

Chapter 3

Section 3.05

Ministry of Natural Resources
Ministry of Northern Development, Mines and Forestry

Forest Management Program

Background

Ontario's forests cover more than 700,000 square kilometres or about two-thirds of the province. More than 80% of the forests are on Crown land, and their management (that is, their harvesting, renewal, maintenance, and so on) is governed mainly by the *Crown Forest Sustainability Act, 1994* (CFSA). The CFSA is designed to provide for the long-term sustainability of Ontario's Crown forests and the management of Crown forests in such a way that they meet the social, economic, and environmental needs of present and future generations. In addition, the Ministry of Natural Resources (MNR) has standing authority under Ontario's *Environmental Assessment Act* regarding recurring forest management activities on Crown land, subject to conditions, which MNR must adhere to.

Ontario's forest industry is an important source of employment in the province, especially in northern communities. In the 2008/09 fiscal year, employment within the industry was estimated at 166,000 jobs. According to Statistics Canada, in the 2009 calendar year, the value of Ontario's forestry-sector products (that is, the province's pulp and paper, sawmill, and engineered wood and value-added wood products) was estimated to be approximately \$12 billion. In recent years, the industry has

experienced a significant decline due mainly to the increase in the value of the Canadian dollar and the recent economic downturn in the United States, which has affected demand for forest products made in Ontario. As a result, many mills in the province have closed, either permanently or temporarily, resulting in a reduction in timber harvest levels and associated forest management activities.

As shown in Figure 1, most forest management activities on Crown land occur in an area of about 365,000 square kilometres known as the Area of the Undertaking (AOU). Forest management activities

Figure 1: Area of the Undertaking (AOU)

Source: Ministry of Natural Resources



are generally not approved in the land north of the AOU, where access is limited. Most of the land south of the AOU is privately owned. Productive forest within the AOU covers about 262,000 square kilometres; only about 190,000 square kilometres of this area are eligible for forest management activities, with the rest comprising provincial parks, private lands, and areas where forest management activities cannot reasonably take place due to the terrain.

The Area of the Undertaking is divided into 41 units, known as Forest Management Units (FMUs). Thirty-eight of the 41 FMUs are managed by forest management companies operating under a Sustainable Forest Licence (SFL). Under an SFL, which may be granted for up to 20 years, the SFL holder is responsible for preparing a Forest Management Plan (FMP) and implementing the plan by building access roads, harvesting trees, renewing/maintaining the forest, monitoring its forest management activities, and reporting the results of its monitoring to the province. The remaining three FMUs are managed by the Crown. Forest Resource Licences (FRLs), which allow an individual or company to harvest in an FMU, are also granted by the province. Before an FRL can be issued, the individual or company must come to an agreement with the holder of the SFL. The FRL holder will generally not be responsible for any forest renewal/maintenance activities subsequent to harvesting, because this responsibility typically remains with the SFL holder. The province has granted nearly 4,000 FRLs, which have a maximum term of five years.

In October 2009, the province realigned the responsibilities of the management of Crown forests between two ministries—MNR and the Ministry of Northern Development, Mines and Forestry (MNDMF). MNR, for the most part, is responsible for the overall stewardship of Ontario's Crown forests. Its key responsibilities include approving FMPs prepared by SFL holders, overseeing the forest renewal and other activities of these companies, and public reporting on the health and sustainability of the Crown forests. MNDMF is responsible mainly for the business and economic aspects of

forestry. Its primary responsibilities include providing the forest industry with access to Crown timber by granting SFLs, and the pricing, promotion, and marketing of Crown timber.

Audit Objective and Scope

The objective of our audit was to assess whether the Ministry of Natural Resources and the Ministry of Northern Development, Mines and Forestry (Ministries) had adequate systems, policies, and procedures in place to ensure compliance with legislation, regulations, and policies and to reliably measure and report on their effectiveness in ensuring the long-term sustainability of Ontario's Crown forests.

Senior management at both Ministries reviewed and agreed to our audit objective and associated audit criteria.

Our audit included visits to the Ministries' head offices, to all three regional MNR offices, and to five of MNR's district offices (collectively, these district offices oversee 30% of the province's Crown forests), where we interviewed staff and reviewed pertinent files. We also visited MNR's Ontario Forest Research Institute in Sault Ste. Marie and its Centre for Northern Forest Ecosystem Research in Thunder Bay and met with researchers who are supporting the sustainable management of Ontario's forests. We met with the Ontario Forest Industries Association, the Wildlands League (a chapter of the Canadian Parks and Wilderness Society), and the Environmental Commissioner of Ontario to obtain their perspectives on forest management in Ontario. As well, we visited two sawmills, a paper mill, and a Crown forest managed by a licensee in northern Ontario to gain familiarity with their operations. To obtain a perspective on forest management practices in other provinces, we visited British Columbia and Alberta and met with representatives from their respective forest ministries.

In recent years, the Internal Audit Services responsible for both Ministries had issued a number

of reports on various aspects of the Ministries' forestry program. We considered the relevant issues noted in these reports in determining the scope and extent of our audit. In addition, the *Crown Forest Sustainability Act, 1994* requires that each managed Crown forest undergo an independent audit by a registered professional forester every five years. At the time of our fieldwork, such audits had been recently completed on 12 Crown forests. Where appropriate, we incorporated the results of these audits into our audit work.

Summary

Before the enactment of the *Crown Forest Sustainability Act, 1994* (CFSA), the province was directly responsible for managing Ontario's Crown forests, including regeneration. Under the CFSA, licensed forest management companies became responsible for overall forest sustainability planning and for carrying out all key forest management activities, including harvesting and forest renewal, on behalf of the Crown. The province's role in ensuring the sustainability of Crown forests has increasingly become one of overseeing the activities of the private-sector forest management companies. Such oversight is vital given that forests take upwards of 70 years to re-grow and these companies have little immediate financial incentive to carry out appropriate renewal activities.

Overall, we concluded that improvements are needed if the Ministry of Natural Resources (MNR) and the Ministry of Northern Development, Mines and Forestry (MNDMF) are to have adequate assurance that the key objective of the CFSA—to provide for the long-term sustainability of Ontario's Crown forests—is being achieved. Specifically, we noted the following:

- The province considers a one-hectare harvest block to have successfully regenerated if it is stocked with a minimum of 1,000 trees (that is, 40% of what the harvest block can accom-

modate). Harvest blocks are also held to a silviculture success standard, which is a measure of whether the appropriate or preferred trees have grown back. In the 2008/09 fiscal year (the latest period for which information was available at the time of our audit), we noted that about a third of the licensed forest management companies had not reported the results of their forest management activities, and MNR had not followed up with these companies. The two-thirds that had reported indicated that although 93% of the total area that had been assessed by the companies had met the province's minimum 40% stocking standard, only 51% of the total area assessed had achieved silviculture success.

- MNR's 40% stocking standard has not changed since the 1970s. Several other jurisdictions in Canada hold the industry to higher standards. In fact, we noted that one MNR region, on its own initiative, held companies managing Crown forests in its jurisdiction to a higher stocking standard.
- Before planting, seeding, or even natural regeneration can take place, it is often necessary to prepare a site to allow for regeneration to take place under the best possible conditions, thereby increasing the likelihood of success. It is also often necessary to subsequently tend the site, usually by spraying to kill off competing vegetation, to further increase the likelihood of regeneration success. On average, between the 2004/05 and 2008/09 fiscal years, only about a third of the area targeted for regeneration either naturally or by direct seeding or planting was prepared and/or subsequently tended. Moreover, the average decreased over that five-year period. In accordance with the CFSA, all Crown forests are subjected to an Independent Forest Audit (IFA) once every five years. Several of the more recent IFA reports completed in the 2008 and 2009 calendar years expressed concern about inadequate site preparation

or about non-existent or inadequate tending practices that were leading to reductions in growth, yield, and stand densities, as well as to an increase in the time required for stands to reach free-to-grow status (meaning that the trees are free of insects, diseases, and high levels of competing vegetation).

