Forest Practices Board

Road and Bridge Maintenance Obligations within Three Forest Districts, Coast Forest Region

Campbell River, South Island and Squamish Forest Districts

Special Investigation

FPB/SIR/31

April 2011

Executive Summary

In the fall of 2009, the Forest Practices Board conducted a special investigation into how well forest companies are meeting their obligations to maintain roads and bridges under the *Forest and Range Practices Act* (FRPA). The investigation took place in the Campbell River, South Island and Squamish forest districts in the Coast Forest Region.

The Board looked at how road maintenance obligations were being met by 8 licensees holding road permit tenures associated with 11 forest licences. The licensees were Aat'uu Forestry Limited Partnership and TimberWest Forest Corporation in the Campbell River Forest District; Coulson Forest Products Ltd. and Teal-Jones Group in the South Island Forest District; and C.R.B. Logging Co. Ltd., Northwest Squamish Forestry Ltd., Squamish Mills Ltd. and Halray Logging Ltd. in the Squamish Forest District.

The investigators assessed 185 kilometres of industrial class road including 31 bridges (these are roads actively used by industrial users); 481 kilometres of wilderness class road including 57 bridges (these are roads not being actively used by industrial users); and 20 kilometres of deactivated road (roads that have been decommissioned). In total, 686 kilometres of road and 88 bridges across the three forest districts were examined.

The Board found that most of the roads examined met FRPA maintenance requirements; the majority of road segments ensured the structural integrity of road prisms and clearing widths were protected; drainage systems of roads were functional; and where roads were being used for ongoing activities such as timber harvesting, these roads were safe for the industrial users.

However, one licensee, Coulson Forest Products Limited, did not meet its maintenance obligations on eight sections of wilderness road. These road sections had some plugged ditchlines and non-functional drainage structures that caused heavy scour of the road surface, directing sediment into a non-fish-bearing stream.

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Commentary

The Forest Practices Board has conducted audits, complaint investigations and special projects since 1995 and notes that forest practices related to roads and bridges have improved significantly over the past 15 years; however, concerns with roads and bridges still arise occasionally.

Roads and bridges provide essential access to resources found on public forest lands. Forest management, timber harvesting, recreation and fire protection, as well as other activities, are all dependent on road access to the forests. It has been estimated that there are more than 400,000 kilometres of forest road within BC, and the majority exists on Crown land.

With regard to the results of this investigation, the Board found generally good practices by licensees, although one company is encouraged to take greater care in maintaining its ditch-lines and drainage structures in the future.

However, one larger issue of note brought forward during the course of this audit, and several previous Board audits and investigations, is that of public safety. Forest roads are designed, built and maintained for safe use by industrial traffic—which does not always correspond to what might be expected for roads designed, built and maintained for general public use.

Responsibility for forest road maintenance is part of government's permitting process. The Ministry of Forests, Lands and Natural Resource Operations, or licensees holding permits to use or build forest roads, are required to maintain them to specific environmental standards and to preserve structural integrity and drainage systems until the road is officially deactivated. During periods of active industrial use, they must also ensure the roads are safe for industrial users. When not being actively used for industrial purpose, the roads are classified as wilderness road and only maintained to address environmental concerns.

The Board agrees with the BC Forest Safety Council,[1] which advises that tourist and recreational forest road users need to be made aware that varying degrees of maintenance are being done on many of these roads. The Board joins the Safety Council in urging people to exercise extreme caution when driving on all forest roads, whether those roads are still in active use as industrial roads, are inactive wilderness roads, or have been deactivated.

While wilderness roads pose hazards due to natural aging of man-made structures and less frequent maintenance, well-maintained industrial forest roads can also pose hazards to the public in the form of large industrial vehicle traffic. Members of the public travelling on these roads should expect the unexpected, and be prepared.

