

Five-Year Environmental Assessment Report on Forest Management

April 1, 2013 – March 31, 2018

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Executive Summary

This Five-Year Environmental Assessment Report on Forest Management is prepared by the Ministry of Natural Resources and Forestry (MNRF) to meet Condition 57 of Declaration Order MNR-75, MNRF's environmental assessment requirements for forest management on Crown land in Ontario.

Declaration Order MNR-75 (DO) was made under the Environmental Assessment Act and approved by Cabinet in 2015. It consolidated and replaced previous Declaration Orders MNR-71 and MNR-74 and addressed amendments requested by MNRF.

Condition 57 requires MNRF to report to the Ministry of Environment, Conservation and Parks (MECP) once every five years. This is the third Five-Year EA Report that MNRF has submitted to MECP. It addresses the period from April 1, 2013 to March 31, 2018.

The information in this report demonstrates MNRF's implementation of the 61 conditions in the DO and demonstrates MNRF's commitment to the sustainable management of Ontario's forests.

Some of the conditions in the DO changed with approval of the new DO in 2015 while many remained the same. Some of the new requirements were phased in, therefore, there is little implementation experience to report on for those requirements at this time.

The 61 conditions of the DO are organized under seven categories and a short synopsis of the activity in each category is provided in this summary:

- Forest Management Planning
- Monitoring
- Reporting
- Continuing Development and Programs
- Provincial Wood Supply Strategy
- Negotiations with Aboriginal Peoples
- Administration

MNRF also provides a final overall perspective on opportunities to improve the environmental assessment approvals process for forestry on Crown lands to better align with the Crown Forest Sustainability Act and the forest policy framework.

Forest Management Planning

Conditions 1-34 of the DO contain many of the same requirements from the previous two Declaration Orders but there are some new requirements. The new requirements were incorporated into three forest manuals regulated under the Crown Forest Sustainability Act (CFSA). The revised forest manuals were approved by Cabinet in July 2017.

MNRF has not gained enough implementation experience with the new requirements to report effectively on them. No FMPS were prepared and approved during the reporting period based on these forest manuals. There were several FMP amendments, FMP extensions and Annual Reports prepared according to the new requirements.

The report highlights the positive contributions made by the Local Citizens Committees in the preparation and implementation of FMPs and recognizes some challenges in these committees fulfilling their roles. The public and Aboriginal communities also contributed to the FMPs. MNRF continued to support refinements to enable improved participation.

Key forest management planning issues MNRF experienced include: ensuring background information is available to support planning, managing access roads considering all users, lack of attention to annual reporting on forest operations and the significant time and resources required to work with MECP to process requests for individual environmental assessment.

Monitoring

Conditions 35-38 of the DO provide direction for management unit (MU) and provincial level monitoring including Forest Operations Inspections, Independent Forest Audits, Silvicultural Effectiveness Monitoring and Wildlife Population Monitoring.

MNRF continued to maintain a Forest Operations Inspection Program. This included maintaining a Forest Compliance Handbook, completing inspections, making forest operations inspection reports available for Independent Forest Audits and making annual summaries for forest operations inspections available to the public.

Independent forest audits, required by the CFSA, were carried out for 38 MUs during the reporting period. All independent forest audits completed are made available on Ontario.ca once they have been tabled in the Legislature.

A comprehensive review of the silvicultural effectiveness monitoring program was completed during the reporting period resulting in revisions to three forest manuals regulated under the CFSA. Beginning with 2020 FMPs, all FMPs will incorporate the new approaches to assessing past performance of silviculture activities, preparing silvicultural ground rules, regeneration assessments and reporting.

MNRF continued to conduct long-term trend monitoring on representative wildlife species and investigate wildlife population monitoring methods. During the reporting period, MNRF: implemented the multiple-species inventory and monitoring program; monitored moose populations to support moose harvest allocation decisions and FMPs; implemented moose surveys every winter; conducted forest bat monitoring every summer; and revised the Wildlife Population Monitoring program.

Reporting

Conditions 39-40 of the DO provide direction for reporting. MNRF and sustainable forest licence holders prepared Management Unit Annual Reports identifying the forest operations that were conducted for each MU. MNRF prepared the Provincial Biennial Report on Forest Management summarizing all the Management Unit Annual Reports. MNRF also posted the forest indicator information supporting the State of Ontario's Natural Resources – Forests 2016 report on Ontario.ca.

Although Management Unit Annual Reports were submitted annually for every MU in the AOU, the report highlights the need to address the timeliness and quality of the submissions. Provincial level reports required by the DO were prepared and tabled in the Legislature during the reporting period. Concerns with the process for making reports available to the public have been identified along with potential solutions to enable improvements.

Continuing Development and Programs

Conditions 41-56 of the DO provide direction for other programs that support forest management.

MNRF maintained regional and provincial level committees to provide advice to MNRF on forest management and related matters and reports on the need to ensure that advisory committees continue to provide relevant and effective support to MNRF's forest management program.

MNRF developed, reviewed and revised Guides used in forest management planning and implementation according to the required Guide review schedule. Science programs contributed to the review of Guides and supported the requirement to investigate the effectiveness of Guides. Key highlights include completion of the Silvicultural Guide in 2015, review of the Forest Management Guide for Great Lakes-St Lawrence Landscapes in 2015 and the review of the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales from 2015-2017.

During the reporting period, MNRF continued to improve its understanding of the vulnerability of forests to climate change. This improved understanding will help inform options for adaptation. Ontario's forests play an important role in storing carbon and can

play a role in mitigating climate change. In late 2015, MNRF published a discussion paper for public comment to initiate dialogue on the role of managed Crown forests in mitigating climate change and conducted a forest carbon science forum in late 2017.

MNRF supported the government's efforts towards climate change mitigation by sharing information with MECP and Ontarians as demonstrated in the release of State of Ontario's Natural Resources - Forests 2016. MNRF and MECP have also supported national efforts to develop and implement a land use carbon inventory for Ontario.

MNRF is required to maintain a Protocol to provide direction for road water crossings to prevent, minimize or mitigate effects of forest management activities on fish and fish habitat. During the reporting period, MNRF revised the Protocol in conjunction with the federal Department of Fisheries and Oceans with a focus of the revisions on lessons learned from implementation of the Protocol over the last decade and modernization of approval processes.

MNRF is required to ensure that information management systems are developed and used to support FMPs. During the reporting period, MNRF maintained and enhanced several systems that support forest management including Land Information Ontario, Forest Operations Inspection Program and the Forest Information Portal/E-FMP Website. MNRF also updated the Forest Information Manual that provides for the exchange of information between the forest industry and MNRF.

Both the Ecological Land Classification program and the Growth and Yield program continued during the reporting period. Key field work continued as did science and research work. Major results included refinements to policy and program direction based on new information provided from this research work.

MNRF continued to investigate full-tree harvest and full-tree chipping studies and their impact on shallow soil sites. A 20-year study investigating the effects was completed during the reporting period. The emerging research results provide direct support of MNRF's Biofibre Directive and the guidance provided in MNRF's Stand and Site and Silviculture Guides with respect to biomass harvesting.

During the reporting period, MNRF continued to ensure maintenance operations (e.g., tending and protection programs) were being conducted in line with current scientific knowledge and policy direction. MNRF also ensured related policies were developed and or maintained. Specific policy efforts included the development of the Invasive Species Act and initiation of the development of a Forest Pest Strategy. MNRF also continued to collaborate with research partners including an international partnership in forest pest management research.

MNRF's key efforts to maintain and further develop data systems and analytical methodologies centred on FMP requirements. Key areas of focus included supporting

planning for the conservation of biodiversity, landscape management analysis and wildlife habitat supply analysis. Efforts were also focused on the continued development and integration of spatial and economic considerations in the determination of sustainability and the continual update and improvement of the Socio-Economic Impact Model.

Professional and technical training programs continued to be provided throughout the reporting period focusing on forest operations compliance in 2014, policy transfer sessions with respect to the revised forest manuals in 2017, and Guide training throughout the reporting period.

MNRF continued to contribute to public education regarding the management of Ontario's forests by providing information and collaborating with organizations involved in the administration and delivery of educational programs in forest management. In addition, MNRF developed, published a paper version and posted on Ontario.ca, a handbook and a brochure to assist those wanting to participate in forest management planning activities.

Provincial Wood Supply Strategy

Condition 55 of the DO requires MNRF to maintain a Provincial Wood Supply Strategy. During the reporting period, a project was initiated to update the Provincial Wood Supply Strategy and to investigate moving from a static provincial strategy to a more dynamic strategy that would permit more timely and responsive information on anticipated wood supply issues and approaches to address them.

Negotiations with Aboriginal Peoples

Condition 56 of the DO requires MNRF District Managers to undertake negotiations with Aboriginal peoples to enable the sharing of benefits from forest management planning. MNRF District Managers continued to negotiate with Aboriginal peoples at the community level about opportunities to increase benefits to Aboriginal peoples from participation in forest management. The forest industry has supported many of these conversations with Aboriginal communities. The results of negotiations have taken different forms given the unique needs, capacities and situations of Aboriginal peoples and considering the variety of situations that exist across the AOU. MNRF identified some challenges with implementing Condition 56 requirements due to dated condition language.

Administration

Conditions 57-61 of the DO contain administrative requirements MNRF must implement. The report discusses these requirements and identifies potential improvements to the Five-Year EA Report and the DO amendment process. It also provides summaries for the implementation of the conditions that address transition provisions and phase in of conditions of the DO.

Other Significant Matters

The report identifies other significant matters affecting forest management in Ontario including: the current economic situation; changes in forest tenure arrangements including opportunities for Aboriginal communities; developments with the Métis in Ontario; Endangered Species Act implications; consideration of Open Data; and technological advances in forest management.

Summary

MNRF will work with MECP, (as part of the implementation of Ontario's Environmental Plan), to consider the role of the Environmental Assessment Act in the management of Crown forests in the future given the status of MNRF's policy framework for sustainable forest management and its many components, evolving government direction and this report.

With the submission of this report to MECP, MNRF has met the requirements of Condition 57 of the DO.

Résumé

Ce rapport quinquennal sur les évaluations environnementales (EE) de la gestion forestière est préparé par le ministère des Richesses naturelles et des Forêts (MRNF) pour satisfaire à la condition 57 de l'ordonnance déclaratoire MNR-75, Exigences liées à l'évaluation environnementale sur la gestion forestière des terres de la Couronne en Ontario du MRNF.

L'ordonnance déclaratoire MNR-75 (OD) a été rendue en vertu de la *Loi sur les évaluations environnementales* et approuvée par le Conseil des ministres en 2015. Elle regroupait et remplaçait les ordonnances déclaratoires MNR-71 et MNR-74 et traitait les modifications demandées par le MRNF.

La condition 57 exige que le MRNF fasse un rapport au ministère de l'Environnement, de la Protection de la nature et des Parcs (MEPP) une fois tous les cinq ans. Il s'agit du troisième rapport quinquennal sur les évaluations environnementales (EE) que le MRNF présente au MEPP. Il couvre la période allant du 1^{er} avril 2013 au 31 mars 2018.

L'information contenue dans ce rapport fait état de la mise en œuvre par le MRNF des 61 conditions de l'OD et illustre l'engagement du MRNF en matière de gestion durable des forêts de l'Ontario.

Certaines des conditions de l'OD ont changé, alors que nombre d'entre elles sont restées les mêmes. Certaines des nouvelles exigences ont été mises en œuvre progressivement, de sorte qu'il y a peu d'expérience de mise en œuvre à présenter à l'égard de celles-ci pour le moment.

Les 61 conditions de l'OD sont regroupées en sept catégories et un résumé des activités entreprises dans chaque catégorie est fourni dans le présent résumé :

- Planification de la gestion forestière
- Surveillance
- Rapports
- Développement continu et programmes
- Stratégie provinciale d'approvisionnement en bois
- Négociations avec les peuples autochtones
- Administration

Le MRNF fournit également une vue d'ensemble finale sur les possibilités d'améliorer le processus d'approbation des évaluations environnementales pour l'exploitation forestière des terres de la Couronne afin de mieux l'harmoniser avec la *Loi sur la durabilité des forêts de la Couronne* et le cadre stratégique forestier.

Planification de la gestion forestière

Les conditions 1 à 34 de l'OD contiennent beaucoup d'exigences qui se trouvaient dans les deux ordonnances déclaratoires précédentes, mais il y a aussi de nouvelles exigences. Les nouvelles exigences ont été intégrées dans trois manuels forestiers régis par la réglementation prise en application de la *Loi sur la durabilité des forêts de la Couronne* (LDFC). Les manuels forestiers révisés ont été approuvés par le Conseil des ministres en juillet 2017.

Le MRNF n'a pas acquis suffisamment d'expérience concernant la mise en œuvre des nouvelles exigences pour en rendre compte efficacement. Aucun plan de gestion forestière (PGF) n'a été préparé et approuvé au cours de la période visée par le rapport aux termes de ces manuels forestiers. Plusieurs modifications de PGF, prolongations de PGF et rapports annuels ont été préparés conformément aux nouvelles exigences.

Le rapport souligne la contribution positive des comités locaux de citoyens au cours de la préparation et de la mise en œuvre des PGF et reconnaît certains des défis que doivent relever ces comités pour remplir leur rôle. Le public et les communautés autochtones ont également contribué aux PGF. Le MRNF a continué d'appuyer les améliorations permettant une meilleure participation.

Les principaux problèmes de planification de la gestion forestière auxquels le MRNF a été confronté sont notamment les suivants : veiller à ce que l'information de base soit accessible pour appuyer la planification, gérer les routes d'accès en tenant compte de tous les utilisateurs, le manque d'attention accordé aux rapports annuels sur les opérations forestières ainsi que le temps et les ressources considérables nécessaires pour travailler avec le MEPP au traitement des demandes d'évaluation environnementale distincte.

Surveillance

Les conditions 35 à 38 de l'OD fournissent une orientation en matière de surveillance au niveau des unités de gestion (UG) et de la province, y compris les inspections des opérations forestières, les vérifications indépendantes des forêts, la surveillance de l'efficacité en matière sylvicole et la surveillance des populations fauniques.

Le MRNF a maintenu en place un programme d'inspection des opérations forestières. Celui-ci comprenait la tenue à jour d'un Guide sur l'observation des lois et des politiques en matière de forêts, la réalisation d'inspections, la mise à disposition des

rapports d'inspection des opérations forestières pour les vérifications indépendantes des forêts et la mise à la disposition du public des résumés annuels des inspections des opérations forestières.

Des vérifications indépendantes des forêts, exigées par la LDFC, ont été effectuées pour 38 UG au cours de la période visée par le rapport. Toutes les vérifications indépendantes des forêts effectuées sont accessibles sur Ontario.ca une fois qu'elles ont été déposées à l'Assemblée législative.

Un examen complet du Programme de surveillance de l'efficacité en matière sylvicole a été effectué au cours de la période visée par le rapport, ce qui a entraîné la révision de trois manuels forestiers régis par la réglementation prise en application de la LSEF. À compter de 2020, tous les PGF intégreront les nouvelles méthodes d'évaluation du rendement antérieur des activités sylvicoles, de préparation des règles de base en matière de sylviculture, d'évaluation de la régénération et de préparation des rapports.

Le MRNF a continué de surveiller les tendances à long terme des espèces fauniques représentatives et d'étudier les méthodes de surveillance des populations fauniques. Au cours de la période visée par le rapport, le MRNF a mis en œuvre le programme d'inventaire et de surveillance d'espèces multiples, a surveillé les populations d'originaux pour appuyer les décisions relatives à la gestion de la récolte d'originaux et aux PGF, a réalisé des relevés des populations d'originaux chaque hiver, a effectué la surveillance des chauves-souris forestières chaque été et a révisé le Programme de surveillance des populations fauniques.

Rapports

Les conditions 39 à 40 de l'OD fournissent une orientation en matière de présentation de rapports. Le MRNF et les titulaires d'un permis d'aménagement forestier durable ont préparé les rapports annuels des unités de gestion, lesquels présentent les opérations forestières qui ont été réalisées pour chaque UG. Le MRNF a préparé le rapport bisannuel provincial sur l'aménagement forestier qui résume tous les rapports annuels des unités de gestion. Le MRNF a également affiché l'information sur les indicateurs forestiers à l'appui du rapport *L'état des richesses naturelles de l'Ontario – Les forêts (2016)* sur Ontario.ca.

Bien qu'un rapport annuel ait été présenté chaque année pour chacune des unités de gestion de la zone visée, le rapport souligne la nécessité d'assurer le respect des délais et la qualité des présentations. Les rapports provinciaux exigés par l'OD ont été préparés et déposés à l'Assemblée législative au cours de la période visée. Les problèmes relatifs au processus de publication des rapports ont été cernés, de même que des solutions permettant éventuellement de l'améliorer.

Développement continu et programmes

Les conditions 41 à 56 de l'OD fournissent une orientation relative aux autres programmes qui appuient la gestion forestière.

Le MRNF a maintenu des comités régionaux et provinciaux en place pour le conseiller en matière de gestion forestière et de questions connexes et de rapports sur la nécessité de veiller à ce que les comités consultatifs continuent de fournir un soutien pertinent et efficace au programme de gestion forestière du MRNF.

Le MRNF a préparé, examiné et révisé les guides servant à la planification et à la mise en œuvre de la gestion forestière conformément au calendrier d'examen requis. Les programmes scientifiques ont contribué à l'examen des guides et appuyé l'exigence relative à l'examen de l'efficacité de ceux-ci. Parmi les faits saillants, mentionnons l'achèvement du Guide de sylviculture en 2015, l'examen, toujours en 2015, du Guide de gestion forestière pour les paysages des Grands Lacs et du Saint-Laurent (Forest Management Guide for Great Lakes-St Lawrence Landscapes) et l'examen, de 2015 à 2017, du Guide de gestion forestière pour la conservation de la biodiversité à l'échelle du peuplement et du site (Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales).

Au cours de la période visée par le rapport, le MRNF a continué d'améliorer sa compréhension de la vulnérabilité des forêts au changement climatique. Cette compréhension accrue permettra d'orienter les options d'adaptation. Les forêts de l'Ontario, qui jouent un rôle important en ce qui a trait au stockage du carbone, peuvent contribuer à l'atténuation des changements climatiques. À la fin de 2015, le MRNF a publié un document de travail afin de recueillir les commentaires du public et d'amorcer un dialogue sur le rôle des forêts aménagées de la Couronne dans de l'atténuation des changements climatiques. De plus le MRNF a tenu un forum sur la science du carbone forestier à la fin de 2017.

Le MRNF a appuyé les efforts du gouvernement en matière d'atténuation des changements climatiques en partageant de l'information avec le MEPP et les Ontariens, comme en témoigne la publication de L'état des richesses naturelles de l'Ontario – Les forêts (2016). Le MRNF et le MEPP ont également appuyé les efforts nationaux visant à élaborer et à mettre en œuvre un inventaire du carbone créé par l'utilisation des terres en Ontario.

Le MRNF doit tenir à jour un protocole visant à fournir une orientation concernant les franchissements de cours d'eau afin de prévenir, de minimiser ou d'atténuer les effets des activités d'aménagement forestier sur les poissons et leur habitat. Au cours de la période visée par le rapport, le MRNF a révisé le protocole en collaboration avec le ministère des Pêches et des Océans du Canada en mettant l'accent sur les leçons

tirées de la mise en œuvre du protocole au cours de la dernière décennie et la modernisation des processus d’approbation.

Le MRNF doit s’assurer que des systèmes de gestion de l’information sont mis au point et utilisés à l’appui des PGF. Au cours de la période visée par le rapport, le MRNF a maintenu et amélioré plusieurs systèmes qui appuient la gestion forestière, notamment l’outil Information sur les terres de l’Ontario, le programme d’inspection des opérations forestières et le site Web du Portail pour l’échange de l’information forestière/PGF électronique. Le MRNF a également mis à jour le Manuel relatif à l’information forestière qui prévoit l’échange d’information entre l’industrie forestière et le MRNF.