- We noted that Forest Management Plans had been completed in accordance with the requirements of the CFSA and reviewed and approved by MNR staff. However, MNR had not ensured that the most accurate and up-to-date information on forest composition, wildlife habitat, and the protection of these habitats was made available at the time the plans were prepared.
- With respect to the province's monitoring of the forest industry, we noted the following:
 - MNR did not maintain a complete list of all active harvest blocks in its compliance system to ensure that all harvest blocks could be identified for possible inspection, and not all of MNR's district offices used a risk-based approach for selecting blocks for inspections. Where problems were noted, repeat offenders often did not receive appropriate remedies such as a penalty or a stop-work order.
 - The forest industry is required to report its renewal activities annually to MNR. To verify the accuracy of the reporting, MNR implemented a Silviculture Effectiveness Monitoring program. However, its district offices were not completing many of the required "core tasks" in the program. Where problems were noted, little follow-up action was being taken.
 - We noted that a good process was in place to select the team that conducted the Independent Forest Audits, but that deficiencies detected during such audits were not being addressed in some cases.
 - The average annual harvest in the last five years has been only about 63% of what was

planned, and has decreased from almost 80% of planned in the 2004/05 fiscal year to about 40% of planned in the 2008/09 fiscal year. The shortfall is usually due to existing licensees with sole rights to harvest Crown timber not having a market for the timber. There are indications that other companies that currently do not have access to timber in Ontario's Crown forests can market Ontario wood. A November 2009 competition for unused Crown wood initiated by MNDMF resulted in the allocation of approximately 5.5 million cubic metres of timber that otherwise would not have been harvested. About 25% of the winning proponents were new mills that plan to invest in the province as a result of this competition. At the time of our audit, MNDMF had no plans to hold similar competitions in the near future. In fact, we noted that MNDMF does not monitor on an ongoing basis whether there is excess supply of Crown wood that could be reallocated to others who might be able to market the timber.

- Measures and controls did not fully ensure that Crown forest revenue was appropriately calculated and received on a timely basis and that trusts established to fund forest renewal expenditures incurred by forest management companies were adequately administered and funded.

MNR could also enhance the usefulness of the information presented in its annual report on forest management by comparing actual levels of key forest management activities—such as harvesting, regeneration (whether occurring naturally or assisted by planting or seeding), site preparation, and tending—to planned levels and providing explanations for significant variances.

OVERALL MINISTRIES' RESPONSE

MNR and MNDMF collectively aim to ensure that the management of Ontario's forests provides healthy, sustainable forested ecosystems; enables a thriving and viable forest sector; and supports the livelihood of forest-dependent communities. The ministries work together in delivering on the requirements of a rigorous legislative and policy framework governing the management and use of Ontario's forests. This framework is regularly reviewed and assessed.

Monitoring of approved operations and the results of management activities are essential components of Ontario's forest management framework. Monitoring is undertaken by forest companies, the ministries, and independent auditors to ensure that policies are effective and forest management objectives are being achieved.

MNR and MNDMF recognize the need to consider new opportunities, and they have responded with the *Ontario Forest Tenure Modernization Act* to modernize forest tenure and pricing, a provincial wood supply competitive process to ensure that the best use is made of our available forest resources, and the revision of forest management guides to incorporate the latest scientific information.

MNR and MNDMF are committed to the continuous evaluation and improvement of the forest management program. The ministries appreciate the review undertaken by the Office of the Auditor General of Ontario and are committed to responding to the recommendations to improve the forest management program in Ontario.

Detailed Audit Observations

SUSTAINABLE FOREST MANAGEMENT

Before the enactment of the *Crown Forest Sustainability Act, 1994* (CFSA), the Ministry of Natural Resources (MNR) was responsible for the direct management of Ontario's Crown forests, including regeneration. Under the CFSA, licensed forest management companies, rather than MNR, became directly responsible for forest sustainability planning and harvesting and are required to carry out forest renewal on behalf of the Crown. MNR's role in ensuring the long-term health of Crown forests has progressively become one of setting renewal standards and targets for forest management companies to meet, and overseeing the activities of these companies.

It is critical for MNR to capably oversee the forest industry and ensure that the private-sector forest management companies are managing Crown forests in accordance with standards that ensure those forests' long-term health. Setting appropriate renewal standards and effective oversight are all the more important in the case of forest renewal; with forests taking upwards of 70 years to re-grow, these companies have little immediate financial incentive to carry out appropriate renewal activities.

Forest Renewal

Regeneration Standards

Under the CFSA, all areas harvested (excluding certain areas, such as roads) are required to be regenerated. Forests can regenerate naturally; they can also be regenerated by direct seeding or by planting trees. For each harvest block within a harvest area, the Ministry has two key standards with respect to forest regeneration—overall regeneration success, and the success of silviculture, which is the practice of controlling the establishment, growth, composition, health, and quality of forests to meet

diverse needs and values. In a typical harvest area within the province, a one-hectare harvest block can accommodate approximately 2,500 trees spaced about two metres apart. The province considers the harvest block to have successfully regenerated if it is stocked with a minimum of 1,000 trees (40% of what the harvest block can accommodate) that have been declared free-to-grow (that is, the trees have good growth rates and are free from any insects, diseases, and high levels of competing vegetation). Harvest blocks are also held to a silviculture success standard, which is a measure of whether the appropriate or preferred trees have grown back.

Forest management companies are required to report regularly to MNR the results of the assessments completed on areas harvested seven to 10 years previously within Forest Management Units (FMUs) and whether these areas have achieved the province's stocking and silviculture standards. In the 2008/09 fiscal year (the latest year for which information was available at the time of our audit), we noted that about a third of the forest management companies had not reported the results of their forest management activities in 2008/09, and MNR had not followed up with the companies that had not reported. The two-thirds that had reported indicated that although 93% of the total area that had been assessed by the companies had met the province's minimum 40% stocking standard, only 51% of the total area assessed had achieved silviculture success.

The province's minimum 40% stocking standard has been in place since the 1970s. Several other provinces within Canada hold the forest industry in their respective jurisdictions to much higher stocking standards. In the 2009/10 fiscal year, one MNR region took the initiative of incorporating a higher minimum stocking standard in Forest Management Plans for FMUs within its jurisdiction and also began requiring that the trees be well dispersed—specifically, that at least 75% to 80% of the harvest block be covered. The province's current stocking standard does not require this. At the time of our

audit, we were informed that MNR was in the process of reviewing the 40% stocking standard, because it felt that new science-based standards were needed in order to “raise the bar” and result in better renewal practices.

Forest Regeneration

Although assisted regeneration (direct seeding or planting) is a more expensive procedure than natural regeneration, on certain sites it is generally regarded as a more reliable option that yields a greater likelihood of establishing the desired species. A particular benefit of planting versus natural regeneration is that seedlings are germinated in greenhouses before planting, thereby providing a head start on regeneration. In addition, planting also allows greater control of stocking density. Before planting, seeding, or even natural regeneration can take place, it is often necessary to prepare a site to allow for regeneration to take place under the best possible conditions, thereby increasing the likelihood of success. Site preparation may consist of raking, tilling, or removing debris and undesirable competing vegetation. After planting or seeding, tending (that is, weeding and thinning) is usually required for some time to further increase the chance of silviculture success.

On average, between the 2004/05 and 2008/09 fiscal years, only about a third of the areas regenerated either naturally or by direct seeding or planting were site prepped and/or subsequently tended. During this period, there was a declining trend reported by forest management companies in the level of both site preparation (from 39% to 29%) and tending (from 45% to 35%) relative to natural and assisted regeneration.

