Forest Information Manual

May 2020

FOREST INFORMATION MANUAL

Prepared under the Authority of the Crown Forest Sustainability Act, 1994

May 2020

Ministry of Natural Resources and Forestry

Executive Summary

The Forest Information Manual (FIM) sets out the mandatory requirements, standards, roles and responsibilities, timelines, and conditions for providing information in respect of Crown forests. This includes the provision of: forest resources inventories, maps, geospatial data layers, forest operations inspections, forest values, base data, reports and other information required for the purpose of forest management planning and ensuring compliance with the *Crown Forest Sustainability Act* and its regulations.

The requirements of the FIM complement the planning and operational requirements of the Forest Management Planning Manual (2020). A series of supplemental Forest Information Manual technical specifications set out the detailed, technical conditions as a requirement of information set out in the Forest Information Manual.

Exchange of information is a shared responsibility among forest resource licence holders and the Ministry of Natural Resources and Forestry. The requirements for information in the Forest Information Manual apply to licence holders who prepare and implement forest management plans and report on forest operations. Similarly, the Ministry of Natural Resources and Forestry provides information to licence holders to support planning and implementation, and is therefore also subject to the requirements of the FIM.

1 *Résumé*

2 Le Manuel relatif à l'information forestière énonce les exigences, normes, rôles et

3 responsabilités, délais et conditions pour transmettre de l'information relative aux

4 forêts de la Couronne. Cela comprend la fourniture: d'inventaires des ressources

5 forestières, de cartes, de couches de données géospatiales, d'inspections d'activités

6 forestières, de valeur des ressources forestières, de données de bases et d'autres

7 données exigées en vue de planifier la gestion forestière et d'assurer la conformité à

8 la Loi de 1994 sur la durabilité des forêts de la Couronne et à ses règlements.

9 Les exigences en matière d'information énoncées dans ce manuel complètent les

10 exigences en matière de planification et d'exploitation du Manuel de planification de

11 la gestion forestière (version de 2020). Une série de spécifications techniques

12 additionnelles relatives au Manuel sont en cours de préparation; elles résumeront

13 les critères techniques détaillés exigés en matière d'information dans le Manuel

14 relatif à l'information forestière.

15 L'échange d'information est une responsabilité partagée entre les titulaires de

16 permis forestier et le ministère des Richesses naturelles et des Forêts. Les exigences

17 associées à l'information figurant dans le Manuel relatif à l'information forestière

18 s'appliquent aux titulaires de permis forestier pour la préparation et la mise en

19 œuvre de ces plans de gestion forestière pour les forêts de la Couronne et dans la

20 conduite et les rapports sur les opérations forestières. Le ministère des Richesses

21 naturelles et des Forêts (MRNF), qui est responsable de transmettre l'information

22 aux titulaires d'un permis d'aménagement forestier durable pour faciliter la

23 préparation et la mise en œuvre des plans de gestion forestière, est également

24 assujetti aux exigences du Manuel relatif à l'information forestière.

1 *Foreword*

2 *The Policy Framework for Sustainable Forests*

3 The overall context for forest management in Ontario is the Policy Framework for

4 Sustainable Forests. The framework sets broad direction for forest policy and makes

5 forest sustainability the primary objective of forest management. It helps to address

6 climate change by ensuring Ontario's forests contribute positively to the global

7 environment. This contribution is made through the application of the principles for

8 sustaining forests.

9 *Overview of the Crown Forest Sustainability Act*

10 The *Crown Forest Sustainability Act*, 1994 (CFSA) came into effect on April 1, 1995.

11 The Act is enabling legislation, and provides for the regulation of forest planning,

12 information, operations, licensing, trust funds, processing facilities, remedies and

13 enforcement, and transitional provisions. The CFSA is designed to allow for the

14 management of all forest-based values, while providing for the sustainability of

15 Crown forests. The CFSA defines sustainability as long-term Crown forest health, and

16 reflects the broad direction set out in the Policy Framework for Sustainable Forests.