Le Programme de classification écologique des terres et le Programme de la croissance et du rendement des forêts se sont poursuivis au cours de la période visée par le rapport. Les principaux travaux sur le terrain se sont poursuivis, tout comme les travaux scientifiques et de recherche. Parmi les principaux résultats, mentionnons l’amélioration de l’orientation des politiques et des programmes en fonction des nouveaux renseignements fournis dans le cadre de ces travaux de recherche.

Le MRNF a continué d’examiner les études sur l’exploitation par arbres entiers et la mise en copeaux d’arbres entiers et leurs répercussions sur les sols peu profonds. Une étude d’une durée de 20 ans sur les répercussions a été achevée au cours de la période visée par le rapport. Les nouveaux résultats de la recherche appuient directement la directive sur la biofibre forestière du MRNF et les directives fournies dans les guides à l’échelle du peuplement et du site et de sylviculture du MRNF en ce qui concerne la récolte de la biomasse.

Au cours de la période visée par le rapport, le MRNF a continué de veiller à ce que les activités d’entretien (p. ex., les programmes d’entretien et de protection) soient menées conformément aux connaissances scientifiques et aux orientations stratégiques actuelles. Le MRNF a également veillé à ce que des politiques connexes soient élaborées ou maintenues. Parmi les efforts stratégiques particuliers qui ont été déployés, mentionnons l’élaboration de la *Loi sur les espèces envahissantes* et le début de l’élaboration d’une stratégie de lutte contre les ravageurs forestiers. Le MRNF a également continué de collaborer avec des partenaires en matière de recherche, y compris dans le cadre d’un partenariat international de recherche sur la lutte contre les ravageurs forestiers.

Les principaux efforts déployés par le MRNF pour maintenir et continuer à développer les systèmes de données et les méthodes d’analyse se sont concentrés sur les exigences des PGF. Les principaux domaines d’intérêt comprenaient l’appui à la planification de la conservation de la biodiversité, l’analyse de la gestion des paysages et l’analyse de la disponibilité des habitats fauniques. Les efforts ont également porté sur le développement et l’intégration continus des facteurs économiques et spatiaux

relativement à la détermination de la durabilité, ainsi que sur la mise à jour et l'amélioration continues du Modèle des impacts socioéconomiques.

Des programmes de formation professionnelle et technique ont continué d'être offerts tout au long de la période visée par le rapport, portant sur la conformité des opérations forestières en 2014, sur le transfert de politiques relativement aux manuels forestiers révisés en 2017 et sur les guides tout au long de la période visée.

Le MRNF a continué de contribuer à la sensibilisation du public concernant la gestion des forêts de l'Ontario en fournissant de l'information et en collaborant avec des organismes impliqués dans l'administration et la prestation de programmes éducatifs en matière de gestion forestière. De plus, le MRNF a préparé, publié en version papier et affiché sur Ontario.ca un guide et une brochure pour aider les gens qui veulent participer aux activités de planification de la gestion forestière.

Stratégie provinciale d'approvisionnement en bois

La condition 55 de l'OD exige que le MRNF maintienne une stratégie provinciale d'approvisionnement en bois. Au cours de la période visée par le rapport, un projet a été lancé pour mettre à jour la stratégie provinciale d'approvisionnement en bois et examiner la possibilité de passer d'une stratégie provinciale statique à une stratégie plus dynamique qui permettrait d'obtenir des renseignements plus opportuns et mieux adaptés sur les problèmes prévus d'approvisionnement en bois et les démarches permettant de les régler.

Négociations avec les peuples autochtones

La condition 56 de l'OD exige que les chefs de district du MRNF entament des négociations avec les peuples autochtones afin de permettre le partage des avantages découlant de la planification de la gestion forestière. Les chefs de district du MRNF continuent de négocier avec les peuples autochtones au niveau communautaire concernant les occasions d'accroître les avantages pour les peuples autochtones qui participent à la gestion forestière. L'industrie forestière a appuyé bon nombre de ces conversations avec les collectivités autochtones. Les résultats des négociations ont pris différentes formes, compte tenu des besoins, des capacités et des situations uniques des peuples autochtones et de la diversité des situations qui existent dans l'ensemble de la zone visée. Le MRNF a relevé certains défis liés à la mise en œuvre des exigences de la condition 56 en raison d'un libellé désuet.

Administration

Les conditions 57 à 61 de l'OD contiennent des exigences administratives que le MRNF doit mettre en œuvre. Le rapport aborde ces exigences et détermine les améliorations pouvant être apportées au rapport quinquennal sur les EE et au processus de

modification des OD. Il fournit également des résumés de la mise en œuvre des conditions qui portent sur les dispositions transitoires et de la mise en œuvre progressive des conditions de l'OD.

Autres sujets importants

Le rapport recense d'autres questions importantes touchant la gestion forestière en Ontario, notamment la situation économique actuelle, les changements des modes de tenure forestière, y compris les possibilités pour les collectivités autochtones, les avancées réalisées en collaboration avec les Métis en Ontario, les répercussions de la *Loi sur les espèces en péril*, la prise en compte des données ouvertes et les progrès technologiques en matière d'aménagement forestier.

Résumé

Le MRNF collaborera avec le MEPP (dans le cadre de la mise en œuvre du Plan environnemental de l'Ontario) pour examiner le rôle de la *Loi sur les évaluations environnementales* dans le cadre de la gestion des forêts de la Couronne à l'avenir, compte tenu de l'état du cadre stratégique du MRNF en matière de gestion forestière durable et de ses nombreuses composantes, de l'orientation gouvernementale en évolution et du présent rapport.

En présentant ce rapport au MEPP, le MRNF satisfait aux exigences de la condition 57 de l'OD.

1.0 Introduction

This Five-Year Environmental Assessment Report on Forest Management is prepared by the Ministry of Natural Resources and Forestry (MNR) to meet Condition 57 of Declaration Order MNR-75, MNR's environmental assessment requirements for forest management on Crown land in Ontario.

Declaration Order MNR-75 (DO), was made under the Environmental Assessment Act and approved by Cabinet in 2015. It consolidated and replaced previous Declaration Orders MNR-71 and MNR-74 and addressed amendments requested by MNR.

This is the third Five-Year EA Report that MNR has submitted to the Ministry of Environment, Conservation and Parks (MECP). It describes the implementation of the 61 conditions of the DO in the Area of the Undertaking (AOU) for the period April 1, 2013 – March 31, 2018.

1.1 Environmental Assessment Act Requirements for Forest Management on Crown Land in Ontario

Ontario's forest management program for Crown forests is based on a legal and policy framework where sustainability, public involvement, Aboriginal involvement, science and the principles of adaptive management are primary considerations.

The Crown Forest Sustainability Act (CFSA), 1994 and the Environmental Assessment Act (EAA), 1990 provide the legislative background for forest management on Crown lands in Ontario.

The CFSA was enacted to govern the sustainable management of Ontario's Crown forests. The purpose of the EAA is to ensure that undertakings which may affect the environment, particularly Crown undertakings, provide for "the protection, conservation and wise management in Ontario of the environment."

In 1994 an EAA approval was granted for the undertaking of timber management on Crown lands in designated management units (MUs) within the Area of the Undertaking (AOU).

Together, the requirements prescribed by the EAA approval and the CFSA support the sustainability and wise use of Ontario's Crown forests.

The 1994 EAA approval was subject to 115 terms and conditions. Many of the terms and conditions prescribed requirements for forest management planning to be fulfilled for each management unit (MU) before forest operations could proceed. Others prescribed requirements for monitoring and reporting which contributed to the continuing development of MNR's forest management program.

To fulfill its EAA approval, MNRF implements and reports on the undertaking of forest management. MNRF submitted a status report in 2002 and two five-year EA reports in 2009 and 2014 respectively.

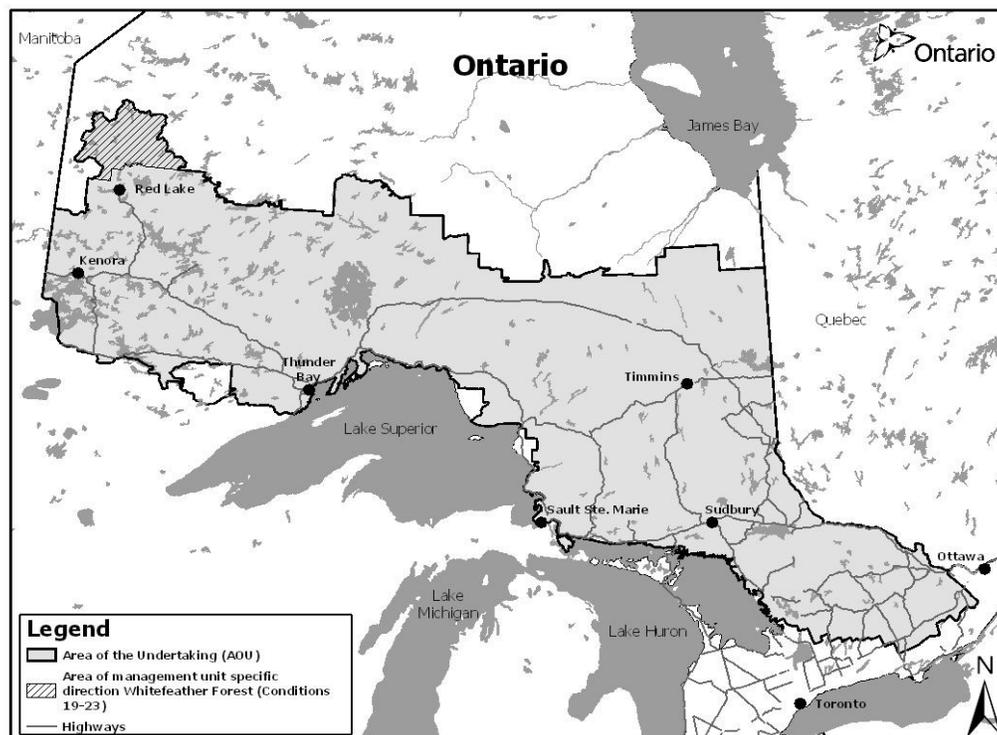
Based on these reports, which summarize MNRF's implementation experience, and development of forest policies that fulfill the EA requirements, MNRF seeks amendments to the terms and conditions of its approval.

These amendments have resulted in modification and revisions to the EAA approval over time including:

- In 2003, the 1994 EAA approval was revised and Declaration Order MNR-71 was issued
- In 2009 MECP added Declaration Order MNR-74 in 2009 to grant EAA coverage for the Whitefeather forest
- In 2015 Cabinet approved amendments to the Declaration Orders MNR-71 and MNR-74 by revoking both Orders and consolidating the existing requirements under MNR-75.

The geography to which the Orders applied was also consolidated resulting in one combined AOU as shown in Figure 1.1. Highlights of the approved amendments are included in Section 3.2 of this report.

Figure 1: The Area of the Undertaking Covered by Declaration Order MNR-75



1.2 Five-Year Environmental Assessment Reports

The DO provides an “evergreen” approval under the EAA and enables the application of the adaptive management approach to forest management. Adaptive management is continuous learning and improvement based on implementation experience.

Regular reporting on the implementation of the conditions and requesting amendments to the conditions of the DO based on lessons learned supports this adaptive management approach and ensures the most up-to-date direction for forest management is provided.

This Five-Year Environmental Assessment Report on Forest Management demonstrates MNRF’s implementation of the 61 conditions in the DO and demonstrates MNRF’s commitment to the sustainable management of Ontario’s forests.

This report fulfills MNRF’s requirements under Condition 57 of the DO. Condition 57 requires the report to:

- describe significant initiatives, major results and MNRF’s implementation experience during the reporting period for each condition
- respond to implementation concerns that were identified by condition
- provide a discussion of other significant matters of government and public interest relating to forest management
- provide a description of the number, type and disposition of proposed amendments to the conditions

In preparing this report, MNRF also addressed the requirements of Condition 57(b) by considering:

- the indicator information used to support the most recent State of Ontario’s Forests Report
- the information used to prepare the Provincial Biennial Reports on Forest Management

Table 1.1 lists the requirements of Condition 57(c) and identifies the corresponding section of this report where the information can be found.

Table 1: Condition 57 Requirements

Part of Condition 57(c)	Subject of Condition	Section of Report
(i)	a discussion of the environmental, social and economic benefits realized from implementation of the undertaking	Chapter 2
(ii)	a summary and discussion of the implementation of the forest management planning process during the reporting period	Chapter 4
(iii)	information for the Whitefeather Forest	Chapter 4
(iv)	a summary and discussion of contributions to, and expenditures from, the Forest Renewal Trust and the Forestry Futures Trust	Chapter 10
(v)	a discussion of significant initiatives and major results related to the implementation of the conditions of this Order	Chapters 4 – 10
(vi)	a discussion of the progress of the negotiations with Aboriginal peoples as required by Condition 56	Chapter 9
(vii)	a discussion of the outcomes of Condition 45 (b) and (c) and how those outcomes have informed forest policy, guides or operational practices	Chapter 7
(viii)	a description of the number, type and disposition of proposed amendments to conditions of this Declaration Order	Chapter 3
(ix)	a discussion of specific issues and problems related to implementation of these conditions and other significant matters; and the manner in which they have been addressed to date	Chapters 4 – 10, 12
(x)	discussion of other significant matters related to forest management and implementation of this Order	Chapter 11
(xi)	a description of actions to be taken to improve the overall implementation of the conditions of this Declaration Order	Chapter 12

1.3 The Undertaking

The undertaking is the subject of the environmental assessment requirements provided by the DO. The DO defines the undertaking as:

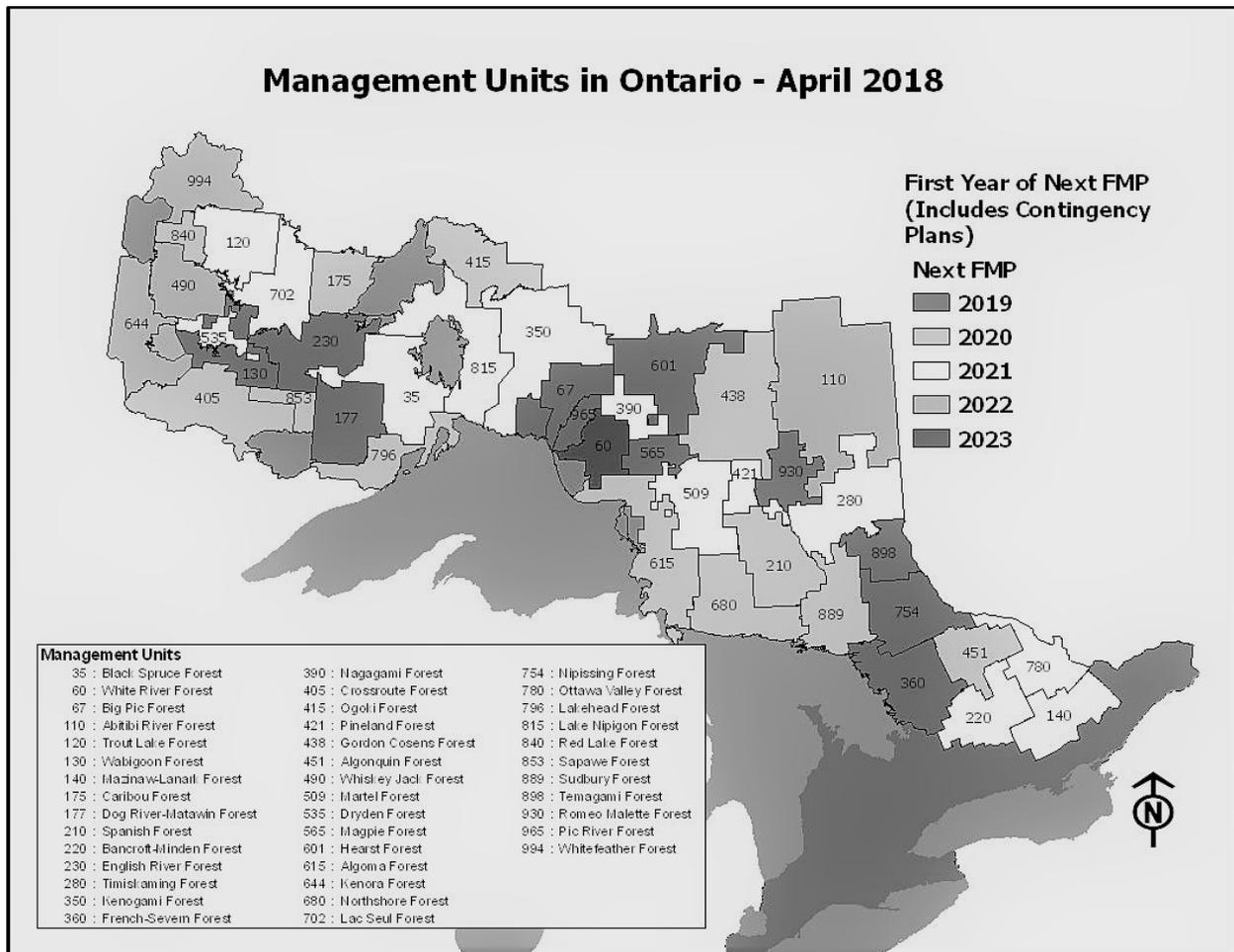
“forest management planning, comprising the interrelated activities of access, harvest, renewal, maintenance, and their planning, as provided for under the Crown Forest Sustainability Act, its regulations and regulated manuals, on Crown lands in the area outlined in Schedule 1”

Specifically, the undertaking consists of the following interrelated forest management activities:

- provision of access to harvestable timber
- harvest of the timber for transport to wood-processing facilities
- renewal of the forest
 - preparing the site for regeneration
 - regenerating the forest by natural or artificial means
- maintenance of the forest
 - tending to ensure successful growth of the new forest
 - protection of the forest from insects and disease

For forest operations to take place within the AOU, planning for the activities must occur first through the development of an FMP. To support forest management planning, the AOU is divided into management units. Figure 1.2 shows the 41 management units in the AOU as of April 1, 2018.

Figure 2: Management Units and Planning Schedule as of April 1, 2018



2.0 Environmental, Social and Economic Benefits of the Undertaking

Condition 57(c)(i), requires MNRF to provide a discussion of the environmental, social and economic benefits of the undertaking of forest management.

Forest management provides environmental, social and economic benefits. It requires good planning, skilled workers and professionals who understand and incorporate the concepts of sound forest management into forest management activities.

Sustainable forest management contributes significantly to the local and provincial economy. However, human activities have the potential to affect the environment and forest management is no exception.

MNRF's entire forest management philosophy is one of preventing, minimizing and mitigating adverse environmental effects while providing benefits through management actions.

Under the CFSA, MNRF manages Ontario's forests "to provide for the sustainability of Crown forests and, in accordance with the objective, to manage Crown forests to meet social, economic and environmental needs of present and future generations". The act states and MNRF ensures that:

"The Forest Management Planning Manual shall provide for determinations of the sustainability of Crown forests in a manner consistent with the following principles:

- 1. Large, healthy, diverse, and productive Crown forests and their associated ecological processes and biological diversity should be conserved.*
- 2. The long-term health and vigour of Crown forests should be provided for by using forest practices that, within the limits of silvicultural requirements, emulate natural disturbances and landscape patterns while minimizing adverse effects on plant life, animal life, water, soil, air and social and economic values, including recreational values and heritage values."*

MNRF continues to ensure that forest management is environmentally, socially and economically sound through a continued commitment to the implementation of the adaptive management approach.

MNRF's ongoing forest science and research supports the application of the adaptive management approach as well as practical application, monitoring and reporting. MNRF actively incorporates lessons learned and findings into policies, guides, manuals, planning processes and related reporting systems.

2.1 Environmental Benefits

During the reporting period the activities of the undertaking continued to provide environmental benefits including:

- maintaining forest health and biodiversity by applying the forest management guides in developing forest management plans
- regenerating forests through natural and artificial means including the planting of millions of seedlings
- mitigating climate change through carbon sequestration in growing forests and solid wood products

Forest management guides are used during the forest management planning process to ensure the maintenance of long-term forest health, a key aspect in the conservation of biodiversity. Emulation of natural disturbances and landscape patterns through forest management directs how to conserve biodiversity.