[1] BC Forest Safety Council – Guides to Safety. http://www.bcforestsafe.org/forestry_trucksafe/tools_roadusers.html

Special Investigation of Road & Bridge Maintenance Obligations

Background

This special investigation took place during the last week of October and the first week of November 2009 in the Campbell River, South Island and Squamish forest districts, within the Coast Forest Region. The investigation assessed compliance with obligations to maintain roads and bridges under the *Forest and Range Practices Act* (FRPA), including associated legislation and regulations.

Roads provide essential access for the active management of the resources found on Crown-owned forest lands. Forest management, timber harvesting, recreation and fire protection, as well as other activities, are all dependent on road access to the forests. It has been estimated that there are more than 400,000 kilometres of forest road within BC, and the majority of these roads exist on Crown land.[2] Road systems are an important asset; however, poorly maintained roads or bridges can become a liability.

Heavy precipitation is common in BC's coastal region during the winter months, while summers tend to be quite dry. The amount of rain on the coast increases in September and intense rainstorm events usually occur between October and February.

Some of the heaviest precipitation in the province takes place in the form of rain along portions of the mainland coast and the outer coast of Vancouver Island, but in higher elevations on Vancouver Island and the Coast Mountains, this precipitation may occur as heavy snowfall. Intense or prolonged rainfall can result in increased runoff and when sharp fluctuations in temperature cause rapid snowmelt at higher elevations, this can add to already high water flows. These increased flows can directly or indirectly result in surface soil erosion, washouts (related to failed drainage structures) or even landslides.[3]

While the integrity of well-maintained road systems and bridges is not likely to be impacted by these high water flows, risk substantially increases for poorly maintained roads or bridges. They can easily be damaged by effects of surface soil erosion, washouts and landslides, which damage rivers, streams and licenced waterworks, and also impact timber production. When a bridge is damaged, often it requires significant work and expense to rebuild.

It is important to the forest industry, as well as for the public, that these forest road systems on Crown land are properly maintained, especially as the number of roads continues to grow. Forest companies that hold a forest road tenure and operate on these roads are required by law to adequately maintain them.

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[2] Forest Practices Board. December 2005. Access Management in British Columbia: Issues and Opportunities. http://www.fpb.gov.bc.ca/SR23_Access_Management_in_BC_Issues_and_Opportunities.htm?__taxonomyid=176

[3] Forest Practices Board. December 2009. Landslide Occurrence Following Major Rainstorms on Vancouver Island. http://www.fpb.gov.bc.ca/SIR27_Landslide_Occurrence_Following_Major_Rain_Storms_on_Vancouver_Island.htm?__taxonomyid=282

Legislation

All forest roads constructed or maintained on Crown land must be tenured under the *Forest Act*. These tenures entail various rights and obligations depending on the type of road. For further detail on the legislative requirements for forest roads, please see Appendix 1 (page 12).

Forest Road Classes

All tenured roads fall into one of three classes, depending on use, over the life cycle of a typical road permit. Each road class has different levels of tenure holder or government maintenance obligations. Some examples of tenure holder obligations by road class are as follows:

Industrial roads, including forest service roads (FSRs), are tenured roads used for an industrial forestry purpose such as timber harvesting, including transportation of timber or associated machinery, materials or personnel. Industrial roads are also used for access to tree-planting sites that require more than 12 months to complete, or to conduct silviculture treatments requiring transportation of machinery (i.e., mechanical site preparation).

An authorized person must maintain the road, including bridges, culverts, fords and other structures associated with it, and ensure all of the following:

1. The structural integrity of the road prism[4] and clearing width[5] are protected;
2. the drainage systems[6] of the road are functional; and
3. the road can be used safely by industrial users.

Wilderness roads[7] are industrial roads or FSRs no longer being used for an industrial purpose. As such, active roads tend to fall into the industrial road class, and inactive roads fall into the wilderness road class. After harvesting, wilderness roads may provide access for slash abatement and for longer-term activities, such as reforestation treatments and silviculture surveys, until a free-growing stand is established.

For wilderness roads, tenure holders or government are required to maintain structural integrity and functional drainage systems only to the extent necessary to ensure there is no material adverse effect on a forest resource. There is no requirement for wilderness roads to be maintained for safe industrial use.