17 *A Manual Approach to Implementation of the Crown Forest Sustainability Act*

18 The CFSA requires the provision of four manuals to guide various aspects of forest

19 management in Ontario. These manuals are prepared in accordance with Section 68

20 of the Act and are regulated in accordance with Section 69(1) 29:

21   1. the Forest Management Planning Manual (FMPM);
22   2. the Forest Information Manual (FIM);
23   3. the Forest Operations and Silviculture Manual (FOSM); and
24   4. the Scaling Manual (SM).

25 The FMPM is the pivotal document that provides direction for all aspects of forest

26 management planning for Crown lands in Ontario within management units

27 designated under the CFSA, with the exception of the southern Ontario

28 management unit. In accordance with the CFSA, forest sustainability will be

1   determined in accordance with the approach described in the FMPM. The approach

2   requires the identification of measurable indicators in order to assess the

3   effectiveness of activities in achieving management objectives and to assess the

4   sustainability of the Crown forest for the management unit. For the forest

5   management plan (FMP), the determination of sustainability will be a conclusion

6   that the FMP provides for the long-term Crown forest health on the management

7   unit, and has regard for plant life, animal life, water, soil, air, and social and

8   economic values, including recreational values and heritage values. Management

9   unit annual reports require the monitoring and evaluation of future forest conditions

10   to compare with planned outcomes, which provide a means for continual

11   refinement, redevelopment and improvement of forest management activities.

12   The FIM describes the information requirements to support forest management. The

13   FIM directs the sharing and exchange of forest-related information between the

14   MNRF and Ontario's forest industry.

15   The FOSM sets out the over-arching principles and accepted approaches for forest

16   management, the standards for forest operations and silvicultural practices, the

17   minimum qualifications for forestry workers, and the procedures for the evaluation

18   of forest management in Ontario.

19   The SM contains instructions and standards for the measurement of Crown forest

20   resources, provides instructions for the authorized movement of Crown forest

21   resources and sets out the requirements for conducting scaling audits.

22   ***Manual Revision***

23   The four manuals are revised, improved, and updated based on experiences in using

24   the manuals, and as new information becomes available. Revisions to the manuals

25   will be made in accordance with the CFSA regulation requiring public review and

26   comment.

1 *Forest Information Manual*

2 The Forest Information Manual (FIM) sets out legal obligations of sustainable forest

3 licensees and the Ministry of Natural Resources and Forestry (MNRF) for the

4 collection and provision of forest information. On designated management units

5 which are not managed under a sustainable forest license, the Crown or another

6 designated party is responsible for the preparation and implementation of a forest

7 management plan. For the purpose of the FIM, the sustainable forest licensee is

8 referenced as the party responsible for preparing and implementing FMPs. Where

9 the requirements of the FIM refer to the sustainable forest licensee, those

10 requirements will apply to the MNRF or the party responsible for the preparation

11 and implementation of the FMP.

12 The FIM is the framework for providing and exchanging information for the purpose

13 of forest management planning and to ensure compliance with the *Crown Forest*

14 *Sustainability Act*, 1994 (CFSA) and its regulations. FIM sets out the requirements,

15 standards, roles and responsibilities, timelines, conditions, and technical

16 specifications for providing and exchanging information. The FIM requirements are

17 aligned with the planning and operational requirements set out in the FMPM.

18 The requirements in the FIM, provide the foundation for exchanging consistent and

19 timely data about Crown forests to:

20 • provide a basis for assessing and confirming the sustainable management of
21 Ontario's Crown forests;
22 • improve access to information for stakeholders and the public in an open and
23 transparent manner; and
24 • increase the knowledge base of the MNRF.

25 MNRF will ensure that professional and technical training programs related to the

26 preparation and implementation of forest management plans are maintained and

27 delivered so that the knowledge of persons involved in the application of this

28 manual is current.