Forest regeneration activities prescribed in Forest Management Plans (FMPs) vary in intensity from inexpensive treatments such as natural regeneration following harvest to more costly treatments that involve site preparation, tree planting, vegetation management, and pre-commercial thinning. The FMPs prescribe preferred and alternative

treatments and give industry the option to carry out whatever treatments it considers appropriate. Forest management companies could, for the most part, avoid the more expensive and intensive treatments, opting for lower-end regeneration activities, and still be in compliance with their respective FMPs. However, continued use of lower-end practices could yield poor regeneration results, especially with respect to establishing the desired species.

In accordance with the CFSA, all FMUs are subjected to an Independent Forest Audit (IFA) every five years. The audit examines the effectiveness of both MNR and forest management companies in achieving the FMU's planned objectives and provides an assessment of forest sustainability for that FMU. Several of the more recent IFA reports completed in 2008 and 2009 expressed concerns with respect to inadequate site preparation or tending practices that lead to reductions in growth, yield, and stand densities and an increase in the time required for stands to reach free-to-grow status. For example, the most recent IFA report on a forest that has since reverted to the Crown reported the following:

Underachievement of many planned renewal activities during the term was partially due to the reduced harvest level during the term but was largely due to selecting new less intensive treatments for many stands (for example, many areas planned for “Intensive” treatments—site preparation, planting and tending—were simply direct planted—a “Basic” treatment).

RECOMMENDATION 1

To better ensure that the province's Crown forests are successfully regenerated after harvesting, the Ministry of Natural Resources (MNR) should:

- follow up with those forest management companies that have not regularly reported on the results of their forest management

activities in meeting the province's stocking and silviculture standards; and

- conduct scientific studies and research into practices in other jurisdictions to ensure that the stocking standard is adequate to ensure that forest management companies are held to a regeneration standard that will successfully renew harvested areas with the desired species.

Where forest management companies opt for lower-end regeneration activities, MNR should, as part of its review of Forest Management Plans, ensure that there is adequate justification for these less-expensive treatments and assess whether the treatments will achieve planned renewal objectives.

MNR RESPONSE

MNR agrees that timely reporting is an essential component of monitoring the achievements of forest management companies in meeting the province's regeneration standards. Forest management companies are required to report annually to MNR on the results of any assessments that they have completed; however, companies are not required to conduct these assessments annually. Flexibility is provided in the system to allow a company to accumulate larger blocks that are assessed once every few years and in time for the preparation of the next Forest Management Plan (FMP). Because of this, it is expected that not all companies will report each year. MNR will review its procedures for obtaining reports on the results of companies' regeneration assessments to ensure that where surveys are completed, the results are submitted on an annual basis. MNR will also follow up with any companies that have not regularly reported to ensure that they have a reasonable rationale for not doing so.

Silviculture treatments that are necessary to successfully renew the forest and achieve the desired future forest condition are prescribed in

an FMP. MNR will review its approach for determining minimum stocking levels set in FMPs and incorporate any necessary changes into the appropriate guidance documents. As part of its next update of the *Forest Management Planning Manual*, MNR will ensure that there is clear direction for the provision of information to demonstrate that actual silviculture activities are consistent with the approved FMP. Justification will be required where the level of less-intensive treatments deviates from planned levels in a given period. MNR will continue to monitor the effectiveness of natural regeneration and other less-expensive treatments as part of the ongoing Silviculture Effectiveness Monitoring program. The results of the provincial Silvicultural Effectiveness Monitoring program will be analyzed to determine where improvements are needed in the existing silviculture framework.

Forest Management Plans

As noted earlier, the *Crown Forest Sustainability Act, 1994* requires that an approved Forest Management Plan (FMP) be in place for each FMU. FMPs are intended to safeguard the long-term sustainability of Crown forests and maintain biodiversity (that is, a variety of different plant and animal life). FMPs specify planned operations, including construction of access roads, levels of harvest and the associated levels of renewal, and maintenance over a 10-year term. Accurate and up-to-date information on forest composition and wildlife habitat at the time the FMP is prepared is a key requirement for ensuring the sustainability of Crown forests.

Forest Resource Inventory

A forest resource inventory (FRI) provides information on, among other things, the composition, age, height, and stocking of individual species of trees within a forest. In our *1994 Annual Report*, we commented that “an essential first step in any forest

management process is a complete, accurate, and up-to-date forest inventory for each forest management unit.” As well, in 2006, a task force implemented by the then-Minister of Natural Resources aimed at streamlining processes in the forestry sector noted that a current FRI is needed to effectively carry out business, and that inaccurate values information leads to amendments and increased costs. MNR’s standing approval under the *Environmental Assessment Act* for forest management activities also requires that an up-to-date FRI for each FMU be available for use in forest management planning. According to MNR, it takes three years to produce an FRI for an area, with the production predominantly entailing the taking of digital aerial imagery and the interpretation of that imagery using field data from surveys of a sample of plots.

Realizing that its FRIs were becoming outdated, MNR allocated \$7.5 million in the 2006/07 fiscal year and since then has allocated \$10 million per year to enhance and update the province’s FRIs using the latest technology. The current FRIs are, on average, 18 years old and therefore often do not contain accurate or complete information on the composition of forests within individual FMUs. FMUs are required to maintain a planning inventory for each FMP that contains updated forest description information from forest management activities and natural changes to the forest. However, given that the basis of the planning inventories is the FRI, it is still essential for forest management planning that MNR has a complete and accurate FRI. MNR had initially intended to use the updated FRIs in forest management planning by 2010, but its current target is to have the new FRIs in place for forest management planning by 2014.

Detection of Forest Resource Values

Another requirement of the standing approval is that MNR maintain the most relevant and current information on such forest-related values as species-at-risk habitats, other species habitats, tourism values, and cultural and heritage values. To this

end, MNR maintains a values information system, which it is responsible for updating. Sustainable Forest Licence holders also have access to the system and use it to create value maps for use in FMPs and to adjust their operations according to any updated information.

MNR's district offices receive funding every year to enable the collection of this data, but the amount of the funding provided is not consistent. We noted, for example, that funding to district offices in one region increased five-fold when FMPs within these districts came up for review. In other years, the funding was negligible. To facilitate the ongoing collection of data on values and hence enable more timely revisions to annual forest management operations—especially with respect to wildlife habitats, which change continuously—the 2006 MNR task force recommended that “funding for values data collection projects, including entry of data into the corporate data repository, should generally be provided to MNR Districts on an ongoing annual basis rather than be tied to the preparation of an FMP.” MNR has yet to act on this recommendation.

The *Endangered Species Act, 2007* (ESA) lists many endangered and threatened species that need protection. MNR has determined that 42 of them are dependent on the province's Crown forests and are also likely to be affected by forest management operations. We noted that for approximately 15% of these species, no provincial prescriptions (that is, documents specifying the way the species should be protected—for example, by setting up buffer zones between the species and forest management operations) had been developed at the time of our audit. Leaving development of such prescriptions up to the industry risks inconsistencies among FMUs. We also noted that one district had identified habitats for a number of the forest-dependent species-at-risk listed in the ESA in Crown forests in its jurisdiction, but these had not been entered in MNR's values information system.

Update of Silviculture Guides

MNR has produced silviculture guides on managing different species of trees in different regions. These guides are used by the forest industry when preparing FMPs. MNR's standing approval under the *Environmental Assessment Act* requires that MNR review these guides every five years to ensure that they reflect the most current scientific knowledge regarding the management of the different species of trees. MNR reviewed these guides in 2005 and concluded that, with only one exception, all of them required revision. At the time of our audit, MNR was still in the process of revising the guides.

RECOMMENDATION 2

In order that Forest Management Plans meet their objectives in ensuring the future sustainability of Crown forests, the Ministry of Natural Resources (MNR) should ensure that accurate and up-to-date information on forest composition and wildlife habitat and the protection of these habitats is made available at the time the plans are prepared. MNR should also update any silviculture guides used in forest management planning on a more timely basis.

MNR RESPONSE

MNR acknowledges the importance of using accurate and up-to-date information in the preparation of Forest Management Plans (FMPs) and makes significant ongoing investments in information and systems to support planning. In 2005, MNR assumed full responsibility for the production of the Forest Resources Inventory (FRI), and production to provide updated FRIs for use in the preparation of FMPs is on schedule.