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[4] Road prism means an area consisting of the road surface and any cut slope and road fill (*Forest Road Regulation)*.

[5] Clearing width means the width required to be cleared of standing timber to accommodate road construction, maintenance, and use (*Forest Road Regulation)*.

[6] Drainage system means a system designed to control the flow of water within a clearing width (*Forest Road Regulation)*.

[7] Under the *Forest Practices Code of British Columbia Act* and associated regulations, a wilderness road is defined as a tenured road no longer being used for the purposes of an industrial activity (i.e., timber harvesting or developing natural resources other than timber). There is no definition for a wilderness road under FRPA; the legislation simply states if there is no industrial use, then it is a wilderness road.

According to the Ministry of Forests, Lands and Natural Resource Operations (FLNRO), the primary purpose of the wilderness road level of maintenance required under legislation is to protect the forest resources. There is no requirement for the tenure holder or government to ensure the safety of the general public on a wilderness road, and so the level of maintenance does not ensure safe motor vehicle access. Because of this, conditions for vehicle access on wilderness roads may vary significantly. Factors that influence conditions include the length of time since the road was actively used to provide access for operational activities; the year the road was constructed and what the "standard of the day" was at that time; and the level of maintenance activities undertaken by the tenure holder.

In order for a tenure holder to meet maintenance obligations for a wilderness road, it may use practices such as ditch and culvert cleaning, culvert removal, installation of water bars and cross-ditches or removal of stream crossing structures to ensure structural stability and drainage functionality.

Minor washouts and slumps on these roads often are not repaired. However, in many instances, given time, wilderness roads become environmentally stable and natural vegetation becomes well established. Eventually, unused wilderness roads become totally overgrown. This return to a natural state does not imply that material adverse effects to the forest resource will not occur; it just means access is no longer possible, without undertaking considerable work to re-open the road.

Deactivated roads are roads that have had all culverts and bridges removed from streams, and road prisms and clearing widths stabilized to reduce the likelihood of a material adverse effect on one of the government objectives outlined under FRPA, section 149(1).[8] Unless exempted by the district manager, deactivated roads must be barricaded to prevent access by motor vehicles, other than all-terrain vehicles. Maintenance obligations normally "retire" once a road is deactivated; however, holders of a tree farm licence (TFL) are required to maintain the stability of deactivated roads.

While there are no legal requirements for licensees to conduct road or bridge inspections, legislation sets the expectation of ensuring the results identified above are achieved.

[8] The government objectives listed in the *Act* are soils, visual quality, timber, forage and associated plant communities, water, fish, wildlife, biodiversity, recreation resources, resource features and cultural heritage resources.

Scope and Approach

This special investigation examined maintenance practices and the fulfillment of obligations by road tenure holders in the Campbell River, South Island and Squamish forest districts in the Coast Forest Region.

The investigation focused on the condition of tenured forest roads and associated structures (i.e., bridges, culverts, etc.) that the selected licensees are responsible for under road permits or road use permits.

The Licensees

Campbell River Forest District

Aat'uu Forestry Limited Partnership

Aat'uu Forestry Limited Partnership (Aat'uu) is a First Nations forest company operating in the Espinosa and Port Eliza Inlets west of Zeballos, on the west coast of Vancouver Island. Aat'uu is a limited partnership of the Ehattesaht Tribe of Zeballos and was formed in 2006. The 2006 Nootka Forest Stewardship Plan (FSP), amendment #8, guided operational activities. Although Aat'uu has no boundary-defined licence area, the licences are located within Ehattesaht traditional territory.

TimberWest Forest Corporation

TimberWest Forest Corporation (TimberWest) was incorporated in 1997 and acquired portions of the business of TimberWest Forest Ltd. The portions of business acquired included private managed forestlands, TFL 47, and various forest licences. The forest licences were the focus of this investigation. These operations were managed from TimberWest's Johnstone Strait Operations office, located just north of Campbell River.

TimberWest's forest licences have defined boundaries and tend to be adjacent to the boundaries of TFL 47; however, they are geographically dispersed into eight separate operating areas. Operations extend west from Call and Bute Inlets on the Mainland coast, to areas beyond Campbell River and near to Gold River.

