

Feature

stream meander changes have redirected the flow against fillslope of sections of a valley bottom road, County Road 1000. The ultimate recovery of the stream channel, riparian forest, and resultant fish habitat in the South Fork of Little Butte Creek depends on long term decisions made in the next few years. Homes, pastures, roads, bridges, future timber harvest, and other human activities within the

floodplain of this and other reaches downstream, will most affect the successful recovery of fish habitat and water quality in the South Fork of Little Butte Creek.

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Technical Tips

Revegetating Roads and Landings Using The Stihl Backpack Blower

Bob Cuthbert

The Stihl Backpack Blower models BR320 (Table 1) and BR400 are backpack gasoline-powered blower units designed primarily as leaf blowers. Either model can be converted for use as a grass-seeding unit by installing a spray kit and a granular spreading kit. The North Coast Forest District located at Prince Rupert has done an informal evaluation of the BR320, comparing the performance of Cyclone spreaders to the hydroseeding process (Table 2). Although the BR400 is more powerful, it is unlikely that it would broadcast the seed any further than the BR320 due to the physical properties of the seed.



Figure 1. Revegetating Crow Lagoon Forest Service Road.

The basic BR320 blower unit costs \$599, the sprayer conversion kit costs \$129, and the granular spreading kit costs \$169, totalling \$887 per unit before taxes and shipping. These are off-the-shelf costs, however, and it may be possible to negotiate lower costs through bulk purchases. Characteristics of the BR320 used in the evaluation are listed in Table 1.

The unit in use is shown in Figure 1.

Using a backpack blower to seed is less expensive than hydroseeding and is especially useful on the rugged north coast where many areas are difficult or impossible to access with hydroseeding equipment. Cyclone spreaders wear out with constant use, the bag is difficult to load, and since the broadcast distance is small, they are labour intensive. A comparison based on the North Coast District evaluation (Sloan, 1996) is set out in Table 2.

Table 1. Characteristics of the BR320

Item	Specifications	Comment
Stihl BR320	2.7 bhp	Light weight
Hopper Size	12 liters or 6.25 kg	Mix of seed and fertilizer
Fuel Capacity	1.5 liters	Will do about 10 loads
Air Flow Rate	740 m ³ /hour	Spreads seed up to 7 m, fertilizer up to 9 m
Weight Empty (Full)	10.9 kg (17.3 kg)	Easy to carry
Seed	Prince Rupert Erosion Mix	Costs \$79.00 / 25 kg
Fertilizer	Pro 18-18-18	Costs \$18.20 / 25 kg

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Table 2. Comparison of Methods of Grass Seeding			
Item	Cyclone Spreader	Hydroseeding	Stihl BR320 Blower
Broadcast Distance	3.7 m	40 m (solid stream)*	7 m
Convenience	Labour intensive	Not always possible	Easy to use
Planning	Can fit into any flight where room available	Can be difficult to contract on coast	Can fit into any flight where space available
Operation	Difficult to load	High transportation costs; may be access problems	Lightweight, approx. 2 ha coverage per tank of gas
Investment	\$180	If required, barge costs up to \$8,000 for 3 day contract	\$1000 (approx.)
Cost per hectare	\$590 (based on contract price and includes transportation)	\$600 to \$1,000 (based on contract price, not including barge costs)	\$242 based on District trials (operator costs @\$14.80 / hr)

* Trials are being done with varying lengths and diameters of the delivery tube to determine the size required for maximum coverage.

The Stihl backpack blower units represent a very efficient and effective means of grass seeding (Figure 2) with a relatively low cost outlay. Use of a Stihl backpack blower unit is recommended, particularly in areas where access is difficult and hydroseeding costs are high.

Reference

Sloan, S. 1996. Technical report of the Stihl 320 backpack blower for use in revegetating roads and landings Ministry of Forests, North Coast District, Prince Rupert B.C.

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Figure 2. Seeding uphill bank at Goat Harbour Forest Service Road.

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