

COMPLAINT INVESTIGATION

Forest Practices, Water, and Public Engagement in Lemieux and Gardner Creek Watersheds

AUGUST 2025

FPB/IRC/259



**Forest
Practices
Board**

BC'S INDEPENDENT
WATCHDOG FOR
SOUND FOREST &
RANGE PRACTICES

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Board Commentary

The Forest Practices Board (the Board) has investigated approximately 30 complaints and published 10 special reports or special investigations related to the impacts of forest practices on water. The complaints often involve the interface between planned or actual timber harvesting and domestic water use and relate to inadequate communication with the public, concern about the potential for hydrologic changes to streams, and the impact of increased sediment deposition on water quality.

This complaint follows the same pattern. Although licensees met the legal requirements for public consultation, the residents do not believe they experienced meaningful engagement. Their concerns about hydrologic changes within the watershed were largely unknown and unaddressed until this complaint was initiated.

The Board is concerned about the woodlot licence holder's lack of oversight and proactive road management to ensure compliance with the *Forest and Range Practices Act* (FRPA) and minimize or reduce the adverse effects on forest resources and downstream values. Roads are the main source of sediment deposition into streams, and there are best practices that licensees can use to minimize the potential for sedimentation.ⁱ

The Board's 2022 special report, *Forest Practices and Water: Opportunities for Action*, describes four actions, three of which would improve this matter and many similar situations. These opportunities are as relevant today as they were in 2022, notably:

1. Improve public involvement by making water a core value in forest planning, including forest landscape planning.
2. Manage the cumulative effects of forest practices on water as a legal requirement in all watersheds.
3. Improve the regulation of forest practices that contribute sediment to streams.

A more wholistic¹ approach to watershed-level management can help conserve or restore water values in BC. This is the shared responsibility of the provincial government, First Nations, forest licensees and private landholders, all of whom play a role in the stewardship of the land. The Board is encouraged to see the work of the Skeena Sustainability Assessment Forum (SSAF), which currently plays a leadership role in generating trusted, relevant and accessible data regarding the condition of values and encouraging collaboration in managing risks to those values.

¹ The term wholistic is inclusive of Indigenous ways of knowing, understanding, being, and doing.

Executive Summary

On March 27, 2024, the Board received a complaint about harvesting in the Lemieux and Gardner Creek watersheds. The complainant, who represents some downstream residents, is concerned that over-harvesting has resulted in creeks and wells going dry, affecting people downstream. They assert that the licensees planned logging without proper consultation with residents negatively impacted by previous harvesting.

The Lemieux and Gardner Creek watersheds are located about 30 kilometres southeast of Smithers, near the community of Quick. These watersheds are within the territories of the Witset First Nation, the Wet'suwet'en First Nation, and the Office of the Wet'suwet'en Hereditary Chiefs. Nearly half of the Lemieux and Gardner Creek watersheds are private land, mostly used for agriculture. The other half is public land managed for multiple uses such as range, recreation, timber and trapping.

Three licensees—BC Timber Sales (BCTS), Kyah Development Corporation (KDC), and William Leonard Miller, the holder of woodlot licence W0104—were parties to this investigation.

The investigation focused on assessing compliance with water management requirements, including road maintenance, maintenance of natural surface drainage patterns, and riparian area management. It also assessed compliance with the requirements for public review and comment.

The Board found two instances where the holder of W0104 did not comply with the legal requirements for managing water. The licence holder was unable to demonstrate that it ensured its roads and drainage structures were not adversely affecting forest resources. It also did not maintain natural surface drainage patterns after road construction, directing water from a stream, down a road and into a different stream laden with sediment. The Board considers stream sedimentation an unsound practice.

The Board found that the other licensees complied with the water management requirements of the investigation.

All licensees complied with the legal requirements for public consultation. The complainant, a range tenure holder and therefore considered a stakeholder, received referrals from BCTS and KDC regarding cutblock development. When the licensees developed these cutblocks, there was no requirement to advise residents or stakeholders of planned development. While the holder of W0104 also met the legal requirements for public consultation, the Board's investigation was the first time the licensee and the complainant had communicated even though they share a property line and have an overlapping range tenure.

The Lemieux Creek and Gardner Creek watersheds have experienced significant disturbances from forest harvesting and private land uses. The Board expects the removal of forest cover, combined with the effects of climate change, will continue affecting the duration and timing of low water flows in both watersheds. Although the Skeena Stikine Natural Resource District (the district), the KDC and the SSAF have done some recent work to understand those pressures better, all licence holders are not collectively using the information to understand the cumulative effects of all disturbances within the watersheds. Furthermore, government decision-makers still lack the authority to consider or enforce thresholds to manage the cumulative effects of disturbances on the land base.

Introduction

The Complaint

On March 27, 2024, the Board received a complaint about harvesting in the Lemieux and Gardner Creek watersheds. The complainant, who represents some downstream residents, is concerned that over-harvesting has resulted in creeks and wells going dry, affecting people downstream. BC Timber Sales (BCTS), Kyah Development Corporation (KDC), and William Leonard Miller—the holder of Woodlot 0104 (W0104)—are the subjects of the complaint.

Specifically, the complainant is concerned that:

- logging has resulted in changes to natural surface drainage patterns;
- licensees did not retain timber on riparian zones within the headwaters of—and tributaries to—Gardner and Lemieux creeks; and
- licensees planned logging without proper consultation with residents who were already negatively impacted by previous harvesting.

For relief, the complainant would like to see a moratorium on future logging until a complete watershed review and a plan to address the cumulative effects of harvesting on this area are developed.

Background

The Gardner Creek watershed is located about 30 kilometres southeast of Smithers, near the community of Quick. It is just under 600 hectares in area, ranging from 600 to 1100 metres in elevation. The annual discharge of Gardner Creek is just under 1 million cubic metres of water per year,ⁱⁱ which drains into Lemieux Creek. The Lemieux Creek watershed is 3000 hectares in area, spanning an elevation range from 600 to 1500 metres. The annual discharge of Lemieux Creek is just over 5 million cubic metres of water.ⁱⁱⁱ

The Lemieux and Gardner Creek watersheds are within the territories of the Witset First Nation, the Wet'suwet'en First Nation, and the Office of the Wet'suwet'en Hereditary Chiefs. The Board recognizes the importance of Indigenous Peoples' historical relationship with the land, which continues today.

