



**Forest
Practices
Board**

Road Maintenance at Little Cayuse Creek

Complaint Investigation #17029

FPB/IRC/216

June 2018

Table of Contents

Introduction	1
The Complaint	1
Background	1
Legal Requirements	5
Investigation Results.....	5
Did Interfor comply with FRPA's road maintenance requirements?	5
Was government's enforcement of FRPA's road maintenance requirements appropriate?	7
Conclusions	8

Introduction

The Complaint

On June 19, 2017, a landowner who draws water from Little Cayuse Creek, near Castlegar, BC, submitted a complaint to the Forest Practices Board (the Board). The complainant asserted that Interfor Corporation (Interfor) was not adequately maintaining its roads and that poor maintenance had contributed to landslides, which in turn caused increased sedimentation of Little Cayuse Creek. The complainant also asserted that government was not adequately enforcing road maintenance requirements.

The complainant wants Interfor to implement a robust road inspection and maintenance program. The complainant also wants government to ensure that Interfor meets its road maintenance obligations.

The Board investigation considered the following questions:

- Did Interfor comply with the *Forest and Range Practices Act* (FRPA) road maintenance requirements?
- Was government's enforcement of the FRPA road maintenance requirements appropriate?

Background

Little Cayuse Creek watershed drains into Lower Arrow Lake about 26 kilometres northwest of Castlegar, BC, and is approximately 2650 hectares in size (see Figure 1). Most of the watershed lies within Interfor's tree farm licence (TFL) 23. Interfor has held TFL 23 since 2008.

Previous watershed assessments document poor forestry practices that go back as far as the 1960s, such as logging to stream banks and yarding through streams. These practices have introduced excess sediment into Little Cayuse Creek, some of which is held back in wedges behind natural or introduced debris in the main channel. Naturally occurring high water flows or other disturbance, such as debris torrents introduced from road failures, can dislodge these sediment wedges and transport sediment downstream.

There are approximately 60 kilometres of roads in the Little Cayuse Creek watershed. Thirty-three kilometres of these roads are under permit to Interfor and four kilometres to other licensees. The rest are old non-status roads that no licensee has the responsibility to maintain. Currently, no roads in the watershed are being used for industrial activity.