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Introduction

The Crown *Forest Sustainability Act* (CFSA) enables forest management activities to occur on Crown lands in Ontario according to an approved forest management plan (FMP) prepared in accordance with the Forest Management Planning Manual (2020) (FMPM). These activities are authorized by the Ministry of Natural Resources and Forestry (MNRF), providing they contribute to the purposes of the CFSA that:

> *...provide for the sustainability of Crown forests and, in accordance with that objective, to manage Crown forests to meet social, economic and environmental needs of present and future generations.*

The Forest Information Manual (FIM) is one of four manuals mandated by the CFSA. FIM sets out the information required by the Minister and sustainable forest licensees with respect to managing and sustaining Crown forests in Ontario in accordance with the CFSA and its regulations. Section 68(6) of the CFSA defines the scope of FIM as follows:

> *The Forest Information Manual may contain provisions respecting information systems, inventories, surveys, tests and studies that may be required by the Minister in respect of Crown forests and respecting information to be provided to the Minister in respect of Crown forests.*

The information set out in the FIM is limited to Crown forests. The FIM sets out the requirements for creating or collecting information about Crown forests by identifying the types of information systems, inventories, surveys, tests, or studies to be applied or conducted. The FIM also sets out the requirements for the provision of information about Crown forests to the Minister of Natural Resources and Forestry.

The basic requirements for much of the information set out in the FIM are identified in the FMPM. The FIM is a technical document that sets out the details of what this information will consist of and the manner that they are to be exchanged between the sustainable forest licensee and MNRF.

The roles and responsibilities of the sustainable forest licensees and MNRF continue to evolve. Sustainable forest licensees share responsibility for forest management planning and conducting forest operations. Sustainable forest licensees generate and possess considerable information required to support forest management planning. MNRF has the responsibility to collect, maintain and provide forest resources inventory and values information. MNRF continues to protect the public interest in the sustainability of the Crown forests through the land use and forest management planning processes.

A condition of forest resource licences requires information to be provided to MNRF in accordance with the FIM. Authority for the Minister to require information is provided by sections 20 and 21 of the CFSA. FIM also sets out the requirements for information to be provided to sustainable forest licensees by MNRF.

The mandatory requirements for information do not restrict or limit the Minister from requesting additional information from sustainable forest resource licensees that may be needed to fulfil the obligations of MNRF under the CFSA.

The FIM describes ownership, copyright and intellectual property rights of information about Crown forests consistent with the *Freedom of Information and Protection of Privacy Act* (FIPPA), the *Copyright Act* (CA), subsection 21(2) of the CFSA, and current government policies on information.

The FIM requires technical specifications that set out information standards and how information will be provided (FIM technical specifications). The FIM technical specifications set out technical information details that may be modified to take advantage of changes in technology, information management processes, and information systems. These changes will not alter the basic information requirements set out in the FIM. A formal revision process for FIM technical specifications is provided for later in this Introduction section of FIM.

The FIM may not set out all the information required for forest management planning or ensure compliance with the CFSA and its regulations. Additional information requirements may be specified in other regulations, manuals or policies.

1.0 Organization of the Forest Information Manual

The FIM is organized into four major divisions, Parts A, B, C and D, plus five associated FIM technical specifications. The FIM provides a description of the information exchange requirements, discusses the format of the information and identifies the party responsible for providing the information. The FIM technical specifications provide the standards (e.g., data attributes, format) for the information requirement, the conditions of provision (e.g., naming conventions, exchange parameters, validation standards), and the implementation and first effective date implications.

Part A deals with information policy. Part A has linkages to and references components of the FIM Base and Values Technical Specifications, Annual Work Schedule Technical Specification, Annual Report Technical Specification and Forest Management Planning Technical Specifications. Part A deals with the following:

(a) ownership;
(b) intellectual property rights;
(c) information issues resolution;
(d) data access, sharing and exchange;
(e) information management system;
(f) forest management mapping; and
(g) forest management documentation.

Part B deals with information required during strategic and operational planning, specifically the information requirements associated with preparation and approval of the FMP. Part B has linkages with and references to the FIM Forest Management Planning Technical Specifications, the FIM Forest Resources Inventory Technical Specifications and the FIM Base and Values Technical Specifications. Part B contains direction in respect of:

(a) values information;
(b) base information;
(c) forest resources inventory; and
(d) forest management planning data layers.

Part C identifies information requirements for annual forest operations. Part C is linked to and references the FIM Annual Work Schedule Technical Specifications. Part C contains direction on the following:

(a) annual work schedules (AWS); and
(b) forest operations prescriptions.