Values information, collected by MNR districts, is documented, and known values are verified during surveys that are conducted for purposes other than forest management (for example, moose aerial inventory surveys). The

collection of values information is continually augmented by district staff and industry partners during regular fieldwork. The planning system requires the immediate implementation of prescriptions to protect any newly identified values that may be affected by planned forest operations.

Protecting species at risk and their habitats has always been an integral part of forest management activities in Ontario. Specific provincial direction exists for 54 of the 65 species listed in the *Endangered Species Act, 2007* (ESA) that are likely to be affected by forest management operations—or 83%. Direction for two further species is being developed. The development of additional habitat regulations and policy direction is ongoing as necessary to address outstanding species and any new species that may be listed under the ESA.

MNR agrees that the standards and guidelines in its forest management guides, including the silviculture guides, must be based on the most recent scientific understanding of sustainable forest management practices. Following the 2005 review of the silviculture guides, work began immediately to address the three key items identified as requiring an update. Once that background research was completed, scoping of the new revised silviculture guide began in fall 2009. The silviculture guide revision project is now well under way, with completion anticipated in late 2013.

Monitoring

To assess compliance with approved FMPs and to evaluate progress with respect to forest regeneration, forest management operations carried out by the forest industry are subject to monitoring on three fronts:

- compliance monitoring—that is, the inspection of forest management operations to

ensure that the operations conform to the approved plans or permits;

- silviculture effectiveness monitoring, which is conducted to determine if forest renewal operations undertaken by the forest industry are yielding the desired outcomes; and
- Independent Forest Audits (IFAs), which provide an independent assessment of sustainable forest management practices of FMUs.

We noted the following with respect to the monitoring of forest management operations within the province.

Inspection and Enforcement

In Ontario, the forest industry and the Ministry of Natural Resources (MNR) are jointly responsible for ensuring that forest management operations (for example, construction of access roads, harvesting, and forest renewal/maintenance) comply with applicable legislation, regulations, and policies that are intended to ensure the sustainable management of Crown forests. In general, FMPs require Sustainable Forest Licence holders to inspect all harvest blocks and report to MNR all suspected incidents of non-compliance within their FMU. MNR then confirms the suspected non-compliance(s) and determines the appropriate remedial action. MNR inspectors, in addition to verifying all non-compliance(s) reported by the industry, also carry out random and planned inspections. All inspections conducted by MNR and the forest industry are documented in inspection reports. These reports are stored in a web-based system. Summaries of inspections are included in the provincial *Annual Report on Forest Management*.

Inspections

Although the forest industry is generally required to inspect all blocks harvested, MNR does not have adequate procedures for ensuring that the industry has carried out the required inspections. We noted that MNR's database did not contain a complete listing of all active harvest blocks; instead, it listed only those harvest blocks that had been inspected

by forest management companies. As a result, MNR cannot readily compare all active harvest blocks with those that have been inspected and follow up with companies regarding blocks that have not been inspected.

Because the system provides for self-reporting by the industry, there is a risk that not all non-compliances will be reported. Between the 2005/06 and 2009/10 fiscal years, MNR inspected an annual average of approximately 25% of the harvest blocks. We noted that during this period, the average compliance rate on inspections carried out by the forest industry was approximately 96%, with the average compliance rate on MNR's inspections being about 87%.

Although overall, MNR inspections yield a lower compliance rate, we noted that three of the five MNR districts we visited did not follow a risk-based approach in selecting which harvest blocks to inspect. The other two districts used risk assessment procedures to select harvest blocks for inspection. For example, one district had a good process that ranked blocks about to be harvested using criteria such as compliance history, public safety, and non-uniform boundary configurations; the district inspects 100% of the blocks deemed to be of high risk, 30% of blocks deemed to be of moderate risk, and only 10% of blocks deemed to be low risk. Adopting a similar risk-based approach in the selection of blocks for inspection across all regions would allow district offices to make the best use of limited resources.

Enforcement

When incidents of non-compliance (for example, access roads that are too wide, wasteful harvest practices, or operations taking place within a protected area) are detected on inspections of harvest blocks by either the SFL holder or MNR, remedial actions available to MNR include written warnings; orders to stop, repair, or comply; administrative penalties; offence charges; and, as a last resort, suspension or cancellation of licences.

On average, non-compliance problems were corrected nine months after the inspection date for inspections done between the 2005/06 and 2009/10 fiscal years. When we reviewed a sample of non-compliance issues detected by the district offices we visited, we noted much longer delays in resolving these issues: in one case, 22 months after the inspection date. As of February 2011, there were 280 unresolved non-compliance issues province-wide, and these had been outstanding on average for nearly 23 months. Some of these non-compliance issues have remained unresolved because the forest management companies are no longer operating. MNR does not have a target for the time it should take to resolve non-compliance issues from the date of inspection.

Our analysis also revealed that over the period from the 2004/05 fiscal year through the 2010/11 fiscal year, there was a significant variance among MNR district offices (ranging from 0% to 80%) in the application of remedies when non-compliance issues had been detected. Although the industry does self-correct certain non-compliance issues, and remedies in these cases are not required, the significant variance indicates that in many situations, remedial actions are not being consistently applied. In our testing, we noted that six forest management companies had more than 160 non-compliance issues collectively over the same six-year period, but no remedial action had been taken by the applicable district offices.

We noted that repeat offenders often receive verbal or written warnings instead of remedies that might act as more of a deterrent—such as an administrative penalty or, where repeat violations are serious, cancellation of the licence. Administrative penalties account for fewer than 20% of the remedial actions applied by MNR over the five-year period from 2004/05 through 2008/09, and in only 5% of the cases have the companies been charged with an offence. Also, in the same five-year period, MNR cancelled only one Forest Resource Licence due to non-compliance. When we reviewed a sample of companies with repeat offences, we

noted that one company had 29 non-compliance issues (about a third of which involved wasteful practices) over five years, but MNR applied the administrative penalty in only one of those instances. In another case, a licensee had 15 non-compliance issues, which included operating within a protected area and not following the annual work schedule submitted to MNR. Instead of administrative penalties, MNR gave verbal or written warnings in only four of these instances, and two of the 15 non-compliance issues remained outstanding two years after being detected.

RECOMMENDATION 3

To improve its monitoring of forest management companies' operations for compliance with applicable legislation, regulations, and policies, the Ministry of Natural Resources (MNR) should:

- review its current compliance database to ensure that appropriate linkages are made to complete harvest block listings so that all harvest blocks can be identified for possible inspection; and
- provide guidance to its district offices in adopting a risk-based approach for selecting blocks for inspection.

MNR should also ensure that its district offices are more consistent and effective in the use of appropriate remedies to encourage compliance, especially for repeat offenders.

MNR RESPONSE

MNR agrees with the recommendation and will review its current compliance system to ensure that appropriate linkages are made to the Forest Management Plan harvest block data so that all harvest blocks can be identified for possible inspection.

MNR continues to evaluate and improve its program for monitoring forest management companies' operations for compliance. In 2010, MNR updated the *Forest Compliance Handbook*

directive and procedures to provide clearer direction on the application of remedies. The program for monitoring forest management companies' operations for compliance is being considered as part of MNR's corporate review of natural-resource compliance monitoring. The corporate review process will lead to the development of a consistent ministry-wide approach to risk-based compliance monitoring. From this project, MNR will develop appropriate guidance on risk-based planning for consideration in the monitoring of forest operations.