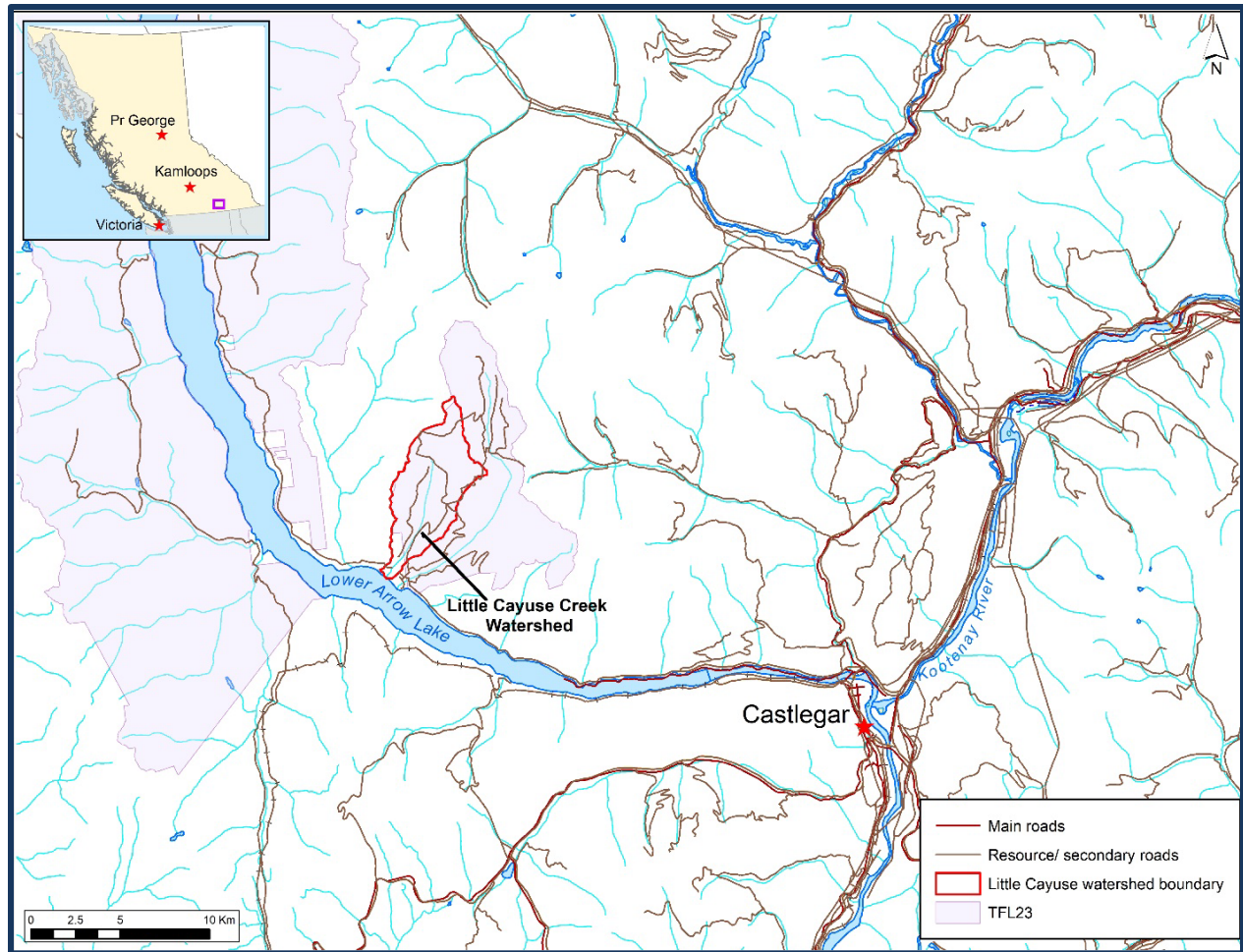


Figure 1. Little Cayuse Watershed location.

Little Cayuse Creek has high fisheries values compared to similar regional streams. Kokanee salmon use the first 400 metres of the stream for spawning and rainbow trout are present up to 550 metres from the lake, where a waterfall creates a barrier to further migration.

The complainant holds two licences to draw water from Little Cayuse Creek for power generation, irrigation, and domestic use. The complainant's water intake is 1.3 kilometres upstream from the lake. There are at least eight other active water licences on the stream below the complainant's water intake and one licence above.

The complainant noticed unusually high sediment levels in the creek in the spring of 2015 and again in April 2017. Both times, the complainant said he called Interfor with his concerns. Although Interfor maintains a record of public complaints, it has no record of the 2015 complaint.

When the complainant contacted Interfor in April 2017 about the sediment in the stream, Interfor investigated. On April 19, 2017, Interfor staff found a fill-slope failure at the 4.5 kilometre point on the Little Cayuse Road, which is on the west side of Little Cayuse Creek (Figure 2). Interfor hired a professional geoscientist to investigate. On April 21, 2017, the geoscientist examined the failure, and also discovered a second road fill-slope failure at the 1.2 kilometre point of the Little Cayuse Road (Figure 2).