The forest licences are certified under the Sustainable Forestry Initiative and have been since 2007.

South Island District

Coulson Forest Products Limited

Coulson Forest Products Limited (CFP) was formed in 1960 and is a family-owned and -operated company based in Port Alberni. The company tenure in the Toquart Lake area was acquired in 1972 and CFP has operated in the watershed for almost 40 years. The Toquart

watershed has been designated as a fisheries-sensitive watershed, as there is the presence of significant downstream fisheries values and watershed sensitivity.

CFP subscribes to an ISO 14001 environmental management system for its operations on the forest licence.

Teal-Jones Group (Teal Cedar Products Ltd.)

The Teal-Jones Group (Teal-Jones) is a group of privately owned companies located throughout British Columbia coastal regions and operations can be found in the lower Fraser Valley; the interior of British Columbia; northern, central and southern Vancouver Island; and Haida Gwaii.

This group of companies manages various tenures and operates a number of sawmills. Started in 1946, it is a family-owned and -operated company and has a long history in BC. TFL 46 was purchased in 2004 and is licensed to Teal Cedar Products Ltd.

The company subscribes to forest certification under the Canadian Standards Association Sustainable Forest Management program (CAN/CSA Z809-02) on this tenure.

Squamish District

C.R.B. Logging Co. Ltd.

C.R.B. Logging Co. Ltd (CRB) is a full-phase logging company with a 50-year history of working in the area. CRB holds tenure in Meager Creek, Joffrey Creek and Green River drainages. Subsequent to this investigation, CRB sold this licence to Pebble Creek Timber Ltd.

Northwest Squamish Forestry Ltd.

Northwest Squamish Forestry Ltd. (NSF) is owned locally by the Squamish First Nation, and operates within their traditional territory. NSF holds tenure in the Mill Creek and Mamquam River drainages.

Squamish Mills Ltd.

Squamish Mills Ltd. has been in business in the Squamish Valley since 1951. Squamish Mills holds tenure in the Fire Mountain/ Tenas area, north of the Lillooet River and in the Salal Creek and North Lizzie Creek areas. Industrial activity was ongoing at several locations during the investigation field visit.

Halray Logging Ltd.

Halray Logging Ltd. is wholly owned by Squamish Mills Ltd. Tenure is held in the Smith Creek, Salal Creek and the Soo River areas, and on the southwest side of the Lillooet River.

The licensees and associated licences are summarized in Table 2 below.

TABLE 1. Tenure holders selected by forest district

Forest District	Licensee	Licence
Campbell River	Aat'uu Forestry Limited Partnership	Forest Licence A19236 and Non-Replaceable Forest Licence A83269
	TimberWest Forest Corporation	Forest Licence A20913 & A29159
South Island	Coulson Forest Products Limited	Forest Licence A19234
	Teal Cedar Products Ltd.	Tree Farm Licence 46
Squamish	C.R.B. Logging Co. Ltd.	Forest Licence A19218
	Northwest Squamish Forestry Ltd.	Forest Licence A19209
	Squamish Mills Ltd.	Forest Licence A19214
	Halray Logging Ltd.	Forest Licence A19217 and Timber Sale Licence A20481

Road Maintenance Practices

This investigation assessed practices related to tenured roads held by the eight licensees. Investigators reviewed documents and examined field conditions to assess compliance with road-related *Forest and Range Practices Act* (FRPA) obligations for tenured roads under each licence, including industrial, wilderness, and deactivated roads. As described in Appendix 1, FRPA requires holders to maintain a tenured road, including bridges, culverts and fords, until the road is deactivated or the district manager retires the permit, issues a new permit to another party, or declares the road an FSR under the *Forest Act*.

Each licensee provided information regarding roads under permit, including overview maps. These road lists and overview maps were compared against government's electronic forest tenure records to verify responsibilities for each licensee's operating area(s). Road conditions were assessed both on the ground and from low-level helicopter flights.