Although the complainant was concerned about water quantity and cumulative effects in the Gardner Creek watershed, some of the cutblocks they identified are also within the Lemieux Creek watershed (Figure 1). Furthermore, several entities have completed different watershed-level assessments of the Lemieux Creek watershed, within which the Gardner Creek watershed is nested. Therefore, this report provides information about both Lemieux Creek and Gardner Creek.

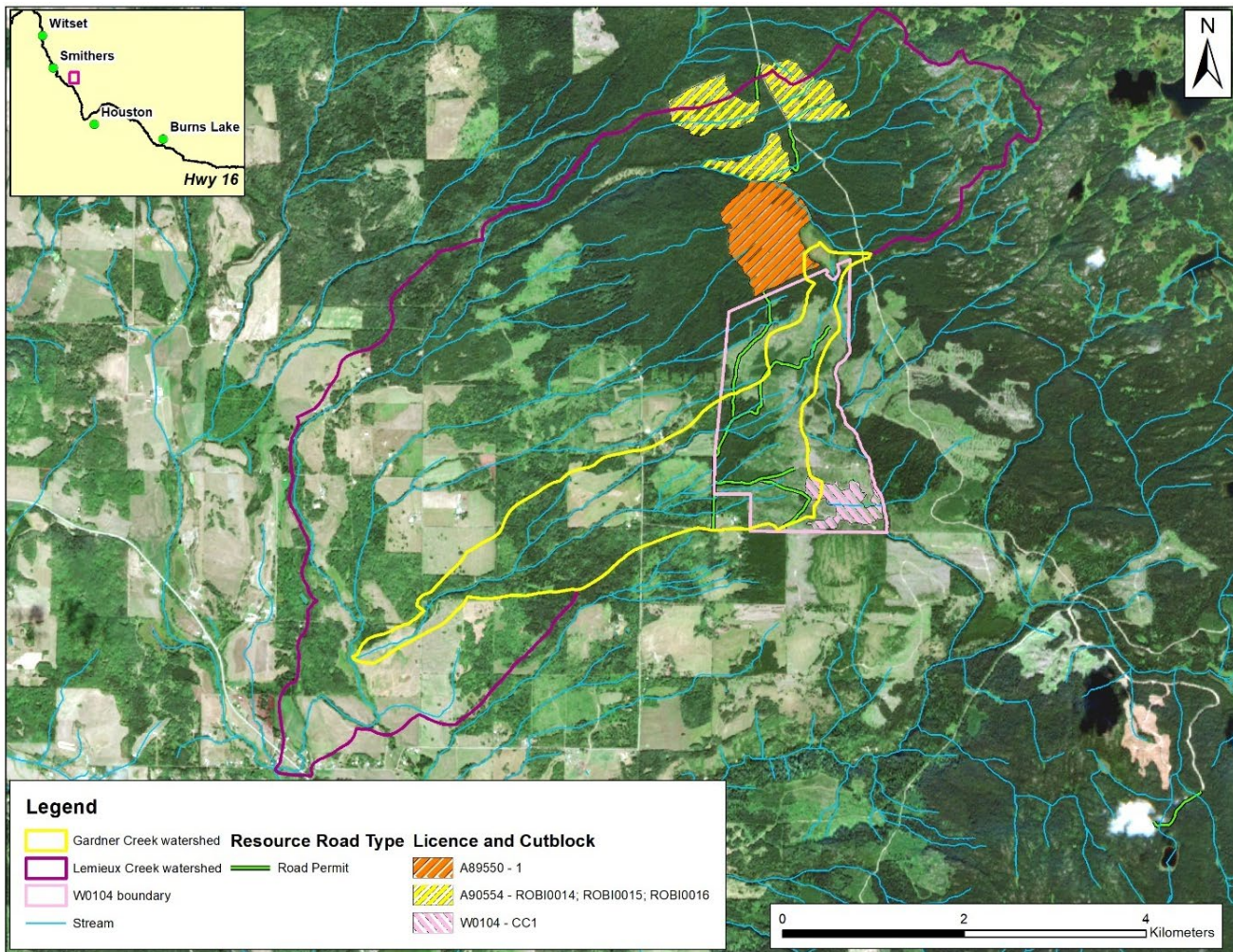


Figure 1. Map of the Lemieux and Gardner Creek watersheds showing the areas of concern identified in this complaint investigation.

Nearly half of the Lemieux and Gardner Creek watersheds are private land, mostly used for agriculture. Private landowners have cleared significant areas for crops and livestock grazing. One-third, or close to 100 hectares, of the private land in the Gardner Creek watershed has been cleared of forest cover.

The holder of W0104, BCTS and KDC hold timber harvesting rights and operate within the Lemieux Creek and Gardner Creek watersheds. W0104 spans the headwaters² of Gardner Creek.

KDC has a forest management agreement with Canfor. This means that Canfor is responsible for all the forest management work for KDC's licence, including all aspects of planning, First Nation and stakeholder engagement, layout, permitting, harvesting and road building, hauling, road deactivation, reforestation activities and required reporting.

² A tributary stream of a river close to or forming part of its source.

Records of timber harvesting on public land within Gardner Creek date back to 1991, with most of the harvesting occurring between 2011 and 2016 in response to the mountain pine beetle epidemic (Figure 2). These records show that forest harvesting has happened on nearly two-thirds of the public land, or close to 200 hectares, within the headwaters of Gardner Creek. The previous holder of W0104 completed all their harvesting within the Gardner Creek headwaters. Most of that harvesting occurred right up to the banks of Gardner Creek and its tributaries.