The Forest Management Guide for Great Lakes-St Lawrence Landscapes and the Forest Management Guide for Boreal Landscapes (the Landscape Guides) provide direction on conserving biodiversity to sustain forest health at the landscape scale, while the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (the Stand and Site Guide) provides direction on planning and conducting forest operations at the stand and site level.

Temporary openings in the forest canopy from disturbances such as harvesting, wildfires, insects and diseases allow sunlight to reach the forest floor and stimulate herbaceous growth.

Forest succession is the replacement of tree species or tree associations over time. Each stage of succession creates the conditions for the next stage and adds to the biodiversity in a forest. In a study of plant communities in Canada, Haeussler et al. (2002)¹ demonstrated that species richness was 30-35 percent higher five to eight years after harvest compared to the old forest. As a result of increased abundance of herbaceous species, several mammals such as rodents and cervids benefit. In turn, predators such as red fox, wolves and lynx benefit from the increased abundance of rodents and cervids.

¹Haeussler S., Bedford L., Leduc A., Bergeron Y., Kranabetter J. M. (2002). Silvicultural disturbance severity and plant communities of the southern Canadian boreal forest. *Silva Fennica* vol. 36 no. 1 article id 565

In Ontario, all forests that are harvested must be renewed through either natural or artificial methods. Millions of trees were planted and or regenerated naturally during the reporting period. As they grow, trees sequester carbon. A healthy landscape has a mixture of young, faster growing stands of trees absorbing carbon more rapidly and older stands absorbing carbon more slowly. Disturbances keep an ecologically appropriate portion of the forest as younger stands.

During the past 100 years, forest fire fighting has been effective in combatting wildfires. But it has also led to some forests made up of over mature, dead and dying trees. Too many over mature stands affects biodiversity and reduces forest carbon sequestration because as older trees die and decay, they release carbon dioxide. Insect outbreaks and disease often accelerate this process. When there is a disturbance like harvesting, carbon sequestration is maximized by silvicultural practices that regenerate forests quickly and increase tree growth rates

2.2 Social Benefits

Forests have always had a central role in the cultural, economic and social development of Ontario. During the reporting period the activities of the undertaking continued to provide social and economic benefits including:

- 49,500 direct jobs in 2016
- Supporting pulp, paper, veneer and sawmill industries
- Providing a supply of quality wood products to world markets

Ontario's forests continue to play a critical role in the province's economy. Forest-based jobs provide an above average share of fulltime jobs, with compensation above the provincial average. Fulltime jobs tend to increase the number of permanent residents in a community, contributing to the local business and tax base, which in turn provides value to society by helping to support stable communities and strengthen and diversify local economies.

As of 2016, the forest industry in Ontario provided 49,500 direct jobs and supported many more indirect and induced jobs. Beyond the forest industry, many Ontarians make their livelihood from the forest, including jobs in resource-based tourism businesses, fishing and hunting, equipment manufacturing, transportation, trapping and retail and service industries.

During the past 20 years, Ontario government initiatives have provided opportunity and resulted in an increased sharing of benefits from forest management with First Nation and Métis communities. In addition, Ontarians and visitors to the province take advantage of the abundant forest-based recreational opportunities. Roads constructed

for forest management also provide access into the forest for hunting, fishing, camping, hiking, berry picking and other related activities.

2.3 Economic Benefits

Ontario's forest companies are leaders in sustainable forest management. Through effective government regulation and company initiatives, the forest industry is well-placed to meet emerging international standards of forest sustainability and environmental protection.

During the reporting period the activities of the undertaking continued to provide social and economic benefits including:

- supporting a forest industry that contributes millions of dollars to the provinces revenue fund through stumpage fees
- generating more than \$15.3 billion in total revenue (2016)
- exported forest product exports valued at over \$6.6 billion (2017)

2.3.1 Ontario's Forest Industry

Ontario's forest industry is made up of the logging industry and two major forest products industry sectors: wood products manufacturing industries; and paper and allied industries.

The logging industry consists of large and small contractors that work independently or directly for company-owned mills.

Wood product manufacturing industries include facilities such as sawmills, veneer mills and structural board and lumber mills that produce construction materials and specialty wood products. Pulp and paper mills convert timber fibre to forest products.

Mills that use more than 1,000 cubic metres of timber annually must obtain a facility licence from government. As of March 31, 2018, 125 facilities were licenced in Ontario.

Forest companies gain access to timber supplies on Crown lands in Ontario through forest resource licences. The larger licences are called sustainable forest licences. They are effective for 20 years and may be renewed every five years based on a review by the MNRF and the results of independent forest audits. Sustainable forest licences require forest companies to:

- collect information
- prepare forest management plans
- implement, monitor and report on forest operations

- pay Crown charges for the harvest of forest resources

Part of the Crown charges are deposited into Ontario's Consolidated Revenue Fund for general use to fund government programs and part is deposited in the Forest Renewal Trust and the Forestry Futures Trust to fund renewal and maintenance activities. A market-based pricing system is used by MNR to calculate the Crown charges. When market prices are strong for forest products, the charges are higher; in times of poor market prices, the charges are lower.

2.3.2 Contributions to the Provincial Economy

The forest industry continues to make a significant contribution to the provincial economy. In 2016, the total revenue generated from the Ontario forest sector was more than \$15.3 billion, \$8.3 billion of which was generated from sales of pulp and paper products, while another \$5 billion came from sawmill, engineered wood and other manufactured wood products. Wood kitchen cabinet and counter top manufacturing contributed another \$0.9 billion, with logging generating the remaining \$1.1 billion.

The sale of forest products abroad is also vitally important to the province's balance of trade. In 2017, the value of Ontario's forest product exports (over 96 per cent bound for the US) was \$6.6 billion. As in the past, pulp and paper products continued to make up most of these exports (51 per cent). Wood products (29 per cent), wooden furniture (19 per cent) and forestry and logging (1 per cent) rounded out the remainder.

In addition to providing employment, the forest industry makes significant investments in capital improvements and mill expansions each year. Many communities in northern Ontario continue to depend on the forest industry and thousands of jobs in southern Ontario also depend on the forest products industry. The forest industry continues to diversify and evolve through better use of timber and timber by-products and value-added manufacturing.

3.0 Implementation of the Declaration Order

3.1 Introduction

Condition 57(c)(viii) requires MNRF to report on the number, type and disposition of proposed amendments to conditions of this DO that occurred during the five-year reporting period 2013-2018.

During the reporting period, MECP made decisions about MNRF's 2010 and 2013 amendment requests. These requests were based on the findings from two previous Five-Year EA Reports (2003–2008 and 2008-2013) and other relevant information. The amendment process resulted in Declaration Orders MNR-71 and MNR-74 being revoked and replaced with a single new DO (i.e., MNR-75).

Although the new DO was approved in 2015, there were transition and phase-in provisions for some requirements (specified under Conditions 60 and 61). Therefore, MNRF has limited time and experience in implementing the new DO requirements and as a result, this report makes little mention of those new requirements.

3.2 Amendments Made to Conditions of the Declaration Order

The following are the key changes from the amendment process completed in 2015 that are contained in the new DO:

- changed 10-Year Forest Management Plans from having two 5-year operational phases to one 10-year operational term
- introduced a Mid-Plan Check during implementation of FMPs
- introduced short and longer-term FMP Extensions
- changed the approval authority for Contingency Plans
- realigned FMP reporting requirements
- condensed conditions, including the local citizens committee, values and independent forest audit condition, to recognize advancements in MNRF's forest policy framework
- clarified Public and Aboriginal consultation requirements
- changed silvicultural ground rule requirements
- clarified the Individual Environmental Assessment Request process
- changed the Guide review period from 5 – 10 years
- added requirements for species at risk

- added requirement for the creation of a guidance document on forest management to support public, Aboriginal communities and stakeholder participation in forest planning activities
- reorganized and clarified administrative requirements for reporting and amendment requests

3.3 Declaration Order Consolidation – MNR-71 and MNR-74

Declaration Orders MNR-71 and MNR-74 were consolidated through the issuance of a new DO. The geography to which the Orders applied was also consolidated resulting in one combined AOU as shown in Figure 1.

MECP recognized there would be benefits from the amalgamation including:

- providing administrative efficiencies such as allowing reporting requirements for the AOU and the Whitefeather Forest to be met at the same time
- simplifying the documentation by using a single Declaration Order to outline MECP's forest management planning requirements for Ontario
- reducing duplication for monitoring and compliance by referring to a single set of conditions
- simplifying the integration of new data and policy direction into the planning process based on ongoing research into topics like climate change and woodland caribou

The new DO identifies special conditions under a subsection entitled Management Unit Specific Direction for the Whitefeather Forest. This section contains some additional requirements that apply to the Whitefeather Forest (i.e. customary stewardship, woodland caribou, strategic access approach) consolidated from the Whitefeather Declaration Order.

4.0 Forest Management Planning – Conditions 1-34

4.1 Significant Initiatives and Major Results

Condition 57(c)(xxx) requires MNRF to report on the forest management planning conditions of the DO and highlight:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

4.1.1 Significant Initiatives

As discussed in the previous chapter, MNRF submitted a “Request for Amendment” to Declaration Orders MNR-71 and MNR-74 in 2010 and 2013. These amendments included changes to the conditions that prescribe forest management planning requirements (i.e. the planning conditions).

With approval of the DO, MNRF was required to revise the regulated forest manuals to prescribe forest management planning requirements. A forest manuals revision project was initiated during the reporting period.

4.1.2 Major Results

MNRF revised the three regulated forest manuals prescribed by the CFSA: the FMPM, the Forest Information Manual (FIM) and the Forest Operations and Silviculture Manual (FOSM). The revisions to the manuals incorporated:

- new requirements of Declaration Order MNR-75
- the outcomes of recent policy initiatives and reviews, including:
 - proposed revised MNRF/DFO Forestry Water Crossing Protocol
 - Silviculture Enhancement Initiative
 - Endangered Species Act / Crown Forest Sustainability Act Integration Project
 - Spatial and Economic Indicators in Forest Management Initiative
 - Aboriginal Community Involvement in Forest Management Planning
 - enabling Forest Management on the Cat-Slate Forest
- updates to current direction

- advice from forestry practitioners
- administrative changes
- additional Aboriginal consultation requirements were added, beyond those required by the new DO, including:
 - an invitation to communities to participate in the desired forest and benefits meeting which allows participants to share their respective interests in the management of the forest
 - providing an opportunity for communities to have a presentation on the proposed long-term management direction and the preliminary determination of sustainability for the FMP
 - establishing a steering committee to seek input from Aboriginal community's planning team representatives on issues with FMP preparation
 - inviting community planning team representatives to participate in all steps of Issues Resolution meetings
 - providing an opportunity to review and comment on the draft Annual Work Schedule
 - providing detailed project maps containing planned operations for prescribed burns and aerial herbicide or insecticide project notifications

These revisions to the manuals were posted on the Environmental Registry and the revised regulated manuals came into effect in 2017.

4.1.2.1 Forest Management Planning

Condition 57(c)(ii), requires MNRF to report on the results of forest management planning efforts during the reporting period including the number of:

- forest management plans and contingency plans prepared and approved
- mid-plan checks completed (none completed during the reporting period)
- insect pest management programs prepared and approved (no insect outbreaks occurred during the reporting period)
- amendments to forest management plans and contingency plans prepared and approved

The following tables highlight the major results of forest management planning processes conducted during the reporting period. Most of the planning activities

undertaken during the reporting period were directed by the 2009 Forest Management Planning Manual (FMPM) and focused on the preparation of Phase 2 operational plans.

Table 2: Approved Forest Management Plans

Management Unit	Plan Period	Plan Phase	MNRF Approval Date
Caribou Forest	2008-2018	2	June 26, 2013
Ogoki Forest	2008-2018	2	July 14, 2014
Wabigoon Forest	2008-2018	2	February 5, 2014
Dog River-Matawin Forest	2009-2019	2	October 30, 2013
English River Forest	2009-2019	2	December 19, 2013
French Severn Forest	2009-2019	2	November 4, 2014
Magpie Forest	2009-2019	2	June 9, 2015
Nipissing Forest	2009-2019	2	November 28, 2013
Romeo Malette Forest	2009-2019	2	December 16, 2013
Temagami Forest	2009-2019	2	January 21, 2014
Trout Lake Forest	2009-2019	2	December 11, 2014
Algoma Forest	2010-2020	2	December 4, 2014
Algonquin Forest	2010-2020	2	November 28, 2014
Gordon Cosens Forest	2010-2020	2	October 31, 2014
Northshore Forest	2010-2020	2	October 10, 2014
Sapawe Forest	2010-2020	2	October 14, 2014
Spanish Forest	2010-2020	2	December 10, 2014
Sudbury Forest	2010-2020	2	January 6, 2015
Bancroft-Minden Forest	2011-2021	2	February 9, 2016
Black Spruce Forest	2011-2021	2	November 28, 2014
Dryden Forest	2011-2021	2	February 8, 2016

Management Unit	Plan Period	Plan Phase	MNRF Approval Date
Kenogami Forest	2011-2021	2	November 26, 2015
Lac Seul Forest	2011-2021	2	March 27, 2015
Lake Nipigon Forest	2011-2021	2	October 14, 2014
Martel Forest	2011-2021	2	October 23, 2015
Mazinaw-Lanark Forest	2011-2021	2	October 26, 2015
Nagagami Forest	2011-2021	2	November 23, 2015
Ottawa Valley Forest	2011-2021	2	October 30, 2015
Pineland Forest	2011-2021	2	November 3, 2015
Timiskaming Forest	2011-2021	2	December 8, 2015
Abitibi River Forest	2012-2022	2	November 24, 2016
Kenora Forest	2012-2022	2	November 29, 2016
Whiskey Jack Forest	2012-2022	1	December 23, 2013
Whiskey Jack Forest	2012-2022	2	February 8, 2017
White River Forest	2018-2028	1	February 16, 2018

Table 3: Approved Contingency Plans

Management Unit	Plan Period	MNRF Approval Date	Reason for Contingency Plan
Pic River Forest	2017-2019	December 20, 2016	To align forest management schedules for the Pic River and Big Pic Forests to support amalgamation of these MUs.
Big Pic Forest	2017-2019	December 20, 2016	Delay in the receipt of the forest resource inventory (FRI), issues with the modeling requirements and the submission of quality written products on schedule.
Hearst Forest	2017-2019	August 28, 2017	Delay in the receipt of the FRI, introduction of several new tools and computer models and the introduction of new Guides.
Crossroute Forest	2017-2020	December 5, 2016	Delay in the receipt of the FRI.
Lakehead Forest	2017-2020	November 16, 2016	Delay in the receipt of the FRI, issues with the modeling requirements and the submission of quality written products on schedule.

Table 4: Approved Forest Management Plan Extensions

Management Unit	Plan Period	MNRF Approval Date
Caribou Forest	2008-2018	December 20, 2017
Ogoki Forest	2008-2018	December 7, 2017
Red Lake Forest	2008-2018	November 16, 2017

Table 5: Approved Forest Management Plan Amendments

Category	2013-14	2014-15	2015-16	2016-17	2017-18	Total	%
Administrative	172	145	130	147	153	747	96.8
Minor	5	4	5	3	5	22	2.9
Major	0	1	1	0	0	2	0.3
Total	177	150	136	150	158	771	100

4.1.2.1 Public and Aboriginal Consultation Results

Consultation is a key part of the forest management planning process and provides the public, Aboriginal communities and stakeholders with an opportunity to influence how Crown forests are managed. Several consultation opportunities are provided in the forest management planning process, including:

- membership on Local Citizens Committees
- formal public consultation (e.g., notifications, open houses, meetings, discussions)
- customized consultation approaches for Aboriginal communities
- opportunities to resolve issues using the issue resolution processes

MNRF has undertaken consultation efforts on all forest planning activities in accordance with the FMPM requirements.

4.1.2.2 Disposition of Requests for Individual Environmental Assessments

Condition 26 allows for any person to make a request to the MECP Director of the Environmental Approvals and Permission Branch for an Individual Environmental Assessment (IEA) of specific proposed forest management activities in an FMP or a major amendment to an FMP.

No IEA requests were submitted on major amendments during the reporting period. Table 4.5 shows a summary of the number of IEA requests submitted during the reporting period on FMPs.

Table 6: IEA Requests Submitted During the Reporting Period

Plan Year	Number of Plans	Number of Plans with Requests for IEAs	Number of Requests for IEAs
2013	3	0	0
2014	8	2	2
2015	7	2	5
2016	12	3	3
2017	1	1	2
Total	21	8	12

Road access and the visual effects of harvesting were the common issues often included in IEA requests submitted to MECP. MECP denied all the IEA requests submitted during the reporting period and placed conditions on five of the denial decisions.

4.2 Implementation Experience

During the reporting period, no FMPs were produced according to the requirements in these new forest manuals. MNRF had limited experience in applying the new forest manuals to FMP amendments, AWS revisions and Management Unit Annual Reports.

Although the new requirements appear to be working as intended, MNRF does not have enough implementation experience to comment on the new requirements.

Therefore, MNRF's implementation experience, provided in the following subsections, focuses on previous requirements that did not change with the issuance of the new DO.

4.2.1 Local Citizen Committees

Local Citizens Committees are made up of citizens, including Aboriginal community representatives, who reside on or close to the forest and who represent a range and balance of interests. The Local Citizens Committees ensure that their representative interests are considered in forest management planning. Committee members can be nominated to participate on the planning team and most planning teams included a committee representative.

Local Citizen Committees have been in place for many years and were in place for every management unit in the AOU during the reporting period. They make positive contributions to forest management planning, and implementation. MNRF and the committees also faced the following challenges:

- difficulty in recruiting members due to ongoing and significant time requirements

- lack of representation of some groups in certain areas of the province
- focusing committee efforts on matters of key importance

4.2.2 Public Consultation

Forest management planning is an open and consultative process that includes opportunities for interested and affected parties to take part through formal public consultation processes.

The public contributed to the development and implementation of FMPs. MNRF continues to support refinements to enable improved participation. Future refinements could include:

- simplifying media ads and notifications – the public’s impression is that they are not user friendly and have significant and complex content requirements
- improving online access to planning information at each stage of planning process - open houses are becoming much less effective at getting input
- improving public access to expired FMPs to inform input on current plans – planning documents should continue to be accessible online after they expire
- changing how notifications are provided given the reduction in print media locations and reduced publications across the AOU (e.g. one paper a month in some locations)
- improving MNRF’s access to land owner information so adjacent land owners can be appropriately notified of planned operations

4.2.3 Aboriginal Consultation

Aboriginal communities contributed to the forest management planning process. MNRF continued to support refinements to enable improved participation. Additional refinements could include:

- further guarantees that values provided by Aboriginal communities to MNRF for consideration in the planning process are protected and not disclosed without community consent
- improved information sharing – MNRF’s ability to share information is challenged by the lack of internet access in some remote locations (some of which are Aboriginal communities) which is further complicated by government’s own information sharing policies and information/system management requirements that restricts using other data mediums to transfer information (e.g., USB stick or SD card)

- improvements to the process to enable Métis consultation requirements considering their council-based organizational structure
- further investments in supporting the differing capacity levels of First Nation communities and their local citizen committee and planning team representatives
- improvements to planning team memberships for Aboriginal members where there are many communities and or councils on a MU (e.g., more than 5) as MNRF is finding it hard to meet planning timelines when there are many Aboriginal representatives on the planning team
- further understanding and sharing of information with Aboriginal communities to address concerns with aerial herbicide application and or insecticide project notifications

4.2.4 Requests for Individual Environmental Assessments

Because MNRF's issue resolution process is used significantly during forest management planning, the Individual Environmental Assessment request process conducted by MECP is adding little value to forest management planning decision-making.

The time required to review and make decisions on these requests caused the forest industry economic hardship and consumed MECP and MNRF staff time and resources. Further, MECP processed over 115 of these requests since 1995 without granting an individual environmental assessment.

4.2.5 Other Highlights

In this section, MNRF highlights other concerns with the forest management planning process that MNRF continues to monitor and may seek refinements for in the future.