Examples of practices relating to industrial roads examined during the investigation were:

1. Can the road be safely used by industrial users (consider sight lines, danger trees in right-of-way, grading, road width, signage, bridge/culvert deterioration)?
2. Are cutbanks impeding drainage function?
3. Are fillslopes stable (are there tension cracks, settling cracks, holes in road)?
4. Are ditches functional and effective?
5. Are culverts functional and effective?
6. Are bridges and wood box culverts functional and effective?
7. Is fish passage effective where applicable?
8. Are ditch blocks adequate and effective?
9. Is road surface drainage effective?

Examples of practices relating to wilderness roads examined during the investigation were:

1. Are cutbanks impeding drainage function?
2. Are fillslopes stable (are there tension cracks, settling cracks, holes in road)?
3. Are ditches functional and effective?
4. Are culverts functional and effective?
5. Are bridges and wood box culverts functional and effective?
6. Is fish passage effective where applicable?
7. Are ditch blocks adequate and effective?
8. Is road surface drainage effective?
9. If industrial users are not using a road, is the road being maintained to the extent that ensures there is no material adverse effect on a forest resource?

Examples of practices relating to deactivated roads examined during the investigation were:

1. Are adequate barricades established to prevent access to motorized vehicles (except ATVs)?
2. Is there adequate signage to warn users of deactivation?
3. Have bridges and log culvert superstructures and culverts been removed?
4. Have bridges and log culvert substructures been removed?
5. Are fillslopes and cutslopes stable (are there tension cracks, settling cracks, holes in road)?
6. Are drainage systems functional and effective (cross-ditches, ditchblocks, etc.)?
7. Is pullback effective?
8. Has the natural hillslope drainage been restored?

In summary, whether it related to industrial, wilderness, or deactivated roads, the investigators were looking to answer the following questions:

1. Is the structural integrity of road prisms and clearing widths protected?
2. Are the drainage systems of roads functional?
3. Are there any restrictions to fish passage or harm to fish habitat?
4. Are road conditions safe for industrial users?
5. Is there any damage or harmful materials deposited in a licensed waterworks?
6. Do practices minimize the occurrence of landslides and gully processes?

All tenure roads and bridges identified under the 11 licences, up to the end of the first week of November 2009, were the subject of the investigation. The following table summarizes the tenured activity reviewed by forest district and by tenure holder.

TABLE 2. Summary table of maintenance obligations examined

		Industrial Class		Wilderness Class		Deactivated		Total Road	
Forest District	Licensee	Km	Bridges	Km	Bridges	Km	Bridges	Km	Bridges
Campbell River	Aat'uu Forestry	0	0	68	11	0	0	68	11
	TimberWest Forest Corporation	0	0	94	7	0	0	94	7
	Total	**0**	**0**	**162**	**18**	**0**	**0**	**162**	**18**
South Island	Coulson Forest Products Limited	0	0	30	25	5	0	35	25
	Teal Cedar Products Ltd.	141	30	79	0	2	0	222	30
	Total	**141**	**30**	**109**	**25**	**7**	**0**	**257**	**55**
Squamish	C.R.B. Logging Co. Ltd.	0	0	53	3	8	0	61	3
	Northwest Squamish Forestry Ltd.	0	0	23	5	5	0	28	5
	Squamish Mills Ltd.	32	1	91	6	0	0	123	7
	Halray Logging Ltd.	12	0	43	0	0	0	55	0
	Total	**44**	**1**	**210**	**14**	**13**	**0**	**267**	**15**
TOTALS		**185**	**31**	**481**	**57**	**20**	**0**	**686**	**88**

Findings

The investigation found that most of the roads examined by the Board met legislative and regulatory requirements. The majority of road segments reviewed showed that operators had preserved the structural integrity of road prisms and that clearing widths were protected; drainage systems were functional; and where roads were being used for ongoing activities such as timber harvesting, these roads were safe for industrial users.

Overall, the conditions on the assessed roads met FRPA's maintenance requirements, with one exception. One licensee did not meet its maintenance obligations under the terms of the road permit or road use permit agreements issued.

