

Eagle Creek Pine Salvage

Complaint Investigation



**FPB/IRC/130
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Executive Summary

The Kootenay Lake Forest District (the district) requested that Atco Wood Products Ltd. (the licensee) salvage attacked pine trees in the Eagle Creek drainage area. The Blewett Watershed Committee (the complainant) thought that, until previous logged cutblocks recovered, it was unreasonable for the district to direct the licensee to log there.

The parties resolved many field issues before the forest district manager approved the harvest plan, yet the complaint could not be resolved. The complainant wanted the district to monitor water quality in Eagle Creek but the district did not agree to this.

This investigation examines whether it was reasonable for the district manager to approve the harvesting, and whether or not it is the Ministry of Forests and Range's (MFR) responsibility to monitor water quality.

The Board found that harvest planning was consistent both with government's objective for dead and susceptible timber, and with a professional assessment of water concerns, and that it also addressed most of the complainant's concerns. The Board concluded that the district manager made a reasonable decision to approve the harvest plan.

The complainant wanted the district to monitor water quality above and below the cutblock to see if the logging caused problems. The district committed to an immediate investigation by a qualified professional who would prescribe appropriate resolution measures, if a problem was reported. Along with the investigation, the district offered its policy for fixing logging-related damage to water systems as a better solution than monitoring the creek. Summarized, the district policy is that water users must have a water licence and a robust system capable of withstanding natural fluctuations in water quality. Then, if a forest licensee damages a water system, the licensee must fix it. If damages are unforeseen, MFR will fix the system.

The Board agrees that forest harvesting affects hydrology but notes that many other factors can also affect hydrology and that, even if monitoring detects a problem, an investigation would still be required to determine the cause. The Board concluded that the district policy and the district's offer to do an immediate investigation are an appropriate response to the circumstances in this complaint.

Further, the Board agreed with the district's conclusion that forest management and logging can occur in a carefully planned way, even though this does entail some additional risk to water supplies.

Nevertheless, the Board commented that the complainant has valid concerns. The government and forest licenses benefit from logging, but they assume only some of the

risk. Further, there are other industrial uses in the area, and if problems occur, assigning responsibility is complicated and may not fall within the jurisdiction of MFR. Finally, the Board acknowledged that if there are problems, the water users would most likely be the ones who would have to deal with the problem.

The Complaint

Due to a mountain pine beetle outbreak, the Kootenay Lake Forest District (the district) requested that Atco Wood Products Ltd (the licensee) carry out logging of attacked pine trees in its operating areas, including the Eagle Creek drainage area.

The licensee contacted the Blewett Watershed Committee (the complainant) which has an interest in this drainage area to advise them of its harvest plans. The complainant believes the proposed level of logging would remove too much of the forest and would negatively impact the watershed. The complainant thought it was unreasonable for the district to direct the licensee to log in this watershed, as it will compromise the complainant's ability to meet Canadian drinking water standards. On June 28, 2006, the complainant filed the complaint and the Board began an investigation.

Background

The Blewett Watershed Committee has existed for more than 35 years and has maintained an excellent working relationship with both the licensee and MFR. It looks after water users' interests for a number of drainage areas including Eagle Creek, which is a designated community watershedⁱ. The complainant represents the water users on Eagle Creek, including the Eagle Creek Water Users (ECWU) group, which was started in the mid-1970s.

In the late 1990s, Eagle Creek experienced elevated peak flows, which caused debris torrents that disturbed water intakes, damaged water boxes, filled in settling ponds, blocked culverts, and damaged Blewett Road. Currently, the ECWU has not repaired nor upgraded its settling pond as it is waiting for mitigation measures to be completed on an upstream mine's waste rock spoil site. That spoil site elevates the risk of channel instability and sediment delivery to the ECWU's water system.

In 2001, a consultant for the licensee completed an interior watershed assessment procedure (IWAP) on Eagle Creek. Due to a number of concerns, the IWAP recommended an equivalent clearcut area (ECAⁱⁱ) be allowed to decrease to 20 percent before harvesting more timber in the drainage.

