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Chapter 1

Introductory Comments by the Auditor General

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Introductory Comments by the Auditor General

1.1 My Office’s mission, as included in our 2014 to 2020 strategic plan is:

To provide objective, reliable, and timely information to the Legislative Assembly on government’s performance in its delivery of programs and services to the people of New Brunswick.

Performance Audits Included in this Report

1.2 The three performance audits reported upon in this volume addressed areas that should be of significant interest to the Legislative Assembly. These include infection prevention and control programs in hospitals, the provincial silviculture program, and provincial involvement with private woodlots.

Infection Prevention and Control in Hospitals

1.3 Infection prevention and control in hospitals impacts all New Brunswick residents. Healthcare professionals working in hospitals take infection prevention and control very seriously and follow numerous standard practices and procedures. However, as reported in Chapter 2 of this Report, we noted numerous deficiencies. When we visited eight hospitals in New Brunswick we observed healthcare professionals and support staff do not always clean their hands when required, sometimes fail to keep clean and dirty areas, equipment and linen separated, and do not always adequately dispose of waste materials.

The Importance of Hand Hygiene

1.4 The Vitalité Health Network – Infection Prevention and Control Manual states, “*Hand hygiene is the single most important measure for preventing infections, reducing nosocomial infections by 50 – 80%.*” Through the simple step of routine hand hygiene, New Brunswickers can reduce the risk of hospital acquired infections. This applies to healthcare workers, patients and visitors.

Inconsistencies in Infection Prevention and Control Between the two Provincial Health Networks

1.5 During our audit, we found significant inconsistencies between the infection prevention and control processes followed by the two health networks (i.e. Vitalité and Horizon). I strongly believe New Brunswickers should expect one set of provincial infection prevention and control standards. The standards should be based upon best healthcare practices, and followed in all provincial hospitals.

Forestry audits

1.6 The two forestry-related chapters included in this Report address the silviculture program administered by the Department of Natural Resources, and provincial involvement in private woodlots through both the Department and the New Brunswick Forest Products Commission, a Crown agency.

Specific, Measurable Goals Needed for Provincial Silviculture Program

1.7 The provincial silviculture program, reported on in Chapter 3, strives to increase the quantity and quality of trees in the Crown forest after harvesting activities have occurred. Silviculture expenditures are an investment in the Province's future. The provincial silviculture program has contributed to a positive increase in future wood supply. However, the Department has not established specific, measurable long-term goals for this program, nor does it measure the incremental benefits of the roughly \$29 million in government funds being expended on silviculture on Crown and private land in the Province each year. I have made a number of recommendations to address weaknesses in the delivery and oversight of the provincial silviculture program.

Provincial Facilitation and Oversight of Provincial Forest Products Marketing Boards Need Improvement

1.8 Private woodlots, discussed in Chapter 4, also contribute to the economic, social and environmental well-being of the Province. Pursuant to provincial legislation, a marketing board system has been set up to help coordinate the sale of wood cut on private wood lots in the Province. However, principles that were established in legislation (i.e. proportionate supply and sustained yield) are not currently being pursued by the Department, and no replacement objectives have been defined. The current forest management strategy does not adequately address how the Department intends to meet its private wood supply obligations.

1.9 Further, oversight of the marketing board system by the New Brunswick Forest Products Commission is inadequate. This may have contributed to a number of concerns relating to some of the marketing boards. In particular two boards are currently having serious financial difficulties. In one case, the marketing board made a questionable investment in a bankrupt saw mill. Despite the plans of the marketing board, the saw mill has continued to struggle operationally and this has resulted in major financial losses for the marketing board. The Forest Products Commission knew about the investment, but had taken no action by the time of our audit. Given the deficiencies observed, I have provided several recommendations I believe will help the Department and the Forest Products Commission improve their effectiveness in facilitating and overseeing the important public benefits provided by private woodlots.

***There is an Imbalance
in Crown Forest
Priorities***

1.10 In its role as the steward of a critically important public asset, our Crown forest, I believe government must protect the interests of New Brunswick residents. So, government must sustain the quality and quantity of the trees on Crown forests for economic development and other purposes. It must also sustain adequate bio-diversity (i.e. balance of the tree stock between softwood and hardwood species), in order to mitigate the risks (e.g. catastrophic losses from insect infestations) that can arise in a less diverse forest. Finally, government must ensure current and future needs of New Brunswickers are met before allocating additional resources to private sector development.

1.11 In our two audits, we observed that economic development has become the primary focus of government in relation to the Crown forest. This focus on economic development will likely impact on the long-term bio-diversity of the Crown forest (i.e. softwood species are in higher demand, most marketable, and therefore the focus of provincial silviculture activities). It may also have the effect of excluding other prospective commercial and non-commercial users of the Crown forest.

***Lack of Adherence to
the Forest Management
Planning Cycle***

1.12 The *Crown Lands and Forest Act* requires that government obtain revised forest management plans from each Crown licensee each five years. This requirement is

intended to produce a properly regulated and predictable forest management planning cycle. However, over the past five years, the Province has had three different forest management strategies. Perhaps as a result of this indecisiveness on the part of recent governments, we noted that the forest management plans from Crown licensees were not up to date at the time of our audit. Given the complexities of forest management, the extended time frames involved in growing a productive forest, and the economic, social, and cultural importance of the Crown forest to New Brunswickers and provincial industry, I believe it is critically important that government demonstrate consistency and predictability in its strategic oversight of the Crown forest management.

Lack of Reporting on the Status of the Crown Forest and Its Value

1.13 I am concerned that government does not report regularly to the Legislative Assembly and the public on the status of New Brunswick's Crown forest and its management. This type of reporting is common in other Canadian jurisdictions, and allows citizens to hold the government to account for its stewardship.

1.14 I am also very surprised, given the provincial focus on the economic value of the Crown forest, the Province does not track the value of the Crown timber asset. Without this information, for example, it would be difficult to determine if the funds allocated to the provincial silviculture program sufficiently increase the overall value of the Crown forest to make the program worthwhile.

Acknowledgements

1.15 My staff worked very hard in carrying out the work contained in this Report. This report is a reflection of their commitment, professionalism and diligence. I would like to express my appreciation for their contribution and continuing dedication to fulfilling the mandate of the Auditor General of New Brunswick.



Kim MacPherson, CPA, CA
Auditor General

Chapter 2

Horizon and Vitalité Health Networks and the Department of Health

Infection Prevention and Control in Hospitals

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Infection Prevention and Control in Hospitals

Summary

Introduction

2.1 The Department of Health (Department) is responsible for limiting infections in New Brunswick. The two Regional Health Authorities (RHAs) have primary responsibility for patient safety in the hospitals they administer, and the Department works with the RHAs to implement infection prevention and control. Infection prevention and control in provincial hospitals was the focus of our audit.

Significance

2.2 Healthcare-associated infections:

- “are common - One out of every 10 patients admitted to hospital will get one”;
- “can also be very serious - about 12,000 deaths in Canada are caused by these infections each year”¹;
- Such infections do occur in New Brunswick. For example, 228 cases of *Clostridium difficile* infection (CDI) and three cases of methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia were reported for the 2013/2014 fiscal year.

Financial impact

2.3 In fiscal 2012-2013, approximately \$1.5 billion² was expended for hospital services, representing more than 57% of the Department’s budget. Literature states:

¹ Website – Department of Health – *How To Help Prevent Healthcare-Associated Infections: A Patient and Family Guide*, April 2012 (Pamphlet prepared by Canadian Patient Safety Institute).

² Department of Health Province of New Brunswick, *2012-13 Annual Report*, December 2013.

- “health care associated infections have a significant impact on health care spending”³;
- “Outbreaks result in significant cost to the organization”⁴;
- One study, “estimated that one-third of health care associated infections in the hospital setting could be prevented if hospitals instituted the essential components required for Infection Prevention and Control Programs”⁵; and
- “Infection prevention and control programs have been shown to be both clinically effective and cost-effective, providing important cost savings ...”⁶

Infection prevention and control program

2.4 The goals of an infection prevention and control program are:

- “to protect clients/patients/residents from HAIs [healthcare-associated infections], resulting in improved survival rates, reduced morbidity associated with infections, shorter length of hospital stay and a quicker return to good health; and
- to prevent the spread of infections from patient-to-patient, from patients to health care providers, from health care providers to patients, from health care providers to health care providers ... and to visitors and others in the health care environment.”⁷

³ Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. *Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

⁴ Ibid.

⁵ Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper*.

⁶ Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. *Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

⁷ Ibid.

2.5 An infection prevention and control program (program) typically involves both routine practices⁸ and additional precautions. Routine practices are required by everyone for every patient every day and include actions such as hand hygiene and the proper handling of sharp instruments such as needles (sharps). Our audit focused on routine practices.

Our audit

2.6 Our audit included both RHAs (Horizon and Vitalité). We visited eight hospitals of various sizes and from different zones throughout the province.

- In Horizon, we visited five hospitals representing 68% of their acute-care beds (Upper River Valley Hospital, Miramichi Regional Hospital, Dr. Everett Chalmers Regional Hospital, Saint John Regional Hospital, and Sackville Memorial Hospital).
- In Vitalité, we visited three hospitals representing 55% of their acute-care beds (Chaleur Regional Hospital, Dr. Georges-L.-Dumont University Hospital Centre, and Grand Falls General Hospital).

2.7 We select our audits on the basis of relevance, significance and risk with the goal of having a positive impact. We chose to do this audit for several reasons, including the following:

- The lack of appropriate infection prevention and control can have a severe consequence up to and including death of the patient.
- Hospital-acquired infections affect the condition and comfort of the patient. They also cause increased costs due to longer hospital stays, additional procedures, etc. Infection control equates to cost control.

⁸ **Routine Practices (RP):** The system of infection prevention and control practices recommended by the Public Health Agency of Canada to be used with all clients/patients/residents during all care to prevent and control transmission of microorganisms in all health care settings. (*Infection Prevention And Control Audit for Routine Practices - Toolkit Version 2*, September 2009© CHICA-Canada; Revised September 28, 2012)

Key findings:

✓ **Responsibilities are clear**

✓ **There are infection prevention and control programs in hospitals**

✗ **There are deficiencies in infection prevention and control practices**

2.8 We concluded **the Department’s and the Regional Health Authorities’ responsibilities for infection prevention and control in hospitals are clear.**

2.9 We also concluded **there are active infection prevention and control programs in hospitals.** Such programs include:

- ✓ Hand hygiene gel being present at most public entrances and throughout hospitals;
- ✓ Personal protective equipment is widely available throughout the hospitals;
- ✓ Surveillance is done daily by the Infection Prevention and Control Professional (ICP) to identify possible infections early and ensure procedures to mitigate risks;
- ✓ Environmental services (housekeeping) staff members, cleaning carts and garbage receptacles are present throughout hospitals; and
- ✓ Stay home if sick signs were present at many entrances and throughout hospitals.

2.10 ✓ Accreditation⁹ reports also indicate each RHA has an active program.

2.11 We observed deficiencies during our visits to eight hospitals. To serve as examples, we provide details and photos on some of the reported infection prevention and control deficiencies:

- ✗ **Non-compliance with hand hygiene policies** - Vitalité’s hand hygiene policy states, “*Hand hygiene is the single most important measure for preventing infections, reducing nosocomial infections by 50 – 80%.*”¹⁰;

⁹ Accreditation Canada’s Standards for Infection Prevention and Control is explained in **paragraph 2.78**

¹⁰ Vitalité Health Network, *Infection Prevention and Control Manual – Hand hygiene*, May 2011.

- ✘ **biomedical waste was improperly stored;**
- ✘ **overcrowding in hemodialysis and oncology areas,** whose patients have an increased risk of acquiring an infectious disease;
- ✘ **no cleaning between patients treated in the same chemotherapy chair** - Chemotherapy patients have an increased risk of acquiring an infectious disease due to being immunocompromised.
- ✘ **isolation inadequacies** (use of personal protective equipment, carts supplies, signage, etc.)
- ✘ **linen deficiencies** (clean laundry arriving at hospitals without being properly covered, linen delivery trucks not properly cleaned, uncovered clean linen transported through the hospital, inadequate washing or replacing of the cloth cart covers protecting clean linen, excessive linen inventories, improper storage of clothing worn in the operating room, etc.);
- ✘ **inadequate separation of clean and dirty items and storage space** (clean linen stored in poor locations, inadequate separation within nursing units and Medical Device Reprocessing units, equipment and testing supplies stored in patient's washrooms, poor placement of soiled linen hampers, etc.);
- ✘ **permanent placement of patients in beds in the corridor;**
- ✘ **inadequate cleaning, labelling and storage of shared equipment;**
- ✘ **insufficient signage** - For example, in one hospital we asked why hand hygiene signs were not prevalent. We were told the hospital had approximately 500 signs that had been awaiting installation for over a year. A few days later, we observed the signs being installed throughout the hospital; and
- ✘ **construction areas not properly sealed-off** from patient areas (with proper ventilation and signs restricting access).

✗ There are inconsistencies within and between the RHAs' infection prevention and control programs

2.12 Based on the number and variety of deficiencies we observed, **we believe there is inadequate monitoring of infection prevention and control policies and practices in hospitals.** Many of the deficiencies were obvious during our hospital tours. Given many of the identified deficiencies relate to healthcare workers not complying with infection prevention and control policies (hand hygiene, use of personal protective equipment, etc.), **we also conclude the RHAs need to strengthen enforcement of policies and procedures.**

2.13 Hospitals around the Province provide different services and patients may get services at more than one hospital. We believe New Brunswickers should be provided with consistent quality services regardless of the hospital, including a consistent infection prevention and control program.

2.14 However, we concluded **there are inconsistencies within and between the RHAs' infection prevention and control programs delivered in the hospitals.** In comparison to other provinces, **there is limited provincial guidance by the Department** regarding infection prevention and control.

2.15 Our observations about specific **inconsistencies within** Horizon's and/or Vitalité's programs include the following:

- ✗ *Program policies and procedures are different in each zone¹¹ (and between the two RHAs).* Given it has been six years since the RHAs were established, we expected further progress in standardized policies and procedures.
- ✗ *Inconsistencies in ICPs' understanding and education* We believe all ICPs should have specialized training in infection prevention and control.
- ✗ *The allocation of the ICPs does not appear*

¹¹ "zone" refers to a geographical area. Both Horizon and Vitalité contain four zones.

consistent. Based on the literature and our findings, the ICP workload appears excessive.

- ✘ ***There are variations in the ICPs' work in different zones.*** For example their presence in the nursing units: The ICP's work in the nursing units typically involves following-up on cases identified during the ICP's surveillance work and performing audits (monitoring for compliance with infection prevention and control standards). We believe the ICP's work in the nursing units is very important in preventing the spread of infections between patients. We learned there is inconsistency in the frequency of the ICPs' visits in the nursing units. All zones reported less frequent visits to nursing units in remote hospitals, and we were informed one hospital is visited by the ICP only once every three months. (An ICP may be responsible for one or more hospitals, depending on the size of the hospital.) A second example involved hemodialysis clinics. We expected the clinics to be visited regularly given patients receiving hemodialysis are considered to have a higher risk of getting an infection. However, we found this was not the case. While for one location the ICP reported visiting approximately three times per year, at another location, the ICP had visited twice in the past seven years.
- ✘ ***Inconsistencies with isolation gowns may result in the spread of infections.*** The inconsistencies in appearance, location and labelling of isolation gowns used throughout hospitals can cause confusion, which may result in the spread of infections; and
- ✘ ***Administrative support and expert resources are not available in each zone.*** We believe the administrative employee provides valuable support to the ICPs by allowing them to use their time on more demanding professional infection prevention and control activities, such as monitoring for compliance with standards. Also without access to specialists (infectious disease physicians or medical microbiologists), it is possible for an infectious

outbreak to occur or for an existing outbreak to become more severe because proper preventive and containment practices were not promptly exercised.

2.16 Inconsistencies between Horizon’s and Vitalité’s programs relate to the following:

- regional policies and procedures for the program;
- requirements for healthcare workers to take refresher training on infection prevention and control routine practices and hand hygiene;
- hand hygiene policies, signage and compliance rates;
- public entrances having good infection prevention and control signage and adequate supplies (hand hygiene gel and masks);
- environmental services (housekeeping) policies and procedures with adequate monitoring;
- MRSA screening and monitoring;
- infection prevention and control committees; and
- performance indicators for the program.

✓ There is monitoring of some routine practices

2.17 From our observations, we found **there is monitoring of some routine practices in hospitals**. For example, many hospitals have been auditing hand hygiene for a number of years, and ICPs also audit the use of personal protective equipment (PPE) and isolation rooms.

✗ Monitoring for compliance with routine practices needs improvement

2.18 However, we also found:

- ✗ Hand hygiene auditing needs improvement to provide accurate information. A standard practice with documented procedures and training of new auditors is needed;
- ✗ Certain routine practices are not monitored, such as linen and proper cleaning of shared equipment; and
- ✗ In general, there are no policies and procedures for auditing infection prevention and control programs.

2.19 We concluded **monitoring for compliance with**

routine practices needs improvement in order to ensure minimum standards of infection control are being met in all hospitals.

Performance monitoring and reporting

2.20 We found the **Regional Health Authorities adequately measure the effectiveness of its infection prevention and control programs**. The Department publicly reports on CDI and MRSA bacteremia in our hospitals. However, **the Regional Health Authorities should enhance their public reporting** by reporting on hand hygiene compliance and other program performance indicators. We found hand hygiene was not done when required by policy and both Horizon and Vitalité’s self-auditing results show compliance rates below their stated goals. (See **Appendices V and VI.**)

Recommendations

2.21 Our recommendations to the Department and the RHAs are presented along with their responses to each recommendation in **Exhibit 2.1.**

Conclusion

2.22 Our objective for this audit was *to determine if the Department of Health and the Regional Health Authorities have an infection prevention and control program to protect people from hospital-acquired infections.*

2.23 We concluded the two Regional Health Authorities have infection prevention and control programs to protect people from hospital-acquired infections. However, our work identified numerous deficiencies. We have made recommendations for corrective action.

Exhibit 2.1 - Summary of Recommendations

2.1	Recommendation
	<p>2.112 We recommend the Horizon and Vitalité Health Networks address deficiencies in infection prevention and control practices within their respective programs, including but not limited to those reported in Exhibit 2.9 such as:</p> <ul style="list-style-type: none"> • hand hygiene not done when required by policy, healthcare workers wearing rings and bracelets, areas with inadequate signage and gel; • biomedical waste improperly stored; • overcrowding in hemodialysis and oncology areas whose patients have an increased risk of acquiring an infectious disease; • no cleaning between patients treated in the same chemotherapy chair; • isolation inadequacies (signage, carts supplies, use of personal protective equipment, etc.); • linen deficiencies (clean laundry arriving at hospitals without being properly covered, linen delivery trucks not properly cleaned, uncovered clean linen transported through the hospital, inadequate washing or replacing of the cloth cart covers protecting clean linen, excessive linen inventories, improper storage of clothing worn in the operating room, etc.); • containers of disinfectant wipes left open; • inadequate separation of clean and dirty items and storage space (clean linen stored in poor locations, inadequate separation within nursing units and Medical Device Reprocessing units, equipment and testing supplies stored in patient’s washrooms, poor placement of soiled linen hampers, etc.); • doors missing or being left open; • permanent placement of patients in beds in the corridor; • inadequate cleaning, labelling and storage of shared equipment; • insufficient signage (public entrances) and labelling (“clean” and “soiled” items, storage areas, etc.); and • construction areas not properly sealed-off from patient areas (with proper ventilation and signs restricting access).
Response from Horizon	<p>Timeline for Implementation: Work Ongoing at local area level. Regional audits to commence in September 2015. New contract for linen delivery truck to commence in June 2015.</p>
	<p>Horizon Health Network accepts and agrees with this recommendation.</p> <p>In response to the visit by the Office of the Auditor General to several of our facilities Horizon Infection Prevention and Control (IPC) developed a work plan to address deficiencies identified during the audit process. Work on many of these deficiencies has been completed at the local Area Level and work remains ongoing on outstanding issues. On a go forward basis Infection Prevention and Control will audit all hospitals to assess compliance with IPC practices to ensure recommendations put forth in this report are met.</p> <ul style="list-style-type: none"> • A response is provided under recommendations 2.115 and 2.180 with regards to hand hygiene not done when required by policy, healthcare workers wearing rings and bracelets. A new dress code policy will be introduced in May 2015 with renewed emphasis on policy compliance including the wearing of jewelry by clinical staff. As the Auditor General’s Report indicates, “most public entrances at Horizon facilities had good signage relating to Infection Prevention and Control and adequate supplies (hand hygiene gel and masks)”. The introduction of ‘flags’ to hand sanitizer dispensers have been implemented throughout Horizon to ensure timely replenishing of hand sanitizer in all areas. • Biomedical Waste deficiencies pertaining to improper storage and disposal have been corrected. IPC continues to ensure proper processes are being followed. Auditing of waste management will be conducted as per response provided under recommendation 2.180. • Significant space challenges exist in most hospitals across Horizon as these facilities were constructed during a different era in health care delivery. Over the years, standards and best practices associated with construction of healthcare facilities have evolved and most of our buildings do not meet the current space requirements. This is a critical issue and one that is difficult to address. Horizon is reviewing proposals for enhancement to outpatient oncology services due to the increasing demand. Horizon’s

Exhibit 2.1 - Summary of Recommendations – continued

Response from Horizon (continued)

intent is to look at the appropriate levels of service from a regional perspective. At one facility work is underway to complete an RFP to have an external consultant onsite to develop a Master Space Plan. In the interim, an area adjacent to the outpatient oncology clinic has been identified and work is ongoing with space planning to provide additional space for oncology. Additional space requirements for the hemodialysis clinic will also be included in this Master Space Plan, due to current needs and anticipated growth of this patient population.

- Renovations to separate Soiled and Clean Utility Rooms have been completed in the fall of 2014 at one facility and an evaluation is underway at a second facility. Renovations are in progress to provide an alternate clean linen storage room to address the issue of clean linen stored in poor location. This project has been identified as a priority.
- Horizon is compliant with the cleaning of chemotherapy chairs between patients as per infection control standards.
- Isolation room and Personal Protective Equipment (PPE) audits are completed as per response provided under recommendations 2.180.
- Meetings have been ongoing with FacilicorpNB Linen Services. Linen issues such as excess linen, clothing for the OR improperly stored, and excessive handling of linen have been resolved with the implementation of a cart exchange system. The issue of linen being delivered and not properly covered has been addressed and resolved. Negotiations are underway to secure a new contract for linen delivery to ensure linen standards are being met. FacilicorpNB has consulted IPC re: protocol for cleaning and disinfection of delivery truck.
- Horizon Health Network policy *Cleaning/Disinfection of Non-Critical Patient Care Equipment and Electronic Devices* notes the following regarding disinfectant wipes: “Use disinfectant wipes for small equipment items only. Ensure that wipes are available at point-of-care and that the containers remain closed between uses. Lids left open dry out the wipes, which then are not effective as a disinfectant.” Regular monitoring of compliance with this policy by managers and Infection Prevention and Control Professionals will support Horizon in meeting this recommendation.
- Horizon Medical Devices Reprocessing Standards are currently in development and include best practices regarding reprocessing and storage of scopes. Audits have been conducted by IPC to assess compliance with standards. In the Spring 2015, the Ambulatory Care Network formed a regional working group to review audit recommendations and action plans to address deficiencies noted. The Department of Health, in collaboration with both Regional Health Authorities, have issued a policy statement which notes that a standardized training and certification for all reprocessing technicians is required to ensure patient safety and minimize the risk of adverse events in patient care.
- Soiled Utility Rooms and Door to OR Area propped/or left open - Departmental Managers have been advised to keep doors closed at all times. IPC to monitor during Patient Care Unit rounds.
- Horizon does not permanently place patients in beds in the corridor. In the event of overcapacity, patients may be temporarily placed on a stretcher in the corridor until a bed is available. Processes are in place for daily review of patient placement. Overcapacity conditions have increased and are difficult to resolve. This is a reality until we find mechanisms to address Alternate Level of Care patients in acute care beds and overcapacity issues in our Emergency Departments.
- Environmental Services (EVS) implemented the Clean Label Flagging Process in January 2014. A green label “I Am Clean” is attached to mobile items that have been cleaned by EVS and stored in the Clean Utility area. This alerts the frontline healthcare worker that equipment has been cleaned and is safe to be used with another patient. When the equipment is reused, the label is removed.
- To better serve our patients and public, a Signage Network has been formed to ensure a standardized comprehensive signage program exists in all facilities. Clean and Soiled Utility Room Signage has been installed as visual reminders to staff.
- As the Auditor General’s Report indicates regarding Horizon, “ICPs are members of the construction and renovations local area committees and ensure all projects are sealed off from patients areas with proper ventilation and with signs restricting access as per CSA standards”.

Exhibit 2.1 - Summary of Recommendations – continued

Response from Vitalité	Timeline for Implementation: June 2017
<p>Vitalité Health Network agrees with this recommendation and wishes to point out that ongoing improvement of services is one of its strategic priorities.</p> <p>Given that the report from the Office of the Auditor General is non-nominal, the Network will set up a team to coordinate an audit of all its points of service/nursing units in order to clearly identify areas with deficiencies. To do this audit, the Network will create tools taking standards and best practices into account. Following this comprehensive audit, a detailed action plan will be prepared for each facility/point of service/unit. Results obtained will be closely monitored. This strategy will allow the Network to address deficiencies throughout its facilities.</p> <p>It should be noted that some deficiencies were addressed during or following the visits. Others were already included in a recovery plan.</p> <p>As regards hospital linen deficiencies, the Network is currently working with FacilicorpNB on the implementation of a specialized laundry software to support a “cart exchange” model. The new process, which is being implemented, will improve hospital linen supply management. Efforts will be made to adjust volumes to the demand and all linen supplies will be replaced regularly.</p> <p>As for permanent placement of patients in the corridors, the Network wants to stress that this practice is currently neither widespread nor encouraged. It is a temporary practice in response to a bed shortage at one point in time.</p> <p>The various structural deficiencies noted (e.g. overcrowding in hemodialysis and oncology areas, inadequate separation of clean and dirty items, missing doors) will also be reviewed. The Network will take into account the population’s needs, facilities’ physical restraints, and renovation projects under way or planned.</p>	

Exhibit 2.1 - Summary of Recommendations - continued

2.1 cont'd	Recommendation		
<p>2.113 We recommend the infection prevention and control professionals and all managers do regular “walk-arounds” observing for compliance with policies and standards, reporting deficiencies to the units/departments, and ensuring corrective action is taken by those units/departments. Deficiencies should be monitored and reported to appropriate committees and/or department heads.</p>			
Response from Horizon	Target Date for Implementation: Work is ongoing at local area level. IPC involvement in M.Y. Place walkabouts to commence in the Fall 2015.	Response from Vitalité	Target Date for Implementation: June 2017
<p>Horizon Health Network accepts and agrees with this recommendation and acknowledges that regular walk rounds provide all Stakeholders with the opportunity to mitigate risks.</p> <p>IPC visits Patient Care Units on a regular basis although the frequency of unit visits differ from Area to Area based on departmental operational priorities. Ongoing follow-up occurs at the Local Areas and Regional Infection Prevention and Control Committees. Findings are also reported to the appropriate manager/ department heads.</p> <p>In the fall of 2014 the initiative “M.Y. (Mine & Yours) Place” walkabout was piloted in Horizon facilities. This initiative provides Horizon with a three-way overview from maintenance, environmental services (EVS) and logistics perspectives. Clinical and non-clinical areas are inspected, easy-to-fix cleanliness or maintenance issues are identified and immediate corrective actions are taken. Clinical staff is consulted with a view of coordinating both short and long-term schedules for maintenance and other relevant work. IPC will participate in the M.Y. Place walkabouts starting in the Fall 2015. The IPC component will be evaluated at 3 month post implementation. This may provide IPC with further opportunities to assess compliance with Routine Practices and standards.</p>		<p>Vitalité Health Network approves and agrees with this recommendation. The Network recognizes the importance of monitoring compliance with policies and standards and reporting noncompliance. This practice, which is used by some, is however not systematically applied in all units/facilities and by all infection prevention and control professionals. Consequently, the Network commits to identifying the frequency of visits required from infection prevention and control professionals, monitoring compliance, and identifying elements that should be monitored on an ongoing basis.</p> <p>Also, a mechanism will be identified as part of continuous quality improvement to implement manager walk rounds and identify the purpose of these rounds.</p>	

Exhibit 2.1 - Summary of Recommendations - continued

2.1 cont'd	Recommendation		
<p>2.114 In smaller hospitals without on-site managers, we recommend the infection prevention and control professional and unit/department managers perform site visits on a regular basis. These visits will provide the opportunity to better monitor the smaller facility. Also, it will provide staff members with the opportunity to ask questions and identify challenges with which they are dealing.</p>			
Response from Horizon	Target Date for Implementation: Work is ongoing at local area level. Regular visits by offsite managers to commence in Spring 2015.	Response from Vitalité	Target Date for Implementation: June 2017
<p>Horizon Health Network accepts and agrees with this recommendation. IPC professionals are assigned to facilities and conduct visits, provide support and consultation to health care workers within smaller facilities and are available to ensure practices are in accordance with standards.</p> <p>Regular visits performed by managers from other departments will provide the opportunity to incorporate staff feedback and better monitor the smaller facility. This will strengthen our ability to fully meet this recommendation.</p>		<p>Vitalité Health Network accepts and agrees with this recommendation. Measures presented in recommendation 2.113 will promote regular visits by infection prevention and control professionals and managers to smaller hospitals with no professionals or managers on site.</p>	
<p>2.115 We recommend the Horizon and Vitalité Health Networks enforce compliance with infection prevention and control policies by all staff members, in all hospitals.</p>			
Response from Horizon	Target Date for Implementation: Work is ongoing at the local area level. Renewed emphasis on enforcement of policy compliance will commence in May 2015 with education sessions.	Response from Vitalité	Target Date for Implementation: June 2017
<p>Horizon Health Network accepts and agrees with this recommendation. Horizon has a Progressive Discipline Policy which notes that managers are responsible for policy enforcement. When an employee violates Horizon policy, exhibits inappropriate behavior or unsatisfactory performance, a system of progressive discipline is utilized. Regular monitoring of compliance with infection prevention and control policies by managers and Infection Prevention and Control Professionals will support Horizon in meeting this recommendation. Staff education is reinforced through face to face interaction as well as through our E-Learning Modules, and annual compulsory programs requirement.</p>		<p>Vitalité Health Network clearly indicated in its policy and procedure management policy that managers are responsible for ensuring that staff members understand, respect and comply with policies and procedures and that they receive training if necessary. Also, staff members must comply with the rules and regulations of the organization, failing which they could be subject to corrective and disciplinary action.</p> <p>Consequently, the Network agrees with this recommendation and commits to devising strategies to ensure that the staff comply with infection prevention and control policies.</p>	

Exhibit 2.1 - Summary of Recommendations – continued

2.1 cont'd	Recommendation	
	<p>2.146 We recommend the Department of Health in consultation with the Horizon and Vitalité Health Networks develop a provincial infection prevention and control program and strategy for use in all New Brunswick hospitals. This should address both routine practices and additional precautions. The provincial program should include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • documented provincial infection prevention and control policies, standards and practices; • a strategy for monitoring compliance with infection control standards; and • a comprehensive hand hygiene strategy. 	
Response from the Department of Health	<p>Target Date for Implementation: Environmental scan of Ministries of Health May-June 2015. Framework outline by March 31, 2016. Regular progress reports to be received beginning October 1, 2015.</p>	
<p>The Department of Health accepts and agrees with this recommendation. The Department will lead the development of a Provincial framework to guide the infection prevention and control programs within the Regional Health Authorities.</p> <p>National guidelines and standards will be the basis of the framework. The framework will include performance monitoring.</p> <p>The Department will work collaboratively with the Regional Health Authorities to implement the framework.</p> <p>The Department of Health will require regular updates on progress addressing the deficiencies and inconsistencies identified in this report from the Regional Health Authorities.</p>		
Response from Horizon	Response from Vitalité	
<p>Horizon Health Network agrees with this recommendation and encourages collaboration amongst healthcare providers to promote a coordinated provincial infection prevention and control program and strategy for all New Brunswick hospitals.</p> <p>Horizon has an active IPC Program with direct involvement from Infectious Diseases Specialists and Medical Microbiologists. Policies and procedures are guided by various national and international standards and best practice documents. Additionally, a Regional IPC Committee with physician leadership and involvement has oversight of all policies and practices throughout the Health Network.</p>	<p>Vitalité Health Network agrees with this recommendation and commits to working with the Department of Health in developing a provincial framework. It should be noted that a regional infection prevention and control program is available in the Network. Policies reflecting best practices and recognized Canadian standards are also in place.</p>	

Exhibit 2.1 - Summary of Recommendations – continued

2.1 cont'd	Recommendation		
<p>2.147 We recommend the Horizon and Vitalité Health Networks engage sufficient resources for their programs to ensure all zones have access to Infection Prevention and Control Professionals (ICPs), experts and administrative support.</p>			
<p>Response from Horizon</p>	<p>Target Date for Implementation: Recruitment is ongoing. IPC resources will be adjusted pending 2015/16 budget approval.</p>	<p>Response from Vitalité</p>	<p>Target Date for Implementation: June 2017</p>
<p>Horizon Health Network accepts and agrees with this recommendation. In July 2014, a proposal was submitted for adequate staffing to support an effective Infection Prevention and Control program. The proposed budget for 2015/16 includes new part-time positions for IPC nurses and Administrative Support. A long-term plan will be required to reach the target IPC staffing level in all facilities as budget allows in alignment with National Benchmarks.</p> <p>Experts/ Medical Staff Recruitment: An Infectious Disease Specialist to be based in Moncton has been recruited and will be starting in the fall 2015. Another Infectious Disease Specialist has been recruited for the Saint John area and will be starting in the fall 2016. Infectious Diseases Consultations, clinics and infection prevention control support will be provided in Miramichi and Fredericton areas. Recruitment efforts are ongoing to fill vacant Medical Microbiologist positions in Moncton and Fredericton.</p>		<p>Vitalité Health Network accepts and agrees with this recommendation. It should be noted that since the visit from the Office of the Auditor General, all vacant positions have been posted. Two positions were filled and there are recruitment challenges in regard to one position.</p> <p>Also, research on resource standards is under way and will be carefully reviewed. The Network will implement a process to ensure access to experts for all zones. Solutions are being looked at.</p> <p>A review of administrative support needs for the infection prevention and control program was undertaken. At the end of this process, measures will be proposed to better meet the program needs.</p> <p>To act on this recommendation, the Network will discuss with the Department of Health to obtain adequate financing, thus ensuring access to additional resources.</p>	
<p>2.148 We recommend the Vitalité Health Network require their ICPs obtain specialized training in infection prevention and control.</p>			
<p>Response from Vitalité</p>	<p>Target Date for Implementation: June 2017</p>		
<p>Vitalité Health Network agrees with this recommendation. At this time newly hired permanent employees must undergo specialized training in the first two years of hiring if they did not receive it before starting to work. This requirement is included in job postings and job descriptions.</p> <p>The Network recognizes that specialized training leading to <u>basic certification</u> is offered in English only and that this may be an additional challenge for French-speaking employees working in French-speaking environments.</p> <p>Consequently, the Network will ask the Department of Health’s collaboration to make this type of training available to employees in French.</p>			

Exhibit 2.1 - Summary of Recommendations – continued

2.1 cont'd	Recommendation		
<p>2.149 We recommend the Horizon and Vitalité Health Networks address the inconsistencies within their respective programs, including but not limited to:</p> <ul style="list-style-type: none"> • inconsistencies in ICPs' knowledge of appropriate practices and standards; • variations in the ICPs' work in different zones; and • inconsistencies with isolation gowns. 			
Response from Horizon	<p>Target Date for Implementation: Work is ongoing at local area level. Standards development project plan will commence in January 2016. Isolation gown storage and standardization will be completed by September 2015.</p>	Response from Vitalité	<p>Target Date for Implementation: June 2017</p>
<p>Horizon Health Network accepts and agrees with this recommendation. Horizon uses a Standards Model/ Standards Development for Clinical Networks and Services. The Standards Model is based on a structure-process-outcome framework to facilitate standardized care, clinical practice, and services across the health authority. In October 2012, Horizon' Standards Model was recognized by Accreditation Canada as a Leading Practice. A request for Infection Prevention and Control Standards development was submitted in 2013 and a project plan is scheduled for implementation in January 2016. This initiative will assist us in addressing the inconsistencies within our IPC program.</p> <p>An integrated IPC Service has been implemented to ensure alignment and standardization of processes across the region. In 2014, the IPC department participated in a workload optimization exercise to identify opportunities to improve efficiencies within the department across the region. Opportunities for process improvements have been identified and an implementation plan is in progress. Issues related to IPC resources are being addressed as per response provided under recommendation 2.147.</p> <p>Key stakeholders have been consulted regarding isolation gown storage and standardization. The goal is to source an isolation station that meets the needs of the end user, is cost effective, maintains sufficient isolation supplies, decreases risk of Personal Protective Equipment (PPE) contamination and enhances compliance to isolation protocols.</p>	<p>Vitalité Health Network accepts and agrees with this recommendation.</p> <p>The Network is planning on reviewing and comparing the practices and work of infection prevention and control professionals. A plan will be developed to harmonize work. This plan will take into account the zones' specific circumstances regarding services provided and population.</p> <p>To harmonize practices and promote the acquisition of new knowledge, initiatives will be identified to promote information sharing, networking, and access to experts for infection prevention and control professionals of the various zones.</p> <p>The Network acknowledges that there are inconsistencies with respect to isolation gown procurement and management between zones. The Network therefore commits to setting up a work team with representatives from FacilicorpNB to address this problem and take corrective action.</p>		

Exhibit 2.1 - Summary of Recommendations – continued

2.1 cont'd	Recommendation
	<p>2.180 We recommend the Horizon and Vitalité Health Networks improve monitoring for compliance with infection prevention and control standards, including the monitoring of routine practices. This should include, but not be limited to, establishing policies and procedures for:</p> <ul style="list-style-type: none"> • consistent unbiased hand hygiene auditing of appropriate quantity and including coverage of all areas in the hospitals; • auditing jewelry and nails of healthcare workers to ensure compliance with the hand hygiene policy; • auditing of linen management, including delivery trucks; • auditing of waste management, including all types of waste; and • auditing of shared equipment (proper cleaning, storage, etc.). •
<p>Response from Horizon</p>	<p>Target Date for Implementation: Work is ongoing at local area level. Hand hygiene educational program to be completed by all auditors to ensure compliance with best practice will be completed by September 2015. A Biomedical Waste Audit will be piloted in the spring 2015. FacilicorpNB Linen Services to provide audit results to the Regional Infection Prevention & Control Committee commencing September 2015.</p>
	<p>Horizon Health Network accepts and agrees with this recommendation. Monitoring of some routine practices is well established such as MRSA/ VRE surveillance screening, isolation rooms, PPE, Operating Room, Medical Device Reprocessing and Sterile Storage areas audits.</p> <ul style="list-style-type: none"> • Horizon’s hand hygiene auditing practice is in accordance with Accreditation Canada Standards and aligns with national hand hygiene auditing practices. The following steps have been taken to ensure consistent unbiased hand hygiene auditing. <ul style="list-style-type: none"> ○ A standardized Hand Hygiene educational program based on Canada’s Hand Hygiene Campaign was developed by Horizon IPC in October 2013. ○ Hand Hygiene Champions were recruited in all areas of Horizon and completed this education program prior to conducting monthly hand hygiene audits. ○ All members of the IPC Team who conduct hand hygiene audits will be required to complete this hand hygiene educational program as a refresher to ensure they are auditing as per best practice. <p>This will assist in providing unbiased auditing and supports this recommendation.</p> <ul style="list-style-type: none"> • Regular monitoring of compliance with infection prevention and control policies including the Horizon Hand Hygiene Policy by managers and Infection Prevention and Control Professionals will support Horizon in meeting this recommendation. • Horizon’s Linen Services is provided by a contracted service provider through FacilicorpNB. Horizon will collaborate with FacilicorpNB and key stakeholders to establish a Service Level Agreement which will define specific terms and conditions for the delivery of services. Horizon IPC have been collaborating with Linen Services to ensure linen is managed as per CSA Z314.10.2-10 Laundering, maintenance, and preparation of multi-use gowns, drapes, and wrappers in health care facilities. <p>As the Auditor General report indicates, “It may not be appropriate for the ICP to audit each department involved in routine practices (Linen, EVS, etc.), however, the ICPs should monitor audit results from other departments.” Horizon supports this approach and will request that FacilicorpNB provide audit results to the Regional Infection</p>

Exhibit 2.1 - Summary of Recommendations – continued

Response from Horizon (continued)	
<p>Prevention & Control Committee on a regular basis as per established process with other Stakeholders. This will support Horizon in meeting this recommendation.</p> <ul style="list-style-type: none"> • Environmental Services is responsible for conducting audits to ensure quality standards are met. IPC collaborates with EVS to ensure Biomedical Waste is being handled, transported and stored as per waste management guidelines. A Biomedical Waste Audit Tool has been developed and will be piloted in the spring 2015. This will support Horizon in meeting this recommendation. • A process for monitoring compliance with the Clean Label Flagging Process has been implemented in the fall 2014 by Environmental Services. Audit results are reported to the Regional Infection Prevention & Control Committee. This supports Horizon in meeting this recommendation. 	
Response from Vitalité	Target Date for Implementation: June 2017
<p>Vitalité Health Network agrees with this recommendation.</p> <p>The Network has already set an appropriate frequency for hand hygiene audits. The review process was also looked at with infection prevention and control professionals, based on the procedure established by the Canadian Patient Safety Institute.</p> <p>The Network is examining the implementation of a process to monitor compliance with the hand hygiene policy, including namely jewelry and nails. The result of this monitoring process is to be included in the Network 2015-2016 scorecard.</p> <p>The Network is currently working with FacilicorpNB on a service agreement and governance model for laundry services management. While developing this agreement, the Network will ensure, among other things, that its expectations are met regarding auditing of hospital linen and delivery trucks.</p> <p>Over the next few months, the Network will evaluate waste and shared equipment management auditing practices based on Canadian standards and best practices and will propose a standard approach throughout the organization. As part of the support services privatization project, the Network will have to ensure that standards are included in contracts and follow-ups by the new supplier.</p>	

Exhibit 2.1 - Summary of Recommendations - continued

2.1 cont'd	Recommendation		
<p>2.202 We recommend the Department of Health and/or the Regional Health Authorities enhance its public reporting on the effectiveness of its infection prevention and control program(s) by reporting on hand hygiene and other infection prevention and control program performance indicators.</p>			
Response from the Department of Health	Target Date for Implementation: Work plan by June 30, 2016		
<p>The Department of Health (DH) accepts and agrees with the recommendation to improve public reporting. The Department currently publically reports quarterly on its own website the occurrence of hospital related methicillin-resistant <i>Staphylococcus aureus</i> bloodstream infection and hospital-related <i>Clostridium difficile</i> infections.</p> <p>Findings of the environmental scan referred to in the response to recommendation 2.146 will guide decisions regarding additional direct performance reporting by the Department of Health vs. reporting by Regional Health Authorities and/or the New Brunswick Health Council.</p>			
Response from Horizon	Target Date for Implementation: Completed	Response from Vitalité	Target Date for Implementation: June 2017
<p>Horizon Health Network accepts and agrees with this recommendation. In the fall of 2014, Horizon began posting quarterly Hand Hygiene compliance and other IPC key performance indicators on the Horizon Public Website. In December 2014, IPC began posting each Patient Care Unit's hand hygiene compliance rate in a public area on a monthly basis. The process for this was undertaken with involvement of the Horizon Patient and Family Advisory Council.</p> <p>This recommendation is complete.</p>		<p>Vitalité Health Network agrees with this recommendation and reports that initiatives are currently under way to include the results of its infection prevention and control program on its website in order to be accountable to the population for the program performance.</p>	

Background on Infection Prevention and Control in Hospitals

Infection prevention and control in provincial hospitals was the focus of our audit.

Statistics for healthcare

2.24 Healthcare and our well-being is a concern to everyone. A major ongoing public health concern is the transmission of infections. The Department of Health (Department) is responsible for limiting infections in New Brunswick. The Department has many roles related to infection prevention and control, such as helping to ensure our water is safe to drink, food served in restaurants won't make us sick, sewage is properly treated, children are vaccinated, communicable diseases are reported, etc. Our work focused on infection prevention and control in hospitals.

2.25 In implementing infection prevention and control in hospitals, the Department works with the two Regional Health Authorities (RHAs) who have primary responsibility for patient safety in the hospitals they administer. *Patient safety is a high priority for New Brunswick's Regional Health Authorities, who work hard to ensure that every patient has a safe hospital stay and a positive outcome.*¹² Patient safety in hospitals includes minimizing the risk of adverse events, such as: falls, medication errors, allergic reactions and hospital-acquired infections. Infection prevention and control in provincial hospitals was the focus of our audit.

2.26 In fiscal 2012-2013, approximately \$1.5 billion¹³ was expended for hospital services, representing more than 57% of the Department's budget. The following facts relating to healthcare in the Province were obtained from the Department's 2012-13 Annual Report¹⁴:

- hospital stays: 90,893;
- total length of stays: 1,069,583 days; and
- average number of days per hospital stay: 11.8.

2.27 **Exhibit 2.2** provides information on each of the RHAs.

¹² Website - Department of Health – Patient Safety, Sept 2013

¹³ Department of Health Province of New Brunswick, *2012-13 Annual Report*, December 2013.

¹⁴ Ibid.

Exhibit 2.2 – 2013-2014 Information on the RHAs

2.2 2013-2014 Information on the RHAs: Horizon and Vitalité		
	Horizon	Vitalité
Number of hospitals	12	11
Number of hospital beds	1,650	965
Employees	12,402	7,497
Physicians / doctors	994	555
Volunteers	3,600	1,000
Surgeries	49,280	20,798
Newborns	5,117	1,780
Admissions (acute, chronic and rehab)	58,574	29,037
Budget	\$1,100 million	\$613 million

Source: Chart created by AGNB with information from the following annual reports:

- *2013-2014 Annual Report Horizon Health Network*
- *Annual Report 2013-2014 Vitalité Health Network*

Hospital-acquired infections

2.28 Hospital-acquired infections are also called “healthcare associated infections” or “nosocomial infections”. Some interesting statistics¹⁵ relating to healthcare-associated infections, which include hospital-acquired infections, are presented here:

- *Healthcare-associated infections are common: One out of every 10 patients admitted to hospital will get one.*
- *Healthcare-associated infections can also be very serious: about 12,000 deaths in Canada are caused by these infections each year.*
- *Hand hygiene is one of the most important ways to stop the spread of “superbugs” and other organisms. It has been shown that healthcare workers clean their*

¹⁵ Website – Department of Health – *Patient Family Guide* (Pamphlet prepared by Canadian Patient Safety Institute - How To Help Prevent Healthcare-Associated Infections: A Patient And Family Guide, April 2012).

hands about 40% of the time that they are supposed to. With the growing awareness of healthcare-associated infections this number is getting better, but it is still less than ideal.

2.29 During our research, we learned the following:

- *“Healthcare associated infections (HAIs) are infections that patients acquire from healthcare facilities, such as hospitals, while receiving treatment or care for an unrelated condition. These infections can be serious. Examples of HAIs are Clostridium difficile (C. difficile), methicillin resistant Staphylococcus aureus (MRSA), and bloodstream infections.”*¹⁶
- **Exhibit 2.3** shows statistics for healthcare-associated infection prepared by CNISP¹⁷. It shows the *Clostridium difficile* infection incidence rate was 2.2 per 1,000 patients admitted in 2011 for the eastern region, which includes New Brunswick. It also shows the number of MRSA infections in the CNISP network from 2000 to 2009 by region.
- **Exhibit 2.4** shows statistics for two hospital associated infections in New Brunswick hospitals: *Clostridium difficile* infection (CDI) and methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia. There were 228 cases of CDI and three cases of MRSA bacteremia reported for the 2013/2014 fiscal year.

