

Chapter 6: Forest Management and Protection



Why we did this audit:

- Forests are a big part of life in Nova Scotia and have a big impact on our economy
- The Department manages and protects forests

Overall conclusions:

- Good development of long-term strategic plan, better monitoring of implementation and progress reporting needed
- Not monitoring licensed operators effectively
- Decision of where and when to monitor should be based on risks
- Department agreed with all four recommendations

What we found in our audit:

- Nova Scotians and industry experts consulted when developing long-term strategy
- An action plan is in place if there is a spruce budworm infestation
- Research done on emerging markets in forestry
- Province working with other governments to advance innovation in forestry
- No measures to assess progress toward completion of strategic plan
- Public strategy updates did not address all 21 actions (focused on actions completed or those with significant progress)
- No monitoring of actual versus estimated harvest quantities
- Operators paid for silviculture work without verifying work done
- Inconsistent inspection practices across the province require a risk assessment to determine best approach



6 Natural Resources: Forest Management and Protection

Background

- 6.1 The Department of Natural Resources has broad responsibilities relative to the province's forests, minerals, parks, wildlife and administration of Crown land. Forest-related responsibilities include:
- forest management planning and research;
 - developing and implementing strategies that support and contribute to sustainable forests;
 - maintaining the provincial forest inventory;
 - producing data on the province's forest resources;
 - monitoring primary forest production;
 - coordinating extension programs and support for forestry sector development; and,
 - delivering programs to protect our forests from fires, pests and diseases.
- 6.2 Crown lands include any land under the administration and control of the Minister of Natural Resources, including but not limited to forests. The province owns other land across Nova Scotia, including wilderness areas, protected areas, highways, roads, and land on which provincially-owned buildings sit. These parcels are managed and administered by other departments and are not considered Crown land.
- 6.3 The Department's budgeted expenditures were approximately \$89 million in 2014-15. The Regional Services and Renewable Resources Branches combined account for approximately \$71 million (80%) of this budget. These two branches play substantial roles in the development, management and protection of Crown forests.
- 6.4 In the 2015 fiscal year 15 companies had agreements with the province to harvest timber from allocated Crown land. These companies were required to comply with the terms and conditions outlined in the agreements. This included compliance with such legislation as the Forests Act and the Crown Lands Act.
- 6.5 In August 2011, the Department released *The Path We Share – A Natural Resources Strategy for Nova Scotia 2011-2020* (the strategy). It was developed over three years in the following phases.



Phase 1 – Citizen engagement

Phase 2 – Stakeholder engagement/technical expertise

Phase 3 – Government's response: a 10-year plan for collaborative stewardship

6.6 The strategy set specific goals and actions in four areas: forests, biodiversity, geological (mineral) resources and provincial parks. Our audit focused on the forests area of the strategy which outlined five goals with 21 actions that need to be taken to achieve them. The goals were:

- Ecosystem approach: Work together to maintain healthy forests.
- Research and knowledge sharing: Increase knowledge to help governments and other interested groups make better decisions about forest management.
- Shared stewardship: Involve many in the shared stewardship of Nova Scotia's forests.
- Sustainable resource development: Support the sustainable development of the province's forest resources in order to attract investment, create high-value jobs, and grow the economy.
- Good governance: Provide clear and effective laws and policies to ensure that forestry is economically, environmentally, and socially sustainable.

Audit Objectives and Scope

6.7 In winter 2015, we completed a performance audit at the Department of Natural Resources. We examined activities relating to harvesting agreements for Crown forests, as well as long-term strategic planning. The audit was conducted in accordance with sections 18 and 21 of the Auditor General Act and auditing standards of the Chartered Professional Accountants of Canada.

6.8 The purpose of this audit was to determine whether the Department of Natural Resources is adequately:

- managing and protecting its forests for sustainability;
- ensuring those who utilize Crown forests are in compliance with key terms and conditions of use; and
- reporting to the public on these matters.