Forest Management Planning Direction

The development of the Long-Term Management Direction is very costly and time consuming, specifically for the forest industry. Approximately sixty percent of the financial and staff resources of the entire planning process are consumed at this stage of planning. MNRF intends to further examine the forest planning requirements and structure to determine if there are alternative approaches to consider.

There is a large investment made in the forest inventory program. Production timelines need to improve to ensure the inventory is available to meet FMP production schedules. There is also a need to address issues with FRI accuracy.

Planning and Monitoring Activities

A more strategic and integrated approach to the management of roads by all resource users (currently focuses on roads managed by forest industry) is needed. MNRF needs to ensure use management strategies are developed, implemented and transferred where appropriate for all roads.

Annual Operations Reporting

The accuracy and timely completion of Management Unit Annual Reports should be emphasized. These reports contain the information on operations completed during the previous year which are critical to updating the FRI and supporting future planning efforts. Sometimes reports were not submitted on time and the quality of the submissions was variable.

There is a need to improve documentation for values encountered during operations that have not been previously identified and addressed in planning. Although the values are being protected in the field, MNRF has experienced issues with getting the information on those new-found values into the Land Information Ontario database.

4.3 Whitefeather Forest – Management Unit Specific Direction - Conditions 19-23

Condition 57(c)(iii) requires MNRF to provide information for the Whitefeather Forest. The Whitefeather Forest is an 11,749-square-kilometre MU in northwestern Ontario, located approximately 80 kilometres east of the Manitoba border and 90 kilometres north of the Town of Red Lake.

As previously noted, the DO contains management unit specific conditions for the Whitefeather Forest. These conditions include requirements for customary stewardship, background information, woodland caribou, strategic access and a monitoring program. The management unit specific condition requirements have been incorporated into Part F of the FMPM.

The Whitefeather FMP was approved in 2012 for a ten-year period and met all the requirements in the FMPM including Part F with respect to Management Unit Specific Direction.

Since the economic crash of the forest industry in 2004-2008, demand for forest fibre in Ontario has diminished significantly. Although the Whitefeather Forest Management Plan was approved in 2012, very little operations have been conducted.

The level of planning effort and expenditure associated with preparing an FMP can far outweigh the return on investment if the FMP is not implemented. MNRF needs to consider new approaches to maximize the significant value of planning investment.

Alternatives to current planning requirements in situations where there are low levels of forest operations anticipated or other related circumstances could be considered.

Also, with the lack of harvest activity, the supply of caribou habitat on the MU has not been impacted by forest management activities; therefore, no specific assessment of caribou habitat has been undertaken.

5.0 Management Unit and Provincial Level Monitoring

5.1 Introduction

This chapter reports on the four monitoring conditions of the DO (35-38) and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

5.2 Forest Operations Inspections – Condition 35

Condition 35 requires MNRF to maintain a forest operations inspections program. This program includes maintaining a Forest Compliance Handbook, making forest operation inspection reports available for Independent Forest Audits and providing annual summaries for forest operation inspections available to the public.

5.2.1 Significant Initiatives

During the reporting period, MNRF reviewed the Forest Compliance Handbook. This was part of the regular review of program direction contained within the Policy Framework for Sustainable Forests.

5.2.2 Major Results

Because of the review, MNRF revised the Forest Compliance Handbook and made it available on April 2, 2014. The revisions were primarily administrative and had little potential for significant environmental impacts and were not posted on the Environmental Registry for review and comment. The revised handbook is available on Ontario.ca and combines all compliance related directives and procedures into one single document.

Forest operations that are monitored for compliance include timber harvesting, road construction including water crossings, and forest renewal. Compliance monitoring occurs in partnership between the MNRF and the forest industry.

Activities such as education, communication, planning, inspecting and reporting ensure forest operations follow the legislative requirements. If an operation is out of compliance, sanctions may be applied including written warnings, orders, administrative penalties and offence charges.

The Management Unit Annual Reports for each MU identify and discuss the implementation of forest operations during the previous year. The reports summarize

the forest operations inspection reports completed by forest industry and MNRF including where non-compliances occurred.

The inspections reported are those that were conducted during the period of the annual report regardless of the year that the operation was conducted. The remedies reported are those that were applied during the period of the annual report regardless of the year in which the non-compliance occurred.

During the reporting period, 12,963 compliance reports were submitted by MNRF and forest industry. Of those, ninety-four percent indicated compliance with the requirements while only three percent of the reports indicated the operations were not in compliance. Approximately 3% of the reports submitted had a compliance status that was pending as of March 31, 2018.

Industry inspectors submitted most of the reports (10,047). Ninety-four percent of the reports submitted by industry indicated compliance with requirements. MNRF inspectors submitted 2,916 reports which indicated that 86 percent of the operations undertaken followed requirements.

MNRF reported 357 incidents of non-compliance, issued 284 written warnings and issued 174 orders under section 55, 56, 57, 58 & 64 of the CFSA.

Individual inspection reports that were conducted during the reporting period are available on Ontario.ca or the local MNRF office.

5.3 Independent Forest Audits – Condition 36

Condition 36 requires the results of independent forest audits, conducted per the requirements of the CFSA and its regulations, be made available on a publicly accessible website. Independent forest audits are an integral part of MNRF's forest management program and contribute to the adaptive management approach to forest management.

5.3.1 Significant Initiatives

During the reporting period, MNRF completed an Independent Forest Audit Policy Modernization Project. The goal of the project was to improve the efficiency and effectiveness of the audits. The following changes were incorporated into the 2017 Independent Forest Audit Process and Protocol:

- adopted a risk-based approach to refining the audit scope
- removed low-risk procedures from the audit scope
- implemented short, balanced independent forest audit reports
- adjusted auditors' wording in providing sustainability assessment

- implemented the requirement for auditors to identify findings rather than recommendations
- enabled the identification of corporate or policy action findings in the Independent Forest Audit Action Plans

5.3.2 Major Results

The modernization project also resulted in revisions to Ontario Regulation 160/04 (Independent Forest Audits) to:

- extend the interval between Ministerial reviews of the Independent Forest Audit process from five to ten years
- change the outcome of the audit from "recommendations" to "findings"

During the reporting period, Independent Forest Audits were carried out for 38 MUs. All completed audits are posted on Ontario.ca once they have been tabled in the Legislature.

5.3.3 Implementation Experience

MNRF experienced, and is still experiencing, significant delays in posting IFA results to publicly available websites. The delay is due to the time it takes for the audits to be tabled in the Legislature. Because of these delays, the information in the audits can not be shared with the public and becomes less useful in informing the development of the next FMP, which is a significant part of their intent.

5.4 Silvicultural Effectiveness Monitoring – Condition 37

Condition 37 requires MNRF to continue to implement a Silvicultural Effectiveness Monitoring Program and to maintain provincial direction for the program.

Under the requirements of the FMPM, forest companies assess regeneration and silvicultural success and report results in Management Unit Annual Reports. The forest manager is obligated to conduct monitoring, renewal and maintenance as part of the requirement to regenerate areas following harvest.

An assessment of the effectiveness of silvicultural operations is carried out on each MU. Silvicultural effectiveness monitoring examines the planned operations in forest management plans and the actual operations implemented in determining the success of forest renewal. Successful forest renewal (i.e. regeneration to an acceptable renewal standard) is expressed as free-to-grow.

5.4.1 Significant Initiatives

Starting in 2011, MNRF began a comprehensive review of the Silvicultural Effectiveness Monitoring Program.

The Silviculture Enhancement Initiative identified several opportunities to strengthen policies that guide the planning, monitoring and funding of the silviculture program. These opportunities for improvement were outlined in the discussion paper “Enhancing Ontario’s Silviculture Policies” that was posted to the Environmental Registry in January 2014 for review and comment.

MNRF considered all comments submitted and posted the decision notice for the discussion paper to the Environmental Registry in January 2016.

5.4.2 Major Results

The Silvicultural Enhancement Initiative results were incorporated into the three revised forest manuals as discussed in Section 4.1.2.

Beginning with the 2020 FMPs, all forest management plans are required to incorporate the new approaches to FMP past performance analysis, silvicultural ground rules, renewal assessment and reporting.

MNRF compiles silviculture effectiveness monitoring results for the AOU and reports on the area assessed, the area declared as free-to-grow and the area declared not free-to-grow in the Provincial Biennial Report on Forest Management. Table 5.1 shows a summary of the information available for the reporting period.

Table 7: Area Assessed, Area Declared Free-to Grow and Area Declared Not Free-to-Grow

	2013/14	2014/15	2015/16	2016/17	2017/18
Assessed	173,076	87,583	124,892	175,479	102,257
Free-to-grow	163,199	79,366	111,389	150,920	84,847
Not Free-to-grow	9,877	8,216	13,503	24,559	17,410

5.5 Wildlife Population Monitoring – Condition 38

Condition 38 requires MNRF to conduct long-term trend monitoring on representative wildlife species and investigate wildlife population monitoring methods. It also requires MNRF to maintain a program plan that outlines priorities, representative species to be monitored, and proposed activities and schedules for the program. The program plan must be updated no later than one year following the public release of each Five-Year EA Report.

5.4.1 Significant Initiatives

Starting in 2011, MNRF began a comprehensive review of the Silvicultural Effectiveness Monitoring Program.

The Silviculture Enhancement Initiative identified several opportunities to strengthen policies that guide the planning, monitoring and funding of the silviculture program. These opportunities for improvement were outlined in the discussion paper “Enhancing Ontario’s Silviculture Policies” that was posted to the Environmental Registry in January 2014 for review and comment.

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Table 7: Area Assessed, Area Declared Free-to Grow and Area Declared Not Free-to-Grow

	2013/14	2014/15	2015/16	2016/17	2017/18
Assessed	173,076	87,583	124,892	175,479	82,552
Free-to-grow	163,199	79,366	111,389	150,920	66,887
Not Free-to-grow	9,877	8,216	13,503	24,559	15,665

5.5 Wildlife Population Monitoring – Condition 38

Condition 38 requires MNRF to conduct long-term trend monitoring on representative wildlife species and investigate wildlife population monitoring methods. It also requires MNRF to maintain a program plan that outlines priorities, representative species to be monitored, and proposed activities and schedules for the program. The program plan must be updated no later than one year following the public release of each Five-Year EA Report.

5.5.1 Significant Initiatives

During the reporting period, MNRF revised the program plan and made it available to the public on the Environmental Registry. The revised program plan was posted on Ontario.ca in November 2015. Updates on the program were provided to the Provincial Forest Technical Committee to aid in the review and revision of Guides as per the requirement of Condition 38(c).

5.5.2 Major Results

During the reporting period, MNRF implemented multiple-species inventory and monitoring (MSIM) during every year of the reporting period.

MSIM provides data on wildlife and associated forest habitat conditions over broad spatial and temporal scales. Data is collected from a network of permanent plots in the AOU using consistent protocols. At each plot, surveys are administered using a variety of methods including acoustic recorders for birds and calling amphibians, motion-sensing camera traps for medium and large mammals, cover boards for salamanders and other amphibians and live-traps for small mammals.

MNRF also monitors moose populations, using a separate survey, to support moose harvest planning and forest management planning. MNRF conducted moose surveys every winter of the reporting period. The data collected is used to summarize moose population trends in the AOU.

MNRF continued to partner with Bird Studies Canada to collect data about birds relevant to objectives outlined in the program plan. During the reporting period, MNRF and Bird Studies Canada monitored nocturnal owls, migrating birds and forest songbirds in areas that overlap the AOU. The data is used to summarize population trends for indicator bird species identified in the program plan.

Forest bat monitoring had a data gap requiring additional protocol development in the program plan. To address this, MNRF initiated a pilot bat monitoring study during the reporting period. Bat sampling was incorporated into the MSIM sampling using ultrasonic recording protocols. The data is intended to provide information on bat species presence and relative activity patterns throughout forested habitats. Results from the pilot study will be compared with results from studies by MNRF researchers to determine the most suitable approach for future bat monitoring.

5.5.3 Implementation Experience

Challenges associated with the implementation of the Provincial Wildlife Population Monitoring Program during the reporting period are related to program design and or program delivery. These challenges are being further assessed to determine suitable actions. The challenges include:

- Plot network integrity – the network must be kept intact to meet program commitments and be subject to normal forest harvest operations using consistent approaches across the AOU. MNRF is trying to address this issue by ensuring there is more consistent application of Area of Concern (AOC) prescriptions for the plots across all FMPs.
- Data Management consistency - through the program's evolution, regional differences in data management resulted in inconsistent data structures which impeded MNRF's ability to summarize data and deliver reports. MNRF is addressing this issue by undertaking a data management review. Developing a central, authoritative database is a necessary step to identifying indicator species that meet the requirements outlined in Condition 38(a), conducting analysis that is needed to understand minimum sample size requirements and to deliver on MNRF reporting commitments.
- Representative Species - the Program Plan identifies 43 indicator species that will be observed. MNRF is in the early stages of analyzing data to assess species trends, measure environmental relationships and test whether the current sampling design is statistically efficient.
- Sample size - MNRF's current approach (and resourcing) only allows data collection at about 60 plots per year. This sampling intensity makes it difficult to sufficiently capture habitat variation across the AOU, but it does facilitate iterative improvement of the sampling design over time and may support evaluation of long-term trends in wildlife populations.

6.0 Reporting – Conditions 39-40

This chapter reports on the two conditions of the DO (39-40) that require forest reporting and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

6.1 Forest Reports

Condition 39 requires the preparation of forest management reports including:

- Management Unit Annual Reports that identify the forest operations that were conducted during the preceding year for each MU
- Provincial Biennial Report on Forest Management that summarizes the Management Unit Annual Reports across all the MUs

The CFSA requires MNRF to prepare a State of the Forest Report once every five years. The SOFR uses a criteria and indicator approach to reporting on the status of Ontario's forests. Condition 40 requires MNRF to ensure the indicator information used to support the development of the State of the Forest Report is made available on a publicly accessible website.

6.1.1 Significant Initiatives

Under the new DO, the Provincial Biennial Report on Forest Management replaces the requirement for an annual report. This report must be submitted for tabling in the Legislature.

From 2013-2016, MNRF streamlined and modernized the State of Forest Report and the indicators used in its development. The goal was to produce a report that better communicated the state of Crown forests to the public. The streamlining and modernization efforts focused on creating content that was:

- easier to understand, less technical, employing plain language
- presented in a consistent way that emphasized key messages

6.1.2 Major Results

Management Unit Annual Reports were submitted for every MU in the AOU during the reporting period, although MNRF had not received the majority of the 2017/18 MUARs

as per the submission date requirements. The reports are available on the E-FMP website and data from the reports is used to prepare the provincial reports.

Provincial annual reports tabled in the Legislature during the reporting period included:

- Annual report on forest management 2010-2011
- Annual report on forest management 2011-2012
- Annual report on forest management 2012-2013
- Annual report on forest management 2013-2014

The first provincial biennial report for the period 2014/15 and 2015/16 has been prepared and at the time of preparation of this report, was awaiting tabling in the Legislature.

During the reporting period, the State of Ontario's Natural Resources - Forests 2016 was tabled in the Legislature and published. The forest indicator information supporting that report is available on Ontario.ca.

6.1.3 Implementation Experience

As noted in section 4.2.5, although MUARs are being submitted for every MU, they are often not submitted on time and the quality of the reports could be improved. These reports support forest management planning and monitoring and form the basis of provincial reports.

In implementing the requirements of Condition 39, MNRF has successfully produced the provincial reports from the management unit annual report data. However, MNRF has experienced delays in receiving all completed MUAR reports according to prescribed timelines.

MNRF also experienced delays in making the provincial reports available to the public. Once the report is complete and approved, it must be tabled in the Legislature before it can be published on the government's website. This creates 2 challenges:

- It compels MNRF to produce the report in a static, paper-based format
- It delays publication of the report which impedes public access to the information in the report

A static paper-based report, along with the two-year reporting period, limits the amount and type of information MNRF can provide to the public (e.g. spatial data at the management unit or regional scale). Maintaining the requirement to table the biennial report on forest management in the Legislature limits MNRF's ability to modernize the

delivery of this provincial report and share the information in ways that better meets public expectation.

Additional challenges MNRF has faced during the reporting period relate to limitations on how MNRF can present indicator information online. Ontario.ca does not support publishing interactive information. This limits the amount and type of indicator information MNRF can provide online (e.g. spatial data at the management unit or regional scale).

MNRF will seek to improve timely public access to information and statistics on forest management activities in user friendly and interactive ways that align with Ontario's open data directives.

7.0 Continuing Development and Programs

This chapter reports on the 15 conditions that are part of the Continuing Development and Programs section of the DO (41-54) and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

7.1 Committees – Conditions 41-43

7.1.1 Regional Advisory Committees

Condition 41 requires MNRF to maintain Regional Advisory Committees to advise the MNRF Regional Director on forest management planning and related matters. During the reporting period, MNRF maintained three Regional Advisory Committees.

The Northeastern Region committee met four times and the Southern Region committee met three times. The Northwest Region committee did not meet during the reporting period as there was no specific advice the region was seeking from the committee. MNRF Regional Directors shared information on several topics with the committees during the reporting period including:

- status of forest management plans
- species at risk
- climate change
- forest health (insect outbreaks)

7.1.2 Provincial Forest Policy Committee

Condition 42 requires MNRF to maintain a Provincial Forest Policy Committee to advise the MNRF Deputy Minister on matters associated with forest policy. During the reporting period, the Provincial Forest Policy Committee met nine times where the Deputy Minister shared information on several topics with the committee including:

- Forest Tenure
- FMPM Revision
- Silviculture Enhancement Initiative
- Independent Forest Audit Modernization

- Aboriginal Related Policy Initiatives including Resource Revenue Sharing in Forestry and Mining Sectors
- Ontario's Climate Change Strategy and related MNRF efforts
- Endangered Species Act – Crown Forest Sustainability Act integration
- Forest Carbon Policy
- Developing a Forest Pest Strategy for Ontario

7.1.3 Provincial Forest Technical Committee

Condition 43 requires MNRF to maintain a Provincial Forest Technical Committee to advise the Assistant Deputy Minister of Policy Division on matters associated with keeping the Guides current.

During the reporting period, the Provincial Forest Technical Committee met 16 times. The MNRF Assistant Deputy Minister shared information on the following Guides with the committee:

- Forest Management Guide to Silviculture in the Great Lakes-St. Lawrence and Boreal Forests of Ontario
- Forest Management Guide for Boreal Landscapes
- Forest Management Guide for Great Lakes-St. Lawrence Landscapes
- Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales

7.1.4 Committees Implementation Experience

As required by the original Class EA Terms and Conditions, MNRF has been required to maintain Regional Advisory Committees, a Provincial Forest Policy Committee and a Provincial Forest Technical Committee.

The committees supported the development and implementation of the forest program during the late 90's and into the 2000's. Since that time, the committees' roles have changed to supporting the maintenance of policies and other direction rather than contributing to their development. With this change to the committees' function and MNRF's ability through the Environmental Registry and other consultation tools to garner public comment and insight, MNRF will consider how best to use committees in the future.

7.2 Guides – Condition 44

7.2.1 Significant Initiatives

MNRF is required to use Guides in the planning and implementation of forest management activities. The Guides prescribe standards and guidelines for operational prescriptions and conditions on roads, landings and aggregate pits to minimize, mitigate or prevent adverse effects of forest management operations on the conservation of biodiversity and the protection of fish and wildlife habitat, soil and water, cultural heritage and recreation.

The Guides must be reviewed at least every 10 years to determine if revisions are required. MNRF has maintained the list of Guides on Ontario.ca to reflect the approval of new and revised Guides.

During this reporting period, MNRF reviewed two of the Guides under Condition 44(a)(i) of MNR-71, which at the time required each Guide to be reviewed at least once every five years.

In 2015, MNRF reviewed the Forest Management Guide for Great Lakes-St. Lawrence Forest Landscapes, originally approved in 2010. The review recommended that a revision of the Guide was not necessary. It recommended MNRF continue to ensure that the supporting science and information continues to be reviewed and updated. As a result, recent science and landscape simulations have been completed and updated and will be used to inform the development of future FMPs.

