Canfor's B.C. and Alberta Woodlands Operations

Canfor's ISO 14001 and CSA Z809 certifications apply to the following defined forest areas (NB: The DFAs listed are based on the gross area under management, and are prorated estimates in the case of some of the volume-based forest tenures):

1. The above figures do not include operations in relation to 10,000 m³/year of Canfor's AAC in the Cranbrook Timber Supply Area which are certified to the ISO 14001 standard only.
2. Canfor manages 3 DFAs within the Prince George Timber Supply Area (TSA). These 3 DFAs include Canfor's operating areas under the Prince George Forest District/TFL 30, Fort St. James and Vanderhoof sustainable forest management (SFM) plans. Operations under these plans are managed or co-managed by Canfor Forest Management Group East and West Operations.

Audit Scope

The 2017 audit included site visits to all of the DFAs listed above to evaluate the forest management plans and practices carried out by the Company since the completion of the 2016 audit. It included an assessment against all of the requirements of the CSA Z809 standard, including those related to:

- Public participation;
- Maintenance of the sustainable forest management (SFM) plan;
- Monitoring of SFM performance, and;
- Implementation of the various management system components (e.g., rights & regulations, DFA specific performance requirements, operational controls, monitoring and inspections, corrective & preventive actions, internal audits, management review) that are required under the CSA Z809 standard.

### Defined Forest Areas (Canfor operations only)

<table>
<thead>
<tr>
<th>Area</th>
<th>DFA Areas (hectares)</th>
<th>Allowable Annual Cut (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radium ¹</td>
<td>392,400</td>
<td>221,005</td>
</tr>
<tr>
<td>Vavenby</td>
<td>140,620</td>
<td>284,638</td>
</tr>
<tr>
<td>Prince George ²</td>
<td>2,216,362</td>
<td>4,034,866</td>
</tr>
<tr>
<td>Morice</td>
<td>870,013</td>
<td>1,326,751</td>
</tr>
<tr>
<td>Mackenzie</td>
<td>2,188,430</td>
<td>1,082,904</td>
</tr>
<tr>
<td>Fort Nelson</td>
<td>7,045,416</td>
<td>1,163,716</td>
</tr>
<tr>
<td>Chetwynd</td>
<td>532,080</td>
<td>1,203,613</td>
</tr>
<tr>
<td>Grande Prairie</td>
<td>644,695</td>
<td>715,000</td>
</tr>
<tr>
<td>Total</td>
<td>14,030,016</td>
<td>10,032,493</td>
</tr>
</tbody>
</table>

¹ Canfor's AAC in the Cranbrook Timber Supply Area.
² Prince George Forest District/TFL 30, Fort St. James and Vanderhoof sustainable forest management (SFM) plans.
Note: Full scope ISO 14001/CSA Z809 site visits were only conducted at 5 DFAs (Vavenby, Prince George, Chetwynd, Mackenzie and Vanderhoof), with the remaining DFAs being the subject of limited scope site visits that were used to evaluate those CSA Z809 requirements that are unique at the site level (i.e., DFA level SFM plans, annual monitoring reports and the functioning of the local Public Advisory Group (PAG)). This level of audit sampling exceeds the IAF audit sampling requirements for multi-site certifications.

The Audit

▪ **Background** – The CSA Z809 and ISO 14001 standards require annual surveillance audits by an accredited Certification Body to assess the operation’s continuing conformance with the requirements of these standards. In addition, full scope re-certification audits are required once every 3 years.

▪ **Audit Team** – The audit was conducted by a 6 person audit team comprising Dave Bebb, RPF, EP(EMSLA) – Lead Auditor, Yurgen Menninga, RPF, EP(EMSLA), Branden Beatty, RPBio, EP(EMSLA), Chris Ridley-Thomas, RPBio, EP(EMSLA), Dennis Lozinsky, RPF, EP (EMSLA) and Bodo von Schilling, RPF, EP(EMSLA). All members of the audit team have considerable experience conducting audits against the requirements of the ISO 14001 and CSA Z809 standards.