- 6.9 The objectives of the audit were to determine if the Department of Natural Resources had:
- the necessary procedures in place to monitor and accurately report on timber harvests;
 - monitored conditions of license agreements for compliance and addressed issues promptly;
 - taken necessary steps to create a long-term plan to ensure sustainable use and protection of Crown forests; and
 - processes in place to implement, monitor and report on progress towards meeting the goals of the long term strategic plan.
- 6.10 Audit criteria were developed specifically for this engagement and accepted as appropriate by senior management at the Department of Natural Resources.
- 6.11 Our audit focused on provincially-owned forests and covered all three regions of the province. Our approach included interviews with management and staff, documentation of processes, examination of legislation, agreements, strategies, reports, and policies. Our audit period for testing harvest agreements was April 1, 2013 to September 30, 2014. Long-term strategic planning documentation from March 2009 to March 2015 was examined. We examined activities and documentation outside of these periods as necessary.

Significant Audit Observations

Strategic Planning

Conclusions and summary of observations

The Department followed a comprehensive process to prepare its strategic plan which included allowing citizens the opportunity to provide input, consulting with a panel of experts, then considering the resulting opinions and suggestions when creating the final strategy. Throughout the process, the Department considered opinions from both industry and environmental parties. However, the Department needs to improve its monitoring and reporting on implementation progress of the strategy. There are currently no performance measures to clearly identify whether action items have been implemented, and none of the three actions noted as complete had sufficient evidence to support that assertion. Action item wording had been modified in progress reporting, and those updates excluded items on which no progress had been made. We recommended the Department establish appropriate measures to assess the status of implementation, as well as report on all action items in a consistent and clear manner.



► Citizens were provided the opportunity to give input during development of the strategy

6.12 *Strategy development – The Path We Share – A Natural Resources Strategy for Nova Scotia 2011-2020* was developed following a lengthy and in-depth process. In the first phase of strategy development all citizens were invited to participate in a series of community meetings to share their thoughts and feelings on the best use of our forests.

6.13 This process was led by the Voluntary Planning group which was an arm's length agency of the provincial government (ceased operations in 2010). Its mandate was to determine Nova Scotians' values with respect to the future of natural resources. Some key steps in engaging citizens were:

- holding 27 community meetings across the province, including meetings in every county;
- providing opportunity for written submissions of opinion; and,
- organizing workshops to discuss comments.

6.14 Over 2,000 persons participated at the community meetings and more than 600 provided written submissions. From this, the Voluntary Planning group created a list of values which were then considered in the subsequent phases of strategy development.

► Qualified panel of experts was assembled and consulted

6.15 *Expert consultation* – In the second phase, the Department used panels of subject experts to consider the list of values identified in phase one. For the forests area, the panel consisted of three individuals (with nearly 90 years of combined experience) representing both environmental and industry views. We found that each member had professional credentials and an appropriate educational background for their task.

6.16 The panel generated two separate reports which were used in later phases of the strategy development. We found that each of the forests-related action items in the strategy could be linked to one or more of the recommendations made by the panel. Not all recommendations from the panel could be implemented due to the often conflicting nature of their suggestions, but we found the final strategy adequately considered the opinions provided. We cannot state that the strategy is the right plan for the future, but we are confident that the process used to prepare it was sound as it considered the many varied opinions and attempted to use all in developing the final strategy.



► Strategy includes action items that consider significant risks facing forests and the forest industry

6.17 *Identification of risks and challenges* – There are various risks that could negatively impact forests and the various uses of it. These include natural threats such as hurricanes and fire, but management noted the biggest potential impact is from pests like the spruce budworm. In addition, the province faces the ongoing threat of changing markets potentially reducing the demand for forest products and impacting the significant economic activity that our forests provide. The Department also noted the many varied opinions that exist within the industry and the public pose an ongoing challenge for them to manage.

6.18 The Department has a role to play in mitigating risks to Nova Scotia's forests and should consider each risk in the long-term strategy. The Department included action items in the strategy that consider the risks they have identified.