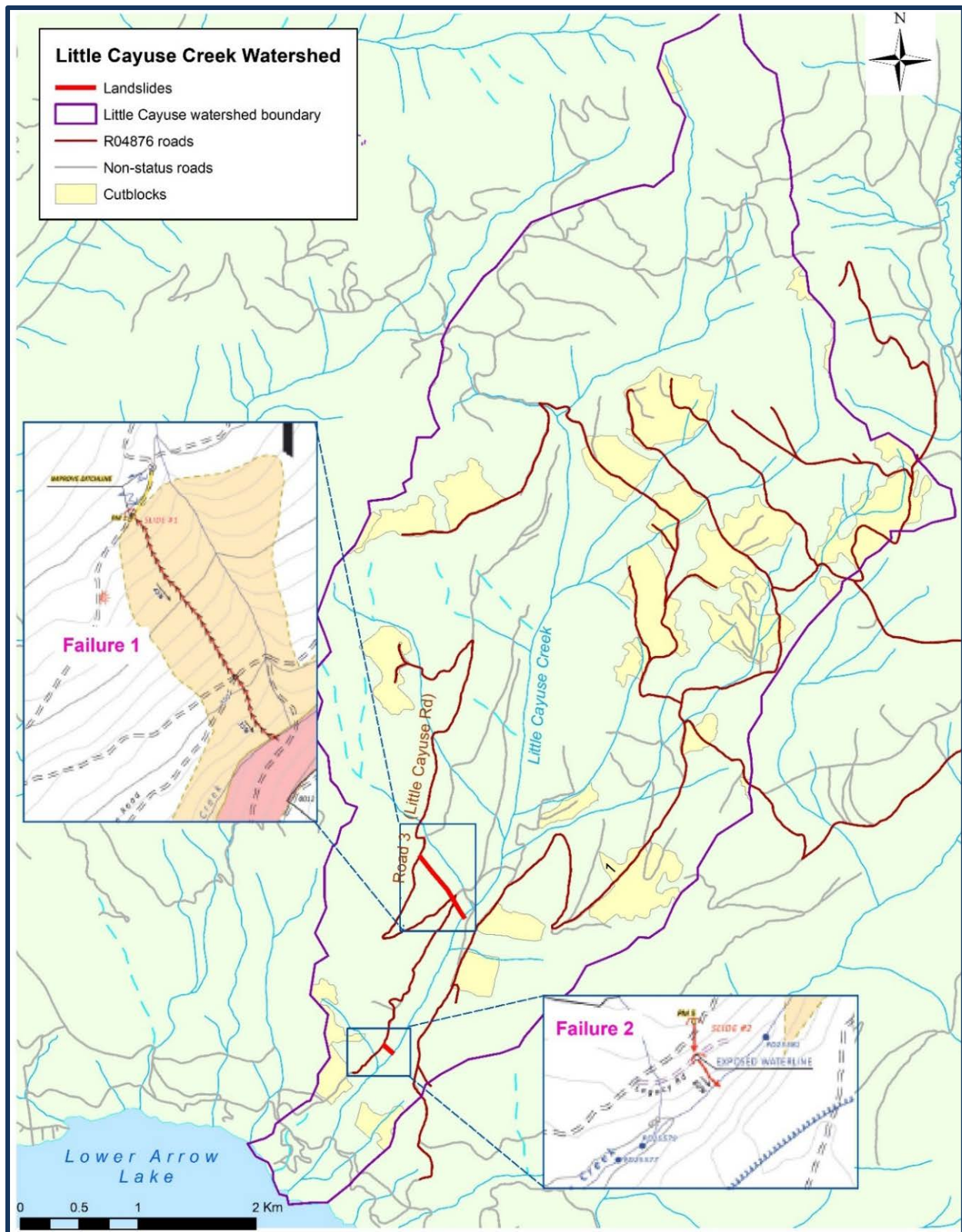


Figure 2. Road permit roads and fill slope failures.

The geoscientist found that the failure at the 4.5 kilometre point occurred at a broad cross ditch,¹ installed in 1997, where the road crossed a gully. Ditch water went subsurface at the cross ditch and saturated the fill. An unusually high water table and water piping² at the bottom of the fill also contributed to the slide. Much of the slide material deposited on a road below the initiation point, but approximately 10 cubic metres of material entered Little Cayuse Creek about 875 metres above the complainant's water intake.