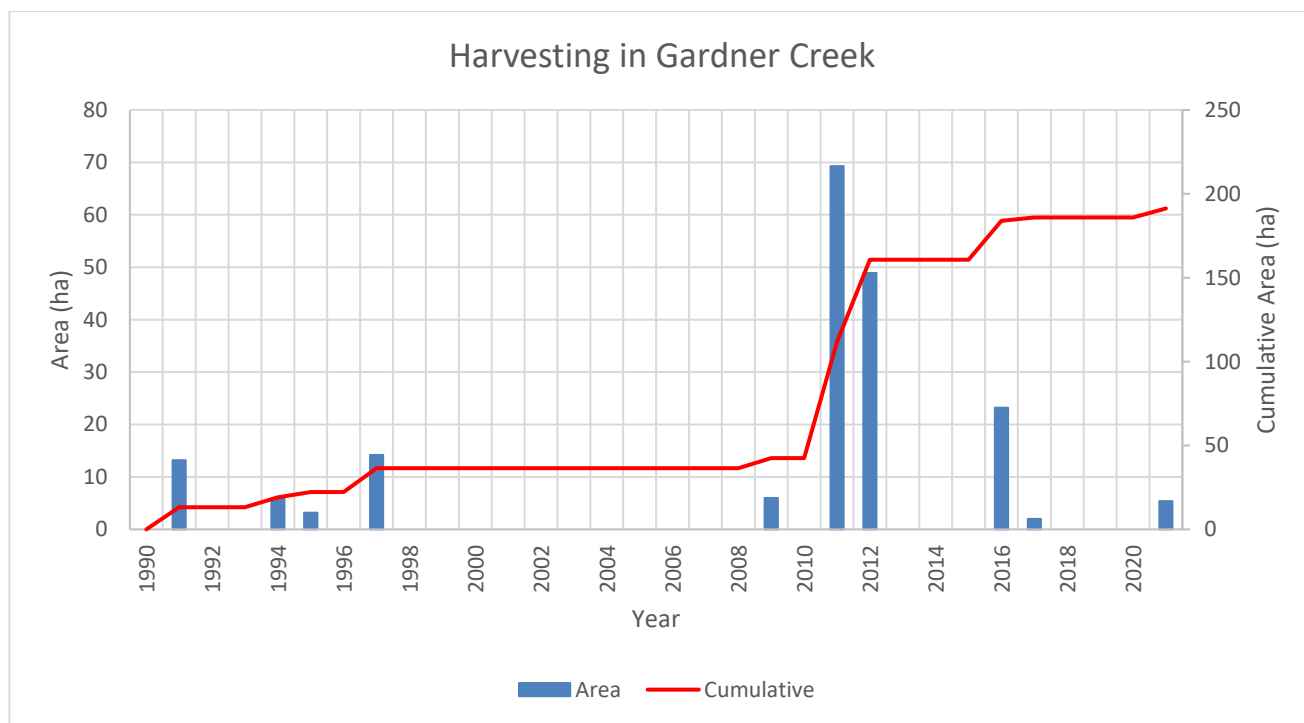


Figure 2. Timber harvesting within the Gardner Creek watershed since 1990.³

Licensees must manage all streams as fish-bearing unless proven otherwise.^{iv} This is important in determining the riparian management area requirements for a stream (Figure 3) and assessing compliance with legal requirements for fish habitat. The previous holder of W0104 sampled the mainstem of Gardner Creek for fish presence in the late 1990s.^v The results of two sampling seasons did not confirm the presence of fish; however, it did conclude^{vi} that no fish barriers were present within reach one of Gardner Creek (not within W0104), and should be considered fish-bearing. The sampling report found that reaches two and three, within W0104, are non-fish-bearing due to restricted fish access resulting from steps/cascades, steep gradients and the ephemeral nature of these reaches, which are both dry during late summer and fall. The sampling report classified the upper reaches of the mainstem of Gardner Creek, which are within W0104, as S6 streams.

³ Based on disturbance end date sourced from RESULTS data.

The previous woodlot licensee harvested in the Gardner Creek watershed between 1992 and 2017. The complainant purchased their property in the Gardner Creek watershed and has grazed cattle there since 2005. In 2009, they obtained additional property and grazing rights in the Gardner Creek watershed. The complainant told the Board that issues with water quantity started in 2017. The wells used by residents for domestic purposes⁴ have not had enough supply to last throughout the year. The residents believe the harvesting carried out within the Lemieux and Gardner Creek watersheds by BCTS, the holder of W0104 and KDC has contributed to the low water quantity downstream.

Applicable Legislation

The following sections from FRPA, the *Forest Planning and Practices Regulation* (FPPR) and the *Woodlot Licence Planning and Practices Regulation* (WLPPR) are the legal requirements Board investigators assessed in this investigation.

The primary forest activities of KDC and BCTS are subject to the FPPR and the relevant forest stewardship plan (FSP). The primary forest activities of the holder of W0104 are subject to the WLPPR and the relevant woodlot licence plan (WLP).

Since both KDC and BCTS included an intended result or strategy in their FSP for the objective for water, fish, wildlife and biodiversity set out in section 8 of the FPPR, both are exempt from the related practice requirements.⁵