MNRF also undertook a review of the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales, originally approved in 2010. The review, which focused on direction not related to species at risk, occurred during 2015-17.

A review of the direction for threatened and endangered species at risk contained within the Forest Management Guide for Boreal Landscapes and the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales was conducted during 2014/15. This review of the Stand and Site Guide became part of a larger project to integrate the requirements of the CFSA and the Endangered Species Act.

7.2.2 Major Results

Because of reviews of the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales conducted during this reporting period, MNRF released revised direction for American ginseng and Blanding's turtle in 2015/16. MNRF also produced a document summarizing the recommendations such that they could be considered during a full revision of the Guide. Revision of the Guide formally began in 2017/18.

During the reporting period, MNRF reviewed and continued to develop direction for threatened and endangered species intended to meet the requirements of both the Crown Forest Sustainability Act and the Endangered Species Act.

In 2015, MNRF completed the Silviculture Guide and posted it on Ontario.ca.

The Tourism Guide was last reviewed in 2011. The Cultural Heritage Guide was last reviewed in 2013. Both reviews concluded that the guides were still meeting their intended objectives. The Provincial Forest Technical Committee provided advice to MNRF throughout the guide review processes.

7.3 Science Studies and Information Sharing Related to Climate Change – Condition 45

MNRF maintains a program of scientific studies to assess the effectiveness of MNRF's Guides and another program to investigate climate change and carbon management and support the government's efforts towards climate change.

7.3.1 Science Studies to Assess the Effectiveness of Guides

Condition 45(a) requires that MNRF maintain a program of scientific studies to assess the effectiveness of MNRF Guides and requires MNRF to provide updates on the progress of these studies to the Provincial Forest Technical Committee to assist in the review and revision of MNRF Guides.

7.3.1.1 Major Results

MNRF's Integrated Science Action Plan defines science priorities to ensure that science and research activities are collaborative, efficient and address Ontario's information needs to support evidenced-based natural resource management decision-making. The Integrated Science Action Plan includes a program of scientific studies to assess the effectiveness of the Guides.

MNRF also maintains a catalogue of natural resource scientific and technical publications on Ontario.ca. It lists all published material that has been used to support the development of the Guides since 2004.

The following sections provide highlights, by Guide, of the effectiveness monitoring studies underway or initiated during the reporting period. Please note, some of the studies may be supporting effectiveness monitoring for more than one Guide but may only be listed under one Guide.

Stand and Site Guide

The Stand and Site Guide provides direction on modifying forest operations to keep special features such as decaying trees and fallen logs, protecting sensitive habitats

such as bird nests and woodland pools and ensuring the conservation of water and soil resources.

Many effectiveness monitoring projects were initiated and or continued in association with the requirements of the Stand and Site Guide and a few of the key projects included:

- analyzed Moose Aerial Inventory data to develop moose habitat models to advise and test the composition targets for Moose Emphasis Areas in the current Guide
- developed a model to predict ground level light intensity based on residual overstory density in mixedwood clearcuts in the boreal forest. Predictions from the model will be considered when assessing whether there should be a maximum number of wildlife trees prescribed for clearcuts in the revised Guide (to ensure wildlife tree retention does not impede successful regeneration of shade-intolerant tree species)
- continued to study the relationship between patches of forest that are not burned during wildfires and the location of habitat within riparian zones that may function as 'hotspots' for mercury methylation
- continued to assess tree composition, growth and density in severely-rutted, moderately-rutted and non-rutted blocks of lowland black spruce forest in northwestern Ontario
- continued to develop a model to identify lakes and associated catchments in the Great Lakes-St Lawrence forest that may be sensitive to calcium loss associated with forest harvesting (because of past calcium loss related to acid precipitation)

Landscape Guides

The Landscape Guides direct the amount and arrangement of different types and ages of forest on the landscape. This helps forest managers find a balance of habitat for all life forms (e.g., wildlife, birds, fish, plants) and measures for protection of specific habitat features (e.g., bird nests, species at risk including caribou).

Several effectiveness monitoring projects were initiated and or continued in association with the requirements of the Landscape Guides. During the reporting period, MNRF:

- revised the Great Lakes St. Lawrence Landscape Guide simulated ranges of natural variation
- examined whether woodland caribou occupy previously harvested stands. Work continues to identify site conditions where terrestrial lichen regeneration could be an appropriate and desirable silvicultural objective

- initiated a new research study to evaluate the rate of songbird misidentification (false-positives) when using Songmeter autonomous audio recorders for data collection

Tourism Guide

The Tourism Guide assists forest managers and tourism industry operators to plan for forest operations in areas that are used for both forest management and tourism.

Several effectiveness monitoring projects were initiated and or continued in association with the requirements of the Tourism Guide. During the reporting period, MNRF:

- examined undesired trail access to lakes with resource-based tourism values. Data were collected to characterize the extent of all-terrain vehicle (ATV) trails that connect forest access roads to lakes with tourism establishments that are fly-in only accessible
- investigated the effectiveness of different approaches at limiting motorized vehicle traffic on unpaved roads designed to support forestry operations (i.e., resource access roads)

Silvicultural Guides

These Guides provide the most up-to-date scientific and technical information on growing and cultivating trees.

Numerous effectiveness monitoring projects were initiated and or continued in association with the requirements of the Silviculture Guides. During the reporting period, MNRF:

- investigated how total competition negatively affects spruce growth, regardless of whether competition is from aspen or spruce
- examined how black spruce and jack pine plantations outperform natural mixed conifer stands (same species) in Northwestern Ontario
- studied how species composition in 2nd growth aspen and or spruce stands effects the vertical within-crown distribution of foliage and foliage morphology in spruce crop trees
- developed new Site Index models for jack pine and black spruce in natural origin stands
- provided analysis of MNRF data collected over the last decade and silviculture monitoring data collected through the Nawiinginiima Forest Management Corporation and pilot projects in support of the development of technical documents

7.3.2 Climate Change Science Program

Over the last decade, MNRF has published more than 40 climate change research reports and over 10 climate change research notes to increase understanding of climate change and its effects on the environment.

Science and research requirements relative to climate change effects on forest ecosystems are identified as priorities in MNRF's Integrated Science Action Plan.

7.3.2.1 Major Results

During the reporting period, MNRF also continued to investigate the vulnerability of forests to climate change which will continue to inform evidence-based implementation of *Naturally Resilient: MNRF's Natural Resource Climate Adaptation Strategy*. Ontario's forests play an important role in storing carbon and can play a role in mitigating climate change.

To further advance the science-policy interface, in late 2015, MNRF published the Forest Carbon discussion paper to initiate dialogue on the role of managed Crown forests in mitigating climate change. MNRF organized a Forest Carbon Science Forum in November 2017. It considered varying science perspectives from the comments received through the Environmental Registry posting of the discussion paper. In-depth discussions with external science and policy experts were held on the varying science available related to climate change mitigation in both forestry and the forest itself. Feedback received from the Discussion Paper and the Science Forum formed part of the inputs into ongoing research with Federal Government partners on the biophysical mitigation potential of Ontario's managed Crown forests.

7.3.3 Support the Government's Efforts Towards Climate Change

MNRF has been supporting the government's efforts towards climate change mitigation.

7.3.3.1 Significant Initiatives

Coordination of approaches to report forest carbon has continued throughout the reporting period. MNRF and MECP are both part of the National Forest Sinks Committee. It is organized by Natural Resources Canada's Canadian Forest Service as an information sharing and coordination forum between Federal, Provincial and Territorial counterparts on forest carbon approaches related to technical and policy issues.

Building on this coordination of efforts, since 2016, MNRF has been working with other ministry partners to develop and implement a Land Use Carbon Inventory (LUCI) for Ontario. LUCI seeks to estimate, monitor and report on the potential of agriculture, forestry and other land uses to emit, remove and store carbon. One of LUCI's defined key areas of work is the alignment with national and international processes and

guidelines and implications of reporting and accounting on estimates for land use, land-use change and forestry.

7.3.3.2 Major Results

MNRF has been sharing information with MECP and Ontarians as demonstrated in the release of State of Ontario's Natural Resources - Forests 2016. This report, as has been the case with previous reports, included information on monitoring forest contributions to global ecological cycles. It also continued the past practice of including a specific indicator on current and projected forest carbon balances, including harvested wood products for the AOU. Current and projected forest carbon balances previously published on a regional and then MU by MU for the period 2010-2100 were further refined during this reporting period.

7.4 Road Water Crossing Direction – Condition 46

Condition 46 requires MNRF to maintain a Protocol for the review, approval and monitoring of forest access road water crossings to prevent, minimize or mitigate effects of forest management activities on fish and fish habitat. The Protocol is intended to provide an efficient approval process considering both provincial and federal requirements.

7.4.1 Major Results

During the reporting period, the federal Fisheries Act was amended. To reflect the amended requirements, as well as lessons learned from over eight years of operational implementation of the Protocol, MNRF and Fisheries and Oceans Canada revised the Protocol. A revised Protocol was posted to the Environmental Registry January 8, 2016 for review and comment.

After consideration of the comments received, the revised Water Crossing Protocol was approved and posted on the Environmental Registry May 29, 2017 as a decision notice. The name of the document was changed to the Ministry of Natural Resources and Forestry/Fisheries and Oceans Canada Protocol for the Review and Approval of Forestry Water Crossings.

The Protocol describes the roles and responsibilities of the MNRF, Fisheries and Oceans Canada and the sustainable forest licensees as they pertain to forestry water crossing planning and approval. It details a review and approval framework that enables prompt and efficient water crossing approvals while providing for fisheries and fish habitat protection and sustainability.

When applied in conjunction with the relevant standards, guidelines and best management practices from approved Guides, the protocol helps to minimize the risk of

potential water crossing related contraventions of both the Fisheries Act and provincial legislation related to fishery and fish habitat sustainability.

7.5 Inventory, Information and Management Systems – Condition 47

Condition 47 requires MNRF to ensure that information management systems are developed and utilized to support forest management planning. These systems collect, store, update and retrieve information.

7.5.1 Major Results

MNRF maintains several systems to support forest management planning including Land Information Ontario, the Forest Operations Information Program, the Forest Information Portal, the E-FMP website and the Learning Compass. FIM technical specifications support the exchange of information using these systems.

7.5.1.1 Land Information Ontario

Land Information Ontario (LIO) helps public and private organizations and individuals find, access and share geographic data. Base and values information used in forest management planning comes from the LIO Warehouse. More than five hundred data classes and millions of records are kept within the LIO Warehouse. These are collections of data of similar geographic features such as roads, lakes, municipal boundaries, etc.

LIO data is obtained from a variety of sources. Information stored in LIO that is provided by the MNRF is kept in the MNRF's values information system. Information is also provided to LIO by other government agencies, non-government organizations and the private sector each of whom use a variety of geographic information systems and tools.

The information and data stored in LIO undergoes continuous updating of data gathered throughout the province. Throughout the reporting period, MNRF and forest managers contributed, updated and added new information to LIO and continued to access this information to support planning and operational activity. As noted earlier in the document, MNRF continues to experience issues with getting the information on new-found values into LIO.

7.5.1.2 Forest Operations Information Program

The Forest Operations Information Program was updated to meet the applicable Accessibility for Ontarians with Disabilities Act requirements.

Enhancements were completed to the Forest Operations Information Program to accommodate new annual reporting requirements of the MNRF/Fisheries and Oceans Canada Protocol for the Review and Approval of Forestry Water Crossings.

7.5.1.3 Forest Information Portal and the E-FMP Website

The E-FMP website stores and provides public access to FMPs, planning documents and maps in PDF format. The Forest Information Portal functions as a gateway to the E-FMP website. It ensures information submitted meets standards before it is posted to the E-FMP website.

The Forest Information Portal and the E-FMP website are regularly maintained to ensure the systems support current requirements and that products are available to the public. During the reporting period, maintenance was completed resulting in:

- enhancements to allow for continued maintenance of the coloured maps utilized by E-FMP website
- updates to accept products submitted under the 2017 FIM Technical Specifications (e.g., Draft Plans, Annual Reports, Amendments)
- implementation of a desktop spatial validation tool to support pre and post submission validation of select FMP products against the 2017 Technical Specifications
- updates to the E-FMP website webpages in 2016 to meet AODA requirements; individuals can request information products in alternative formats where they may not be readily available
- development of a manual publication process to upload products which are no longer automatically uploaded from the Forest Information Portal to the E-FMP website (e.g., FMP Extensions and Mid Plan Checks)

The Forest Information Portal and E-FMP website have been in operation for over a decade and require more frequent maintenance to remain operational. When the systems were modified to support the 2017 FMPM and FIM, they lost some functionality which altered the users experience.

MNRF is acquiring a modern cloud-based solution to replace the existing systems, reduce the number of tools and better serve clients. An open competitive procurement process was initiated in 2018 to acquire the cloud-based solution.

7.5.1.4 Forest Information Manual and Technical Specifications Approval

FIM sets out the information requirements MNRF must implement to support for forest management. FIM also supports the sharing and exchange of forest-related information between MNRF and the forest industry.

As previously noted, in 2017, after approval of the new DO, MNRF revised three manuals under the CFSA, including the FIM.

FIM is supported by technical specifications which outline the requirements for the exchange of FMP information in a standardized electronic format. The technical specifications describe the electronic exchange standards for both MNRF and the forest industry.

The technical specifications were also updated during the reporting period to align with the revised FIM.

7.6 Ecological Land Classification – Condition 48

Condition 48 requires MNRF to maintain and continue to develop the Ecological Land Classification Program, which is mandated with the establishment of a comprehensive and consistent province-wide framework for ecosystem description, inventory and interpretation.

7.6.1 Major Results

MNRF continued to maintain and further develop the Ecological Land Classification Program by producing interpretation manuals to make the program more user-friendly during the FMP process.

Other improvements to the program included revised inventory procedures and improvement in mapping technologies. The program is supported across the province with emphasis on technology transfer and training programs to ensure staff capacity.

Since 2013, MNRF has revised the approaches and products in the program (the work is ongoing) including:

- development and distribution of ecosystem classification manuals and tools
 - completed Ecosite classification and product 10-year review in 2017
 - proposed revisions and final preparation of an Ecosite manual series are in progress and focus on ecosites of Boreal and Great Lakes St. Lawrence landscapes
 - finalized Ecosite profile and landscape toposequence graphics for Boreal and Great Lakes / St. Lawrence landscapes
- contributed to revised policy and program documents including the provincial Silviculture Guides
- undertook literature-based syntheses of wetland, non-treed and under-represented conditions in Boreal and Great-Lakes / St. Lawrence forests

- completed National and peer review of Boreal treed vegetation types (also a component of the Canadian National Vegetation Classification). Factsheets have been prepared and published to a national website
- completed additional work on the National Level of Vegetation Macrogroups and the Floristic Vegetation Zones of Canada which is being published
- shared data for use in a wide variety of related studies (e.g., climate change, seed zones, Carbon model, Forest Health, Silviculture)

The Ecological Land Classification program supported the development of the enhanced Forest Resources Inventory program for the AOU.

7.7 Growth and Yield – Condition 49

Condition 49 requires MNRF to continue to support and implement a provincially coordinated program known as the Growth and Yield program and provide direction for the program through the FMPM.

That direction ensures growth and yield considerations are incorporated into forest management planning. Information on forest growth and yield is essential for forest modelling used in forest management planning. Growth and yield information is used to help determine sustainable levels of harvest and to predict the future growth and development of forests.

7.7.1 Major Results

Over the reporting period, the following initiatives were undertaken to support the program.

Monitoring:

- established and or re-measured permanent growth and sample plots within the AOU
- established and or remeasured several monitoring and ground plots on the National Forest Inventory grid
- investigated and cleaned-up data on several permanent sample plots
- completed several stem analysis plots in managed jack pine, black spruce, red pine, white spruce and white pine stands to support development of plantation site index equations

Policy and modelling:

- developed and published site index equations for both managed and natural black spruce and jack pine stands
- developed site index equations for a variety of managed tree species (red pine, white spruce, white pine) that included predictor variables for climate change
- developed draft technical reports on forest succession in the northeast and northwest regions using empirical data from re-measured sample plots
- updated Model and Inventory Support Tool including:
 - began development of a hardwood selection module for the model
 - produced technical notes on understanding the effects of model inputs on empirical yield curves of Model and Inventory Support Tool
 - evaluated the model for consistency of prediction of future volumes for natural and managed stands

Science and research:

- published journal articles on:
 - comparing height-diameter relationships of boreal tree species grown in plantations and natural stands
 - climate-diameter growth relationships of black spruce and jack pine trees
 - modelling the effects of climate on site productivity of white spruce, jack pine and black spruce plantations

7.7.2 Implementation Experience

MNRF worked with a variety of partners including conservation authorities, municipalities, agencies and academia that provided a major source of new growth and yield information.

In this reporting period a key partner, the Forest Ecosystem Science Co-op, ceased operations. This resulted in the ‘orphaning’ of a network of almost 3000 plots. MNRF is making some adjustments to the program in consideration of the loss of this partner.

MNRF has assembled additional datasets from across the research community to increase sample size and is currently working on assembling additional data to support the next version of the Model and Inventory Support Tool.

MNRF is working to expand partnerships with Lakehead University and is also working with the Canadian Forest Service to develop a decision support tool with MNRF’s data and inputs.

7.8 Full-Tree Harvest and Full-Tree Chipping Studies – Condition 50

Condition 50 requires MNRF to continue to investigate, through a long-term study, the effects of full-tree harvest and full-tree chipping on long-term site productivity.

The condition was established to address concerns raised about the effects of the full-tree logging method (i.e., the entire tree with bole and branches removed to roadside for processing) on long-term site productivity on nutrient poor sites (e.g., shallow to bedrock or coarse-textured, infertile sands).

7.8.1 Major Results

MNRF designed and implemented a study to assess the effects of full-tree harvest and full-tree chipping on long-term forest productivity. In partnership with researchers with the Canadian Forest Service, MNRF established a series of biomass removal trials (18 sites: 9 in black spruce, 9 in jack pine) between the years of 1993-1995. These sites now form an integral part of the North American Long-term Soil Productivity (LTSP) network of nearly 100 research sites.

Collectively, this network represents one of the oldest, most comprehensive biomass removal experiments worldwide and is providing empirical results of vital importance to sustainability analysis and policy development.

Additional research studies have been added to complement the design and ongoing monitoring of the original LTSP installations. These include the Shallow Soil Quality Exceptions Monitoring project (established in 2002) and more recently the Island Lake Biomass Harvesting Research Trial (established in 2010).

During the reporting period, both field and lab-based monitoring continued, and the following was completed:

- 20-year assessment on the original LTSP installations
- 10th year assessment of the shallow soil monitoring Level I sites
- 5th year assessment of the Island Lake Biomass Harvest Trial

Efforts continued to focus on the development and management of project databases, data analysis and interpretation, and the presentation and publication of short (Island Lake), medium (Shallow Soil Monitoring) and long-term (LTSP) results.

Recently published results from these trials are challenging the traditional view that full-tree logging will deplete soil carbon and nutrients that, in turn, will result in declines in tree productivity on impoverished sands or shallow soils.

These emerging research results provide direct support of MNRF's Biofibre Directive and the guidance provided in MNRF's Stand and Site and Silviculture Guides with

respect to biomass harvesting. As a specific example, the “Not Recommended” practice of full-tree harvesting on very shallow sites (<20cm) has been removed in the latest revision of the Silvicultural Guides.

The ongoing maintenance and monitoring of these long-term trials represent the “effectiveness” monitoring requirement of MNRF’s Guides with respect to the application of full-tree harvesting and more intensive biomass harvesting opportunities.

7.9 Maintenance – Condition 51

Condition 51 requires MNRF to ensure forest maintenance operations are conducted per current scientific knowledge.

MNRF maintains policies and procedures that ensure proper and safe use of registered and approved products (e.g., herbicides) in collaboration with research partners. MNRF also ensures that tending and protection activities are based on the most up-to-date science.