Silviculture Effectiveness Monitoring Program

The forest industry is required to report its renewal activities annually to MNR. In 2006, to verify the accuracy of the reporting and to assess the effectiveness of industry renewal activities in establishing new forests, MNR implemented the Silviculture Effectiveness Monitoring (SEM) program. The SEM program consists of a number of "core tasks" that MNR's district offices are to carry out to assess industry renewal efforts. These core tasks include surveying a sample of areas declared free-to-grow (that is, where trees have successfully regenerated and no further silviculture activities are required) by the industry, conducting field visits on a sample of sites where silvicultural activities have been reported to have been carried out by forest management companies, and mapping areas not yet considered free-to-grow. In the district offices we visited, we noted that the SEM program was not being carried out consistently. In the 2008/09 and 2009/10 fiscal years, these districts on average completed only 40% of the core tasks. In one region, some core tasks were not carried out at all. With respect to the delivery of the SEM program, we also noted the following:

- One of the key core tasks is to conduct field surveys on 10% of the areas declared free-to-grow by the industry seven to 10 years after a site has been harvested. This independent

oversight is essential if MNR is to have at least some assurance that self-regulation by the industry with respect to successful regeneration is being accurately reported. In our sample, we noted that this core task had not been conducted in one FMU, and that the minimum 10% sample size was not met for over half the remaining FMUs. Another core task is to conduct field surveys on at least 5% of the areas declared free-to-grow, generally 12 to 15 years after a site has been harvested. We noted that the districts we visited did not complete this task for 40% of the FMUs we sampled. In many cases, the districts that did perform the required survey did not meet the minimum 5% sample size.

- The district offices generally took no follow-up action on areas found not to have met the free-to-grow standards.
- Within the SEM program, there are no prescribed penalties that the districts can apply to encourage compliance.

RECOMMENDATION 4

To ensure that the Silviculture Effectiveness Monitoring (SEM) program adequately assesses the effectiveness of industry-reported renewal efforts in regenerating Crown forests, the district offices of the Ministry of Natural Resources (MNR) should complete all core tasks as outlined in the program and follow up with forest management companies on sites found not to have met the free-to-grow criteria to ensure that the companies subsequently took appropriate remedial regeneration measures.

To further enhance the effectiveness of the SEM program, MNR should consider prescribing penalties that district offices can apply to encourage compliance.

MNR RESPONSE

MNR will take steps to improve the completion rate of the core tasks prescribed under the SEM

program. MNR recognizes that determining the success rates of renewal efforts is a key component in an effective monitoring system.

MNR will undertake a review of the SEM program and examine methods to allow earlier identification of sites that may not be regenerating as originally planned. MNR will evaluate enhancements to the program to ensure that when remedial regeneration measures are required, appropriate incentives are in place to ensure that the measures are completed by the forest management company.

Independent Forest Audits

As noted earlier, every FMU in Ontario is subjected to an Independent Forest Audit (IFA) at least once every five years. The IFA is a requirement of the *Crown Forest Sustainability Act, 1994* (CFSA), one of the conditions of MNR's standing approval under the *Environmental Assessment Act*, and a condition of all Sustainable Forest Licences (SFLs). The IFA's purpose is to assess:

- compliance with the CFSA;
- compliance with the FMU's Forest Management Plan;
- a comparison of planned versus actual forest management activities;
- the effectiveness of forest management activities in achieving planned objectives; and
- where applicable, a licensee's compliance with the terms and conditions of its SFL.

An SFL is generally granted for a term of 20 years. Every five years, based on the IFA's results, the Ministry of Northern Development, Mines and Forestry (MNDMF) decides whether or not the licensee has complied with the terms and conditions of its SFL and, if serious difficulties are noted, can decide not to extend the SFL's term for another five years beyond the remaining term.

The CFSA requires that the team conducting the IFA be independent of the licensee and of MNR, and specifies that at least one registered professional

forester must be a team member. All IFA auditors are selected by a committee that is independent of the government and that verifies the auditors' qualifications. To further ensure the independence of the IFA process, the funds to pay for the IFAs come from the Forestry Futures Trust (discussed later in this report), to which all SFL holders contribute. We concluded that this was a sound process and should ensure that IFAs are conducted by auditors who are independent of the SFL holder and MNR.

Since the inception of the IFAs in 1996, four SFL holders have been found to be in non-compliance with the terms of their licence or the CFSA. The non-compliance issues related to poor planning, areas that were insufficiently regenerated, and poor reporting of regeneration data. In none of these cases was the normal five-year extension to the existing term of the licence added, but the SFL holder was allowed to continue managing the Crown forest until the next IFA.

Upon the completion of an IFA, MNR or MNDMF and the SFL holder must submit an action plan to address reported deficiencies within two months of receiving the final report and a status report two years after submitting the action plan. In general, the action plans and status reports address recommendations related to forest management planning, plan implementation, monitoring, and achievement of forest sustainability. We noted that a number of the action plans and status reports for IFAs conducted between the 2004/05 and the 2008/09 fiscal years had not been completed by the forest management companies on a timely basis. Action plans were up to 16 months late, and status reports were up to 18 months late. At the time of our audit, some of these documents were still outstanding.

Several of the IFA reports that we reviewed from the 2008 and 2009 calendar years also expressed concern regarding action items from previous IFAs: in some instances, the action items were either never undertaken or only partly completed, whereas in other instances, the action items did not fully address the IFA's original recommendation. MNR indicated that the delay in completing the

action plans might have partially been due to the licence holder changing or to the overlapping workload of SFL holders also having to prepare Forest Management Plans.

RECOMMENDATION 5

The Ministry of Natural Resources should ensure that action plans and status reports that address the recommendations of the Independent Forest Audits are completed on a timely basis and ensure that it assesses the extent to which previous recommendations were satisfactorily addressed.

MNR RESPONSE

MNR acknowledges the need to improve the timeliness of action plan and status report submissions in response to IFAs. Additional measures will be taken to ensure timely action plans and status reports, recognizing that these reports can be difficult to produce on the timelines prescribed when there has been a change in ownership of the company or when a practical approach to address a particular recommendation is difficult to determine. The requirements, timelines, and process for assessing the status of previous recommendations are outlined in the Independent Forest Audit Process and Protocol, which is being formally reviewed in 2011. The results of the review will inform ongoing improvements to the IFA process, including the process in place to assess the extent to which previous recommendations by auditors have been addressed.

Planned versus Actual Harvest

As noted earlier, the *Crown Forest Sustainability Act, 1994* (CFSA) requires that an approved Forest Management Plan (FMP) be in place for each Forest Management Unit (FMU). The FMPs, which are renewed every 10 years, must be certified by a

registered professional forester, who can work for the company managing the FMU. The FMP should set goals for forest sustainability and biodiversity. Based on the set goals, the FMP stipulates planned harvest and renewal levels aimed at ensuring the health of Crown forests so they can provide sustainable benefits (such as timber and commercial products, wildlife habitats, and recreational opportunities) for the people of Ontario.

As Figure 2 shows, between the 2004/05 and 2008/09 fiscal years (the latest periods for which information was available at the time of our audit), actual harvest was significantly below planned harvest. During this period, the average annual planned harvest was about 290,000 hectares. However, the average annual harvest in these five years was only about 180,000 hectares, or approximately 63% of what was planned, with a decrease from almost 80% of planned in 2004/05 to about 40% of planned in 2008/09.

Figure 3 shows that in the 2008/09 fiscal year, actual harvest was less than 50% of the planned harvest in about two-thirds of the FMUs.

Under-harvesting over an extended period may have a negative impact on forest health and biodiversity. Ordinarily, natural disturbances, such as fires, insects, and windstorms, would do the job of regenerating forests. But where possible, the province suppresses such natural disturbances by,

for example, putting out forest fires and taking measures to control insect damage. The planned harvest and regeneration levels that are set in FMPs are intended to emulate the effects of these natural disturbances. Over the long term, the combination of continued under-harvesting and the suppression of natural disturbances can create an age-class imbalance—leaving only trees that are either very young or very old—in the province’s forests. Older trees yield less timber, meaning that a much larger area needs to be harvested to produce the desired volume of timber. In a 2004 report titled Provincial Wood Supply Strategy, MNR noted that an age-class imbalance already existed in more than half the forests in the province, and that this situation would create a gap in the provincial wood supply in the future.