At the 1.2 kilometre point, the geoscientist found that water running down the road surface by-passed a sediment-filled cross ditch, continued 200 metres down the road, saturated the fill slope, and caused a small slump (Figure 3). The slumped fill slope material remained just below the road, but significant surface water flowed off the road at the slump and traveled about 100 metres downslope and saturated the fill slope of another road below. The fill slope of that road then failed and deposited about 100 to 150 cubic metres of material into Little Cayuse Creek just below the complainant's water intake.

The complainant reported the failure at the 1.2 kilometre mark (Failure 2) to the Natural Resource Violation Reporting³ line on April 26, 2017. He filed the complaint with the Board on June 15, 2017.



Figure 3. Surface run water saturated the road fill and caused a slump. Re-directed surface run water continued down slope and initiated a larger slide.

¹ A cross ditch is an excavated depression in a road that allows vehicles to pass and directs water from the road ditch and the road surface downslope.

² Piping failures occur when tunnel-shaped water discharge channels erode or undermine the fill slope.

³ The Natural Resource Violation Reporting line is a toll-free number that allows people to report possible infractions concerning water, roads, forestry operations or any misuse of Crown lands or a heritage site.

In the fall of 2017, Interfor prepared and executed a temporary⁴ deactivation prescription for four of the approximately seven kilometres of road they have under a road permit for the Little Cayuse Road system. Interfor has committed to inspecting the remainder of the road system in 2018. Interfor also prepared a map showing maintenance requirements for many of its roads on the east side of Little Cayuse Creek.

Legal Requirements

Section 79 of the *Forest Planning and Practices Regulation* sets out the requirements for maintaining roads. It states, in part, that a person who holds a road permit, must maintain the road until it is deactivated. A person who maintains a road must ensure that the structural integrity of the road prism and clearing width are protected; the drainage systems are functional; and the road can be safely used by industrial users.

Under the *Forest Planning and Practices Regulation* section 81, an exception to these requirements applies when a road is not being used by industrial users. In that situation, a road is considered a "wilderness road" and then section 79 of *Forest Planning and Practices Regulation* applies "only to the extent necessary to ensure there is no material adverse effect on forest resources." The requirement for safe industrial use does not apply to a wilderness road.

Investigation Results

Did Interfor comply with FRPA's road maintenance requirements?

Interfor has not operated in the Little Cayuse Creek watershed since 2011. To summarize its legal requirements, its road permit roads are wilderness roads and Interfor "must ensure" the structural integrity of the road prism and clearing width and the function of the drainage systems only to the extent necessary "to ensure" there is no material adverse effect on a forest resource.

What are forest resources? Resources and values associated with forests and range including, without limitation, soil, visual quality, timber, water, wildlife, fisheries, recreation, forage and biological diversity.ⁱ This investigation examined how Interfor addresses its road maintenance obligation to reduce the risk that landslides pose to water and fisheries.

In 2009, Compliance and Enforcement Branch (CEB) developed a bulletinⁱⁱ to help its staff interpret the meaning of "material adverse effect." That bulletin defines material adverse effect as "an injurious or unfavourable influence that may have some real, appreciable consequence." During the investigation both Interfor and CEB used that bulletin to suggest that the result—a material adverse effect to a forest resource—must happen or a contravention could not occur.

The Board does not agree that a material adverse effect must occur for a party to be in non-compliance with section 79. Section 79 (6) of FRPA says, "A person required to maintain a road must

⁴ To be permanently deactivated the road surface needs to be barricaded in a clearly visible manner to prevent access by motor vehicles, other than all-terrain vehicles. Unless barricaded or exempted, any other deactivation is considered temporary.

ensure ... the structural integrity of the road prism ...[and] the drainage systems are functional.” [emphasis added] In the case of a wilderness road, this requirement only applies “to the extent necessary to ensure there is no material adverse effect on a forest resource.”⁵ [emphasis added]

What does "ensure" mean? From a legal perspective, to ensure means to make certain. A licensee cannot rely on chance. In the Board's view, licensees must proactively manage roads to ensure they do not cause a material adverse impact to a forest resource.ⁱⁱⁱ How does a licensee make certain that it meets these maintenance requirements? Many licensees in BC inspect their roads at a frequency commensurate with the risk associated with that road. Higher risk roads are inspected more often than lower risk roads. Inspection results drive maintenance and repair.