¹⁶ Website – Department of Health – Office of the Chief Medical Officer of Health (Public Health), Sept 2013

¹⁷ **CNISP** refers to the Public Health Agency of Canada’s (PHAC’s) Canadian Nosocomial Infection Surveillance Program (CNISP). The national program includes the ten provinces with 54 hospitals participating. The Moncton Hospital represents New Brunswick for this program.

Exhibit 2.3 – Statistics for Healthcare-Associated Infections - CNISP

2.3		Statistics for Healthcare-Associated Infections - CNISP							
Number of Healthcare-Associated-<i>Clostridium difficile</i> infection cases and incidence rates per 1,000 patient admissions by region									
	<i>Western</i>		<i>Central</i>		<i>Eastern</i>		<i>Overall</i>		
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	
2007	1,180	4.08	1,831	5.07	260	3.44	3,271	4.51	
2008	1,060	6.35	1,597	5.48	256	3.56	2,913	5.49	
2009	683	5.13	1,401	4.98	161	2.74	2,245	4.75	
2010	1,251	4.68	1,266	5.13	155	2.04	2,672	4.53	
2011	1,170	4.85	1,910	6.21	101	2.20	3,181	5.35	
Number of MRSA Infections in the CNISP Network by region and overall rates per 1,000 patient admissions									
	<i>Western</i>	<i>Central</i>	<i>Eastern</i>	<i>Overall</i>	<i>Patient admissions</i>	<i>Overall Rate</i>			
2000	305	410	21	736	507,910	1.45			
2001	252	416	28	696	614,421	1.13			
2002	278	514	53	845	583,658	1.45			
2003	373	592	99	1,064	671,240	1.59			
2004	669	594	106	1,369	677,829	2.02			
2005	1,187	687	193	2,067	764,341	2.70			
2006	1,071	751	189	2,011	770,118	2.61			
2007	1,127	618	207	1,952	768,294	2.54			
2008	1,081	659	261	2,001	678,610	2.95			
2009	961	858	217	2,036	701,477	2.90			
Notes:									
<ul style="list-style-type: none"> • CNISP Network refers to the Public Health Agency of Canada's (PHAC's) Canadian Nosocomial Infection Surveillance Program (CNISP). The national program includes the ten provinces with 54 hospitals participating. The Moncton Hospital represents New Brunswick for this program. • Patient admissions = Number of patients admitted/hospitalized during a surveillance year (one patient can have multiple hospitalizations). • Region: <ul style="list-style-type: none"> • Western = Manitoba, Saskatchewan, Alberta and British Columbia • Central = Québec and Ontario • Eastern = New Brunswick, Newfoundland and Labrador, Nova Scotia and Prince Edward Island • Number of MRSA Infections does not include MRSA colonization cases. 									
Source: Table created by AGNB with information from Public Health Agency of Canada, The Canadian Nosocomial Infection Surveillance Program (CNISP).									

Exhibit 2.4 – *Clostridium difficile* Infection (CDI) and Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia in New Brunswick Hospitals - 2013/2014 fiscal year

2.4	<i>Clostridium difficile</i> Infection (CDI) and Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) bacteremia in New Brunswick Hospitals - 2013/2014 fiscal year																																																																																																																						
CDI																																																																																																																							
<p><i>Clostridium difficile</i> is a bacterium that can live in the bowel, as part of normal bowel flora, without causing harm, or it can cause an infection (diarrhea, fever, abdominal pain). When antibiotics destroy a person's good bowel bacteria, <i>C. difficile</i> bacteria can grow causing infection. This report includes hospital associated CDI identified during the hospital stay or within 4 weeks of leaving the hospital.</p>																																																																																																																							
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;"><i>Acute Care Hospital (RHA)</i></th> <th style="text-align: left;"><i>Location</i></th> <th style="text-align: right;"><i># of Beds</i></th> <th style="text-align: right;"><i># of Cases</i></th> <th style="text-align: right;"><i>Rate</i></th> </tr> </thead> <tbody> <tr><td>Moncton Hospital (Horizon)</td><td>Moncton</td><td style="text-align: right;">250+</td><td style="text-align: right;">45</td><td style="text-align: right;">0.34</td></tr> <tr><td>Saint John Regional Hospital (Horizon)</td><td>Saint John</td><td style="text-align: right;">250+</td><td style="text-align: right;">42</td><td style="text-align: right;">0.26</td></tr> <tr><td>Dr. G.-L.-Dumont University Hospital Centre (Vitalité)</td><td>Moncton</td><td style="text-align: right;">250+</td><td style="text-align: right;">29</td><td style="text-align: right;">0.29</td></tr> <tr><td>Dr. E. 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<p><i>Staphylococcus aureus</i> is a type of bacteria that lives on the skin, amongst other places, of healthy people. When <i>S. aureus</i> develops resistance to certain antibiotics, it is called methicillin-resistant <i>Staphylococcus aureus</i>, or MRSA. MRSA can enter the body through artificial openings (e.g. wounds, IV lines) and cause infections like bloodstream infections, bladder infections, and soft tissue infections. These infections occur in the community and in hospitals. This report only includes MRSA bacteremia associated with hospitalization.</p>																																																																																																																							
<p>Three cases of MRSA bacteremia were reported for the 2013/2014 fiscal year. The rate of hospital associated MRSA bacteremia for the fiscal year is 0.004 per 1,000 patient days.</p>																																																																																																																							
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Exhibit 2.4 – *Clostridium difficile* Infection (CDI) and Methicillin-resistant *Staphylococcus aureus* (MRSA) bacteremia in New Brunswick Hospitals -2013/2014 fiscal year (continued)

2.4	<i>Clostridium difficile</i> Infection (CDI) and Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) bacteremia in New Brunswick Hospitals - 2013/2014 fiscal year (continued)
<p>Notes:</p> <p>1. Data Presentation & Analysis:</p> <p>CDI data is presented in the order of “# of cases”, greatest to least. <i>Counts are the number of patients with the hospital-associated infection in question during a fiscal year.</i></p> <p>CDI “rate” means “incidence rate” and is the number of new infection cases in a hospital for a certain fiscal year per 1,000 patient days. <i>(These are presented by patient days, which are the number of days spent in a hospital for all patients regardless of medical condition. For example, 10 patients in a hospital for 1 day would represent 10 patient days.)</i></p> <p>2. Data Limitations</p> <p><i>These figures are based on CDI and MRSA bacteremia cases reported to the Department of Health by hospitals in New Brunswick. There are no guarantees that all cases among the population under surveillance are identified.</i></p> <p><i>Exercise caution when interpreting the data in the reports. Care should be taken when comparing cases and rates between healthcare facilities. Multiple factors can affect the rate and these include</i></p> <ul style="list-style-type: none"> • <i>the health condition and medical history of the population served,</i> • <i>the complexity of the patient care,</i> • <i>the age of patient served,</i> • <i>the laboratory methods used for detection,</i> • <i>the use of antibiotics,</i> • <i>the physical layout of the facility, and</i> • <i>the size of the facility.</i> <p><i>In addition to the factors listed above, the surveillance practice used by other provinces may be different from New Brunswick and extra care should be taken when reviewing New Brunswick’s rates with Canadian rates and/or rates from other provinces. In New Brunswick, a standard surveillance practice has been implemented.</i></p> <p><i>Facilities with smaller patient numbers may have unstable rates and slight changes in the number of cases can dramatically affect the rate, as such, these rates can fluctuate from one month to the next. It is best to monitor trends for a particular hospital over time.</i></p> <p>Sources:</p> <p>Exhibit compiled by AGNB with information from the Department of Health: Office of the Chief Medical Officer of Health - Communicable Disease Control - The provincial healthcare associated infections (HAI) surveillance system with excerpts from <i>Quarterly Hospital Associated Infections Surveillance Report</i>, March & September 2014.</p> <p>Data Source: Data is provided by New Brunswick hospitals from both Regional Health Authorities using a standardized form and case definitions.</p>	

2.30 Other interesting quotes from our research are shown in **Exhibit 2.5**

Exhibit 2.5 – Interesting Quotes from our Research

2.5	Interesting Quotes from our Research
	<ul style="list-style-type: none"> • <i>“These types of infections can be transmitted within a hospital when infection prevention and control measures are not followed.”¹⁸</i> • <i>“‘Superbugs,’ and most other bacteria and viruses are usually spread between patients on pieces of equipment and on unwashed hands. ‘Superbugs’ can live outside of the body and on equipment for months, so it is easy for things like bedside curtains, tables, and telephones to become contaminated.”¹⁹</i> • <i>“HAIs have a significant impact on health care spending ... Expenses associated with HAIs include readmission due to infection; prolonged length of stay; prolonged wait times; longer staff hours; requirement for additional treatments, laboratory testing and antimicrobial use; and increased surveillance activities, single room accommodation for IPAC [infection prevention and control] purposes, PPE [personal protective equipment], cleaning supplies and outbreaks, all of which increase the cost of providing health care.” ... “and, occasionally, legal and litigation costs.”²⁰</i> • <i>“Outbreaks result in significant cost to the organization.”²¹</i> • <i>“Many healthcare-associated infections can be prevented.”²²</i> • <i>“Infection prevention and control (IPAC) programs have been shown to be both clinically effective and cost-effective, providing important cost savings in terms of fewer HAIs, reduced length of hospital stay, less antimicrobial resistance and decreased costs of treatment for infections.”²³</i>
	<p>Source: See references below.</p>

¹⁸ Website – Public Health Agency of Canada - Fact Sheet - Clostridium difficile (C. difficile), Sept 2013.

¹⁹ Website – Department of Health – *How To Help Prevent Healthcare-Associated Infections: A Patient and Family Guide*, April 2012 (Pamphlet prepared by Canadian Patient Safety Institute).

²⁰ Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. *Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

²¹ Ibid.

²² Website – Department of Health – *How To Help Prevent Healthcare-Associated Infections: A Patient and Family Guide*, April 2012 (Pamphlet prepared by Canadian Patient Safety Institute).

²³ Ontario Agency For Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. *Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

Infection prevention and control programs

2.31 Infection prevention and control is defined as “*measures practiced by healthcare personnel in healthcare facilities to decrease transmission and acquisition of infectious agents*”²⁴. **Appendix I** provides general information on infection prevention and control, and **Appendix II** provides a glossary of terms, abbreviations and acronyms used in this chapter. Infection prevention and control programs are comprehensive and include the community (doctors’ offices, health centres, extra-mural, rehab centres, etc.). However, our audit was limited to infection prevention and control programs in hospitals.

2.32 The goals of an infection prevention and control program are:

- *“to protect clients/patients/residents from HAIs, resulting in improved survival rates, reduced morbidity associated with infections, shorter length of hospital stay and a quicker return to good health; and*
- *to prevent the spread of infections from patient-to-patient, from patients to health care providers, from health care providers to patients, from health care providers to health care providers and to visitors and others in the health care environment.”*²⁵

2.33 Infection prevention and control is a common thread throughout hospital activities. Essentially all hospital departments are involved and all functions have an infection prevention and control component, such as the following:

- Environmental services (EVS) cleans patient rooms and shared equipment;
- Human resources must provide immunizations and

²⁴ Accreditation Canada, *Accreditation Report Prepared for: Horizon Health Network*, October 2010.

²⁵ Ontario Agency For Health Protection and Promotion. *Provincial Infectious Diseases Advisory Committee. Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

infection prevention and control training to staff;

- Infection Prevention and Control Professionals (ICPs) do surveillance work to identify the possibility and presence of infections in the hospital to ensure proper measures are taken by appropriate units to reduce the risk of exposure to others;
- New equipment or products are considered by ICPs before final decisions are made; and
- When constructing hospitals or doing major renovations, the placement of sinks for proper hand hygiene must be considered.

A program involves both routine practices and additional precautions

2.34 An infection prevention and control program (program) typically involves both routine practices²⁶ and additional precautions. Routine practices are required by everyone for every patient every day and include actions such as hand hygiene and the proper handling of sharp instruments such as needles (sharps). **Exhibit 2.6** provides information on routine practices. Additional precautions refer to interventions used, in addition to routine practices, to interrupt the transmission of infections. Additional precautions are used with patients on isolation and include practices such as having dedicated equipment (rather than cleaning equipment shared with other patients) and using special cleaning procedures. Our audit focused on routine practices.

Infection Prevention and Control Professionals (ICPs) are the leads in the program

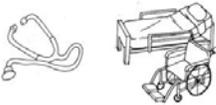
2.35 While ICPs are the leads in the program, everyone in a hospital (patients, visitors, volunteers and healthcare workers: doctors, nurses, personal care workers, housekeepers, maintenance, administration support, etc.) shares the responsibility for infection control because some routine practices (such as hand hygiene) are required of everyone in the hospital.

²⁶ **Routine Practices (RP):** The system of infection prevention and control practices recommended by the Public Health Agency of Canada to be used with all clients/patients/residents during all care to prevent and control transmission of microorganisms in all health care settings. (*Infection Prevention And Control Audit for Routine Practices - Toolkit Version 2*, September 2009© CHICA-Canada; Revised September 28, 2012)

2.36 “The human and economic burdens that HAIs place on Canadians and their health care system speak to the importance of an effective Infection Prevention and Control Program.” (Public Health Agency of Canada)²⁷

²⁷ Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. *Best Practices for Infection Prevention and Control Programs in All Health Care Settings*, 3rd edition. Toronto, ON: Queen’s Printer for Ontario; May 2012.

Exhibit 2.6 - General Information on Routine Practices (Infection Prevention and Control)

2.6	General Information on Routine Practices (Infection Prevention and Control)
ROUTINE PRACTICES to be used with <u>ALL PATIENTS</u>	
	<p>Hand Hygiene Hand hygiene is performed using alcohol-based hand rub or soap and water:</p> <ul style="list-style-type: none"> ✓ Before and after each patient contact ✓ Before performing invasive procedures ✓ Before preparing, handling, serving or eating food ✓ After care involving body fluids and before moving to another activity ✓ Before putting on and after taking off gloves and PPE ✓ After personal body functions (e.g., blowing one's nose) ✓ Whenever hands come into contact with secretions, excretions, blood and body fluids ✓ After contact with items in the patient's environment
	<p>Mask and Eye Protection or Face Shield</p> <ul style="list-style-type: none"> ✓ Protect eyes, nose and mouth during procedures and care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions. ✓ Wear within two metres of a coughing patient.
	<p>Gown</p> <ul style="list-style-type: none"> ✓ Wear a long-sleeved gown if contamination of skin or clothing is anticipated.
	<p>Gloves</p> <ul style="list-style-type: none"> ✓ Wear gloves when there is a risk of hand contact with blood, body fluids, secretions, excretions, non-intact skin, mucous membranes or contaminated surfaces or objects. ✓ Wearing gloves is NOT a substitute for hand hygiene. ✓ Remove immediately after use and perform hand hygiene after removing gloves.
	<p>Environment and Equipment</p> <ul style="list-style-type: none"> ✓ All equipment that is being used by more than one patient must be cleaned between patients. ✓ All high-touch surfaces in the patient's room must be cleaned daily.
	<p>Linen and Waste</p> <ul style="list-style-type: none"> ✓ Handle soiled linen and waste carefully to prevent personal contamination and transfer to other patients.
	<p>Sharps Injury Prevention</p> <ul style="list-style-type: none"> ✓ NEVER RECAP USED NEEDLES. ✓ Place sharps in sharps containers. ✓ Prevent injuries from needles, scalpels and other sharp devices. ✓ Where possible, use safety-engineered medical devices.
	<p>Patient Placement/Accommodation</p> <ul style="list-style-type: none"> ✓ Use a single room for a patient who contaminates the environment. ✓ Perform hand hygiene on leaving the room. ✓ Assess infectious risk one patient poses to another when determining placement.
<p>Source: Excerpts from</p> <ol style="list-style-type: none"> 1. Ontario Agency for Health Protection and Promotion. Provincial Infectious Diseases Advisory Committee. <i>Routine Practices and Additional Precautions in All Health Care Settings</i>, 3rd edition. Toronto, ON: Queen's Printer for Ontario; November 2012 2. Information provided by the Department 	

Introduction to Findings

Why we chose this project and the objective of our audit

2.37 Our rationale for selecting this project is provided in **Exhibit 2.7**.

2.38 The objective of our audit was:

to determine if the Department of Health and the Regional Health Authorities have an infection prevention and control program to protect people from hospital-acquired infections.

Exhibit 2.7 - Why We Chose this Project

2.7 Why We Chose this Project

We select our projects on the basis of relevance, significance and risk with the goal of having a positive impact. We chose to do this audit for the following reasons:

- The lack of appropriate infection prevention and control can have a severe consequence up to and including death of the patient.
- Hospital-acquired infections affect the condition and comfort of the patient. They also cause increased costs due to longer hospital stays, additional procedures, etc. Infection control equates to cost control.
- Escalating healthcare costs is a significant concern. The Department is operating in an environment of fiscal restraint. If there are cutbacks, it may mean the same amount of work is left to fewer staff. There is a risk these workers may not take the time to wash their hands or properly clean patient rooms and equipment.
- 57.7% (i.e. \$1.5 Billion²⁸) of the Department of Health's expenditures is for hospital services. The amount spent on healthcare is significant and warrants our Office doing work in the area each year. However, due to our restricted resources, this is not always possible. Our last performance audit in this Department was Medicare in 2012.
- Infections do not respect borders. Residents of New Brunswick, NS, PEI, and Quebec who are served by New Brunswick's hospitals are at risk of contracting a hospital-acquired infection if a program is not in place. These infections can be taken home to their communities.
- In the past few years, six of the other nine provincial Auditors General have examined infection control in hospitals. They reported significant weaknesses in infection control in their jurisdictions.
- The public has a role to play in infection prevention and control. Educating the public is a part of an infection prevention and control program. Our work may help increase public awareness, which could improve infection prevention and control in the Province.

²⁸ Department of Health Province of New Brunswick, *2012-13 Annual Report*, December 2013.

Our audit focused on routine practices

2.39 Our audit focused on routine practices and the hospitals' ongoing monitoring of compliance with their infection prevention and control policies and procedures. We did not perform direct auditing of compliance with standards (i.e. we did not observe the practices of healthcare workers such as doctors, nurses and housekeepers).

2.40 We developed criteria to use as the basis for our audit, which are shown in **Appendix III**. The criteria were reviewed and agreed upon by the Department and the RHAs.

Our audit included both RHAs (Horizon and Vitalité)

2.41 We started planning our audit in October 2013 and concluded our fieldwork in November 2014. We visited eight hospitals throughout the Province. We visited hospitals within the Horizon Health Network (Horizon) in April-May and hospitals within the Vitalité Health Network (Vitalité) in September-October. Details of our work performed for this audit are shown in **Appendix IV**.

Comments to Readers

2.42 Our audit was performed in accordance with standards for assurance engagements, encompassing value-for-money and compliance, established by the Chartered Professional Accountants of Canada, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

2.43 Certain financial and statistical information presented in this chapter was compiled from information provided by the Department and the RHAs. It has not been audited or otherwise verified. Readers are cautioned that this financial and statistical information may not be appropriate for their purposes.

2.44 In reporting our detailed findings in this chapter, we do not identify individual hospitals for the following reasons:

- We found program deficiencies in each of the eight hospitals visited. Many of the hospitals had similar deficiencies, and we believe they may exist in a number of hospitals to some extent. We hope corrective action will be taken provincially across the system;
- Since we visited a sample of hospitals, and units within hospitals, it could be misleading to our readers

to identify a specific finding with a specific hospital. We are concerned readers would interpret the absence of a hospital name in our report as a sign of a hospital with no deficiencies;

- During our site visits, observations and issues were pointed out to the Infection Prevention and Control Professionals (ICPs) as they were noted. In many cases, corrective action was taken before the end of our visit; and
- We believe the findings and the issues are more important than their location.

Key used in this chapter **2.45** The following key is used to classify our findings:

- ✓ represents a positive observation;
- ✗ represents an area needing improvement or further consideration; and
- represents other observations.

How we present our findings in this chapter **2.46** In this chapter our key findings are reported in sections. Each key finding is supported with detailed findings. Our key findings are listed here.

Key Findings

Key Findings	Paragraph Number
✓ The Department's and the Regional Health Authorities' responsibilities for infection prevention and control in hospitals are clear.	2.47
✓ There are infection prevention and control programs in hospitals.	2.60
✗ We observed deficiencies in infection prevention and control practices during our visits to hospitals.	2.82
✗ There are inconsistencies within and between the RHAs' infection prevention and control programs.	2.116
✓ There is monitoring of some routine practices.	2.150
✗ Monitoring for compliance with routine practices needs improvement.	2.164
✓ The Regional Health Authorities measure the effectiveness of their infection prevention and control programs.	2.181
✗ The Regional Health Authorities need to enhance their public reporting on the effectiveness of their infection prevention and control programs.	2.193

Key Finding: ✓ The Department's and the Regional Health Authorities' Responsibilities for Infection Prevention and Control in Hospitals are Clear.

Background

2.47 The responsibility for providing healthcare in our Province is shared between the Department and the two RHAs (Horizon and Vitalité). Given the shared responsibility, it is important the roles of the different parties are clearly understood.

Summary of Findings

2.48 We found the following:

- ✓ The Department's, Horizon's and Vitalité's responsibilities are well documented.
- ✓ The Department's, Horizon's and Vitalité's responsibilities appear to be well understood by various employees.
- ✓ Infection prevention and control is a high priority.

✓ The Department's, Horizon's and Vitalité's responsibilities are well documented.

2.49 We found responsibilities of the Department and the RHAs were clearly documented via the following:

- legislation;
- annual reports, strategic documents and a 2013 document titled, *Health System Roles and Responsibilities*;
- websites;
- terms of reference for committees;
- job descriptions; and
- policies and procedures.

2.50 For example, the Department's annual report states the Department, "*is responsible for ensuring the availability of appropriate, quality hospital services for the residents of New Brunswick. This includes responsibility for:*

- *the Hospital System Master Plan*
- *approval of new or enhanced hospital services*
- *funding and monitoring of the operational needs of the Regional Health Authorities*

Acute or hospital care is comprised of primary, secondary and tertiary care services delivered by the two

regional health authorities.”²⁹

2.51 The annual report also describes various infection control programs and initiatives such as the following:

- public health’s communicable disease prevention, management and control (which includes immunization);
- hospital services’ patient safety initiatives (which include prevention of surgical site infection and central line-associated bloodstream infection); and
- pandemic influenza [flu] planning and response.

✓ *The Department’s, Horizon’s and Vitalité’s responsibilities appear to be well understood by various employees.*

2.52 We discussed the role and responsibilities of the Department and the RHAs with various staff members of the Department, Horizon and Vitalité. We found there to be a consistent understanding. In general, staff members have the following understanding of the Department’s and the RHAs’ responsibilities.

2.53 The Department is responsible for funding the RHAs, being accountable for healthcare to the public (which includes addressing public complaints and reporting infection rates to the public via the website), and ensuring New Brunswick’s healthcare is comparable to other provinces. Staff members reported the Department was very helpful with the recent implementation of standardizing surveillance, which provides consistency in information collected and allows for public reporting of *Clostridium difficile* (CDI) and methicillin-resistant *Staphylococcus aureus* bacteremia (MRSA).

2.54 Staff members suggested the Department’s involvement could be enhanced by the following:

- taking the lead on implementing a provincial program by identifying inconsistencies between the two RHAs and standardizing processes so services delivered are the same for all New Brunswickers.

²⁹ Department of Health Province of New Brunswick, *2012-13 Annual Report*, December 2013.

They suggested since patients move from one hospital to another for various services offered at different hospitals, the programs and processes should be the same; and

- educating the public on healthcare and one’s personal responsibility.

2.55 The RHAs are responsible for delivering quality healthcare (“quality” including safe, and “safe” including infection prevention and control). Specific RHA responsibilities mentioned by those we interviewed included the following:

- identifying inconsistencies in hospital practices and standardizing best practices across all facilities;
- identifying barriers to change and helping hospitals implement initiatives; and
- following-up and bringing closure to issues.

✓ Infection prevention and control is a high priority.

2.56 Patient safety, which includes infection prevention and control, is a high priority for the Department and the RHAs. This is clearly documented in the organizations’ publications and it was evident from our observations made in hospitals and from our discussions with various individuals in the organizations.

2.57 In the Department, there are resources in two divisions having infection control responsibilities.

- Community and Institutional Services Division* – In 2012, a new position was created for a *Healthcare Consultant - Infection Prevention & Control*. Also in this division, the patient safety unit pursues “*the Safer Healthcare Now! (SHN) campaign*. *SHN is a national campaign focusing on improving patient safety in Canada through learning, sharing and implementing targeted evidence-based interventions that are known to reduce avoidable adverse events.*”³⁰ Some of the

³⁰ Department of Health Province of New Brunswick, *2012-13 Annual Report*, December 2013.

campaign's interventions are related to hospital-acquired infections, such as those involving prevention of surgical site infection and prevention of central line-associated bloodstream infection.

- ii. *Office of the Chief Medical Officer of Health – Within this public health division is the epidemiology and surveillance unit with responsibilities regarding healthcare associated infections. “New Brunswick’s HAIs surveillance system provides rates and trends for HAIs in all acute care facilities in New Brunswick. Monitoring HAIs helps us improve the health of our communities and protect our healthcare providers through the development of evidence based infection prevention and control guidelines.”³¹*

2.58 In the RHAs, there are resources assigned to patient safety and infection prevention and control at all levels in the organizations' structures, which demonstrates its significance. We believe infection prevention and control is part of the organizations' cultures.

Conclusion

2.59 From reviewing documentation and interviewing staff members, we concluded the Department's and the Regional Health Authorities' responsibilities for infection prevention and control in hospitals are clear.

³¹ Department Website - Office of the Chief Medical Officer of Health - Communicable Disease Control – Healthcare Associated Infections.

Key Finding: ✓ There are Infection Prevention and Control Programs in Hospitals.

Background

2.60 Infection prevention and control programs protect patients, visitors and healthcare workers from obtaining an infection while in the hospital. In order to assess whether there are infection prevention and control programs in place, we visited a sample of hospitals where we accompanied the Infection Prevention and Control Professional (ICP) while doing her work, spoke with various staff members, and toured the facility making observations.

Summary of Findings

2.61 We found the following:

- ✓ Resources and activities indicate programs are in place in hospitals.
- ✓ We observed active programs.
- ✓ Programs are focused on improving hand hygiene.
- ✓ Accreditation reports indicate active programs.

✓ *Resources and activities³² indicate programs are in place in hospitals.*

2.62 We reviewed a Public Health Agency of Canada (PHAC) discussion paper titled, *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety³³*. While we did not audit the effectiveness of programs, we used the list of “*recommended resources and activities for an effective infection prevention and control program*” listed in the document to determine the presence of infection prevention and control practices in hospitals. We found the following:

2.63 ✓ *There are employees assigned to the programs.* Both RHAs have ICPs assigned to the programs. Every hospital has an assigned ICP who has

³² Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper*, 2010.

³³ Ibid.

program responsibilities. An ICP may be responsible for one or more hospitals, depending on the size of the hospital. Some larger hospitals have more than one ICP. All ICPs are nurses, many of whom have taken additional training on infection prevention and control.



✓ Program in place with resources: hand hygiene sink, yellow “sharps” disposal receptacle and educational poster on proper hand washing.

2.64 ✓ *The ICPs have access to expert resources including an infectious disease physician and/or a medical microbiologist.* Many of the ICPs commented on how they valued their strong working relationships with these experts. The infectious disease physicians and the medical microbiologists work in the larger hospitals. However, many of them are also assigned to consult with the smaller hospitals. Some of these specialists also serve on infection prevention and control committees.

2.65 ✓ *The ICPs have access to laboratory diagnostic services.* The ICPs do daily surveillance activities to identify infections and manage outbreaks. This includes having access to laboratory diagnostic services and reviewing reports. The ICPs often suggest additional testing be completed (i.e. collect specimens and send to the lab for analysis) if there is uncertainty about the presence of an infection.

2.66 ✓ *ICPs collaborate and consult with internal and external partners to ensure appropriate communication and sharing of information.* (Internal/external partners refer to others working within/outside of the facility.) The ICPs communicate regularly with the nurses in the hospital. In most of the hospitals we visited, both the ICP and environmental services managers commented on the value of their strong working relationship and their frequent communications with one another.

2.67 With regards to consulting with external partners, there are “*Local Area Infection Prevention and Control Committees*” in the various zones. ICPs in the zone attend these meetings, which have representatives from many different disciplines, such as:

- laboratory medicine: microbiologist or infectious disease specialist;
- medical staff;
- surgical program;
- public health from the community;

- quality and safety services;
- support services;
- materials management;
- employee health services;
- environmental services; and
- medical device reprocessing.

2.68 We spoke with various members of different committees. Members indicated they find the committees extremely valuable for collaborating and problem-solving. Similarly, within Horizon there is a “*Regional Infection Prevention and Control Committee*” where representatives from the different zones consult with one another.

2.69 The ICPs serve on various other committees and attend many meetings where they collaborate and consult with various partners, both internal and external.

2.70 ✓ *The programs have key performance indicators which are measured, monitored, reported and used to improve outcomes.* We comment on this later in the chapter, beginning with **paragraph 2.181**.

2.71 ✓ *There are ongoing education programs for healthcare workers to reinforce current standards of infection prevention and control practices.* Within Horizon, there is mandatory annual training of all healthcare workers which includes two courses relating to infection prevention and control: 1) hand hygiene and 2) routine practices. Within Vitalité, there is also mandatory training of hand hygiene and routine practices for all healthcare workers. Within Vitalité such training is required every two years. We reviewed the two training modules and found them to be relevant (with informative facts demonstrating the significance of infection control) and interesting (with interactive intermitting quizzes to reinforce learning).

2.72 ✓ *Access to current infection control literature is available.* During our interviews, several people made reference to journal articles and various sources of standards and guidelines.



✓ Nurses frequently consult with the ICP to ensure proper isolation of specific patients



✓ Housekeeping carts and staff are prevalent throughout the hospitals

✓ We observed active programs.



✓ Hand hygiene gel and personal protective equipment available throughout most hospitals

2.73 ✓ *ICPs have office space and computer support.*

The ICPs have office space in the hospitals. In some zones, there is an administration support person assigned to the program to help with organizing and documenting meetings and data entry.

2.74 ✓ *Healthcare workers have the skills to apply infection prevention and control measures when providing patient care.*

Knowledge of the significance of hand hygiene and isolating infected patients was very prevalent. We observed nurses consulting with the ICP regarding proper infection prevention and control practices. We also observed various people (nurses, physiotherapist, housekeeping, food services) using personal protective equipment.

2.75 ✓ *Hospitals have assigned housekeeping staff with the appropriate training to provide a clean and safe environment for patient care.*

Each hospital has an environmental services (EVS) department with housekeeping staff who appear to be appropriately trained. We were informed new staff members receive a general orientation and on-the-job training, and all staff members have mandatory refresher training. We were also informed they clean all areas of the hospital, with a particular focus on patient areas. There are documented policies and procedures/standard operating procedures (SOPs) to guide the staff in doing their work properly.

2.76 Our work at hospitals included a general tour of the facility by the ICP manager and/or facility manager and accompanying the ICP(s) while doing their work in the nursing units (“rounds”). During these times we made observations of active programs. Observations common to most of the hospitals we visited are presented in **Exhibit 2.8**.

Exhibit 2.8 - Specific Observations of an Active Program in Hospitals we Visited

2.8	Specific Observations of an Active Program in Hospitals we Visited
	<ul style="list-style-type: none"> ✓ In general, hospitals appeared clean and clutter-free (with exception of some units where areas have been transformed to allow additional beds). ✓ Hand hygiene gel was present at most public entrances and throughout hospitals. ✓ Personal protective equipment was widely available throughout the hospitals. ✓ Surveillance is done daily by the Infection Prevention and Control Professionals (ICPs) to identify possible infections early and ensure procedures to mitigate risks. ✓ Isolation of infected patients: posted signs with carts holding supplies (gloves, gowns, masks) and laundry bin properly located inside the patient’s room for proper gown disposal. ✓ Stay home if sick signs were present at many entrances and throughout hospitals. ✓ Sharps containers used and replaced before overfilling. ✓ Positive working relationship between environmental services (EVS) and the program. ✓ EVS (“housekeeping”) staff members, cleaning carts and garbage receptacles present throughout hospitals.
	<p>Notes:</p> <ol style="list-style-type: none"> 1. The observations were made while doing a hospital tour with the ICP manager and/or facility manager or during “rounds” with ICPs. 2. Observations were discussed at the time with the ICP at the hospital. 3. The observations were made during our 30 days visiting eight hospitals. <p>Source: Observations made by AGNB.</p>

✓ **Programs are focused on improving hand hygiene.**

2.77 Hand hygiene is a significant component of patient safety, as it is one of the most effective ways to stop the spread of germs and infections. Vitalité’s hand hygiene policy states, “*Hand hygiene is the single most important measure for preventing infections, reducing nosocomial infections by 50 – 80%.*”³⁴ Based on the following observations, we believe both RHA programs are focused on improving hand hygiene:

- The hand hygiene compliance rate (%) is one of the

³⁴ Vitalité Health Network, *Infection Prevention and Control Manual – Hand hygiene*, May 2011.



✓ Hand hygiene signs and gel are prevalent

✓ **Accreditation reports indicate active programs.**

- RHAs' key performance indicators;
- Hand hygiene gel is widely available throughout the hospitals, including at hospital entrances;
 - Hand hygiene signs are prevalent throughout some hospitals;
 - Healthcare workers are required to do refresher training on hand hygiene annually within Horizon and every two years within Vitalité;
 - ICPs have been auditing hand hygiene in nursing units for a number of years. In Horizon hospitals, the results are provided to healthcare workers;
 - Staff members reported hand hygiene being a priority with significant changes in the past few years regarding promotion, auditing and compliance rates;
 - Horizon (in 2013) and Vitalité (in 2014) established a task force for improving hand hygiene compliance;
 - Each RHA has a regional hand hygiene policy. The hand hygiene policy was one of the first infection prevention and control policies standardized by the RHAs; and
 - Hand hygiene information is provided on the RHAs' websites to enhance public awareness.

2.78 “Accreditation Canada’s Standards for Infection Prevention and Control (IPAC) ... are based on updated research and best practice in the field, as well as standards from Canadian Standards Association (CSA), the Public Health Agency of Canada (PHAC), and the Community and Hospital Infection Control Association-Canada (CHICA-Canada). ... These IPAC standards include structure, process, and outcome performance measures to promote assessment of organizational compliance ...”³⁵ The standards are grouped into four subcategories: “1) investing in infection prevention and control; 2) keeping people safe from infections;

³⁵ Accreditation Canada, *Qmentum Program - Standards - Infection Prevention and Control*, April 2012.
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3) providing a safe and suitable environment; and 4) being prepared for outbreaks and pandemics.”

2.79 “Once every three years Horizon undergoes an on-site survey by Accreditation Canada to maintain and improve the quality of care and service it delivers. The purpose of this evaluation is to assist health-care organizations to identify their strengths and areas for improvement, and to identify a plan of action to better meet the needs of clients, families, and communities.”³⁶ Vitalité also undergoes accreditation every three years.

2.80 We reviewed the last two accreditation reports for each RHA. The report for Horizon from 2010 states, “There is a solid Infection Control Program across the Network with low infection rates and knowledgeable staff at all levels.”³⁷ This was listed as one of the “Overall Strengths”. The report for Vitalité for 2010 states, “[Translation] The collaboration of infection prevention teams in the various zones is excellent [...] management is firmly committed to establishing a true culture of quality throughout the organization”.³⁸

Conclusion

2.81 From our observations, we concluded there are infection prevention and control programs in hospitals. However, our audit also identified inconsistencies within the programs and deficiencies in infection control practices which we discuss next.

³⁶ Horizon Health Network, *2012-2013 Annual Report Horizon Health Network*.

³⁷ Accreditation Canada, *Accreditation Report - Horizon Health Network*, Oct 2010.

³⁸ Accreditation Canada, *Accreditation Report - Vitalité Health Network*, June 2010.

Key Finding: ✕ We Observed Deficiencies in Infection Prevention and Control Practices during Our Visits to Hospitals.

Background

2.82 We visited eight hospitals throughout the Province (hospitals in both RHAs). Our work at each hospital included a general tour with the ICP and/or the facility manager, and accompanying the ICP(s) while doing their work in the nursing units. During these times we made observations, some of which indicated deficiencies in infection control practices.

Specific deficiencies observed

2.83 **Exhibit 2.9** presents our observations on specific deficiencies in the hospitals we visited. Each observation was discussed with the ICP or department manager at the time and confirmed as a deficiency.

Exhibit 2.9 - Deficiencies Identified during Our Visits to Hospitals

2.9	Deficiencies Identified during Our Visits to Hospitals
<p>Hand hygiene</p> <ul style="list-style-type: none"> ✘ Hand hygiene not done when required by policy - Horizon and Vitalité’s self-auditing results show compliance rates below their stated goals. (See Appendices V and VI) ✘ Healthcare workers wearing rings and bracelets, which is non-compliant with policy. (See paragraph 2.85 following this exhibit) ✘ Areas where hand hygiene gel is absent or lacking ✘ Nurses observed wearing gloves in the hallway after leaving patient's room (non-compliant with policy) ✘ Employee delivering food in hemodialysis unit (higher risk), moving from patient to patient (touching environment and providing apples) without performing hand hygiene ✘ Inadequate hand hygiene signage throughout the hospital ✘ No hand hygiene gel or signage at staff entrances ✘ Outdated hand hygiene results posted for staff <p>Biomedical waste</p> <ul style="list-style-type: none"> ✘ Biomedical waste improperly stored (See paragraph 2.87) ✘ Biomedical waste improperly left unattended in public corridor (See paragraph 2.90) ✘ Biomedical waste not collected separately (Collected from nursing unit together with linen and garbage) ✘ Filled yellow “sharps” containers (within a covered blue plastic bin) left unattended in public corridor ✘ Biomedical waste (red bins) in area next to a dedicated hand-washing sink and coffee cups in nursing unit (See paragraph 2.90) <p>✘ Overcrowded hemodialysis area (See paragraph 2.91)</p> <p>Oncology</p> <ul style="list-style-type: none"> ✘ Overcrowded treatment area (See paragraph 2.94) ✘ No cleaning between patients treated in the same chair (See paragraph 2.96) ✘ Insufficient number of washroom facilities <p>Isolation</p> <ul style="list-style-type: none"> ✘ Wrong isolation sign used (risk of infection if adequate personal protective equipment not used). ✘ Isolation cart improperly stocked (risk of infection if adequate personal protective equipment not used). ✘ Clean isolation gowns stored in containers appearing like garbage cans (reported later in paragraph 2.131). ✘ Isolation gowns not worn when required and not worn properly (not tied). ✘ Personal protective equipment removed improperly increasing the risk of contamination. ✘ Gloves worn in an isolated room continued to be worn outside of the room to do a task. ✘ Room not properly marked as having been occupied by patient requiring isolation, (i.e. therefore room needing special cleaning). <p style="text-align: right;"><i>Continued ...</i></p>	
<p>Notes: The deficiencies were identified while doing a hospital tour with the ICP and/or facility manager or during “rounds” with ICPs. The deficiencies were confirmed at the time with the ICP or department manager at the hospital.</p> <p>Source: Observations made by AGNB.</p>	

Exhibit 2.9 - Deficiencies Identified during Our Visits to Hospitals (continued)

2.9	Deficiencies Identified during Our Visits to Hospitals (continued)
<p>Linen</p> <ul style="list-style-type: none"> ✘ Cart with clean linen not properly covered during its transportation and delivery to the hospital. (See paragraph 2.98) ✘ Delivery trucks not properly cleaned before picking-up clean linen. (See paragraph 2.99) ✘ Uncovered clean linen (i.e. bedding, baby blankets, operating room linen) transported through the hospital. ✘ Soiled and/or torn cloth covers on clean linen carts. Limited washing or replacing of the cloth cart covers protecting clean linen. (See paragraph 2.102) ✘ Excess linen inventory: isolation gowns and operating room (OR) scrubs. (See paragraph 2.104) ✘ Clothing worn in the OR improperly stored. (See paragraph 2.105) ✘ Excess handling of clean linen. (Each time clean linen is handled there is a risk of contamination.) ✘ Use of “top-up” system for clean linen carts (possible contamination of remaining linen). ✘ Improper storage of clean sheets in nursing unit (overflowing garbage can on floor – see photo with paragraph 2.175). ✘ Clean linen in bag on the floor (see paragraph 2.130 with photo). ✘ Clean “cleaning cloths” for kitchen received from laundry facility in bags labelled “soiled linen.” ✘ Limited cart washing since carts are always in use. ✘ Over-filled bags containing used linen (Bags are to be only 2/3 full, to allow proper closure – see photo with paragraph 2.111). ✘ Uncovered cart of uniforms in ER hallway (see photo below). <p>Disinfectant Wipes</p> <ul style="list-style-type: none"> ✘ Cover of the container left open allowing wipes to become dry and ineffective (see photo below). ✘ Container with no cover. <p style="text-align: right;"><i>Continued ...</i></p>	
<p>Notes: The deficiencies were identified while doing a hospital tour with the ICP and/or facility manager or during “rounds” with ICPs. The deficiencies were confirmed at the time with the ICP or department manager at the hospital.</p> <p>Source: Observations made by AGNB.</p>	



✘ Uncovered cart of uniforms in ER hallway



✘ Cover of disinfectant wipes container left open

Exhibit 2.9 - Deficiencies Identified during Our Visits to Hospitals (continued)

2.9	Deficiencies Identified during Our Visits to Hospitals (continued)
	<p><i>Improper/inadequate separation of clean and dirty</i></p> <ul style="list-style-type: none"> ✘ Clean linen room with poor location (See paragraph 2.106). ✘ Storage cabinet containing clean gastro scopes located in procedure room – cabinet was open (See paragraph 2.107). ✘ Nursing units – clean and dirty items stored in the same room; dirty items placed with clean items. ● Medical Device Reprocessing (MDR): <ul style="list-style-type: none"> ✘ clean masks (used for anesthesia during operations) kept in a cupboard in the “dirty room.” ✘ clean scopes placed on counter in “dirty room” close to sink used for processing dirty scopes. (See paragraph 2.107) ✘ uncovered clean scopes walked through a public waiting area. ✘ clean scopes stored in an open cabinet. ✘ designated “clean” and “dirty” sides not properly separated or sealed. ✘ access to area not restricted (no signage, open door). (See paragraph 2.107) ✘ inadequate ventilation of scopes during drying. ✘ dirty scope transported though clean area where surgical trays are prepared. ✘ Clean equipment and testing supplies stored in patient’s washroom. (See paragraph 2.108) ✘ Staff belongings (lunches, shoes, clothing) stored with clean hospital supplies in clean utility room and in ante-room (see photo below). ✘ Supplies kept close to surgeons’ hand hygiene sink with risk of splashing. ✘ “Dirty” equipment (metal supplies going to MDR) stored in clean utility room, next to clean linen (see photo below). ✘ Soiled linen hamper next to open clean linen cart. ✘ Soiled linen hamper stored next to clean commodes. <p style="text-align: right;"><i>Continued</i></p>
	<p>Notes: The deficiencies were identified while doing a hospital tour with the ICP and/or facility manager or during “rounds” with ICPs. The deficiencies were confirmed at the time with the ICP or department manager at the hospital.</p> <p>Source: Observations made by AGNB.</p>



✘ Staff belongings stored with clean hospital supplies (uniforms) in ante-room



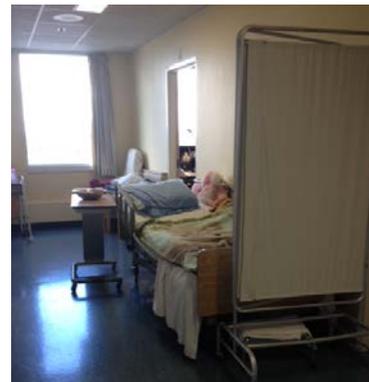
✘ “Dirty” equipment (tray of metal supplies going to MDR) stored in clean utility room, next to clean linen

Exhibit 2.9 - Deficiencies Identified during Our Visits to Hospitals (continued)

2.9	Deficiencies Identified during Our Visits to Hospitals (continued)
<p>Doors: missing or left open (doors are barriers and can limit the spread of infection)</p> <ul style="list-style-type: none"> ✘ No doors and open doors to soiled utility room and to clean supplies/linen room. ✘ Open door to OR area - door was propped open, despite sign on door saying to keep closed at all times. ✘ Open door to scope reprocessing area. ✘ Open door to “dirty”/used tub room: feces, soiled laundry outside of bin, laundry bin with open lid. ✘ Open door between clean scope storage and patient treatment room. ✘ Other doors marked “keep closed” were left open. (see photo below) <p>Other</p> <ul style="list-style-type: none"> ✘ Permanent placement of patients in beds in the corridor using commodes (portable toilet) behind privacy screens. (see photo below) ✘ Shared equipment – using shared equipment without cleaning between patients ✘ Shared equipment – uncertainty whether some items were clean or used/dirty (inadequate labelling and/or storage). ✘ Outside shipping corrugated cardboard box in OR’s core supplies area. ✘ Variation in use of signs in hospitals (See paragraph 2.109). ✘ Inadequate labelling of clean and dirty storage areas. ✘ Cafeteria cart cleaning room used for EVS storage including bucket and mop used to clean patient rooms. ✘ Entrances to hospital not designated specifically to either the public or staff (signage and restricted access). ✘ Infrequent visits from ICP to hemodialysis satellite unit (twice in 7 years). ✘ Construction areas not properly sealed-off from patient areas (with proper ventilation and not marked for restricted access). (See paragraph 2.110) ✘ Tub room used as storage area (and no other tub room in nursing unit). ✘ Inadequate signage and availability of masks at public entrances. 	
<p>Notes: The deficiencies were identified while doing a hospital tour with the ICP and/or facility manager or during “rounds” with ICPs. The deficiencies were confirmed at the time with the ICP or department manager at the hospital.</p> <p>Source: Observations made by AGNB.</p>	



✘ Doors marked “keep closed” were left open



✘ Permanent placement of patient bed in the corridor with commode use behind privacy screen

2.84 The deficiencies in **Exhibit 2.9** were identified during our visits to eight hospitals. To serve as examples, we provide details on the following deficiencies:

- ✘ healthcare workers wearing rings and bracelets, which is non-compliant with policy;
- ✘ biomedical waste was improperly stored;
- ✘ overcrowded hemodialysis area;
- ✘ overcrowded oncology area;
- ✘ no cleaning between patients treated in the same chemotherapy chair;
- ✘ clean laundry arriving at hospitals is not always properly covered;
- ✘ linen delivery trucks not properly cleaned;
- ✘ limited washing or replacing of the cloth cart covers protecting clean linen;
- ✘ excess linen inventory;
- ✘ clothing worn in the OR improperly stored;
- ✘ clean linen room in a poor location;
- ✘ improper/inadequate separation of clean and dirty in Medical Device Reprocessing units;
- ✘ equipment and testing supplies stored in patient's washroom;
- ✘ variation in use of signs in hospitals; and
- ✘ construction areas not properly sealed-off from patient areas (with proper ventilation and not marked for restricted access).

2.85 ✘ *Healthcare workers wearing rings and bracelets, which is non-compliant with policy* – We observed many healthcare workers in several of the hospitals who were wearing jewelry. For example, we observed nurses, nurse managers, doctors and surgeons wearing rings. Similar observations were made throughout the hospitals in various units, including higher risk areas such as intensive care and

surgery.