- monitoring population changes for the spruce budworm and various other pests, and developing an action plan to address potential infestation as numbers increase
- conducting research into various new or emerging markets for sale of forest resources
- efforts to develop agreements with other governments to advance innovation in the forest sector
- knowledge sharing with the public via the release of discussion papers and bulletins

► Improvement is needed in measuring and reporting on implementation of strategy action items

6.19 *Performance measures* – Two key components of strategy implementation are having a plan and measuring progress. These allow entities to assess the status of a strategy, prioritize next steps and accurately report progress to stakeholders.

6.20 We expected the Department to have a documented plan with clearly-defined performance measures to assess progress towards completion of the strategy. We found that while the Department did have a plan and was reporting progress, the plan did not include performance measures that would clearly define progress of the individual action items.

6.21 For example, one of the action items (clarify the use of forest biomass for energy) was reported as complete in August 2013. As of February 2015, draft



amendments for regulations had been documented and a discussion paper released to the public. However, approval of regulatory amendments had not occurred, and relevant legislation was not updated; it isn't clear to our Office that all necessary steps have been completed for this action item. If the Department had defined performance measures in the early stages, it would facilitate assessing progress of implementation for both management and the public.

Recommendation 6.1

The Department of Natural Resources should establish performance measures to accurately conclude on the status of action item implementation.

Department of Natural Resources Response: The Department agrees that clear performance measures will accurately support conclusions and ensure better understanding. Work is under way to develop these measures.

- 6.22 *Progress updates* – Information should be presented in a consistent and complete manner when updating the public on progress of strategy implementation. While there were 21 action items noted in the forest area of the original strategy, the Department's August 2013 24-month progress report addressed only 11 action items.
- 6.23 The 11 items reported were those the Department's original action plan indicated would be addressed within the first two years. At the end of the initial two years each of these 11 actions was considered to be complete or to have made significant progress with work ongoing. The Department did not include the other ten action items in their action plan or status reporting. Management indicated they expect these action items will be addressed in a more focused manner in the future. We believe not reporting on action items for which no progress has been made is inappropriate as it does not provide a complete picture of the overall implementation of the strategy.
- 6.24 In addition, the wording of all 11 action items reported had changed slightly from the wording in the original strategy. Changing the wording on the action items may change its meaning and present the status more favourably than actual progress would suggest. In the absence of clear performance measures that defined completion, we tested the three action items reported as complete to determine if the Department had sufficient evidence to show the original action item was in fact complete.
- 6.25 We found none of the three actions reported as complete were clearly complete when we considered the original wording in the strategy. For example, one action item reported as complete was: *“Establish rules for whole-tree harvesting”*, but in the original strategy was: *“Establish the rules for whole-tree harvesting, and incorporate this into the Code of Forest*



Practice.” The Department reported the action item status as complete in the 24-month progress report because the rules for whole-tree harvesting were established, but no such rules were incorporated into the most recent Code of Forest Practice.

Recommendation 6.2

The Department of Natural Resources should report the status of all 21 action items including the original wording for each.

Department of Natural Resources Response: The Department agrees that transparency and clarity are critical to understanding. In August of 2011, in addition to the Strategy, the Department released a companion document called *From Strategy to Action: An Action Plan for The Path We Share*. This plan committed the Department to 11 forestry-related actions that would get the work started in the initial two years of the 10-year Strategy. The 24-Month Progress Report included content that corresponded with that Action Plan.

To better ensure clarity in future, the Department commits to the following changes:

- Progress reports will review all 21 forest-related Strategy actions and will outline work to date, and/or when work is expected to begin, for each action;
- The Department will account for any change in wording by stating the original action and the revised wording, along with an explanation for the change.

Licensing and Harvesting

Conclusions and summary of observations

The Department does not have the necessary procedures in place to ensure timber harvest reporting is complete and accurate, relying instead on values reported from licensed operators. The Department does not assess the reasonability of operator reporting, and does not perform regular monitoring of annual harvest limits. Department inspection practices vary between regions; inspection forms are not consistent across the province, nor are they tailored to meet the requirements of the agreements in place in the regions. Inspection targets are based on staff workloads, rather than assessed risks, which could result in high-risk sites not being inspected, or low-risk sites being inspected unnecessarily.