Under the *Forest Planning and Practices Regulation* (FPPR), section 81 applies to wilderness roads and requires the road permit holder to adhere to FPPR section 79 6 (a) and (b) only (road maintenance). This section requires the permit holder to maintain a road ensuring the structural integrity of the road prism and clearing width are protected; and the drainage systems of the road are functional to the extent necessary to ensure there is no material adverse effect on a forest resource. Section 81 states that s.79(6)(c)—ensuring the road is safe for industrial users—does not apply.

As Coulson Forest Products Limited (CFP) hadn't operated in the area since December 2007, there was no industrial use, so all roads under tenure fell into the category of wilderness roads, and section 81 would apply.

CFP did not ensure that all of its road maintenance activities met the regulations. Regulations require licensees to maintain wilderness roads to a standard in which the structural integrity of the road prism is protected and drainage systems are functional. Three wilderness road systems that CFP was responsible for had ditches in-filled by raveling of cutslopes or from logging debris, resulting in plugged culverts and non-functional ditches. The end result was unmanaged water flow eroding the existing road surface and the remaining ditchline.

At the time of the investigation, the Board did not conclude that a material adverse effect on a forest resource had occurred, but there was an increased potential for impacts due to the lack of maintenance activities within this fisheries-sensitive watershed. The lack of road maintenance occurred on several road sections, so the issue was considered pervasive in nature and it is deemed to be a significant non-compliance with respect to road maintenance on wilderness roads.

As well, in another district, the investigation noted that two bridges, if they had been accessible, would have been potentially unsafe. However, these structures were not accessible to vehicular traffic due to a natural landslide that had fully blocked the road. Although this issue was not significant within the scope of this investigation, it is indicative of a potential for harm to public safety in the overall context of wilderness road bridges.

Appendix 1: Legislation

Under the *Forest Act*, all forest roads constructed or maintained on Crown land must be tenured.[9] Also, any timber transported across Crown land to a public road must be transported on tenured forest roads. The Ministry of Forests, Lands and Natural Resource Operations (FLNRO) has the responsibility for issuing road tenures. A road tenure provides an agreement holder with authority to use and maintain a road on Crown land for industrial purposes. Some road tenures can also provide authority to construct and/or modify a road.

Table 1 below describes the type of road and tenure, the tenure holder, and their rights and obligations. Road maintenance obligations are dependent on the type of road tenure.

TABLE 3. Road type, road tenure, tenure holder, rights and obligations

Road Type	Road Tenure	Road Tenure Holder	Rights and Obligations
Forest Service Road	Designation as FSR under the *Forest Act* No permit or agreement	FLNRO	FLNRO administers and maintains, but can assign maintenance obligations for specific segments to RUP holder.
	Road Use Permit (RUP)	Industrial user of one or more segments of an FSR	RUP **may** include maintenance obligations on one or more segments. Does not allow construction or harvesting.
Industrial Forest Road (Proposed or existing non-status)	Road Permit (RP)	Holder of a *Forest Act* agreement using the road for timber harvesting or silviculture	May allow harvesting, construction, use, and maintenance. Requires maintenance until deactivation.
Non-Forestry Industrial Resource Road (Proposed or existing non-status)	Special Use Permit	Industrial user (not for forestry) outside of authority under Coal, Mineral, Mines, or Mining or Mining R/W Acts	May allow construction, maintenance, and use. Does not allow harvesting.
On-Block Road	Cutting Permit	Holder of *Forest Act* agreement	Allows harvesting, construction, use, and maintenance. Requires maintenance until deactivation.
	Timber Sale Licence or Forestry Licence to Cut	Licence holder	Allows harvesting, construction, use, and maintenance. Requires maintenance until deactivation.
Woodlot Licence Road	Cutting Permit or Road Permit	Woodlot Licence holder	Allows harvesting, construction, use, and maintenance. Requires maintenance until deactivation.
Road under Tenure	no tenure required	Subsequent industrial users of road under RP, SUP or WL	May only use the road. Must give notice to RP holder and contribute towards maintenance cost.