2.86 Vitalité’s hand hygiene policy prohibits rings, wedding bands and arm jewelry. While attending meetings at Vitalité hospitals, we made observations:

- At a nursing unit staff meeting with 11 attendees, seven people were wearing rings and one person had artificial nails (also prohibited by the policy). All of these employees would have had direct contact with patients.
- At a second meeting concerning hand hygiene initiatives, where most of the attendees were nurse managers, we observed four diamond rings, five bands and four bracelets.
- We were also invited to a *Local Area Infection Prevention and Control Committee* meeting in a hospital. There were 11 attendees. Three of the six doctors wore rings and two nurses wore rings.

2.87 ✕ ***Biomedical waste improperly stored*** -
“*Biomedical waste represents a small proportion (typically 10 to 15%) of the total volume of waste generated by health care facilities. Such waste requires proper handling and disposal because of environmental, aesthetic, and occupational concerns, as well as risks to human health.*”³⁹ Biomedical wastes include the following:

- Human anatomical waste (human tissues, organs and body parts, not including teeth, hair and nails) which is stored in labelled red plastic bins or bags;
- Cytotoxic waste (drugs used in cancer treatment) which is stored in labelled red plastic bins or bags;
- Blood and blood products (along with any tubing containing blood and items saturated with blood) which are stored in labelled yellow plastic bags;

³⁹ Canadian Standards Association - Canadian Council of Ministers of the Environment, *Guidelines for the Management of Biomedical Waste in Canada*, 1992.

- Microbiology laboratory waste (cultures, specimens of microorganisms and vaccines) which is stored in labelled yellow plastic bins or bags; and
- Sharps (needles, syringes, scissors, blades, etc.) which are stored in labelled yellow plastic bins.

2.88 Horizon staff indicated waste management standards require final storage areas for general waste (including biomedical waste) within hospitals:

- (a) to be totally enclosed;*
- (b) to be locked when unoccupied;*
- (c) to have access restricted to authorized personnel only;*
- (d) to be separate from supply rooms or food preparation areas;*
- (e) to have negative pressure ventilation; and*
- (f) to have appropriate signage as required by legislation.*

2.89 Standards require human anatomical waste be stored at 4°C or lower, and biomedical wastes other than sharps be stored at 4°C or lower if stored for more than four days. Biomedical waste storage facilities are to be clearly marked with a sign that displays the biohazard symbol.



✘ Biomedical wastes left unattended in a public corridor

2.90 We observed the following deficiencies regarding the improper handling and storage of biomedical wastes:

- ✘ In one hospital, biomedical wastes (two plastic bins and two red plastic bags) were left unattended in a public corridor. The lid of one red plastic bin was not properly closed. (Bins are to be securely sealed with snapped lids.) We were later informed it was cytotoxic waste (i.e. drugs used in cancer treatment) from the cancer treatment area.
- ✘ In a second hospital, the final storage room for biomedical wastes was not locked, the sign on the door was very small and not readily noticeable, the



× Broken temperature gauge
(biomedical wastes storage room)



× Cytotoxic waste kept in the
patient treatment area next to a
dedicated hand-washing sink and
coffee cups

temperature gauge outside of the room was broken, and the refrigeration of the room was not working. We were informed that the room had not been locked for years, and the temperature had been improperly working on-and-off for several months. The facility manager, the EVS manager and the ICP were unaware of the situation.

- × In a third hospital, the final storage room for biomedical wastes was not locked. We were informed that the room was never locked because staff needed access to oxygen tanks that were also kept in the area. The facility manager, the EVS manager and the ICP were unaware of the situation.
- × In a fourth hospital, in the chemotherapy treatment area, red bins for cytotoxic waste were kept in the patient treatment area next to a dedicated hand-washing sink and coffee cups.

2.91 × *Overcrowded hemodialysis area -*

Hemodialysis is a treatment needed by people whose kidneys are unable to function properly. Patients needing hemodialysis have an increased risk of acquiring an infectious disease. We observed four hemodialysis treatment areas.

2.92 In two hospitals, there appeared to be adequate space between the patient treatment chairs. Upon inquiry, staff informed us the unit complied with space requirement standards.

2.93 In the other two hospitals, the patient treatment chairs were close to each other and the unit appeared very crowded. Upon inquiry in one hospital where several patients were receiving treatment in a relatively small area, staff in the unit informed us the space was currently serving 28 patients at a time, when according to the standards the space should only serve 17.

2.94 × *Overcrowded oncology area -* People with cancer sometimes go to a clinic in the hospital to receive chemotherapy. Patients recline in a chair while they receive their medication intravenously. Chemotherapy patients have an increased risk of acquiring an infectious disease due to being

immunocompromised.

2.95 We observed five oncology clinics. In two hospitals, there appeared to be inadequate space between the patient treatment chairs; the ICPs agreed with our observation. In a third hospital, the ICP informed us the space was currently being used to serve 13 patients simultaneously, when according to the standards, the space should only serve 7. We were also told the hospital has a large number of people in their area needing chemotherapy and this overcrowding was one of their many challenges resulting from limited space.

2.96 ✖ *No cleaning between patients treated in the same chemotherapy chair* - Treatment times vary for each patient and each chair serves multiple patients throughout the day. Proper cleaning between patients should be a priority.

2.97 At the five oncology clinics we visited, we asked about cleaning practices between patients. In most units, nurses changed the linen and wiped surfaces to disinfect between patients. However in one hospital, the treatment chairs and surrounding area were not cleaned between patients. We were informed the area was only cleaned at the end of the day.



✓ Linen cart covered with a large plastic bag to keep laundry clean.

2.98 ✖ *Clean laundry arriving at hospitals is not always properly covered* - In most hospitals, laundry services are provided offsite by *FacilicorpNB*. (*FacilicorpNB* is a public sector agency managing shared services for the health-care system. Its mandate is to provide safe, cost-effective and innovative support services to RHAs, nursing homes, and the Department.) Dirty laundry is removed from the hospital and clean laundry is provided. Laundry is transported on trucks. Clean laundry is delivered to the hospital on carts. We observed clean laundry being delivered at five hospitals and found three different methods used for covering the clean laundry cart.

✓ In three hospitals, the clean laundry cart was completely covered with a large plastic bag. The bag was loose, allowing for staff to grip the side of the cart for transporting without tearing the

plastic. This is a good method for keeping laundry clean.

- ✘ In a fourth hospital, the clean laundry cart was wrapped tightly in plastic on the sides. The top was open exposed to the air. Holes were torn into the plastic on the side to allow a hand to grip the metal bars of the cart for transporting. It would be difficult to ensure the delivery of clean laundry using this method. Dust, dirt or germs could enter from the top and/or a dirty hand gripping the bar could contaminate the laundry.
- ✘ In a fifth hospital, the clean laundry cart was open to the air. Clean laundry was delivered on a cart without a covering. This is not an appropriate method for transporting and delivering clean laundry for hospital use.

2.99 ✘ *Linen delivery trucks not properly cleaned -*

We had the opportunity to see clean linen being delivered in two hospitals. At one hospital, we spoke with the truck driver and examined inside the truck box, where the clean linen was stored during transportation. We noted the following:

- ✘ The same truck is used to transport both clean and dirty linen. Documented procedures state the truck is to be cleaned with a disinfectant between transporting dirty and clean linens. The sides of the delivery truck were wooden, which would not allow for effective cleaning.
- ✘ The truck transports other items with the linen. Clean linen is supposed to be the last item loaded on the truck and the first item unloaded; therefore, the clean linen is stored at the back of the truck box. The back door, next to the clean linen, appeared very dirty. The driver explained the dirt was road splash, which was able to enter the truck during transport because the back door was not airtight.
- ✘ The driver informed us he cleaned the truck once a week using soap and water. He confirmed that he did not use a disinfectant.

✘ Linen delivery truck with dirt on rolling door



✘ Wooden sides in linen delivery truck do not allow for effective cleaning

2.100 At a hospital in another zone, we were told the delivery truck was sprayed with disinfectant every time soiled items are unloaded, then rinsed with warm water. The driver informed us the water freezes on the metal floor of the truck in the winter, therefore he has to spread rock salt on the floor. Since the clean linen cart covers are not attached at the bottom of the cart, the clean linen could become contaminated.

2.101 In a third zone, we were told the linen delivery truck was washed with a pressure washer at a car wash the week before our visit, and prior to this it was last washed several months prior. We were also told the truck was not washed during the winter as the water freezes to the metal floor and creates a hazard.



× Clean linen cart with a dirty cover

2.102 × *Limited washing or replacing of the cloth cart covers protecting clean linen* – Some hospitals have onsite laundry services. Since these carts with fabric covers are always in use, neither the cart nor the cloth cover get washed. We observed some dirty cart covers (over clean linen) and some that were torn.

2.103 Patients receiving hemodialysis are considered to have a higher risk of acquiring an infection. In the clean supplies room of a hemodialysis unit, we observed a clean linen cart with a dirty cover.



× Excess OR linen stored in poor location

2.104 × *Excess linen inventory* - Unused linen can become dirty or contaminated if left for long periods of time. We observed one situation where the amount of stored linen appeared in excess of normal requirements. We noted the following:

- × There were approximately 630 isolation gowns being stored at the hospital. We were told that 300 gowns would be more than sufficient.
- × For the same hospital, it was confirmed that the amount of stored operating room (OR) linen was far in excess of what was needed.

2.105 × *Clothing worn in the operating room improperly stored* - In one hospital, we went into the

× Clean scrubs next to garbage



OR staff members' change-room. For the convenience of OR staff members, surgical linen in various sizes is kept in the male and female change-rooms. We made the following observations:

- × the clean scrubs were stored in open air. They were not in a closet/cupboard and they were not covered with plastic;
- × in the male change-room, the clean scrubs were next to shoes, potentially a source of contamination; and
- × in the female change-room, the clean scrubs were next to an open garbage can and close to the floor.

× Clean linen room in a poor location: maintenance employees must walk through the clean linen room daily to access their storage area



2.106 × *Clean linen room in a poor location* – Clean laundry arrives on carts and is stored in the clean linen room until it is distributed to the various nursing units. In one hospital, we found a risk of clean linen becoming contaminated because of the following:

- × The clean linen room was located in an area adjacent to two other rooms containing cleaning supplies. None of the three rooms had doors.
- × The maintenance storage garage was next to the clean linen room. This storage garage contained items such as salt for outside use in the winter, oxygen tanks used in the hospital, and the water softener. The clean linen room is the only inside entrance to the storage garage. Consequently, maintenance employees must walk through the clean linen room daily to access their storage area and check the water softener. We were informed that at times the door between the two rooms is blocked open. The storage garage appeared somewhat dirty at the time of our visit.

2.107 × *Improper/inadequate separation of clean and dirty in Medical Device Reprocessing units* - Medical Device Reprocessing refers to cleaning, disinfecting and/or sterilizing items so they can be safely reused in the hospital. Examples of items sent for reprocessing include instruments used in surgery,

and bed pans. Most hospitals have a larger main Medical Device Reprocessing unit for general reprocessing, as well as smaller reprocessing units in areas such as gastrointestinal (GI) scope procedure clinics. There are many infection prevention and control standards for Medical Device Reprocessing units. One requirement is that Medical Device Reprocessing units have restricted access and proper signage. We visited five of these smaller units in different hospitals and observed the following:



× Clean scopes placed on counter in “dirty room” close to sink used for processing dirty scopes



× Open storage cabinet with clean gastro scopes in procedure room (area left unattended)



× Clean equipment stored in patient's washroom

- × Most units had inadequate signage to indicate restricted access and/or the requirement for PPE;
- × The door to the reprocessing room was left open in four units;
- × The clean scope storage cabinet door was kept open in several cases, in two cases unattended. This increases the risk of the clean scopes getting contaminated;
- × In one unit, the decontamination of used scopes and drying of clean scopes was completed in the same room, with only a small glass partition for separation; and
- × In one hospital, the storage cabinet containing clean gastro scopes is located in the same room where the procedure is performed on the patient. At the time of our walk-through, both the door to the procedure room and the scope storage cabinet were open.

2.108 × *Clean equipment and testing supplies stored in patient’s washroom* - In a chemotherapy treatment unit/clinic, we observed clean equipment being stored in the bathtub in a patient’s washroom. Testing supplies were also stored on a low open shelf across from the toilet in the washroom.

2.109 × *Variation in use of signs in hospitals* - While both Horizon and Vitalité have hand hygiene



✗ Testing supplies stored in patient's washroom



✓ Hand hygiene sign with hand hygiene gel dispenser



✓ Good signage regarding the proper use of personal protective equipment was limited.

and respiratory etiquette⁴⁰ signs that were commonly posted, we observed inconsistencies regarding infection prevention and control signage in the hospitals. Deficient signage may result in visitors not taking appropriate infection control measures. We observed the following:

- The amount of signage varied. In one hospital, there appeared to be a hand hygiene sign by virtually each hand hygiene gel dispenser. In another hospital signage was rare;
- In one hospital we asked why hand hygiene signs were not prevalent. We were told the hospital had approximately 500 signs that had been awaiting installation for over a year. A few days later, we observed the signs being installed throughout the hospital.
- We observed only one Horizon hospital having a sign indicating the proper sequence for putting on and taking off personal protective equipment. This type of signage was more prevalent in Vitalité hospitals we visited. In hospitals within both RHAs, we observed isolation gowns not worn when required and not worn properly by staff and/or visitors; and
- ✗ Clean utility rooms (where new and/or clean hospital supplies and equipment are stored in each nursing unit) and soiled utility rooms (where garbage and used hospital supplies and equipment are stored) were not properly labelled in many hospitals. We observed one unit where a utility room was labelled as a “soiled utility room”; however, it was being used as a clean utility

⁴⁰ **Respiratory Etiquette:** Personal practices that help prevent the spread of bacteria and viruses that cause acute respiratory infections (e.g., coughing or sneezing into a tissue or into one’s sleeve or elbow, care when disposing of tissues and the performance of hand hygiene). This is also referred to as ‘respiratory hygiene’ or ‘cough etiquette’. (*Infection Prevention And Control Audit for Routine Practices - Toolkit Version 2*, September 2009© CHICA-Canada; Revised September 28, 2012)



× Construction areas not properly sealed at ceiling or floor



Conclusion

Many deficiencies were obvious:



× Overfilled soiled linen hampers



× Tray of “dirty” equipment next to sign indicating not to place there

room. Depending on the circumstances, one misplaced item could contaminate clean hospital supplies and equipment in this room.

2.110 × *Construction areas not properly sealed-off from patient areas (with proper ventilation and not marked for restricted access)* – For example, not realizing the room was under construction, a nurse manager placed a cart with clean linen (uncovered) in a room for temporary storage while the room was being renovated.

2.111 Based on the number and variety of deficiencies we observed, we believe there is inadequate monitoring of infection prevention and control policies and practices in hospitals. Many of the deficiencies were obvious during our hospital tours. Given many of the identified deficiencies relate to healthcare workers not complying with infection prevention and control policies (hand hygiene, use of personal protective equipment, etc.), we also conclude the RHAs need to strengthen enforcement of policies and procedures.

Storage rooms for biomedical wastes



✓ Proper labelling



× Inadequate labelling

Recommendations

2.112 We recommend the Horizon and Vitalité Health Networks address deficiencies in infection prevention and control practices within their respective programs, including but not limited to those reported in Exhibit 2.9 such as:

- hand hygiene not done when required by policy, healthcare workers wearing rings and bracelets, areas with inadequate signage and gel;
- biomedical waste improperly stored;
- overcrowding in hemodialysis and oncology areas whose patients have an increased risk of acquiring an infectious disease;
- no cleaning between patients treated in the same chemotherapy chair;
- isolation inadequacies (signage, carts supplies, use of personal protective equipment, etc.);
- linen deficiencies (clean laundry arriving at hospitals without being properly covered, linen delivery trucks not properly cleaned, uncovered clean linen transported through the hospital, inadequate washing or replacing of the cloth cart covers protecting clean linen, excessive linen inventories, improper storage of clothing worn in the operating room, etc.);
- containers of disinfectant wipes left open;
- inadequate separation of clean and dirty items and storage space (clean linen stored in poor locations, inadequate separation within nursing units and Medical Device Reprocessing units, equipment and testing supplies stored in patient's washrooms, poor placement of soiled linen hampers, etc.);
- doors missing or being left open;
- permanent placement of patients in beds in the corridor;
- inadequate cleaning, labelling and storage of shared equipment;
- insufficient signage (public entrances) and

labelling (“clean” and “soiled” items, storage areas, etc.); and

- construction areas not properly sealed-off from patient areas (with proper ventilation and signs restricting access).

2.113 We recommend the infection prevention and control professionals and all managers do regular “walk-arounds” observing for compliance with policies and standards, reporting deficiencies to the units/departments, and ensuring corrective action is taken by those units/departments. Deficiencies should be monitored and reported to appropriate committees and/or department heads.

2.114 In smaller hospitals without on-site managers, we recommend the infection prevention and control professional and unit/department managers perform site visits on a regular basis. These visits will provide the opportunity to better monitor the smaller facility. Also, it will provide staff members with the opportunity to ask questions and identify challenges with which they are dealing.

2.115 We recommend the Horizon and Vitalité Health Networks enforce compliance with infection prevention and control policies by all staff members, in all hospitals.

Key Finding: ✘ There are Inconsistencies within and between the RHAs' Infection Prevention and Control Programs.

Background

2.116 Hospitals around the Province provide different services and patients may get services at more than one hospital. (For example, Fredericton residents may travel to the hospital in Saint John for radiation treatments for cancer.) We believe New Brunswickers should be provided with consistent quality services regardless of the hospital, including a consistent infection prevention and control program.

2.117 During our visits to hospitals and our review of documentation, we observed inconsistencies:

- within Horizon's infection prevention and control program;
- within Vitalité's infection prevention and control program; and
- between the two RHAs' programs.

Specific inconsistencies observed within programs

2.118 **Exhibit 2.10** presents our observations about specific inconsistencies within Horizon's and/or Vitalité's programs. We provide further details on a few of our observations, which included the following:

- ✘ There are variations in the ICPs' work in different zones;
- ✘ Inconsistencies with isolation gowns may result in the spread of infections; and
- ✘ Administrative support and expert resources are not available in each zone.

Exhibit 2.10 - Inconsistencies within Horizon's and/or Vitalité's Program

2.10 Inconsistencies within Horizon's and/or Vitalité's Programs**✘ Program policies and procedures are different in each zone (and between the two RHAs).**

Prior to the formation of Horizon and Vitalité in 2008, there were eight RHAs operating independently. Each had their own policies and procedures. Both Horizon and Vitalité were formed from four of the RHAs. This has resulted in four different sets of infection prevention and control policies and procedures within each of the current two RHAs.

We were informed Horizon intends to standardize the program's policies and procedures. However, at the time of our audit, only five of their program policies were regional. Vitalité also informed us it intends to standardize the program's policies and procedures. At the time of our audit, 23 of their program policies were regional. Given it has been six years since the RHAs were established, we expected further progress in standardized policies and procedures.

✘ Inconsistencies in ICPs' knowledge of appropriate practices and education- examples include the following:

- There are different practices for personal protective equipment used by reprocessing staff. Inside the "dirty room" is an acceptable location for storing, putting on and taking off in some hospitals, but not in others.
- There are different locations for storing clean commodes. Some hospitals informed us the soiled utility room is an acceptable location, others told us it was not.
- There are different collection procedures for biomedical waste. In some hospitals it is collected separately from other garbage and/or linen, while in other hospitals, it was not.
- Performing hand hygiene audits (explained later starting in **paragraph 2.166**)
- While all ICPs are nurses, only some have taken additional education in infection control.

We believe all ICPs should have specialized training in infection prevention and control.

✘ The allocation of the ICPs does not appear consistent.

We did an analysis on the number of ICPs and the number of acute care beds in each zone, which provides a reasonable comparison of resource levels in various geographic zones.

In three of Horizon's zones, the average number of beds per ICP ranged from 141 to 151. In the fourth zone, the average number of beds per ICP was 81. This suggests one zone has more ICP resources than the other three.

In three of Vitalité's zones, the average numbers of beds per ICP ranged from 181 to 205. In the fourth zone, the average number of beds per ICP was 148. Again, this suggests one zone has more ICP resources than the other three.

Comparing Horizon to Vitalité, Horizon appears to have more ICP resources. While there is no national standard or mandated ratio for resourcing, literature suggests one ICP for every 100-133 acute care beds (with more resources required for specialized programs) and resourcing should not be made on the basis of bed numbers alone. We believe if the beds are spread between multiple hospitals, this would increase the resources required. ICPs having too much work was discussed with us by people in various positions in several zones. Based on the literature and our findings, the ICP workload appears excessive.

✘ There are variations in the ICPs' work in different zones. (See paragraph 2.119)**✘ Inconsistencies with isolation gowns may result in the spread of infections. (See paragraph 2.127)****✘ Administrative support and expert resources are not available in each zone. (See paragraph 2.134)**

Notes: The observations were made during our visits to hospitals and our review of documentation.

Source: Observations made by AGNB.

✘ There are variations in the ICPs' work in different zones.



Clean linen is stored too close to dirty linen. Typically ICPs would correct this situation and remind staff of proper procedures during their rounds in the nursing units.

2.119 While the role of the ICP is essentially the same in each of the eight zones, we did observe variations in the ICP's day-to-day work in the following areas:

- presence in the nursing units and clinics;
- surveillance work; and
- auditing for compliance with routine practices. (This is discussed later in the chapter, starting with **paragraph 2.164.**)

2.120 *Presence in the nursing units:* The ICP's work in the nursing units typically involves following-up on cases identified during the ICP's surveillance work and performing audits (monitoring for compliance with infection prevention and control standards). We believe the ICP's work in the nursing units is very important in preventing the spread of infections between patients.

2.121 During our interviews with ICPs from each zone in Horizon and Vitalité, we learned there is inconsistency in the frequency of the ICPs' visits in the nursing units. Some zones reported their ICPs visited the units every day in their main hospital. Other zones reported the ICPs usually visited the nursing units a couple of times each week. All zones reported less frequent visits to nursing units in remote hospitals. In one zone, we were informed one hospital is visited by the ICP only once every three months.

2.122 Clinics, "ambulatory" or "out-patient", refer to areas in a hospital where services are provided to patients not staying in the hospital. Community residents go to the hospital to access healthcare services provided in clinics, for example: hemodialysis, blood testing, and gastrointestinal scope procedures. In many hospitals, the ICP does not visit the clinic areas on a regular basis.

2.123 Hemodialysis is a treatment needed by people whose kidneys are unable to function properly. Patients recline in a chair with tubing attaching them to a machine. Their blood circulates through the machine which removes impurities, performing the function of healthy kidneys. The treatment takes a few hours. People receiving hemodialysis are considered to have a higher risk of getting an infection.

2.124 We expected hemodialysis clinics to be visited regularly. However, we found this was not the case in many hospitals. In some zones, there are hemodialysis

clinics administered by the hospital that operate off-site. We asked about the frequency of ICP visits at two such clinics. At one location, the ICP reported visiting approximately three times per year. At the other, the ICP had visited twice in the past seven years.

2.125 The RHAs do not have documented guidelines for the frequency of visits to the nursing units and clinics, and we believe the current frequency of visits to some units is insufficient.

2.126 *Surveillance work:* In each zone, the ICP's day typically begins with surveillance work. This involves reviewing several reports to identify the presence or possible presence of infections in the hospital in order to mitigate the risk of spreading. We observed a significant difference in the amount of time it took the Horizon ICPs to do their daily surveillance work. We were informed this was due to there being different information systems in the various zones. (Some systems were able to generate exception reports which reduced the time for the ICPs.) We were also informed that Horizon was at the time looking at the area of surveillance work for potential improvements.

✗ Inconsistencies with isolation gowns may result in the spread of infections.

2.127 To mitigate the risk of spreading infection, isolation gowns are worn by healthcare workers and visitors when a patient is isolated. A sign is posted notifying all people to put on a gown prior to entering an isolation room. We observed inconsistencies in appearance, location and labelling of isolation gowns used throughout hospitals.



✓ Blue disposable isolation gowns on cart with other personal protective equipment



✓ Cloth isolation gowns on cart wrapped with clear plastic

2.128 In one hospital, disposable isolation gowns were provided. They were neatly folded and provided on a cart with other isolation supplies. It was very clear the gowns were new and for use.

2.129 In another location, cloth isolation gowns were used. They were neatly folded and provided on a cart wrapped with clear plastic. It was clear the gowns were clean and for use.

2.130 In another hospital, clean cloth isolation gowns were in plastic bags. The gowns were not folded and the bag appeared to be a transparent garbage bag. Sometimes the large bag was put on a cart with other isolation supplies. Other times it was on the floor. We believe these gowns could confuse visitors expected



✘ Clean isolation gowns in a plastic bag on floor

Clean isolation gowns in a grey bin



Garbage can

to wear them. Visitors may see them as a bag of garbage and put garbage in with them or they may see them as dirty gowns and put used contaminated gowns in with the clean ones. This could cause the spread of infection.

2.131 In a fourth hospital, clean isolation gowns were in a grey plastic bin on the floor. The gowns were not folded. The grey plastic bin looked virtually identical to the grey garbage cans used in the hospital. We believe visitors may see the gowns as dirty and put used contaminated gowns in with the clean ones. This could cause the spread of infection.

2.132 We observed more confusion with the grey bins. One was labelled “Clean Isolation Gowns” and had a cloth lining, yet it contained garbage.



Grey bin labelled “Clean Isolation Gowns” containing garbage

2.133 The inconsistencies in appearance, location and labelling of isolation gowns currently used throughout hospitals can cause confusion. This is a risk because the proper use of isolation gowns is important to infection prevention and control and improper use may result in the spread of infections.

2.134 We found two significant inconsistencies regarding the resources supporting ICPs in Horizon’s and Vitalité’s zones (see **Exhibit 2.11**).

✘ Administrative support and expert resources are not available in each zone.

Exhibit 2.11 – Inconsistency in Allocation of Administrative and Expert Resources

2.11 Inconsistency in Allocation of Administrative and Expert Resources		
Zone (note 1)	Administrative Support (note 2)	Expert (microbiologist/infectious disease specialist)
Horizon		
A	1.0 FTE	Yes
B	1.0 FTE	No
C	0.4 FTE	Yes
D	0	Yes
Vitalité		
A	< 0.4 FTE	No
B	< 0.25 FTE	Yes
C	< 0.25 FTE	No
D	< 0.1 FTE	Yes

Notes:

1. For anonymity, zones are identified by letters in this exhibit.
2. Time allocated to Infection Prevention and Control Program in full-time equivalent (FTE) units, as estimated by administrative support staff.

Source: Chart created by the AGNB with information provided by Horizon Health Network and Vitalité Health Network.



✓ In some zones, administrative support ensure infection prevention and control program signs are present and in good condition throughout the hospital and public entrances are supplied with hand hygiene gel, masks & good signage

2.135 The first inconsistency involves administration support to the program. In three of the four Horizon zones, there was a person assigned to provide administrative support to the ICPs. We met with them and discussed their responsibilities. In addition to performing general office duties, their tasks included processing data from hand hygiene audits and generating compliance reports, monitoring compliance of MRSA⁴¹ and VRE⁴² screening with policy, and helping the *Local Area Infection Prevention and Control Committee* (making meeting arrangements, preparing documents, recording minutes, etc.)

2.136 In the zones with little or no administration support, these tasks are either done by the ICPs or not completed at all. We believe the administrative employee provides valuable support to the ICPs by allowing them to use their time on more demanding professional infection prevention and control activities, such as monitoring for compliance with standards.

2.137 In each of the four Vitalité zones, there was a person assigned to provide administrative support to the ICPs. However they were providing less than 0.4 FTE in terms of time dedicated to the program due to their other assignments. In one zone, while the allocated time was supposed to be 0.5 FTE, the actual time dedicated was estimated to be less than 0.1 FTE. We met with them and discussed their responsibilities, which were similar to the tasks done by their peers within Horizon.

2.138 The second inconsistency involves access to

⁴¹ MRSA - *Methicillin-resistant Staphylococcus aureus*: Strains of a common bacterium (*S. aureus*) that are resistant to beta-lactam antibiotics and that have been responsible for many outbreaks of infection over the past two decades. (“Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper”.)

⁴² VRE - *Vancomycin-resistant enterococcus*: A strain of a common bacterium (*enterococcus*) that is resistant to many commonly used antibiotics, including vancomycin. (Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper*.)

expert resources. In three of the four Horizon zones, there was an infectious disease specialist and/or a medical microbiologist assigned as an expert resource to support the ICPs. Two zones had access to multiple experts. One zone did not have an expert to consult with when difficult infection control issues arose.

2.139 Within Vitalité, there was an infectious disease specialist and/or a medical microbiologist assigned as an expert resource to support the ICP(s) in two of the four zones. (One of these zones actually employed four experts.) The other two zones did not have an expert to consult with when difficult infection control issues arose.

2.140 Having access to expert resources, including an infectious disease physician and/or a medical microbiologist, is considered essential for effective infection prevention and control programs, as discussed earlier. Without access to these specialists, it is possible for an infectious outbreak to occur or for an existing outbreak to become more severe because proper preventive and containment practices were not promptly exercised.

***Specific inconsistencies
observed between programs***

2.141 Exhibit 2.12 presents our observations of specific inconsistencies between Horizon's and Vitalité's programs, which relate to the following:

- regional policies and procedures for the program;
- requirements for healthcare workers to take refresher training on infection prevention and control routine practices and hand hygiene;
- hand hygiene;
- public awareness;
- environmental services;
- hospital areas undergoing construction;
- MRSA screening and monitoring;
- infection prevention and control committees; and
- performance indicators for the program.

Exhibit 2.12 - Inconsistencies between Horizon's and Vitalité's Programs

2.12 Inconsistencies between Horizon's and Vitalité's Programs		
Program component	Horizon	Vitalité
1. Regional policies and procedures for the infection prevention and control program <i>(Horizon and Vitalité were established in 2008.)</i>	As of April 2014, Horizon had 5 regionalized policies and procedures. No regional policy on routine practices.	As of April 2014, Vitalité had 23 regionalized policies and procedures. Regional policy on routine practices dated Nov. 2012.
2. Requirements for healthcare workers to take refresher training on infection prevention and control routine practices and hand hygiene	Annually	Every two years.
3. Hand hygiene		
• Hand hygiene policy (very significant to the program)	Regional policy dated Dec. 2013 Allows wedding rings – “smooth band.”	Regional policy dated May 2011 No rings allowed.
• Hand hygiene signage in hospitals	Very prevalent throughout most hospitals.	Lacking in many areas in hospitals, even at some public entrances.
• Hand hygiene compliance rate is a performance indicator for the program	Yes – target compliance rate is 80%. Compliance figures for each hospital measured since 2010.	Yes – target compliance rate is 100%. Compliance figures for each hospital yet to be consistently measured.
4. Public awareness	Most public entrances had good signage relating to infection prevention and control and adequate supplies (hand hygiene gel and masks).	Few public entrances had good signage relating to infection prevention and control; most had hand hygiene gel and some had masks.
<i>Continued ...</i>		
<p>Notes: The importance of the “Program components” noted above is explained here:</p> <ol style="list-style-type: none"> Regional policies and procedures are to be followed by all hospitals within the RHA, while zone policies apply only to hospitals within that specific zone (i.e. a specified geographic area). Refresher training reminds healthcare workers of significant procedures and reinforces the importance of performing them consistently. Hand hygiene is one of the most effective ways to stop the spread of germs and infections. Public awareness ensures everyone knows their role and responsibilities in infection prevention and control. <p>Source: Observations made by AGNB during our visits to hospitals and our review of documentation.</p>		

Exhibit 2.12 - Inconsistencies between Horizon's and Vitalité's Programs (continued)

2.12	Inconsistencies between Horizon's and Vitalité's Programs (continued)	
Program component	Horizon	Vitalité
<p>5. EVS ("housekeeping")</p> <ul style="list-style-type: none"> • <i>Regional policies and procedures</i> • <i>EVS manager sits on Local Area Infection Prevention and Control Committee</i> • <i>Regular meetings of managers from hospitals</i> • <i>E-learning for infection prevention and control training modules on hand hygiene & routine practices</i> • <i>Auditing by EVS manager/supervisor</i> • <i>Performance indicators for EVS department (other than financial & statistics)</i> 	<p>The same Standard Operating Practices (SOPs) are used by all zones to ensure housekeeping services are consistent in all hospitals.</p> <p>Horizon understands them to be "provincial" SOPs used by both RHAs.</p> <p>Yes in all four zones.</p> <p>Meet quarterly to share recent challenges and best practices.</p> <p>Yes in all four zones. Annual refresher training is monitored and reported as a performance indicator (% of EVS staff that completed required training).</p> <p>Yes in the four zones.</p> <p>Auditing of cleaned rooms only.</p> <p>Yes – consistent in the four zones.</p>	<p>Different policies and procedures used in each zone.</p> <p>Vitalité does not see Horizon's SOPs as provincial policies yet (believes the SOPs are "draft" and not using them).</p> <p>Yes in one zone; no in three zones.</p> <p>Do not meet regularly.</p> <p>New initiative: available in two zones. Monitoring yet to be established.</p> <p>Yes in two zones; beginning to audit in 3rd zone (not all hospitals)</p> <p>In addition to auditing cleaned rooms, some auditing of staff while cleaning (procedures and products).</p> <p>No, but starting to develop in fall of 2014.</p>
<p>6. Hospital areas undergoing construction</p>	<p>ICPs informed. Area sealed-off from patient areas with proper ventilation and well-marked for public awareness.</p>	<p>ICPs not always informed. Areas not always sealed-off with proper ventilation or well-marked for public awareness.</p>
<i>Continued ...</i>		
<p>Notes: The importance of the "Program components" noted above is explained here:</p> <p>5. EVS ("housekeeping") staff members with appropriate training provide a clean and safe environment for patient care.</p> <p>6. Hospital areas undergoing construction must comply with specific infection prevention and control standards, which include having the area sealed-off from patient areas.</p> <p>Source: Observations made by AGNB during our visits to hospitals and our review of documentation.</p>		

Exhibit 2.12 - Inconsistencies between Horizon's and Vitalité's Programs (continued)

2.12 Inconsistencies between Horizon's and Vitalité's Programs (continued)		
Program component	Horizon	Vitalité
7. MRSA screening and monitoring	Questionnaire used by admission staff to determine when swabbing is needed. Monitoring of swabbing done with a lag time.	Admission screening of all admitted patients. Daily monitoring to ensure all swabbing done.
8. Infection prevention and control committees	Stable <i>Local Area Infection Prevention and Control Committee</i> in three zones (one zone without committee for 2 years and then re-established in Sept. 2013). <i>Local Area Infection Prevention and Control Committees</i> report to the <i>Regional Infection Prevention and Control Committee</i> , which reports to the <i>Regional Quality and Safety Committee</i> .	<i>Local Area Infection Prevention and Control Committee</i> in each zone; however some committees appear to be less stable (There has been much turnover in the chairpersons and meeting frequency of two committees was not complying with its <i>Terms of Reference</i>). <i>Local Area Infection Prevention and Control Committees</i> reports to the <i>Local Quality and Patient Safety Committee</i> for the zone, which report to the <i>Regional Quality Management and Patient Safety Committee</i> .
9. Performance indicators for the program	Currently no program performance indicator relating to surgical site infections. Surgical site infections are monitored and reported internally only.	Surgical site infections are monitored and reported as a program performance indicator.
<p>Notes: The importance of the “Program components” noted above is explained here:</p> <p>7. MRSA screening and monitoring are intended to reduce the spread of this infection within the hospital.</p> <p>8. Infection prevention and control committees allow health professionals of various disciplines to work together to plan, monitor and troubleshoot.</p> <p>9. Performance indicators are a tool that can be used to hold responsible management and staff accountable for program performance.</p> <p>Source: Observations made by AGNB during our visits to hospitals and our review of documentation.</p>		

• *There is limited provincial guidance.*

2.142 There is limited guidance by the Department regarding infection prevention and control. There are three provincial guidelines which relate to specific nosocomial infections including CDI, MRSA bacteremia and VRE among others. They were published by the Department in 2010 and 2011 and address many topics including screening, surveillance, outbreak management, education, decolonization and disclosure of the specific infections. In addition to the guidelines, there are policies (“bulletins”) regarding the reprocessing of medical devices and provincial surveillance reporting.

2.143 With the exception of the mandatory reporting of CDI and MRSA bacteremia infection rates required by the provincial guidelines and influenza incidences required by the *Office of the Chief Medical Officer of Health*, there is very little reporting of infection control issues, challenges, etc. by the zones to the Department. With the current reporting structure it is possible for the Department (the *Healthcare Consultant - Infection Prevention & Control*) to be unaware of infection prevention and control issues in the RHAs’ zones.

2.144 There is no provincial strategy for infection prevention and control or for hand hygiene. Some provinces provide more direction. For example:

- Alberta has both a provincial hand hygiene policy and an infection prevention and control resource manual for acute care which “*supports healthcare workers to manage the care and placement of patients with known or suspected diseases and is applicable to acute care emergency, inpatient, and ambulatory medical surgical and outpatient settings.*”⁴³
- In Prince Edward Island, the Department of Health and Wellness has developed a provincial infection prevention and control program with ICPs in all Health facilities (acute care, community hospitals, and long term care); and

⁴³ Website – Alberta Health Services – Infection Prevention & Control

- In the province of Newfoundland and Labrador, the Department of Health and Community Services in collaboration with the *Provincial Infection Control group (PIC-NL)* operate the infection prevention and control program. Their *Infection Control Guidelines* include one titled, *Routine Practices and Additional Precautions Across the Continuum of Care* which was published in 2009 and revised in 2014.

Conclusion

2.145 From our visits to hospitals, review of documentation and interviews with staff members, we concluded there are inconsistencies within and between the RHAs' infection prevention and control programs delivered in the hospitals. In comparison to other provinces, there is limited provincial guidance by the Department regarding infection prevention and control.

Recommendations

2.146 We recommend the Department of Health in consultation with the Horizon and Vitalité Health Networks develop a provincial infection prevention and control program and strategy for use in all New Brunswick hospitals. This should address both routine practices and additional precautions. The provincial program should include, but not be limited to, the following:

- documented provincial infection prevention and control policies, standards and practices;
- a strategy for monitoring compliance with infection control standards; and
- a comprehensive hand hygiene strategy.

2.147 We recommend the Horizon and Vitalité Health Networks engage sufficient resources for their programs to ensure all zones have access to Infection Prevention and Control Professionals (ICPs), experts and administrative support.

2.148 We recommend the Vitalité Health Network require their ICPs obtain specialized training in infection prevention and control.

2.149 We recommend the Horizon and Vitalité Health Networks address the inconsistencies within their respective programs, including but not limited to:

- **inconsistencies in ICPs' knowledge of appropriate practices and standards;**
- **variations in the ICPs' work in different zones; and**
- **inconsistencies with isolation gowns.**

Key Finding: ✓ There is Monitoring of some Routine Practices.

Background

2.150 Routine practices are required by everyone for every patient every day and include actions such as hand hygiene, use of gloves, gown and masks when appropriate, and proper handling of sharp instruments such as needles. **Exhibit 2.6** presented earlier, provides information on routine practices. We visited a sample of hospitals to speak with staff members and review documentation to determine if there was monitoring of routine practices in hospitals. (Hospital staff members refer to this monitoring as “auditing”.)

Summary of Findings

2.151 We found the following:

- ✓ Many hospitals have been auditing hand hygiene for a number of years.
- ✓ ICPs also audit the use of personal protective equipment (PPE) and isolation rooms.
- In many zones, EVS perform audits to ensure effective cleaning of patient rooms.
- Other auditing and monitoring is performed.

✓ *Many hospitals have been auditing hand hygiene for a number of years.*

2.152 “*Hand hygiene saves lives and reduces the economic and personal strain on our healthcare system.*”⁴⁴ It is considered to be the most important routine practice because it “*is the single most effective measure to prevent the transmission of a Health Care Associated Infection*”⁴⁵.

⁴⁴ Horizon Health Network, *Policies & Procedures Manual – Hand Hygiene Policy*, Dec. 2013.

⁴⁵ Ibid.



✓ Hospitals audit for compliance with the four key moments of hand hygiene

2.153 “The 4 Moments for Hand Hygiene in All Health Care Settings [are]:

- Before initial patient/patient environment contact.
- Before aseptic procedure [such as inserting intravenous lines or urinary catheters].
- After body fluid exposure risk.
- After patient/patient environment contact.”⁴⁶

2.154 Within Horizon, the ICPs audit healthcare workers in the nursing units to determine if they are performing hand hygiene (gel or wash) at the appropriate times. A standard form is used while observing in the nursing units. Results are entered into a software application that generates standard reports. These reports are posted in staff rooms. The results are also discussed at various meetings. ICPs have been auditing hand hygiene since at least 2010. Performance reports show the results of hand hygiene audits for each of the hospitals starting in fiscal 2011/2012. Horizon’s auditing results are shown as hand hygiene compliance rates in **Appendix V**.

2.155 Within Vitalité, summer students have been hired in some zones to do hand hygiene auditing for the past few years. ICPs do hand hygiene auditing in some hospitals. Since not all four zones have been able to secure a summer student each year, the number and timing of hand hygiene audits was not consistent. While Vitalité does not post hand hygiene compliance rates for staff to see, the results are provided to unit managers. Vitalité’s auditing results are shown as hand hygiene compliance rates in **Appendix VI**.

✓ ICPs also audit the use of personal protective equipment (PPE) and isolation rooms.

2.156 Routine practices include the proper use of gown, mask, eye protection and gloves (PPE). The ICPs in some zones have started auditing the proper use of PPE.

2.157 Routine practices also include patient

⁴⁶ Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. *Best Practices for Hand Hygiene in All Health Care Settings*. 4th ed. Toronto, ON: Queen’s Printer for Ontario; April 2014.

placement/accommodation, which means putting a patient with an infection or a patient with higher risk of obtaining an infection in a single room. ICPs audit to ensure patients with an infection are put in isolation, appropriate signage is in place, a cart with PPE supplies is outside the room, and other appropriate precautions have been taken.

2.158 We observed ICPs performing isolation audits in four Horizon hospitals. When deficiencies were noted during these audits, the ICP spoke with a staff member and action was taken to correct the deficiency. We reviewed documentation indicating isolation auditing had been done in one Vitalité hospital.

• In many zones, EVS perform audits to ensure effective cleaning of patient rooms.

2.159 We met with the Environmental Services (EVS) manager in each of Horizon's and Vitalité's four zones. Our findings on EVS and the inconsistencies between the two RHAs were reported earlier in **Exhibit 2.12**.

2.160 Within Horizon, supervisors in each of the zones do audits of patient rooms after they have been cleaned. We observed supervisors doing audits in two hospitals and reviewed audit results in the other zones. Within Vitalité, supervisors in two of the zones do audits.

• Other auditing and monitoring is performed.

2.161 Our audit focused on routine practices, hence our observations primarily relate to this area. However within Horizon, we observed evidence of other audits occasionally done by the ICPs in such areas as Medical Device Reprocessing units (where medical devices are sterilized and other equipment is disinfected) and storage and transportation of clean and sterile medical devices (sterile storage).

2.162 The ICPs informed us audits are also done within other departments similar to those done by EVS. We observed several forms of monitoring during our tours of the Medical Device Reprocessing units and our tour of a *FacilicorpNB* laundry facility.

Conclusion

2.163 From our observations, we concluded there is monitoring of some routine practices in hospitals. The next section of this chapter deals with deficiencies we noted in the monitoring of routine practices.

Key Finding: ✘ Monitoring for Compliance with Routine Practices needs Improvement.

Background

2.164 Monitoring for compliance with routine practices ensures they are being regularly followed and identifies deficiencies needing corrective action. During our work at the hospitals we made observations suggesting monitoring for compliance with routine practices needs improvement.

Summary of Findings

2.165 We found the following:

- ✘ Hand hygiene auditing needs improvement to provide accurate information.
- ✘ Certain routine practices are not monitored.
- ✘ There are no policies and procedures for auditing infection prevention and control programs.
- ✘ We observed deficiencies in infection control practices during our visits to eight hospitals. (This was discussed earlier.)

✘ Hand hygiene auditing needs improvement to provide accurate information.

2.166 The hand hygiene compliance rate (%) is one of the key performance indicators for infection prevention and control in each of the RHAs. For the results to be useful, they must be accurately measured. The ICPs measure compliance by auditing “*the four key moments of hand hygiene*”⁴⁷. We reviewed the hand hygiene audit work done in calendar 2013 and found:

- ✘ incomplete audit coverage;
- ✘ an inadequate volume of audits; and
- ✘ bias towards recording positive results and other inconsistencies;

We briefly describe each of these.

2.167 ✘ Incomplete audit coverage – Hand hygiene audits are not completed in all units of the hospitals. Some nursing units, such as psychiatry, were not audited in some hospitals. Some ambulatory units,

⁴⁷ Horizon Health Network, *Policies & Procedures Manual – Hand Hygiene Policy*, Dec. 2013

such as “out patient clinics” and “specimen collection” (where one goes for blood tests) were not audited. In early 2014, Horizon informed us they were expanding their hand hygiene auditing coverage to include all hospital units.

2.168 Further, hand hygiene audits are not completed each month in every hospital. Six of Horizon’s eleven acute care hospitals had at least one month in 2013 without hand hygiene audits being performed. Three of Vitalité’s nine acute care hospitals had no hand hygiene audits performed in 2013. Eight of the nine hospitals had at least three months in 2013 without hand hygiene audits being performed.

2.169 × *An inadequate volume of audits*- There is not enough auditing done in some hospitals. A small number of audit observations may not be representative and therefore may not accurately support the hand hygiene compliance percentage reported. Within Horizon, one hospital having less than 30 beds had only 74 hand hygiene audit observations during 2013. Another hospital of similar size had 339 hand hygiene audit observations during the same time period. Within Vitalité, one hospital having more than 150 beds had only 44 hand hygiene audit observations during 2013. Another hospital of similar size had 1,254 hand hygiene audit observations during the same time period.

2.170 × *Bias towards recording positive results and other inconsistencies* – We observed ICPs doing hand hygiene auditing in the hospitals we visited. We found there was a bias towards recording positive results. When appropriate hand hygiene practices were observed, it was always recorded as compliance. However, when the ICPs were not certain the healthcare worker did not clean their hands, they did not record it as non-compliance.

2.171 One ICP recorded a positive result each time she observed a healthcare worker do hand hygiene as we walked around a unit. Auditing in this manner would rarely result in recording a miss, and is not an acceptable method to audit.

2.172 While most ICPs audit for the presence or absence of performing hand hygiene, one ICP audited for “proper” hand hygiene and recorded a “non-compliance” if the healthcare worker did not use soap while washing, did not use paper towel when turning

off the taps, touched the sink with clean hands, etc. We believe this is a better form of auditing; however, given that most are not auditing in this manner, a comparison of audit results would not be valid.

2.173 Within Horizon, “champions” (i.e. a healthcare worker from within the unit) have recently started to do hand hygiene auditing. Within Vitalité, summer students are often hired to do hand hygiene auditing. It is our understanding that both “champions” and summer students are trained to do hand hygiene audits by ICPs in the respective zones. Therefore, the inconsistencies in the manner in which the ICPs are auditing would be passed on to others performing audits.

2.174 Hand hygiene auditing needs improvement to provide accurate information. A standard practice with documented procedures and training of new auditors is needed.

× Certain routine practices are not monitored.