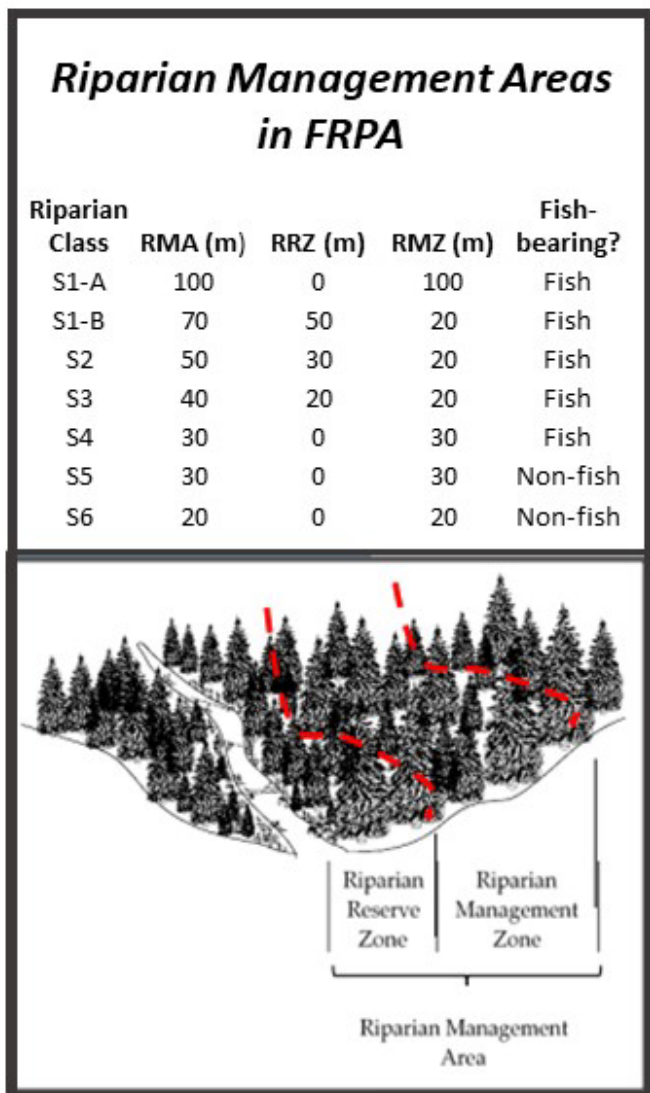


Figure 3. Riparian Management Areas in FRPA. In most circumstances, no harvesting occurs in riparian reserve zones and harvesting is constrained within riparian management zones.

⁴ Domestic purposes include water for a private dwelling household, fire prevention, private lawn and garden watering, and providing water to domestic animals or poultry kept as pets or for household use.

⁵ The related practice requirements include sections 47 to 53 of the FPPR.

Water Management	FRPA s.20.22(1) – Describes how an FSP or WLP holder must comply with the provisions in the approved FSP or WLP.
	FPPR s.39 – Describes who must maintain natural surface drainage patterns in relation to a road and when.
	FPPR s.81 – Describes road maintenance requirements that apply to roads not being used by industrial users, which are commonly referred to as wilderness roads.
	WLPPR s.28 – Describes when a woodlot licence holder must maintain natural surface drainage patterns in relation to a road.
	WLPPR s.70 – Describes road maintenance requirements that apply to wilderness roads, which are roads not subject to industrial use.
Public Review and Comment	FPPR ss.20(1), (2) – Describes the requirements for publishing a public notice of an FSP before a person submits the FSP for approval.
	FPPR s.21(1) – Describes a requirement to meet with or provide certain persons with an opportunity to review an FSP before a person submits the FSP for approval.
	FPPR ss.22(1), (2) – Describes the requirements for a person submitting an FSP for approval to consider written comments received during the period of the notice and submit a description of any changes made to the FSP as a result of the comments.
	WLPPR ss.17(1), (3), (4), (5) – Describes the requirements for a woodlot licence holder to publish a notice, to consider written comments and to document changes made to the WLP prior to submitting the WLP for approval.

Figure 4. Applicable legal requirements.

Investigation Results

This investigation considered two questions:

1. Did the licensees comply with legal requirements for managing water?
2. Did the licensees comply with legal requirements for public consultation?

Board investigators assessed whether five recently harvested cutblocks, and associated road construction and maintenance conducted by KDC, BCTS, and the holder of W0104 complied with the legal requirements in FRPA and its regulations for managing water. It then considered whether the public review and comment processes associated with those activities complied with legal requirements.

1. Did the licensees comply with legal requirements for managing water?

The investigation considered whether licensees complied with the legal requirements for water management listed under the [Applicable Legislation](#) section of the report. This included assessing compliance with the riparian area retention requirements set out in the FSP for KDC and BCTS (see [Appendix I](#)), and road construction and maintenance requirements, including maintenance of natural surface drainage patterns⁶ for all licensees. Board investigators did not assess riparian area retention requirements for the holder of W0104, as it had not carried out recent riparian area management practices within the Gardner Creek watershed.

Board investigators treated all streams less than 1.5 metres in width with no stream classification assessment as S4 classification (fish-bearing), for the purposes of assessing compliance.

All roads subject to this investigation were in “wilderness” status because forest licensees have not used them for industrial purposes since 2022.

BC Timber Sales

A timber sale licensee harvested A89550 Block 1 in late 2016. The cutblock has a net area to reforest of 64.4 hectares. The Board previously audited this cutblock in 2017 as part of a compliance audit and found that the harvesting complied with legal requirements.

Roads

The timber sales manager approved these blocks and roads under a timber sale licence (TSL). As of the TSL expiry date in 2018, BCTS had no further legal obligations related to these roads. Regardless, Board investigators examined all in-block roads during this investigation and identified no significant road maintenance or natural surface drainage issues.

⁶ Any natural drainage, whether classified or not, requires an appropriately sized structure that accommodates stream flow at its natural velocity and pathway, and accounts for seasonal variations.

Riparian

Board investigators assessed the riparian management against the FSP strategy (see [Appendix I](#)). They assessed riparian management area (RMA) widths on streams and wetlands in the field and compared them against the site plan. RMA widths and tree retention were consistent with the requirements set out in the approved FSP. BCTS did not construct any roads within an RMA, and did not cut, modify or remove trees from a riparian reserve zone (RRZ).

Finding

BCTS complied with the legal requirements for managing water. It achieved the riparian management requirements set out in the approved FSP.

Woodlot 0104

Timber harvesting in W0104 has been going on for over 30 years, with the most recent harvest occurring in 2021. The harvesting in 2021 required using the roads examined in this investigation, but only a small portion of the harvesting was within the Gardner Creek watershed. The woodlot licensee has not substantially harvested within the Gardner Creek watershed since 2017.