[9] Cutting Permit and Road Tenure Administration Manual (version 2.1, March 14, 2008), Section 1.2 Road Tenures; note: this manual has been updated as of March 1, 2010, version 3.0.

"Forest service road" (FSR) is a designation under the *Forest Act* and as such, responsibility for the road is administered by FLNRO. It is up to FLNRO to ensure the road is maintained and it allows FLNRO to issue road use permits (RUP) to industrial users for all, or part of, a forest service road. Typically, an RUP authorizes use of one or more segments[10] of the FSR.

If access into an area cannot be obtained via an FSR or under another tenure, a road permit (RP) is needed to construct, use, and maintain a road. A road permit authorizing construction can only be used after FRPA planning requirements have been met. An existing non-status road[11] requires a RP before any industrial use or maintenance activity can be undertaken.

Provisions found in a road permit document are:

- defining the legal area of interest (the permit area described on the Exhibit A map);
- defining the rights granted (including, if necessary, the harvest of timber within clearing area);
- setting the term (beginning date and criteria for termination); and
- establishing that permit rights are non-exclusive (other than the timber authorized for harvesting within the clearing area).

The RP provides ongoing, non-exclusive authority for industrial use. The public and other industrial users can use a road that is under a RP; however, other industrial users are required by legislation to give the RP holder notice of use and to pay the RP holder a reasonable cost for maintenance.

Special use permits (SUP**s**) authorize the construction, maintenance and use of roads by the holder of a claim, lease, permit or other authorization granted or issued under the *Coal Act*, the *Mineral Tenure Act*, the *Mines Act* or the *Mining Right of Way Act*. SUPs can also authorize a forestry-related use or occupation of Crown land such as pits and quarries used for forestry-related roads, logging camps, and dryland sorts. SUPs are not an appropriate means of authorizing road construction related to timber harvesting, as an SUP cannot authorize the harvest and removal of timber. Other forms of tenure issued for construction, use, and maintenance include cutting permits, timber sale licences, and forestry licences to cut.

This special investigation looked at road permits and road use permits issued to tenure holders within the three forest districts specified and not at maintenance obligations of other tenures issued, including those for forest service roads under the management of FLNRO.[12]

[10] Utilizing segments is how FLNRO accounts for portion of a road.
[11] An older abandoned road with no active tenure.
[12] District Manager FSR obligations was assessed in a 2008 Board audit.
http://www.fpb.gov.bc.ca/ARC105_Audit_of_District_Manager_Obligations_on_Forest_Service_Roads.htm

Section 22 of FRPA governs road use, while maintenance obligations for roads are set out in section 79 of the *Forest Planning and Practices Regulation* (FPPR). For a forest service road under an RUP, the FPPR allows the district manager to order the RUP holder to assume surface maintenance obligations for the segments covered by the RUP, while the regulation (FPPR) defines the maintenance obligations.

Subsequent industrial users of the same road segments do not have surface maintenance responsibilities; however, they are responsible to pay a reasonable cost to the RUP holder to offset the cost of surface maintenance obligations.

Under a RP, tenure holders are required to maintain the road, including bridges, culverts and other structures associated with it, until the road is deactivated or responsibility is transferred to another party.

Appendix 2: Glossary of Terms

Certification: A voluntary, market-based instrument aimed at promoting sustainable forest management that takes into account environmental, economic, and social issues. It involves an independent assessment of forest management according to internationally or nationally accepted standards, and the tracking and monitoring of the supply of forest products to the market place. In Canada, three certification standards are in use: Canadian Standards Association (CSA), Forest Stewardship Council (FSC), and Sustainable Forestry Initiative (SFI).

Clearing Width: An area within a road right-of-way that is cleared of standing trees for the purpose of constructing or maintaining a road.

Compliance: Conformity with regulatory requirements established by government to protect the environment, human health, and safety.

Cross-ditch: A ditch excavated across the road at an angle and at a sufficient depth, with armouring as appropriate, to divert both road surface water and ditch water off, or across, the road.