Part D links with the FIM Annual Report Technical Specifications and sets out information needs for monitoring, reporting, and evaluation. Part D contains direction on the following:

(a) management unit annual reports; and
(b) monitoring and evaluation.

The FIM Technical Specifications set out the acceptable formats and methods to create and/or provide the information. The FIM technical specifications provide detailed, technical and product specific requirements and describes roles and responsibilities. Also included are implementation details and timelines. The FIM technical specifications contain direction on the following:

(a) detailed data attribute descriptions;
(b) acceptable file and media formats;
(c) metadata requirements;
(d) information exchange parameters and protocol; and
(e) validation standards/procedures.

A **Glossary of Terms** forms the last part of FIM.

2.0   Audience for the Forest Information Manual

The FIM and the FIM technical specifications provide direction to information managers, resource analysts, geographic information systems specialists, and information analysts

involved in creating and using information about Crown forests. The FIM also provides direction to foresters, biologists, forest technicians, forest management planning teams, and others involved in forest management planning, operations or reporting.

The FIM technical specifications may also be referenced by information users not directly involved in forest management planning, but who have a need to utilize or have access to the information about Crown forests.

3.0 Application of the Forest Information Manual

The intention of the FIM and the FIM technical specifications is to set out a process to exchange information in a timely fashion, in a standard and consistent format, and generally to improve the exchange of information. Timelines related to the exchange of information set out in the FIM are related to the development and implementation of FMPs.

The FIM and the FIM technical specifications set out the minimum standards for information provision and exchange. Sustainable forest licensees are free to provide additional information if they so choose.

Information requirements prescribed in the FIM take effect when it is published and available to the public, in accordance with subsection 68(10) of the CFSA. Key timelines and effective dates are prescribed in the FIM for each information requirement with more specific, detailed first effective dates, phase-in provisions and implementation descriptions included in the FIM technical specifications.

4.0 Revisions to the Forest Information Manual

The FMPM provides direction for all aspects of forest management planning in Ontario. The FIM complements the FMPM by setting out how the information requirements contained in the FMPM will be met.

The main impetus for revising the FIM is to align it with ongoing changes to the other regulated manuals, including the FMPM. Alignment between the FMPM and the FIM

realizes efficiencies in planning and information requirements and reduces implementation obstacles and issues of interpretation. Based on the close relationship between these two manuals, future revisions to the FIM would ideally be produced on a timeframe similar to a FMPM revision.

Another primary consideration in revising the FIM pertains to the experience and knowledge that will be gained through implementing the FIM. The exchange of information, and the effectiveness and ease of use of the FIM will be monitored to determine if improvements or revisions to the FIM are required.

Revisions to the FIM technical specifications will ensure that modern and efficient processes and approaches are used in the collection and sharing of information.

Any revisions or new versions of the FIM will follow the requirements for reviewing and revising regulations, as set out by the Ontario Government.

5.0   The FIM Technical Specifications Implementation and Revision

The FIM technical specifications provide the details of the process and form of information exchanged between the MNRF and the various stakeholders (i.e., parties) identified in Part A, Section 2.0. The FIM has five separate technical specifications, namely:

- FIM Base and Values Technical Specifications;
- FIM Forest Management Planning Technical Specifications;
- FIM Forest Resources Inventory Technical Specifications;
- FIM Annual Work Schedule Technical Specifications; and
- FIM Annual Report Technical Specifications.

5.1   The FIM Technical Specifications Development and Application

The FIM technical specifications are prepared to help with the exchange of information set out in the FIM. The FIM technical specifications may be revised periodically to consider more effective and efficient ways of managing, transferring, and receiving information. Changes or revisions to the FIM technical specifications do not impact the

requirements or direction for the exchange of information set out in the FIM. A requirement of the FIM is that the FIM technical specifications, as revised from time to time, are followed.

The FIM technical specifications are effective upon regulation of the FIM or as they are developed. The information they reference may be required annually, periodically as associated with the timing and schedule of FMP development, or as scheduled with monitoring, reporting and evaluation. For this reason, the use, availability and development schedule of individual specifications will vary.