In 2005, the Ministry of Forests and Range (MFR) determined that there was a developing epidemic of mountain pine beetle in the district, and directed licensees to harvest the dead, dying and susceptible pine in their operating areas. If they did not do so, the district would

authorize another licensee to harvest the trees. Therefore, the licensee decided to salvage harvest in the Eagle Creek watershed. It anticipated maintaining its good working relationship with the complainant.

In February 2006, the licensee hired a hydrologist to assess the watershed and applied under section 14.2(b) of the *Operational and Site Planning Regulation* to do a hydrologic assessment instead of another IWAP. A hydrologic assessment involves a qualified hydrologist reporting on key watershed attributes. The district manager agreed to that request. The licensee met with the ECWU in early April 2006. The water users expressed their concerns and the licensee dealt with those concerns in the hydrologic assessment. The licensee then gave the ECWU a copy of the hydrologic assessment at the beginning of a 30—day review and comment period.

Despite having their concerns addressed in the hydrologic assessment, the water users did not want the ECA to increase logging activities by 35 percent, as planned in the proposal. The licensee agreed to keep the ECA as low as possible. It also committed to designing its roads and the site plan so as to minimize the effect of harvesting on water quality.

Licensee concessions included:

- reducing the proposed road length from two kilometres to seven-tenths of a kilometre; and,
- eliminating a stream crossing.

Overall, the licensee was able to reduce the weighted ECA to 30 percent by only harvesting stands containing more than 50 percent lodgepole pine and avoiding areas with steep slopes. The licensee also offered to conduct a field trip for the user group.

Although the complainant could see the licensee was designing the harvest plan with care, the complainant still did not want any more logging in the drainage area until the ECA went below 20 percent, and so submitted a complaint to the Board.

Shortly thereafter, the licensee invited the complainant, the district, and Board staff to field review the site.

Resolution efforts

On July 19, 2006, Board staff visited the site along with the complainant and the licensee. The meeting and site view resulted in positive dialogue between all parties, and since then suggestions and commitments for resolution have been made.

- The licensee proposed expediting harvest so that it could deactivate skid trails and roads before snowfall. To avoid site disturbance in a ravine that leads downhill to an

S4 (small) stream, it also proposed using a planned crossing rather than crossing it in a number of locations.

- The complainant suggested deferring harvest of a 0.6 hectare area between a lower spur road into the cutblock and the main road, to reduce the ECA slightly. The licensee examined that option in the field but decided that it made better operational sense to harvest that area now.
- The complainant suggested that the licensee develop a road monitoring program and install drainage and erosion control features on the roads. The licensee committed to increase its road monitoring program and promised to hire an engineering consultant to develop a drainage plan that it would follow.
- The district distributed a policy documentⁱⁱⁱ that explains the licensee's and district's accountability for logging damage done to water systems.

However, although the parties came close to resolution and committed to specific goals, ultimately they were unable to completely resolve the complaint issues.

In order to meet its commitment to have the trails and roads deactivated before spring freshet, the licensee submitted a forest development plan (FDP) amendment. In late August 2006, the district approved the FDP amendment. The licensee started to log the 23 hectare block 26-4 in late September 2006. Harvesting was 95 percent completed by November 7, 2006, and the lower spur road and trails had been re-contoured.

In the spring of 2007 the licensee honoured its commitment to carry out the increased road inspections. The licensee has now submitted a cutting permit application for another cutblock for 2.7 hectares but, as of September 2007, has not commenced harvest. With the new cutblock, the ECA will reach 31 percent.

Resolution efforts continued even as the district manager approved the FDP amendment. The complainant suggested that the district commit to monitoring water in Eagle Creek until the ECA dropped below 20 percent and that the licensee commit to a frequent drainage feature monitoring program. The licensee agreed to that commitment, but the district did not.

Discussion

Although the licensee resolved all the issues it could deal with, the district and the complainant could not resolve the water monitoring issue. As well, the complainant maintained that no further logging should be carried out in Eagle Creek until the ECA had dropped below 20 percent, so the district manager should not have approved the FDP amendment.

Therefore, this investigation examines whether it was reasonable for the district manager to approve the FDP amendment and whether it was necessary and appropriate for MFR to monitor water quality.