Interfor appears to take a similar approach. Interfor provided its procedures for risk rating roads and a ledger of roads it is responsible for maintaining in the watershed. The procedures use potential impacts on fish streams and domestic water intakes to increase risk rating. The ledger documents the risk-rating and the inspection frequency.

Road Risk Rating	Inspection Frequency
High	6 or 12 months
Moderate	12 or 36 months
Low	24, 36 or 60 months

Interfor acquired TFL 23 in 2008. The ledger shows that the licensee who held the tenure prior to Interfor did the last inspections of Little Cayuse Road, the road where the failures occurred, in 2007. Sections of the Little Cayuse Road are rated low and moderate risk with an inspection frequency ranging from 24 to 60 months. The road ledger shows that Interfor did not inspect its roads according to the risk and schedule set out in the ledger.

Interfor told the Board that it did inspect roads in the watershed by helicopter in 2014, 2015, and 2017, but it could not provide any records to support where the inspections were or what it found. A helicopter inspection should at least document where they went and what they found in notes and photos. Such documentation would enable Interfor to do maintenance works before erosion or landslide events happen. In any event, there are no documented inspections and no maintenance or repair work was scheduled or completed as a result of these inspections.

Especially in a watershed where previous watershed assessments identified an unstable streambed, documented inspections are an important step in a maintenance program to help ensure compliance with section 79 of the *Forest Planning and Practices Regulation*.

Once the complainant contacted Interfor in April 2017, Interfor responded by conducting and documenting seven inspections between April 21 and May 17, 2017. Those inspections included notes and photos of some of the roads in the watershed. One inspection included the geotechnical landslide investigation of the two failures on the Little Cayuse Road. That inspection included technical evaluations of the cause, the effect to the road prism, and the amount of material entering the stream. The failure at 1.2 kilometres deposited at least 100 cubic metres of material in a stream 750 metres above a high value Kokanee spawning channel and domestic water intakes. This failure likely had a material adverse impact on fish and domestic water. However, the Board cannot determine that, since

⁵ Underline added for emphasis.

none of the inspections included an assessment of the impact to the elements at risk; namely water and fish. Since that slide entered the creek 25 metres below the complainant's water intake, it could not affect it. Still, in either case, compliance with section 79(6) does not depend on a material adverse effect resulting, it depends on the licensee proactively managing roads to ensure that forest resources are protected.

Interfor has scheduled inspections of the remaining roads for 2018. During the investigation, Interfor said it has taken measures to ensure road inspections are planned and completed to help it repair roads.

Finding

Planning and conducting inspections based on risk, documenting the results and addressing any issues identified are common practices to ensure that forest resources are not adversely affected. By not conducting regular inspections, Interfor did not ensure, or make certain, that there would be no material adverse effects on forest resources. Therefore, Interfor did not comply with section 79 of the *Forest Planning and Practices Regulation*.

Was government's enforcement of FRPA's road maintenance requirements appropriate?

On April 26, 2017, the complainant reported to the Natural Resource Violation line that lack of maintenance of the Little Cayuse Road increased the amount of sediment in his drinking water. The complainant reported a landslide at the 1.2 kilometre point and said that he had reported a different landslide to Interfor. He asked the Compliance and Enforcement Branch (CEB) to contact him.