A list of the current FIM technical specifications, and the applicable information products and planning terms that they apply to, will be maintained and available in the Natural Resource Information Portal (NRIP) The sustainable forest licensee will use the FIM technical specifications listed on the NRIP.

5.2   The FIM Technical Specifications Revision

Information management and information technologies are constantly evolving. To support continual improvement and to optimize business efficiencies, the FIM technical specifications may be reviewed annually. The FIM technical specifications are modified by the MNRF to optimize information transfer in an efficient and cost-effective manner, to allow for flexibility and innovation, and to ensure data integrity.

To the extent possible, required or suggested changes to the specifications will be completed in concert with a change or revision of the FMPM and the FIM. Changes to the specifications can have significant impact on the information systems and processes used by sustainable forest licensees and the MNRF. As our reliance on technology and automation increases, so does the impact of change.

Either the sustainable forest licensee or MNRF may propose a change to the FIM technical specifications at any time. However, modifications to the FIM technical specifications will not normally occur more than once annually.

Changes to the FIM technical specifications may be based on, but not limited to, one or more of the following:

(a) changes in information technology (e.g., information management systems) used by sustainable forest licensees or MNRF;

(b) identification of alternative (e.g., more flexible, easier, more efficient, more cost effective) ways to exchange information while still meeting the requirements set out in FIM;

(c) clarification of detailed attribute descriptions. In some cases, proposed changes to detailed attributes may require consideration of changes to, or the effect on, the applicable requirements and standards set out in the FIM;

(d) identification of existing or new information requirements from a regulated manual not currently set out in the FIM technical specifications;

(e) identification of improvements to standards in relation to validation, error handling, quality control, quality assurance, or verification;

(f) identification of improved security measures and information confirmation, receipt, and notification protocols and procedures; or

(g) changes to file structures, metadata requirements or standards.

Revisions to the FIM technical specifications may result in significant change or modification to information systems, or management processes used by either sustainable forest licensees or the MNRF (e.g., proposed change to the data exchange format). Or, revisions may be simple in nature, easily instituted, and have minimal impact to either sustainable forest licensees or the MNRF (e.g., proposed change to feature attributes).

The FIM technical specifications may be revised only if the proposed modifications do not affect the requirements and standards set out within the FIM. Any proposed modifications to the FIM technical specifications that would cause a change to the requirements for information set out in the FIM would first be subject to regulatory modification of the FIM.

5.3   The FIM Technical Specifications Revision – Request and Approval Process

Requests for revisions to the FIM technical specifications are directed to the Forest Planning Policy Section of the MNRF. All changes and revisions to the FIM technical

specifications are approved by the Director of the Crown Forests and Lands Policy Branch. The level of detail and supporting rationale for revision requests are determined by significance of the request. Minor, low impact changes are managed internally by the MNRF's Forest Planning Policy Section. Major changes with significant impact will be reviewed and considered in consultation with the forest industry and the other MNRF branches and divisions.

Significant or major change requests should include the following information:

(a) a brief description of the proposed change;
(b) identification of the affected FIM technical specifications;
(c) the applicable conditions identifying why the proposed change is necessary and any associated time constraints;
(d) a description of the significance of the change to the current FIM technical specifications and a list of the affected stakeholders;
(e) the expected gains or efficiencies of implementing the proposed change;
(f) the predicted cost impacts to sustainable forest licensees and MNRF of the change; and
(g) any issues related to implementing the proposed change.

The sustainable forest licensee may assist in identifying all affected stakeholders, setting timeframes for considering changes, developing and testing proposed revisions, and identifying any training and follow-up needs to ensure effective implementation of the revised FIM technical specifications. Consultation with sustainable forest licensees will occur in instances where they would be significantly affected by the change.

Direct notification of the change or revision will be given to the sustainable forest licensee and the appropriate MNRF staff. Notification will include the effective dates for the revised FIM technical specifications and an indication of the FIM required information governed by the revised specifications. The revised FIM technical specifications will be posted to the NRIP.

An overview of the revision process is depicted in Figure 1.0.