1.0 Was it reasonable for the district manager to approve the FDP amendment?

When the Board looks at a discretionary decision, it evaluates whether the decision was reasonable, not whether it was the best decision. To be reasonable, such discretionary decisions should be based on an adequate assessment of relevant available information and should consider, but not blindly follow, government policy. The district manager's caution and deliberation should match the importance of the decision and the potential risk created by the proposed forest practices.

The district manager approved the amendment on August 21, 2006. To determine if the decision to approve the amendment was reasonable, the Board examined the district manager's rationale. It discussed four factors:

1. Was the approval consistent with government objectives for mountain pine beetle salvage?
2. Was the development consistent with the 2001 IWAP and the updated hydrologic assessment?
3. Were the concerns of the complainants considered by the licensee?
4. Did forest professionals propose and review the plan?

1.1 Was the amendment consistent with government objectives?

The district intended to delay harvesting in the watershed until mitigation work was completed on the higher hazard areas, or until the ECA dropped below 20 percent. However the pine beetle outbreak changed that plan. The provincial *Bark Beetle Action Plan's* objective is to, "recover the greatest value from dead timber before it burns or decays, while respecting other forest values."

Further, a district policy document, *Watershed Contingency Planning*, states,

"We recognize that some people do not agree with the current land use designation (Provincial Forest) for Crown land in their watershed. However, several successive provincial governments have clearly indicated that they have no intention of changing this. Forest management and logging will therefore occur in a

carefully planned way, and this does entail some additional risk to water supplies.”

As shown above, the Board’s review of the site plan and the field review showed that, in its planning, the licensee took care of other resources such as water.

It is the Board’s view that logging was proposed in a carefully planned way consistent with government’s objective for management of dead and susceptible timber.

1.2 Was the development consistent with the updated hydrologic assessment?

The complainant thinks that the participants agreed to a cap on ECA in the 2001 IWAP. In the complainant’s words, “the agreement was that the watershed would not be pushed beyond a certain level that more than likely would set off a series of events such as movement of some gangue^{iv} rock.”

However, MFR views the ECA recommendations as an indicator of the need for increased care. To put it another way, the ministry suggests that approaching the recommended ECA should trigger more detailed planning and assessments.

The 2001 IWAP recommended the following:

1. Notification of the mine manager that the mine waste rock spoil and a trash rack on private land were important hazards creating sedimentation and flooding hazards downstream.
2. Specific remediation measures to reduce the mine waste rock spoil and trash rack hazard.
3. Specific remediation measures to reduce the sediment hazards from roads on Crown land.
4. Minimization of new road construction.
5. Avoidance of harvesting in riparian areas.
6. Limiting the weighted ECA to 20 percent until the sediment risks on private land had been mitigated.

The 2006 hydrologic assessment updated the 2001 IWAP. It examined the sedimentation mitigation works, the pine beetle epidemic, and the planned cutblocks.

The licensee had performed remediation measures to reduce sediment risks from roads on Crown land. The 2006 assessment noted that sediment sources from roads and trails now presented a very low risk. The assessment concluded that the main hazard remaining is the mine waste rock spoil site. Since the 2001 IWAP, the ECWU obtained the funding and formed a partnership with the licensee to carry out the remedial work to the mine waste rock spoil site. The ECWU contracted an engineer to produce a remediation plan for the

waste rock spoil site to reduce that hazard to a low-moderate level. However, the mine operator will not allow the partnership to enter the mine's property to do the work. Reclamation of a mine waste dump is a major construction initiative that requires Ministry of Mines and Petroleum Resources (MEMPR) involvement through its reclamation and geotechnical departments.

In the Board's view, although the new cutblocks will not directly affect any hydrologic hazard, an increased ECA may increase peak flow, and therefore indirectly increase the hydrologic hazards down stream. The 2006 hydrologic assessment assumes that following the beetle outbreak, areas with greater than 50 percent pine by stem count will function as a clearcut in terms of hydrology. Therefore, it assumes a 100 percent^v equivalent clearcut area (ECA) for them. The ECA of a mixed stand is considered at 40 to 60 percent.