× Deficiency in linen management – improper storage of clean sheets in nursing unit

2.175 While we commented earlier the ICPs did audit some routine practices (hand hygiene, PPE, patient placement), there are other routine practices they do not monitor. It may not be appropriate for the ICP to audit each department involved in routine practices (linen, EVS, etc.), however, the ICPs should monitor audit results from other departments, such as:

- linen management (We observed deficiencies with clean linen in the hospitals, which was discussed earlier in **Exhibit 2.9.**);
- waste management (We observed deficiencies in the storage of biomedical wastes in the hospitals, which was discussed earlier in **Exhibit 2.9.**);
- shared equipment (We observed deficiencies in the cleaning between patients, proper labelling of clean and dirty storage areas, and we observed clean items being kept in close proximity to dirty items, which was reported earlier in **Exhibit 2.9.**); and
- nails and jewelry - We observed nurses in an intensive care unit wearing rings and bracelets. Horizon’s hand hygiene policy states the following regarding jewelry, “*HCWs [health care workers], who are involved in direct patient care, are not to wear jewelry, with the exception of a smooth band without projections or mounted stones as rings can*



Proper labelling of shared equipment is very limited

✘ There are no policies and procedures for auditing infection prevention and control programs.

Conclusion

become contaminated and/or puncture gloves.” The policy also states artificial nails and nail enhancements are prohibited. The hand hygiene audit tool used by the ICPs has boxes to verify compliance for rings, bracelets and nails. However, the ICPs are not auditing these. Vitalité’s policy prohibits rings, wedding bands and arm jewelry, yet we observed several healthcare workers (including nurses, doctors and surgeons) in most units, in all hospitals visited, wearing rings.

2.176 Providing education on infection prevention and control is also a routine practice. There is mandatory refresher training of all healthcare workers which includes courses on hand hygiene and routine practices. However, Horizon was unable to provide data on the percentage of employees who had completed the mandatory annual infection prevention and control training. We were told the existing information systems made it difficult to generate organization-wide information and that education was monitored by managers in the hospitals as part of each employee’s annual performance review. Similarly, Vitalité was unable to provide the percentage of employees who had completed the mandatory infection prevention and control training. We were told the zones had only a listing of the names of their employees who had received the training.

2.177 With the exception of hand hygiene, there are no auditing requirements to guide the ICPs. While all zones audit hand hygiene using virtually the same form, this is not the case for other types of audits done. Some zones do more auditing than others. In general, Horizon does more auditing of infection prevention and control practices than Vitalité.

2.178 Policies and procedures provide direction and describe an expected level of performance. They help staff know which tasks need to be performed and how to complete them properly. Consistent application of sound policies and procedures should result in the delivery of quality services. At present though, there are no policies and procedures regarding the auditing of infection prevention and control practices, nor have frequencies of required audits been established.

2.179 We concluded monitoring for compliance with routine practices needs improvement in order to ensure minimum standards of infection control are being met

in all hospitals.

Recommendation

2.180 We recommend the Horizon and Vitalité Health Networks improve monitoring for compliance with infection prevention and control standards, including the monitoring of routine practices. This should include, but not be limited to, establishing policies and procedures for:

- **consistent unbiased hand hygiene auditing of appropriate quantity and including coverage of all areas in the hospitals;**
- **auditing jewelry and nails of healthcare workers to ensure compliance with the hand hygiene policy;**
- **auditing of linen management, including delivery trucks;**
- **auditing of waste management, including all types of waste; and**
- **auditing of shared equipment (proper cleaning, storage, etc.).**

Key Finding: ✓ The Regional Health Authorities Measure the Effectiveness of their Infection Prevention and Control Programs.

Background

2.181 Reporting on the effectiveness of a program is an important component of accountability.

Summary of Findings

2.182 We found the following:

- ✓ Measuring effectiveness is a priority to the Department.
- ✓ The RHAs' infection prevention and control programs have key performance indicators (KPIs) with targets.
- ✓ The infection prevention and control programs' KPIs are measured, reported and monitored.
- ✓ Performance results are shared with staff members.

✓ Measuring effectiveness is a priority to the Department.

2.183 The Department's strategic plan had three areas of priority, one of which was, "*developing our capacity to plan, fund, monitor and deliver strategic services.*"⁴⁸ Monitoring was further explained as monitoring program compliance with legislation and regulation and, "*It also includes evaluating the degree health system programs produce the outcomes identified in their planning stages and identifying areas of potential improvement. It ensures the development of measurement and evaluation processes to support an Accountability Framework for our major health system partners.*"

✓ The RHAs' infection prevention and control programs have key performance indicators (KPIs) with targets.

2.184 The Horizon program has six performance indicators. The ICP managers from all four zones were involved in selecting the common KPIs for the program. The KPIs involve hand hygiene compliance and infection rates for specific diseases: methicillin-resistant *Staphylococcus aureus* (MRSA), *Clostridium difficile* (CDI), and Vancomycin-resistant *enterococcus* (VRE). The program has set a target for each indicator.

⁴⁸ Department of Health Province of New Brunswick, *Our Way Forward 2009-2014 – A Strategic Plan for Department of Health Employees*, Sept 2009.

2.185 Similarly, the Vitalité program has five performance indicators that were selected by ICPs from each zone. The KPIs involve hand hygiene compliance, infection rates for MRSA, CDI and VRE, as well as surgical site infection rates for class 1 surgeries (clean wounds). The program has set a target for each indicator. Hand hygiene compliance rates have not been compiled and reported in a consistent manner in recent years (see **Appendix VI**). Vitalité has begun improving their hand hygiene compliance reporting for the fiscal year 2014/2015.

2.186 Each KPI has a source validating it as a measure. *“Health care associated C. difficile and MRSA infections represent a significant risk to the individuals receiving care and are a substantial resource burden to organizations and the health care system. Measuring infection control performance measures has the additional benefit of informing and shaping the staff’s view of safety. Evidence suggests that as staff become more aware of infection control rates and the evidence related to infection control there is a change in behaviour to reduce the perceived risk.”⁴⁹*

2.187 Other programs within Horizon have KPIs relating to infection prevention and control. For example, the surgical program measures surgical site infections. Another example is environmental services which measures:

- the percentage of patients who scored cleanliness as excellent or satisfactory on a patient survey;
- the average cleaning audit score (results of inspections done by supervisors after a patient’s room was cleaned); and
- the percentage of staff who have completed each required annual education module (hand hygiene and routine practices).

⁴⁹ Accreditation Canada, *Accreditation Report - Horizon Health Network*, May 2011.

✓ *The infection prevention and control programs' KPIs are measured, reported and monitored.*

2.188 Each of the two RHA programs has common methods for measuring and reporting on their KPIs. All four zones within the RHA use the same “dashboard” for reporting their results. The dashboard records each zone’s performance for each quarter and reports performance not only for each zone, but for the RHA in total. This allows each zone to see their own performance and also compare it to that of other zones in their RHA. Dashboards show cumulative results over time for comparative purposes. This allows a zone to see their performance progress overtime.

2.189 Dashboards are reviewed and monitored by the *Local Area Infection Prevention and Control Committee*, as well as the *Regional Infection Prevention and Control Committee* (Horizon) or *Regional Quality Management and Patient Safety Committee* (Vitalité) as a standing item on each committee’s agenda. Several committee members reported the dashboards as a useful tool for monitoring performance. They indicated they believe the KPIs to be relevant in measuring the performance of the program. They also indicated the committee may offer suggestions to improve performance.

✓ *Performance results are shared with staff members.*

2.190 One of the activities⁵⁰ of effective infection prevention and control programs is, “*Health care organizations should ensure that surveillance of both infection prevention and control processes and outcomes related to health care associated infections is performed; and that the data are analyzed appropriately, provided to front line staff, clinical leadership and administrators, and used to monitor and improve related patient outcomes.*”⁵¹

2.191 Performance results are shared with front-line staff members via staff bulletin boards in Horizon. Vitalité shares results with some hospital employees but not in a consistent manner. Results are also reported and discussed at meetings.



✓ Hand hygiene results posted on staff bulletin boards

⁵⁰ Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper*.

⁵¹ Ibid.

Conclusion

2.192 From our observations, we concluded the Regional Health Authorities adequately measure the effectiveness of its infection prevention and control programs.

Key Finding: ✕ The Regional Health Authorities need to enhance their Public Reporting on the Effectiveness of their Infection Prevention and Control Programs.

Background

2.193 Publicly reporting on the effectiveness of a program is a key component of accountability.

Summary of Findings

2.194 We found the following:

- ✓ The Department publicly reports on CDI and MRSA bacteremia.
- ✓ One hospital is involved in national reporting.
- ✓ The New Brunswick Health Council publicly reports on safety in hospitals.
- ✕ The RHAs do limited public reporting on the effectiveness of their infection prevention and control programs.

✓ *The Department publicly reports on CDI and MRSA bacteremia.*

2.195 The Department (through the *Office of the Chief Medical Officer of Health*) implemented a “*Provincial Surveillance System*”. Mandatory reporting by the hospitals for specific infections began in fiscal 2010/2011. The hospital-based surveillance program began public reporting on the Department’s website commencing in May 2013. Two hospital-associated infections are currently being reported: CDI and MRSA bacteremia. The website presents information on the program and infection rates for each hospital in the Province, similar to **Exhibit 2.4**.

✓ *One hospital is involved in national reporting.*

2.196 New Brunswick participates in Public Health Agency of Canada’s (PHAC’s) *Canadian Nosocomial Infection Surveillance Program* (CNISP). The national program includes the ten provinces with 54 hospitals participating. The Moncton Hospital represents New Brunswick for this program.

✓ *The New Brunswick Health Council publicly reports on safety in hospitals.*

2.197 The *New Brunswick Health Council* (Council) fosters “*transparency, engagement, and accountability by: Engaging citizens in a meaningful dialogue; Measuring, monitoring, and evaluating population health and health service quality; Informing citizens on health system’s performance; and Recommending*

improvements to the Minister of Health.”⁵² The Council conducts surveys “that captures care experiences from patients who have used hospital acute care services in New Brunswick,”⁵³ and provides a “Health System Report Card” on their website. The purpose of the report “is to provide survey results for each hospital in order to measure, monitor and evaluate improvements over time.”⁵⁴

2.198 We reviewed the Council’s website and some of their reports. We found the Council reports on a few indicators relating to infection prevention and control including:

- hand hygiene;
- CDI, MRSA and VRE rates; and
- cleanliness of the hospital room and bathroom.

✘ The RHAs do limited public reporting on the effectiveness of their infection prevention and control programs.

2.199 During our fieldwork, we reviewed the RHA’s websites and various reports. Neither RHA clearly reported on the effectiveness of its infection prevention and control program. (While Horizon’s website had a link to the Department’s public reports on CDI and MRSA bacteremia, the link was not easily identified. Vitalité’s website had no performance reporting on the program.) Without publicly reporting on performance, the RHAs cannot be adequately held to account for the performance of the program.

2.200 We also observed that while the Department is publicly reporting on rates for two infections, neither the Department or the RHAs are reporting on hand hygiene. (Only the Council has reported on hand hygiene, which was based on a patient survey.) The ICPs have been monitoring hand hygiene in the hospitals for several years and report results internally. We believe their results should be publicly reported. In addition to providing accountability, this would have the added benefit of increasing public awareness of the importance of proper hand hygiene in hospitals.

⁵² Website – New Brunswick Health Council – What We Do – Mandate.

⁵³ New Brunswick Health Council, *Hospital Patient Care Experience in New Brunswick, 2013 Acute Care Survey Results*

⁵⁴ Ibid.

Conclusion

2.201 From our observations, we concluded the Regional Health Authorities should enhance their public reporting on the effectiveness of their infection prevention and control programs.

Recommendation

2.202 We recommend the Department of Health and/or the Regional Health Authorities enhance its public reporting on the effectiveness of its infection prevention and control program(s) by reporting on hand hygiene and other infection prevention and control program performance indicators.

Appendix I – General Information on Infection Prevention & Control

General Information on Infection Prevention and Control

The mandate of an Infection Prevention and Control Program is to prevent and control health care associated infections. **Examples of health care associated infections include** bloodstream, surgical site, urinary tract, pulmonary, and skin and soft tissue infections. Other infectious diseases, including respiratory (e.g., severe acute respiratory syndrome or SARS, influenza, tuberculosis) and gastrointestinal (e.g., *Clostridium difficile* colitis, Norovirus) infections, and infections with antibiotic-resistant organisms (e.g., MRSA, VRE) transmitted in health care settings are also considered health care associated infections.

Many patient factors increase a patient's risk of developing health care associated infections including advanced age, prematurity, and increasingly complex treatment modalities in both hospital and out-of-hospital settings.

Restructuring has occurred within the Canadian health care system, as it has in both the United States and Europe. Changes in nurse staffing numbers and staff mix related to restructuring have been **associated with an increased risk for health care associated infections** and have contributed to the deterioration in both quality and outcome of patient care throughout North America and Europe.

The emergence of new infectious agents such as the severe acute respiratory syndrome coronavirus (SARS-CoV) and the re-emergence of community-acquired communicable diseases such as group A streptococcal disease, community-acquired methicillin-resistant *Staphylococcus aureus*, and multi-drug resistant tuberculosis are also causes of concern for Infection Prevention and Control Programs. Other concerns include infections due to contaminated drinking water (e.g., *E. coli* O157:H7), food borne infections (e.g., *Salmonella*), zoonoses (e.g., plague), and the potential for bioterrorism events.

Evidence has been published in support of having an effective Infection Prevention and Control Program. The landmark Study on the Efficacy of Nosocomial Infection Control (SENIC) project estimated that one-third of health care associated infections in the hospital setting could be prevented if hospitals instituted the essential components required for Infection Prevention and Control Programs. Recent data regarding Infection Prevention and Control Programs in Canada (Quebec and Ontario specifically), the United Kingdom, Italy, Belgium, Australia, and the United States have reported deficits in the essential resources and components of current Infection Prevention and Control Programs.

To meet its infection prevention and control mandate, staffing, training, and infrastructure requirements are needed. However, administrators may be tempted to reduce the infection prevention and control budget as it consumes resources and does not generate revenue.

Infection prevention and control is a critical component of patient safety, as health care associated infections are by far the most common complication affecting hospitalized patients. The human and economic burdens that health care associated infections place on Canadians and their health care system speak to the importance of an effective Infection Prevention and Control Program.

Source: Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from *Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper*.

Appendix II – Glossary of Terms, Abbreviations and Acronyms

Glossary of Terms, Abbreviations and Acronyms	
AGNB	The office of the Auditor General of New Brunswick.
Environmental Services (EVS)	Unit within the hospital responsible for housekeeping services and waste management.
Hand Hygiene	<i>A comprehensive term that refers to hand washing, hand antisepsis and actions taken to maintain healthy hands and fingernails. (1)</i>
Hand Hygiene Gel or Alcohol-Based Hand Rub (ABHR)	<i>A liquid, gel or foam formulation of alcohol (e.g. ethanol, isopropanol) which is used to reduce the number of microorganisms on hands in clinical situations when the hands are not visibly soiled. ABHRs contain emollients to reduce skin irritation and are less time-consuming to use than washing with soap and water. (2)</i>
Healthcare associated infections (HAI)	<i>Infections acquired while receiving health care irrespective of site: hospital; long-term care facility; ambulatory care; or home. This term reflects the shift away from hospitals as the predominant provider of health care services and has largely replaced the term nosocomial. (3)</i>
Infection Control	<i>The original term used to describe the hospital program responsible for monitoring and preventing nosocomial infections. (3)</i>
Infection Control Professional (ICP)	<i>A health care professional (e.g., nurse, medical laboratory technologist) with responsibility for functions of the Infection Prevention and Control Program. This individual, who must have specific Infection Prevention and Control training, is referred to as an infection control practitioner/professional or ICP. (3)</i>
Infection Prevention and Control Program	<i>The program consisting of the hospital epidemiologist, practitioners, and support staff charged with the responsibility to minimize the occurrence of infections in patients, health care workers, and visitors. (3)</i>
Nosocomial Infection	<i>The term used for an infection acquired while receiving health care. Since this is a term historically associated with infections acquired while in hospital, there has been a move to the term HAI (defined above) to more clearly reflect the continuum of care. (3)</i>
Personal Protective Equipment (PPE)	Items worn by a healthcare worker, visitor, volunteer, etc. to protect oneself from getting infected. Personal protective equipment includes; gloves, gowns, masks, goggles and face shields.
RHAs	Regional Health Authorities: Horizon Health Network and Vitalité Health Network.
Zone	A geographical area. Both Horizon and Vitalité contain four zones.
Source:	
<ol style="list-style-type: none"> 1. Horizon Health Network, <i>Policies & Procedures Manual – Hand Hygiene Policy</i>, Dec. 2013. 2. Ontario Agency for Health Protection and Promotion (Public Health Ontario), Provincial Infectious Diseases Advisory Committee. <i>Best Practices for Hand Hygiene in All Health Care Settings</i>. 4th ed. Toronto, ON: Queen’s Printer for Ontario; April 2014. 3. Nosocomial and Occupational Infections Section - Division of Blood Safety Surveillance and Health Care Acquired Infections - Centre for Communicable Diseases and Infection Control - Public Health Agency of Canada, excerpts from <i>Essential Resources for Effective Infection Prevention and Control Programs: A Matter of Patient Safety: A Discussion Paper</i>. 	

Appendix III – Criteria Used in Our Audit

Criteria Used in Our Audit
<p>Criteria serve as the basis for our audits. They are benchmark statements we use to assess the programs. Criteria provide the framework for collecting audit evidence. Our criteria for this audit on infection prevention and control in hospitals were:</p> <ul style="list-style-type: none"> • <i>The Department's and the Regional Health Authorities' <u>responsibilities</u> for infection prevention and control in hospitals should be clear.</i> • <i>There should be infection prevention and control <u>practices</u> in hospitals.</i> • <i>Hospitals should be <u>monitored</u> to ensure compliance with routine practices.</i> • <i>The Department &/or the Regional Health Authorities should <u>publicly report</u> on the effectiveness of its infection prevention and control program(s).</i>
<p>Source: Criteria developed by AGNB using information from: other Offices of the Auditor General (Saskatchewan, Manitoba, Nova Scotia, Newfoundland and Labrador), PHAC (Public Health Agency of Canada), IPAC Canada - formerly CHICA (Community & Hospital Infection Control Association of Canada), <i>Best Practices for Infection Prevention and Control Programs in Ontario In All Health Care Settings</i>- 3rd edition, and Accreditation Canada- <i>Standards - Infection Prevention and Control</i> - April 2012.</p>

Appendix IV – Work Performed by AGNB for this Audit

Work Performed by AGNB for this Audit
<p>Our work for this audit included the following:</p> <ul style="list-style-type: none"> • reviewing legislation and policies for the programs; • holding discussions with staff from various divisions at the Department of Health, including the <i>Office of the Chief Medical Officer of Health</i>; • corresponding with staff from each of the two RHAs. This included speaking with representatives from eight <i>Local Area Infection Prevention and Control Committees</i>, two representatives from Horizon's <i>Regional Infection Prevention and Control Committee</i>, and two representatives from Vitalité's <i>Quality Management and Patient Safety Committee</i>. Committee representatives were from different healthcare disciplines including: infectious disease, patient safety and quality services, public health, microbiology, and risk management; • visiting eight hospitals. In Horizon, we visited five hospitals representing 68% of their acute-care beds (Upper River Valley Hospital, Miramichi Regional Hospital, Dr. Everett Chalmers Regional Hospital, Saint John Regional Hospital, and Sackville Memorial Hospital). In Vitalité, we visited three hospitals representing 55% of their acute-care beds (Chaleur Regional Hospital, Dr. Georges-L.-Dumont University Hospital Centre, and Grand Falls General Hospital). We visited hospitals of various sizes and from different zones in the Province. • interviewing people from each of the eight zones; • touring four laundry facilities and meeting with representatives of <i>FacilicorpNB</i> regarding laundry services provided to the hospitals (<i>FacilicorpNB</i> is a public sector agency managing shared services for the health-care system. Its mandate is to provide safe, cost-effective and innovative support services to RHAs, nursing homes, and the Department.); • examining program standards and best practices from PHAC (Public Health Agency of Canada), IPAC Canada - formerly CHICA (Community and Hospital Infection Control Association of Canada), Accreditation Canada, and PIDAC (The Provincial Infectious Diseases Advisory Committee in Ontario); • analyzing information provided by the Department and the two RHAs; and • performing other procedures as determined necessary. <p>Our work at the hospitals included the following:</p> <ul style="list-style-type: none"> • touring the facility with the ICP manager and/or facility manager, and making observations; • meeting with the manager of environmental services, reviewing policies and procedures relating to cleaning patient rooms and equipment, touring and observing linen and waste management practices, and observing a supervisor performing a room inspection for cleanliness and compliance with procedures; • accompanying the ICPs while doing their routine work in the units of the selected hospitals. Their work included discussing infection prevention and control practices with healthcare workers, as well as auditing hand hygiene practices, the use of personal protective equipment (PPE) and patient isolation practices; and • meeting with other staff members including the administration support for the program, the executive director of the hospital, etc.

Appendix V – Horizon’s Hand Hygiene Compliance

Horizon’s Hand Hygiene Compliance



Performance Indicators Factsheet
FY 13-14

Hand Hygiene Compliance

Definition: The percentage of staff observed to follow the hand hygiene protocol established by the organization as part of safe practices for patients. Effective hand hygiene practices play a key role in improving patient and provider safety, and in preventing the spread of health care-acquired infections.

of staff that followed hand washing protocol / Total staff observed

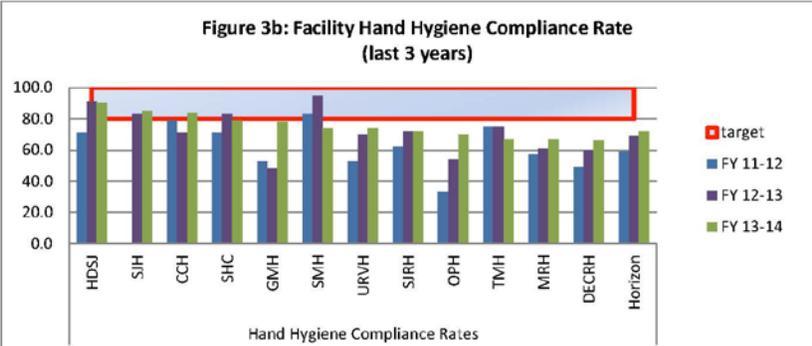
Target/benchmark source: CPSI received February 6, 2012 and PIDAC received July 2012

Figure 3a: Horizon Quarterly % Hand Hygiene



Year	Q1	Q2	Q3	Q4
2011-12	55	65	68	75
2012-13	75	62	70	72
2013-14	75	73	73	72

Figure 3b: Facility Hand Hygiene Compliance Rate (last 3 years)



Facility	FY 11-12	FY 12-13	FY 13-14
HDSJ	70	85	90
SJH	80	85	85
CCH	75	80	85
SHC	75	80	85
GMH	50	55	75
SMH	80	90	75
URVH	55	70	75
SJRH	60	70	75
OPH	35	55	70
TMH	75	75	70
MRH	55	65	70
DECRH	50	60	65
Horizon	60	65	70

Analysis Summary: The hand hygiene compliance has been trending up with a slight decrease in Q3 2012-13 and back up within the following quarters (Figure 3a). Overall, Horizon has been showing an increase over the last 3 years, with three facilities (HDSJ, SJH and CCH) achieving target in FY 13-14 (Figure 3b). This indicator is based on audits, therefore represents a sample. If this trend continues, achieving the target of 80% should be achievable by each facility within 1-3 years.

Action Summary: 143 Hand Hygiene Champions have been trained across Horizon to provide daily reinforcement on the 4 moments of hand hygiene and complete audits at the unit level. Work is underway to enable all Areas to submit hand hygiene data to the National Hand Hygiene Metrics, a reporting system sponsored by the Canadian Patient Safety Institute.

Legend:

HDSJ: Hotel-Dieu of St. Joseph	URVH: Upper River Valley Hospital
SJH: St. Joseph’s Hospital	SJRH: Saint John Regional Hospital
CCH: Charlotte County Hospital	OPH: Oromocto Public Hospital
SHC: Sussex Health Centre	TMH: The Moncton Hospital
GMH: Grand Manan Hospital	MRH: Miramichi Regional Hospital
SMH: Sackville Memorial Hospital	DECRH: Dr. Everett Chalmers Regional Hospital

Source: Horizon Health Network, *Performance Indicators Factsheet*.

Appendix VI – Vitalité’s Hand Hygiene Compliance

Vitalité’s Hand Hygiene Compliance				
Our findings and observations				
<ul style="list-style-type: none"> Hand hygiene data provided to us included the following. This data is not comparable with that shown in Appendix V for Horizon, as the methodology used to generate the two sets of data were different. Hand hygiene auditing was not done at all Vitalité hospitals prior to the summer of 2014. 				
	Zone 1B <i>Beauséjour</i> <i>(Moncton)</i>	Zone 4 <i>Nord-Ouest</i> <i>(Edmundston)</i>	Zone 5 <i>Restigouche</i> <i>(Campbellton)</i>	Zone 6 <i>Acadie-</i> <i>Bathurst</i>
	Nov 2010 – Dec 2011			
Compliance rate	51%	74%	42%	60%
Number of observations	1,874	54	211	2,249
	May 2012 – March 2013			
Compliance rate	44%	23%	67%	40%
Number of observations	2,425	373	1,867	3,089
	April 2013 – March 2014			
Compliance rate	57%	42%	36%	59%
Number of observations	269	1,535	330	1,016
Source: Compiled by AGNB from unaudited information provided by the Vitalité Health Network				

Chapter 3

Department of Natural Resources Silviculture

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Silviculture

Introduction

- 3.1** Forests are a cornerstone of the economic, environmental, and social foundation in New Brunswick. Forestry is a pillar of the New Brunswick economy. The Province's 2012 economic development policy "Growing Together" identified the forestry sector as a mainstay of the provincial economy. Timber or fiber harvested from Crown lands forms a base of supply for the forest industry.
- 3.2** In October of 2013 we chose to undertake a project within the Department of Natural Resources (Department) to learn about forest management practices in the Province and identify specific areas where we believed further work would provide value to the Legislative Assembly and the public. The Crown forest is also our legacy to future generations to ensure they can benefit from a strong forestry sector and can continue to enjoy the natural beauty and diversity of our forests.
- 3.3** We interviewed Department management personnel in key areas, stakeholders from industry, representatives of private woodlot owners and environmental groups as well as academics from the University of New Brunswick.
- 3.4** We researched forest management in other jurisdictions and reviewed government of New Brunswick commissioned reports over the past decade as well as Department documentation related to topic areas of interest.
- 3.5** We chose forest management within the Department for a number of significant reasons:
- The intrinsic value of forest land to New Brunswick residents is significant;
 - Economic value of the forest industry is significant to the Province;

- Management of Crown forest is complex; and
- The Province has a significant direct financial interest in Crown forests.

The intrinsic value of forest land to New Brunswick residents is significant

3.6 A survey undertaken in 2007 found “94% of NB residents visit forests during the year”¹ and “over 95% of respondents participate in forest-related activities”². Clearly New Brunswick residents utilize and value forests of the Province.

3.7 The survey found “environmental aspects remain the two most important values.”³ The two environmental aspects were:

- protection of water, air, and soils, and
- valuing forest as habitat for animal and plant life.

Economic wealth and jobs ranked third.

Economic value of the forest industry is significant to the Province

3.8 The economic value of the forest industry to the Province is often expressed in terms of contribution to provincial Gross Domestic Product (GDP) and overall employment.

3.9 In 2011, a government commissioned Private Forest Task Force, mandated to “review and set timber objectives for private lands in New Brunswick”⁴, reported the forest sector in New Brunswick accounted for 5 % of total GDP and greater than 10,000 jobs in 2010⁵.

¹ T.M. Beckley et al. “*Public Views on Forest Management in New Brunswick: Report from a Provincial Survey*”. (Natural Resources Canada, 2007), page 9.

² Ibid, page 13.

³ Ibid, page 13.

⁴ Government of New Brunswick News Release. “*Government announces actions to help strengthen, renew forest industry*”. 2010. < http://www2.gnb.ca/content/gnb/en/news/news_release>.

⁵ Donald W. Floyd, Robert Ritchie, and Tony Rotherham. “*New Approaches for Private Woodlots: Reframing the Forest Policy Debate*”. (Province of New Brunswick, 2012). 4.

3.10 Natural Resources Canada cited Statistics Canada 2012 direct employment numbers at 11,900 direct jobs based on the Labour Force Survey⁶. The value of 2012 exported forestry products to the Province per Natural Resources Canada⁷:

- primary wood products \$31,313,432
- pulp and paper products \$1,014,192,573
- wood-fabricated materials \$372,868,145

***Management of
Crown forest is
complex***

3.11 Although the Department is responsible for management of Crown land, there are six Crown timber licensees that hold Crown timber licenses issued by the Province. A licensee enters into a management agreement with the Province governing how they will manage and use Crown lands, subject to the Minister's approval.

3.12 Licensees are required to submit three plans detailing their operations on Crown land:

- a 10-year industrial plan describing all aspects of the licensee's wood processing facilities;
- a 25-year management plan detailing their objectives for use of Crown land under their agreement and describing the manner in which they will manage Crown lands; and
- a 1-year operating plan detailing how much wood will be used, the source of the wood, and other operational information.

***The Province has a
significant direct
financial interest in
Crown forests***

3.13 The Province receives timber royalties (revenue) for wood harvested and processed. Gross timber royalties for 2012-13 totaled approximately \$65 million (before forest management and silviculture payments to licensees). Royalty rates are defined in regulation.

3.14 The Province pays Crown land licensees to manage their license at a defined overhead rate. The Province also pays licensees for undertaking silviculture work on Crown land.

⁶ Natural Resources Canada. "The State of Canada's Forests – Annual Report 2013". 49.

⁷ Ibid.

3.15 The Province's investment in forest resources is significant. Program budget and expenditures from the Department's 2012-13 annual report are presented in Exhibit 3.1. Overall, the Forest Management program accounted for 61% of the Department's ordinary account budget and actual expenditures.

Exhibit 3.1 - Department of Natural Resources – Ordinary Account 2012-13

Department of Natural Resources – Ordinary Account 2012-13					
Program	Budget	Percentage of Total Budget	Actual Expenditure	Percentage of Total Actual Expenditure	Difference
Forest Management	\$ 47,223,600	61%	\$ 45,916,800	61%	\$ (1,306,800)
Fish and Wildlife Management	11,179,000	14%	11,041,000	15%	(138,000)
Corporate Services	7,094,300	9%	7,426,300	10%	332,000
Land Management and Natural Areas	4,413,500	6%	3,966,500	5%	(447,000)
Regional Management	7,311,700	10%	6,715,800	9%	(595,900)
Totals	\$ 77,222,100	100%	\$ 75,066,400	100%	\$ (2,155,700)

Source: Created by AGNB from Department of Natural Resources 2012-13 annual report data (unaudited).

3.16 We selected two project areas for further examination. The first relates to Silviculture and can be found in this chapter.

3.17 Chapter four looks at the role and responsibilities of the Department of Natural Resources and the New Brunswick Forest Products Commission (Commission) respecting private wood supply.

Significance of silviculture

3.18 The sustainability of future timber supply depends on its successful regeneration. Silviculture⁸ is the aspect of forest management that focuses on achieving the continued regeneration of a high quality timber supply. This leads to a more productive working forest which in turn can provide more forest area to satisfy non-timber objectives, such as habitat preservation, biodiversity, and alternative forest uses like maple sugar production.

⁸ See Appendix I for a glossary of terms, including silviculture.

3.19 Average silviculture spending over the last five years by the Department of Natural Resources (the Department) has been approximately \$29 million. It is one of the largest expenditures of the Forest Management branch. Crown timber license management and silviculture are the two most significant cost components, which offset earning royalty revenue from Crown Timber.

3.20 The Private Forest Task Force report of 2012 stated, *“Silviculture activities contribute a higher proportion of GDP to gross output than forestry and logging and all manufacturing sectors, including the forest products industries.”*⁹

3.21 We believe it is important to the Legislative Assembly and the general public to know how the Department is safeguarding and overseeing the renewal of one of our most valuable natural resources.

Audit objectives

3.22 The objectives of our audit were:

- to determine if the Department of Natural Resources is meeting its responsibilities to enhance the quality and quantity of future timber supply through silviculture; and
- to determine if the Department of Natural Resources acquires silviculture services with due regard for economy and efficiency.

Conclusions

3.23 We have concluded past silviculture efforts will contribute to improvements in the future supply of timber. However, during our audit period of 2009 to 2014, the Department fell short in fulfilling some of its related management and oversight responsibilities. This includes not updating the forest management plans and agreements; failing to enforce compliance with treatment standards and not completing licensee performance evaluations, in addition to not keeping the public informed on the state of the Province’s forests and the impact of the Department’s silviculture activities.

3.24 We have also concluded the Department has not acquired

⁹ Donald W Floyd, Robert Ritchie, and Tony Rotherham. Socioeconomic Impacts of the New Brunswick private Woodlots Silviculture Program, Private Task Force Report, Appendix B, page 11.

silviculture services with due regard for economy and efficiency. However, it did demonstrate good controls over the receipt and billing for silviculture services received.

Results in brief

Department's silviculture strategy

3.25 Because of the collective efforts of the Province and industry stakeholders over the last 30 years, the future wood supply is expected to increase. However, the Department has not fulfilled its stewardship responsibilities to keep the public informed on the success of its efforts. During the audit period, the Department did not provide adequate direction and oversight of the silviculture program on Crown land.

3.26 The Department has sophisticated information systems and a wealth of forest data at its disposal. We noted a lack of documentation that provides macro level forestry analysis. There was a shortage of current summarized forestry data at the provincial level with which decision makers could evaluate alternatives and make informed decisions. This led us to question if silviculture related decisions are optimized relative to established objectives.

3.27 The Department's attention is concentrated on overseeing each of the licensees and monitoring compliance of licensees' current activities. The Department is less focused on managing the renewal of the Province's forests as a whole, but rather manages on a license by license basis.

Procurement of silviculture services

3.28 The Department does not acquire silviculture services in a competitive and transparent manner. The price paid for planting and thinning is set by the Department using a costing model with no competitive open market influence. There is no ongoing comparison between actual costs incurred by licensees, who are the sole source providers on Crown land and the model rates.

Standard setting and compliance monitoring

3.29 We found the main standards document, the *Forest Management Manual for New Brunswick Crown Land*, to be an interim, out of date document. Since last published in 2004 it has been superseded by other policies, directives and generally accepted practices. Lack of clear operational compliance standards makes monitoring more difficult and increases the risk of non-compliance.

Determining the value contributed by the silviculture program

3.30 We recognize the importance of continued investment in our renewable timber resources through the silviculture program. We found the Department does not provide adequate accountability information to the Legislative Assembly and the public relating to the effectiveness of the program. We also

noted a lack of clear financial accountability for how the funds are being spent, and what benefits will accrue to ensure adequate future timber supply.

3.31 Silviculture expenditures are an investment in our renewable timber resources. It is evident investments made over the past three decades will contribute to a growing timber supply in the future. However, the Province needs to do more to ensure it is accountable for the preservation and growth of this asset.

3.32 The Department is not accountable for the value generated from its silviculture expenditures. It does not have the processes in place to determine whether the spending of \$29 million per year is getting value for money from silviculture expenditures.

3.33 There is also a lack of accountability for spending of Private Silviculture Program funding of approximately \$5 million per year.

Apparent bias to economic development and industry

3.34 There is an unstated employment and economic development purpose for both the Crown and private silviculture programs.

3.35 We found silviculture processes and decisions were driven by an apparent Department objective to support industry and economic development. For example:

- standards have been changed to give licensees more operational flexibility such as relaxing the planting standards;
- financial and process concessions have been granted to a licensee for which deficiencies were found during compliance monitoring; and
- strategic direction has been delayed to allow government to find ways to help industry be more competitive.

Performance reporting for the silviculture program

3.36 The Legislative Assembly and the public are not made aware of the long-term impact decisions will have on the future wood supply.

3.37 The Department has commissioned several reports and studies over the last ten years. Many of the recommendations made in these reports have not been adopted or responded to by the Department.

Recommendations

3.38 A summary of our recommendations can be found in Exhibit 3.2.

Exhibit 3.2 - Summary of Recommendations

Recommendation	Department's response	Target date for implementation
Audit Objective 1 - To determine if the Department of Natural Resources is meeting its responsibilities to enhance the quality and quantity of future timber supply through silviculture		
3.76 We recommend the Department adhere to a regulated and predictable forest management planning cycle and ensure compliance with the <i>Crown Lands and Forests Act</i> by obtaining revised forest management plans from each licensee every five years.	<i>DNR agrees. Forest Management plans have now been filed with DNR covering all Crown timber licenses as of the end of 2014.</i>	<i>Complete.</i>
3.83 We recommend the Department regularly obtain forest management plans for all industrial freehold managed by Crown licensees and compare silviculture levels between licensee freehold and Crown land.	<i>DNR agrees. While silviculture strategy is already a main component of Crown forest management plans the analysis can be expanded to include a comparison for those Licensees that also manage freehold.</i>	<i>12 months</i>
3.104 We recommend the Department complete and finalize a silviculture manual with performance standards based on best practices.	<i>DNR agrees. New Performance standards are being defined in the context of our outcome-based forestry. The approach links key structural attributes measured early on in stand development to the timber supply and quality requirements necessary to support long-term sustainable harvest levels. DNR is moving to adopt this approach this year.</i>	<i>6 months</i>

Exhibit 3.2 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>3.105 We recommend the Department enforce adherence to forest management standards and make amendments and exceptions only in light of new scientific knowledge and analysis of the effect of past treatments.</p>	<p><i>DNR agrees. An important element of DNR's migration to an outcome-based oversight approach will be the documentation and adoption of best-practices. As always, best practices will be used to guide silviculture on Crown lands. Best practices will be science-based, they will afford foresters flexibility to tailor treatments to specific block characteristics, and they will change over time as processes improve.</i></p>	<p>Ongoing</p>
<p>3.106 We recommend the area of Crown forest, subject to clear cut harvest, be reduced in favor of non clearcut harvest treatments as per the updated forest management strategy "A Strategy for Crown Lands Forest Management Putting our Resources to Work".</p>	<p><i>Clear cut harvesting is an appropriate tool for many of New Brunswick's forest types and is the most effective means at maximizing productivity and maintaining competitive industry costs. Where high-quality shade tolerant hardwoods exist and where special habitat and water quality considerations are a priority careful selection logging practices are used. DNR's current Crown forest strategy does not increase the reliance on clear cutting in the short term. In the future the industry will shift to greater reliance on commercial thinnings and clear cut harvesting will be reduced.</i></p>	<p>n/a</p>
<p>3.118 We recommend the Department continue with the silviculture annual monitoring program and apply consistent controls on silviculture services acquired.</p>	<p><i>DNR agrees, although the annual monitoring efforts are changing in substantial ways in order to bring about improvements in accountability. DNR will employ modern LiDAR-based techniques along with traditional field sampling to derive performance measures for silviculture. This approach will capture far more area and at a substantially higher resolution than traditional efforts. The new approach to monitoring will test not only whether areas were treated, but also how the trees are responding to management.</i></p>	<p>Ongoing</p>

Exhibit 3.2 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
3.122 We recommend the Department complete licensee performance evaluations every five years per the <i>Crown Lands and Forests Act</i> .	<i>DNR agrees. License performance evaluation for the 2007-2012 period is now complete and the documentation is being finalized for public release.</i>	6 months
3.123 We recommend evaluation data be verified by the Department for completeness and accuracy.	<i>DNR agrees. Indicators for the upcoming Licensee performance evaluation will be verified by the Department for completeness and accuracy.</i>	12 months
3.131 We recommend the Department monitor the results of silviculture treatments over time and hold licensees accountable through performance based measures.	<i>DNR agrees. As part of the outcome-based forestry approach, DNR will begin to evaluate silviculture performance well beyond the initial year of activity. A new approach will include a comprehensive growth & performance evaluation at age 15 for plantations and 5 years following any thinnings. The metrics will describe at a landscape-level both area treated and realized product development relative to management plan expectations.</i>	2 years
3.132 We recommend information self-reported by licensees be verified for completeness and accuracy.	<i>DNR agrees. See 3.123 above.</i>	12 months
3.142 We recommend the Department regularly report to the Legislative Assembly and the public on the status of New Brunswick's forest and its management.	<i>DNR agrees. DNR will release a web based information gateway that will provide increased transparency regarding New Brunswick's forest. We will look to use this as the basis for future reporting to the Legislature.</i>	12 months
3.143 We recommend pending the development and issuance of a consolidated "State of the Forest" report by the Department, the most recent forest management plans for all Crown licenses be made available to the Legislative Assembly and the public.	<i>DNR agrees. DNR will be releasing a regular state of the forest report that will highlight key information on the use and impact of silviculture treatments. This report will be filed with the clerk of the Legislative Assembly.</i>	18 months

Exhibit 3.2 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
Audit Objective 2 - to determine if the Department of Natural Resources acquires silviculture services with due regard for economy and efficiency.		
3.158 We recommend the Department include the use of an economic payback model when analysing resource allocations for silviculture program activities.	<i>DNR agrees. Working with industry and academic partners, DNR will work to strengthen economic factors in strategic modelling efforts.</i>	2 years
3.159 We recommend the Department implement a previous recommendation made by the Select Committee on Wood Supply to commit to, on a five year basis, the level of silviculture funding deemed appropriate to achieve stated timber and non-timber objectives.	<i>DNR agrees and will submit a funding plan to Government for consideration.</i>	8 months
3.163 We recommend the Department, in consultation with the Office of the Comptroller, calculate and record the value of the Crown timber asset in the Department's annual report and adjust this valuation to reflect harvest, silviculture and other changes. This valuation will quantify the impact of their management decisions.	<i>DNR agrees. Crown timber valuation is an important indicator of forest management success and DNR will move to adopt this as a regularly reported metric.</i>	2 years
3.167 We recommend the Department include long-term regeneration needs of the Crown forest and harvest trends to support distribution of silviculture funding.	<i>DNR agrees. Silviculture funding allocation decisions have always been supported by the forest management planning process and long-term timber supply models maintained within DNR. In the future, forest management planning documents will make clearer the scenario analyses and alternatives considered in silviculture strategy.</i>	2 years

Exhibit 3.2 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>3.181 We recommend the Department regularly benchmark silviculture rates from other jurisdictions in addition to using the costing model.</p>	<p><i>Benchmarking exercises with other jurisdictions are problematic as changes in geography, forest type, labour costs, and similar factors can lead to legitimately differing compensation rates. Isolating factors of interest can be extremely challenging. DNR will make efforts to develop criteria for comparisons. DNR does work to produce a competitive rate for compensation of silviculture efforts that provides fair compensation to companies at the lowest cost to Government. DNR will continue to regularly re-calculate rates in the interest of reflecting changing market and forest conditions.</i></p>	<p><i>1 year</i></p>
<p>3.182 We recommend the Department require licensees to provide a reconciliation of actual costs incurred for silviculture services provided on Crown land against fees paid and that cost efficiencies realized be proportioned between the Crown and licensee.</p>	<p><i>DNR agrees in the principal of capturing and sharing cost efficiencies. Today, DNR and licensees are working on process improvements using LEAN methodology as a way of identifying and eliminating non value-added process steps and waste. Licensees will be asked to provide annual cost reconciliation for areas reimbursed under the silviculture program.</i></p>	<p><i>3 months</i></p>
<p>3.194 We recommend the standard reporting package prepared by the Forest Products Marketing Board include reconciliation between the audited financial statements and the schedule of silviculture funding and related costs.</p>	<p><i>DNR agrees. Forest Products Marketing Boards will be asked to reconcile to their audited financial statements for future silviculture reporting exercises.</i></p>	<p><i>12 months</i></p>

Exhibit 3.2 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>3.196 We recommend the Department ensure a forest management agreement is signed by all current licensees to ensure compliance with the <i>Crown Lands and Forests Act</i>.</p>	<p><i>DNR agrees. We are actively engaging Licensees with the aim of signing amended and restated Forest Management Agreements. In the interim, existing 25 year agreements are still in place and valid.</i></p>	<p>2 years</p>
<p>3.206 We recommend the Province adopt a more equitable cost sharing arrangement for silviculture work that recognizes the direct benefits realized by the forestry companies.</p>	<p><i>The current model focuses on government funding such that future governments retain full control over issues such as harvest authorization and fibre allocation; however, DNR will review alternative models for consideration by Government.</i></p>	<p>5 years</p>

Background

3.39 New Brunswick forests have been the mainstay of the provincial economy for over a century, not only through forestry but also tourism, recreation, hunting and fishing. Our forests are an invaluable social, economic and environmental contributor to the quality of life enjoyed in New Brunswick and are our legacy for future generations. New Brunswick forests are one of our most valuable assets and they are critical to the current and future prosperity of the Province. It is important that they be managed and cared for properly. The Department of Natural Resources (the Department) is charged with this challenging task.

3.40 The Department is the steward of this public resource. Within the Department it is the Forest Management branch, along with regional and district office staff, who undertake the management of the Crown forests in New Brunswick.

Forest Management in New Brunswick

3.41 The *Crown Lands and Forests Act* assigns the Minister of the Department of Natural Resources responsibilities for both Crown and private forest lands. It states the Minister is responsible for the development, utilization, protection and integrated management of Crown Lands including:

- access to and travel on Crown Lands;
- harvesting and renewal of timber resources;
- habitat for the maintenance of fish and wildlife populations;
- forest recreation; and
- rehabilitation.

3.42 It is important to note that forest management and management of Crown land are not the same. Forest management is a subset of Crown land management. Other elements of Crown land usage that need to be managed are mining, aquaculture, wind farms and tourism and recreation. Forest management has been expanded to include an aspect of private wood supply in addition to Crown timber.

3.43 The Department is responsible for the management of resources on Crown Lands including timber. The Department must exercise its responsibility for the forest resources in a way that maintains its productivity, and capacity for renewal, while preserving the ecological process and biological diversity. In relation to the conduct of forest management practices the Department is responsible for “*setting forest management*

goals, objectives and standards that reflect public values.”¹⁰

- 3.44** Sustainable forest management means balancing the various socio-economic and environmental values and other non-timber objectives with timber objectives. *“It requires an adaptive management approach that recognizes a forest’s potential to sustain a range of values to users and strives to find the best balance of uses based on relative benefit and impact.”¹¹*
- 3.45** Crown forests are managed by the licensees (major industrial participants) under the oversight and direction of the Department through a series of agreements, plans, standards, and procedures.
- 3.46** The forest management model in place on Crown land has been followed in New Brunswick since establishment of the *Crown Lands and Forests Act* in 1982. At that time the Province was divided up into ten licenses and management licenses were granted to the largest producer on each license, predominantly pulp mills. Through attrition and consolidation the list of Crown licensees has been reduced to five companies (Exhibit 3.3), with one additional license under interim management by the Department after closure of the Weyerhaeuser mill in Miramichi. Only one of the original New Brunswick-based companies is left as a licensee. Recently, for efficiency purposes, the ten Crown licenses have been consolidated into six management units (Appendix II).