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                    │ Proposed to the Forest │◄────── ⠂   • Rationale       ⠠
                    │ Planning Policy Section │         ⠠   • Affected parties ⠂
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                    ┌─────────────────────┐
                    │ MNRF-Forest Industry │
                    │ • Issues definition  │
                    │ • Consultation       │
                    │ • Recommendations    │
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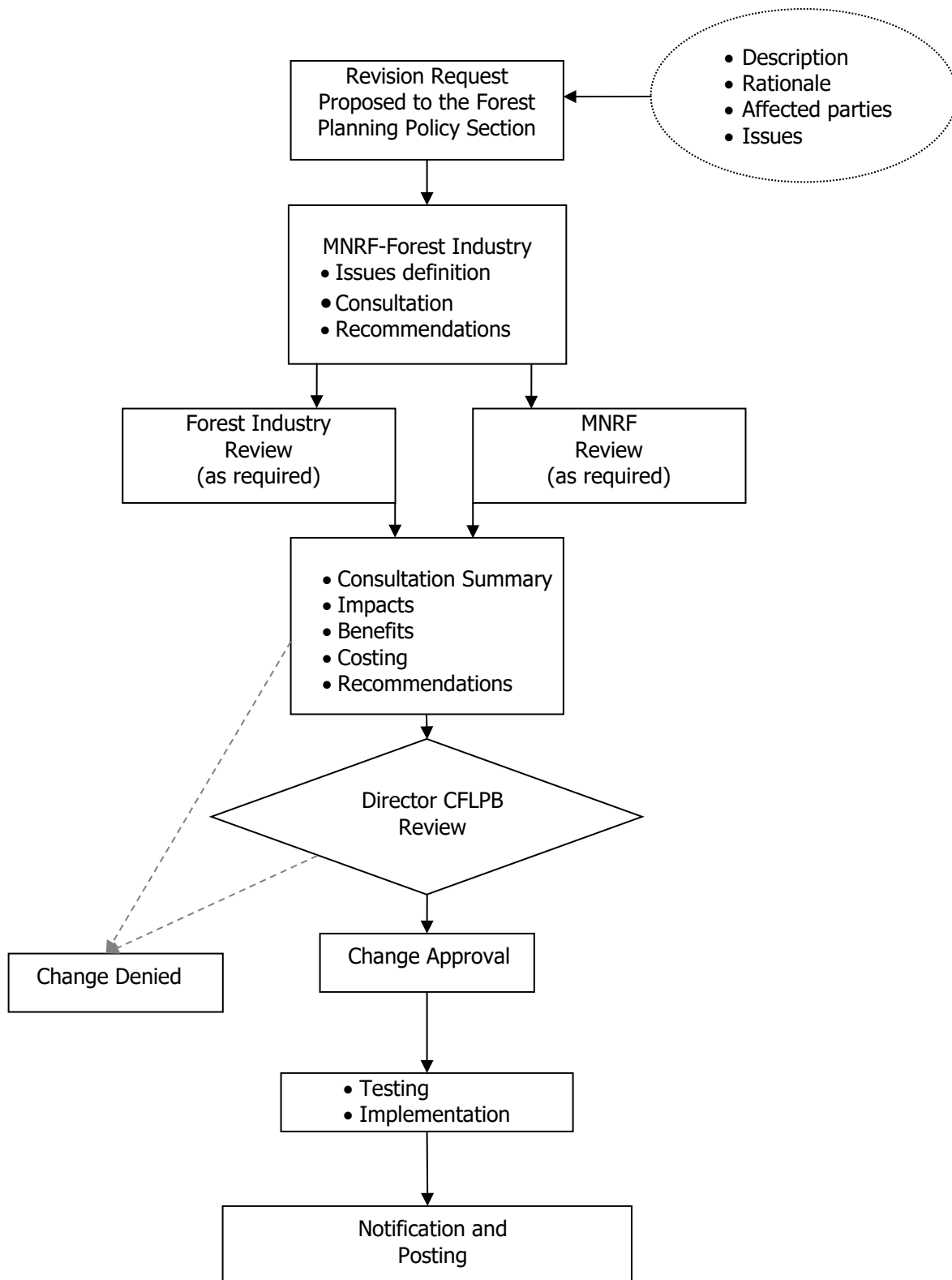
Figure 1.0 The FIM Technical Specifications Revision Process – Summary Overview

