

# Vegetation Management Using Sheep

## Summary of Forest Plantation Brushing with Sheep: Grazing Activity for 2002\*

2002 Provincial Estimates		Funding Sources		Activity within Forest Regions		
		Licensee	MoF-SB	Cariboo	Kamloops	Prince George
<b>Total hectares treated</b>	1 960 100%	1 630 83%	330 17%	470 24%	50 3%	1 440 73%
<b>Number of contracts</b>	9	7	2	3	1	5

### Comments/Additional Information

<b>Length of contracts</b>	8–80 day terms	<ul style="list-style-type: none"> <li>100 ha were grazed twice in 2002 (spring &amp; summer). Cost (\$/ha) and Production (ha/day) include the second treatment.</li> <li>8 of 9 contracts had some treatment areas with rough access I.E. 4WD all-terrain-vehicle. Distances to camp range 1-7 km.</li> <li>1 contract had rough all-terrain-vehicle only access to all sites.</li> <li>Several contracts had 20-40 km moves between treatment areas.               <ul style="list-style-type: none"> <li>Distance traveled (trailed) per day ranged from 8-30 km.</li> <li>2 contracts used livestock liners for distances greater than 40 km.</li> </ul> </li> <li>Full season and multi-year contracts reduced costs.</li> </ul>
<b>Hectares per contract</b>	Range: 40–416 Average: 220	
<b>Production (ha/day)</b>	Range: 3.2–7.2 Average: 5.5	
<b>Cost (\$/ha)</b>	Range: \$180–550 Average: \$385	
<b>Brushing quality:</b>	>94%	<ul style="list-style-type: none"> <li>3 proponents used one-plot-per-hectare Brushing Quality Inspection Plots to assess 490 hectares (25% of total hectares treated).</li> <li>6 proponents used a visual walk-through and random plots to assess 1470 hectares (75% of total hectares treated).</li> <li>100% brushing quality required 75-85% removal of (edible) target vegetation with nil damage to crop trees.</li> </ul>
<b>Approved for payment:</b>	100%	
<b>Crop tree damage</b>	Range: 0.1–10% Average: 3.9%	<ul style="list-style-type: none"> <li>Spruce, pine, Douglas-fir, cedar and balsam were grazed.</li> <li>Spruce and pine were mix-planted on 7 of 9 grazing contracts.</li> <li>On one block 25% damage (leaning or nipped) to 1 yr old, 7 cm tall, poor caliber, flushing pine. Target species: aspen and alder.</li> </ul>

\* Source of information: Brushing (sheep grazing) contractors and proponents (Ministry of Forests and Licensees).

<b>Sheep numbers</b>	11 050	<ul style="list-style-type: none"> <li>• Nine contracts were completed during 2002. <ul style="list-style-type: none"> <li>a. Two contracts used sheep from BC only.</li> <li>b. Five contracts used sheep from Alberta only.</li> <li>c. Two contracts used sheep from BC and Alberta.</li> </ul> </li> <li>• Number of producers per contract herd ranged from 1 to 8; average:2.</li> <li>• 3 of the projects used herds of 1000–1200 sheep.</li> <li>• 3 of the projects used herds of 1400–1600 sheep.</li> <li>• 3 of the projects used herds of 600, 800 and 2900 sheep.</li> </ul>
<b>Total number of herds used</b>	8	
<b>Herd sizes</b>	Range: 600–2900 Average: 1230	
<b>Sheep losses</b>	22 out of 11 050 (0.002%) ( $< \frac{1}{4}$ of 1%)	<ul style="list-style-type: none"> <li>• 2 contracts had no sheep losses of any type.</li> <li>• Hellebore poisoning on 4 contracts.</li> <li>• Various losses include trucking deaths, injury, cast and pile-up.</li> </ul>
<b>Cause of sheep losses</b>	poison (4) various (18) predator (0)	<ul style="list-style-type: none"> <li>• All contractors noted predators (bear, coyote, wolf, cougar). No sheep/predator interaction occurred. Guard dogs ranged 2-6 per flock.</li> </ul>
<b>Total cost of activity</b>	\$705,500.00	<ul style="list-style-type: none"> <li>• Cost does not include proponent administration (planning, quality inspections or reporting).</li> </ul>
<b>Participating forest regions:</b>		<ul style="list-style-type: none"> <li>• (3) Cariboo, Kamloops, Prince George.</li> </ul>
<b>Participating forest districts:</b>		<ul style="list-style-type: none"> <li>• (7) Horsefly, Quesnel, Clearwater, Dawson Creek, Fort St. James, Mackenzie, Prince George.</li> </ul>
<b>Nearby town or landmark:</b>		<ul style="list-style-type: none"> <li>• Barkerville, Bear Lake, Chetwynd (Silver Sands), Cottonwood House, Fort St. James, Likely, Mackenzie (Phillip-Nation), Moberly Lake, Vavenby.</li> </ul>
<b>Percent of 1960 total hectares treated by Biogeoclimatic (BGC) Zone:</b>		<ul style="list-style-type: none"> <li>• 5% Boreal White and Black Spruce (BWBS mw1-01)</li> <li>• 30% Engelmann Spruce-Subalpine Fir (ESSF wk1) (ESSF wk2)</li> <li>• 15% Interior Cedar-Hemlock (ICH wk1) (ICH wk2)</li> <li>• 50% Sub-Boreal Spruce (SBS mc2) (SBS mk1) (SBS wk1) (SBS wk2).</li> </ul>
<b>Percent of 1960 total hectares treated by types of vegetation grazed:</b>		<ul style="list-style-type: none"> <li>• 45% fireweed/shrub (fireweed, thimbleberry, raspberry, huckleberry, elderberry)</li> <li>• 35% fireweed/herb (fireweed, grasses, valerian)</li> <li>• 15% fireweed/deciduous (fireweed, aspen, poplar)</li> <li>• 10% calamagrostis (calamagrostis, shrub, herb).</li> </ul>
<b>Comments:</b>		<ul style="list-style-type: none"> <li>• Contractors and proponents report difficult access to treatment sites on de-activated roads (frequent, deep cross-ditches).</li> <li>• A helicopter was used to transport camp on one contract.</li> <li>• Water for livestock was hauled to several sites.</li> <li>• Increased foot injury was noted (hooves soft due to wet weather).</li> <li>• 55% of areas had no site prep and dense slash; 15% was mounded.</li> <li>• Dispersed patches of NSR were fillplanted and targeted for treatment on one contract.</li> <li>• All 9 contracts in 2002 were successfully completed by 6 brushing (sheep grazing) contractors.</li> </ul>