¹⁰ *Forest Management Manual for New Brunswick Crown Land*, Department of Natural Resources, June 2004, sect 3.5

¹¹ *Ibid*, sect. 2

Exhibit 3.3 - Current Crown Land Licences

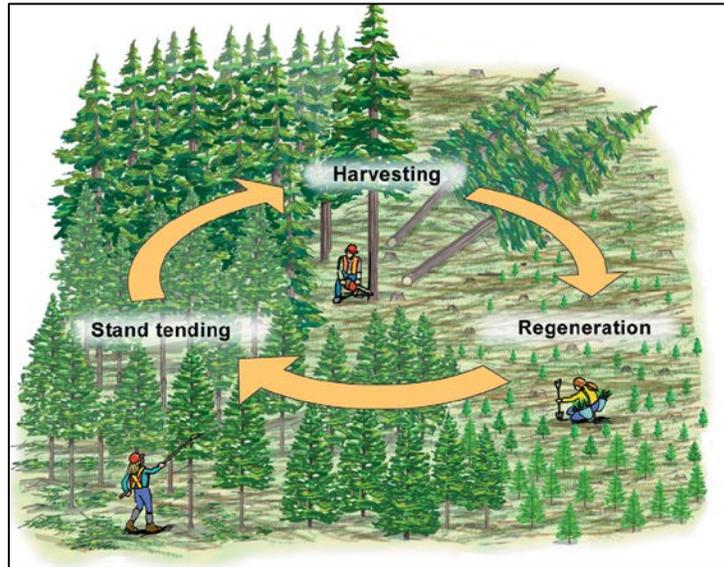
Current Crown Land Licences				
Licence	Licensee	Parent Co. / Head Office	Land Area (ha)	% of total
Upsalquitch	AV Cell Inc.	Burla Group, Mumbai, India	418,850	13%
Lower Miramichi	Fornebu Lumber Company Inc.	Umoe Group, Lysaker, Norway	944,320	29%
Kent	Kent License Management Team ¹²	N/A	71,942	2%
Fundy	Irving Pulp & Paper, Limited	JDI, Saint John, NB	1,046,967	32%
York	A.V. Nackawic Inc.	Burla Group, Mumbai, India	257,668	8%
Carleton	Licence holder-Twin Rivers Paper Company/ License manager Acadian Timber	Madawaska, ME / Vancouver, BC	530,659	16%
Total			3,270,406	100%

Source: Department of Natural Resources Annual Report 2013

3.47 In this type of management framework, the Department sets and enforces the parameters and private companies carry out the management functions. The reasoning behind this framework was that private companies are better suited to this role, having the infrastructure, staff and technical expertise in place to complete these services for their respective license area. Private companies in the forestry sector should also be more adaptable to changes in the science of forestry and new forest management practices than a government department. All this in turn should allow for cost efficiencies in the management of the Crown forest. If licensees did not provide management services, this responsibility would lie with the Minister.

¹² Kent license management team –negotiations are ongoing with Arbec as recent owner of a mill in Miramichi, to take over as licensee for the Kent license.

Exhibit 3.4 - Silviculture System



Source: British Columbia, Ministry of Forests, Forest Practices Branch, 2003, *Silvicultural Systems Handbook for British Columbia*

About Silviculture¹³

3.48 Silviculture is a major part of the forest management process. It encompasses regeneration, stand tending, and, selection of harvest methods. It is the purposeful regeneration of the forest to meet specific timber and non-timber objectives.

3.49 Silviculture is primarily used to enhance future timber production. It concentrates the potential yield of a given piece of ground into fewer higher quality trees that will reach harvestable size sooner.

3.50 Left alone most cut over areas in New Brunswick will regenerate trees naturally. Approximately 76% of Crown forested area harvested is left to naturally regenerate according to the 2014 strategy document and supporting table provided to us by the Department (see Appendix IV Key Forest Management Indicators).

3.51 Common silviculture treatments include:

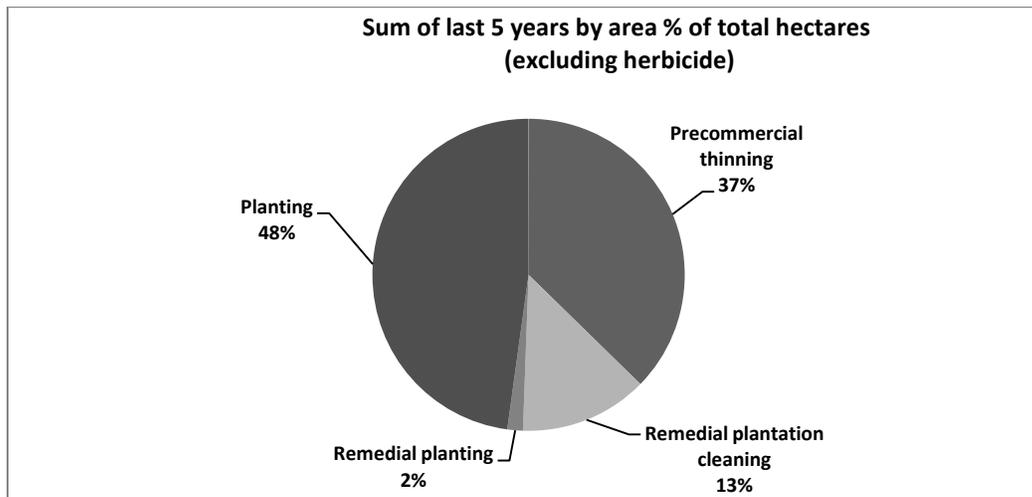
- planting;

¹³ See Appendix III for more detailed background information on silviculture.

- pre-commercial thinning/plantation cleaning;
- scarification (plantation site preparation); and
- herbicide application.

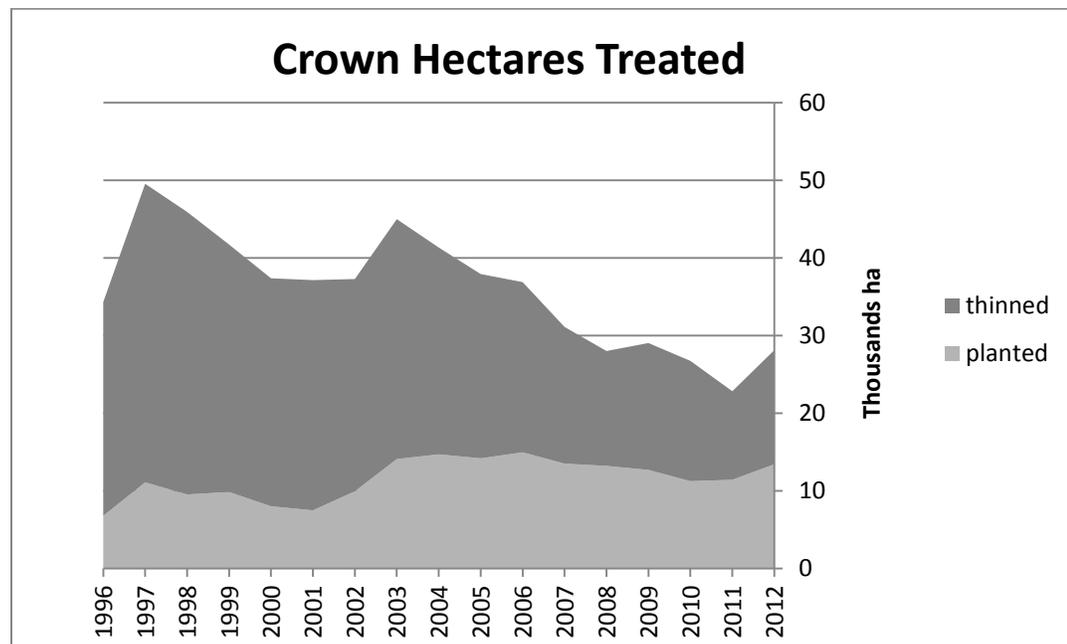
3.52 On Crown land in New Brunswick the two most commonly applied silviculture treatments are planting and pre-commercial thinning. Together they make up most of the treated areas (Exhibit 3.5).

Exhibit 3.5 - Silviculture Treatments Used in NB on Crown land



Source: Esily certification data (unaudited), graph prepared by AGNB

Exhibit 3.6 - Crown Hectares Treated



Source: Department annual reports (unaudited), graph prepared by AGNB

3.53 As seen from Exhibit 3.6, the Province has a long history of re-investing in our forests through silviculture treatments. The Province has spent \$125 million over the last five fiscal years with an additional \$22 million spent on the private land silviculture program for a total investment in our New Brunswick Forests over the last five years of approximately \$29 million per year.

Exhibit 3.7 - Department Historical Silviculture Program Expenditure

Departmental Historical Silviculture Program Expenditure (\$ Thousands)					
	Actual 2009/10	Actual 2010/11	Actual 2011/12	Actual 2012/13	Projected Actual 2013/14
DNR Planning and Monitoring	\$ 844.7	\$ 771.3	\$ 1,035.5	\$ 893.0	\$ 704.1
Nursery	3,830.4	3,947.6	3,954.5	3,863.1	3,686.3
Payment to Licenses	20,409.3	19,257.7	16,225.5	17,695.5	17,160.0
Herbicide	2,053.7	1,924.7	2,250.4	2,099.8	2,317.6
Subtotal Department and Crown land program	27,138.1	25,901.3	23,465.9	24,551.4	23,868.0
Private Land silviculture program	4,027.9	4,000.1	4,000.0	4,998.9	5,000.0
DNR TOTAL SILVICULTURE EXPENDITURE	\$31,166.0	\$29,901.4	\$27,465.9	\$29,550.3	\$28,868.0

Source: Department of Natural Resources (unaudited) - adapted by AGNB

Roles and Responsibilities

3.54 The Department has defined its roles and responsibilities pertaining to silviculture delivery to be:

- monitor licensee compliance with pre- and post- treatment standards;
- establish reimbursement rates;
- approve licensee silviculture budgets; and
- reimburse licensees for successfully completed treatments.

3.55 The responsibility to plan and implement silviculture has been delegated to the licensees. Licensees are intended to implement silviculture treatments on hardwood and softwood sites to support maximum increases in both present and future sustainable wood supplies and the provision of non-timber objectives as defined in their management plan.

3.56 However as the steward of the public forests the Department is ultimately responsible and accountable for the successful regeneration of New Brunswick's forests for the benefit and enjoyment of present and future generations. Each licensee is focused on their own Crown license and successfully operating their business in a very competitive and global industry. It is the Department who must coordinate and effectively manage the Province's timberland to ensure public goals are being achieved.

3.57 The roles and responsibilities will be further defined in this report as we discuss each of the components through which the silviculture program is managed. The three main components are:

- silviculture planning;
- silviculture treatment standards; and
- silviculture monitoring and reimbursement.

Audit Scope

3.58 Our focus was predominantly on the Crown land silviculture program, given the importance that Crown timber has on the future wood supply and the size of Crown timber lands. It also has the largest direct expenditure. We also included the private land silviculture program in our findings and recommendations. Crown and private land silviculture processes are quite similar.

3.59 We reviewed the legislative framework under which the Department operates. We examined data and documentation provided by the Department and other participants in program delivery, as applicable. We also reviewed data and information related to silviculture and forest management practices. This included the results of similar performance audits conducted by other jurisdictions, as well as studies and analysis prepared by government, academia and industry related to silviculture treatments and silviculture investment analysis. We conducted data analysis to identify trends and areas of potential risk. We reviewed key Department processes around program delivery and observed a joint assessment of silviculture treatments carried out by the Department and a marketing board. We conducted on the ground site inspection of treated blocks.

3.60 We conducted interviews with Department management and staff in both head office and selected regions. We also conducted interviews with representatives of other organizations and stakeholders, including:

- the Forest Products Commission;
- two licensee organizations;
- the New Brunswick Forest Products Marketing Boards;
- the New Brunswick Federation of Woodlot Owners; and
- select members of the academic community and professional foresters.

3.61 Our audit did not include a detailed examination of the forest management plans and operating plans required under the provisions of the *Crown Lands and Forests Act*. Although we examined some of these documents in order to gain a better knowledge of the Department's business, we are not expressing an opinion on the detailed silviculture and forest management processes carried out by the licensees.

3.62 Our audit covered the period from 2009 to April 2014. However, as part of our work and to gain sufficient knowledge of the subject matter we sometimes had to review Department documentation and reports prepared prior to 2009.

3.63 The audit criteria we used for each objective are listed in Appendix V.

3.64 Our audit was performed in accordance with standards for assurance engagements, encompassing value-for-money and compliance, established by the Chartered Professional Accountants of Canada, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

3.65 Certain financial and statistical information presented in this chapter was compiled from information provided by various entities directly involved in the topic area. It has not been audited or otherwise verified. Readers are cautioned that this financial and statistical information may not be appropriate for their purposes.

Objective 1

3.66 Our first audit objective was to determine if the Department is meeting its responsibilities to enhance the quality and quantity of future timber supply through silviculture.

Strategic Direction

3.67 One of the main responsibilities of the Department is to set the forest management goals and objectives for sustainable timber management and non-timber objectives including biodiversity and habitat protection. The goals and objectives set by the Department help to ensure New Brunswick Crown forests are being managed in the best interest of its citizens.

Silviculture is a major component of forest management and an essential tool for shaping renewal to support achievement of the Department's objectives. As described earlier, it is the part of forest management that focuses on managed regeneration of the forest to best meet future timber objectives.

Failure to update strategic direction

3.68 We found that the Department did not have a revised forest management strategy in place for the most recent forest management planning period (2012-2017). The Department continues to operate under the previous forestry strategy "The New Brunswick Public Forest Our Shared Future, June 2005" and the accompanying objectives and standards for the 2007 to 2012 management period. According to the Department's 2005 strategy, forest objectives were to be reviewed every five years.

Non-compliant with Crown Lands and Forests Act

3.69 The Department was not in compliance with the *Crown Lands and Forests Act*. The Act requires that the 25 year forest management plans be revised and brought up to date every five years. This was not done in time for the start of the 2012 to 2017 management period due to continued delays by the government in establishing a revised forest management strategy for licensees to follow when drafting new management plans.

Three forest management strategies in five years

3.70 We found that there were three iterations or attempts at a forest management strategy over our reporting period from 2009 to 2014. The Department was on track to meet the planning cycle timeline when the first strategy was published in 2009 entitled "A Balanced Management Approach for New Brunswick's Crown Forest". This strategy was formulated as a response to recommendations made by the "New Brunswick Task Force on Forest Diversity and Wood Supply" in their report "Management Alternatives for New Brunswick's Public Forest (April 2008)" along with extensive public consultations.

2009 Strategy Formulated

2011 delay of 2009 strategy

3.71 However, in 2011 implementation of this strategy was delayed to allow for completion of two task force reports: “A path for a sustainable economic forest in New Brunswick, Report by the New Brunswick Crown Land Task Force”; and “New Approaches for Private Woodlots, Reframing the Forest Policy Debate” the Private Forest Task Force report.

2012 strategy delayed

3.72 In March 2012 the Department announced a new forest management strategy that would balance social, ecological and economic needs. Features of this plan as outlined in a press release by the Minister included:

- maintaining the allowable softwood harvest levels and reducing the allowable hardwood harvest;
- implementing non-clear-cut harvesting measures; and
- designating 28% of total Crown forest as “conservation forest”, which included 9.4% in Protected Natural Areas.

3.73 This plan was delayed by the Minister in a letter to all licensees, this time in order to develop ways to attract investment in the forest industry.

2014 forest management strategy released for 2012 to 2017 management period

3.74 In 2014 the government produced the third version of the forest management strategy for the 2012 to 2017 management period. This version of the strategy featured an increase to the allowable softwood harvest and maintained the allowable hardwood harvest. It claimed to double the amount of Protected Natural Areas to 8% of productive forest area, which equates to the 9.4% of total Crown forest area announced in the 2012 strategy. The Department indicated that a key goal of the strategy is to put the New Brunswick forestry sector in a stronger position.

Indecisiveness inhibits long-term planning and investment

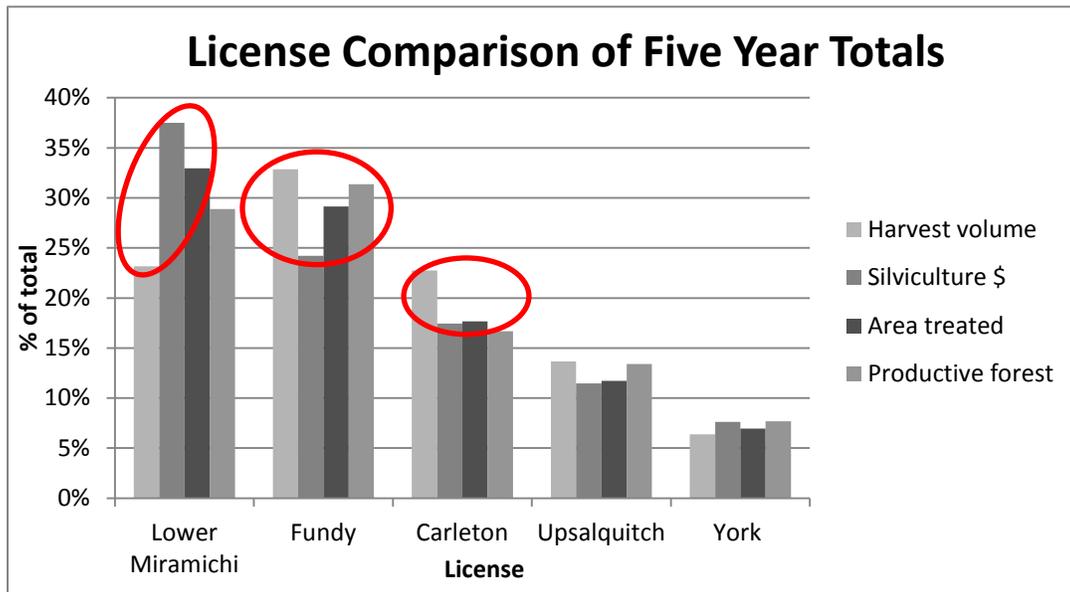
3.75 Forestry by its nature is a long-term endeavor and sustainable forest management requires a stable and predictable regulatory environment in order to allow treatment measures to develop and mature. Appropriate mid to long-term plans and actions need to be made without fear of short-term changes in forestry goals and objectives. Indecisiveness in determining strategic direction creates an environment of uncertainty and constant change that inhibits long-term planning and investment.

Recommendation 3.76 We recommend the Department adhere to a regulated and predictable forest management planning cycle and ensure compliance with the *Crown Lands and Forests Act* by obtaining revised forest management plans from each licensee every five years.

Separate strategy on each license 3.77 It is the responsibility of each licensee to develop and implement a forest management strategy for their own license that will incorporate the objectives set by the government and adheres to standards and regulations. The strategy must also work to meet the production needs of the licensee and sub-licensees.

3.78 We found the regeneration of provincial Crown timberlands are not being overseen or managed as a whole, but on a license by license basis. This means that while the basic rules are the same across the Province, there are up to six different forest management and silviculture strategies being followed on Crown land (one for each administrative unit). The strategies must adhere to the forest objectives and standards set by the Department. Within that broad framework, each licensee manages the license to best satisfy their timber needs and the needs of the sub licensees on the license.

Exhibit 3.8 - License Comparison of Five Year Totals



Source: Department data (unaudited) graph prepared by AGNB
 Note: "Silviculture \$" is silviculture payments to licensees and excludes cost of seedlings provided by the nursery and herbicide treatments.

3.79 Licenses have been managed with different levels of intensity, and have followed different silviculture strategies.

3.80 Exhibit 3.8 shows how varied the operations and results are across the licenses. While some of this variance is attributable to ecological and economic differences across the Province, the management intensity and unique agenda of each licensee plays a significant role.

No comparison to licensee freehold

3.81 A significant portion of the industrial freehold land in the Province is held by the licensees who manage both Crown and freehold land. The Department does not evaluate silviculture plans on Crown license with what is done on licensee's own freehold. In accordance with section 40(1) of the *Crown Land and Forests Act*, the Minister may obtain from the licensee management and operating plans for freehold land. The Department requested information on licensee freehold silviculture activity in 2005 in response to recommendations made by the Select Committee on Wood Supply. We could not determine what the Department did with the information obtained and they have not made any subsequent similar requests. Regular analysis of information would enable the Department to determine if silviculture efforts on freehold land differ significantly from Crown land where they are being funded by the Department.

3.82 The Select Committee on Wood Supply stated that *“Industrial lands are not all being as intensively managed as the Crown. Industrial freehold represents 18% of the productive forest area of the Province. While some industrial land owners have aggressively implemented silviculture programs on their own lands, others have not. Intensive management should be supported on all lands where the primary goal is fibre production.”*¹⁴

Recommendation

3.83 We recommend the Department regularly obtain forest management plans for all industrial freehold managed by Crown licensees and compare silviculture levels between licensee freehold and Crown land.

¹⁴ *Final Report on Wood Supply in New Brunswick*, Select Committee on Wood Supply, September 2004, page 25.

Setting Standards

3.84 We examined the documents and processes used by the Department to establish the standards, criteria and procedures in place to direct the performance of silviculture planning and implementation on Crown land.

Out of date and interim standards

3.85 Some jurisdictions have a separate Crown land silviculture manual. In New Brunswick, silviculture standards and procedures for Crown land are contained within the *Forest Management Manual*. This manual is an interim document, which has never been finalized because the Department has not been able to get industry acceptance of the standards it contains. It has, however, served as the standards compliance document since 2004 for both licensees and the Department.

3.86 Since last drafted in 2004, the manual has been superseded by other documents, policy statements and changes in procedures. It cannot be relied on as the sole definitive set of standards for silviculture work.

3.87 The lack of a single set of standards for silviculture treatments makes the Department's job of monitoring licensee's compliance to standards inefficient and potentially ineffective, and adds risk that they may not adequately protect public interest and future generations.

Silviculture standards for the Acadian forest not implemented

3.88 The forested area in New Brunswick has mixed stands of conifers and deciduous species. It is characterized by a wide variety of tree types, with mixed stands of both softwood species such as red, black spruce and shade tolerant hardwood such as yellow birch and sugar maple. This has been generally categorized as the Acadian forest.

3.89 The Department is responsible for setting forest management objectives that reflect public values. Our review of commissioned studies, reports and Department announcements and strategies over the last ten years, indicated that preservation of forest diversity was an important public value.

3.90 We found that current forest management approaches do not adequately quantify the successful regeneration of

Acadian forest, mixed species stands.

3.91 Past forest management strategies have committed to “*maintain the natural diversity and ecological characteristics of the Acadian Forest*”¹⁵ and “*maintain important stand structural and compositional characteristics of the Acadian forest*”¹⁶. This was also a recommendation made by the select committee on wood supply.

3.92 We found the Department had, in consultation with stakeholders, drafted a set of silviculture standards that was designed to maintain the integrity of the Acadian forest but never adopted them. We were informed that industry lobbied against adoption of the standards. As of completion of our audit work the policy had not been adopted, and there were no plans for its implementation.

Standards favour softwood regeneration

3.93 In our review of silviculture practices and standards we found them to target high value softwood regeneration, primarily spruce and pine. According to the Department this is because industrial users predominantly use softwood in their mills. The Department acknowledged that eastern cedar, red spruce, and shade tolerant hardwood (e.g. yellow birch, sugar maple, red oak) and mixed wood stand types have historically declined due to timber management practices.

3.94 The Department has had a tolerant hardwood policy in place since 1992. Its objective is to maximise the sustainable supply of hardwood logs in stands where the volume of shade tolerant hardwood species is greater than 50%.

Hardwood regeneration

3.95 The “Report of the Task Force on Forest Diversity and Wood Supply (April 2008)” stated that “*increased use of non-clear-cut treatments favours regeneration and development of shade tolerant [hardwood] tree species*”.¹⁷ They also stated that a high or increasing content of shade intolerant hardwood (red maple, white birch) and poplar

¹⁵ “The New Brunswick Public Forest Our Shared Future,” Department of Natural Resources, June 2005

¹⁶ “Be...sustainable in this place A balanced management approach for New Brunswick’s Crown Forest,” Department of Natural Resources, 2009

¹⁷ Thom Erdle et. al. Management Alternatives for New Brunswick’s Public Forests, Report of the New Brunswick Task Force on Forest Diversity and Wood Supply. Page XV.

species is inconsistent with the natural character of the Acadian forest.

3.96 Regeneration of shade tolerant hardwood species is important not only for ecological reasons and biodiversity, but also for the forest industry. Many mills use hardwood and there are many value added forest products that rely on high grade hardwood such as for flooring, furniture and tissue paper.

3.97 One of the best ways to manage regeneration in tolerant hardwood stands is through partial and selective cut treatments. Hardwood relies on natural regeneration. It is not planted like some softwood species. Partial cutting treatments such as selection cutting, patch and strip cutting have been widely used in hardwood silviculture treatments in eastern North America. The Department has accepted selective harvesting in its tolerant hardwood policy as a best management practice.

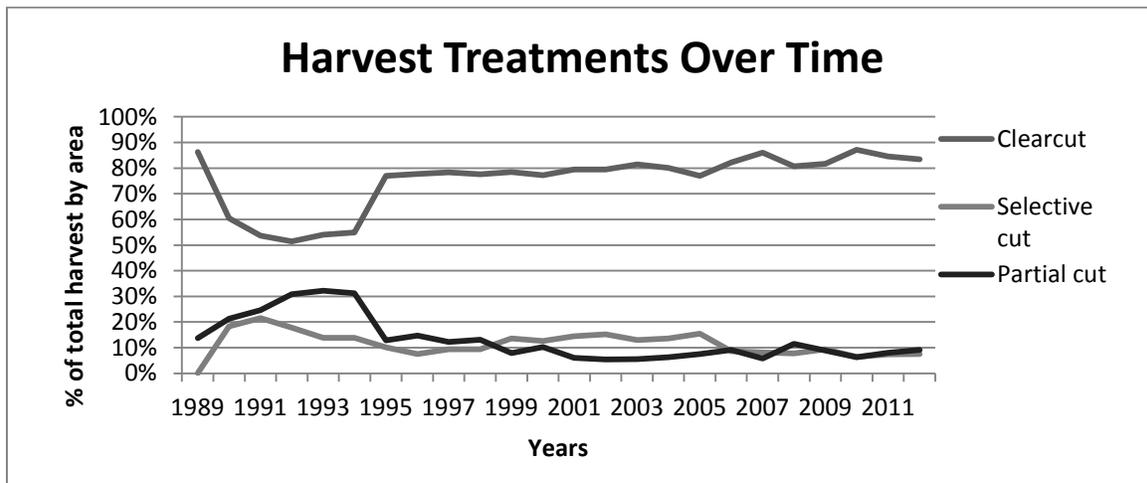
***Increase in area
clear-cut***

3.98 The Department's previous forest management strategy prior to 2014, "The NB Public Forest Our Shared Future (June 2005)," stated "*To further enhance diversity and sustain the Acadian Forest, non-clear-cut harvest prescriptions will be required*". The forest management objectives included in the strategy stated that "*wherever possible, clear-cut harvesting will be reserved only for those stands not suitable for other harvest prescriptions*".

3.99 Furthermore, the Select Committee on Wood Supply recommended "*that the amount of clear-cut harvesting on [Crown land] be reduced.*"

3.100 As shown in the Exhibit 3.9, we found that since the late 1990's clear cut as a percentage of total harvest has remained near or above 80% of the total area harvested. The recommendations made to reduce reliance on clear cut as a harvest treatment do not appear to have been followed.

Exhibit 3.9 - Harvest Treatments over Time



Source: Department harvest data (unaudited) graph prepared by AGNB

Mixed species plantations

3.101 We were pleased to see during our plantation site visits that, while not required by Department standards, the licensees had been using mixed softwood species in the plantation. It was also encouraging to note that greater care is being taken in plantation species selection to select appropriate species for the sites being planted.

Relaxed planting standards

3.102 During the conduct of our audit we were told that the Department had made changes to the planting standards on Crown land. By relaxing some of the criteria for natural stocking and timing of treatment, it made it easier for harvested sites to qualify for full softwood planting treatments. Before the change there were fewer sites that would qualify and this was making it harder for licensees to meet the budgeted/planned planting levels.

3.103 In our review of silviculture standards, we noted an inconsistency in the plantation stocking standards. Balsam fir is not counted towards new softwood growth when assessing the suitability of a site for planting. However, naturally growing balsam fir trees mixed in with planted species are allowed to count towards meeting stocking standards in the ten year survey. This allows more ten year plantations to meet the standard and lessens the burden on industry to bring non-performing plantations up to standard.

Recommendations

3.104 We recommend the Department complete and finalize a silviculture manual with performance standards based on best practices.

3.105 We recommend the Department enforce adherence to forest management standards and make amendments and exceptions only in light of new scientific knowledge and analysis of the effect of past treatments.

3.106 We recommend the area of Crown forest, subject to clear cut harvest, be reduced in favor of non clearcut harvest treatments as per the updated forest management strategy “A Strategy for Crown Lands Forest Management Putting our Resources to Work”.

**Compliance
Monitoring**

3.107 The Department is responsible for monitoring licensee compliance with silviculture treatment standards. The Department focuses a great deal of effort on this area. The Department maintains open lines of communication and a regular presence on the ground.

*Significant effort on
compliance
monitoring*

3.108 The silviculture annual monitoring program checks compliance with standards and verifies the Department received the services for which it has been invoiced. This process applies to both Crown and private silviculture programs. As with any purchasing program, there needs to be some form of receiving control to ensure the product or service delivered agrees to what was ordered and billed.

3.109 Upon completion of a silviculture treatment, a treatment certification form is uploaded by the licensee into the Department’s silviculture management system (Esilv). The form attests to various details of the treatment such as size of the area treated, what species were planted, and the treatment completed.

3.110 On a routine basis throughout the season, the Esilv system automatically selects a random sample of certifications for Department assessment and testing. A minimum of 10% of the treated area for each type of treatment is randomly sampled. The assessment consists of a verification of the certification data, measurement of the treated area and physical inspection by Department staff of the treatment to prescribed standards through test plots.

3.111 Any variance over 5% may result in a joint survey where both a licensee representative and the Department re-perform the survey of that block.

3.112 The monitoring process culminates in a year end reconciliation process to resolve differences between the

Department and licensees with respect to the measurement of treatment areas and compliance with standards for Crown land silviculture. If the total variance from the sampled blocks tested is greater than 2% an adjustment is made to the total invoiced amount for that treatment. This is a simple calculation done by applying the variance to the total amount paid for that particular type of treatment. A letter is then sent to the licensee notifying them of the results of the reconciliation for each treatment type and if any monies are due back to the Department for services that did not match what had been paid for. An invoice is issued for the recovery of these costs.

Reconciliation exceptions granted to one licensee

3.113 We examined post-treatment assessment summary data and reconciliation documents for last five years 2009-2013. We found one licensee was consistently (every year) in reconciliation for improper treatments and areas below standard. We found the Department consistently made exceptions and granted special considerations to that licensee.

Flexible approach adopted for licensee errors

3.114 Concessions were made for licensee errors in a treatment and data entry errors. Adjustments were made to reconciliation calculations and measurement methods in favor of the licensee.

We calculated close to \$1 million in exceptions granted to licensee

3.115 We found differences between the expected recovery amount based on the percentage variance and total payment and the amounts actually recovered from the licensee. The Department did not invoice the full amount due. We calculated a shortfall of \$931,000 over our test period of five years. However some of the difference was offset by the provision of in-kind work by that licensee.

3.116 The Department adopted a flexible approach when calculating the licensee's reconciliation. The changes in reconciliation methodology were not granted to other licensees. Sometimes this was done after lengthy deliberations with the licensee. This unnecessarily consumed Department resources and delayed eventual reimbursement until the following year. Given provincial budgetary processes, this meant recovered funds were no longer available for the silviculture program, but rather went into general government revenue when received.

Compliance monitoring and reconciliation is an important financial control

3.117 The monitoring program is an important control procedure that ensures the Department is receiving the services it is being billed for. This is evident in the fact that shortfalls and errors were found in every year we reviewed. The Department is considering discontinuing the annual monitoring and reconciliation program, and had suspended its use on one of the licenses for the 2014 season.

Recommendation

3.118 We recommend the Department continue with the silviculture annual monitoring program and apply consistent controls on silviculture services acquired.

Licensee performance evaluations overdue since 2012

3.119 The Department is required by the *Crown Lands and Forests Act* to complete a licensee performance evaluation every five years. The last performance evaluation was done for the 2002-2007 management period. No evaluation was done for the last management period ending in 2012.

3.120 From inspection of the last performance evaluation completed, three of the 20 performance criteria relate to silviculture. The criteria were:

- softwood planting conducted in the general forest;
- pre-commercial thinning conducted in the general forest; and,
- remedial treatment of plantation in the general forest.

3.121 The criteria are not true measures of performance of the silviculture treatments. The criteria are measures of whether the licensees performed the work indicated in their management plan. The performance evaluation is based on a system of self-reporting, without validation outside of the normal monitoring program.

Recommendations

3.122 We recommend the Department complete licensee performance evaluations every five years per the *Crown Lands and Forests Act*.

3.123 We recommend evaluation data be verified by the Department for completeness and accuracy.

Plantation outcomes not monitored for the long-term

3.124 There is a weakness in the monitoring processes regarding success over time of silviculture treatments. The monitoring program only looks at the immediate output or application of a treatment. For example, plantations do not get checked by the Department in subsequent years to see if they are

growing.

3.125 Plantations are typically tested the same year they are planted. This only allows for verification that the requisite number of seedlings per area were planted. If a seedling was planted but is dead at the time of sampling, it still counts towards achievement of the planting standard. This means mortality is not taken into account and likely success of the plantation is not considered.

Undue reliance on licensee self-reporting

3.126 The quality of plantations is not monitored by the Department. The Department relies on the long-term sampling by licensees. The licensees are required to assess plantation quality themselves at five and ten year intervals as part of the plantation survey. The surveys are submitted to the Department annually. The Department is not involved in monitoring or verifying the completeness or accuracy of the surveys. The survey results are not consolidated or analyzed. There is undue reliance on self-reporting by the licensees with no verification or monitoring by the Department.

3.127 From the compliance monitoring we can be reasonably certain about the amount of seedlings that were planted but it has been left to the licensees to monitor how well they are growing.

Insufficient effectiveness monitoring

3.128 We were unable to determine how the Department measured and monitored the effectiveness of the silviculture program over time. However, we are comfortable the Department's comprehensive inventory data and wood supply analysis incorporates the increases to the Crown timber supply on an ongoing basis. This is done through monitoring a series of sample plots in plantations and thinned areas. The measurement data generated is incorporated into the yield curves used in modelling the future wood supply.

3.129 The Department has the data systems and processes in place and is collecting and recording large amounts of forestry data. However based on our inquiry the Department is not following through on completing the other steps in effectiveness monitoring which are:

- reporting;
- trend analysis; and
- the examination of reasons behind the trend.

3.130 Effectiveness of the silviculture program is not being monitored by the Department.

Recommendations

3.131 We recommend the Department monitor the results of silviculture treatments over time and hold licensees accountable through performance based measures.

3.132 We recommend information self-reported by licensees be verified for completeness and accuracy.

Reporting

3.133 The Department has been entrusted with the management of one of New Brunswick's most valuable public resources. The Department has a responsibility to ensure the Legislative Assembly and the public are well informed on how well they are carrying out these responsibilities and also on the current state of the forest, what has changed, risks and concerns the Province faces and what actions will be taken.

No performance reporting

3.134 Significant amounts of public resources are being utilized to support and regulate silviculture in New Brunswick. Therefore, we would expect that performance information would be captured by the Department and reported publicly on a regular basis. This would allow legislators and New Brunswick citizens to evaluate the effectiveness of silviculture programs in achieving stated goals. It would also provide the Department with information which it could use in managing and improving the effectiveness of the program. However, such performance information is not generated and no reporting takes place.

3.135 The Department prepares an annual report that contains information related to the silviculture activities completed during the year and a tally of the funds spent. The Department does not report on the cumulative success of the planting program, such as:

- how well have past plantations done;
- how much more timber volume is available; and
- what impact past silviculture work has had on the annual allowable cut (AAC) and ability to meet other non-timber objectives.

3.136 The legislators and the general public are not receiving sufficient summary planning and performance information and therefore cannot determine the silviculture program's impact on future timber supply.

No report on state of the forest since 2008

3.137 The Province has only prepared one “State of the Forest” report, in 2008. There is no schedule or plan to continue with this type of report. Many other jurisdictions regularly produce a “State of the Forest” report and in some cases are legally mandated to do so. The reports typically include a description of how the forest is managed for ecological sustainability and use a criteria and indicator framework to measure performance. Given the importance of the silviculture program, information on its inputs would be a critical part of this report. The Select Committee on Wood Supply recommended that the Minister report annually to the Legislative Assembly on the status of New Brunswick’s forest and its management.

3.138 For example, a “State of the Forest” report is regularly produced by the federal government. It contains a list of 46 sustainability indicators. New Brunswick is a member of the Canadian Council of Forest Ministers and has committed to these same indicators. These indicators mirror the type of measures used in third party forest certification. Through the licensee, as directed by the Department, all Crown timber licensees receive third party certification (i.e. the SFI or Sustainable Forestry Initiative standard for their Crown license certification).

3.139 We found that when last prepared for the 2007 to 2012 management period by the licensees, the forest management plans included a description of the state of the forest within the respective license and the effect of actions taken, future challenges and opportunities. One of the objectives of the management plan is to report on key forest, habitat and wood supply indicators and trends. These documents are not made readily available to the public or the Legislative Assembly. The information within them is very descriptive and informative but it only pertains to the respective license. There is no equivalent provincial summary.

2008 “State of the Forest” report did not provide performance information

3.140 We would also note the 2008 “State of the Forest” report that was produced was not complete. For silviculture, it reproduced the activity data already reported in the annual report. It did not provide any performance information that would portray how well the Department has been doing at regenerating the Crown forest. There were no regeneration criteria and indicators included in the report.

***Lack of information
on forest
management in NB***

3.141 Overall, there is limited publicly available information which describes the current forest management system and the state of the forest in New Brunswick. Over ten years ago, the Department published a guide book on the management of New Brunswick’s Crown forest. This publication sought to provide the public with a step by step guide to the forest management process, showing how the Province plans to ensure that Crown forest are sustainably managed for the long-term benefit of New Brunswickers. However, this has never been updated.

Recommendations

3.142 We recommend the Department regularly report to the Legislative Assembly and the public on the status of New Brunswick’s forest and its management.

3.143 We recommend pending the development and issuance of a consolidated “State of the Forest” report by the Department, the most recent forest management plans for all Crown licenses be made available to the Legislative Assembly and the public.

Objective 2

3.144 Our second objective was to determine if the Department acquires silviculture services with due regard for economy and efficiency.

3.145 In this section we discuss how the Department exercises its fiduciary responsibilities in regards to the funding of the silviculture programs. We examined:

- how the Department determines the appropriate expenditure level; and
- what financial benefit taxpayers should expect to receive from funding provided for silviculture.

3.146 We looked at where and how the money is spent and how the Department establishes the rate paid for work performed.

3.147 We also examined the private silviculture program. It is not as significant in dollar terms (\$5 million is budgeted annually compared to \$20 million spent on Crown silviculture). However, it is significant given the Department’s responsibilities for private wood supply in the Province. This program supports silviculture investment and sustainable management practices on private wood lots.

Economic Payback **3.148** We expect the Department to monitor and be able to demonstrate that silviculture program expenditures are achieving the desired results at the lowest cost. While any level of silviculture activity will mean improved quality and quantity of future timber supply, it is important to determine the optimum level, type and location of silviculture treatments in order to maximize the financial return on investment to the Province.

3.149 The Crown Land Task Force believed the Province would benefit from silviculture investments based on some form of economic payback model. They thought this would help to improve investment levels, stability, perceptions and motivations around managing Crown timberland.

Insufficient financial analysis **3.150** We examined documents provided to us by the Department and interviewed management. We did not find a systematic process for evaluating investment levels against a set of defined performance criteria. We found a lack of financial analysis and information that would allow decision makers to evaluate the full cost associated with each alternative, and understand the trade-offs between environmental, social and economic benefits.

Results of operations not reported in business-like manner **3.151** In our 2001 report, our Office made a recommendation that the results of forest management activities be presented in a more business-like way to allow the reader to clearly see the net result of the Province's forest management efforts. This was seen as a way to potentially address public concerns that the Department was "giving away" the Crown resources. From our review of Department annual reports this recommendation has not been fully implemented. We could not find a statement of operations that showed revenue from the sale of Crown timber (royalty revenue) less the direct costs incurred to earn that revenue.

3.152 In an effort to determine the net contribution to the Province from timber management including silviculture activities, we present in Exhibit 3.10, a simple statement of operations from information contained within the Department's 2013 annual report and underlying financial records.

3.153 The net contribution to the Department after operating costs including Crown silviculture is insufficient to cover the other forest management commitments made by the Department.

Exhibit 3.10 - Statement of Forest Management Operations by Fiscal Year 2009 - 2013

Statement of Forest Management Operations by Fiscal Year (in thousands) (unaudited)					
	2013	2012	2011	2010	2009
Royalty Revenue	\$64,788	\$63,787	\$67,167	n/a ¹	n/a ¹
License Management Fees	\$26,517	\$27,685	\$30,653	n/a	n/a
Net Royalty Revenue	\$38,271	\$36,102	\$36,514	\$26,295	\$37,977
Gross Margin	59%	57%	54%	-	-
Planning, Inventory and Administration	\$8,776	\$9,198	\$9,087	\$9,696	\$9,280
Crown Silviculture	\$24,552	\$23,465	\$25,902	\$27,138	\$21,467
Operating Earnings (Loss)	\$4,943	\$3,439	\$1,525	(\$10,539)	\$7,230
Net Margin	8%	5%	2%	-	-
Other Provincial Forestry Related Revenue and Expenditures					
Other Revenue	(\$1,295)	(\$1,849)	(\$3,043)	(\$4,875)	(\$1,995)
Private Land silviculture ²	\$5,999	\$6,000	\$6,000	\$6,028	\$5,497
Fire Protection	\$6,602	\$6,136	\$6,977	\$7,033	\$7,502
Insect and Disease Protection	\$751	\$1,807	\$1,031	\$1,233	\$1,049
Private Land Development	\$498	\$803	\$1,265	\$674	\$442
	\$12,555	\$12,897	\$12,230	\$10,093	\$12,495
Forest Management (deficit) Surplus	(\$7,612)	(\$9,458)	(\$10,705)	(\$20,632)	(\$5,265)

1. Royalty revenue and management fee not separately recorded by the Department.
2. Includes \$1 million from Regional Development Corporation for private silviculture program

Source: Department of Natural Resources Annual Report 2013 and Oracle reports, prepared by AGNB

No direct benefit to Province's finances

3.154 The Department indicated it has no expectation of direct financial return from its silviculture investments. There is likely to be some amount of additional revenue realized from higher quality timber products available for harvest sooner than if left to regenerate naturally. The exact amount of this incremental revenue is not currently determined or analyzed by the Department. However, it is likely that the increased royalty revenue in the future is insufficient to offset the current cost of silviculture.

- 3.155** The primary benefit to the Province from both Crown and private silviculture programs appear to be indirect economic ones. This would include employment, an increased corporate tax base, and higher GDP. The Department did not provide an analysis of the future economic benefits that would result from silviculture expenditures. They could not demonstrate if it is sufficient to meet any investment or economic development objectives.
- Appears funding objective is to maintain economic development and employment*
- 3.156** It appears the most significant factor influencing continued expenditures on silviculture for both Crown and private silviculture programs are increased employment and support to the forestry services industry sector. A regular annual expenditure in this area keeps a baseline demand for these services and helps to retain forestry firms and employment in the Province.
- 3.157** This is not a publicly stated objective for the program and is not clearly defined or measured. The Department provided us with an estimate of 668 jobs per year supported by silviculture program funding but no other analysis or measures to justify the \$25 million average annual expenditure.
- Recommendations*
- 3.158** **We recommend the Department include the use of an economic payback model when analysing resource allocations for silviculture program activities.**
- 3.159** **We recommend the Department implement a previous recommendation made by the Select Committee on Wood Supply to commit to, on a five year basis, the level of silviculture funding deemed appropriate to achieve stated timber and non-timber objectives.**
- No tracking of Crown timber asset value*
- 3.160** Currently, Canadian Public Sector Accounting Standards do not require government to record or account for the value of the Crown timber asset. This renewable resource is one of the most valuable public assets in the Province but is not valued in the financial statements of the Province or in the Department's annual report.
- 3.161** This is in contrast to private forest management companies. Accounting standards (International Financial Reporting Standards) require that they recognize the fair value of their timber assets and reconcile changes in that value year over year. This reconciliation includes gains from growth and decreases from harvest. Financial statement

users can see if management is depleting the asset by harvesting more than what has been grown. An example of the type of reporting provided to public company shareholders can be found in Appendix VI.

3.162 In this way, private sector management is accountable to their stakeholders for the effective management of the timber resource and are committed to not only current year profitability but also the long-term value of their timberlands. This is a level of accountability not currently available to the citizens of New Brunswick.

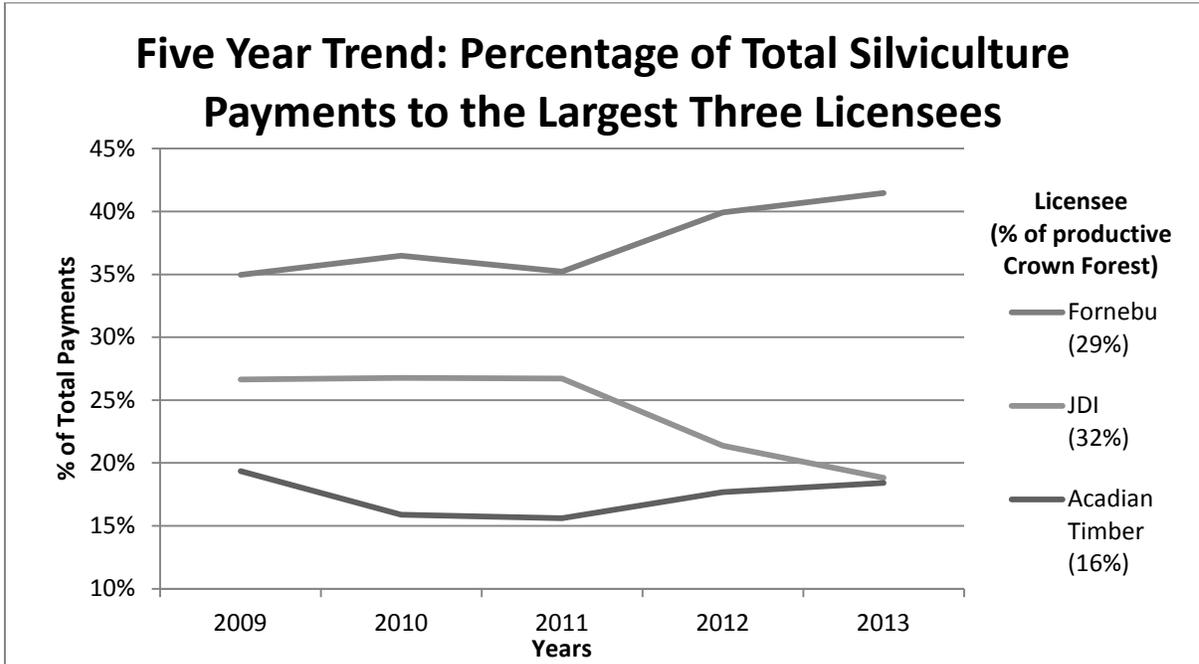
Recommendation

3.163 We recommend the Department, in consultation with the Office of the Comptroller, calculate and record the value of the Crown timber asset in the Department’s annual report and adjust this valuation to reflect harvest, silviculture and other changes. This valuation will quantify the impact of their management decisions.

Allocation of funding not on value for money basis

3.164 Allocation of silviculture funds across Crown lands is not done on a value for money basis. It is determined by the 25 year management plan for each license and the annual budget. Historically more silviculture work went into less fertile and poorer, more costly sites resulting in a disproportionate share of the program funding going to less productive areas. Exhibit 3.11 shows the trend for the three largest licenses over five years in terms of the percentage of total payments made to each licensee for silviculture work. Based on our discussions with Department representatives, money is not being allocated based upon where it would have the maximum benefit in terms of regeneration and increased future harvest levels.