▪ **Document Review** – DFA-specific off-site document reviews were completed prior to the field audit in order to assess forest management system (FMS) documentation (e.g., SFM Plan and associated values, objectives, indicators and targets, documentation pertaining to the Public Advisory Group (PAG) process, etc.) and increase the efficiency of the field portion of the audit.

▪ **Field Audit** – The on-site field audit included interviews with a large sample (more than 100 Company staff and an equal or greater number of contractors, PAG members and external stakeholders) and examination of forest management system (FMS) and SFM system records, monitoring information and public involvement information. The audit team conducted field assessments of a large number of field sites (79 roads, 71 harvesting blocks, 32 silviculture sites and 8 logging camps) to assess the Company’s planning, harvesting, silviculture, camps and road construction, maintenance and deactivation practices. The 2017 audit took approximately 68 days to complete, 49 of which were on-site. The balance of audit time was spent preparing the audit plan, conducting off-site document reviews, completing various audit checklists and preparing the main and public summary audit reports.

Audit Objectives

The objective of the audit was to evaluate the sustainable forest management (SFM) system at Canadian Forest Products Ltd. to:

▪ Determine its conformance with the requirements of the ISO 14001 and CSA Z809 standards;

▪ Evaluate the ability of the SFM system to ensure that Canfor meets applicable regulatory requirements;

▪ Evaluate the effectiveness of the system in ensuring that Canfor meets its specified SFM objectives, and;

▪ Where applicable, identify opportunities for improvement.

### Canfor 2017 ISO 14001 Re-certification/CSA Z809 Surveillance Audit Findings

<table>
<thead>
<tr>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open non-conformities from previous audits</td>
<td>0</td>
</tr>
<tr>
<td>New minor non-conformities</td>
<td>3</td>
</tr>
<tr>
<td>Systemic opportunities for improvement</td>
<td>8</td>
</tr>
</tbody>
</table>

### Types of audit findings

**Major non-conformities:**
- Are pervasive or critical to the achievement of the SFM Objectives.

**Minor non-conformities:**
- Are isolated incidents that are non-critical to the achievement of SFM Objectives.

All non-conformities require the development of a corrective action plan within 30 days of the audit. Corrective action plans to address major non-conformities must be fully implemented by the operation within 3 months or certification cannot be achieved / maintained. Corrective action plans to address minor non-conformities must be fully implemented within 12 months.

### Opportunities for Improvement

Are not non-conformities but are comments on specific areas of the SFM System where improvements can be made.
Audit Conclusions

The audit found that the Company’s SFM system:

- Was in conformance with the ISO 14001 and CSA Z809 requirements included within the scope of the audit, except where noted otherwise in this report;
- Continues to be effectively implemented, and;
- Is sufficient to systematically meet the commitments included in the Company’s SFM Plans, provided that it continues to be implemented and maintained as required.

As a result, a decision has been reached that Canfor’s B.C. and Alberta woodlands: (1) be re-certified to the ISO 14001 standard, and (2) continue to be certified to the CSA Z809 standard.

Good Practices

A number of good practices were noted during the 2017 audit. The following list highlights some of the examples noted:

- ISO 14001 element 4.4.6/CSA Z809 element 7.4.6: Field review of planned harvesting and road maintenance/upgrade work in the Upper Clearwater area found that a road upgrade plan for the Trophy Mountain FSR (Forest Service Road) and related roads had been prepared by a consulting hydrologist to address a number of drainage issues on the existing road network, and various assessments (including terrain, visual and hydrological) had been completed for the area and the Company’s harvesting and road plans had taken these into account. In addition, the 5 blocks in question (which were originally scheduled for logging in 2017 but have since been deferred) are located on relatively benign ground, and the Company had taken a conservative approach to their layout and design in attempting to address the concerns of local stakeholders. (Vavenby)

- ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): Although not formally prescribed, the audit noted several harvest blocks where non-classified drainages (NCDs) had machine free zones, stubs and understory retention applied. This practice helps reduce the potential for impacts on water quality and sensitive soils. In addition, the increased level of retention in riparian areas has a beneficial effect on stand level biodiversity. (Vavenby)

- ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): Field review of planned harvesting and road construction work in the Tagetchlain Lake area found that the prescriptions included the protection of a wide range of non-timber values (e.g., fisheries values, an adjacent ungulate winter range, cultural heritage features, wildlife features such as stick nests, migratory birds, range improvements, etc.). In addition, the input of First Nations was found to have resulted in new approaches to managing various non-timber values, including the retention of significant amounts of understory/non-merchantable trees by the harvesting contractor. (Houston)

- ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The audit noted a harvesting contractor who was tracking tidy tank inspections and certifications in a folder that is maintained in each pickup truck. This practice is helping to ensure compliance with Transportation of Dangerous Goods (TDG) and FMS requirements while promoting operator awareness of fuel management requirements. (Prince George)

- ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The Company is making increased use of tethered harvesting systems as a means to address the recent shift of operations into steeper ground and help ensure that they are able to harvest the full timber profile. (Corporate)
ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): As a means to help reduce the risk of harvest boundary trespasses, the Company now requires its contractors to have GPS units in all bunchers and road building equipment. (Corporate)

ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The Chetwynd site visit noted a number of examples of proactive measures to help address fuel storage and transportation requirements, including: (1) a harvesting supervisor who was using the Project Monitoring Sheet to document his inspections of tanks, spill kits and related items such as fire extinguishers and fire tools, and (2), a road construction contractor who was observed to be tracking his inspection of these same elements on a self-developed checklist that is filled out weekly. (Chetwynd)

ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The audit found that the Chetwynd operation demonstrated a high level of performance regarding water management which is a significant challenge to the operation, particularly on steep slopes. For example, one contractor faced significant challenges on several blocks in a small geographic area with soils prone to slumping by cleaning ditches continuously during logging operations. (Chetwynd)

ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The audit found that the Mackenzie operation had applied buffers adjacent to provincial park boundaries during harvesting, reducing wind-throw and potential edge-effects in the adjacent park. (Mackenzie)

ISO 14001 Element 4.4.6/CSA Z809-08 Element 7.4.6 (Operational Control): The audit found that the Mackenzie operation had voluntarily applied caribou best management practices (BMPs) such as road rehabilitation to a harvest block located in a caribou zone, even though the caribou GAR (Government Actions Regulation) Order did not apply to this area. (Mackenzie)

CSA Z809 Element 5.1: The combination of a range of relevant and informative activities and a core of dedicated PRISM members has allowed the PRISM public participation process to continue throughout the extended shutdown of harvesting operations at the Fort Nelson operation. (Fort Nelson)

CSA Z809-08 Element 6.1 (DFA-Specific Performance Requirements): Canfor Houston has a relationship with a consulting firm that specializing in landscape and scenario planning, and modeling is used at the operation on a regular basis as a means to evaluate the impacts of conservation, harvesting and other forest management strategies or alternatives on the SFM plan targets that have been set. (Houston)

Follow-up on Findings from Previous Audits

At the time of this assessment there were a total of 3 open minor non-conformities from previous external audits that related to ISO 14001 and/or CSA Z809 requirements. The audit team reviewed the implementation of the action plans developed by Canfor to address these issues, and found that they: (1) had been implemented as required, and (2) were in most cases effective in addressing the root cause(s) of these findings. As a result, 2 out of the 3 of the open minor non-conformities identified during previous audits have now been closed, and 1 non-conformity (which relates to a weakness in the implementation of various operational controls) has been downgraded to an opportunity for improvement. The Company’s continued progress towards addressing the remaining finding will be revisited during the 2018 audit.
New Areas of Nonconformity

A total of 3 new minor non-conformities were identified during the 2017 ISO 14001/CSA Z809 audit, as follows:

- ISO 14001 element 4.4.6 and CSA Z809-08 element 7.4.6 require the organization to develop and implement operational controls to ensure that operations are carried out under specified conditions and SFM requirements are met. The Company has addressed this requirement by developing a series of standard work procedures (SWPs) and guidelines (e.g., Canfor Fuel Management Guidelines) that give direction to both staff and contractors regarding the implementation of various components of the FMS. The audit found that these operational controls had been implemented as required in the majority of instances. However, inspection of a sample of active and recently completed sites during the audit identified the following weaknesses in the implementation of operational controls:

  - The Canfor Emergency Preparedness and Response Plan (EPRP) states that used spill pads must be disposed of properly. However, the harvesting contractor working on an active harvest block explained that while they use an environmental service to dispose of used oil, filters, etc., the contractor does not have the same arrangement for used spill pads or contaminated soil, which are instead disposed of at the regional landfill. (Houston)

  - At a road turnaround where a logging contractor was loading equipment out of a harvest block, a recent spill of hydraulic fluid (approximately 2 metres by 0.8 metres) was observed on the snow cover on the ground. A few hours later it was found that the spilled oil had been bladed/spread into a snow bank by the contractor rather than implementing the Company’s spill response procedure as required. (Vavenby)

  - The Contract Worker SWP requires contractors to remove all waste from the work site. However, inspection of a recent harvest block during the Fort St. James site visit found that large amounts of used synthetic road geotextile had been placed in roadside burn piles. (Fort St. James)

- ISO 14001 element 4.4.6 and CSA Z809-08 element 7.4.6 require the organization to develop and implement operational controls to ensure that operations are carried out under specified conditions and SFM requirements are met. The Company has addressed this requirement by developing a series of standard work procedures (SWPs) and guidelines (e.g., Canfor Fuel Management Guidelines) that give direction to both staff and contractors regarding the implementation of various components of the FMS. The audit found that these operational controls had been implemented as required in the majority of instances. However, inspection of a sample of active and recently completed sites during the audit identified the following weaknesses in the implementation of operational controls for the transportation and storage of fuel:

  - Inspection of a sample of active field sites at the Prince George operation identified a total of 7 instances where truck-mounted fuel tanks were not adequately secured to the vehicle. In most cases the tank was only tied down with a nylon tension strap affixed to the tie-down hooks in the bed of the truck (which is inadequate to keep the tank in the vehicle in the event of a rollover), although in 1 instance the tank was not tied down at all. (Prince George)

  - Inspection of an active field site at the Grande Prairie operation identified one instance where a truck-mounted fuel tank was not adequately secured to the vehicle. (Grande Prairie)
The Chetwynd site visit identified 3 truck-mounted fuel tanks that were not adequately secured to the vehicle and a large fuel tank with an expired TDG certification. (Chetwynd)

- ISO 14001 element 4.5.1 and CSA Z809 element 7.5.1 require documented procedures to monitor key characteristics that can have an environmental impact. These requirements are addressed in FMS Manual section 12 and a number of related procedures and forms (e.g., various Standard Work Procedures (SWPs), Pre-work and Inspection Forms, etc.). The audit found that the Company's monitoring and measurement procedures had been implemented as required in the majority of instances. However, the following weaknesses in the implementation of these procedures were noted:

- The Mackenzie site visit noted weaknesses in the implementation of the FMS monitoring and measurement procedures for several harvest blocks (e.g., the interim or final inspection due date was not identified on several pre-work-inspection-hazard assessment forms, the required inspection frequency based on environmental risk was not recorded for several harvest blocks, and interim inspection dates and inspection notes were not included on the pre-work-inspection-hazard assessment forms for several harvest blocks). (Mackenzie)

- The Vanderhoof site visit noted 1 winter 2016 harvest block that required 1 interim inspection and a final inspection by June 30, 2017. However, as of September 6, 2017 there has been no interim or final inspections as per the prescribed inspection frequency. (Vanderhoof)

- The Fort St. James site visit noted 1 harvest block that had been completed in winter/spring 2017 that required 2 interim inspections and a final inspection by June 30, 2017. However, as of September 6, 2017 there has been no interim or final inspections as per the prescribed inspection frequency. (Fort St. James)