► Department is not adequately monitoring timber harvest reporting

6.26 *Timber harvest reporting* – Licensed operators are required to submit quarterly stumpage returns to the Department, indicating quantities and types



of timber harvested. These quarterly returns are used to calculate stumpage fees (payment owed to the Department) in exchange for the operators' right to harvest timber from Crown land. Total stumpage fees received by the Department were approximately \$5 million in each of the two fiscal years in our audit period. The reported harvest totals are also used to monitor annual allowable harvest totals established in the agreements between the operators and the Department.

- 6.27 The Department relies on the harvest quantities reported from operators, without adequately ensuring the reported values are complete and accurate. Field staff may review quarterly stumpage returns to identify obvious omissions, such as excluded harvest sites; however, the Department does not verify the accuracy of reported harvest quantities. Field staff informed us they were unable to verify the accuracy of harvest quantities due to the large number of truckloads of timber which are removed from the harvest sites, noting they rely on monitoring at Department head office to identify concerns.
- 6.28 In the absence of field staff verifying reported harvest quantities, we expected the Department to be completing regular comparisons between the planned harvest quantities and actual amounts reported, to assess the reported values for reasonability. This would allow the Department to identify significant differences and to identify and follow up on potential inaccurate reporting of harvest quantities. We found the Department does not complete any monitoring of estimated harvest quantities against actuals reported, which could result in underpayment of stumpage fees to the Department.
- 6.29 The Department does not regularly monitor totals harvested against the annual allowable allocations. Monitoring is completed on an ad-hoc basis only. Reports on the quantities harvested are based on the quarterly stumpage returns, reducing the ability of the Department to monitor harvest activity in the province in a timely manner. The Department should regularly monitor annual harvest allocations to ensure operators are harvesting within their approved allocations.
- 6.30 Staff do not adequately track quarterly stumpage returns to ensure they are received on a timely basis. They informed us they rely on operators to submit returns as required. We reviewed a total of 11 stumpage returns and found one instance in which the return was submitted 24 days late. While this return was not overly late, our concern is that the Department was not aware it was late, and therefore made no attempt to follow up with the operator. Without a process to monitor submission of the quarterly stumpage returns, the Department is completely reliant on operators to submit the returns on a timely basis without having identified and assessed the risks of doing so.



- 6.31 The Department has not prepared an analysis or assessed the risks of using this approach for monitoring operators' harvest practices. We address the lack of a risk-based approach later in this chapter and have recommended that the Department complete a comprehensive risk assessment which would help the Department determine where its resources should be used.
- 6.32 *Monitoring of agreements* – Licensed operators are subject to the provisions in their agreement with the province to harvest timber from Crown land. The agreement specifies annual harvest allocation limits, stumpage payment requirements, annual operating plan submissions, and harvest operations monitoring. We reviewed a sample of five agreements from the three regions and found the terms of the agreements were reasonable and addressed all significant areas we expected to be addressed such as stumpage fees and regulatory and silviculture requirements. We did however note issues with the monitoring of specific agreement terms, as outlined in the following paragraphs.
- 6.33 *Operating plans* – Operators are required to receive approval for their harvest and silviculture work on Crown land. However, we were told that the Department may provide verbal approval on a site-by-site basis. We found no evidence of an approved plan in 10 of the 13 silviculture site files we examined. Failure to document the approval of the harvest or silviculture work may result in a lack of clarity around the work expected from the operator and in disagreements between the Department and the licensed operator over expectations and requirements.
- 6.34 Field staff are responsible to monitor the work completed on harvest and silviculture sites. Monitoring practices range from formally documenting site inspections to not documenting less formal site visits and on-site monitoring. We did not identify any analysis detailing when each level of monitoring would be appropriate nor were we provided with an explanation for the appropriateness of each level of monitoring. We expected a risk-based approach be used for monitoring as it would ensure that staff efforts are focused on higher risk areas.