In recent years, the competitiveness of the province’s forest industry has declined, due partially to the increase in the value of the Canadian dollar. The economic troubles in the United States, along with an associated reduction in housing starts and in the consumption of goods and services, have also negatively affected Ontario’s forest products industry in recent years. In those FMUs where licensees have sole rights to harvest Crown timber but do not have a market for that timber, the actual harvest tends to fall well short of the planned harvest.

Figure 2: Planned vs. Actual Harvest, 2004/05–2008/09 (hectares)

Source of data: Ministry of Natural Resources

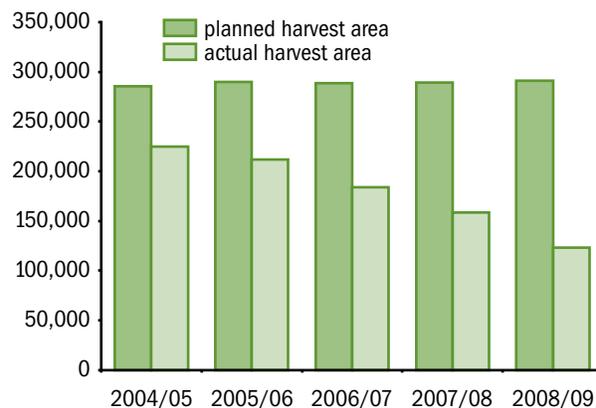
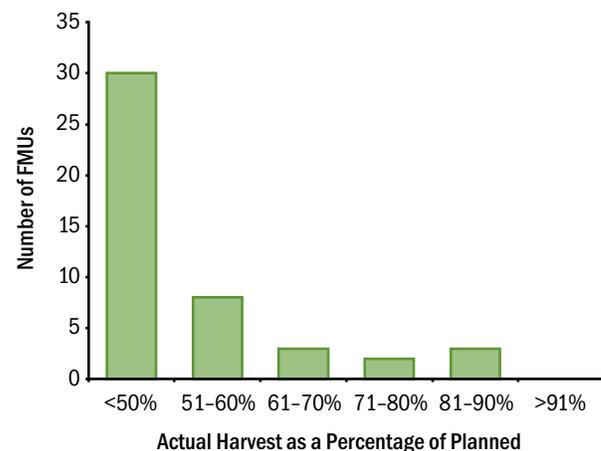


Figure 3: Actual Harvest vs. Planned, by Forest Management Unit (FMU), 2008/09

Source of data: Ministry of Natural Resources



British Columbia government officials informed us that in 2003 the province took back approximately 20% of its timber that was previously committed in long-term timber licences and now competitively reallocates the majority of this timber periodically to other market entrants. In addition, for timber that is still committed in long-term licences, the province takes back the unused portion of the annual allowable cut (which in Ontario is called the planned harvest) over a five-year period and often competitively reallocates this timber to companies that are able to use the wood.

There are indications that other companies that currently do not have access to timber in Ontario's Crown forests can market Ontario wood. In January 2009, to attract new investment in the forest industry, the province initiated a staged competition for Crown wood committed to long-term SFL holders that, according to FMPs, could have been harvested but was not being used by the licensees. The wood supply included merchantable wood (also called round-wood) and unmerchantable fibre (such as branches and the tops of trees). The first stage of the competition was a Request for Expressions of Interest (RFEI), which was issued on January 20, 2009. In response to the RFEI, MNR received 131 submissions with proponents that were collectively interested in five times the wood supply that was considered available. Given this overwhelming interest, the province issued a Request for Proposals (RFP) for this unused Crown wood in November 2009. In response to the RFP, more than 100 proposals were received—many from new companies or mills that proposed to use the unused Crown wood to produce value-added products such as biofuel. At the time of our audit, nearly half these proposals had been approved, and the Ministry of Northern Development, Mines and Forestry (MNDMF) was in the process of putting in place agreements with the winning proponents for the utilization of approximately 5.5 million cubic metres of Crown timber that otherwise would not have been harvested. About 25% of the winning proponents were new mills that would be mak-

ing investments as a result of their success in this competition.

At the time of our audit, MNDMF had no plans to hold similar competitions in the near future, nor did MNDMF have a mechanism for monitoring, on an ongoing basis, any excess supply of Crown wood that could be reallocated. In 2010, MNDMF developed a province-wide wood supply and commitment database to identify excess supply that could be reallocated to existing and new processing facilities that have no access to Crown wood. However, MNDMF informed us that this database was only for use in the provincial wood supply competition discussed above and was not designed for ongoing use. Even though MNDMF requires that mills submit annual reports on wood utilization, this information is not used to update the database so that wood usage can be monitored on an ongoing basis to identify any excess supply.

In June 2011, the government passed the *Ontario Forest Tenure Modernization Act, 2011* (OFTMA), which allows the province to establish Local Forest Management Corporations (LFMCs)—Crown agencies that are governed by a predominantly local board of directors and that are responsible for managing Crown forests and overseeing the marketing and sale of timber in a given area. LFMCs would permit other companies access at a competitive price to Crown timber previously committed in long-term licences. However, the legislation allows the piloting of only two such corporations within the next five years. The government also amended the CFSA to give the Minister of Northern Development, Mines and Forestry the authority to cancel existing SFLs. MNDMF informed us that it planned to establish the two pilot LFMCs by 2013 and that, in the meantime, it has no alternative under existing legislation other than to renew SFLs that come up for renewal even if it believes that the SFL holder will not harvest the allowable cut.

RECOMMENDATION 6

To help ensure that forests are being managed on a sustainable basis and that harvest operations are carried out in accordance with approved plans, the Ministry of Northern Development, Mines and Forestry should:

- enhance its ability to monitor on an ongoing basis the excess supply of Crown wood that can be reallocated to new companies that can use or market the wood; and
- conduct research into successful practices used in other jurisdictions to address significant variances between planned and actual harvests.

MNDMF RESPONSE

Ensuring that planned harvest volumes are harvested and utilized for the benefit of Ontario is a key responsibility of MNDMF. As part of this responsibility, it is essential to determine whether unused wood supply allocations are the result of short-term market fluctuations or are systemic, requiring reallocations. MNDMF identified significant volumes of unused wood supply in the province and determined that wood supply allocations were no longer functioning as intended and therefore were no longer benefiting Ontario. A two-pronged strategy was developed to address this issue. To deal with immediate concerns, within the parameters of existing legislation and regulations, a provincial Crown Wood Supply Competitive Process was implemented with a goal to allocate unutilized wood to new and existing companies that would use the wood. In the longer term, MNDMF has undertaken an initiative to modernize its tenure and pricing system in an effort to allow better access to Ontario's wood supply, thereby improving the likelihood that planned harvest volumes will be used.

The Tenure and Pricing Modernization team has conducted extensive research in areas such

as economic models, practices in other jurisdictions, anti-wood-hoarding mechanisms, and conditions for competition. The Tenure and Pricing Modernization initiative is well under way and is expected to yield long-term benefits for the management of Ontario's forests. In the interim, while the results of the wood supply competition are being implemented and the longer-term Tenure Modernization outcomes are being determined, MNDMF continues to carry the responsibility to ensure that planned harvests are used. New tools have been developed and are currently in use to monitor wood supply use and to identify surpluses.

CROWN FOREST REVENUE

Stumpage Fees

In accordance with the CFSA, the province receives direct payments from the forest industry in the form of a stumpage fee for every cubic metre of timber harvested. In the 2010/11 fiscal year, the province collected \$94 million in stumpage fees. The fee has the following three charges:

- *A price charge that consists of two components:*
 - *a minimum charge per cubic metre of timber harvested, depending on the species, quality, and intended usage (for instance, pulp versus veneer) of the wood:* this charge, which is adjusted annually, is designed to provide a minimum royalty to the province for the use of Crown wood; and
 - *a residual value charge that varies depending on the market price of wood products:* this charge is designed to provide an additional royalty to the province for the use of Crown wood.
- *A forest renewal charge to provide funding for forest regeneration:* this charge varies depending on the tree species and its anticipated renewal cost. The vast majority of the forest renewal levy is held in the Forest

Renewal Trust and can be used only in regenerating Ontario's Crown forests. SFL holders are reimbursed from these accounts as they carry out eligible silviculture activities on Crown forests.