Systemic Opportunities for Improvement

A total of 8 new systemic opportunities for improvement was identified during the 2017 ISO 14001/CSA Z809 audit, as follows:

- The audit found that that FMS training requirements had been met in the majority of instances. However, isolated weaknesses in contractor training and awareness were noted at the Vavenby and Houston operations (e.g., 3 out of 5 subcontractor employees interviewed at the Vavenby operation has not received the required FMS training, and a harvesting contractor foreman interviewed at the Houston operation was not aware of the tree retention requirements for the block he was working on). (Vavenby and Houston)

- Review of the most recent SFM plan annual reports at the 10 Company divisions visited during the audit found that these met the requirements of the CSA Z809 standard for SFM plan annual reports in the majority of instances. However, the following weaknesses were noted:

  - The 2015 Radium Annual Report included a table summarizing the indicator monitoring results. Six of the indicators had “variable” results, which actually meant that the associated targets were not met. In addition, isolated weaknesses in the analysis and/or reporting of performance in relation to the SFM plan targets were also identified. (Radium)

  - Fort Nelson SFM Plan Indicator 1.1.3 tracks forest area by seral stage and under the SFM plan is to be updated every 5 years. However, the indicator
The data was last updated in 2011 and there is an opportunity to update the data based on the recently released TSR 4 data. (Fort Nelson)

- The data presented in the Fort Nelson SFM plan in relation to permanent deletions addresses deletions created by all industries in contrast to the target which is based solely on the impacts of forest management activities. (Fort Nelson)

- While an annual report is produced for the Fort Nelson operation that provides an assessment of performance for the year, most of the data tables presented are directly from the SFM plan and have not been updated.

- The Fort Nelson SFM plan has targets related to direct and indirect employment that are reported in the annual report. However, the multiplier used for indirect employment is based on 2001 data and may no longer be appropriate. (Fort Nelson)

  ▪ The audit identified a number of isolated weaknesses in the content of operational controls, including:

    - No evidence that a terrain stability field assessment referenced in a site plan was ever completed. (Vavenby)

    - Inconsistencies in the mapping of machine free zones prescribed for S6 streams on some harvest plan maps. (Vavenby).

    - Lack of practice restrictions in a road site plan regarding a road that was recently constructed adjacent to the RMA of an S3 (fish-bearing) stream. (Mackenzie)

    - The Forest Management Group (FMG) Prince George Field Operations Multisite Standard, which applies in Mackenzie, does not require wind-throw assessments. (Mackenzie)

    - The Mackenzie site visit identified 1 harvest block where a stream was mapped that did not actually exist. (Mackenzie)

    - The Canfor Mackenzie operational procedure is to default all riparian management zone prescriptions to a moderate to high wind-throw hazard level, and does not provide for alternatives to the generic prescription as a means to promote enhanced retention in association with internal S4 (small fish-bearing) streams where wind-throw is not a significant consideration. (Mackenzie)

  ▪ The Canfor Fuel Management Guidelines require that fuel storage and refueling occur outside of any "riparian area" to avoid spillage into any body of water. However, the guidelines are not clear on what is meant by the term "riparian area", and interviews with some equipment operators found that that were unclear on what this clause actually requires. If the term is taken to mean the RMA (Riparian Management Area, which is a defined term in Regulation), then this will vary depending on the type of watercourse to which it applies, and in the case of an S-6 stream could be interpreted as allowing fuel storage and dispensing as close as 20 metres from the waterbody. (Corporate)

  ▪ The audit identified a number of isolated weaknesses in the content and/or implementation of the Company’s emergency response procedures (e.g., missing or incomplete spill kits on some machines, examples of fire extinguishers that had missing or outdated inspection tags, a few machines with discharged fire extinguishers or missing fire tools, etc.). (Houston, Chetwynd, Prince George, Mackenzie and Vavenby)