7.9.1 Major Results

During the reporting period, MNRF maintained policy and procedural direction including:

- developed Ontario’s Invasive Species Act
- initiated of the development of a Provincial Forest Pest Strategy
- continued membership in the Canadian Council of Forest Ministers Forest Pest Working Group and Technical Committee
- continued support of the Invasive Species Centre

MNRF also collaborated with research partners on initiatives including:

- continued membership in SERG International (an international partnership in forest pest management)
- contributed to registration of the biocontrol agent *Phlebiopsis gigantea* which is used to control annosum root rot
- completed Business Process Mapping with a focus on insect pest management

7.10 Data Systems and Analytical Methodologies – Condition 52

Condition 52 requires MNRF to maintain and continue to develop socio-economic and landscape management methodologies and GIS technology, support use of spatial modelling, and ensure staff are trained in the use of the methodologies and technologies.

7.10.1 Major Results

The use of computer-based information and analytical tools has become a necessity for the preparation of FMPs. Complex models and tools are used to analyze natural processes and forest management scenarios for large forest areas, over long periods, to balance the achievement of multiple management objectives.

The information and tools used in forest management planning continuously evolve and improve to meet the requirements of the planning process, new forest management policies and advances in forest management science.

During the reporting period, MNRF investigated, developed and acquired new analytical tools to support forest management. The development of these methodologies and technologies was focused on addressing the conservation of biodiversity, landscape management and wildlife habitat supply in forest management planning, including the use of GIS technology in analytical models and tools.

The conservation of biodiversity, landscape management and wildlife habitat supply in forest management planning were addressed with the use of the new Provincial Impact Assessment Model frameworks.

The Provincial Impact Assessment Models are a series of forest management models used to examine a range of policy questions at a variety of scales (i.e. provincial, regional, individual and multiple MUs). The model structures allow large scale and long-term wood supply analysis and spatial optimization to provide an indication of potential impacts of policy changes under consideration.

In order to support the revised FMPM 2017, spatial and economic considerations were better integrated into forest management planning and the Socio-Economic Impact Model. These included an assessment of the feasibility of areas chosen for harvest; adding a risk analysis to determine if identified risks could affect plan objectives; and ensuring that access roads planned for construction are consistent with the distribution of harvest areas across the management unit.

The Socio-Economic Impact Model was updated to include the 2010/2011 provincial accounting frameworks; expanded the number of industries and total number of commodities including bio-economy sectors; and developed an intranet tool to provide demographic profiles for social descriptions for FMPs.

Other efforts to support spatial modelling included:

- adapted the Zone Delineation Tool to better suit application of developing zones within MUs for forest management planning and a graphical user interface was added to the tool to promote broader use and applicability

- integrated carbon accounting into the Provincial Impact Assessment Models to allow for the evaluation of carbon management policies
- developed and assessed templated spatial models for use by planning teams for FMPs with MNRF, forest industry and stakeholders
- maintained provincial scale base data layers used to support social economic evaluations, policy analysis and reporting
- enabled and streamlined provincial data layers to support the development of analytical methodologies and tools to conduct provincial and regional level policy analyses and resource assessments

MNRF has focused data system and analytical training efforts to support significant advances made in computer-based information technology and analytical tools to meet the requirements of the planning process, new forest management policies and advances in forest management science.

7.11 Professional and Technical Training Programs – Condition 53

Condition 53 requires MNRF to ensure that professional and technical programs, including mandatory training and certification of forest operations compliance inspectors and training on the application of Guides, are maintained so that knowledge of those persons involved in the planning and implementation of forest management activities is continually updated.

7.11.1 Major Results

MNRF continues to support and deliver training programs related to forest management planning and the implementation of related operations. During the reporting period, MNRF held 351 education and training sessions with more than 14,000 participants.

Forest Management Planning

MNRF regularly revises components of the forest management policy framework so that the most up to date guidance and direction is available to ensure sustainable management of Ontario's Crown forests. Because the FMPM, FIM and FOSM were revised in 2017, MNRF provided policy transfer sessions to staff to ensure:

- consistent understanding of the implementation of the forest manuals requirements
- responsiveness to forest management related needs of forest industry and MNRF staff
- knowledge and information are transferred to MNRF operational staff to help them develop and deliver training to forest management planning teams

- consistent messaging to ensure effective and consistent delivery of requirements for the forest manuals to planning teams

During the reporting period, 124 regular FMP training sessions were held with more than 2,400 attendees from MNRF, the forest industry, Local Citizens Committees and Aboriginal organizations and communities.

MNRF continues to use the Learning Compass, a web-based learning management system used to house forest management planning training materials. The website is available to a wide range of people involved in forest management including MNRF, forest industry staff, Local Citizens Committee members and Aboriginal planning team members.

Forest Operations Compliance

The newest version of the Forest Compliance Handbook came into effect April 1, 2014. Training on the handbook for MNRF and industry staff occurred through memoranda, leadership team meetings, district compliance visits, webinars and conference calls.

During the reporting period, 177 compliance monitoring and tree marking training sessions were held with more than 6,500 participants. One hundred and forty-seven (147) new compliance inspectors were certified during the reporting period and 260 were recertified.

Silvicultural Effectiveness Monitoring

Completion of the Silviculture Enhancement Initiative resulted in the release of a decision paper titled “Enhancing Ontario’s Silviculture Policy” posted on the Environmental Registry in early 2016. This led the way for opportunities for improvements within silviculture planning, monitoring and funding.

During the reporting period, MNRF rolled out and provided training across the regions on two new software programs to collect free-to-grow data across Ontario.

Guides

The MNRF held 8 Stand and Site Guide field courses during the reporting period with approximately 300 attendees. These sessions focused on the following topics:

- number and types of wildlife trees to retain in harvest areas
- acceptable levels of site disturbance (e.g., rutting) in harvest areas
- identifying nests of forest raptors encountered during operations
- identifying flow regime of unmapped linear aquatic features encountered during operations

- requirements (e.g., acceptable site disturbance, forest retention) when working around lakes and streams

Data Systems and Analytical Methodologies

During the reporting period, MNRF undertook training and support initiatives including:

- conducting an annual Analyst workshop - a joint effort between MNRF, forest industry and other stake holder resource analysts, focusing on improving methods and understanding of resource management analysis
- supporting the Provincial Forest Analyst Team (PFAT) - Provincial resource analysts continue to exchange information, ideas and promote active engagement in policy analysis and development and policy implementation challenges
- connecting with other jurisdictions to exchange information and ideas (e.g., Quebec and Ontario Memorandum of Understanding, Interprovincial Resource Analysts)
- sponsoring training in the Remsoft Spatial Planning System, including MNRF and industry staff
- providing analysis training to FMP team members specifically the Socio-Economic Impact Model and the Model and Inventory Support Tool

Other Training, Materials and Initiatives

Other forest management training courses and materials were also provided by MNRF, including:

- ELC based training to a wide variety of audiences including the forest industry, MECP, municipalities, conservation authorities, universities and colleges and environmental consultants
- development of part 3 of a 3-part e-learning series on Silviculture and Biology of White Pine Blister Rust

Additional Professional Education

In addition to MNRF's training programs, the Ontario Professional Foresters Association (OPFA) and the Canadian Institute of Forestry (CIF), have requirements for forestry professionals related to competency and or provide continuing education opportunities. All plan authors must be Registered Professional Foresters under the Ontario Professional Foresters Association. MNRF contributed to the training efforts of both the OPFA and the CIF during the reporting period.

The OPFA requires registered professional foresters to maintain their professional competency and the capability to perform at a high professional level. Professional foresters are required to maintain a rolling balance of 60 hours of continuing education credits (e.g. attendance at conferences and training courses, reading professional publications and books, etc.).

The CIF provides an interactive electronic lecture series for forestry professionals. The one-hour lectures feature experts and practitioners from across Canada on subjects ranging from boreal mixed-wood ecology to forest sector innovation.

7.12 Public Education on Forest Management – Condition 54

Condition 54 requires MNRF to contribute to public education regarding the management of Ontario's forests by providing information and collaborating with organizations involved in the administration and delivery of educational programs in forest management.

7.12.1 Public Education

MNRF has continued its public education efforts through the reporting period.

7.12.1.1 Major Results

State of Forest Report

In addition to providing transparency and accountability, the State of Forest Report contributes to public education. It enables the public, Aboriginal communities and other stakeholders to become more informed and better engage as partners in resource management decision-making.

MNRF published the State of Ontario's Natural Resources - Forests 2016 report and supporting indicator information to communicate to the public about Ontario's sustainable forest management system and the state of its Crown forests.

The report is user-friendly and provides high level messages and summarizes the indicator information. Although the indicators are slightly more technical, they are written to be brief and straightforward. The report and indicators are available on Ontario.ca.

Ontario Wood

MNRF's Ontario Wood program partnered with over 375 businesses in the wood product manufacturing and sales sector ranging from large-scale sawmills, to local home improvement retailers, to individual bowl turners and furniture makers.

Businesses that make, sell, build with, or support local wood products can join the program and help to raise awareness of locally-grown, locally-made wood products amongst their clients and customers. The program's criteria require an Ontario Wood

product be manufactured in the province and contain at least 75% of wood from sustainably managed forests in Ontario.

During the reporting period, MNR and its partners produced and updated a variety of public education materials. These materials were showcased and distributed at conferences, tradeshows, workshops and MNR offices and provided in response to public inquiries. Examples of public education activities and materials during the reporting period included:

- the Duck Decoy Wood Species of Ontario Display which focused on different tree species and the wood products that come from them (interactive public education display)
- the development of postcards that highlighted 16 different tree species
- participation at several public events including International Plowing Matches and International Interior Design Expos with display booths and information showcasing forest management in Ontario
- the use of social media channels (Facebook, Twitter, Instagram) to feature sustainable forest management facts and the promotion of a new series of Ontario Wood videos that speak to the importance of choosing local wood products
- ongoing updates to forest management information available on the internet
- responding to hundreds of inquiries about forest management activities in the province

Other MNR Partnership Programs

In addition to the Ontario Wood program, MNR supported and funded several other partnership initiatives promoting public education.

The Canadian Council of Forest Ministers provides a forum for federal, provincial and territorial governments to exchange information, cooperate, lead and generate actions on forestry matters of interest to Canadians. The Council shares information on issues impacting the forest sector and promotes sustainable forest management in Ontario through a variety of communications materials including the use of their website and social media.

The Canadian Institute of Forestry fosters public awareness of Canadian and international forestry issues while promoting sustainability and competence among forestry professionals. It uses a variety of public education tools including the Teacher's Forestry Tour. This event provides a high-quality forest science field experience to 30 educators from across Ontario each year. Over the years these tours have successfully

changed the perceptions of over 600 teachers and subsequently affect thousands of students.

Forests Ontario is dedicated to making Ontario's forests greener through tree planting initiatives, education programs, and community outreach. Forest education programs such as Forestry in the Classroom connect volunteers with local schools and community groups. Students learn firsthand what it's like to make a career in forestry, from seed forecasting and management to research on the long-term effects of climate change.

Additional outreach was conducted at the field level through a partnership with the Invasive Species Centre for reporting invasive species and the Canadian Food Inspection Agency for informing the public about restrictions on the movement of firewood.

7.12.2 Brochure and Guidance Document

Condition 54(b and c) requires MNRF to develop a guidance document on how to become involved in the implementation of the requirements of the DO and a brochure that would explain similar information but in a more generalized manner.

7.12.2.1 Major Results

MNRF developed and published a guidance document and brochure on how to become involved in the implementation of the requirements of the DO. The document, entitled "Handbook for Getting Involved in Forest Management on Crown Lands in Ontario", highlights those conditions in the DO that provide for public and Aboriginal peoples participation in forest management on Crown lands in Ontario and describes those opportunities. The handbook and brochure are available on Ontario.ca.

8.0 Provincial Wood Supply Strategy – Condition 55

This chapter reports on the implementation of the Provincial Wood Supply Strategy in condition (55) and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

8.1 Significant Initiatives

Condition 55 requires MNRF to review and revise, as MNRF determines appropriate, the Provincial Wood Supply Strategy.

During the reporting period, a project was initiated to update the Provincial Wood Supply Strategy and to investigate moving from a static provincial strategy to a more dynamic strategy that would permit more timely and responsive information on anticipated wood supply issues and approaches to address them. The project consisted of 4 phases leading to the development of a new strategy.

Phase 1 of the project was completed and improved monitoring and reporting aspects of the Provincial Wood Supply Strategy. The remaining phases of the plan were not completed during the reporting period; however, significant improvements were undertaken to business processes and information systems related to monitoring and reporting on wood supply demand by forest resource processing facilities, allocation and utilization.

8.2 Major Results

During the review period, MNRF implemented the following actions that may impact the future of the Provincial Wood Supply Strategy:

- operationalized the Available Wood Reporting system and monthly updated available wood reports on the government Open Data Catalogue
- publicized annual Analysis of Regional Wood Supply Data to the government Open Data Catalogue
- modernized supply agreements and ongoing implementation of the 2010 wood supply competition resulting in 9 modernized supply agreements and the removal of 25 outdated wood supply commitments
- initiated a provincial wood utilization monitoring program in support of forest tenure modernization

- advanced wood flow and socio-economic modelling to inform policy development, land-use decisions, licensing and wood supply issues

8.2 Implementation Experience

As discussed in the previous section, MNRF is undertaking a project to revise the strategy and has taken steps to improve Provincial Monitoring Systems to track wood supply allocations and utilization to provide a more strategic approach to identifying wood supply availability and wood supply issues.

During the reporting period, improvements to the Provincial monitoring system have allowed MNRF to collect and analyze large amounts of information and to provide information to its stakeholders directly by posting data on the government's Open Data Catalogue.

Though MNRF has seen an improvement in the ability to share data during this period, MNRF continues to experience challenges in providing public access to more modern, user-friendly and interactive information products that may be more useful to many stakeholders interested in wood supply.

The establishment of robust monitoring and reporting systems during this period highlights the need for a more dynamic approach when it comes to providing responsive information on anticipated wood supply issues, trends and approaches to address them.

Implementation experience suggests that perpetuating a static Provincial Wood Supply Strategy document may not be the most responsive or effective approach. MNRF will continue to work towards a revised Provincial Wood Supply Strategy that aligns with the recently developed Provincial Monitoring Systems and provides a more dynamic and responsive approach to reporting on wood supply trends, wood supply issues and approaches to address them.

9.0 Negotiations with Aboriginal Peoples – Condition 56

This chapter reports on the implementation of the Negotiations with Aboriginal People condition (56) and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

9.1 Major Results

Condition 56 requires MNRF District Managers to negotiate with Aboriginal peoples at the local level regarding opportunities to increase benefits to Aboriginal peoples from participation in forest management planning processes.

While responsibility for implementing Condition 56 rests with the MNRF District Manager, they have been challenged to negotiate on behalf of the MNRF and have recognized the need for involvement of other parties to aid in the implementation of the Condition. Therefore, condition implementation included participation by other parts of MNRF, the forest industry, other Ontario ministries and federal departments and the affected Aboriginal communities.

Since the original Forest EA Act approval in 1994, Aboriginal peoples have benefited from increasingly diverse forest economic development initiatives. MNRF and the forest industry have continued to explore and develop opportunities for Aboriginal peoples to be involved in and benefit from forest management.

The results of negotiations have taken different forms given the unique needs, capacities and situations of Aboriginal peoples and the available opportunities. Implementation of the condition can involve individual Aboriginal peoples or groups of peoples with common interests. Specific reports by District are available in the Provincial Annual and Biennial Reports on Forest Management which can be accessed on Ontario.ca.

9.2 Implementation Experience

MNRF has implemented the requirements of Condition 56, without significant change to the condition since it was created in 1994. Since then, forest management responsibilities have changed and MNRF is no longer involved in the operational aspects of conducting forest management activities.

The current wording of Condition 56 does not reflect these changes or support potential future changes to the roles in forest management. For example:

- The language of the condition assumes that MNRF still undertakes forest management operations and is able to negotiate opportunities for involvement in those operations. Operational responsibilities are now mostly conducted by the forest industry.
- MNRF District Managers are identified as being responsible for implementing the condition. The responsibility for developing and maintaining relationships with Aboriginal communities has moved from individual efforts of District Managers, in relation to Condition 56, to MNRF-wide efforts involving many areas of resource management (including forest tenure as described in section 11.2.3). Advancing economic opportunities for Aboriginal communities is key to much of these efforts.
- Sustainable forest licences issued to forest industry include a condition that was designed to compliment Condition 56, requiring industry to work with the MNRF to share benefits with local Aboriginal communities.
 - *“The Company shall work co-operatively with the Minister and local Aboriginal communities in order to identify and implement ways of achieving a more equal participation by Aboriginal communities in the benefits provided through forest management planning.” (Section 20.1 of a standard sustainable forest licence document)*
- This condition requires MNRF District Managers to negotiate benefits with the local communities. MNRF’s role may now be more appropriate as a facilitator between forest industry, who holds the licence, and the local communities who wish to participate in the benefits provided through forest management planning.

10.0 Declaration Order Administration

This chapter reports on the implementation of the five Administration conditions of the DO (57-61) and highlights:

- any significant initiatives and major results related to implementation of the conditions of the DO (Condition 57(c)(v))
- any specific problems and issues MNRF experienced in implementing the conditions of the DO (Condition 57(c)(ix))

10.1 Five-Year EA Reports - Condition 57

Condition 57 requires MNRF to report to MECP every five-years. The five-year reporting requirement and related timelines are intended to enable the adaptive management approach to the implementation of the EA requirements. To date, MNRF has submitted two Five-Year Reports to MECP in 2009 and 2014.

These reports demonstrate MNRF's compliance with the DO and its commitment to the sustainable management of Ontario's forests. They comment on the implementation experience and provide the opportunity to identify potential amendments to address problems encountered during implementation.

10.1.1 Implementation Experience

MNRF supports the adaptive management approach to reporting, however, MNRF's implementation experience is that the five-year EA reporting period does not provide enough time for MNRF to:

- receive all necessary information and prepare the 5-Year EA Report (15 months after close of reporting period)
- prepare, consult on and submit the DO Request for Amendment (minimum 1 year) according to the requirements of Condition 58
- have its amendment requests processed by MECP according to the requirements of Condition 58 (minimum 1 year – implementation experience shows it takes many years for MECP to process DO amendments)
- amend the forest manuals to incorporate the new DO requirements (18 months based on previous Phase-In requirements to amend the manual)
- develop forest management plans that implement the new requirements (three years to develop an FMP)
- implement the new FMPs and evaluate the preliminary results (3 - 5 years)

The Five-Year EA report condition could be improved by:

- moving to a 10-year reporting period that aligns with the forest management planning structure in the new DO, to enable reporting to be based on an appropriate term of implementation experience
- providing additional time to prepare the report so all necessary information can be incorporated and considered

10.1.2 Trusts

Condition 57 (c)(iv) requires MNRF to provide information in this report on the status of the Forest Renewal Trust and the Forestry Futures Trust.

10.1.2.1 Forest Renewal Trust

The Forest Renewal Trust provides dedicated, sustainable funding for eligible forest renewal work carried out on Crown lands in Ontario. The Forest Renewal Trust operates under the terms of the CFSA. The Trust is a significant part of Ontario's forest management program.

Forest resource licence holders pay a Forest Renewal Trust charge for each cubic metre of wood harvested in Ontario. The Forest Renewal Trust charge is a component of Crown timber charges. Table 10.1 provides information on the contributions and expenditures from the Forest Renewal Trust.

Table 8: Contribution and Expenditures Forest Renewal Trust

Year	Contributions (Millions \$)	Expenditures (Millions \$)
2013-2014	45.8	49.8
2014-2015	43.8	50.4
2015-2016	47.2	55.1
2016-2017	53.7	52.3
2017-2018	49.8	51.3

Additional information on the level of contributions to and expenditures from the trust can be found in the Public Accounts Summary managed by Treasury Board Secretariat.