- A *Forestry Futures Trust charge applied at \$0.48 per cubic metre of timber harvested*: Funds accumulated in this trust mainly support the silviculture activities required to renew forests damaged by fire, disease, or insect infestation. The trust also funds renewal activities where a licensee becomes insolvent, as well as expenditures related to IFAs.

Figure 4 shows the allocation of the total stumpage fee into the different components, as well as disbursements out of the two trusts in the 2010/11 fiscal year.

Wood Measurement

For the purpose of calculating the stumpage fee, nearly all Crown timber harvested is measured by the mills that receive the timber, and these mills provide information on the species of trees and the respective volumes received to MNDMF. Because stumpage fees are not collected on undersized or defective wood, MNDMF applies factors to the volume of timber reported by the mills to estimate the percentage of defective or undersized wood received. These factors are usually determined by checking the number of undersized logs in a sample of loads that mills have received. We noted that there was no overall provincial guidance on how these factors should be determined, and all three regions used different methods for determining the factors. For instance:

- The minimum sample volume used by one region to determine the defect factor was 50 cubic metres, whereas another region used 1,000 cubic metres.
- Each region had a different method of determining the undersize factor: one region calculated the factor based on its own sampling, another combined its own sampling with the

Figure 4: Allocation of Stumpage Fees and Trust Disbursements, 2010/11 (\$ million)

Source of data: Ministry of Northern Development, Mines and Forestry

	Stumpage	
	Fees	Disbursements
minimum and residual value charges	27	n/a
Forest Renewal Trust	44	35
Forestry Futures Trust	23	18
Total	94	53

mills' sampling, and the final region used only the mills' sample to determine the factor.

- All three regions used different averages of sample data to determine the defect factor—from a three-year rolling average of sample data to an average of all sample data within the region's database.

According to MNDMF guidelines, a scaling audit is to be performed on all mills every five to seven years. Such an audit verifies that the mills have adequate procedures for ensuring the accurate measurement of the Crown timber they receive. We noted that MNDMF has carried out an average of 10 such audits annually in the last nine years. At this rate, given that there are more than 200 mills within the province that receive and measure Crown timber, MNDMF would take more than 20 years to audit all mills—far longer than its internal guideline requires.

Information System

We analyzed the data between the 2005/06 and 2010/11 fiscal years in the information system used by MNDMF to calculate stumpage fees and noted some examples of the system not having the necessary controls to ensure that stumpage fees are calculated correctly and that invoices are appropriately processed. For instance:

- In our testing, we noted that a number of factors had been entered incorrectly within the system. We also noted that some factors within the system did not add up to 100%. For

example, a mixed-load factor estimated the volume of different species for only 87% of a given mixed load. As a result, MNDFM would not receive fees for 13% of a load if the mixed-load factor applied.

- We noted that many factors had multiple effective and expiry dates, which could result in double billings.
- More than 500 invoices were processed for species that forest management companies did not have a licence to harvest. We also noted that MNDFM processed 3,300 invoices totalling \$5.4 million for species that the haulers were not authorized to haul.
- Harvest approvals were granted to 16 companies that did not have a current Forest Resource Licence, yet the system allowed the entering of these approvals.

Revenue Collection

As of March 2011, \$45 million of stumpage revenue was in arrears. On average, the amounts had been outstanding for approximately 19 months. About 40% of the total amount outstanding related to companies that had declared bankruptcy, and another 35% related to companies that had worked out a repayment plan with MNDFM. We noted that about a third of the companies on the repayment plan had failed to meet their repayment obligations.

The CFSA allows MNDFM to withhold licences or any approvals for harvest requested by the licensee if Crown charges are owed. In our sample, we saw no evidence that this was considered before approvals were granted to companies that were in arrears with respect to Crown charges.

RECOMMENDATION 7

To ensure that the province receives the proper amount of revenue for the use of Crown forest resources, the Ministry of Northern Development, Mines and Forestry (MNDFM) should:

- develop overall provincial guidance for establishing wood measurement factors to ensure consistency and accuracy among the regions when determining stumpage fees;
- increase the number of scaling audits performed each year to ensure that all mills are subject to the required audit every five to seven years in accordance with MNDFM guidelines; and
- design and implement system controls in the stumpage fee information system so that invalid licence holders, and mills and haulers that are not authorized to receive and transport wood, are identified for appropriate follow-up.

MNDFM should also formally assess the implications of renewing harvest licences where significant stumpage fees are outstanding.

MNDFM RESPONSE

MNDFM will review existing regional sampling plans to ensure that they meet requirements, as well as evaluate consistency across regions and adjust standards where appropriate. MNDFM procedural guidelines dictate that all major companies will be audited once every five years and all other companies will be audited on a rotating basis. MNDFM will complete a review of the current procedure and assess whether revisions that add clarity and definition to the requirements are needed. As part of this review, MNDFM will consider the recommendation that the number of scaling audits performed each year be increased to a level where all mills are subject to audit every five to seven years.

The current stumpage fee system provides information that would identify non-compliance issues relating to authorizations for the movement and measurement of Crown forest resources. MNDFM has begun to design additional controls to the system to ensure timely identification and notification to allow for appropriate

follow-up action by both the Ministry of Natural Resources (MNR) and MNDMF.

Collection of outstanding stumpage fees is a joint responsibility with MNR. When considering the renewal of harvest licences where significant stumpage fees are outstanding, the two ministries work together to ensure that appropriate measures are in place to collect outstanding stumpage fees before renewing the licence. There are many instances in which MNR and MNDMF have withheld licences and/or approvals until companies have agreed to various types of repayment agreements, including repayment schedules and holdback agreements. The two ministries will review processes to determine if improvements are necessary.

Forest Renewal and Forestry Futures Trusts

As previously mentioned, under the CFSA, two trusts—the Forest Renewal Trust and the Forestry Futures Trust—have been established to fund forest renewal expenditures incurred by forest management companies. A portion of the stumpage fees that licensees pay for harvesting Crown timber goes toward funding these two trusts. In our audit, we noted the following with respect to the administration and funding of the two trusts:

- District managers determine the forest renewal levy for each FMU to fund the Forest Renewal Trust. Although MNR has issued guidance to help districts determine the renewal levy for different species of trees, we found that renewal rates across district offices for the same species of trees varied widely, from about 13% to 538% of the average, depending on the species. We acknowledge that differing factors—such as distance to harvest blocks, differing renewal objectives in FMPs, and the type of seedlings required—may result in some variance in the renewal charge, but we still questioned the magnitude of the variances among different districts.
- SFLs require each licensee to maintain a minimum balance in the Forest Renewal Trust net of expenses so that the trust can maintain a minimum overall balance of \$95 million at the end of each fiscal year. The minimum balance is supposed to fund one year's forest renewal activities. However, we noted that this minimum amount was last set in 1994. In 2009, an MNR working group concluded that the minimum balance should be based on an estimate of what the actual annual forest renewal obligation would be, rather than on an arbitrary amount. At the time of our audit, MNR had not yet acted on this recommendation.
- As of March 31, 2011, we noted that five SFL holders had not maintained their minimum balance totalling \$4 million in the Forest Renewal Trust, contravening the terms of their SFLs. In 2008, a group of companies that had fallen far in arrears in maintaining their minimum balances declared bankruptcy, requiring MNR to obtain a Treasury Board approval for a \$19 million top-up for the Forest Renewal and Forestry Futures trusts.
- Before reimbursing any forest renewal expenses from the Forest Renewal Trust, MNR requires forest management companies to submit a list of invoices. MNR informed us that from the listings submitted, a sample of invoices over \$1,000 is verified. For all expenses over \$20,000, MNR procedures require that the expense be confirmed directly with the vendor. This is a good procedure, and our testing found that in 85% of our sample, MNR was able to provide evidence of this third-party verification.
- In the past, the Forestry Futures Trust has not been able to fund some of the initiatives that it was intended to fund. For example, one of the purposes of the trust is to fund costs associated with pest control. In the 2006/07, 2007/08, and 2009/10 fiscal years, aerial spray programs were conducted for jack pine budworm. But because the trust had

insufficient funds, part of the funding (about \$13 million) had to come out of the province's consolidated revenue fund. One reason for the shortfall could be that the Forestry Futures Trust charge of \$0.48 per cubic metre of timber harvested, which funds the trust, has not changed since its inception in 1994.