The Board assessed the woodlot roads for compliance with the requirements for road maintenance on wilderness roads, including maintenance of natural surface drainage patterns. The Board did not assess the riparian areas from the 2021 harvesting for compliance, as they are not within the Gardner or Lemieux Creek watersheds. The 2021 harvesting is within the Deep Creek watershed, which is outside the scope of this investigation.

Roads

Woodlot licence holders must ensure that the drainage systems of a road are functional. In the case of a wilderness road, in accordance with section 70 of the WLPPR, this requirement only applies “to the extent necessary to ensure there is no material adverse effect on a forest resource.” In the Board’s view, licensees must demonstrate due diligence and proactively manage roads to satisfy a road maintenance requirement “to ensure.” According to the Ministry of Forests Engineering Manual,^{vii} diligent road maintenance involves planning, inspection and documentation.

Board investigators examined the road maintenance practices and whether the woodlot licensee maintained natural surface drainage patterns. Maintaining natural surface drainage patterns means ensuring the water continues to flow in its natural pathway after road construction. Investigators found the licensee did not maintain natural surface drainage patterns after road construction, directing water from a stream with no culvert in place, down a road and into a different stream (Figure 5). The water draining off the road into that second stream was brown from sedimentation due to travelling down the road. Both streams are tributaries to Gardner Creek, and Board investigators considered them fish-bearing.

The Board considers depositing sediment into streams an unsound practice. Further investigation would have been required to determine whether this sedimentation had a material adverse effect on a forest resource.

All but one existing drainage structure on the woodlot roads was functional. The Board identified one culvert requiring maintenance.

The holder of W0104 had no road maintenance plan and had not been on-site at the woodlot since logging was completed in December 2021. The holder also confirmed that no one inspected the roads in the woodlot. This is not the proactive management the legislation calls for when it uses the word “ensure.”



Figure 5. Water running down the surface of a W0104 road onto the mainline and draining into a tributary of Gardner Creek.

Riparian

The 2021 harvesting occurred outside of the Gardner Creek watershed. The Board investigators did not assess older harvesting for compliance with riparian requirements, but investigators did review the headwaters in the field (Figure 6).



Figure 6. Gardner Creek mainstem near the headwaters. The road was constructed immediately adjacent to the stream channel, and there was no retention of spruce, balsam or deciduous trees as would have been required by the WLP at the time.

Finding

The holder of W0104 did not comply with the legal requirements for managing water. It did not comply with section 28 of the WLPPR as it did not maintain natural surface drainage patterns on the area after road construction. Further, the holder of W0104 did not comply with section 70(a) of the WLPPR as it could not demonstrate that it ensured its roads and drainage structures were not adversely affecting forest resources. The holder of W0104 was not diligent in inspecting these roads and structures.

Kyah Development Corporation

The Board reviewed three cutblocks harvested by KDC in 2022 and the associated access roads in the Lemieux Creek watershed. Board investigators assessed these blocks for compliance using the KDC 2017 – 2022 approved FSP (see [Appendix I](#)). The Deep Creek Forest Service Road was not part of this assessment.

KDC has not harvested in the Gardner Creek watershed since 2017. Since the complainant did not identify this block as a specific area of concern, Board investigators did not assess it in the field.

Roads

KDC removed all drainage structures and deactivated all the access and in-block roads for the three cutblocks. KDC maintained natural surface drainage on these wilderness roads. KDC located culverts appropriately and installed deep and functional cross-ditches.

Riparian

KDC accurately identified all streams on the site plan maps as S4 or non-classified drainages (NCD). The S4 streams required a 30-metre riparian management zone (RMZ) and no RRZ. Retention requirements within the RMZ depend on channel width, as described in the site plan. Although the FSP did not require retention for an NCD, the site plans for all three blocks prescribed retention of all deciduous, brush species, advanced regeneration and non-merchantable stems within five metres of the NCD (Figure 7).

Investigators inspected RMZs in the field, and KDC achieved retention requirements on all three blocks.



Figure 7. KDC Block ROBI0014 - RMZ retention along a non-classified drainage in the Lemieux Creek Watershed.

Finding

KDC complied with the legal requirements for managing water on the three cutblocks harvested in 2022 in the Lemieux Creek watershed. Riparian management areas were consistent with the approved FSP strategy. KDC managed natural surface drainage patterns and ensured that drainage systems on wilderness roads were functional.

2. Did the licensees comply with legal requirements for public consultation?

The complainant is concerned that the licensees planned logging without proper consultation with residents, who were already negatively impacted by previous harvesting.

The legal requirements for public consultation for FSP and WLP holders are similar. Before a person submits an FSP or a WLP for approval, they must publish a notice in a newspaper and make the plan available for public review upon request. They must consider any written comments received, and submit with the plan a description of any changes made to the plan because of the comments received.

When the licensees planned and harvested the cutblocks and roads subject to this investigation, there was no legal requirement for public review and comment on the location of cutblocks and roads.⁷

BC Timber Sales

BCTS conducted stakeholder engagement⁸ at two points. Once during the FSP approval and again during the planning of cutblocks and roads. This was not a requirement when BCTS shared Block 1 with the complainant, but it is now a legal requirement incorporated in the current BCTS FSP. This was consistent with the 2017 Skeena Stikine district manager FSP expectations letter.^{viii} This letter requested licensees to consider how best to convey proposed cutblock, road and access-related information to affected or interested parties to improve the engagement process for the public, stakeholders and First Nations.

BCTS shared operational planning information with the complainant, who is also a range agreement holder and considered a stakeholder. BCTS referred operating plan information about TSL A89550 Block 1 to the complainant and made changes to the planned cutblock to address their concerns.

BCTS advertised its replacement FSP in May 2018. Members of the public must watch for advertisements in the local papers regarding FSPs. If a member of the public has comments, they must contact BCTS to request a copy of the plan and then submit their written comments to BCTS within the allotted timeframe. BCTS received no comments from the complainant or public comments relating to water on their FSP.

Finding

BCTS complied with the legal requirements for public consultation related to the approval of its FSP in November 2018. Although there was no legal requirement to share operating plan information, BCTS shared information about planned cutblocks and roads with the complainant, a range tenure holder, and considered their comments in their plans.