Exhibit 3.11 - Five Year Trend: Percentage of Total Silviculture Payments to the Largest Three Licensees

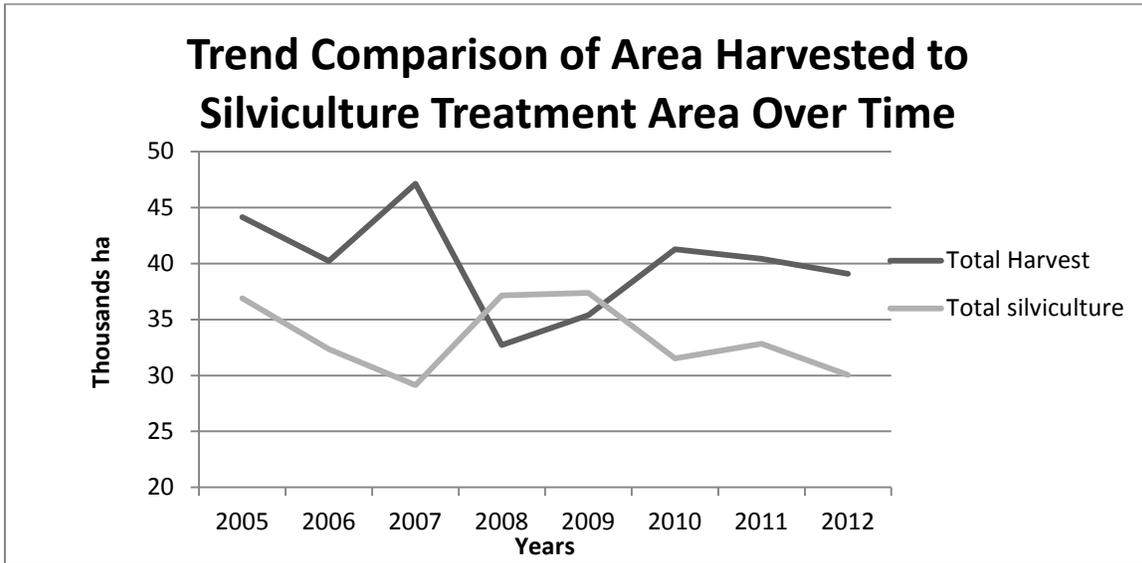


Source: Department Esilv system data (unaudited), graph prepared by AGNB

Silviculture not related to harvest

3.165 Our analysis of the spending patterns compared to area treated along with changes in the rates reinforced our belief that there is no relationship between program funding (investment level), the type, and amount of silviculture work done on each license and the Province’s timber objectives. Exhibit 3.12 shows harvest and silviculture treatment areas over time. We did not see a strong correlation between harvest and regeneration.

Exhibit 3.12 - Trend Comparison of Area Harvested to Silviculture Treatment Area Over Time



Source: Department of Natural Resources (unaudited) graph prepared by AGNB

3.166 Changes to the mix of treatments are sometimes impacted by a lack of suitable areas to treat. For instance, in recent years there was a decline in the amount of area suitable for pre-commercial thinning. The same is true for planting, which led the Department to relax planting standards to allow areas to qualify for planting sooner. This allowed licensees to continue to meet their planned silviculture levels and spend the full amount allocated in the Department’s budget.

Recommendation

3.167 We recommend the Department include long-term regeneration needs of the Crown forest and harvest trends to support distribution of silviculture funding.

Setting Payment Rates for Silviculture Activities

3.168 One of the key responsibilities of the Department in relation to the silviculture program is to establish the rates that will be paid for various silviculture activities.

3.169 Given the impact the individual treatment rates have on the area treated within the Province, we expect the rate setting process to be equitable, competitive and transparent.

Lack of competition in rates

3.170 On Crown land, contracting for silviculture work is not subject to a competitive procurement process. The Department sets the rates and approves the annual silviculture work plans put forward by the licensees. Each licensee is the sole provider of silviculture services for that license, although they may sub-contract the work. However, it is the licensee

who the Province pays for the work.

3.171 In this environment, it is important the Department have an equitable and transparent rate setting process and the rates remain competitive and market-based.

3.172 We examined the process used by the Department to establish rates for silviculture. The rate structure is complex with multiple rates for the same treatment depending on site parameters, and location.

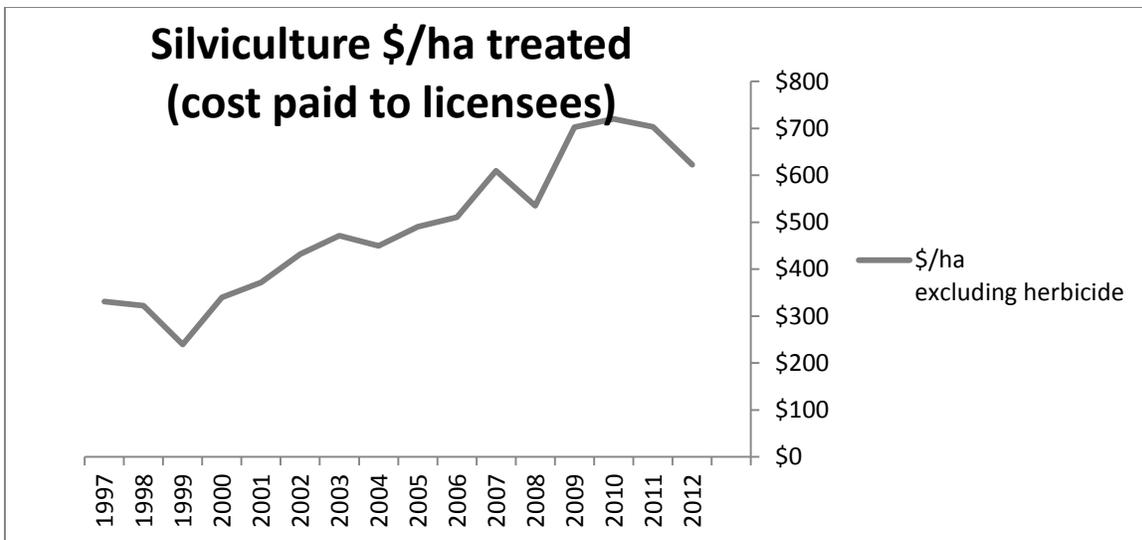
Rate review conducted

3.173 Prior to 2012, the Department undertook a review of the rate process in order to determine the appropriate costs of silviculture treatments. They contracted a third party to analyze the current rate structure and propose modifications as appropriate.

Rates determined by detailed costing model

3.174 The result was the development of a detailed costing model for select silviculture treatments. The costing model incorporated a comprehensive study of NB data including actual costs incurred by contractors, employment levels, rates of pay, density and dispersion factors. The third party firm was also able to draw on past experience and data from similar work done for other jurisdictions. A similar model was developed for both Crown and private silviculture work. The Department began using the rates from this model in 2012.

Exhibit 3.13 - Trend Analysis of Silviculture \$/Hectares Treated Over Time



Source: Department of Natural Resources Annual Reports (unaudited) - graph prepared by AGNB

3.175 From an analysis of the total amount paid to licensees over the total area treated it appears that after several years of increases, rates overall have stabilized or declined slightly as shown in Exhibit 3.13. However, this macro level view of the total treatment cost per hectare is also influenced by changes in the relative frequency of each type of treatment. The amount of pre-commercial thinning done has been declining for the past decade. The per hectare rate paid to licensees for full planting is significantly less than thinning (see Appendix VII for complete schedule of current rates).

Sole reliance on costing model

3.176 We are concerned with the Department's sole reliance on a costing model to determine a fair price for purchased services. The Department does not have a process in place or the ability to assess the reasonability of the model's outputs in the future. The Department is not aware of and does not benchmark what rates are in other jurisdictions for similar services.

No reconciliation to actual licensee costs

3.177 There is no regular review to ensure silviculture rates reflect costs incurred. There is the potential for a licensee to earn an inflated margin from the provision of silviculture services. The model is designed on a cost plus basis, meaning actual cost plus an additional amount for "contractor risk & profit". Many of the operating costs and their relationships to external variables are fixed within the model's calculations. If efficiencies are gained in operations or other cost saving methods employed such as reducing the number of supervisors, or transporting more than two planters per vehicle or if actual hourly pay is lower than what is in the model, then the rates calculated will not be a fair predictor of what is appropriate.

3.178 The *Crown Lands and Forests Act* stipulates that the Department shall reimburse licensees for expenses incurred for forest management. The Act specifically lists two silviculture treatments: tree planting and pre-commercial thinning.

3.179 The Department has the authority to access licensee financial records for work done on Crown land. Section 40(2) of the *Crown Lands and Forest Act* states, "*a licensee shall permit the Minister at any time to examine any books of account, statements, documents ...or other papers or records of a licensee which in any way relate to the operations of the licensee on Crown Lands.*"

3.180 Planning for silviculture is an integral part of the forest management and annual operating plans prepared by the licensees. The annual operating plan for example includes a detailed silviculture work plan for the current year. Licensees are compensated for this work through the forest management fees paid to them by the Department. We see the potential for overlap in compensation between the management fees and the silviculture billing for operational planning and management of silviculture work on Crown land.

Recommendations

3.181 We recommend the Department regularly benchmark silviculture rates from other jurisdictions in addition to using the costing model.

3.182 We recommend the Department require licensees to provide a reconciliation of actual costs incurred for silviculture services provided on Crown land against fees paid and that cost efficiencies realized be proportioned between the Crown and licensee.

**Silviculture
Funding on Private
Land**

3.183 The Department's total expenditure for silviculture includes \$5 million per year for the Private Woodlot Silviculture Assistance Program. This program encourages more active management of private wood lots by providing financial assistance for certain types of silviculture work to be done on private land. The most common treatment is pre-commercial thinning. The program is funded by the Department but it is delivered through the Forest Product Marketing Boards.

3.184 The financial reporting mechanism put in place by the Department to facilitate financial accountability to the program by the marketing boards is a report form called "Schedule A" (see Appendix VIII). This one page statement is meant to demonstrate to the Department, board compliance with the funding ratio and justification for expenditures on direct treatment and administration costs. It is to be prepared based on audited financial statements and submitted annually to the Department.

Province has no means of ensuring benefit from \$5 million per year

3.185 The Department stipulates there should be a reasonable expectation the work under this program will enhance the volume and/or quality of forest products over a 10 to 20+ year timeframe. The Province has no means of ensuring this expected benefit will be realized. There are no commitments any of the private land timber resulting from silviculture will actually be harvested or that it will be sold to producers in

New Brunswick.

Lack of accountability for private silviculture funding

3.186 Government funding for private silviculture is intended to be provided on a cost shared basis. Treatment rates (costs) are determined using a similar (but simplified) costing model as the one used for Crown rates. Essentially the provincially funded portion is 90% of the total treatment cost. The remainder of the cost (10%) is to be funded by the woodlot owner or marketing boards.

3.187 However, in our examination of the financial records we found two instances where 100% of silviculture costs were reported as having been funded by the Province.

No oversight of administrative fee retained by the Marketing Boards

3.188 The provincial funding includes an allowance for administrative costs incurred by the Marketing Board in delivering the program. The administrative portion retained by the Marketing Board is not to exceed 20% of the total amount of money given out by the Department (i.e. \$1 million).

3.189 However, we found instances where more than 20% was included in program administrative costs. Further, on examination of the financial records of selected Marketing Boards and their agents, we found two instances where the administrative costs applied against the program funding were not directly related to program delivery. We also found inconsistencies in the treatment of specific costs between the Marketing Boards.

Financial report is not audited

3.190 The Department does not inspect or audit the financial accounts and records related to the silviculture program of the Marketing Boards as is allowed for in the agreement.

3.191 The Department also does not reconcile the amounts reported in Schedule A with the audited financial statements of the Marketing Boards. We found that the schedule of silviculture funding and related costs (Schedule A) did not agree with and could not be reconciled to the audited financial statements of the Marketing Boards or their agents.

Funds did not go to intended recipient

3.192 We also found an instance where the funding did not reach the intended recipient Marketing Board. Instead the funds were held by the New Brunswick Federation of Woodlot Owners (NBFWO) and used to pay expenditures on the behalf of the Marketing Board. We were told this was due to concerns over the liquidity of the recipient marketing board and a fear that its creditors would take the program funds

intended for silviculture treatments. The Department was aware of and agreed with this arrangement.

3.193 Our concerns with these observations relate to financial accountability for program funding and expenditures. The actual silviculture work is well monitored. Based on our observations from document and process review, interviews and field visits, we are satisfied monitoring is being done to prescribed standards.

Recommendation

3.194 We recommend the standard reporting package prepared by the Forest Products Marketing Board include reconciliation between the audited financial statements and the schedule of silviculture funding and related costs.

Other Issues

Forest management agreements not updated

3.195 The Department was not able to provide us with current updated management agreements for all of the Crown licenses. The *Crown Lands and Forests Act* stipulates the 25 year term forest management agreements be updated every five years. At the time of our audit, the Department had a current updated forest management agreement with only one of the Crown licensees.

Recommendation

3.196 We recommend the Department ensure a forest management agreement is signed by all current licensees to ensure compliance with the *Crown Lands and Forests Act*.

Mitigation strategy

3.197 During our review of the previous set of management plans prepared for the 2007-2012 planning period, we became aware that the Department had introduced a mitigation strategy for the licensees to use to alleviate some of the constraints on timber supply imposed by changes to non-timber objectives in the 2007 forest management strategy. The Department's goal, through a provincial level mitigation, was to maintain the 2007 period one AAC at the 2002 Management Plan level. The Department proposed the following changes to mitigate the volume short fall:

- relaxing rules for harvesting in vegetation communities;
- relaxing rules for harvest in vacant deer wintering areas; and
- reducing the recreational buffer width and allowing harvesting in some provincial highway buffers.

Measures were not sustainable

3.198 In one of the 2007 forest management plans it was noted that these mitigation strategies were not sustainable and did not provide any new volume to maintain future harvest levels. They were artificially modified existing standards that resulted in an increase of 291 thousand cubic meters per year to the AAC. They were not the result of improvements from better forest regeneration or other improvements to the wood supply.

3.199 This type of short term decision making can occur when the Department has failed to establish and follow a clear long term plan.

Inequity in who pays for silviculture work

3.200 The Department, and ultimately the taxpayer, funds most of the silviculture work performed in the Province. However the benefits from this work do not go directly back to the taxpayer.

3.201 From our review of various studies including the Green River pre-commercial thinning trials, we found that many of the benefits from silviculture accrue to the harvester and processing facility. Silviculture treatments such as thinning concentrate the potential fiber yield into fewer but higher quality trees. This makes for more efficient and cost effective harvesting and provides higher quality products for the producers. The higher quality products also mean a higher royalty rate and increased revenue to the Province.

3.202 Many of the other jurisdictions reviewed as part of our background research have some type of alternative silviculture funding arrangements, so that all the costs are not paid for directly by the Province. In Ontario the Forest Renewal trust, paid into by forestry companies based on harvest volumes, provides dedicated funding for renewal of Crown forest. Saskatchewan also has a trust fund for reforestation paid into by forestry companies.

3.203 The exception on Crown land was in the case of remedial plantation treatment, such as cleaning and replanting. If, based upon the licensee's long term survey result, the plantation failed to meet density or stocking standards, the licensee was responsible for taking appropriate corrective action at its own cost. This may mean cleaning, which is thinning out the plantation.

3.204 In the past, the Department imposed a levy that went to a fund that would help pay the licensees costs for remedial treatments. It was possible that the current licensee company was not the same company who initially established the plantation. The levy and fund are not currently in use. We were informed by the Department that industry opted out of the levy.

3.205 Effective in 2014 the Department will compensate licensees for remedial plantation treatments. This change will take some of the accountability for poor performance away from licensees. This may reduce the funds available for other types of silviculture treatment work as it will come from the same budget. The Department has not disclosed the cost of this decision.

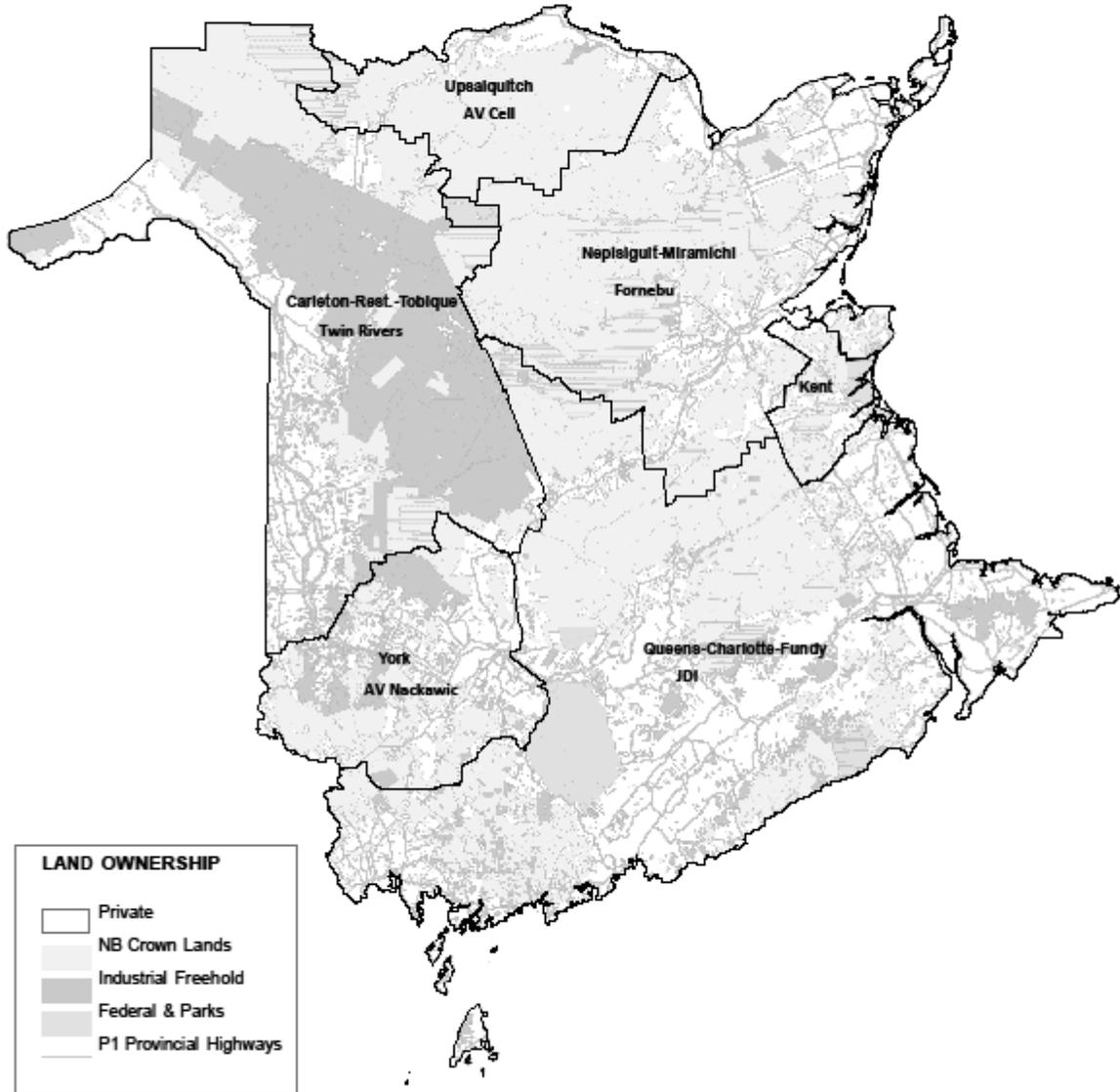
Recommendation

3.206 We recommend the Province adopt a more equitable cost sharing arrangement for silviculture work that recognizes the direct benefits realized by the forestry companies.

Appendix I - Glossary

AGNB	Auditor General of New Brunswick
Annual Allowable Cut (AAC)	The volume of timber that may be harvested during a given period to maintain sustained production. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F –Glossary of Terms</i>
Block	An area of land or timber that has been defined for management purposes. <i>Source: http://forestry.about.com/library/glossary/blforglb.htm</i>
Ecological	Relating to or concerned with the relation of living organisms to one another and to their physical surroundings. <i>Source: (Oxforddictionaries.com)</i>
Esilv	Department of Natural Resource’s silviculture management system.
Forest management	Involves actions at the level of the whole forest management unit: protection; forest renewal and stand tending; determining the size, location, and scheduling of harvests; and multiple-use planning. <i>Source: Natural Resources Canada, Canadian Forest Service, Silviculture Terms in Canada</i>
Free growing stand (Free to grow)	A stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs or other trees. <i>Source: Ministry of Forests, Lands and Natural Resource Operations, Forest Practices Code of BC Act, Part 1-Definitions</i>
Hardwoods	Trees which are generally deciduous, broad leafed species such as maple, birch, aspen. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F – Glossary of Terms</i>
Industrial freehold land	Land held by individuals or companies with a wood processing facility. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F –Glossary of Terms</i>
Plantation forest	Forest stands established by planting and/or seeding in the process of afforestation or reforestation which are either of introduced species (all planted stands) or intensively managed stands of indigenous species, which meet all the following criteria: one or two species at plantation, even age class, regular spacing. <i>Source: GoC, Natural Resources/Forest Resources/Glossary http://cfs.nrcan.gc.ca/terms/browse/P</i>
Pre-commercial thinning (PCT)	A silviculture treatment to reduce the number of trees in young stands, often carried out before the stems removed are large enough to be used or sold as crop trees so that at final harvest the end-product wood quality and value is increased. See Appendix III for more information on PCT. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F –Glossary of Terms</i>
Scarification	The mechanical preparation of improved seedbeds, primarily designed to expose mineral soil and remove vegetative competition. <i>Source: Natural Resources Canada, Canadian Forest Service, Silviculture Terms in Canada</i>
Selection cut	An un-even aged silvicultural system in which trees are removed individually or in small groups continuously at relatively short interval (e.g. 20 years for tolerant hardwood). This produces an uneven-aged stand. <i>Source: 2007 Crown Management Plan License 8, Glossary</i>
Silviculture	The theory and practice of controlling the establishment, composition, growth, and quality of forest stands to achieve the objectives of management. (Practices aimed at ensuring wise harvesting of forest resources : conservation, regeneration, reforestation, cutting, etc.) <i>Source: GoC, Natural Resources/Forest Resources/Glossary http://cfs.nrcan.gc.ca/terms/browse/S</i>
Softwood	Cone-bearing trees with needle or scale-like leaves such as spruce, fir, cedar and pine. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F – Glossary of Terms</i>
Stand	A community of trees possessing sufficient uniformity in composition, age arrangement, or condition to be distinguishable from the forest or other growth on adjoining areas, thus forming a silvicultural or management entity. <i>Source: 2007 Crown Management Plan License 8, Glossary</i>
Stripcut	In initial entry, a removal of up to 50% of the volume by harvesting alternating strips of a predetermined width of less than 20m. This treatment promotes the establishment of tolerant natural regeneration. <i>Source: 2007 Crown Management Plan License 8, Glossary</i>
Sustainable Forest Management	Management that maintains and enhances the long-term health of forest ecosystems for the benefit of all living things, while providing environmental, economic, social and cultural opportunities for present and future generations. <i>Source: Natural Resources Canada, State of Canada’s Forests 2009</i>
Timber	All trees of any species or size whether standing, fallen, cut or extracted. <i>Source: Select Committee on Wood Supply Final Report on Wood Supply in New Brunswick, Appendix F –Glossary of Terms</i>
Timberland	Forest land producing or capable of producing crops of industrial wood and not withdrawn from timber utilization. In New Brunswick the Department refers to this as the general forest, other jurisdictions have termed it the working forest. <i>Source: Northeastern Forest Inventory and Analysis, USDA Forest Service, Common Definitions, http://www.fs.fed.us/ne/fia/methodology/def_gz.htm</i>

Appendix II - Province of New Brunswick Crown License Administrative Unit Boundaries



Source: The Department of Natural Resources, adapted by AGNB

Appendix III - Background Information on Silviculture

Silviculture is used to enhance timber production. *“Properly tended stands grow more quickly and achieve greater timber volumes in a shorter time”*¹⁸. Silviculture activities support higher sustainable harvest levels. Left alone most cut over areas in New Brunswick will regenerate trees naturally. However, the first trees to establish themselves and grow the quickest may not be the most marketable. The marketable trees that do establish themselves will be smaller and take longer to grow. Silviculture treatments concentrate the potential yield of a given piece of ground into the fewer more desirable trees that will reach harvestable size sooner.

Silviculture is also used to manage regeneration for certain habitats or stand types for non-timber objectives. It might take several generations for the forest to naturally transition back to its original state. Silviculture practices can speed up that process and can match the types of trees or stands to that area. It can also help to ensure certain tree species are present in the new forest to support local wildlife.

Silviculture can be summed up as the purposeful regeneration of the forest to meet specific timber and non-timber objectives.

Forest management involves actions at the level of the whole forest management unit:

- protection;
- forest renewal and stand tending;
- determining the size and location;
- scheduling of harvests; and,
- multiple use planning.

Silviculture is not forest management, although it is a major part of the forest management process. It encapsulates the regeneration; stand tending; and, harvest selection. Common silviculture treatments include:

- planting;
- pre-commercial thinning/plantation cleaning;
- scarification (plantation site preparation); and
- herbicide application.

¹⁸ Management of New Brunswick’s Crown Forest, Dept. of Natural Resources September 2003

Appendix III - Background Information on Silviculture (continued)

On Crown land in New Brunswick the two most commonly applied silviculture treatments are planting and pre-commercial thinning. Together they make up roughly 75% of the treatments applied.

Planting is when seedlings from nursery stock are manually planted over the entire block. In New Brunswick it is typically softwood species that are planted. A best practice is to plant a mix of softwood species on a block. Planting often involves site preparation before actual planting can occur much like tilling the soil in traditional agriculture. Certain species of coniferous trees need help getting started, otherwise they are initially squeezed out by other vegetation. According to the Industry, Economics and Programs Branch of the Canadian Forest Service, planting is a major source of annual income to the reforestation contracting industry.

Pre-commercial thinning is where a young relatively dense forest area is thinned out with brush cutters and chain saws. The best young trees are left and undergrowth and competing species are cut back. It concentrates the potential growth that a plot can yield on fewer trees and trees of desired species. This increases the tree size and lowers the age at which the stand can be harvested. It also reduces logging costs and increases product values. Wildlife and landscape values are often improved. It is called pre-commercial thinning because there is no market for the trees that are cut due to their small size and due to the difficulty in retrieving them without damaging the young trees that are left.

Not all harvested areas are actively treated immediately after harvest. Some of the area cut is left for natural regeneration. Approximately 76% of Crown forested area is left for natural regeneration. Natural regeneration is often an effective and low cost means of attaining a mix of intolerant hardwood and softwood. Within a year after harvest many sites in New Brunswick will see an abundance of intolerant hardwood regrowth such as red maple, white birch, poplar and softwood such as balsam-fir.

Appendix IV - Forest Management Indicators (Updated to 2014 Forest Management Strategy)

Key Forest Management Indicators	Last 5 Years	Short-Term Next 10 Years	Long-Term 40-60 Years
Timber Objectives - (million m³/yr)			
Spruce / Fir /Jack Pine	3.27	3.93	4.4 - 4.8
Hardwoods	1.81	1.81	1.6 - 1.7
Harvest Fall-Out - (thousands m³/yr)			
White Pine	127	140 - 170	120-160
Cedar	85	100 - 130	20 - 60
Conservation Zones (thousands ha) (zones overlap)			
- Protected Natural Areas	157	273	
- Riparian and Wetland Buffers	364	301	
- Deer Wintering Areas	266	141	
- Other Old Forest Habitat Types	306	284	
Land Allocation (% of productive forest area)			
Conservation Forest (accounting for overlapping zones)	30.2%	22.8%	
Operationally Constrained Forest (steep slopes, too wet, etc.)	1.7%	6.5%	
Area Prioritized for the Timber Objective	68.1%	70.8%	
Forest Condition (% of total Forest Area)			
Plantations	12.0%		20-25%
Thinned Natural Regeneration	14.0%		10-15%
Natural Regeneration (less than 25 years since cutting)	12.0%		15-20%
Young Forest	22.4%		15-20%
Old Forest	36.6%		25-30%
Multi-Story Selective Cuttings	3.0%		3-5%
Harvest Regime (% of annual harvest area)			
Clearcut & Overstory Removal	81.9%	80.0%	65-75%
Partial Harvests	16.4%	16.3%	10-15%
Commercial Thinnings	1.7%	3.7%	15-20%

Source: Department of Natural Resources

Appendix V - Audit Objectives and Criteria

Objective 1

To determine if the Department of Natural Resources is meeting its responsibilities to enhance the quality and quantity of future timber supply through silviculture.

Criteria

- the Department should include silviculture goals and objectives in its forest management strategy;
- the Department should monitor the performance of silviculture work and ensure compliance with standards and plans; and
- the Department should measure and report the effectiveness of silviculture on Crown land.

Objective 2

To determine if the Department of Natural Resources acquires silviculture services with due regard for economy and efficiency.

Criteria

- silviculture investments should be made based on an economic payback model;
- the Department should have an equitable, competitive and transparent rate setting process; and
- the Department should ensure private silviculture funding is used for intended purposes and within prescribed limits.

Appendix VI - Example of Private Sector Reporting of Changes in Timber Asset Value

Timber

Timberlands are classified as a growing forest, with the standing timber recognized as a biological asset for accounting purposes and thus recorded at fair value less costs to sell at each reporting date. The underlying land is considered a component of land, roads and other fixed assets accounted for under the revaluation method.

The following table presents the change in the carrying value of timber:

<i>(CAD thousands)</i>	
Balance at December 31, 2011	\$312,350
Gains arising from growth	26,596
Decrease arising from harvest	(25,993)
Gain from fair value price changes	2,302
Foreign exchange	(3,829)
Balance at December 31, 2012	\$311,426
Gains arising from growth	28,526
Decrease arising from harvest	(28,358)
Gain from fair value price changes	3,434
Foreign exchange	9,165
Balance at December 31, 2013	\$324,193

Appraisals by a licensed independent third party appraiser are completed annually for the timberlands to establish the fair value less costs to sell of the timber. The most recent appraisal was effective as of December 31, 2013. The appraiser uses a combination of the discounted cash flow and sales comparison approaches to arrive at the estimated value.

The discounted cash flow approach relies on the determination of the net present value of expected cash flows from the harvest and sale of timber. The expected cash flows are calculated based on the following assumptions:

- a. Annual growth is determined by multiplying the operable forested acres by the annual growth rate as determined by a combination of the appraiser's analysis of regional publications and data provided by management;
- b. Annual harvest volumes are based on annual growth, but for years one through ten reflect the appraiser's observed typical investor behavior in underwriting timberland acquisitions; and
- c. Log prices are based on regional standing timber ("stumpage") prices, the appraisers' analysis of historical stumpage prices and investor behavior.

Appendix VII - Crown Land Silviculture Reimbursement Rates

2013-14 Crown Land Silviculture Reimbursement Rates

(NOTE - no adjustments made in 2013 except reduction in seedlings allocation)

License	Precommercial Thinning						Full Planting		Fill Plantation Cleaning		Site Preparation		
	Low Density Zone		Medium Density Zone		High Density Zone						Disc Trencher	Drags	C&H Plow
	trees/ha	\$/ha	trees/ha	\$/ha	trees/ha	\$/ha	trees/ha ¹	\$/ha	trees/ha	\$/ha	\$/ha	\$/ha	\$/ha
1	19 363	696	25 426	839	36 136	1 041	2 000	338	16 500	630	237	244	319
3	19 363	725	25 426	873	36 136	1 132	2 000	335	16 500	627	239	247	322
5	19 363	642	25 426	774	36 136	N/A	2 000	308	16 500	585	241	246	321
7	19 363	689	25 426	830	36 136	N/A	2 000	326	16 500	N/A	233	238	313
8	19 363	683	25 426	823	36 136	N/A	2 000	322	16 500	610	257	263	341
9	19 363	N/A	25 426	853	36 136	N/A	2 000	330	16 500	618	241	248	324

¹ Full planting target density; 2,100 seedlings/ha allocated (5% variance)

Other Rates:

1. Reimbursement rate for purchased seedlings is \$294/ha (based on 2,100 seedlings/ha at \$0.14/seedling).

Source: New Brunswick Department of Natural Resources, Forest Management Branch, April 2013

Chapter 4

Department of Natural Resources

Private Wood Supply

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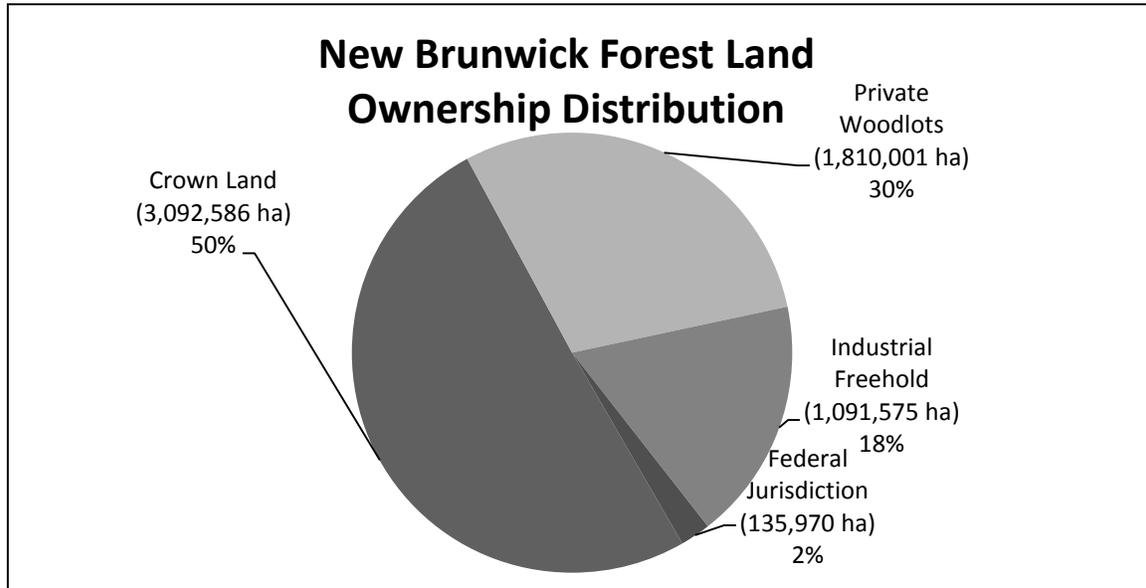
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Private Wood Supply

Introduction to Private Wood Supply

- 4.1** In this chapter we examine the legislated responsibilities of the Department of Natural Resources related to private woodlots under the *Crown Lands and Forests Act*. A glossary of terms is provided in Appendix I at the end of this chapter.
- 4.2** We also looked at the oversight role of the New Brunswick Forest Products Commission as it relates to the New Brunswick Forest Products Marketing Boards under the *Natural Products Act*.
- 4.3** We chose to look at these aspects of private wood supply for a number of reasons we believe are of significance to the Province, including:
- Private ownership of productive forest is significant in New Brunswick;
 - Private woodlots can provide a significant source of timber to industry;
 - Private timber sales provide economic benefits to the Province; and
 - Combined Department of Natural Resources and Regional Development Corporation (RDC) investment from 2010-11 through 2012-13 in private woodlot silviculture was \$6 million per year.

Exhibit 4.1 - New Brunswick Forest Land Ownership Distribution



Note: 1 hectare (ha) = 2.47 acres

Source: Department of Natural Resources

Private ownership of productive forest is significant in New Brunswick

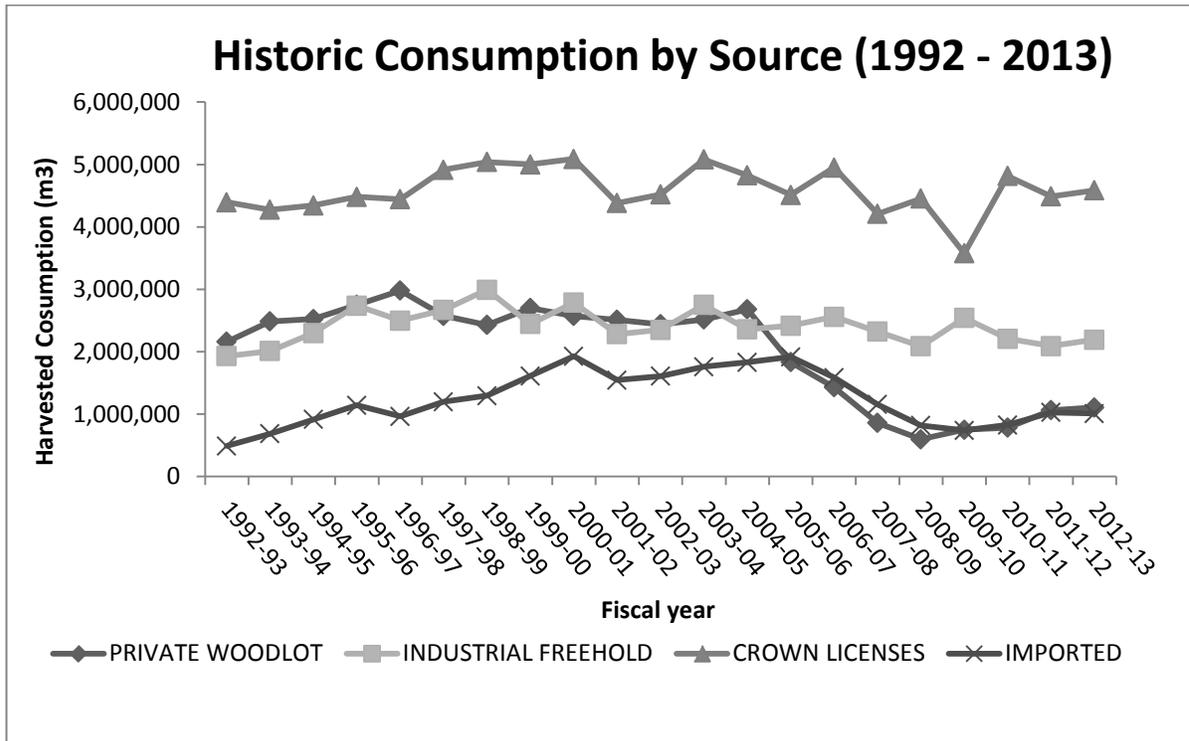
4.4 Private woodlots account for 30% of forest area in the Province. Appendix A of the Private Forest Task Force report provided to government in December 2011 estimated there were nearly 42,000 non-industrial forest owners in New Brunswick. Industrial ownership represents an additional 18% of privately owned forest area¹. Exhibit 4.1 presents an overview of New Brunswick forest land ownership.

Private woodlots can provide a significant source of timber to industry

4.5 Exhibit 4.2 shows historic timber consumption figures for 1992 through 2013 by source to New Brunswick processors. Crown timber was the dominant source of supply for the period highlighted but prior to 2004-05 private woodlots were a relatively important source of timber supply. Current private wood supply is well below historical values but is beginning to increase as markets strengthen.

¹ "A Snapshot of New Brunswick Non-Industrial Forest Owners in 2011: Attitudes, Behaviour, Stewardship and Future Prospects."

Exhibit 4.2 - Historic Consumption by Source (1992-2013)



Source: Created by AGNB with Department of Natural Resources Data (unaudited)

Harvested Consumption refers to the amount of wood (measured in cubic metres) consumed by New Brunswick processors.

Private timber sales provide economic benefits to the Province

4.6 As part of the forest sector, private woodlot timber sales provide economic benefit to the Province. The 2012 Private Forest Task Force report indicated that “*the forest sector supports families, fuels the rural economy, and pays for social services*”.² It further cited work done by Campbell in 2011³ suggesting that each additional 10,000 m³ of wood processed in the Province adds approximately 13 direct and 12 indirect jobs.

4.7 Total private wood sales through the forest products marketing boards for 2012-13 reported by the New Brunswick Forest Products Commission exceeded \$50.5 million. This was an increase from the previous year’s total sales of \$45.9 million. These numbers do not include direct sales contracts between processors and producers, estimated by the Commission to be about \$15 million for 2013-14. Direct sales contracts were not estimated before 2013-14.

² Donald W. Floyd, Robert Ritchie, and Tony Rotherham. “*New Approaches for Private Woodlots: Reframing the Forest Policy Debate*”. (Province of New Brunswick, 2012). Page 4.

³ Campbell, David. 2011. Jupia Consultants Inc. Personal communication to task force authors.

Provincial investment in private woodlots was \$5 million in 2012-13

- 4.8** The Province provides forest management funding for private land silviculture activities to encourage sustainable harvesting practices. The budget for 2012-13 was \$5 million. This amount was completely utilized in 2012-13.
- 4.9** The Department funds two other programs aimed, at least partially, at private woodlot management. In 2012-13 the Province granted \$90,000 to INFOR Inc. who, according to Department documents, provides “information, training, educational services and promotes sustainable management of private woodlots”. An additional \$200,000 was provided to INFOR Inc. to deliver the Maple Silviculture Program for Crown leases and eligible private woodlots.
- 4.10** In addition, the Department fully funds the New Brunswick Forest Products Commission. The budget allocated to the Commission by the Department in 2012-13 totaled \$330,000.

Objectives

- 4.11** The first objective we chose related to the role of the Department of Natural Resources under the *Crown Lands and Forests Act*. The objective was:

To determine if the Department of Natural Resources is meeting its responsibilities respecting timber supply from private woodlots.

- 4.12** Our second objective dealt with the oversight role of the New Brunswick Forest Products Commission. Our objective for this work was:

To determine if the New Brunswick Forest Products Commission provides adequate oversight of Forest Products Marketing Boards.

- 4.13** Appendix II provides criteria used to evaluate our objectives. The Department agreed with the criteria we used in our work.

Conclusions

- 4.14** We have concluded the Department of Natural Resources does not meet its principal responsibilities under legislation respecting timber supply from private forest lands.
- 4.15** While the Department has programs supporting sustainable management concepts aimed at increasing forest management practices on private woodlots, our work identified the following deficiencies:
- the Department has no documented, measurable goals and objectives specific to their role in private wood supply;

- the Department does not comply with legislated requirements under the *Crown Lands and Forests Act* specific to their role in private wood supply; and
- the Department does not publicly report on its performance in encouraging sustainable development of private woodlots.

4.16 The Department's failure to comply with its own legislation and provide leadership on private wood supply issues through a well-defined role and clear objectives contributes to uncertainty for private woodlot owners and conflicts within the marketing board system.

4.17 We have also concluded that, while the New Brunswick Forest Products Commission acknowledges its oversight role under the *Natural Products Act*, it fails to:

- adequately assess the performance of forest products marketing boards to ensure they are meeting regulatory obligations;
- consistently exercise its authority under legislation to address identified weaknesses in the marketing board system; and
- report publicly on the effectiveness of the Commission's work or marketing board performance.

4.18 Consequently, the lack of strong marketing board oversight by both the Commission and the Department means the Province cannot determine if the marketing board system is operating as intended in legislation or if significant risks are being adequately managed. Should marketing boards fail, the Province, through the Commission, may be liable for marketing board obligations. For the 2013 fiscal year end, total liabilities for two of the most indebted marketing boards was just under \$1.2 million.

Summary of Main Points

Objective 1 – The Role of the Department of Natural Resources

4.19 The Department of Natural Resources and the New Brunswick Forest Products Commission each have roles in private wood supply. Under the *Crown Lands and Forests Act*, the Department's role is to "...encourage the management of private forest lands as the primary source of timber for wood processing facilities in the Province consistent with subsection 29(7.1) and, with approval of the Lieutenant- Governor in Council, may initiate programs for such purposes."

The Department has no clearly documented strategy for private woodlots providing measurable objectives against which to guide its efforts

4.20 We reviewed documentation supplied by the Department regarding its strategic planning and implementation. We could not identify a documented strategy, goal or objective for wood supply from private woodlots. Although it has initiated some actions related to private wood supply, none were complete. Further, despite government’s announcement that the Department would set objectives for private land wood sales in 2010, we saw no evidence that this has yet occurred.

The Department is not compliant with the Crown Lands and Forests Act

4.21 The *Crown Lands and Forests Act* stipulates that the Department will ensure the wood supply from private woodlots is proportional to that from Crown land and the yield can be sustained.

4.22 The Department has failed to ensure private wood supplied to mills is proportionate. They have not planned for, monitored, or reported on proportional supply since at least 2002.

The Department does not plan for or target private wood yield

4.23 Although the Department establishes an “annual allowable cut” (AAC) for sustained yield, it is not based on complete and accurate forest inventory data and can be as much as ten years out of date. The Department does not use the AAC for planning and measuring effectiveness of its programs.

Private land silviculture work is actively monitored by the Department for compliance against work standards

4.24 The Department has a private land silviculture program. We examined the Department’s processes for monitoring work completed against current, established standards. We found the Department actively monitors work completed against standards and recovers funds from marketing boards for inadequate work when identified.

The Department has not defined and documented private land silviculture performance objectives that highlight the program’s benefit to the Province

4.25 In our review of the private land silviculture program, we could identify no defined goal or objective detailing potential benefit to the Province. The Private Forest Task Force found “Overall, the combined public and private investment in private land silviculture is marginally cost-effective.”⁴

4.26 Although no specific program objective is defined, the Department indicated increased employment is considered a supplementary benefit of the program. Employment though has not been traditionally tracked, monitored, or reported as an objective of the program.

⁴ Donald W. Floyd, Robert Ritchie, and Tony Rotherham. “*New Approaches for Private Woodlots: Reframing the Forest Policy Debate*”. (Province of New Brunswick, 2012). Page 15.

Public reporting of private woodlot programs and initiatives by the Department can be improved

4.27 Public reporting of performance is a fundamental accountability mechanism for departments. By establishing objectives and targets against which results can be effectively measured and reported, departments are publicly accountable for their work.

4.28 We reviewed the Department's annual reports for the past three years to identify any performance reporting related to their mandate for private woodlots. We found the reports to include statistical information on some aspects of private woodlots, such as private land silviculture, but does not provide performance targets or achievements.

The public cannot assess if \$5 million annual investment is providing value

4.29 Therefore, the public cannot assess if the annual Departmental investment (\$5 million in 2012-13) in private woodlots is providing value to the Province or achieving a defined objective.

Objective 2 – NB Forest Products Commission Oversight of Forest Products Marketing Boards

4.30 The New Brunswick Forest Products Commission, which is supported by full time staff on the Department payroll, is mandated to exercise oversight of the forest products marketing boards under the *Natural Products Act*. Forest products marketing boards are intended to “*control and regulate the marketing of primary forest products, and to ensure that private woodlot owners have a fair and orderly market system for sale of their wood products.*”⁵ The Commission has broad powers to address marketing board operations and enforce Orders and directives issued to marketing boards.

Commission governance practices could be improved

4.31 In order for the Commission to properly oversee the marketing board system, practices the Commission uses to govern and prioritize its work should be effective in meeting provincial policy and established best practices. We reviewed Commission documentation on its own governance practices against provincial policy and established best practices. We found the Commission could improve its processes by:

- creating board member profiles and selection criteria for appointments to highlight needed qualifications;
- staggering Commission appointments to ensure adequate knowledge transfer and continuity;
- collaborating with the Minister (or Department) to establish a mandate letter identifying priorities to clarify, focus, and guide the Commission's efforts in accomplishing its objectives;

⁵ 2012-2013 Annual Report, New Brunswick Forest Products Commission, December 2013, Page 28.

- establishing a code of conduct defining member responsibilities as well as the rules and principles the Commission will adhere to;
- undertaking Commission self-evaluations to promote continuous improvement; and
- requiring members to annually complete conflict of interest declarations.

The Department does not appear to regularly review the Commission's mandate and performance

4.32 The New Brunswick Agencies, Boards, and Commissions (ABC) appointment policy notes Ministers / departments are responsible for regularly reviewing and updating the mandate of an ABC and reviewing its performance.

4.33 We requested from the Department any information and documentation they could provide supporting a “regular review and update” on the mandate of the Commission or its performance. They provided no information to confirm this is done on a regular basis for the Commission.

The Commission has no documented strategy for its oversight role

4.34 The Commission has no strategy or specific plan that articulates their mandate for oversight and prioritizes their efforts. Given the limited resources the Commission is provided with, efficient application of those resources is critical. The Commission had begun a strategic planning exercise during our audit.