- MNR does not require SFL holders to provide any form of financial assurance that can be used to cover potential silviculture liabilities if a licensee becomes insolvent or surrenders its licence. One of the purposes of the Forestry Futures Trust as specified in legislation is to fund silviculture activities if a licensee becomes insolvent. However, as noted earlier, funding within the trust may not be sufficient to cover all potential silviculture liabilities. For example, in the case of one FMU where the SFL holder surrendered its licence, the province has been left with a significant silviculture liability that the trust may not be able to completely fund. In this regard, we noted that certain licensees in British Columbia are required to provide a security deposit of up to 100% of the expected silviculture cost of establishing a free-growing stand.

RECOMMENDATION 8

To ensure that the Forest Renewal Trust and the Forestry Futures Trust are sufficiently funded for their intended purposes, the Ministry of Natural Resources should:

- review the significant variances in renewal rates calculated by district offices for the same species of trees to ensure that such variances are justified;
- review the overall minimum balance that is to be maintained in the Forest Renewal Trust to ensure that the amount is a true reflection of the actual annual forest renewal obligation and ensure that licensees annually maintain their portion of the minimum balance;

- review the Forestry Futures Trust charge to ensure that it is sufficient to fund the initiatives that the trust is intended to fund; and
- consider requiring SFL holders to provide some form of financial assurance that can be used to cover potential silviculture liabilities if a licensee becomes insolvent or surrenders its licence.

MNR RESPONSE

MNR recognizes that ensuring there are sufficient funds in Forest Renewal Trust accounts is critical to achieving the effective regeneration of Ontario's Crown forests. The Forestry Futures Trust account is also critical to ensure that Ontario can respond to the varied purposes of the trust, such as regenerating forests following natural disturbances, responding to forest pest outbreaks, and maintaining the province's forest resource inventory. It is also recognized that the trusts alone will not be adequate to deal with more catastrophic events, such as larger insect infestations, swaths of trees blown down by wind, and the occurrence of wildfires like the ones experienced in summer 2011. In these cases, nature is expected to run its course. MNR is currently working on improvements to the procedures for setting renewal rates. MNR will improve its process for analyzing the regional variances in renewal rates to determine if this variability is justified in terms of differences in local operating conditions and Forest Management Plan objectives.

MNR has also begun developing a process for quantifying and maintaining a statement of outstanding silvicultural liabilities in order to evaluate the adequacy of the funds held in individual trust accounts. MNR monitors individual Forest Renewal Trust account balances monthly to ensure that there are sufficient funds in the accounts on March 31 of each year and has a process in place to collect a lump sum payment from those accounts that have not met

minimum balance requirements. The funding of silvicultural expenses resulting from insolvent licensees is currently addressed as one of the specified purposes of the Forestry Futures Trust. MNR is examining the funding model used to determine if it is adequate to meet the trust's purposes.

REPORTING

A requirement of MNR's standing approval under the *Environmental Assessment Act* is that MNR prepare an annual report on forest management and table the report in the provincial Legislature. Among other things, the standing approval requires that the annual report include information on the following key areas:

- area and volume of Crown forest resources harvested;
- government revenues from Crown charges;
- the amount of regeneration, tending, and protection activities; and
- silvicultural effectiveness.

MNR informed us that it takes approximately 18 months from the end of a given fiscal year to produce that year's report and that the time frame for tabling the report can vary. It compiles the information in the annual report from information it receives from the annual reports of individual FMUs. At the time of our audit, the most recent provincial annual report available was for the 2008/09 fiscal year; it had been tabled in the Legislature in April 2011. MNR expected to complete the 2009/10 annual report by October 2011 for subsequent tabling in the Legislature.

We reviewed the 2008/09 annual report and noted that overall, the information presented in the report met the requirements of the standing approval. However, the report presented only actual levels of forest management activities that took place in that fiscal year. We felt that the report's usefulness could be enhanced if it com-

pared the actual levels of the key forest management activities—such as harvesting, regeneration (whether occurring naturally or assisted by planting or seeding), site preparation, and tending—to planned levels and provided explanations for any significant variances. Annual reports on individual FMUs do contain comparisons of planned versus actual activities, and this information is publicly available. Nonetheless, it would be useful for MNR to summarize this information to facilitate province-wide comparisons. In this regard, we noted that both British Columbia and Alberta compare actual harvest levels with planned harvest levels in their public reporting.

RECOMMENDATION 9

To enhance the value of its annual report on forest management, the Ministry of Natural Resources should compare actual levels of key forest management activities—such as harvest and regeneration (that is, natural, planting, seeding, site preparation, and tending)—to planned or target levels and should provide explanations for any significant variances.

MNR RESPONSE

MNR recognizes the need to continually improve the reporting on the management and status of Ontario's forests. MNR constantly evaluates approaches to forest reporting to look for efficiencies, enhance understanding, and improve access to information by the public, partners, stakeholders, and staff. MNR is adopting a dynamic reporting cycle and instituting a more continual reporting of information through the Internet. Through these efforts, MNR will ensure that future annual reports on forest management will include an analysis on planned versus actual levels of key forest management activities.

OTHER MATTER

Licensing of Mills

According to the *Crown Forest Sustainability Act, 1994* (CFSA), all mills that consume more than 1,000 cubic metres of forest resources annually must have a forest resource processing facility licence. In March 2011, there were more than 200 mills licensed in Ontario.

To obtain a licence, mills are required by a regulation under the CFSA to submit a business plan to the Ministry of Northern Development, Mines and Forestry, which must be satisfied that the applicant has the ability to finance, operate, and manage the facility. Based on our testing, approximately 10% of the forest resource processing facility licences were issued to mills that had submitted business plans that did not demonstrate the applicant's ability to adequately finance the facility. We also noted one mill had been operating since 2008 without a licence.

Forest resource processing facilities are also required to submit an annual return that reports on the facility's operations. In our sample, two-thirds of the annual returns were either not submitted or not submitted on a timely basis.

RECOMMENDATION 10

The Ministry of Northern Development, Mines and Forestry should ensure that forest resource processing facility licences are granted only

to those forest resource processing facilities that demonstrate that they have sufficient financial resources to operate, and ensure that forest resource processing facilities submit the required annual returns on a timely basis.

MNDMF RESPONSE

The business plan requirement for licensing of mills in Ontario applies to a wide variety of facilities, from portable wood processors to full-scale pulp and paper mills. It also encompasses a variety of circumstances, such as the establishment of a new mill, expansion of an existing mill, or addition of a new product line. In all cases, the business plan submission must be adequate to satisfy MNDMF that the applicant has the ability to finance, operate, and manage the facility; in some circumstances, less information may be necessary to meet this threshold—for example, in the case of a long-established mill that is completing a minor expansion.

MNDMF will review the consistency of its approach for ensuring facilities have demonstrated sufficient financial resources. In addition, MNDMF will take measures to improve documentation of its assessment of sufficiency prior to issuing forest resource processing facility licences. MNDMF will implement processes to ensure timely submissions of required annual returns from forest resource processing facility licence holders.