The Company is making increased use of tethered harvesting systems as a means to address the recent shift of operations into steeper ground and help ensure that they are able to harvest the full timber profile. (Corporate)
A recent camp inspection by Canfor Mackenzie staff did not detect an expired fire extinguisher, which according to the FMG Fuel Management Guidelines is a requirement for fuel dispensing locations. In addition, review of the FMG Operations Camp Inspection form in the petroleum handling section found that the form does not include consideration of the required fire extinguishers. (Mackenzie/Corporate)

The audit noted a number of isolated weaknesses in the implementation of the Company’s non-conformance and corrective and preventive action procedures (e.g., open action items relating to bridge inspections conducted at Fort Nelson identified in 2016, a lack of evidence contained in the incident tracking system (ITS) to support the closure of some previous external audit findings, and a few incidents in ITS that had not been closed by the due date specified in the applicable action plan). (Fort Nelson, Grande Prairie and Mackenzie)

The audit noted the following isolated weaknesses in the targets included in the Company’s SFM plans:

- The target for shrub habitat (CSA Z809 Core Indicator 1.1.5) presented in the Fort Nelson SFM plan is no longer valid as the underlying data sources have changed and this target can no longer be reported on in the manner envisaged in the SFM plan. The target also lacks clarity as to how the 5% allowable variance is calculated, which if calculated based on the TSA area would be inappropriate as it would allow for the complete elimination of shrub habitat. (Fort Nelson)

- A recently completed steep slope analysis of the timber harvesting land base may indicate that the current Chetwynd SFM plan target for non-conventional harvest methods is no longer valid. It is also not clear whether or not there is a variance in place defining the acceptable level of departure from the target and if Canfor has taken this variance into account. Further, the most recent Chetwynd SFM plan annual report did not clearly conclude on the degree to which Canfor has not met the target. (Chetwynd)

Isolated Issues

A number of isolated (i.e., non-systemic) weaknesses in the implementation of FMS requirements were also identified during the 2017 audit. These have been reported to the woodlands operations where the issue(s) were noted, and the Company has developed divisional-level action plans to address these issues.

Corrective Action Plans

Corrective action plans designed to address the root cause(s) of the non-conformities identified during the 2017 audit have been developed by Canfor’s woodlands operations and reviewed and approved by KPMG PRI. The 2018 audit will include a follow-up assessment of these issues to confirm that the corrective action plans developed to address them have been implemented as required.

Focus Areas for the Next Audit

The following issues/topics have been identified as focus areas for the next audit:

- Implementation of the action plans developed by the Company to address the open findings from the 2017 and previous ISO 14001/CSA Z809 audits.

- ISO 14001:2004 certificates will no longer be valid as of September 15, 2018. However, Canfor has indicated that they may not pursue certification to the new ISO 14001:2015 standard. As a result, it is expected that the requirements of the ISO 14001 standard will not be in scope for the 2018 audit.
- CSA Z809-16 was published on September 16, 2016. The standard has a 2 year transition period, and existing CSA Z809-08 certificates will no longer to valid after September 16, 2018. As a result, a full-scope CSA Z809-16 certification audit will be required in 2018.

- Actions taken by the Company to address the results of the hydrologic and terrain stability assessments completed for proposed cutblocks in the Upper Clearwater area (i.e., modifications to blocks identified as potentially posing an elevated risk to downstream resources, implementation and effectiveness of the Trophy Mountain FSR road upgrade plan).

- The Company’s continued efforts to address the expanding spruce bark beetle infestation at the Prince George and Mackenzie operations.

- Water management and pre-development of roads in the more challenging terrain that the Prince George and Mackenzie operations are now moving into.

- Development and implementation of procedures to track the completion of post-harvest fire hazard assessments.

- Efforts to reduce rutting in sensitive areas containing small wetlands and NCDs.

- Implementation of various actions (e.g., designation of sensitive watersheds and associated SFM plan targets, review and (where necessary) updating of the NRV (natural range of variability) basis underlying the SFM plan, etc.) in the event that harvest operations resume at the Fort Nelson operation.

### Date of the Next Audit

The next CSA Z809/ISO 14001 audit of Canfor’s B.C. and Alberta woodlands operations will take place over several months, commencing in winter 2018.