Marketing board compliance with Commission Orders and directives is poor

4.35 We found that marketing boards do not always comply with the Commission's policy and Orders in the following areas:

- Financial information submissions by the marketing boards are sometimes late and do not meet policy requirements;
- Submission of required monthly reports is often late;
- Schedule A is a report submitted by the marketing boards to the Commission to confirm that cost sharing and funding allocation requirements governing private land silviculture have been respected. The submission of this report by marketing boards is sometimes late and reconciliation to financial statements is inadequate;
- Borrowing authorization requests do not follow policy; and
- Establishment of negotiating agencies representing both the marketing boards and industry to address issues such as price and quantity of product to be sold is not done.

4.36 The Commission creates Orders and reporting requirements to monitor and review marketing board operations. If

marketing boards do not comply with requirements, the Commission cannot adequately oversee the marketing board system to ensure it is functioning as intended.

Financial, strategic, and governance oversight by the Commission is inadequate

4.37 In our review of marketing board audited financial statements, we identified issues we believe should have prompted the Commission to request information from marketing boards due to financial, strategic investment, and oversight risk. These related to:

- the very weak financial condition of two marketing boards. Five of seven marketing boards operated at a deficit in 2012-13, highlighting the relatively weak overall financial condition of the marketing board system;
- an investment in a sawmill operation through a joint venture agreement entered into by a marketing board. This complex investment has increased from \$290,000 in 2008 to \$795,000 in 2013 and has not generated a return on investment. This strategy has exposed the marketing board to considerable financial risk. At the time of our audit it had yet to be investigated by the Commission ; and
- agent relationships that appear to be non-subsidiary in nature can result in conflict of interest situations and may indicate that a marketing board is not operating as intended by legislation. The Commission has not adequately reviewed these relationships.

4.38 We discussed the specific points of risk outlined above with the Executive Director of the Commission to identify any oversight action taken by the Commission in these circumstances. In one instance action was taken by the Commission to address the financial weakness of a Marketing Board, but it was not timely and largely ignored by the marketing board involved. The Commission had not investigated or acted upon the other points of risk.

The Commission does not always enforce its Orders and directives with marketing boards who do not comply with policy and requests

4.39 The Commission has significant authority to enforce Orders it makes under the *Natural Products Act*. It also has broad powers with respect to addressing serious marketing board financial issues.

4.40 Although the Commission has acted on serious issues in the past, we found it typically does not enforce its Orders and directives.

4.41 Recourse under the Act may require court action and fines. The Executive Director indicated they have not taken boards to

court to enforce Orders due to the relatively poor financial condition of boards. He indicated the Commission's preference is to work with boards collaboratively.

The Commission has a broad mandate and limited support resources

4.42 The Commission acknowledged weakness in its oversight of the marketing board system. They indicated with only three Department resources for support, one of which is administrative, they cannot effectively fulfill their oversight mandate.

The Commission does not report on the effectiveness of its oversight role

4.43 We reviewed the Commission's 2012-13 annual report. It provides much information of value including harvest and sales data, information on compliance issues, and challenges to the marketing board system. However, we could not identify any performance targets or effectiveness reporting on its oversight role or on marketing board performance.

Recommendations

4.44 Exhibit 4.3 provides a summary of recommendations from our work as well as the Department's responses and timelines for implementation.

Exhibit 4.3 - Summary of Recommendations

Recommendation	Departmental Response	Target Date for Implementation
Audit Objective 1 - To determine if the Department of Natural Resources is meeting its responsibilities respecting timber supply from private woodlots.		
<p>4.96 We recommend the Department comply with the <i>Crown Lands and Forests Act</i> and regulations in meeting their responsibilities related to proportional supply and sustained yield. If current principles of proportional supply and sustained yield required under the Act are no longer relevant or applicable, the Department should pursue changes to the Act and regulations in order to facilitate accomplishment of its mandate.</p>	<p><i>DNR agrees, however this is a long-standing and complex issue. The Department will propose potential legislative amendments to government in a way that engages woodlot and industry representatives, and sets out responsibilities that can be reasonably achieved.</i></p>	<p>2 years</p>
<p>4.105 We recommend the Department establish a policy for sustained yield, set objectives and measurable targets, and monitor and publicly report on its performance in ensuring sustainable yield from private woodlots.</p>	<p><i>This recommendation is linked to 4.96 above. DNR can inform, help promote, and quantify sustainable forest management on private woodlots, but it lacks the authority and tools to enforce the concept. The decision to regenerate, grow, and harvest private forests rests with 42,000 independent landowners. DNR will develop a policy around its contribution to understanding and promoting sustained yield on private forests and will commit to reporting on any progress indicators developed.</i></p>	<p>2 years</p>
<p>4.113 We recommend the Department implement a single private land silviculture agreement for all marketing boards in order to limit duplication of effort.</p>	<p><i>DNR agrees and has recently standardized all private land silviculture agreements.</i></p>	<p>Complete</p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Departmental Response	Target Date for Implementation
<p>4.124 We recommend the Department set separate goals and objectives against which to measure its success in fulfilling its mandate regarding private woodlots. In addition, we recommend the Department establish goals and objectives for the Private Land Silviculture program to measure the benefits of the program to the Province.</p>	<p><i>DNR agrees. Clear objectives and metrics for the Private Land Silviculture program will be published.</i></p>	<p><i>12 months (dependent on 4.96)</i></p>
<p>4.128 We recommend the Department publicly report on the goals, objectives, performance targets and actual results of their work and programs in regards to private wood supply. This should include providing explanations for variances between planned and actual performance.</p>	<p><i>DNR agrees. Programs administered by DNR that focus on the sustainable management of private woodlots will have clear objectives and regularly reported metrics.</i></p>	<p><i>12 months (dependent on 4.96)</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Departmental Response	Target Date for Implementation
Audit Objective 2 - To determine if the New Brunswick Forest Products Commission provides adequate oversight of Forest Products Marketing Boards.		
<p>4.149 We recommend the Commission establish member position profiles and criteria against which potential appointees can be evaluated.</p>	<p><i>The Department recognizes that the advertisements for positions need improvement. Position profiles for each of the member positions on the Commission have been developed by the Commission and in collaboration with the Department and will be implemented in the next round of appointments to be made.</i></p>	<p><i>April 2015</i></p>
<p>4.154 We recommend the Commission make appointment requests in a manner that effectively staggers member appointments to promote continuity.</p>	<p><i>The Commission recognized this as an issue prior to 2014 because all seven appointments were set to expire in May 2014 and September 2014. In response to this issue, the Commission requested appointments made in July 2014 to be a combination of 2 year and 3 year terms for the producer and industry appointments. On a go forward basis, the Commission will base its request for appointment terms on the expiry dates of other appointments so that it can avoid large group expiries and maintain better continuity of the Commission.</i></p>	<p><i>Implemented in July 2014.</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>4.159 We recommend the Department review the Commission's mandate and performance to ensure government objectives for the Commission's work are being achieved, and the Commission's role and responsibilities are well communicated and understood.</p>	<p><i>The mandate of the Commission is defined by legislation under the Forest Products Act or Natural Products Act. The Department and the Commission will perform a review of the Commission's mandate and structure. As part of the review, they will establish performance targets that align with that mandate. The review will also seek to better define the relationship between the Department and the Commission and its staff. (See also paragraphs 4.237 and 4.241)</i></p>	<p><i>Mandate letter from Minister by December 31, 2015</i></p>
<p>4.161 We recommend the Commission review and compare their current governance policies and procedures against the Province's Agencies, Boards, and Commissions appointment policy as well as accepted governance best practices in order to define and implement tools to enhance current Commission practices.</p>	<p><i>The Commission has not undertaken a comprehensive review of its Policy and Procedure Manual since it was implemented in June 2010. The Commission will complete a comprehensive review of its current Policy and Procedure Manual to ensure that it is in line with the province's Agencies, Boards, and Commissions appointment policy and that it incorporates governance best practices. To assist in this and other similar exercises, the Commission struck a "Document Review" sub-committee in January 2015 to assist Commission staff in reviewing and creating new Commission policies and procedures and other documents.</i></p>	<p><i>Review and implementation of revised Policy and Procedures Manual to be completed by April 2016.</i></p>
<p>4.169 We recommend the Commission complete its strategic plan to reflect its mandate under legislation and articulate its strategic priorities.</p>	<p><i>The Commission will complete its strategic plan and review with the Minister to ensure that it aligns with Department direction and mandate.</i></p>	<p><i>Strategic plan to be completed and reviewed by Minister by October 2015.</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>4.175 We recommend the Commission review its current policies and manuals to ensure these accurately and consistently reflect necessary requirements in accordance with accepted financial reporting standards. We further recommend current copies of these documents be provided to marketing boards.</p>	<p><i>Please refer to response to paragraph 4.161 with respect to Part 1 of this recommendation. With regard to Part 2 of this recommendation, the Commission had historically provided copies of a "Reference Manual" to the marketing boards. This "Reference Manual" included all pertinent Acts and Regulations (Provincial and Federal), Board Orders, Commission Orders, and the Commission's Policy and Procedures Manual. It was provided to the marketing boards in a binder format and although attempts were made to keep the various binders up to date for the Boards when amendments were made or new sections were added, it was difficult to control how many copies were in the marketing board offices and whether or not the marketing boards were incorporating amendments into the binder. In April of 2014, the Commission created an electronic version of the "Reference Manual" binder as a pilot project. The electronic "Reference Manual" was updated in July of 2014 and provided to the marketing boards at a meeting between the Commission and all seven marketing boards in November 2014. The Commission will continue to update the electronic reference manual as required and forward to the marketing boards electronically when updated.</i></p>	<p><i>Part 1 – see timeline for paragraph 4.161.</i></p> <p><i>Part 2 – Fully implemented in fall of 2014.</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>4.193 We recommend the Commission evaluate its reporting requirements from marketing boards to ensure that what is being requested provides the benefits intended. We further recommend the Commission enforce its Orders to ensure marketing board compliance with regulation.</p>	<p><i>Reporting requirements are established by Orders of the Commission (2008-101 and 2008-102). These Orders were established in 2008 and have not been reviewed or amended since establishment. The Commission will review the Orders to ensure that the requirements established within the Orders provide the benefits intended. With regard to the enforcement recommendation, this will be dealt with in conjunction with the recommendation from section 4.234.</i></p>	<p><i>Part 1 – Review and amendments to Reporting Requirements Orders – December 2015.</i></p> <p><i>Part 2 – Refer to section 4.234.</i></p>
<p>4.205 We recommend the Department and Commission document how financial reviews of marketing boards will be undertaken, assign personnel with the appropriate background and expertise to do the analysis, and report on the results of this analysis with recommendations, if required.</p>	<p><i>The Department and Commission will document a procedure as to how financial reviews will be undertaken, including personnel qualifications required to do the analysis and with a standardized reporting format. This will be done either through establishing the expertise within the Commission's membership qualifications required for certain appointments or through direct involvement of Department staff.</i></p>	<p><i>July 2015</i></p>
<p>4.219 We recommend the Commission require Marketing Boards to provide them with a signed agreement between the Marketing Board and its associated agent(s) that defines the nature of the agent relationship and the roles and responsibilities of each party as they pertain to the mandate of the Marketing Board.</p>	<p><i>The Commission will prepare a directive to the marketing boards with the requirement to describe the relationships between the marketing board and their associated agent(s) through signed "service level" agreements between the marketing board and agent(s).</i></p>	<p><i>June 2015</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>4.224 We recommend the Commission undertake regular meetings with the marketing boards, individually or in a group setting as required, and attend random district meetings to identify and act on areas of concern.</p>	<p><i>Meeting with the marketing boards was historically a practice that the Commission attempted to do, however was out of practice in recent years and throughout the audit period. The Commission met with the seven marketing boards in November of 2014 and plan to meet with the boards again in June of 2015. The intention is to have full meetings with all boards at least twice per year and occasional meetings with individual boards when required. As resources allow, the Commission will attempt to attend random district meetings of the boards and will continue the practice of attending the boards' annual meetings of delegates whenever possible, as has been past practice.</i></p>	<p><i>November 2014</i></p>
<p>4.226 We recommend the Commission document a framework, proactively identifying and addressing areas of risk in marketing board governance, to ensure that marketing boards operate as intended by legislation.</p>	<p><i>In February 2015, the Commission produced a document called "Guidelines for Forest Products Marketing Boards and Their Directors". Copies of the document will be given to each of the marketing boards to provide to their members (directors). The document is intended to provide marketing board staff and directors with clear guidelines as to how they should operate and governance "best practices". The Commission will also prepare and deliver a short workshop style presentation that can be given to each marketing board to go along with the guideline document. Further, the Commission will require the marketing boards to file with the Commission the names of all directors, length of their tenure, anticipated term expiry dates and improved details with respect to their qualifications to be a member (director) of the marketing board.</i></p>	<p><i>Guidelines document completed in February 2015 with presentations to individual Forest Products Marketing Boards to be completed July-September 2015.</i></p> <p><i>Filing of director information to be completed by June 30, 2015 and continued annually or as required.</i></p>

Exhibit 4.3 - Summary of Recommendations (continued)

Recommendation	Department's response	Target date for implementation
<p>4.234 We recommend the Commission establish and document an administrative process for the use of its investigative powers and formalize a series of escalating enforcement measures/mechanisms to be used in cases of non-compliance with Orders, regulations and policy directives.</p>	<p><i>As part of the review of the Commission's Policy and Procedures Manual, the Commission will incorporate a process or policy with respect to the Commission's investigative authority. The Commission will also seek legal advice to incorporate a cost-effective and efficient method of enforcement of Orders, regulations, and policy directives.</i></p>	<p><i>Review and implementation of revised Policy and Procedures Manual to be completed by April 2016.</i></p>
<p>4.237 We recommend the Department and the Commission jointly review the Commission's mandate and structure and make the changes required to ensure the Commission can effectively perform its legislated mandate.</p>	<p><i>The Department and the Commission will undertake a review of the Commission's mandate and structure. As part of the review, they will establish performance targets that align with that mandate. The review will also seek to better define the relationship between the Department and the Commission and its staff. (See also paragraphs 4.159 and 4.241)</i></p>	<p><i>December 31, 2015</i></p>
<p>4.241 We recommend the Commission establish performance targets for its own oversight work and for marketing boards against which the Commission can evaluate marketing board performance in critical areas. We further recommend the Commission report on the effectiveness of both its own work and marketing board operations against the predetermined targets.</p>	<p><i>The Department and the Commission will undertake a review of the Commission's mandate and structure. As part of the review, they will establish performance targets that align with that mandate. The review will also seek to better define the relationship between the Department and the Commission and its staff. (See also paragraphs 4.159 and 4.237)</i></p> <p><i>The Commission will redesign its current annual report format to incorporate the reporting of performance targets of both the Commission and the marketing boards.</i></p>	<p><i>December 31, 2015</i></p>

Background

4.45 Privately owned forest land in New Brunswick accounts for approximately 48% of productive forest in the Province. The *Crown Lands and Forests Act* (CL&F Act) provides the following definition related to private lands:

“freehold lands” and “private lands” means lands other than Crown Lands and other lands vested in Her Majesty.

Private Woodlots in New Brunswick

4.46 The CL&F Act also references the *Forest Products Act* (FPA) definition for private woodlots which states:

“private woodlot” means all forest land except:

(a) forest land owned by the Crown;

(b) forest land owned by a person whose principal business is the operation of a wood processing facility, unless the main function of the wood processing facility is the production of wood chips and biomass at or on the harvest site; and

(c) forest land consisting of an aggregate area of at least 100 000 ha which is owned by the same person or persons.

4.47 Forest land categorized as (b) in the previous paragraph is commonly referred to as *“industrial freehold”* and is differentiated from other privately owned forest because the owners operate wood processing facilities. Approximately 18% of forest is owned and controlled by this group.

Governance and Oversight of Private Wood Supply

4.48 Governance authority over the private wood supply system is established in a number of legislated Acts and accompanying regulations.

The legislative framework governing private wood supply

4.49 According to the Department of Natural Resources (Department) 2012-13 annual report, the Department responsible for the administration of six Acts governing forest management:

- *Crown Lands and Forests Act;*
- *Forest Fires Act;*
- *Forest Products Act;*
- *Natural Products Act;*

- *Scalers Act*; and
- *Transportation of Primary Forest Products Act*.

**Department of
Natural Resources**

4.50 The Department states their mission as:

“To ensure the natural resources of the Province are managed in the best interest of the people of New Brunswick, by fostering economic growth and balancing social and environmental values.”

4.51 This mission statement, taken from the Department’s strategy map, is broad and does not preclude the Department from undertaking a role in private forests and wood supply from private woodlots.

4.52 Appendix III provides an organizational chart of the Department’s structure.

***The Forest
Management
Program***

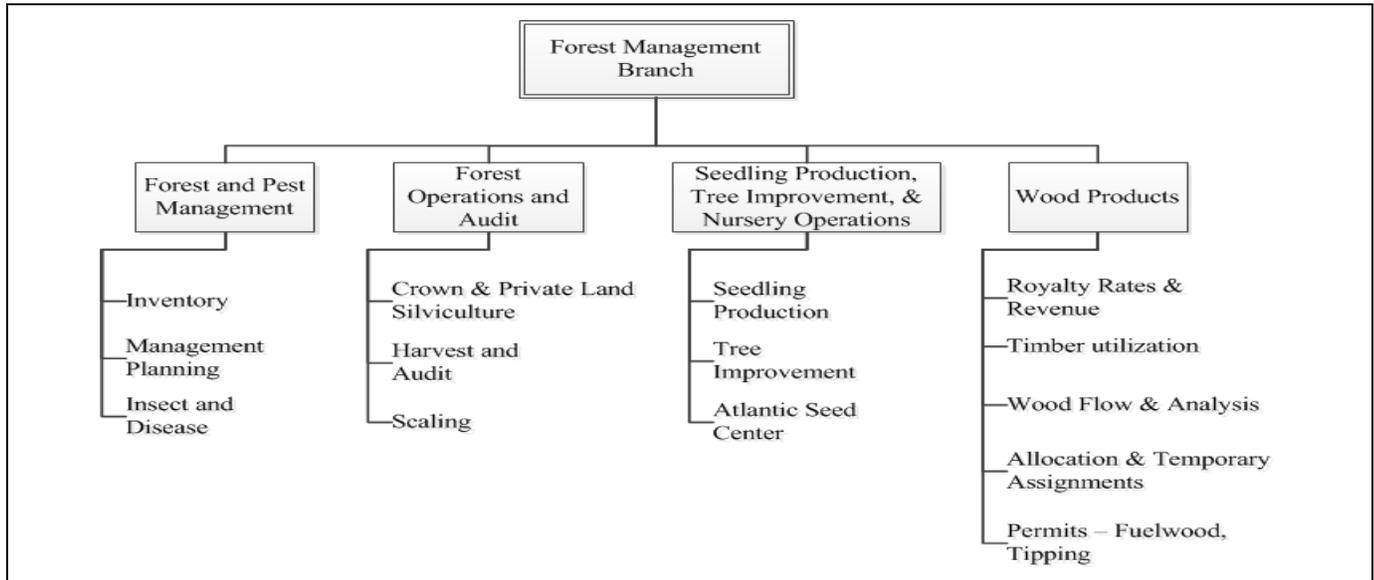
4.53 Our work in this audit focused on the Department’s role under the *Crown Lands and Forests Act*. There is no separate program within the Department that specifically deals with private wood supply. Instead, the areas we reviewed were part of the Forest Management Program administered by the Forest Management Branch.

4.54 The Department’s 2012-13 annual report states the objective of the Forest Management Program is:

“To manage Crown timber resources in accordance with government policy.”

There is no separate objective stated in the annual report related to the Department’s private land mandate under the *Crown Lands and Forests Act*.

Exhibit 4.4 - Forest Management Branch – Functions



Source: Created by AGNB from information provided by the Department of Natural Resources (unaudited)

The Forest Management Branch

4.55 The Department’s Forest Management Branch is responsible for its role in private wood supply. Exhibit 4.4 highlights the main functional areas of the Forest Management Branch at the time of our audit. There is no single functional area responsible for private woodlot programs within the Department.

New Brunswick Forest Products Commission

4.56 The New Brunswick Forest Products Commission (Commission) was established in 1971 by the *Forest Products Act*. The *Natural Products Act* established the Commission’s authority to oversee forest products marketing boards and take action to address deficiencies in board operations.

4.57 The Commission is currently comprised of six members and a Chair. The Commission’s 2012-13 annual report describes itself as “*an independent agency established in 1971*” and states that it “*oversees the Marketing Boards and is a liaison between the marketing relationships involving private woodlot owners, the seven Forest Products Marketing Boards, forest industries (pulpmills, sawmills and producers) and the provincial government.*”

The Commission has no employees of its own but is currently supported by three Department staff.

Forest Products Marketing Boards

4.58 Forest products marketing boards were established under the *Natural Products Act* “for the purpose of the promotion, control and regulation within the Province or that area of the marketing of the farm product”.

“Farm product” is defined under the *Natural Products Act*, to include “...such other natural products of agriculture and of the forest, including wood chips and biomass produced at or on the harvest site...”

4.59 Under the *Natural Products Act*, a forest products marketing board is a “body corporate” and “is not a Crown corporation and is not an agent of Her Majesty in right of the Province”. The board is to be “fairly representative of the producers who market that farm product...”

4.60 There are currently seven elected forest products marketing boards in the Province. Separate regulations establish the boundaries and governance structure of each board. For more information on forest product marketing boards please see Appendix IV.

Audit Scope

4.61 This chapter focuses on the roles of the Department of Natural Resources under the *Crown Lands and Forests Act* and the New Brunswick Forest Products Commission under the *Natural Products Act*. Our work was limited to oversight of the regulatory system for wood supply from private woodlots only. We did not include other sources of privately owned wood such as industrial freehold.

4.62 Our audit was performed in accordance with standards for assurance engagements, encompassing value-for-money and compliance, established by the Chartered Professional Accountants of Canada, and accordingly included such tests and other procedures as we considered necessary in the circumstances.

4.63 Certain financial and statistical information presented in this chapter was compiled from information provided by various entities directly involved in the topic area. It has not been audited or otherwise verified. Readers are cautioned that this financial and statistical information may not be appropriate for their purposes.

Objective 1

4.64 The first objective of our work was to determine if the Department of Natural Resources is meeting its responsibilities respecting timber supply from private woodlots.

Scope

4.65 Our audit work focused on the principal sections of the *Crown Lands and Forests Act* providing the Department with its mandate for involvement in private wood supply.

Methodology

4.66 We reviewed the legislative framework under which the Department operates. We examined applicable data and documentation provided by the Department and other participants in program delivery. We reviewed key department processes around program delivery and observed a joint assessment carried out by the Department and a marketing board.

4.67 We conducted interviews with Department management and staff in both head office and selected regions. We conducted additional interviews with representatives of other organizations and stakeholders, including:

- The Forest Products Commission;
- Two licensee organizations;
- The New Brunswick Forest Products Marketing Boards; and
- The New Brunswick Federation of Woodlot Owners.

The Role of the Department of Natural Resources under the *Crown Lands and Forests Act*

4.68 The *Crown Lands and Forests Act* provides the mandate for the Department regarding private wood supply under section 3(2). This section states:

“The Minister shall encourage the management of private forest lands as the primary source of timber for wood processing facilities in the Province consistent with subsection 29(7.1) and, with approval of the Lieutenant-Governor in Council, may initiate programs for such purposes.”

4.69 The Minister’s mandate then is to “*encourage*” private landowners to manage their forest land as the primary source of timber to provincial wood processing facilities. Although the CL&F Act does not define “*private forest lands*” we believe private woodlots as defined under the *Forest Products Act* are included in this term.

Two principles set in the Crown Lands and Forests Act

4.70 While section 3(2) provides an overall mandate for the Department regarding all private forest land, section 29(7.1) establishes two principles against which the Department is to monitor wood supply from private woodlots. Section 29(7.1) segregates private woodlots from other privately owned forest and states:

“The Minister, during the process of approving an operating plan under subsection (7), shall ensure that private woodlots are a source of wood supply consistent with the principles of

(a) proportional supply, and

(b) sustained yield.”

Proportional supply

4.71 The CL&F Act is clear that the Department must undertake its work regarding wood supply from private woodlots in a manner consistent with the two principles identified under section 29(7.1). The Act defines proportional supply to mean *“equitable sharing among the sources of wood supply identified in paragraph 29(5)(b) based on historic market share of supply to a wood processing facility”*.

The Department has a 1992 policy regarding proportional supply

4.72 Upon our request, the Department provided a policy regarding proportional supply dated 1992.

The policy is outdated and inadequate to effectively implement the principle of proportionate supply

4.73 The 1992 policy defined a minimum fibre requirement that licensees (and sub-licensees) needed to purchase from marketing boards (private woodlots) *“based on historic private woodlot deliveries during the period 1986- 1990”*. In our opinion, the policy does not adequately define how it is to be implemented or how associated reporting is to be completed. It has not been updated since 1992.

4.74 We reviewed all documentation the Department supplied on proportional supply and could find little evidence of tracking, monitoring, or reporting related to this requirement.

The Department has not complied with the Crown Lands and Forests Act or policy regarding proportional supply since at least 2002

4.75 Current Department management and staff indicated to us that proportional supply did not work and it had been discontinued. A letter dated July 26, 2002 from the then Minister of Natural Resources and Energy to the Southern New Brunswick marketing board confirmed this.

4.76 The letter indicated “*as markets for all timber products increased through the mid-1990’s most mills were purchasing as much private land wood as they could and as a result this monitoring exercise ceased to perform a useful function and was discontinued*”.

4.77 In times of strong markets there is little need for a mechanism to support private woodlot sales to processors as a primary source of supply. Exhibit 4.3 shows industry consumption of wood from private woodlots readily exceeded 2 million cubic metres from 1993 through 2004. However, with the market downturn between 2005 and 2007, there was no mechanism to address private woodlot supply concerns.

Marketing boards suffered significant sales decreases during the market downturn between 2005 and 2010

4.78 The downturn in the market significantly affected sales from private woodlots. In 2004-05 total sales through all marketing boards were approximately \$97.9 million. This dropped to \$64 million in 2005-06 and to a low of \$27 million by 2009-10.

Exhibit 4.5 - Historic Use Summary – Consumption by Source

Historic Use Summary - Consumption by Source								
Period	Private Woodlots		Crown Licenses		Industrial Freehold		Imported	
	Cubic Metres	Percentage of Total Consumption ¹	Cubic Metres	Percentage of Total Consumption ¹	Cubic Metres	Percentage of Total Consumption ¹	Cubic Metres	Percentage of Total Consumption ¹
2012-13	1,106,486	12%	4,585,553	51%	2,193,766	25%	1,011,136	11%
2011-12	1,063,445	12%	4,490,647	52%	2,091,073	24%	1,028,972	12%
2010-11	784,237	9%	4,815,470	56%	2,208,311	26%	826,668	10%
2009-10	750,451	10%	3,577,905	47%	2,542,555	33%	738,843	10%
2008-09	596,384	7%	4,453,785	56%	2,089,320	26%	819,253	10%
2007-08	860,401	10%	4,209,783	49%	2,321,727	27%	1,155,977	14%
2006-07	1,429,871	14%	4,951,339	47%	2,560,412	24%	1,587,207	15%
2005-06	1,832,550	17%	4,512,290	42%	2,417,190	23%	1,918,597	18%
2004-05	2,680,020	23%	4,827,070	41%	2,358,330	20%	1,830,370	16%

Source: Created by AGNB with data from the Department of Natural Resources (unaudited).

Cubic metre columns present the consumption of wood by NB processors (does not include Federal land).

¹ *Percentage of total consumption* refers to the relative % consumption of the identified source of wood to the total consumption from all sources to NB processors for the period.

Wood consumption from private woodlots, as a percentage of total consumption, decreased significantly

4.79 Exhibit 4.5 compares industry consumption of wood by source. Consumption from private woodlots decreased from 2,680,020 cubic metres in 2004-05 to a low of 596,384 cubic metres in 2008-09 (a drop of 78%). Consumption from Crown licences decreased from 4,827,070 cubic metres to a low of 3,577,905 cubic metres in 2009-10 (a much less substantial drop of 26%).

4.80 Over the entire period (2004-05 to 2012-13) shown in Exhibit 4.5, private woodlot consumption decreased from 23% to 12% while Crown timber consumption increased from 41% to 51%.

Private woodlot owners are under no obligation to harvest and can sell their wood outside the Province

4.81 It is important to recognize that private woodlot owners are under no obligation to harvest and sell their wood. When market prices declined they may have decided not to harvest and wait for prices to rebound. Further, private woodlot owners could and did sell outside of the Province. This very likely impacted the lower sales and consumption of private wood.

4.82 However, a 2007 document we obtained from the Department stated that actions by the Department “contributed to the divergence between woodlot sales and Crown harvest” and that “Neither of the provisions of

*"Primary supply" or "proportional supply" has been maintained since 2005 for NB woodlot owners. Woodlot owners have clearly lost market share while the Crown share has increased."*⁶

Department has potentially conflicting interests

4.83 Since the most significant source of departmental revenue is Crown timber royalties, any increase in Crown timber harvest supports the Department's efforts to balance budgets. This may put the Department in a conflict situation given it is also to "encourage" private forest land management as the "primary source of supply". Increased private wood sales could lower Crown timber consumption and consequently the related royalty revenue as well.

Equitable Market Access pilot

4.84 In 2008 the Department undertook the Equitable Market Access Initiative (EMA). In a letter to all marketing boards, licensees and sub-licensees, the Department stated *"the purpose of this initiative is to ensure that woodlot owners have fair access for the sale of their forest products in NB"*.

4.85 A two-year pilot project started April 1, 2008. A Marketing Board Exclusive Agent Trial agreement between the Department, the NB Federation of Woodlot Owners, the seven marketing boards, and the NB Forest Products Association (on behalf of wood processors) was signed in June of that year.

4.86 The objectives stated in the agreement were:

- *To determine whether New Brunswick Forest Products Marketing Boards as exclusive agents is a method for New Brunswick private woodlot owners to achieve equitable access to markets for sale of their forest products; and*
- *To provide a framework for the resolution of issues related to the marketing of wood from New Brunswick private woodlots.*

4.87 The initiative faced substantial challenges during the two-year pilot. In particular, licensees disputed marketing board authority to approve direct contracts between wood processors and private woodlot owners / producers.

4.88 In a February 2009 letter to all stakeholders the Minister of Natural Resources advised them of a Department legal

⁶ Department of Natural Resources. Internal draft report on Equitable Market Access, 2007.

opinion supporting marketing board authority.

The Equitable Market Access initiative failed to adequately address disputes or meet its overall objectives

4.89 Although extended until 2012, disputes could not be settled and the EMA initiative ultimately failed to establish marketing boards as exclusive agents or ensure equitable supply for private woodlot owners.

4.90 The failure of the EMA initiative resulted in a follow-up letter from the Minister of Natural Resources dated July 24, 2012 to all licensees, sub-licensees, and marketing boards stating:

“The Department will be re-initiating a process to develop proportional supply targets for mills in the province based on the legislative requirement under Section 29 of the Crown Lands and Forests Act.”

4.91 At least one Licensee responded to this letter expressing concerns over *“the Minister’s announced intention to [sic] develop and implement private wood proportional supply targets...”*. The response indicated *“While concepts of “primary supply” or “proportional supply” have been considered and discussed for over thirty years; they were never implemented by any New Brunswick government...”*.

The Department remains non-compliant with the Crown Lands and Forests Act regarding proportional supply

4.92 When asked during our audit, Department representatives indicated proportional supply is not being implemented. They further indicated development of policy regarding wood supply from private woodlots is on hold due to the 2014 forest strategic announcement by government.

The Department has mechanisms to address specific supply issues under the Crown Lands and Forests Act

4.93 Section 29(7.2) does provide the Minister with a mechanism to address shortfalls in purchasing of wood from private woodlots. It is based on approval of the annual operating plans submitted by licensees. If the licensee or any of its sub-licensees fail to purchase 98% or more of the proportion of wood identified to be consumed in any wood processing facility in an operating plan, the Minister may reduce the Crown timber that may be taken by the licensee the subsequent year by the amount of shortfall in private woodlot purchases. Section 29(7.3) provides further detail.

The Department has never enforced purchase and supply contracts under the Crown Lands and Forests Act

4.94 However, the Department indicated it has never taken action under these sections of the *Crown Lands and Forests Act*.

4.95 We believe the Department has a mandated responsibility to influence the wood supply from private woodlots consistent with its Act and regulations. If the tools established through legislation do not work, we believe it is the Department's responsibility to pursue changes to legislation allowing them to fulfill their responsibility. Further, we believe the Department needs to monitor and report on their performance in implementing these mechanisms.

Recommendation

4.96 We recommend the Department comply with the *Crown Lands and Forests Act* and regulations in meeting their responsibilities related to proportional supply and sustained yield. If current principles of proportional supply and sustained yield required under the Act are no longer relevant or applicable, the Department should pursue changes to the Act and regulations in order to facilitate accomplishment of its mandate.

Sustained Yield

4.97 The second principle the Department is required to consider under section 29(7.1) is sustained yield. The CL&F Act though does not define the term "sustained yield".

4.98 In determining a sustainable yield for private woodlot harvest, Department personnel indicated they would normally look at level of harvest that would equal growth and then reduce it by a specified percentage. A 2004 analysis commissioned by the Department, the NB Federation of Woodlot Owners, and the marketing boards indicated "...reasonable levels of old forest conditions are maintained when wood supply is set at between 70% and 80% of the maximum...".⁷ This would be considered a "fibre-only" strategy and would not consider social or environmental objectives.

⁷ Thom Erdle and Chris Norfolk. "Analysis of Future Forest Condition and Wood Supply for Private Woodlots in New Brunswick". (2004). Page 5.

Department information for private woodlots is 10 years old and may be incomplete

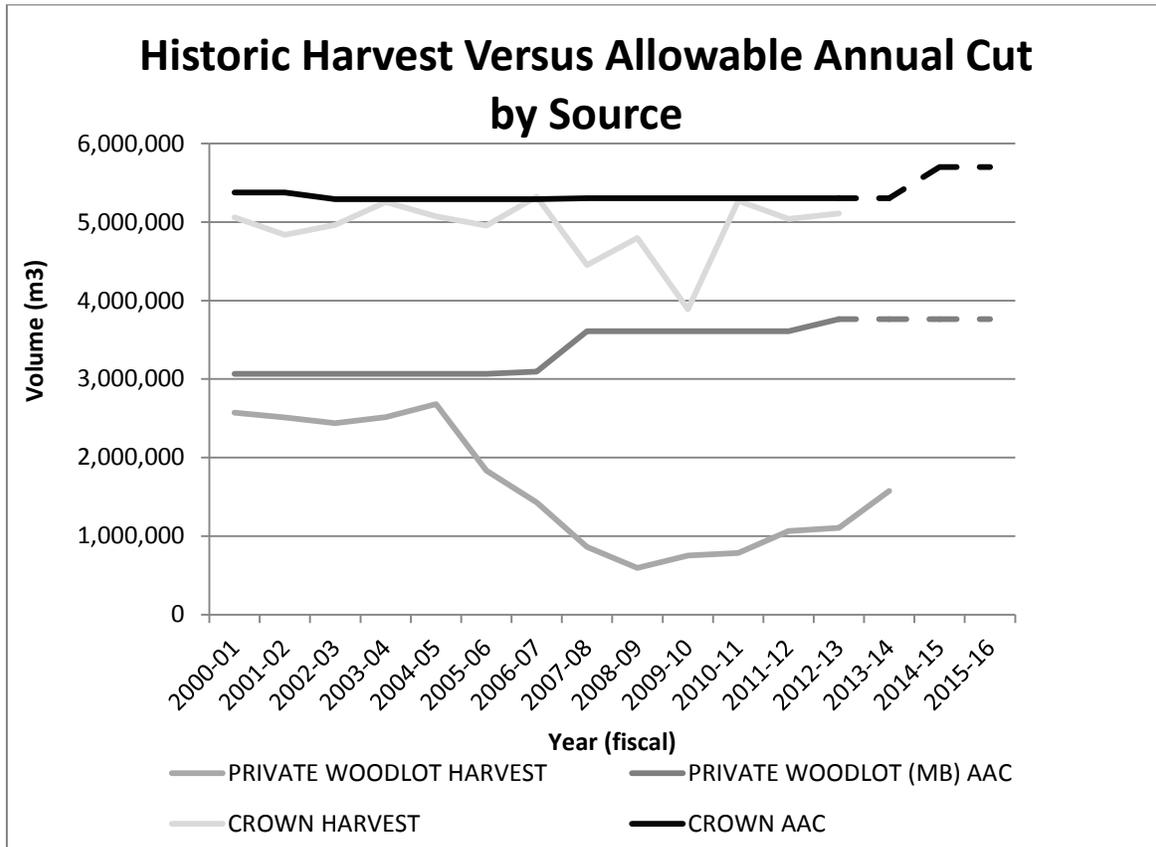
4.99 Ensuring sustainable yield of fibre requires accurate forest inventory information from private woodlots. Department analysis of marketing board information is only completed on a 10-year cycle and issues with updating private silviculture information may exist. They indicated that no regular update is required from marketing boards between analysis periods. Staff indicated that no budget exists for this activity and no personnel are specifically responsible for private woodlot analysis.

4.100 The Department uses modelling software to determine an annual allowable cut (AAC) for each marketing board. The AAC is the level at which yield is sustainable from private woodlots in each marketing board jurisdiction based on approximately 80% of the maximum under the fibre-only strategy.

The Department established an AAC in support of studies and initiatives

4.101 Historically the Department did not set AAC for private land on a regular basis. However, since 2004 it has been looked at in conjunction with various studies and initiatives around private wood supply in the Province. In 2004 it was estimated as part of the analysis noted above that was commissioned by the Department and the Federation of Woodlot Owners. In 2008 an AAC level was established in support of the EMA initiative, and in 2012 in support of the Private Forest Task Force work.

Exhibit 4.6 - Historic Harvest Versus Allowable Annual Cut by Source



Source: Created by AGNB from the Department of Natural Resources and the Forest Products Commission data (unaudited).

Notes

- Harvest volume information is based on marketing board reporting. It may understate total harvest due to ongoing issues with current tracking systems acknowledged by the Commission.
- Dashed lines represent the future increases in AAC announced in the 2014 Crown forest strategy by government.

4.102 Exhibit 4.6 highlights both private woodlot and Crown AAC levels as well as harvest levels since 2000-01. Marketing boards have consistently reported harvest values well below the AAC calculated by the Department, indicating increased harvest from private woodlots would be sustainable.

The Department does not utilize the AAC for planning private wood supply targets or measuring the effectiveness of its programs and initiatives

4.103 The AAC is set at the estimated point where the harvest level can be sustained into the future while not impeding upon achieving other forestry objectives. This is not a stated policy of the Department but is implicitly understood as a practice of sustainable forest management. The Department does not use the AAC level to set private wood yield targets or to measure effectiveness of any programs or initiatives.

4.104 We believe it is important for the Department to set, monitor, and report against well-defined objectives. This will allow it to evaluate whether it is complying with its own sustainability principle.

Recommendation

4.105 We recommend the Department establish a policy for sustained yield, set objectives and measurable targets, and monitor and publicly report on its performance in ensuring sustainable yield from private woodlots.

Private Woodlot Programs

4.106 Under section 3(2) of the CL&F Act government may initiate programs for the purposes of meeting its mandate. The Department indicated there are three programs in place for private woodlots:

- Private land silviculture;
- INFOR (education programs); and
- Maple silviculture (through INFOR).

4.107 We reviewed the private land silviculture program in more detail than the other two programs due to its relative significance and the greater level of provincial funding provided. Exhibit 4.7 shows funding for the three programs over a five year period, beginning in 2008-09.

Exhibit 4.7 - Program Funding in Support of Private Woodlots

Program Funding in Support of Private Woodlots					
Department Program Funding	2008-09	2009-10	2010-11	2011-2012	2012-13
Private land silviculture	\$4,000,000	\$4,000,000	\$4,000,000	\$4,000,000	\$5,000,000
INFOR (education programs)*	180,000	180,000	180,000	90,000	90,000
Maple silviculture*	300,000	300,000	350,000	250,000	200,000
Total	\$4,480,000	\$4,480,000	\$4,530,000	\$4,340,000	\$5,290,000

**Note that the INFOR program may benefit more stakeholders than just private woodlot owners. The maple silviculture program is used for Crown land and private maple sugary operations. In 2012-13, only 67 hectares (166 acres) of the total 493 hectares (1218 acres) treated across the Province were on private land. Therefore, most funding goes to Crown land lease recipients.*

Source: Created by AGNB with budget information from the Department of Natural Resources (unaudited)

**Private Land
Silviculture
Program**

*There are current
standards for private
land silviculture*

4.108 As the Department has not established a separate budget under Main Estimates for private woodlot programs, private land silviculture is funded through the Crown land silviculture budget. For the past five years there has been additional funding through the Regional Development Corporation (approximately \$1 million in 2012-13).

*Private land
silviculture is
delivered by third-
party agreements*

4.109 The Department provides an annual, updated version of the *New Brunswick Private Woodlot Silviculture Manual* to stakeholders. The manual details rates, treatments, criteria, monitoring processes, and penalties for non-compliance.

*A separate agreement
exists for a single
marketing board,
creating some
duplication of effort*

4.110 Private land silviculture is delivered pursuant to two agreements. The first is between the Department, the NB Federation of Woodlot Owners (Federation), and six of the seven marketing boards. The Federation is a board with current representation from each of the marketing boards. It considers itself to be the umbrella organization representing all marketing boards.

4.111 The second agreement is between the Department and the North Shore Forest Products Marketing Board. We were told by the Board that the reason for this separate agreement lies in a past disagreement between the Board and the Federation. Although the Board is now a member of the Federation, this separate agreement has continued. The Department directly administers aspects of program delivery for the North Shore board generally administered by the Federation, resulting in some duplication of effort.

4.112 We reviewed program implementation processes with stakeholders and believe they are consistent with the terms of the agreements in place and the silviculture manual.

Recommendation

*Private land
silviculture work is
actively monitored by
the Department for
compliance against
work standards*

4.113 **We recommend the Department implement a single private land silviculture agreement for all marketing boards in order to limit duplication of effort.**

4.114 The Department uses similar monitoring processes for private land and Crown land silviculture. It samples treatments done on private lands at 10% or 20% of area treated (percentage is dependent upon treatment completed) and physically measures compliance with silviculture standards on selected jobs.

4.115 If a treatment discrepancy exceeds 3% across the sample, a year end funding adjustment is made. If the treatment discrepancy exceeds 5% marketing boards can choose to complete a joint assessment with the Department to verify the error. If a subsequent joint assessment verifies work completed is below standard, the year-end reconciliation process will result in the marketing boards reimbursing the Department.

4.116 We attended a joint assessment to observe and verify the process described to us by stakeholders. We believe the Department adequately monitors work completed against standards for private land silviculture work and recoups funding from marketing boards for non-compliance to these standards.

The Department has not defined and documented private land silviculture performance objectives that highlight the program's benefit to the Province

4.117 In our review of program documentation for private land silviculture, we could identify no clearly-defined provincial goal or objective for the program. The Private Forest Task Force found that investment in private land silviculture is only marginally cost-effective in terms of invested private and public funds.

4.118 When we discussed this with various Department personnel they agreed there is no defined objective and indicated benefits from the program would include any increased employment it provides. The Private Forest Task Force also identified employment as a possible benefit but noted it is difficult to determine employment levels for private silviculture work due to the way Statistics Canada categorizes work in the forestry sector. They noted Statistics Canada reported a decline in employment in the "Support Activities for Agriculture and Forestry" category of 39% between 1997 and 2010.

There is no agreement between private woodlot owners and the Department or marketing boards regarding future benefits of silviculture investments

4.119 The private land silviculture program appears to be the primary tool the Department uses to encourage owners to actively manage their private woodlot. However, there is no agreement between the Department or marketing boards and land owners stipulating a specific benefit to the Province for silviculture work done. The landowner is not obligated to the Province in terms of how the long-term results of silviculture investments will be utilized.

4.120 The program does not address primary source of supply or provide a mechanism the Department can use to set targets and influence wood supply from private woodlots. There is currently no defined and measured long term benefit to the

Province for this program.

4.121 We believe programs should have documented goals and objectives against which effectiveness of the program in meeting desired outcomes can be measured, monitored, and evaluated.

*No specific
Department strategy
for private woodlots*

4.122 We reviewed the Department Strategy Map, balanced scorecard, and SOMIA (Strategies, Objectives, Measures, Initiatives, and Actions). We also reviewed commissioned studies completed over the past decade, procedural documentation for the private land silviculture program, and other operating-level information. None of this documentation identified a specific strategy (i.e. overarching goals and measurable targets) for the Department’s involvement in private woodlots.

4.123 In the SOMIA document under the government wide objective to “drive economic development efforts”, the Department has its own objective to “implement improved policy framework for forest sector”. It also has an Action Plan for initiatives listed under this objective, in part to address certain recommendations of the Private Forest Task Force. Initiatives that were identified for completion during 2013-14 included:

- establishment of timber objectives and a multi-year silviculture plan with increased funding each year;
- facilitate the flow of private wood; and
- develop a Wood Transparency Portal to support the flow of private wood.

While these had commenced, none had been completed by the end of our audit work.

Recommendation

4.124 We recommend the Department set separate goals and objectives against which to measure its success in fulfilling its mandate regarding private woodlots. In addition, we recommend the Department establish goals and objectives for the Private Land Silviculture program to measure the benefits of the program to the Province.

**Performance
Reporting**

4.125 Public reporting of performance is a fundamental accountability mechanism for departments. By establishing objectives and targets against which results can be effectively measured and reported, departments can be held publicly accountable for their performance.

Public reporting of private woodlot programs and initiatives by the Department can be improved

4.126 We reviewed the Department's annual reports for the past three years to identify any performance reporting completed under their mandate for private woodlots. The Department reports statistical information on some aspects of private woodlots such as private land silviculture but does not report its performance against pre-established targets.

4.127 Effective performance measurement requires pre-set targets to be established against which actual results can be compared. No such targets were reported in the Department's annual reports for private wood supply. Therefore, readers cannot determine how successful the Department was in performing its mandated role in this area.

Recommendation

4.128 We recommend the Department publicly report on the goals, objectives, performance targets and actual results of their work and programs in regards to private wood supply. This should include providing explanations for variances between planned and actual performance.

Objective 2

4.129 Our second objective was to determine if the New Brunswick Forest Products Commission provides adequate oversight of Forest Products Marketing Boards.

Scope

4.130 Our audit work focused primarily on the Commission's role in overseeing operations of seven forest products marketing boards, as mandated under the *Natural Products Act*.