Cross-drain Culvert: A pipe or log structure covered with soil and lying below the road surface, used to carry ditch water from one side of the road to the other.

Culvert: A pipe, pipe arch, or log structure covered with soil and lying below the road surface, used to carry water from one side of the road to the other.

Cut: The excavation required to lower the natural ground line to the desired road profile.

Cutslope: The face of an excavated bank required to lower the natural ground line to the desired road profile.

Ditch Block: A physical blockage of a ditch line, lower than road surface and directly down-grade of the cross-drain, designed to deflect water flow into the cross-drain.

Drainage: The surface and subsurface water derived within a clearly defined catchment area, usually bounded by ridges or other similar topographic features, encompassing part, most, or all of a watershed. The term is sometimes used to describe an operating area or location.

Drainage Structures: Includes metal and wooden culverts, open-faced culverts, bridges, and ditches.

Drainage System: A culvert, cross-ditch, swale, or outslope/inslope designed to move water from one side of the road to the other.

Erosion: The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep.

Fill: The placement of excavated materials necessary to raise a low point in a road alignment up to the required grade line.

Fillslopes: Slopes created by fill material (used to support the road); can be excavated from adjacent cutslopes when building roads, or trucked in from elsewhere.

Gully Process: A rapid erosion of sediment that creates a channel or increases the depth of an existing channel; or a debris flood.

Insloping: Shaping the road surface to direct water onto the cut side of the road.

Outslope: To shape the road surface to direct water away from the cut slope side of the road.

Right-of-way: A strip of land that is managed specifically for access or the construction and maintenance of electric, telephone, water, other domestic utilities, streets, roads, and highways.

Road Deactivation: Measures taken to stabilize roads and logging trails during periods of inactivity, including the control of drainage, the removal of sidecast where necessary, and the re-establishment of vegetation on permanently deactivated areas.

Road Prism: The area consisting of the road surface and any cut slope and road fill.

Sidecast: Moving excavated material onto the downslope side of a temporary access structure, excavated or bladed trail, or landing during its construction.

Significant Non-compliance: A degree of compliance in Forest Practices Board (FPB) audit findings; occurs when the FPB auditor determines that the event or condition, or the accumulation and consequences of a number of non-compliance events or conditions, is significant and is considered worthy of reporting.

Surface Soil Erosion: For an area where a forest practice has been carried out, this term means the movement of soil particles from the area by wind, gravity, or water at a rate that is greater than that which would have occurred had the forest practice not occurred.

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Forest Practices Board

NEWS RELEASE

For Immediate Release
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Forestry roads and bridges on south coast examined

VICTORIA – An investigation into how well eight forest companies maintain roads and bridges in the Campbell River, South Island and Squamish forest districts showed generally good performance in meeting legal obligations, according to a Forest Practices Board report released today.

However, the report also highlights potential public safety issues when people use these roads for backcountry access. Given the proximity to large population centres, use of forest roads in these districts is of particular concern.

"During periods of active industrial use, road permit holders, or the Ministry of Forests, Lands and Natural Resource Operations, are required to maintain the roads to ensure they are safe for industrial traffic," said board chair Al Gorley. "Active roads can pose a danger to the public in the form of large equipment and logging trucks. When roads are not being actively used for industrial purposes, they are only maintained to address environmental concerns, and older roads and bridges may not be safe for vehicles to drive on."

"The board would like to emphasize that anyone driving on forestry roads needs to be cautious at all times and expect the unexpected," Gorley said.

The investigators looked at 185 kilometres of active industrial roads, including 31 bridges; 481 kilometres of non-active roads, including 57 bridges; and 20 kilometres of deactivated road. In total, 686 kilometres of road and 88 bridges across the three forest districts were examined.

Forest roads and bridges provide essential access to resources found on public forest lands. Forest management, timber harvesting, recreation, and fire protection, as well as other activities, are all dependent on road access to the forests. It has been estimated that there are more than 400,000 kilometres of forest road within B.C., and the majority of these exist on Crown land.

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