On May 11, 2017, CEB inspected the fill slope failure at the 1.2 kilometre point of the Little Cayuse Road, but did not go down the slope to determine the full extent of the failure or to see if there was a material adverse impact to Little Cayuse Creek or other forest resources. Because the complaint report did not identify the location of the other slide at 4.5 kilometres, CEB did not inspect that fill slope failure.

CEB found that the road was a wilderness road and that a failed cross ditch⁶/waterbar had caused a small slump in the fill material at the 1.2 kilometre point. CEB concluded that there had not been a material adverse effect to a forest resource. Considering these factors, CEB decided there was not enough evidence to prove non-compliance and that any enforcement action against Interfor would result in formal charges being dismissed, based on reasonable care and due diligence defence.

CEB did not consider what inspections or maintenance Interfor had done, did not contact the complainant as requested, and did not interview Interfor as part of the inspection. CEB did report the result of the inspection to Interfor, but not to the complainant. As a result, CEB was not aware of the slide at the 4.5 kilometre mark or the full impacts of the slide at the 1.2 kilometre mark.

The purpose of government enforcement is to ensure compliance with legal requirements. In the Board's view, compliance with section 79 of the *Forest Planning and Practices Regulation* requires

⁶ The road had a failed water bar not a cross ditch.

proactively managing roads to ensure a high likelihood that forest resources are protected, and is not predicated on the occurrence of a material adverse effect.

CEB's inspection missed several important factors for a number of reasons, including:

- not fully identifying the extent of the road failures;
- not talking to the complainant or Interfor before concluding Interfor was compliant;
- not identifying what inspections or maintenance Interfor had done to ensure the structural integrity of the road prism and clearing width and the function of the drainage systems to the extent necessary to ensure there is no material adverse effect on a forest resource; and
- incorrectly interpreting section 79 to mean that there must be a material adverse effect to a forest resource in order for there to be non-compliance.

Finding

Government enforcement was not appropriate because it did not do sufficient work to determine if Interfor complied with section 79 of the *Forest Planning and Practices Regulation*.

Conclusions

The complainant asserted that Interfor was not adequately maintaining its roads and that government was not adequately enforcing road maintenance requirements.

The Board investigation considered the following questions:

1. Did Interfor comply with the FRPA road maintenance requirements?
2. Was government's enforcement of the FRPA road maintenance requirements appropriate?

On question 1, Interfor was not able to show that it had done any inspections or maintenance on the Little Cayuse Creek road until the complainant contacted it in April 2017. By not conducting regular inspections, Interfor did not ensure that there would be no material adverse effect on forest resources. Therefore, Interfor did not comply with section 79 of the *Forest Planning and Practices Regulation*. Following the complaint, Interfor started inspecting the roads and doing follow-up repair and maintenance work in the watershed.

On question 2, government's CEB did not carry out a thorough investigation because it did not identify the extent of the road failures, did not talk to the complainant or Interfor, did not identify what inspections or maintenance Interfor had done to ensure its roads did not cause a material adverse effect on a forest resource, and interpreted section 79 to mean that there must be a material adverse effect to a forest resource in order for there to be non-compliance. Therefore, government enforcement was not appropriate.

ENDNOTES

ⁱ [Board glossary of terms](https://www.bcfpb.ca/news-resources/glossary/#F) - <https://www.bcfpb.ca/news-resources/glossary/#F>

ⁱⁱ <https://www2.gov.bc.ca/assets/gov/environment/natural-resource-stewardship/land-based-investment/fish-passage/ce-40-material-impact.pdf>

ⁱⁱⁱ E-mail August 20, 2012 from Al Gorely to Dave Patterson, Andrea Lyall, Bill Dumont – TFL 54 Decision on “ensure.”



**Forest
Practices
Board**

PO Box 9905 Stn Prov Govt

Victoria, BC V8X 9R1 Canada

Tel. 250.213.4700 | Fax 250.213.4725 | Toll Free 1.800.994.5899

For more information on the Board, please visit our website at: www.bcfpb.ca