⁷ On April 1, 2024, FRPA was amended to incorporate the requirement for FSP holders to prepare a forest operations map that shows the approximate location of cutblocks and roads, and make that map publicly available. There is still no legal requirement for public review and comment on the location of cutblocks and roads subject to a WLP.

⁸ The BCTS stakeholder list includes tenure holders such as guides, trappers, range agreement holders, and forest licensees as well as community groups.

Woodlot 0104

When the holder of W0104 renewed its WLP in 2020, it published an advertisement in The Smithers Interior News (Figure 8), providing notice of a 60-day review period for its 2020 to 2029 WLP. The licensee did not receive any comments from the public on the proposed WLP.

The Skeena Stikine Natural Resource District (the district) did not set expectations for a WLP holder to share proposed cutblock, road and access-related information to affected or interested parties, as it did for FSP holders. There is no legal requirement for a woodlot licensee to have a site plan⁹ for cutblocks or roads.

Finding

The woodlot licence holder complied with the legal requirements for public consultation before submitting its WLP for approval in 2020.

Kyah Development Corporation

KDC initiated stakeholder engagement at three points. The first was at the FSP approval stage, the second was during the operational planning stage, and the final time was at harvest notification for individual blocks.

KDC published notices in local newspapers and sent stakeholder letters regarding its newly proposed FSPs in 2017, the extension of that FSP, and a new FSP in 2022. KDC did not receive comments from the complainant resulting from any FSP public review and comment notices or stakeholder referrals.

Between September 2022 and December 2022, KDC met with the complainant and other residents of Gardner Creek to discuss concerns about block layout and impacts on their properties, including water quantity in Gardner Creek. As a result, KDC altered the configuration of two cutblocks to avoid impacting a spring behind one resident's home.

In January 2023, due to ongoing concerns about proposed harvesting in the Lemieux Creek watershed, KDC attended a meeting with the district and the complainant. The district brought attention to the amount of harvesting in the Lemieux Creek watershed and acknowledged that licensees are not legally required to address the cumulative effects of harvesting.

KDC requests input from stakeholders on planned blocks when a block falls within their area of interest. Stakeholders include other rights holders such as range or trapping tenure holders, guide outfitters or other timber tenure holders. A private property holder will receive operational planning referrals if KDC plans to log within 500 metres of their property. If a member of the public would like to receive information about proposed developments in their area of interest, they need to identify their interests to KDC.

Finding

KDC complied with the legal requirements for public consultation related to the approval of its FSP in 2017, its FSP extension in 2022 and its FSP approval in 2023.

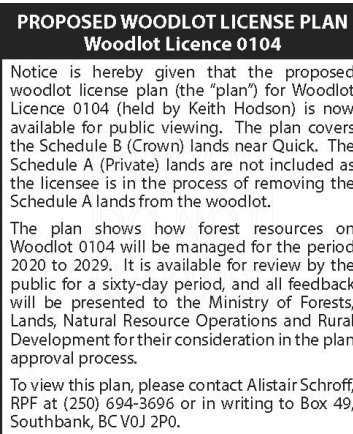


Figure 8. Advertisement placed in The Smithers Interior News by the holder of W0104.

⁹ A site plan identifies the location of cutblocks and roads, and how the content of the FSP applies.

Discussion of Cumulative Effects in Lemieux Creek

The complainant is concerned that over-harvesting within the Lemieux and Gardner Creek watersheds has resulted in dry creeks and wells, affecting people downstream. While there are no legal requirements to manage cumulative effects in this area, the Board has chosen to discuss the concern because it believes that managing cumulative effects in watersheds is important.

What factors are contributing to cumulative effects in Lemieux and Gardner Creek watersheds?

The removal of forest cover has hydrologic impacts within a watershed. After disturbance from timber harvesting, watersheds in relatively dry temperate areas, such as the Lemieux Creek watershed, often experience earlier snowmelt but little or no change in total annual streamflow.^{ix} This could mean that peak flows occur earlier in the season and the period of low flows over the dry summer months is longer.

Licensees harvest timber on public land, which affects watershed hydrology. Forest cover removal also occurs on private land, contributing to cumulative effects downstream. Land use changes such as agricultural clearing on private land increase the equivalent clearcut area (ECA)¹⁰ and flow hazards.

Water allocation from Lemieux Creek and Gardner Creek for various uses further strains the watersheds. On average, in July and August, the Province allocates the entire monthly discharge (modelled) from Gardner Creek to licenced users.^x

Climate change is projected to be a significant factor in watershed hydrology and the cumulative effects felt by downstream users. A report prepared for the Skeena Environmental Stewardship Initiative describes how seasonal discharge patterns are expected to change in the Skeena Region due to projected changes in climate over the next 50 years.^{xi} It explains how winter discharge will increase in all regions and that lower-elevation watersheds will experience the biggest change. Summer discharge is projected to decrease substantially to less than half of the current discharge.

¹⁰ See definition of Equivalent Clearcut Area in the Forest Practices Board Glossary: <https://www.bcfpb.ca/news-resources/glossary/#E>

What has been done to understand cumulative effects better?

The SSAF has worked on understanding cumulative effects. The SSAF completed a 2021 assessment^{xii} highlighting that the Lemieux Creek watershed has an ECA of 36 percent, with over 88 percent of the area sensitive to flow changes. The SSAF 2021 assessment characterizes an ECA greater than 20 percent as a high risk of fish habitat degradation. This information helped raise awareness that, before developing roads and cutblocks in the watershed, forest licensees needed more information to understand the risks better.

In 2022, the three district managers in the Skeena Region developed a new FSP expectation letter, which highlighted the importance of:

- collaborative assessment, planning and monitoring with First Nations;
- consideration of existing landscape-level assessments, which have identified values at risk; and
- taking proactive steps to prevent further degradation from cumulative impacts.