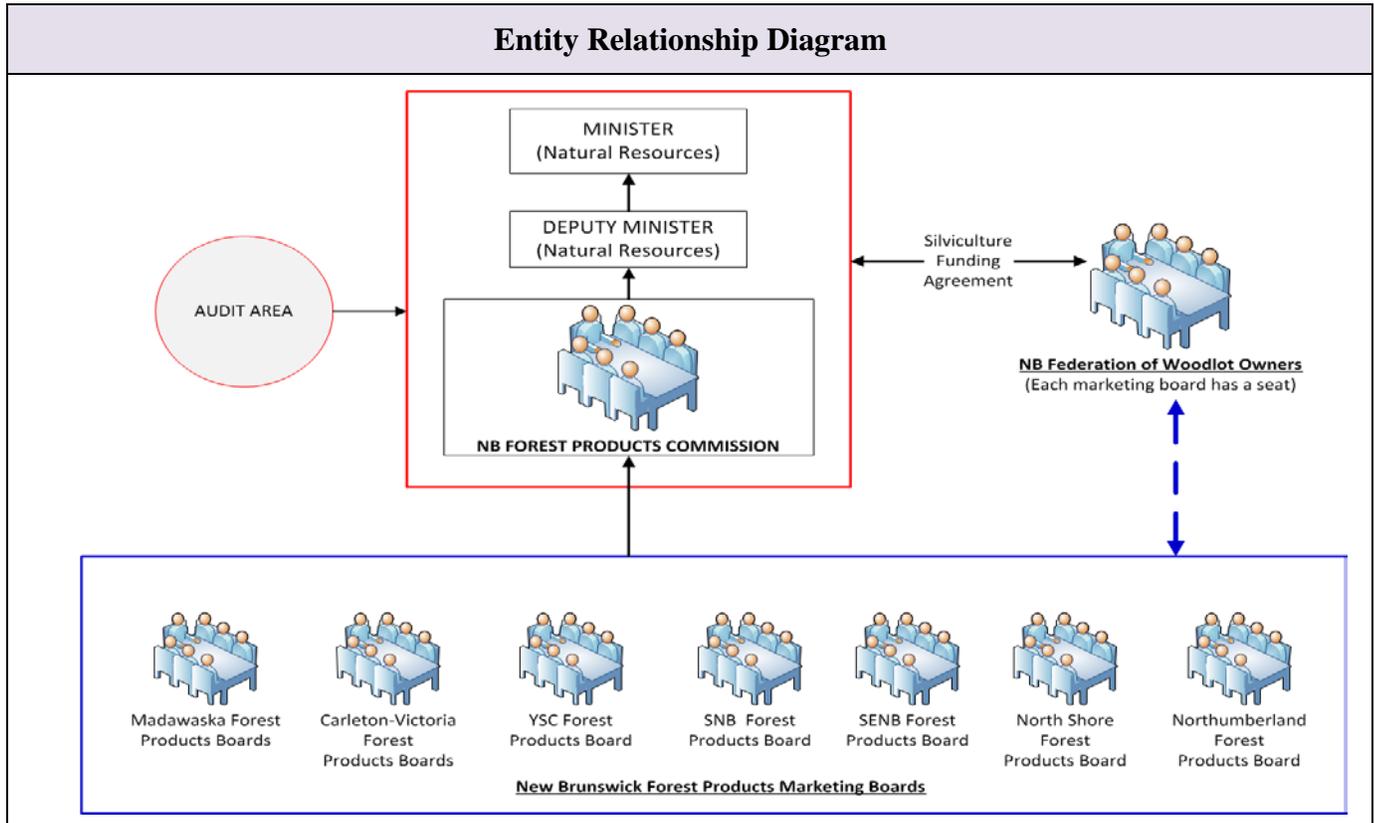
Methodology

4.131 We reviewed the regulatory framework under which the Commission operates, including Acts, regulations, Orders, policies, and bylaws. We examined data, documentation, and Commission meeting minutes. We reviewed information received from marketing boards and other relevant entities, and we tested regulatory compliance with Commission Orders and policy.

4.132 We conducted interviews with members of the Commission and Department staff who support the Commission, as well as representatives of other organizations and stakeholders, including:

- Seven New Brunswick forest products marketing boards; and
- The New Brunswick Federation of Woodlot Owners.

Exhibit 4.8 - Entity Relationship Diagram



Source: Created by AGNB

SENB – South East New Brunswick

SNB – Southern New Brunswick

YSC – York Sunbury Charlotte

Governance Structure and Role of the New Brunswick Forest Products Commission

4.133 Exhibit 4.8 provides a simplified representation of the relationships between the various entities involved in the marketing board system in the Province. Although the marketing boards are represented as a group through membership in the NB Federation of Woodlot Owners, a non-government entity, they are accountable through the *Natural Products Act* to the NB Forest Products Commission.

4.134 The New Brunswick Forest Products Commission provides the following description in its 2012-13 annual report:

“The New Brunswick Forest Products Commission (FPC), an independent agency established in 1971, oversees the Marketing Boards and is a liaison between the marketing relationships involving private woodlot owners, the seven Forest Products Marketing Boards, forest industries (pulp

mills, sawmills and producers) and the provincial government.”

4.135 The Commission is funded directly from the operating budget of the Department under the Private Land Development program. The Department’s 2012-13 budget for the Commission was \$330,000.

4.136 The Commission can exercise oversight of the seven forest products marketing boards under different sections of the *Natural Products Act*. Supervision is directly referenced in Section 15 which states (respecting “*farm products of the forest*”):

“The Commission has general supervision over all agencies and boards constituted under this Act and shall perform such other duties and functions and exercise such authority prescribed by regulation in order to carry out the purpose and intent of this Act.”

Section 101 and definition (b) under “*Minister*” in the *Natural Products Act* assigns responsibility for administration of the Act with respect to “*farm products of the forest*” to the Minister of Natural Resources.

4.137 The Commission has broad authority under the *Natural Products Act* to investigate marketing board conduct, request any information it requires to undertake its mandate, and make Orders that must be complied with under the Act and regulations.

***Commission
governance structure***

4.138 Section 5 of the *Forest Products Act* establishes the Commission as “*a corporation with its head office at The City of Fredericton*”. Section 2 identifies the Minister of Natural Resources (or designate) responsible for administration of the Act.

4.139 Commission membership consists of a Chair and six members appointed by the Lieutenant-Governor in Council. The Commission is supported by an Executive Director position established under the *Forest Products Act* and two additional Department employees. The Executive Director reports directly to the Deputy Minister of Natural Resources.

4.140 The 2012-13 annual report of the Commission states “*The Commission reports to the Minister of Natural Resources and to the Crown Corporations Committee, a standing committee of the New Brunswick Legislature.*” The Department’s

organization chart depicted in Appendix III clearly indicates the Commission reports to the Minister.

The Commission reports through the Deputy Minister of the Department and all support is provided by Department employees

4.141 However, Commission members that we interviewed indicated they report to the Deputy Minister of the Department and not the Minister. We confirmed this with the Deputy Minister. We asked for any documentation for this delegation of authority and the Department could provide none.

4.142 Reporting directly to a Minister is different than reporting through a Deputy Minister. As stated in the Department's 2012-13 annual report:

“The Deputy Minister is responsible for the overall management of the Department and for meeting legislative and policy requirements.”

4.143 The Commission then is an arm (i.e not independent) of the Department with oversight at the Deputy Minister level. Support is provided by Department employees who take direction from Department management.

Commission membership

4.144 The method by which members are appointed to the Commission is established under the *Forest Products Act*. Representation is established as:

- two members representing producers;
- two members representing the forest industry; and
- two members representing the Department of Natural Resources.

The Chair is recommended by the Minister but appointed by the Lieutenant-Governor in Council.

The Agency, Boards, and Commissions appointment policy

4.145 To enhance accountability, the Province has established “*an Appointment Policy for New Brunswick Agencies, Boards, and Commissions*” (ABC).

Commission vacancies are advertised

4.146 Under the policy, expressions of interest are used to advertise Commission vacancies. Section 2.4 of the ABC policy indicates the selection process is to be merit-based to ensure selection of the most competent individuals.

4.147 We reviewed the ads posted for Commission member positions and noted that all ads are identical, regardless of what area the member is to represent. Specifically, the key qualification statement for all vacancies is:

“...demonstrated leadership in your sector and have

experience working in organizations. You need to be an effective communicator.... You should be a team player and a creative thinker especially in the area of problem solving”.

The Commission has no member profile or specific selection criteria for member appointments

4.148 The ABC policy states selection criteria will be developed by the ABCs in cooperation with the government department and central agencies. We requested member profiles and selection criteria from the Commission and were told they do not exist. We believe criteria should be developed by the Commission to best ensure future appointees provide the specific skills needed by the Commission.

Recommendation

4.149 We recommend the Commission establish member position profiles and criteria against which potential appointees can be evaluated.

Commission terms are established in legislation and generally respected

4.150 To be effective and promote knowledge transfer, board members should have predetermined terms and be replaced at staggered intervals. Terms for the Commission are established under the *Forest Products Act* as:

- three years for representatives of the producers and forest industries; and
- five years for the Chair and representatives of the Department of Natural Resources.

Under section 4(2) “*a member shall continue to be a member until he or she is replaced*”.

The Act does not address repeat appointments.

4.151 We reviewed appointment history over the past 10 years and found term limits are typically respected, within a reasonable appointment window.

Commission appointments are not appropriately staggered to maintain board continuity

4.152 We did note member appointments are not always staggered well. In four of these years, including 2014, multiple appointments were required leading to significant change of Commission membership. In two of these years most Commission members were replaced. This lack of continuity leads to loss of knowledge and longer learning curves for new members. It may impact negatively on Commission effectiveness as well.

4.153 We believe the Commission should ensure future appointment terms are staggered to ensure continuity of membership.

- Recommendation** **4.154 We recommend the Commission make appointment requests in a manner that effectively staggers member appointments to promote continuity.**
- Ministerial review of the Commission’s mandate and performance** **4.155** Under section 3.2.1 of the ABC policy, a Minister is responsible for “*providing the first line of government oversight*” of every provincial agency, board, or commission. The Minister / department is responsible for:
- administering the enabling legislation;
 - regularly reviewing and updating the mandate of the ABC; and
 - providing broad policy direction to the ABC by communicating the government’s strategic priorities to the board and management.
- The Department does not appear to review the Commission’s performance or mandate on a regular basis** **4.156** We requested the Department provide any information and documentation available supporting a regular review and update on the mandate of the Commission or its performance. They offered no information to confirm this is done on a regular basis.
- 4.157** Commission representatives could not recall the Department ever doing this. They indicated the current Minister had never attended a Commission meeting.
- 4.158** This type of review is important to ensure the Commission has a clear understanding of its mandate and reporting accountability, especially considering turnover in Commission membership. We believe a review of the Commission’s mandate should be completed and documented by Department senior management on a regular, ongoing basis.
- Recommendation** **4.159 We recommend the Department review the Commission’s mandate and performance to ensure government objectives for the Commission’s work are being achieved, and the Commission’s role and responsibilities are well communicated and understood.**
- General Commission governance practices could be improved** **4.160** We discussed a number of other accepted governance best practices with Commission representatives. We found Commission governance processes could be improved by adding the following:
- Mandate Letter – A letter from the Minister identifying priorities to clarify, focus, and guide the Commission’s

efforts in accomplishing its objectives;

- Code of Conduct – A document establishing parameters under which a board operates and processes it follows. It should be approved by the Minister and signed by all members;
- Board self-evaluations – This is a defined process used by boards to evaluate and enhance their performance; and
- Conflict of interest declaration – The Commission covers conflict of interest in a policy document but does not require a signed and current declaration statement from members.

We believe by establishing practices such as these the Commission can strengthen its governance processes and thereby increase its effectiveness.

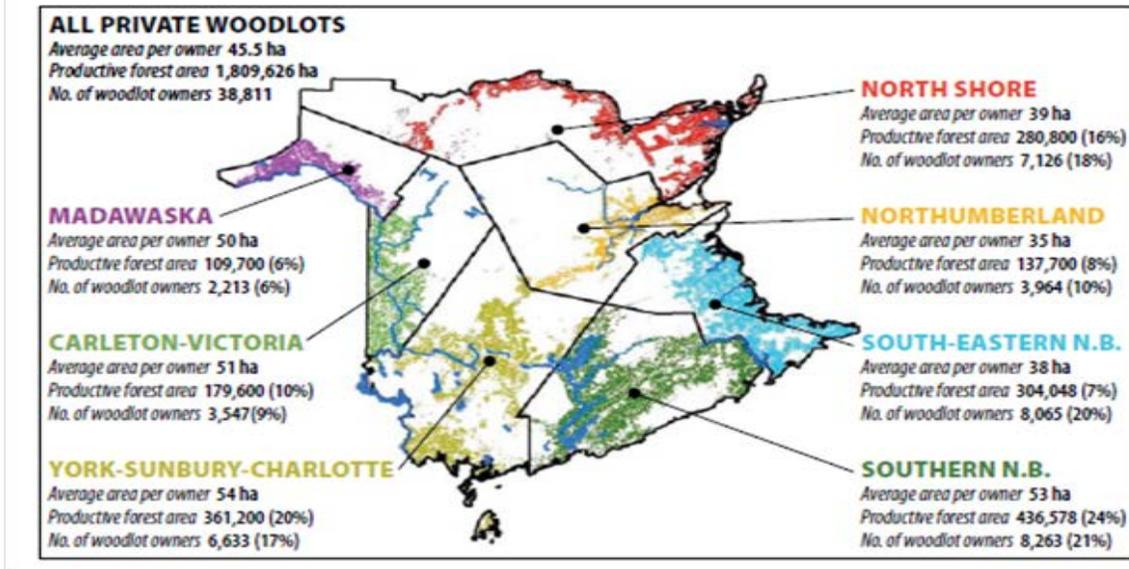
Recommendation

4.161 We recommend the Commission review and compare their current governance policies and procedures against the Province’s Agencies, Boards, and Commissions appointment policy as well as accepted governance best practices in order to define and implement tools to enhance current Commission practices.

Oversight of the Forest Products Marketing Boards

4.162 As noted above the Commission is responsible for overseeing the operations of seven forest products marketing boards established under the *Natural Products Act*. Each marketing board represents wood producers from defined regions of the Province.

Exhibit 4.9 - Marketing Board Regions and Statistical Information



Source: Private Forest Task Force Report Appendix B (unaudited)

4.163 Exhibit 4.9 provides the general jurisdictional boundaries and statistical information on marketing boards.

Exhibit 4.10 - Marketing Board Subsidiary Bodies

Forest Products Marketing Board	Regulation/ Year Established	Co-operative or Association
Madawaska	(Reg. 2006-85, 2006-87) 1961	N/A
North Shore	(Reg. 2005-141, 2005-142) 1973	North Shore Forestry Syndicate Inc.
Northumberland County	(Reg. 2005-143 & 2005-144) 1974	Northumberland County Woodlot Owners & Pulp Producers Association Inc.
York-Sunbury-Charlotte	(Reg. 2005-147 & 2005-148) 1978	N/A
Carleton-Victoria	(Reg. 2005-139 & 2005-140) 1978	Carleton-Victoria Wood Producers Assoc.
Southern New Brunswick	(Reg 2005-145 & 2005-146) 1979	S.N.B. Wood Co-operative Ltd.
South East New Brunswick	(Reg. 2005-105 & 2005-106) 1981	N/A

Source: 2012-13 Annual report of the New Brunswick Forest Products Commission (unaudited)

4.164 Exhibit 4.10 is an excerpt from the Commission’s 2012-13 annual report. It identifies three associations and one wood co-operative linked to four of the marketing boards. It is our understanding that net assets of the North Shore Forestry Syndicate Inc. were transferred to the North Shore Forest Products Marketing Board in 1996.

- 4.165** In the Commission’s 2012-13 annual report, it identified these associations and co-operative as “*subsidiary bodies*” to the marketing boards. These associations and co-operative are also commonly referred to as “*agents*” who undertake specific work such as administration of the Private Land Silviculture Program on behalf of the marketing boards.
- The Commission acknowledges its oversight role**
- 4.166** Commission representatives readily acknowledged the Commission’s responsibility to oversee marketing boards but expressed concern with the level of resourcing available to them. They stated that having only three full time employees significantly limits their ability to effectively perform this function.
- The Commission has no strategic framework interpreting and prioritizing its various duties under two Acts**
- 4.167** The Commission has no strategy or specific plan that articulates its mandate for oversight and prioritizes their efforts. Given the limited resources available to the Commission, it is critical application of those resources be as efficient as possible.
- 4.168** We noted the Commission was in the process of developing a strategic plan when we began our work. We believe strategic planning is critical to the Commission’s success and the Minister should ensure that the Commission strategy is aligned with government objectives and resourced adequately.
- Recommendation**
- 4.169** **We recommend the Commission complete its strategic plan to reflect its mandate under legislation and articulate its strategic priorities.**
- The Commission has a 2010 “Policy and Procedural Manual” and a 2013 “Reference Manual”**
- 4.170** The Commission provided us with a Policy and Procedure Manual dated June 23, 2010 and a current Reference Manual. The Policy and Procedural Manual stipulates detailed requirements for marketing board compliance in a number of areas. It also provides limited guidance on Commission procedures related to arbitration and conciliation, legal opinions, and conflict of interest.
- The quality of the Commission’s 2010 policy manual is lacking**
- 4.171** We reviewed the 2010 Policy and Procedure Manual. Some requirements differ from accepted financial reporting standards and other sections of the manual appear contradictory. To be effective, policies must reflect applicable standards and provide consistent direction.
- 4.172** We surveyed the marketing boards to identify if they had current versions of the Policy and Procedural Manual. Only

one board confirmed it had the current version of the manual. Others had older versions or none at all.

4.173 The Commission also maintains and updates a Reference Manual citing the Acts, regulations, and Orders pertaining to the Commission and marketing boards. It is a valuable document used by marketing boards in meeting Commission Order requirements.

4.174 We believe the Commission should address inconsistencies in its policy to better support its work. Inconsistency in policy or application of policy leads to confusion, poor marketing board compliance, and increased Commission effort in enforcement. In addition, we believe the Reference Manual and the Policy and Procedures Manual should be distributed to marketing boards when updated to ensure they have a clear and current understanding of Commission requirements.

Recommendations

4.175 We recommend the Commission review its current policies and manuals to ensure these accurately and consistently reflect necessary requirements in accordance with accepted financial reporting standards. We further recommend current copies of these documents be provided to marketing boards.

Commission Oversight of Marketing Board Compliance

4.176 We used the 2010 Policy and Procedural Manual and the 2013 Reference Manual as basis for testing the Commission's effectiveness in fulfilling its identified oversight responsibilities. We tested the following marketing board requirements identified as mandatory in Commission documents:

- financial statement submission and review;
- submission of monthly reports;
- schedule A submission and reconciliation;
- borrowing authorizations; and
- establishment of negotiating agencies.

Financial Statement Submission and Review

4.177 Commission Order 2008-101 requires each marketing board to file specific documents and reports with the Commission within specified timelines. Included in this Order is the requirement for specific financial information, including audit engagement letters with prescriptive requirements and audited financial statements for the marketing boards and any agent organizations to be filed.

Financial statement submissions by marketing boards do not always conform to the Commission policy

4.178 We reviewed the marketing boards' annual report and financial statement submissions for a three year period (2011 - 2013) and found numerous issues with filing requirements for financial statements when compared to the Commission policy. For example:

- The dates we reviewed on the audit reports indicate submission for at least two boards were late;
- In all cases across all three years the format of financial statements and/or engagement letters did not appear to be consistent with the Commission's policy document; and
- One of the Associations submitted review level rather than audited financial statements as stipulated in the Order.

Submission of Monthly Operating Reports

4.179 Commission Order 2008-101 requires marketing boards to submit specific documents related to production and sales, transportation certificate reporting, records of board minutes, bonding renewal, etc. as well as financial statements and other information. Prior to 2012-13, the Executive Director's report tracked the submissions of all reporting requirements as an attachment to most Commission meeting minutes. We reviewed these reports, which highlighted filing arrears, and present a summary of findings in Exhibit 4.11.

Exhibit 4.11 - Marketing Board Submission Arrears

Marketing Board Submission Arrears			
Commission Meeting	Number of Marketing Boards with Late Report Submissions		
	2012	2011	2010
January	5	No meeting	2
February	4	2	No record
March	3	No meeting	4
April	No meeting	3	4
May	3	6	No meeting
June	5	2	5
July	2	3	4
August	No meeting	No meeting	No meeting
September	4	1	5
October	3	4	5
November	No meeting	No meeting	No record
December	No record	4	3

Note – Where no number exists, no Commission meeting was held or no record of late submissions was maintained. The numbers presented are the number of marketing boards (of the total of seven) highlighted with late submissions from the Commission documents at the date of the meeting.

Source: AGNB created table from Executive Director’s Report as attached to Commission meeting minutes (2010 through 2012).

Marketing board submissions of required reports are often in arrears

4.180 Exhibit 4.11 highlights the number of marketing boards that were in arrears as presented to the Commission in the Executive Director’s Report and reflected in Commission minutes. Note some arrears are long-standing and will therefore appear in many of the reports.

Commission follow-up on late submissions is inadequate

4.181 The Executive Director’s Reports we reviewed contained a statement that “*all boards receive a monthly reminder*” of the status of their reporting requirements. This appears to be ineffective. We asked current Commission support staff if any other follow-up is completed and they indicated nothing further is done. The Executive Director’s Reports were not available after 2011-12.

Schedule A submission and reconciliation

4.182 Commission Order 2008-102 requires marketing boards to submit a signed Schedule A report before June 30th of each year. The Order states “*The report shall be completed based on the information contained in the audited financial statement for the last fiscal period. An officer of the board or agent shall*

sign the report.”

4.183 Schedule A confirms that cost sharing and funding allocation requirements governing provincial silviculture funding have been respected. The main stipulations marketing boards must comply with are:

- Cost-sharing – The Province will fund up to 90% for private land silviculture in total. The other 10% must be paid by the landowner; and
- Use of funding - Marketing boards can retain 20% of the funding to apply against program administration costs but the remaining 80% must go directly to silviculture treatment work completed on the ground.

Department and Commission oversight of the Schedule A is weak

4.184 Schedule A forms were submitted over the three years we reviewed, though at times late. We reviewed submitted forms with marketing boards and Commission support staff. We found that the financial information from these forms could not be reconciled to the Boards audited financial statements. More information on this silviculture related issue can be found in Chapter 3.

Borrowing Authorizations

4.185 Section 26(1) of the *Natural Products Act* requires marketing boards to gain, through written request, authorization from the Commission for all borrowing. In its policy, the Commission states it will not consider a request for a Borrowing Authorization until all filing requirements are received. The requirement for borrowing authorization requests provides the Commission with an opportunity to review and evaluate the risk of increased borrowing by marketing boards that could further increase liquidity concerns.

4.186 We looked at borrowing requests over a 4 year period (2010 through 2013). As noted above, boards were often late in required submissions but would generally try to catch up before the July Commission meeting when borrowing authorizations were typically reviewed and approved. We identified a number of process requirements in the Policy and Procedures manual that were not met.

The Commission approves borrowing authorizations when policy requirements have not been met

4.187 In our review of the Commission meeting minutes, problems with borrowing authorizations were sometimes flagged and a release to borrow would be delayed. At other times the authorization was provided without required information. A decision to authorize borrowing without the

required information may result in the Commission failing to properly identify and analyze marketing board financial or operating risk, a key component of good oversight.

Establishment of Negotiating Agencies

4.188 Commission Order 2005-189 requires both boards and processors purchasing from boards to establish negotiating agencies annually unless both notify the Commission in writing that they do not wish to do so for a given year. Negotiating agencies are comprised of a specified number of submitted representatives from both boards and processors. They are intended to settle such matters as minimum price, quantity and delivery, and terms of agreements between processors and marketing boards.

Marketing boards and processors do not comply with the Commission Order to establish negotiating agencies

4.189 We reviewed requirements of the Order and submissions to the Commission by both marketing boards and processors for 2010 through 2012. Exhibit 4.12 highlights the number of non-compliant marketing boards and processors based on information supplied by the Commission.

Exhibit 4.12 – Non-Compliant Marketing Boards and Processors 2010-2012

Non-Compliant Marketing Boards and Processors 2010-2012			
	2010	2011	2012
Marketing Boards	3	5	2
Processors	19	5	13

Source: Forest Products Commission

The Commission does not enforce its Order

4.190 Commission support staff indicated all terms of this Order are not enforced by the Commission and they did not act in cases where negotiating agencies had not been established.

4.191 Increased compliance by Boards and processors with the structure provided by the Negotiating Agencies Order would serve to better organize the negotiations process and reduce the number of disputes that the Commission attempts to mediate outside of the defined process provided by the Order.

4.192 We believe the Commission should ensure compliance with its Orders pursuant to its authority under the Act. Non-compliance with Commission Orders reduces the quality and timing of information provided by marketing boards to the Commission in support of its oversight role. It can lead to increased Commission investigation of disputes that could be dealt with by negotiating agencies. In some instances, non-

compliance can prevent the Commission from taking timely action to address increasing financial and operating risk in the marketing board system.

Recommendation

4.193 We recommend the Commission evaluate its reporting requirements from marketing boards to ensure that what is being requested provides the benefits intended. We further recommend the Commission enforce its Orders to ensure marketing board compliance with regulation.

Commission Oversight of Marketing Board Operations

4.194 In our work at the Commission we identified circumstances where we believe the Commission should have addressed specific areas of risk in marketing board operations. These related to:

- financial oversight;
- strategic oversight; and
- marketing board governance.

Financial Oversight

The Department completes a financial review for the Commission

4.195 We examined documentation at the Commission office supporting their review of audited financial statements and annual meeting records of the marketing boards. We found it is Corporate Services in the Department that conducts financial analysis of marketing board audited financial statements, not the Commission.

4.196 We discussed the review process with senior management at the Department and they indicated this review was done as a courtesy to the Commission and was not mandated to the Department.

4.197 However, in the Department's 2012-13 annual report under Corporate Services, the Financial Resources Management section states it is responsible for, among other things, "*providing financial support and advice to the New Brunswick Forest Products Commission*".

Two marketing boards have significant solvency risk

4.198 We reviewed the Department's analysis and summary reports provided to the Commission on financial strength of the marketing boards. We noted they identified significant financial risk for at least two of the seven boards regarding solvency. They indicated one board was "*basically insolvent*" and stated that "*liquidity of the organization is very poor*" for a second board. These warnings existed at least as far back as 2010-11.

Exhibit 4.13 - 2012-13 Marketing Board Statement of Operations Summary

2012-13 Marketing Board Statement of Operations Summary								
Year 2012-13	Carleton-Victoria	Madawaska	North Shore	Northumberland	SENB	SNB ¹	YSC	Total
Wood Sales	\$7,708,280	\$7,365,283	\$6,209,351	\$ 2,341,227	\$6,195,271	\$11,643,389	\$9,080,488	\$50,543,289
Cost of wood sales	7,701,149	7,209,221	6,209,180	2,253,158	6,193,129	11,440,267	8,859,450	49,865,554
Net proceeds from wood sales	7,131	156,062	171	88,069	2,142	203,122	221,038	\$ 677,735
Fees, levies, and other revenue	191,340	911	138,232	550,403	220,230	1,658,766	1,240,476	4,000,358
Net revenue	\$ 198,471	\$ 156,973	\$ 138,403	\$ 638,472	\$ 222,372	\$ 1,861,888	\$1,461,514	\$ 4,678,093
Expenditures	200,949	173,367	311,530	669,347	230,251	1,759,101	1,421,118	4,765,663
Net income (loss)	\$ (2,478)	\$ (16,394)	\$ (173,127)	\$ (30,875)	\$ (7,879)	\$ 102,787	\$ 40,396	\$ (87,570)

Source: AGNB created table from NB Forest Products Commission 2012-13 annual report (unaudited)

SENB – South East New Brunswick

SNB – Southern New Brunswick

YSC – York Sunbury Charlotte

Note 1 - Fees, levies, and other revenues are corrected for an error in the Commission's annual report.

4.199 Exhibit 4.13 shows the comparative financial operating results of all marketing boards as presented in the Commission's 2012-13 annual report. As shown above, five of the seven marketing boards were operating at a net loss in 2012-13, highlighting the poor financial condition flagged by the Department.

4.200 We reviewed marketing board audited financial statements for three years, 2010-11 through 2012-13 and believe the solvency issues identified by the Department were valid.

The Commission does not address potentially serious financial issues with marketing boards in a timely manner

4.201 We reviewed Commission minutes to determine what actions the Commission had taken to address the above-noted concerns. The Commission has been aware of these situations since well before 2010 and has been working since then with one marketing board to address its financial situation. The Commission has struggled repeatedly to get information they required from the marketing board. As late as July 2012 the Commission was still trying to get information from this marketing board.

4.202 We noted nothing in the minutes that suggested the

Commission has taken any steps to address the conditions of a second board in serious financial trouble. Although aware of this since at least 2010 our understanding is the Commission has yet to request documentation or an action plan from the second marketing board on how that marketing board intends to address its liquidity issues.

4.203 We were told by Commission members the Executive Director does review the marketing board financial statements annually with the Commission but it may not be recorded in minutes. The Commission relies on an informal arrangement with the Department to have a financial review completed by Department resources. There is no formal report with recommendations from the Department to the Commission on the analysis completed.

The Commission lacks financial expertise

4.204 We believe this highlights a resourcing problem for the Commission. The Commission is responsible for overseeing the financial position of boards but there is no individual directly available at the Commission with a financial background. Without access to resource personnel with a financial background, the Commission cannot effectively meet its oversight responsibility and address financial risk in the marketing board system.

Recommendation

4.205 We recommend the Department and Commission document how financial reviews of marketing boards will be undertaken, assign personnel with the appropriate background and expertise to do the analysis, and report on the results of this analysis with recommendations, if required.

Strategic Oversight

4.206 Our analysis of the marketing board financial statements and annual meeting reports also identified potential risk related to a strategic investment made by a marketing board. This risk was also flagged in the Department's financial review of the board's audited financial statements.

4.207 In 2008 a marketing board entered into a joint venture agreement to purchase assets of a previously bankrupt sawmill operation. At that time the marketing board invested approximately \$290,000 in this venture. By 2013, the amount due to the marketing board from related parties to this venture had grown to approximately \$795,000. The 2013 annual meeting report of the marketing board indicated the mill was being upgraded and a firm start-up date could not be provided.

4.208 In addition to the risk of financial loss and insolvency

arising from this purchase, it places the Marketing Board in a potential conflict of interest.

4.209 The Marketing Board acts as the sole marketer for private wood in their area. It is an agent for the sale of its member's timber to the mills at the best price and highest volume. The potential conflict arises as it will also be on the purchasing side as a mill owner.

The Commission's review of investment risk prior to authorizing debt is weak.

4.210 We reviewed Commission minutes for this period as well as borrowing requests made and authorized for this board but found no mention of this investment. We found at the time of our audit, five years after the initial purchase, the Commission had not taken steps to understand and mitigate the risks to the Marketing Board and the Commission posed by this venture.

4.211 We were informed that the Commission was formally investigating this matter after the completion of our audit work.

Oversight of Marketing Board Governance

4.212 In our review of marketing board annual reports and audited financial statements we noted the relationship between the agent organizations (producer association or co-operative as the case may be) and marketing boards is significant and appears to impact the structure and overall operations of the marketing boards.

4.213 For example, in one instance the producer association handles virtually all administration of the marketing board. Both organizations operate under the same board and the marketing board as a corporate entity has no actual employees. All are employees of the Association and a proportion of payroll is allocated to the marketing board to cover costs associated with its administration.

4.214 In the 2012-13 audited financial statements of the association in this example, a contingent liability note indicates the marketing board is "*a company controlled by the management*" of the Association. This appears to go beyond a traditional "*agent*" role and certainly cannot be considered "*subsidiary*" as noted in the Commission's annual report.

4.215 A similar, second example relates to the relationship between a marketing board and its associated co-operative. In the co-operative's 2012-13 audited financial statements under note 10 "*economic dependence and related party transactions*", it states "*under the terms of a contract...the Marketing Board contracted the Co-operative to provide the*

services to fulfill the Marketing Board's mandate". Again, fulfilling an entire mandate would suggest a different relationship than a subsidiary might normally have.

4.216 Only one marketing board has a current agreement with its associated co-operative. The two other marketing boards have no current agreements detailing the relationship with their respective agent associations.

The Commission does not review Marketing Board – Association agreements

4.217 The Executive Director of the Commission indicated that they do not require agreements between these corporations and do not review any agreements that may exist.

4.218 We believe these examples highlight areas where the Commission should have investigated the structure of the marketing boards and the relationship with agent organizations to ensure regulations are adhered to and no conflict of interest exists.

Recommendation

4.219 We recommend the Commission require Marketing Boards to provide them with a signed agreement between the Marketing Board and its associated agent(s) that defines the nature of the agent relationship and the roles and responsibilities of each party as they pertain to the mandate of the Marketing Board.

The Commission does not meet regularly with the marketing boards and Commission representatives do not attend marketing board district meetings

4.220 We reviewed Commission minutes and found no documentation of regular meetings between the Commission and the boards (individually or as a group). Commission representatives indicated that there are no regular, pre-scheduled meetings of this nature.

4.221 Under regulation, marketing boards are required to hold annual district meetings of producers to, among other things, elect delegates and marketing board members. Marketing boards are also required to hold an annual meeting of delegates to review the operations of the board and vote on matters of decision.

4.222 We reviewed Commission minutes and other records to determine Commission representative attendance at marketing board annual meetings. The Executive Director has generally attended most of these meetings over the past three years. However, no Commission representative attends the annual district meetings where elections are carried out.

4.223 While we understand the Commission has resourcing challenges, we believe regular meetings with boards and

attendance at some district meetings would be beneficial to ensure board governance processes follow regulations and key issues are understood by Commission members.

Recommendation

4.224 We recommend the Commission undertake regular meetings with the marketing boards, individually or in a group setting as required, and attend random district meetings to identify and act on areas of concern.

4.225 The Executive Director indicated the Commission has never documented the governance arrangements of marketing boards. We believe governance oversight is important to ensure marketing boards are structured and operated in the manner intended in legislation.

Recommendation

4.226 We recommend the Commission document a framework, proactively identifying and addressing areas of risk in marketing board governance, to ensure that marketing boards operate as intended by legislation.

Commission Enforcement

4.227 The Commission has broad powers with respect to addressing serious marketing board financial issues. For specific references to the investigation options available to the Commission please refer to Appendix V.

The Commission has addressed serious marketing board issues in the past

4.228 The Commission has exercised its authority in the past. This was most apparent in October of 2005 when the Commission assumed responsibility to exercise the powers of the North Shore Forest Products Marketing Board. The Commission tried to re-establish a Board in 2007 and the entire board resigned in 2010, leaving the Commission to assume responsibility again. This lasted until December of 2013 when the Commission returned authority to a newly appointed board.

4.229 When a situation degrades to the point where the Commission must step in and assume responsibility, the Commission and potentially the Province can become liable for the ongoing operating costs and any new debts incurred.

4.230 The Commission can also enforce its Orders through the court system under section 84 of the *Natural Products Act*. If upheld under the court system, the marketing board could be fined in an amount dependent upon the category of the offence.

The Commission does not always enforce its Orders and directives with marketing boards who do not comply with policy and requests

4.231 As noted above, when we reviewed marketing board compliance with Commission Orders and policy, we found it to be weak in most areas. We also identified, in the Commission minutes, multiple requests for information and plans from a marketing board over a three year period that appeared to go unanswered.

4.232 We asked the Commission if it enforces its Orders, policies, and requests. The Executive Director indicated they have not taken boards to court to enforce Orders due to the relatively poor financial condition of boards. The Commission's preference is to work with boards collaboratively.

4.233 While we understand the Commission's perspective respecting court action, we believe postponing enforcement without alternative mechanisms to address non-compliance can lead to more significant action becoming necessary later. Actions such as this consume Commission resources and hinder the Commission's ability to plan and undertake more proactive oversight activities.

Recommendation

4.234 We recommend the Commission establish and document an administrative process for the use of its investigative powers and formalize a series of escalating enforcement measures/mechanisms to be used in cases of non-compliance with Orders, regulations and policy directives.

The Commission Acknowledges Weakness in its Oversight Role

4.235 The Commission acknowledges weakness in their oversight of marketing boards. They indicated to us with only three fulltime staff, they do not have resources to effectively fulfill their oversight mandate.

4.236 We believe the Commission's oversight role is important to the integrity of the marketing board system as it exists today. We further believe the Department should review the mandate, resources, and structure of the Commission to ensure it is able to effectively perform its legislated requirements.

Recommendation

4.237 We recommend the Department and the Commission jointly review the Commission's mandate and structure and make the changes required to ensure the Commission can effectively perform its legislated mandate.

Performance Reporting

4.238 We reviewed the Commission's 2012-13 annual report. We looked for targets they have established to measure both the performance of marketing boards and its own performance.

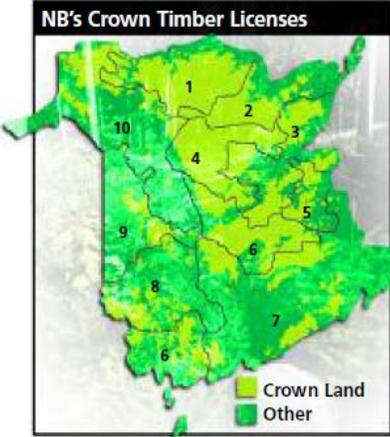
4.239 While we noted the Commission provides much information of value including harvest and sales data, information on compliance issues, and challenges to the marketing board system, we could not identify any performance targets.

4.240 Consequently, the Commission's annual reports lack performance information, related to the Commission's operations and the marketing board system in general. This makes it difficult for annual report readers to assess both the Commission's and marketing boards' effectiveness in carrying out their respective mandates.

Recommendation

4.241 We recommend the Commission establish performance targets for its own oversight work and for marketing boards against which the Commission can evaluate marketing board performance in critical areas. We further recommend the Commission report on the effectiveness of both its own work and marketing board operations against the predetermined targets.

Appendix I - Glossary

AGNB	<i>Auditor General of New Brunswick</i>	
Annual Allowable Cut (AAC)	<p>“The AAC is the volume of timber that may be harvested during a given time to maintain sustained production, and is based on forest inventory data.”</p> <p>(New Brunswick Forest Products Commission, 2012-13 annual report)</p>	
Code of conduct	<p>“Principles, values, standards, and rules of behavior that guide the decisions, procedures, and systems of an organization in a way that (a) contributes to the welfare of its key stakeholders, and (b) respects the rights of all constituents affected by its operations.”</p> <p>(“Defining and Developing an Effective Code of Conduct for Organizations”. International Federation of Accountants, 2007. Page 8)</p>	
New Brunswick Crown land	<p>“Crown Land includes all or any part of land (including land covered by water) that is not privately owned in the Province of New Brunswick. Crown Land is managed by various New Brunswick Government Departments.”</p> <p>(Crown Land Fact Sheet – Department of Natural Resources)</p>	
Crown timber licenses	<p>Ten defined zones of the Province’s total Crown land area, each of which “is leased through a 25-year forest management agreement to a large forest-based company called a licensee”.</p> <p>(Management of New Brunswick’s Crown Forest, Department of Natural Resources, 2003)</p>	
Forest Products Marketing Board	<p>“a corporate entity established under the Natural Products Act to control and regulate the marketing of primary forest products, and to ensure that private woodlot owners have a fair and orderly market system for sale of their wood products.”</p> <p>(New Brunswick Forest Products Commission, 2012-13 annual report)</p>	
Hectare (ha)	Measure of land area equal to 2.471 acres.	
Licensee (or Crown Timber Licensee)	<p>“Licensees are the managers of Crown licenses under the administration of the Department of Natural Resources.”</p> <p>(Management of New Brunswick’s Crown Forest, Department of Natural Resources, 2003)</p>	

Appendix I - Glossary (continued)

Primary Forest Product	<p><i>“includes wood chips and biomass produced at or on the harvest site, and any unmanufactured product of forest trees of hardwood and softwood species, but does not include coniferous trees cut for sale as Christmas trees and products made from the sap of maple trees”</i></p> <p>(New Brunswick Forest Products Commission, 2012-13 annual report)</p>
Producer	<p><i>“a person who produces primary forest products for sale from a private woodlot”</i></p> <p>(Forest Products Act Chapter 105)</p>
Producer Association	<p><i>“includes marketing boards, cooperatives and other associations established for the marketing of primary forest products”</i></p> <p>(Forest Products Act Chapter 105)</p>
Royalty	<p><i>“means the amount prescribed by regulation that is payable to the Crown</i></p> <p><i>(a) for timber harvested on Crown lands, or</i></p> <p><i>(b) for any other resource prescribed by regulation that is extracted, harvested or taken from Crown Lands;”</i></p> <p>(Crown Lands and Forests Act, Chapter 38.1)</p>
Silviculture	<p>Silviculture <i>“is the science of establishing, growing and tending forest stands, and can boost the rate of natural forest renewal”</i>.</p> <p>(Management of New Brunswick’s Crown Forest, Department of Natural Resources, 2003)</p>
Sustainable Forest Management	<p><i>“Management of the forest in a manner to sustain the “forest” ecosystem, and, environmental, economic and social values.”</i></p> <p>(New Brunswick Forest Products Commission, 2012-13 annual report)</p>
Sustainable Yield	<p><i>“The sustainable yield of natural resources is traditionally defined as the extraction level of the resource which does not exceed the growth.”</i></p> <p>(Organization for Economic Co-operation and Development, Glossary of Statistical Terms, 2005)</p>

Appendix II – Audit Criteria

The audit criteria we used to evaluate our objectives are listed below.

Objective 1

To determine if the Department of Natural Resources is meeting its responsibilities respecting timber supply from private woodlots.

Criterion 1 - The Department of Natural Resources should have a documented strategy encouraging sustainable management of private woodlots.

Criterion 2 - The Department of Natural Resources should have structures and programs to implement its strategy for private woodlots.

Criterion 3 - The Department of Natural Resources should monitor and publicly report on its performance in encouraging sustainable management of private woodlots.

Objective 2

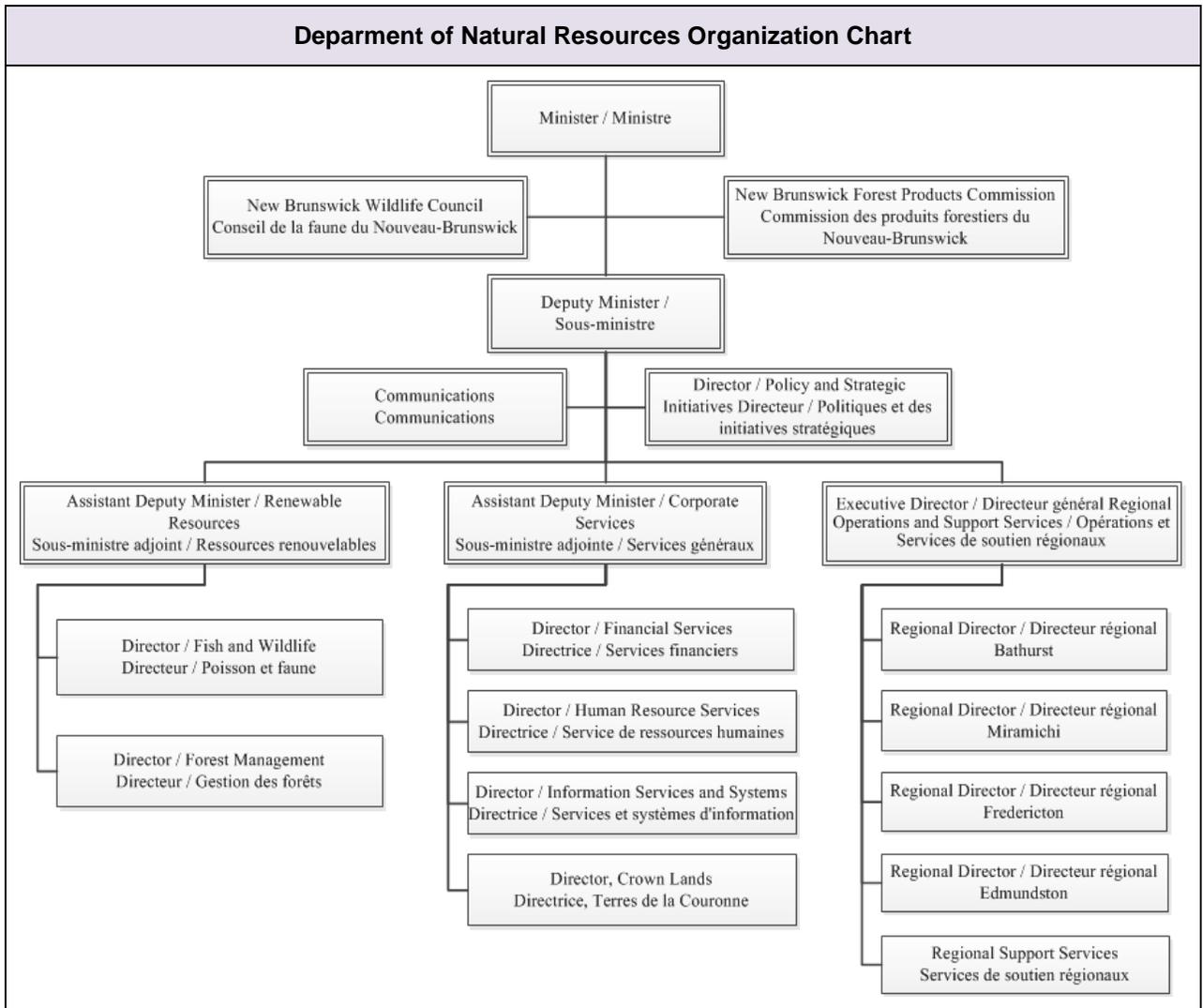
To determine if the New Brunswick Forest Products Commission provides adequate oversight of Forest Products Marketing Boards.

Criterion 1 - The Commission should regularly assess the performance of forest products marketing boards in meeting their obligations under legislation.

Criterion 2 - The Commission should exercise its authority to address performance weaknesses in the marketing board system.

Criterion 3 - The Commission should report publicly on the effectiveness of its work and marketing board performance.

Appendix III – Department of Natural Resources Organization Chart



Source: Created by AGNB with Department of Natural Resources 2012-13 annual report data (unaudited).

Appendix IV – New Brunswick Forest Products Marketing Boards

The *Natural Products Act* (the Act) establishes marketing boards to represent producers under Section 18(1) upon recommendation of the New Brunswick Forest Products Commission. In case of “farm products of the forest”, there are seven forest products marketing boards. The Act also defines the purpose of these marketing boards under a single regulation 2014-1 (consolidated January, 17, 2014), replacing separate such regulations for each marketing board.

The purpose and power of Forest Products Marketing Boards

The purpose of forest products marketing boards is defined by the *Natural Products Act*. Section 7 of regulation 2014-1 under the Act states the following:

The purposes for which a Board is established are:

- (a) the promotion, control and regulation within its regulated area of the marketing of the regulated product;*
- (b) the promotion within its regulated area of the production of the regulated product;*
- (c) the development, conservation and management of forestry resources on private woodlots in its regulated area; and*
- (d) the promotion of the consumption and use of the regulated product.*

Section 9 and 10 of regulation 2014-1 details many specific powers of marketing boards. Among these are:

- to market the regulated product;
- to prohibit the marketing or the production and marketing, in whole or in part, of the regulated product;
- to regulate the time and place at which, and to designate the body by or through which, the regulated product shall be marketed or produced and marketed;
- to require any person who produces the regulated product to offer to sell and to sell the regulated product to or through the Board; and
- to implement and administer forest management programs on private woodlots.

Forest Products Marketing Boards are Elected Bodies

Marketing boards are elected through a regulated process and are meant to be representative of producers throughout the marketing board area.

Annual District Meeting of Producers

Producers elect members of the board (if a member’s term is expiring) and delegates at annual district meetings.

Annual Meeting of Delegates

Boards also have an annual meeting of delegates to present financial statements and information on activities undertaken by the board. Terms for board members are defined in regulation.

Appendix V – New Brunswick Forest Products Commission Enforcement Authority

Established in the *Forest Products Act* (FPA), the New Brunswick Forest Products Commission (Commission) takes much of its oversight and enforcement authority over forest products marketing boards from the *Natural Products Act* (NPA). Both are administered by the Minister of Natural Resources.

Section 12(3) of the NPA states, among other things, that the Commission *may* take action if marketing board conduct serves to:

- violate this Act or the regulations;
- constitute an unsound business practice;
- prejudice the interests of persons for whose benefit the agency or board has been established; and/or
- constitute a failure by the agency or board or person to file a report or document required to be filed with the Commission or to provide information required to be provided to the Commission.

Section 12(4) states that “for the purposes of subsection (3), the Commission *may* do any one or more of the following:

- (a) investigate the business and affairs of the agency or board, or the business and affairs of the person carrying out functions on behalf of the agency or board;
- (b) prepare a report concerning the results of an investigation and, where the Commission considers it necessary, make the report public; and
- (c) order the agency or board to take such remedial action as the Commission considers necessary.”