Since ECA will increase, even without additional logging, as the infestation continues, the hydrologist recommended minimizing road construction, rehabilitating roads and trails and/or using seasonal water controls. As well, the 2006 hydrologic assessment report recommends preparing a drainage plan for access road construction. Finally, the hydrology report recommends harvesting timber in areas where lodgepole pine exceeds 50 percent by stem count and leaving reserves of other species. The report predicts that such logging, and prompt reforestation, will accelerate hydrologic recovery of the watershed. As well, the report notes that logging will reduce the severity of any potential wildfire. Severe wildfires can result in unstable soil (hydrophobic soils) that can trigger landslides and erosion events.

Given that the licensee had rehabilitated roads identified in the 2001 IWAP and minimized road construction, developed drainage plans for access roads, and committed to harvest forest stands with pine as the leading species, the forest development plan amendment was consistent with the 2006 hydrologic assessment.

1.3 Were the concerns of the complainants considered by the licensee?

The complainant thinks that water should take priority over timber in a community watershed. The licensee agrees, but notes that water and timber are linked. A healthy forest is required to maintain the hydrology required for drinking water. Harvesting the dead and susceptible pine and then regenerating the stand more quickly than will occur naturally will speed up hydrologic recovery and reduce the fire hazard.

The licensee consulted with the complainant. It did not defer logging, but did implement the other measures the complainant suggested. It is the Board's view that the licensee considered and sufficiently addressed the complainant's concerns.

1.4 Did forest professionals propose and review the plan?

The district manager relied on the expertise of the licensed professional engineer (hydrologist) and the registered professional foresters that worked for the licensee. Further, the district manager had government forest professionals review the plan and did not blindly accept the licensee's work. It is the Board's view that it was appropriate for the district manager to rely on the training and experience of registered professionals.

Overall, it is the view of the Board that the district manager considered appropriate factors and made a reasonable decision to approve the FDP amendment.

2.0 Is it appropriate or necessary for the MFR to monitor water quality?

The complainant thinks it is unreasonable for the district to direct licensees to salvage log in the watershed, as logging may compromise the ability of ECWU to meet the Interior Health Authority's (IHA) objective for safe water^{vi}. The complainant believes logging will increase water turbidity. Increased turbidity reduces the effectiveness of treatments against pathogens. To meet the IHA objective, the ECWU needs to put in a system that filters and disinfects the water. However, until ECWU knows the creek is stable, ECWU will not invest the capital; there is too high a risk of its system being damaged.

The complainant reasons that most of the turbidity of the creek is man-made, caused by roads, cutblocks and mines. To determine if the new cutblock increases turbidity, the complainant wants the district to monitor water quality above and below the block.

The district asserts that, given natural fluctuations in turbidity, it would be difficult to attribute a change in turbidity level to logging. In addition, it does not have a budget to fund water quality monitoring but suggested that the licensee may be able to get funding through the Forest Investment Account^{vii}. The district offered its policy for fixing logging-related damage to water systems as a better solution than monitoring. The district MFR policy can be summarized as follows:

1. Water users must have a water licence and a system capable of withstanding natural fluctuations in water quality.
2. If a timber licensee damages a water system, the licensee is responsible to fix it.
3. The MOFR is responsible for unforeseen consequences of logging and road development.
4. MOFR determines the cause of damage.

The district also stated that, if a member of the public reports a change in the creek beyond the normal condition, MFR will initiate an immediate investigation. If there is a problem, MFR will ensure a qualified hydrologist assesses the cause and prescribes appropriate

resolution measures. The district believes that this policy provides a more effective solution than establishing a monitoring program.

The Ministry of Health (MoH) recommends that all surface water be treated by filtration, disinfection or both.^{viii} The IHA is telling water purveyors like the ECWU to provide clear, pathogen-free water. It is the government's position that a water licence does not exclude activities such as logging or mining in a watershed, nor does it guarantee that the water is or will remain potable without treatment. The complainant suggests this is unfair. Government gets revenue from royalties and stumpage, and industrial users like timber licensees and mining operators get an economic benefit from resource extraction. Industrial users have the biggest effect on water quality and neither they nor the government bear any burden for the treatment or analysis. The complainant further stresses that the licensees and MFR determine what the acceptable risk level is to water from forest practices, yet it is the water users who must bear the consequences. The complainant maintains that, if more sediment enters the creek, it is the water users who must dredge settling ponds, buy and clean filters, and upgrade the treatment process.