After the complainant met with the district and KDC in January 2023, the district and the SSAF partnered to complete a tier-two¹¹ Routine Watershed Assessment (RWA)^{xiii} covering the Lemieux Creek watershed.¹² The data from this assessment indicates that the Gardner Creek sub-catchment is functioning but at high risk of sedimentation. The unnamed sub-catchment between Gardner and Lemieux Creek is not properly functioning, but the Lemieux Creek sub-catchment is properly functioning. This report was incomplete at the time of the investigation, but data were available.

After the meeting with the district in January 2023, KDC completed a watershed risk assessment and established watershed sensitivity and risk ratings based on the values at risk. The KDC assessment found that the Lemieux Creek watershed is moderately vulnerable, or susceptible to negative impacts such as erosion during peak flows. The KDC assessment also found that Lemieux Creek is highly sensitive to increased peak flows based on the sensitivity of the values at risk, in this case being the quantity and quality of domestic and agricultural water supplies. The KDC assessment identified an ECA of 38 percent for the Lemieux Creek watershed,¹³ characterized as the low end of a high-risk threshold. This means that the values are currently at high risk of increases in peak flow, and any additional forest cover removal would put the watershed at higher risk for increased peak flows. At the time of the investigation, neither the holder of W0104 nor the district had seen the KDC assessment, and they were unaware of the findings.

¹¹ Tier 2 assessments are a more intense level of monitoring to confirm a tier 1 risk assessment and provide more detail by assessing the actual condition on the ground.

¹² The Routine Watershed Assessment was completed for Robin Creek watershed. Lemieux Creek is a fourth order watershed within Robin Creek watershed.

¹³ Based on the mapping in the KDC assessment, it appears that the most recent 2021 harvesting within W0104 was not considered in the ECA calculation.

Who should be considering and managing for cumulative effects?

In its special report, [*Forest Practices and Water: Opportunities for Action*](#), the Board reported that licensees generally demonstrate high compliance with stand-level water management requirements. Many impacts occur through the cumulative effects of all activities in the watershed over time, not just forest harvesting. Only nine percent of the province is subject to watershed-level objectives for managing water. Although there are basic protections for licenced waterworks in the FPPR, these basic protections do not include a requirement to consider or manage the cumulative effects of activities on the quantity and quality of water available for domestic use. When there are no watershed-level objectives under FRPA, licensees have discretion on considering the cumulative effects of forest management on water or whether any risk mitigation measures are necessary.

Although licensees are not legally required to consider the impacts timber harvesting may have on the watershed's hydrology, the Forest Professionals BC practice standards oblige a forest professional responsible for managing hydrologic risks to develop a watershed risk management framework. This framework should establish risk tolerance criteria, identify when and what type of specialist assessments forest professionals must complete, and determine how they evaluate and manage risks.^{xiv}

Both BCTS and KDC have modified their development plans for the Lemieux and Gardner Creek watersheds. BCTS indicated there was another block within the Lemieux Creek watershed it had planned, but deferred that sale until it had done a watershed assessment. KDC told the Board that when there is no watershed-level objective for a watershed, its policy is to manage to a moderate risk threshold. Based on the results from the KDC assessment, KDC told Board investigators and the complainant that all new developments are on hold until at least 2030.

As mentioned above, the licence holder of W0104 is not legally required to complete a watershed assessment and has not completed one. Additionally, it has not seen the KDC assessment. The woodlot licensee submitted a new cutting permit application that covers the entire woodlot, but due to cut control constraints, it is not planning to harvest until 2032.

There are many pressures on the water resources in the Lemieux and Gardner Creek watersheds, including climate change. It is impossible to point to any single land use or industry as the cause of low summer flows. Although the district, the KDC and the SSAF have done some recent work to understand those pressures better, all licence holders are not collectively using the information to understand the bigger picture of the cumulative effects of all disturbances within the watersheds. Furthermore, government decision-makers still lack the authority to consider or enforce thresholds to manage the cumulative effects of multiple disturbances on a land base.

Conclusion

This investigation assessed whether recent forest harvesting, road construction and maintenance by KDC, BCTS and the holder of W0104 complied with the legal requirements of FRPA and its regulations for managing water. It then considered whether those activities' public review and comment processes complied with legal requirements.

BCTS and KDC complied with the legal requirements for managing water and public consultation. Both incorporated the voluntary practice of sharing operational planning information with stakeholders. Members of the public are not considered stakeholders and will not receive referrals on operational plans unless they identify their interests to licensees.

The holder of W0104 did not comply with the legal requirements for managing water, as it did not maintain natural surface drainage patterns. It was also unable to demonstrate that it ensured that the maintenance of a road's drainage structures did not adversely affect forest resources. This resulted in water flow from a stream being directed down a road into a different stream, laden with sediment. The Board considers the sedimentation of streams an unsound practice.

The woodlot licensee met the legal requirements for public consultation; however, the Board's investigation was the first time the licensee and the complainant had communicated even though they share a property line and have an overlapping range tenure.

BCTS and KDC recognized the risks to downstream users from further forest harvesting and agreed to defer new developments. Due to cut control constraints, the holder of W0104 cannot harvest until 2032. Although these decisions and some of the recent assessment work are aligned with the relief requested by the complainant, there is still no plan or authority to address the cumulative effects on water in the Lemieux and Gardner Creek watersheds.

The Lemieux Creek and Gardner Creek watersheds have experienced significant disturbances from forest harvesting and private land uses. The removal of forest cover, combined with the effects of climate change, are expected to affect the duration and timing of low water flows in both watersheds.

Appendix I – Riparian Area Retention Requirements

- A. BCTS wrote a strategy in its FSP to address the riparian area objective in the FPPR. The following are the riparian area requirements the Board assessed compliance with during this investigation.

BCTS Bulkley Forest Stewardship Plan 2007

Applicable FDU(s) [forest development unit(s)]: **All FDUs**

Practice Requirements

1. To ensure that in each FDU, primary forest activities carried out or authorized by the TSM will under take to comply with the practice requirements of sections 47, 48, 49, 50, 51, 52(2), and 53 of the FPPR as a result or strategy during the term of this FSP.