10.1.2.2 Forestry Futures Trust

The Forestry Futures Trust operates under the terms of the CFSA. The purpose of the FFT is to provide for:

- The funding of silvicultural expenses in Crown forest where forest resources have been killed or damaged by fire or natural causes
- The funding of silvicultural expenses on land that is subject to a forest resource license, if the licensee becomes insolvent
- The funding of intensive stand management and pest control in respect of forest resources in Crown forests
- Such other purposes as may be specified by the Minister

The Trust is a significant part of Ontario’s forest management program. The Forestry Futures charge is a component of Crown timber charges.

Information on the level of contributions to and expenditures from the trust can be found in Table 10.2 and on the Forestry Futures website in the published annual reports.

Table 9: Contributions and Expenditures from the Forestry Futures Trust

Year	Contributions (Millions \$)	Expenditures (Millions \$)
2013-2014	18.8	18.4
2014-2015	18.5	13.9
2015-2016	21.4	17.7
2016-2017	21.7	15.5
2017-2018	Data not yet available	Data not yet available

10.2 Amendments to this Order - Condition 58

The amending provisions in the new DO enable MNRF to requests amendments to the AOU.

10.2.1 Major Results

In November 2015, MNRF submitted a request to amend the DO to add the Cat-Slate Forest to the AOU. This request was based on the completed community-based land use plan for the traditional land use areas of Cat Lake First Nation and Slate Falls Nation. The plan identified forest management as a permitted use in certain land use zones.

MECP received the request and consulted on the proposed amendment to the DO. A decision on the request has not been provided to MNRF.

10.2.2 Implementation Experience

To produce the request for the Cat Slate Forest amendment, MNRF worked closely with local Aboriginal communities to develop and obtain approval of a community-based land use plan for their traditional territory.

MNRF then worked with the communities to begin implementing the plan by developing the amendment request to add the Cat Slate Forest to the AOU.

Concerns have been raised by the communities and MNRF with respect to the amount of time being taken to respond to the amendment request. The communities are anxious to move forward with what they see as a key economic development opportunity that would improve their socio-economic situation.

Improvements to the amendment process are required to ensure timely responses to requests for amendments.

10.3 Recorded Proceedings of the Timber Class EA - Condition 59

MNRF has maintained the Recorded Proceedings of the Timber Class EA at its head office for Forest Management in Sault Ste. Marie since the decision of the EA Board was rendered in 1994. The intent was to ensure these files were available to support future implementation of the undertaking.

10.3.1 Implementation Experience

Given that 25 years has elapsed since the hearings, little to no use of the files has taken place in over 10 years and there is significant cost in maintaining these files in a readily available format, MNRF sees no value in continuing to maintain the files.

MECP is required by Condition 59 to maintain the files for their use and use by the public and is responsible for ensuring the hearing records are properly stored with the Archives of Ontario.

10.4 Transition Provisions – Condition 60

The Transition Provisions contained in Condition 60 were intended to provide for a smooth transition from the requirements of MNR-71 and MNR-74 to the new DO.

10.4.1 Implementation Experience

The transition provisions maintained the conditions from the previous Declaration Orders while the plans written under those Orders were being implemented and reported on. They provided MNRF some discretion in applying the new forest management planning requirements to existing documents (e.g., FMPs, annual work schedules, plan extensions, etc.) which MNRF considered in the revisions to the forest manuals. The transition provisions also clearly articulated the date on which the Order

came into effect. The result was a smooth transition between MNR-71 and MNR-74 to the new DO.

10.5 Phase-In – Condition 61

The Phase-In provisions contained in Condition 61 provided time for MNRF to adjust to implementing the requirements in the new DO. The condition specified when MNRF would have to:

- revise the forest manuals (FMPM, FIM and FOSM)
- prepare and submit the first provincial biennial report on forest management
- change the Guides review schedule from 5 to 10 years
- prepare the guidance document under Condition 54(b)
- submit the first Five-Year EA Report required by the new DO

10.5.1 Forest Manuals

Condition 61(a) required that within 18 months of the date of approval of the new DO, or such later date as may be specified by the MECP Director, MNRF shall:

- (i) *Following review and comment by MECP, submit the revised Forest Management Planning Manual for approval by the Lieutenant Governor in Council;*

10.5.1.1 Major Results

In March 2016, under the requirement of condition 61(a)(ii), MNRF provided the draft revisions to the FMPM to MECP for their review and comment. In April 2016, MECP indicated that MNRF had incorporated the requirements of the DO into the revised FMPM except for Condition 34(c) regarding how the FMPM identifies the procedure for incorporating new information on watercourses during forest operations. MNRF followed up with MECP on how the requirements of Condition 34(c) were incorporated into the FMPM in January 2017.

As required by condition 61(a)(iii), the forest manuals were approved by LGIC on April 12, 2017 and an amendment to Ontario Regulation 167/95 under the CFSA was filed with the Registrar of Regulations on May 1, 2017.

The effective date of the forest manuals was July 1, 2017. The forest manuals can be accessed on Ontario.ca.

10.5.2 Provincial Biennial Report on Forest Management

Condition 61(b) required the first Provincial Biennial Report on Forest Management to be prepared for the period April 1, 2014 - March 31, 2016. The report has been prepared and will be made available on Ontario.ca once tabled in the Legislature.

10.5.3 Change in Guide Review Schedule

Condition 61(c) provided for the change in the Guide review schedule, moving it from every 5 years to every 10 years on April 1, 2016. The revised review schedule can be accessed on Ontario.ca.

10.5.4 Guidance Document

Condition 61(d) required the guidance document under Condition 54(c) be made available to the public with 12 months of the revisions to the FMPM.

MNRF posted the document on Ontario.ca in April of 2018 and printed versions of the document are available to public and Aboriginal communities to support their involvement in forest management planning activities.

10.5.5 Five-Year EA Reporting Period

As per the requirement of Condition 61(d), this report covers the reporting period April 1, 2013 to March 31, 2018.

10.5.6 Implementation Experience

The Phase-In provisions contained in Condition 61 did provide time for MNRF to adjust to the requirements in the new DO. MNRF met the timing requirements for all items outlined in Condition 61.

11.0 Other Significant Matters

MECP and Ontarians expect MNRF to demonstrate leadership in the management of Ontario's Crown forests. This requires MNRF to be aware of significant matters related to forest management that are of interest to the government or public. This can help determine if adjustments to the DO or related legislation or policies are required.

As required by Condition 57(c)(x), this chapter discusses "other significant matters" affecting the management of Ontario's Crown forests. The "other significant matters" described in this section were identified by conducting environmental scans. Actions that MNRF has undertaken to learn about and address these matters are described as well.

11.1 Economic Situation

11.1.1 Current Economic Situation and Forest Industry Status

During the reporting period, Ontario's forestry industry continued to slowly recover from the extended economic downturn of the previous decade. The recovery of the US economy has largely driven the demand to increase production of softwood lumber. Global market conditions, especially in Asia, have driven pulp demand.

High energy prices (relative to neighbouring Provinces) as well as increasing wood delivery costs and transportation bottlenecks remain items of concern for Ontario producers.

Ontario's forest industry was among the slowest in Canada to recover and has yet to reach utilization levels achieved in the previous decade. Harvest levels increased during the reporting period but remain far below the peak of 23.2 million cubic metres in 2003-04.

There remains a significant difference from the actual harvest and the amount of wood that is available for harvest in approved forest management plans. Harvesting additional fibre, however, remains cost-prohibitive largely due to accessibility and obstacles with long haul distances to remaining facilities.

Statistics Canada's Labour Force Survey reported that 57,300 people were employed directly in Ontario's forest industry at the beginning of the reporting period and decreased to 49,525 by 2016 (latest available data). Efficiencies in mill operations and scaling back of operations to core functions and products account for some of this decline.

Because of the downturn, several sustainable forest licences (Big Pic, Lac Seul, Sapawe, Whiskey Jack, Kenogami, Armstrong, Black River, Ogoki, Pic River Ojibway and Magpie Forests) were returned to the Crown. Upon surrender of a sustainable

forest licence, the forest management activities which provide for the sustainability of Crown forests in the licence area become the responsibility of the Crown.

New-home construction in the United States has grown steadily during the reporting period, and lumber and panel products prices have risen, especially during 2017. Three sectors in forestry have been faced with punitive trade tariffs with the US (see section 11.1.3): softwood lumber, supercalendered paper and uncoated groundwood paper (essentially newsprint). While softwood lumber has undergone numerous alternating periods of trade peace and tariffs, this is the first-time newsprint has been implicated in a trade dispute and pricing in both sectors have risen and been volatile.

In North America, paper products are in a secular decline because of rising adoption of electronic media and trade tariffs will accelerate demand decline. Newsprint has experienced year over year declines for the past ten years; however, globally, pulp and paper consumption continue to rise, with producers able to increase prices accordingly.

Ontario's forest product exports grew from \$4.5 billion in 2013 to approximately \$6.6 billion in 2017. While the forest industry continues exports to expanding markets in China and India, almost 95 per cent of Ontario's exports go to markets in the United States.

During the reporting period, MNRF implemented several initiatives to help transform Ontario's forest sector, including:

- enhancing the efficiency and effectiveness of Ontario's sustainable forest management planning framework, including changes to the regulated manuals (see section 4.2)
- modernizing the forest tenure and pricing system (see section 11.2.1)
- identifying unused wood, implementing available wood reports and continuing to move forward with conditional offers and wood supply agreements under the Wood Supply Competitive Process
- providing grant and loan guarantees for new product enterprises or efficiency projects
- supporting forest industry innovation by encouraging the production of new wood and fibre-based bioproducts and promoting the use of wood in mass timber construction
- building consumer awareness of Ontario-produced wood products by
 - providing consumers with a strong sense of 'why' they should buy Ontario wood products, where they can find them and encouraging consumers to ask for them

- showcasing the high quality, locally-crafted and environmentally-friendly qualities of wood from Ontario
- building a connection in the minds of consumers between the wood products they buy and the families and communities who depend on Ontario's forest industry
- assisting the forest industry in diversifying export markets and supporting new exporters

MNRF will continue to maintain and enhance the competitiveness of the forest industry while ensuring that Ontario's Crown forests are managed sustainably. Ensuring that EA Act and other government approval process are as efficient and effective as they can be will contribute to the success of the industry into the future.

11.2 Forest Tenure Arrangements

Forest tenure is the term commonly used to describe who manages Crown forests and how forest companies get access to Crown fibre. More specifically it describes the allocation and licensing of timber from Crown forests. Tenure is governed by legal arrangements that define the rights and responsibilities assigned to resource users.

11.2.1 Forest Tenure and Pricing Modernization

In 2009, Ontario began the process of modernizing the system governing who manages Crown forests, how companies access wood supplies and how the people of Ontario derive benefits from the forest. Forest tenure modernization continues with the transition to new, more inclusive forest tenure models that incorporate the tenure modernization objectives:

- make the allocation of Ontario's wood more economically efficient and responsive to market demand
- create new opportunities for existing facilities and new entrants
- facilitate more meaningful involvement by local and Aboriginal communities in the forest sector
- ensure the sustainability of Ontario's Crown forests

Forest tenure modernization is a long-term commitment that focuses on the interests of local and Aboriginal communities that rely on the forests, as well as forest industry. Tenure modernization also aims to strengthen existing relationships and build new ones.

Tenure modernization is intended to facilitate more inclusive forest tenure models which address local circumstances and interests through locally developed solutions. Local

and Aboriginal communities are provided more opportunity to participate in the management of Ontario's forest companies including opportunities to build Aboriginal capacity and pursue greater economic development.

MNR has been working with willing partners since 2011 to transition forest tenure priority areas to two new forest tenure models which are:

1. Local Forest Management Corporations (LFMCs) are government agencies that manage Crown forests according to the terms and conditions of the CFSA and an SFL
2. Enhanced Sustainable Forest Licence companies (Enhanced SFL companies) are private companies created by a group of shareholders that may include mills, harvesters, Aboriginal communities and local communities and they manage Crown forests according to the terms and conditions of the CFSA and their SFL

11.2.2 Forest Tenure Modernization Progress

There have been several significant accomplishments during the reporting period including:

- completing a multi-party forest tenure modernization program review
- ramping up of the newly formed Nawiingini Forest Management Corporation (NFMC) as Ontario's first local forest management corporation (LFMC)
- initiating discussions for tenure modernization on the Temagami Forest
- progressing several partnership-based enhanced sustainable forest licences (ESFLs) including the establishment of the first Enhanced SFL company for the Lac Seul Forest
- establishing two forest resource revenue sharing pilot projects with First Nations.

MNR established a multi-party Forest Tenure Modernization Oversight Group (Oversight Group) in January 2014. The members represented the forest sector, local communities, First Nation and Métis organizations and MNR. Its primary focus was the Review of Forest Tenure Models project. In part, it assessed how effectively Ontario's forest tenure models (including the new LFMC) achieved the objectives of forest tenure modernization.

Performance measures collaboratively developed by the Oversight Group were used by an independent consultant to conduct the review and prepare a consultant's report. After a close examination of that report, as well as several extensive discussions to understand one another's perspectives, the Oversight Group members jointly authored

and submitted eight recommendations to the Minister of Natural Resources and Forestry in May 2017.

The recommendations supported continuing LFMC or Enhanced SFL processes with willing partners where strategic and viable opportunities exist. The recommendations in the Oversight Group report were approved by the Minister and implementation of an action plan to address the recommendations is underway.

The first Enhanced SFL company, Ondaadiziwin Forest Management Inc., was established in March 2018 and currently holds the Sustainable Forest Licence (SFL) for the Lac Seul Forest. Both forest industry and local First Nations hold management responsibilities as equal shareholders in the new SFL company.

Ontario's first local forest management corporation, the Nawiinginokiima Forest Management Corporation, continues to make significant accomplishments towards meeting the objectives of forest tenure modernization, including:

- providing support for local and First Nations harvesting opportunities
- investing in training and capacity building
- acquiring third party certification to support sale and marketing of wood
- establishing an operating reserve to support continued operations during periods of low or fluctuating activity in the local forestry sector

Three of the four SFLs which comprise the NFMC geography have been issued (June 2017) or transferred (January 2018) to this Crown agency and the fourth SFL is under discussion.

In November 2017, the Minister gave the mandate for MNRF staff to work with the local Temagami Advisory Team (First Nation communities, municipalities and forest industry partners) to modernize forest tenure for the Temagami Forest. An Environmental Registry information posting in March 2018 informed the public of a proposal to establish an LFMC to take over forest management responsibilities for the Temagami Crown Management Unit. Tenure modernization discussions are continuing with the local participants to achieve a long-term resolution for this MU currently being managed by MNRF.

11.2.3 Aboriginal Participation in Modernized Forest Tenure

As part of tenure modernization, Ontario worked with its partners to move to models of governance that are more inclusive of Aboriginal people and communities. Table 11.1 presents the overall trend in Ontario toward more inclusive governance through the various forms of Aboriginal participation in management of Ontario forests.

Table 10: Summary of Aboriginal Participation in SFLs and Crown Managed Forests (i.e., Inclusive MUs)

Year	Number of Inclusive MUs	Percent of all MUs
2003	5	10%
2009	9	20%
2013	13	31%
2017	15	36%

11.2.3.1 Forms of Aboriginal Participation in Forest Tenure Governance

Forest tenure is unique on each of the 41 MUs in Ontario. Modernized tenure models are purposely flexible to adapt to the local circumstances and interests of the SFL participants, which may include forest industry, local Aboriginal communities, local communities and MNRF.

The participation of Aboriginal communities in the forest tenure governance may be categorized into four broad models of inclusion:

- Aboriginal held forest tenure
- Shareholder or Partner in an SFL holding company (including Enhanced SFLs)
- participation on the board of directors for an SFL
- forest management responsibility through an agreement

11.2.3.2 Aboriginal Held Forest Tenure

Two SFLs in Ontario are held by companies that are fully owned by First Nations, either directly or through a development corporation.

1. The Lake Nipigon Forest SFL is held by Lake Nipigon Forest Management Inc. which is owned by business interests representing four local First Nations.
2. The Whitefeather Forest SFL is held by Whitefeather Forest Management Inc. which is owned by business interests representing Pikangikum First Nation.

11.2.3.3 Aboriginal Shareholder in an SFL Company

This governance model is an SFL entity that has multiple owners and includes one or more Aboriginal communities, or Aboriginal-held businesses as shareholders or business partners with other non-Aboriginal shareholders or partners. Five of Ontario's forests are managed by SFL companies with part ownership by Aboriginal shareholders.

- Ondaadiziwin Forest Management Inc. on the Lac Seul Forest

- Miitigoog Inc. on the Kenora Forest
- Greenmantle Forest Inc. on the Lakehead Forest
- Vermillion Forest Management Inc. on the Sudbury Forest
- Abitibi Forest Management Inc. on the Abitibi Forest

The Ondaadiziwin Forest Management Inc. holds forest management responsibility through an SFL on the Lac Seul Forest. Two First Nations, Lac Seul First Nation and Slate Falls First Nation and two forest industry partners, Domtar Inc. and Weyerhaeuser entered into a partnership agreement on March 16, 2018 to manage the Forest after completing the first Enhanced SFL process in the province.

Ondaadiziwin Forest Management Inc. on the Lac Seul Forest and Miitigoog Inc. on the Kenora Forest, both represent significant progress in Aboriginal inclusion in forest governance. Each SFL company benefits from the strength of equal ownership (50 percent each) between local First Nations and forest industry.

11.2.3.4 Aboriginal Director for an SFL Company

As an alternative to other forms of inclusion in the governance of forest tenure, a variety of SFL companies in Ontario have Aboriginal communities represented on their boards of directors, in either a voting or ex-officio capacity. Six SFLs benefit from this form of Aboriginal participation: Big Pic, Pic River, White River, French-Severn, Hearst and Nipissing Forests.

Leadership and governance are provided for the Big Pic, Pic River and White River Forests SFLs by the board of directors for Nawiinginiima which reserves director positions for each of the local First Nations and communities as well as directors at large. The French-Severn, Hearst and Nipissing Forests SFLs include Aboriginal representation on their boards of directors.

11.2.3.5 Management Agreement with an Aboriginal Community or Corporation

In addition to inclusion in the governance of SFLs, Aboriginal communities and organizations actively participate to various degrees in the management of all of Ontario's forests. In certain locations where no SFL is in place, a MU may be managed entirely or partially by an Aboriginal community, organization or business through an agreement which often is in the form of a forest resource licence (FRL).

Generally, these MUs are under interim management status with an intent to achieve formal SFL status in the future, which may include some form of Aboriginal governance.

For example, Obishikokaang Resources Corporation was established in 2012 by the Chief and Council of Lac Seul First Nation to manage the Lac Seul Forest and provide

economic development opportunities for the First Nation. Obishikokaang carried out forest management responsibilities on an interim basis until an SFL was issued to the partnership First Nation and forest industry SFL company.

There are three MUs with Aboriginal management responsibility including the Ogoki where the Agoki Development Corporation, a partnership between Aroland, Eabametoong and Marten Falls First Nations, has signed an agreement to lead the development of the FMP and carry out management responsibilities.

In addition to the examples of Aboriginal inclusion in the governance of SFLs presented previously, forest tenure modernization discussions are underway on four MUs with the objective of increasing Aboriginal participation in the management of Ontario's forests.

11.2.3.6 Aboriginal Participation in Forest Allocations – FRLs and Wood Supply Agreements

Aboriginal communities, development corporations and companies hold forest allocations in many MUs across Ontario to achieve economic benefits from the management of forests. These may be held in the form of FRLs (licences issued under section 27 of the CFSA) or Wood Supply Agreements and may involve the harvest, sale and use of wood from Ontario's forests.

Table 12.2 shows the volume of forest harvesting allocations in 2013 and 2016 at the AOU scale and identifies what portion of that amount was allocated to Aboriginal communities, persons or companies.

Table 11: Summary of Aboriginal Held FRLs

Year	Provincial Allocation (m3/yr.)	Aboriginal Allocation (m3/yr.)	%
2013	27,620,000	4,210,477	15.2
2016	28,252,000	4,395,826	15.5

11.2.3.7 Forest Sector Resource Revenue Sharing Pilots

Beginning in 2014, MNRF worked with First Nations to develop and implement two forest-sector resource revenue sharing pilot projects to explore how resource revenue sharing might be developed with First Nation communities.