The complainant wanted the district to monitor above and below the cutblock to determine if harvesting increases turbidity. The complainant suggests that any change must be due to activities in the cutblock. Since MFR directed the licensee to log in the watershed, it should be MFR's responsibility to monitor the water quality.

There is no dispute that harvesting the forest will affect hydrology. However, a number of other factors can affect hydrology, including the mountain pine beetle epidemic and changing weather patterns. Even without logging, physical differences at the site level, such as a change in gradient, a change in soil properties, or one tree falling in the wrong place can have hydrologic effects such as increased sedimentation. Even if a problem is detected with water quality or quantity, an investigation would still be required to determine the cause.

MFR does not have a budget to monitor water. The water users constantly monitor changes in turbidity as they use the water. If they see a problem, they can investigate. If the problem appears to be harvesting-related, they can contact the district, which will investigate and determine responsibility. It is the Board's opinion that the district policy and the district's offer to do an immediate investigation are an appropriate response to the circumstances in this complaint.

Conclusions

1. Was it reasonable for the district manager to approve the FDP amendment?

The decision was reasonable, based on an adequate assessment of relevant available information.

2. Is it necessary and appropriate for MFR to monitor water quality?

The district policy, *Watershed Contingency Planning*, combined with the district's commitment to conduct an immediate investigation if a water problem is identified, is an appropriate response to the circumstances in this complaint. The monitoring of water quality would not identify cause of any change and is not within the mandate or responsibility of the Ministry of Forests and Range.

Board Commentary

As the district stated, successive governments have decided that logging is acceptable in water-licensed watersheds and the Board agrees with the district's conclusion that forest management and logging can occur in a carefully planned way, even though this does entail some additional risk to water supplies. Further, the Board commends the district for its policy to remedy identifiable logging-related problems and commends the licensee for going well beyond what the legislation requires to minimize the impact of logging and road building on the water resource, both before and after the submission of the complaint. Nevertheless, the complainant has valid concerns. The essence of this complaint is similar to most water-related complaints the Board has received^{ix}; government and industrial tenure holders can make risk decisions and the water users feel that they are left to deal with the results.

Even though the licensee and district made commendable efforts in these circumstances, and even though all parties have had a long-standing good relationship, the water users remain unsatisfied. The government and industrial users benefit, but they assume only some of the risk. There is a known problem with the mine's waste rock site, but the district has no jurisdiction to deal with it. This is another case of cumulative impacts of different resource developments causing problems for forest resources (water in this case). While the forest district is unable to address the mine problem, other agencies of government can and should.

If problems occur because of a combination of factors, assigning responsibility is complicated. For instance, if the new clearcut causes increased peak flows that results in channel instability and erosion at the still-unremediated mine waste rock spoil site, who would be responsible? How would one assign proportional responsibility? Presumably, an action in civil court would be needed to determine the responsibility, at the water users cost and time. The water users are correct; they would simply have to deal with the problem.

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- ⁱ A community watershed is given special status under FRPA.
- ⁱⁱ Equivalent clearcut area (ECA) is the area that has been harvested, cleared burned or otherwise defoliated, with consideration given to the silvicultural system, regeneration growth, and location within the watershed.
- ⁱⁱⁱ [Watershed Contingency Planning](#) an unpublished district handout.
- ^{iv} Gangue rock is valueless rock that occurs alongside minerals in a mine.
- ^v In a recent Board report [The Effect of Mountain Pine Beetle Attack and Salvage Harvesting on Stream flows](#) the Board used a 50 percent ECA for pure dead pine stands. More information can be found at [Mountain Pine Beetle and Watershed Hydrology Workshop: Preliminary Results of Research from BC, Alberta and Colorado](#). Nevertheless, the Board defers to the professional hydrologist's opinion in this hydrologic assessment.
- ^{vi} The Interior Health Authority wants the ECWU to meet the 43210 Drinking water objective. Meeting that objective helps determine if a water system is capable of safeguarding water users against pathogens.
- ^{vii} The Forest Investment Account provides funding to forest sector associations, researchers, tenure holders, manufacturers, and government agencies
- ^{viii} Information Sheet: Water Licence Holders' Rights and Obligations (MOE Updated June 2006)
- ^{ix} [Effectiveness of Investigations: Water-Related Complaints Case Study](#) page 2 – page 3