Strategies

2. During the term of this FSP, within a riparian management zone (RMZ) for streams, lakes, and wetlands within a Timber Sale License, the TSM will retain trees by:
 - a. maintaining greater than or equal to the target basal area retention percentages within an RMZ or including the riparian reserve zone addition specified in **Table 5**; and,
 - b. distributing the basal area retention within the RMZ specified in (2)(a) above in a uniform or non-uniform manner inside the Timber Sale Licence.

Table 5. Minimum Slope Distance Widths and Basal Area Retention Objectives within Riparian Management Areas for Streams, Wetlands and Lakes (FPPR s47(4-6), 48(3-5), & 49(2-3)).

Riparian Class	Stream Width (metres*) or Area Size (hectares)	(RMA) Riparian Management Area (metres*)	(RRZ) Riparian Reserve Zone (metres*)	(RMZ) Riparian Management Zone (metres*)	Basal Area Retention within RMZ (%)	Riparian Reserve Zone Addition (metres*)
Fish Streams:						
S1-A	>100	100	0	100	>=20	N/A
S1-B	20-100	70	50	20	>=20	>=4
S2	5-20	50	30	20	>=20	>=4
S3	1.5-5	40	20	20	>=20	>=4
S4	<1.5	30	0	30	>=10	N/A
Non-Fish Streams:						
S5	>3	30	0	30	>=10	N/A
S6	<3	20	0	20	N/A	N/A
Wetlands:						
W1	>5 ha	50	10	40	>=10	>=4
W2	Not Applicable					
W3	1-5 ha	30	0	30	>=10	N/A
W4	0.5-1 ha	30	0	30	>=10	N/A
W5	Complex >5 ha	50	10	40	>=10	>=4
Lakes:						
L1-A	>1000 ha, or designated	0	0	0	>=10	N/A
L1-B	5 – 1000 ha	10	10	0	N/A	N/A
L2	Not Applicable					
L3	1 – 5 ha	30	0	30	>=10	N/A
L4	0.5 – 1 ha	30	0	30	>=10	N/A

* meter distances are in slope distance

B. Kyah Development Corporation wrote a strategy in its FSP to address the riparian area objective in the FPPR. The following are the riparian area requirements the Board assessed compliance with during this investigation.

Canadian Forest Products Ltd., Houston Division – Forest Stewardship Plan 2017 - 2022

6.3.4.1 Riparian classification, Riparian Reserve Zone, and Riparian Management Area

The following results/ strategy applies in relation to the objective set by government for water, fish, wildlife, and biodiversity within riparian areas set out in section 8 of the FPPR.

In all FDU's, the Applicable Agreement holders, when conducting primary forest activities, will comply with the default practice requirements of section 47 (stream riparian classes), 48 (wetland riparian classification, 49 (lake riparian classification), 50, 51, 52(2) and 53 of the FPPR as those sections were on the Date of Submission.

Table 12. Riparian Reserve, management and retention – Streams.

Riparian Class*	Riparian Reserve Zone (m)	Riparian Management Zone (m)	Retention in the Riparian Management Zone – Streams**	
			Low Windthrow Hazard	Mod/High Windthrow Hazard
S1	50	20	> 0	≥ 25
S2	30	20	> 0	> 25
S3	20	20	> 0	> 25
S4	0	30	As per 6.3.4.2	As per 6.3.4.2
S5	0	30	As per 6.3.4.2	As per 6.3.4.2
S6	0	20	As per 6.3.4.2	As per 6.3.4.2
* Refer to the definition of wetland classifications found in FPPR Section 47. Retention is defined in section 6.3.4.2, retention details.				

6.3.4.2 Retention of trees in the Riparian Management Zone (RMZ).

Definitions:

Reach: A reach is a length of stream having similar channel morphology, channel dimension, and gradient. A reach must be greater than 100m long or flow into a fish-bearing stream, lake, wetland, or licensed waterworks.

In all **FDU's**, to meet the requirements of **FPPR 12 (3)**, where primary forest activities are conducted in riparian management zones (RMZ) and within the net area to be reforested of a cutblock, the **Applicable Agreement holder** will comply with the following results and strategies:

- a) For the purposes of maintaining the integrity of the riparian reserve zone (RRZ), riparian areas that have a classification that requires that a RRZ be established under **FPPR 47(4), 47(6), 48(3), 49(2) or 49(3)**, a minimum 25% of the area and/or basal area in the RMZ will be retained for the portion(s) of the RRZ assessed to have a moderate to high windthrow hazard.
- b) For riparian areas that have a classification that requires that a riparian reserve zone be established under **FPPR 47(4), 47(6), 48(3), 49(2) or 49(3)**, greater than 0% of the area and/or basal area in the RMZ will be retained if the wind throw hazard is low.
- c) For S4, S5, or S6 stream **reaches** greater than or equal to 1m channel width, within a 20 m zone (includes 10 m on either side), retain:
 - *not less than 75% of the pre-harvest stems/ha greater than 15cm DBH, and/or*
 - *not less than 75% of the area, and*
 - *as practicable, brush species, advanced regeneration, non-merchantable conifers, and non-commercial stems over the length of that **reach**.*
- d) For S4 or S6 stream **reaches** greater than or equal to 0.5m and less than 1.0m channel width, within a 20 m zone (includes 10 m on either side), retain:
 - *not less than 50% of the pre-harvest stems/ha greater than 15cm DBH, and/or*
 - *not less than 50% of the area, and*
 - *as practicable, brush species, advanced regeneration, non-merchantable conifers, and non-commercial stems over the length of that **reach**.*

- e) For S4 or S6 stream **reaches** less than 0.5m channel width, within a 20 m zone (includes 10 m on either side), retain:
- *not less than 25% of the pre-harvest stems/ha greater than 15cm DBH, and/or*
 - *not less than 25% of the area, and*
 - *as practicable, brush species, advanced regeneration, non-merchantable conifers, and non-commercial stems over the length of that **reach**.*

ENDNOTES

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