Part A Information and Management

1.0   Introduction

Part A sets out procedures and protocol and gives direction and guidance on using and managing the FIM required information. Part A also guides sustainable forest licensees and the MNRF in managing their relationship and interactions related to data sharing and exchange. Part A clarifies the relationships between the CFSA, the CA, the *Archives and Recordkeeping Act* (ARA) 2006, and FIPPA. Part A also sets out the MNRF's rights to deal with information provided to the Minister in accordance with the FIM and in relation to the legislation.

For the purposes of the FIM, information includes data (i.e., collection of facts) and processed data (i.e. a grouping or organization of data). Examples of information as regulated by the FIM include text, maps, tables, geographic information systems layers, graphs, models, photographs, and images. Information set out in the FIM may include information in digital or hard-copy form.

The FIM sets out the requirements for information about Crown forests for the purpose of forest management planning and ensuring compliance with the CFSA and its regulations. The information required by the MNRF will be prepared by sustainable forest licensees or by other parties in accordance with the FIM and will be provided to the ministry. The FIM also provides for the sharing of certain ministry information with sustainable forest licensees.

1.1   Direction from the Crown Forest Sustainability Act

Sections 68, 20 and 21 of the CFSA provide direction for the framework and content of the FIM.

Subsection 68(1) of the CFSA requires the minster to prepare the FIM. Subsection 68(6) of the CFSA sets out the types of information that the FIM may contain:

> *The Forest Information Manual may contain provisions respecting*
> *information systems, inventories, surveys, tests and studies that may be*

1   *required by the Minister in respect of Crown forests and respecting*
2   *information to be provided to the Minister in respect of Crown forests.*

3   Sections 20 and 21 of the CFSA set out requirements for sustainable forest licensees

4   to collect and provide the Minister with specified information in accordance with the

5   FIM. Sections 20 and 21 of the CFSA also set out how the Minister may treat

6   information obtained from sustainable forest licensees. For example, under section

7   20, sustainable forest licensees are required to conduct inventories, surveys, tests,

8   or studies. Under section 21, sustainable forest licensees are to provide information

9   in accordance with the FIM required for the purpose of forest management planning

10   or ensuring compliance with the CFSA and its regulations.

11   Subsection 20(1) of the CFSA states:

12   *The Minister may require the holder of a forest resource licence to conduct*
13   *inventories, surveys, tests or studies in accordance with the Forest*
14   *Information Manual for the purpose of forest management planning or*
15   *ensuring compliance with this Act and the regulations.*

16   For the purposes of the FIM, inventories, surveys, tests, or studies may also include

17   inspections, assessments, reports, samples, investigations, or any similar functions

18   related to collecting data and information about Crown forests. The Minister may

19   request that information about Crown forests be collected from other inventories,

20   surveys, tests, or studies be provided to the Minister as directed in subsection 68(6)

21   of the CFSA.

22   Subsection 20(2) of the CFSA states:

23   *If a licensee fails to conduct the inventories, surveys, tests or studies as*
24   *required, the Minister may cause them to be conducted, and the licensee is*
25   *liable to the Minister for all costs associated with the conduct of the*
26   *inventories, surveys, tests or studies.*

27   All costs of conducting the inventories, surveys, tests, or studies as set out under the

28   FIM, are the responsibility of the sustainable forest licensee. If these requirements

1   and responsibilities are not fulfilled, the Minister has the authority to cause the

2   inventories, surveys, tests, or studies to be conducted and the sustainable forest

3   licensee is then liable to the Minister for all associated costs.