Department has not established consistent inspection requirements

- 6.35 *Inspections* – Inspections of harvest sites allow the Department to ensure Crown land operators are complying with the requirements of their agreements, legislation and regulations, and other Department requirements. The Department does not have policies that address selection or completion of harvest or silviculture inspections; they rely on inspection forms to guide the process. Inspection forms vary from region to region and generally address issues at a topical level, but lack details around requirements. This could result in inadequate and inconsistent enforcement and is another area where a risk-based approach should be implemented to ensure the resources available for inspection are used to the best effect.



- 6.36 We identified a number of variations among the inspection forms being used, including failure to address whether the site is free of excessive damage to soft soil, whether proper permits were onsite, or whether road construction on Crown land was appropriate. Although it is reasonable for inspection forms to vary in order to account for the specific requirements in the agreements in place in each region, we found the forms were not tailored to the specific agreements. The lack of consistent, detailed inspection forms, as well as the lack of inspections incorporating agreement requirements, increases the likelihood that requirements will not be monitored and enforced consistently across the province.
- 6.37 Inspection staff can order immediate fixing of issues identified during harvest and silviculture site inspections and monitoring; issue stop work orders to cease all operations until problems are corrected; and in the case of serious violations, refer the matter to Department enforcement staff for further enforcement action, such as laying charges.
- 6.38 *Inspection targets* – The Department has established general inspection targets related to the number of documented inspections field staff are to complete of harvest and silviculture sites. However, inspection targets are not based on specific risks; they are based on staff workloads. Inspections are not based on an assessment of the risk the activity on the site poses to Crown land. Failure to consider and assess risks relative to environmental concerns, wildlife protection requirements, or concerns with specific contractors or licensed operators can result in high-risk sites failing to be adequately inspected. Equally possible, staff could be spending unnecessary time inspecting low-risk sites to meet inspection targets, when a less formal level of monitoring, such as a site visit, may be more appropriate.

Recommendation 6.3

The Department of Natural Resources should complete a comprehensive assessment of the risks associated with harvesting and licensing operations and design monitoring processes to adequately address identified risks.

Department of Natural Resources Response: The Department agrees with this recommendation. A harvest management group was formed in late 2014 and is developing a standardized approach for the monitoring of operations on Crown lands that will be developed by March 31, 2016 and implemented across all regions by July 31, 2016. In 2015 DNR has adopted a corporate risk assessment framework. An assessment using this frame work will be an essential component of this process. The new Crown Lands Production and Sales Report, scheduled to be operational by the end of October 2015, will provide improved tracking of forest products from Crown lands.



- 6.39 *Silviculture* – Silviculture, such as planting seedlings or selective harvesting to maximize the growth of a specific desired species, is completed on Crown land to aid in the regrowth of forests. A designated percentage of stumpage payments is held on deposit in the Crown Land Silviculture Fund, and is returned to licensed operators at specified rates upon successful completion of silviculture activities. Operators who do not complete silviculture work forfeit their deposit. The Department completes the silviculture work with the funds held; other work is funded through the Department budget allocation which supports objectives such as regrowth of damaged forests. Management indicated that total spending from the department-allocated funds and from the Silviculture Fund was around \$5.5 million in 2013-14.
- 6.40 The Department does not verify that silviculture work has been completed to Department standards before it reimburses operators. Although verification was indicated as being a Departmental requirement, 11 of 20 silviculture transactions we examined included no sign-off stating the work was completed to Department requirements. Failure to ensure silviculture work has been completed to Department requirements may result in forest harvest activities becoming unsustainable causing lower future harvest levels; reduced economic benefit to the province; or a need to expand harvest operations to a larger area of Crown land to meet annual allowable harvest allocations.

Recommendation 6.4

The Department of Natural Resources should implement a process to ensure Crown land silviculture has been completed to Departmental requirements.

Department of Natural Resources Response: The Department agrees with this recommendation. A standardized approach for the monitoring of Crown land silviculture will be developed to ensure Departments standards are being met and will be developed by March 31, 2016 and implemented across all regions by July 31, 2016. Using the recently adopted corporate risk assessment framework, a risk management assessment was completed in August of 2015 and the results will inform and shape the standardized process currently under development.