The objectives of resource revenue sharing were to improve relationships, help support improved economic development opportunities, build healthy and prosperous communities and create a positive climate for investment and business partnerships. Between 2015 and 2017, two pilot projects were implemented in northeastern Ontario:

- one involved three First Nation communities for two fiscal years (April 1, 2015 until March 31, 2017) on the Martel and Magpie Forests
- the other had seven First Nation communities participating for one fiscal year (April 1, 2016 until March 31, 2017) on the Timiskaming Forest

In total, \$410,000 of revenue was shared among the ten First Nation communities. The intent of the pilot projects was to test revenue sharing concepts and evaluate best practices to help inform the government of Ontario in consideration of further opportunities and benefits of forest sector resource revenue sharing.

An independent evaluation of the pilot projects was published in 2017 to document lessons learned and support further discussions.

11.3 Métis Involvement in Forest Management

Through discussions at the MNRF's Policy Dialogue Table with the Métis Nation of Ontario (MNO), the MNO indicated that it is seeking greater involvement in the MNRF's forest management planning processes and tenure modernization initiatives and wants to develop corporate capacity to participate.

Through the discussions in 2014-15, MNO commissioned consultants to:

- provide a review of MNRF forest management planning processes and tenure initiatives
- inform MNO of capacity requirements to support increased participation

At that time, the MNRF was engaged with the MNO on the FMPM Revisions Project and tenure modernization, as well as local forest tenure initiatives. Three reports were submitted to MNRF in October 2015 on:

- Forest Tenure and Planning Review - Overview
- Appendix A – FMP focus
- Appendix B - Tenure focus

Among other things, the MNO reports identified:

- a general need for increased MNO involvement in MNRF forest management planning and tenure modernization programs
- gaps in MNRF legislation and policies, which from the MNO perspective hinder Métis involvement in forest management planning and tenure modernization programs

- the need to develop internal engagement strategies and long-term forestry capacity support from the MNRF

11.4 Endangered Species Act

The Endangered Species Act, 2007 provides protection for species at risk and their habitats in Ontario. Some of Ontario's species at risk are found in Crown forests and require protection from forest management activities.

During the reporting period the Endangered Species Act provided an exemption for forest management under O. Reg. 242/08.² MNRF provided direction for the protection of species at risk through the Stand and Site Guide and forest management planning activity relied on that direction.

The exemption was premised on the strength of the Crown Forest Sustainability Act and the forest policy framework used to guide the sustainable management of Crown forests in Ontario; including a requirement for the protection of species at risk in Crown forests. MECP is reviewing the Endangered Species Act to ensure that it continues to protect species at risk while recognizing the existing provisions of other pieces of legislation to avoid overlap of regulations, standards and permits.

11.5 Public Access to Forest Management Information

Public expectations for information on Crown forest management continues to grow. MNRF has been working to provide more data and information to the public through improvements to online data and information.

Ontario's data sharing policies are intended to maximize access to government data by requiring all data to be made public, unless it is exempt for legal, privacy, security, confidentiality, or commercially-sensitive reasons. It sets out key principles and requirements for publishing open data and applies to data created and managed by Ontario ministries and provincial agencies.

MNRF has significant amounts of data in the forest management program, much of which is already available on the E-FMP website. MNRF will continue to make more forest management data available and work towards modernizing the delivery of provincial reports and forest information through online digital reporting tools.

11.6 Opportunities for Automation in Forest Management

Technological advances in remote sensing continue to expand in forest management. Light Detection and Ranging (LiDAR), Unmanned Aerial Vehicle/Systems (UAV/UAS)

² The Endangered Species Act is now under the administration of the Ministry of the Environment, Conservation and Parks.

[sometimes referred to as Drones] and Satellite technology are some of the technologies being evaluated and are briefly discussed in this section.

The production of Ontario's Forest Resource Inventory has most recently involved the use of aircraft with digital cameras (or sensors) to take images of the landscape. These images are used to classify the land by use or by tree cover type, density, ecological site conditions, etc. This inventory is the basis for ensuring sustainable forest management planning and identifying where harvesting operations will occur.

Ontario has recently completed imagery acquisition and interpretation for over 555,000 km² using the Leica ADS series sensor. This new sensor has allowed the province to display the landscape in both false-colour (allowing better species separation) and true-colour (normal format for an image). In addition, this sensor was able to provide a high-quality digital surface model of the forest canopy to aid in height measurements.

During the past decade, Ontario researchers have been working with the federal government, industry and other partners across the country to help transform forest inventory methods and fibre supply management using LiDAR. LiDAR is a remote sensing technology that is based on measuring the time it takes a laser pulse to strike an object and return to the source. Typically, a laser scanner is flown in an airplane, the exact location of which is tracked by a GPS satellite.

A key output from LiDAR or airborne laser scanning (ALS) is a very detailed description of the ground elevations in both open and forested terrains. This is known as a digital terrain model or DTM. ALS also provides a 3D representation of vegetation structural measurements as the pulse travels through tree crowns and returns light interceptions with branches, etc. back to the scanner. With the combination of the LiDAR measurements of the ground elevation (DTM) and the returns in the vegetation, ALS can provide key inventory attributes at a finer scale than traditionally possible through human interpretation. These attributes can include: height, volumes, average tree size, size-class distributions, etc. at a typical scale of 20m x 20m.

Ontario has been monitoring the evolution and adoption of LiDAR technology for enhancing forest inventories across Canada and internationally and is developing a plan to use this technology in conjunction with digital imagery, if possible, in the next inventory cycle.

The combination of imagery and ALS measurements and predictions can facilitate more efficient manual interpretation of the forest land base. However, automation of forest attributes that in the past were only possible through human interpretation are also possible. These include: height, site occupancy, horizontal and vertical structures, etc. New approaches at automating delineation of areas of interest (e.g. forest stand, habitat-type, harvest block) may be the model of the future with these technologies

providing methods to automate and accelerate the process and produce a consistent inventory output.

With an accurate DTM under forest conditions, other remote sensing technologies can more easily provide additional information for forest management. Satellite-based sensors provide another opportunity for forest inventory and updating. Newer high-resolution systems (e.g. Sentinel) have been launched over the past 5 years. Satellites offer the ability to acquire imagery over the same area many times in a year. With these repeated image captures, interpretation of species is enhanced and changes to the landscape can be determined (fire, disease, harvest, etc.) for large-scale areas. Satellite-based digital surface point clouds in combination with an ALS DTM also provides potential opportunities to update inventories over time.

UAV/UAS technology (drones) is an exciting one and offers increased potential for efficient “just-in-time” remote sensing (imagery/LiDAR) information to support near real-time decision making in the natural resource management sector. MNRF has been involved in researching applications and piloting some case study projects to better understand its current and future potential to be a tool for expanded use. These pilot studies have, for example, included: Species at Risk monitoring activities (Blanding Turtles), invasive species mapping (Water Soldier), silvicultural monitoring, as well as other small and larger scale activities. Current Transport Canada restrictions to only fly the UAV/UAS within “line-of-sight” provides operational challenges for their use in forested conditions where they quickly disappear beyond the mature tree line. However, it is expected that “beyond-line-of-sight” restrictions will be removed or amended in the years ahead, providing increased opportunities for this technology to be adopted and its use accelerated. Some of the advantages of this technology include: low cost for UAV/UAS’s for small sized projects, quick deployment (with certification in place) and their ability to acquire extremely high-resolution imagery efficiently and more frequently (in the same season if necessary) and the production of 3D image point clouds for analysis purposes.

The opportunities ahead do not rely on only one remote sensing solution. It is the potential to “fuse” these and other technologies to gain the advantages of each. Increased efforts to implement both classification and predictive remote sensing models along with improved information for manual interpretation and exploitation of automation techniques will continue to enhance the inventory information layers now and in the future.

12.0 Strategic Considerations and Conclusion

In accordance with Condition 57(c)(xi), this section describes actions to be taken by MNRF to improve the overall implementation of the conditions of the DO.

12.1 Environmental Assessment and Sustainable Forest Management

An environmental assessment is a planning and decision-making process that considers the potential environmental impacts of a project before proceeding with the project. The goal of environmental assessment is to ensure Ontario's environment is protected, conserved and wisely managed.

Any environmental assessment undertaken is required to consider any relevant legislative and policy requirements that may address potential adverse impacts of the undertaking.

Environmental assessment in Ontario is based on the principles of adaptive management. Forest management planning embraces the use of the principles of adaptive management through the:

- preparation of FMPs
- implementation of FMPs (forest operations)
- monitoring of the implementation of FMPs (compliance inspections, independent forest audits)
- evaluation of the outcomes of FMPs (reporting on forest management outcomes)
- adaptation of the requirements for the preparation and implementation of FMPs by learning for experience (revising forest policy requirements)
- cycling back to planning again (based on the revised requirements)

The original environmental assessment approval for forest management on Crown lands in Ontario was granted in 1994 and included 115 terms and conditions. Many of those terms and conditions required MNRF to develop policy, procedural and program direction.

Since that time, MNRF has developed an overarching forest policy framework with many legislative, regulatory and policy components.

12.1.1 MNRF's Framework for Sustainable Forest Management

Ontario's policy framework for sustainable forest management defines sustainability, identifies principles for sustaining and using forests and provides for strategic objectives

for community and resource use sustainability. The approach recognizes the importance of applying the adaptive management concept to decision-making.

Within the forest policy framework, the CFSA provides the key legislative direction for forest management and requires implementation of direction in the forest policy framework (e.g., forest manuals). The DO is another key component of the forest policy framework identifying requirements under the auspices of the Environmental Assessment Act. Other key legislation considered in forest management includes the Aggregate Resources Act, the Public Lands Act, the Endangered Species Act and the Environmental Bill of Rights.

Central to the forest policy framework are the regulated Forest Manuals and a suite of forest policies, procedures and directives that MNRF maintains to provide direction on how forest management will be planned for, implemented, monitored and reported on. Through the application of this framework, Ontario's forests are managed sustainably to provide for their long-term health, while providing social, economic and environmental benefits to Ontarians.

The three regulated forest manuals required under the CFSA provide technical direction for the preparation and implementation of FMPs. These forest manuals include the:

1. Forest Management Planning Manual which is the primary document that guides the preparation of an FMP for a MU
2. Forest Information Manual which describes what information is required for forest management planning including the direction for the exchange of information between MNRF and forest industry
3. Forest Operations and Silviculture Manual which functions as a directory of the approved policy and guidance that a forest manager must refer to during the preparation and implementation of an FMP

Ontario's forest policies, procedures, directives and programs have been put in place to complement the manuals and address many of the DO conditions. Examples of forest policy direction include:

- Guides which provide practices and methods used to minimize, mitigate or prevent adverse effects of forest management on the environment
- Forest Compliance Handbook which provides direction on compliance assessment methodology and reporting
- Growth and Yield Program which assesses and enables sustainable forest management based on expected rates of growth and potential yields of forest fibre

- Independent Forest Audits which assess the performance of MNRF and the forest industry in meeting their forest management responsibilities

Public consultation considers the public interest and helps ensure that concerns are identified early in planning processes and addressed where possible. Consultation requirements have been extensively incorporated in the FMPM ensuring forest management planning includes opportunities for involvement.

MNRF has produced guiding information to support participation (e.g., Handbook for Getting Involved in Forest Management on Crown Lands in Ontario). MNRF also consults when considering revisions to components of the forest policy framework using the Environmental Registry and other methods to solicit comment.

MNRF ensures consultation, a key tenant of environmental assessment requirements, is completed for all FMPs, major or minor amendments and amendments to the long-term management direction. MNRF also ensures consultation is undertaken to support the development or revision of policy requirements. MNRF uses the Environmental Registry to support consultation efforts and to help ensure the duty to consult with Aboriginal communities is met.

Ontario's forest industry has demonstrated a commitment to and fully supports the principles of sustainable forest management. Global buyers of forest products consistently place Canadian suppliers at the top of the list for sustainable forestry practices, citing the quality of environmental and forest management programs, as well as the quality of the forest products.

12.1.2 Other Oversight

Forest companies in Ontario are well-positioned to meet the requirements of any third-party forest certification standard or registration system. Most of Ontario's sustainable forest licensees are certified under one of three certification standards of independent third-party organizations including the Sustainable Forestry Initiative; the Canadian Standards Association Sustainable Forest Management Standard; or the Forest Stewardship Council Principles and Criteria for Forest Management.

Forest certification is a system used to identify well-managed forest areas. It recognizes that forest management planning and forestry practices have met a forest management standard set by a certification body. Forest certification bodies are independent organizations external to government and the forest industry. Forest certification promotes forest products and helps to gain access to markets that require forest products to be sourced from certified forests and provides another means of ensuring forests are managed appropriately.

As of January 1, 2018, 31 out of the 35 MUs with sustainable forest licences were certified by an independent third-party organization. The remaining MUs are the responsibility of the Crown and do not have sustainable forest licences and are not certified.

The forest industry in Ontario has undertaken significant work to achieve this certification and Ontario's forest management laws and forest policy framework support industry in achieving this certification. Ontario has the largest area of certified forests of any jurisdiction in the world.

12.2 Challenges in Implementing the DO

12.2.1 Declaration Order Amendments

MNR has sought previous amendments to the DO based on implementation experience reported on in the Five-Year EA Reports where it identified the need to seek DO amendments. Timely actions were required by MNR and MECP to ensure amendments identified were processed efficiently. Timely actions would have had the best results for the environment affected by forest management and would have ensured the principles of adaptive management were being addressed.

The 2006/07 downturn in the Ontario economy caused significant issues in some sectors. MNR worked with the forestry sector to propose changes to forest management planning requirements to help the forest industry find efficiencies in the delivery of forest management planning.

MNR requested amendments to MECP in 2010, following the submission of the 2009 Five-Year EA Report. The amendments were intended to address many of the issues being faced by industry as highlighted in the report.

It took MECP five years to review and approve the amendments. The approved amendments have recently been incorporated into the revised Forest Manuals. FMPs and other related planning processes and products are now being directed by these revised Forest Manuals.

The considerable delay in the MECP process for making the amendments prevented MNR from addressing industry concerns in a timely way. MNR anticipated a more streamlined and efficient process in line with the adaptive management approach and the desire to address adverse environmental effects of the undertaking.

The requirement to change the detailed forest management planning conditions of the DO and the requirement to revise the Forest Manuals to incorporate those changes required multiple sequenced government approvals which resulted in the original amendments taking nearly ten years to process and put into action.

In 2014/15, MNRF developed, consulted on and submitted an amendment request to expand the AOU to include a new area known as the Cat Slate Forest. The Cat Slate Forest is located north of the current AOU in Ontario's Far North and the communities there want to move forward with this economic opportunity.

MECP reviewed, consulted on, but has yet to seek Cabinet approval of the proposed amendment. As a result, the communities have not been able to proceed with their forest management opportunity.

Other Far North communities are also developing community-based land use plans which may identify forest management as a permitted use. MNRF is seeking to reduce duplicative processes and enable more expeditious actions to respond to the changing social, economic and environmental conditions in Ontario.

12.2.2 Requests for Individual Environmental Assessments

When an FMP, major amendment or amendment to the long-term direction of an FMP is approved by MNRF, anyone with an unresolved concern from the planning process can submit a request to MECP seeking elevation of their concern to a higher level of assessment known as an individual environmental assessment. The request for an individual environmental assessment, if approved by MECP, would require MNRF to complete an individual assessment of the activities and areas subject to the request.

As outlined in section 4.2.4, MECP has processed over 115 requests for individual environmental assessments since the EAA approval was granted in 1994 without ever granting a request and requiring MNRF to produce an individual environmental assessment.

On some occasions, MECP has added conditions to IEA request denials, most of which were requirements that MNRF was already required to address. IEA requests have become lengthy, time consuming processes that lead to challenges for MECP, MNRF and forest industry.

The Auditor General in a 2017 report criticized MECP for its delays in the review of requests for elevating environmental assessments stating: "The Ministry consistently exceeds the prescribed timeframes for reviewing and deciding on public requests to bump-up (request an IEA) a streamlined (DO) to a comprehensive assessment (IEA). The lengthy Ministry reviews cause project delays, which result in financial and non-financial costs to project owners".

MNRF is seeking approaches to enable more prompt implementation of FMPs by removing the provision for IEA requests.

It is important to note in this discussion that MNRF has a very robust issue resolution process that is a requirement of the DO (Condition 10) and further detailed in the

FMPM. This process is available throughout the entire process of preparing an FMP. Many issues have been reviewed in these processes, often resulting in solutions to the issues raised.

12.2.3 Scaling Forest Management Planning to the Proposed Level of Activity

The current legislative and policy framework for forest management in Ontario does not provide the ability to scale the forest management planning requirements to the amount of harvesting being proposed (e.g., there is only one planning process available with one type of planning product regardless if one tree or millions of trees are planned to be harvested).

The forest management planning system in Ontario is effectively a one size fits all approach which cannot be adjusted. The approach has been designed to support large forest management companies who have the resources to meet the significant planning requirements of the forest management planning process. It takes over 3 years and 2-3 million dollars to prepare an FMP under the current approach.

With the downturn in the industry over the past ten years and the industry's need to manage costs, the current planning system is proving to be ineffective and inefficient at dealing with significantly reduced requests for resources resulting from smaller companies and new entrants.

Enabling alternative(s) to the existing requirements for the preparation of FMPs for those MUs where there is limited, or no harvest anticipated (i.e., low to non-operational MUs) may provide opportunities to reduce burden to forest industry and MNRF.

12.3 Proposed Actions to Improve the Policy Framework

MNRF has implemented the environmental assessment requirements over the last 25 years and developed its forest policies, procedures, directives and programs to address and replace the environmental assessment requirements.

Once the policy, procedure, directive or program was developed, MNRF sought amendments to remove the detailed condition requirements and enable more principle-based requirements to remain. There was always some level of duplication between the environmental assessment requirements and components of MNRF's forest policy framework as it developed.

Currently, the policy framework and its components address many of the key condition requirements of the DO. However, administrative delays on DO amendments and requests for individual environmental assessments are compromising MNRF's commitment to the policy framework and the overriding principles of adaptive management causing unnecessary adverse effects on MNRF and the forest industry.

Removing any remaining duplication between the DO and MNRF's forest policy framework, and any technical and detailed requirements from the DO will provide the latitude for MNRF to determine the appropriate approach to meeting condition requirements.

This could be achieved through a more "principle-based" approach to the conditions of the DO or removal of the DO with potential additions and revisions to MNRF's forest policy framework. This would result in the removal of regulatory burden and unnecessary administrative delays and policy duplication. In either case, these options would focus MNRF as the government's key agency that addresses forest management in Ontario.

With the release of MECP's "Made in Ontario Environmental Plan", MNRF is well positioned to work with MECP to seek changes to the environmental assessment requirements for forest management to reduce administrative burden on MECP, MNRF and forest industry. These changes may align with and further enhance proposals resulting from the current forestry stakeholder sessions taking place across Ontario.

Ultimately, MNRF is interested in confirming MNRF's forest policy framework, with the CFSA, regulated Forest Manuals and supporting forest policy, programs and procedures to be the primary source of direction to forest management in Ontario. The changes MNRF will seek to the DO will be based on that premise and will be guided by the following principles:

- ensuring the purpose of the EAA (i.e., providing for the protection, conservation and wise management in Ontario of the environment) continues to be provided for
- ensuring MNRF can implement the principles of adaptive management in its approach to forest management in an effective manner; enabling lessons learned to be addressed as expeditiously as possible
- enabling MNRF and forest industry to be more responsive to change by reducing administrative burdens to change and enabling alternative forest planning systems
- reducing burden by removing duplication in requirements where not warranted
- reducing burden by removing MECP involvement in forest planning level decision-making (i.e., individual environmental assessment requests)

12.4 Conclusion

The submission of this Five-Year EA Report fulfills MNRF's requirements under Condition 57 of the DO for the April 1, 2013 to March 31, 2018 reporting period. The

information in the report demonstrates MNRF's implementation of condition requirements and demonstrates MNRF's commitment to the sustainable management of Ontario's forests.