 10:38 p.m.

But tomorrow the crew will be back at it again, harvesting more trees for wide consumption in Western North America as the “Last Logger” continues to stir his coffee with his thumb. Our beloved waitress might do well to come visit the Englewood Railway line.

Author LEO DE GROOT of British Colum- bia thanks Duncan MacGregor, Lance Win-grace, and Alan Kollman from Englewood Lumber Division for information included in this article.