4   Subsection 21(1) of the CFSA states:

5   *The Minister may require the holder or former holder of a forest resource*
6   *licence to provide the Minister with information in accordance with the Forest*
7   *Information Manual for the purpose of forest management planning or*
8   *ensuring compliance with this Act and the regulations.*

9   The FIM sets out the information a sustainable forest licensee will provide the

10   Minister that includes information created or used in information systems or created

11   by the requirement to conduct inventories, surveys, tests, or studies, in accordance

12   with subsection 68(6) or section 20 of the CFSA. Circumstances of non-compliance in

13   providing information set out in the FIM are subject to, and will be dealt with, in

14   accordance with Part VII of the CFSA.

15   Subsection 21(2) of the CFSA states:

16   *The Minister may deal with information obtained under this section as if the*
17   *Minister had created the information.*

18   The information received by the Minister in accordance with FIM will be treated as if

19   the Minister had created the information.

20   **1.2   Crown's Right to Deal with Information**

21   As the steward of Crown forests, the Minister must be able to deal with information

22   about Crown forests that has been provided to the Minister in accordance with the

23   FIM. The Minister must have easy and unfettered access to information about this

24   resource and be able to make this information available to, and accessible by, the

25   public. The Minister must be able to use this information and related works to meet

26   the purpose of the CFSA and to fulfill their obligations under the Act.

1.2.1 Information Created and Provided to the Crown

Pursuant to section 21 of the CFSA, the Minister may deal with information provided in accordance with the FIM as if the Minister had created the information. Accordingly, the Minister has an unrestricted right to use this information without any approval from or notice to any third party. The planning inventory is an example of information that will be created and provided by sustainable forest licensees in accordance with the FIM. The Minister's right described above also applies to information supplied to the Minister by third parties on behalf of sustainable forest licensees for the purpose of fulfilling their information requirements under the FIM.

The provider of the information supplied in accordance with the FIM will continue to enjoy any rights that it may have in the information, except to the extent of the rights granted to the Minister under the CFSA.

1.2.2 Information Created and Provided by the Crown

The Queen's Printer for Ontario holds and administers copyright and intellectual property rights for information owned by the Crown and certain information obtained by the Minister in accordance with the FIM. The Crown asserts exclusive copyright of information and related works that are created by the Crown using information obtained by the Minister in accordance with the FIM.

The Crown owns and asserts exclusive copyright on information that the MNRF creates and provides to sustainable forest licensees. Base information (e.g., lakes, rivers, and provincial/municipal transportation routes) is an example of information that the Crown creates and maintains. The MNRF provides this base information to sustainable forest licensees but retains sole ownership and copyright of this information. Sustainable forest licensees may use this information for the purpose of fulfilling their licence obligations in accordance with the CFSA and its regulations, or as determined by the Queen's Printer for Ontario.

1 The MNRF policy permits the provision of a base data user's licence for the use and

2 further distribution of base data royalty-free. Sustainable forest licensees receiving

3 base data set out in the FIM, and that have requested in writing and received, a base

4 data user's licence, may use base data for purposes beyond forest management

5 planning and compliance with the CFSA. The detail of this privilege and permitted

6 data use is set out in the FIM Base and Values Technical Specifications.

7 ### 1.2.3   Source Information

8 The MNRF has responsibilities for auditing, identifying, confirming, monitoring,

9 reporting, evaluating, and approving information set out in the FIM. In meeting this

10 obligation, the MNRF may require access to the source data, records and

11 information used to create and provide information in accordance with the FIM for

12 the purpose of identifying or confirming the quality and accuracy of the information

13 provided. Given reasonable notice, sustainable forest licensees will grant access to

14 source data, records, and information upon request by the MNRF.

15 The Crown will not claim ownership, copyright or intellectual property rights to

16 source data, records and information that are created or acquired by sustainable

17 forest licensees and are accessed by the MNRF. Copyright and ownership of this

18 information remains with the sustainable forest licensee.

19 Source data, records and information may include, but are not limited to:

20   (a) Remotely sensed data and imagery(e.g. LiDAR, satellite imagery);
21   (b) Maps;
22   (c) Surveys;
23   (d) Tests;
24   (e) Studies;
25   (f) Inspections;
26   (g) Past and current records;
27   (h) Pre- or post-operational field cruises;
28   (i) Permanent or temporary sample plots; and
29   (j) Any data or information that has been collected and used to create, or
30   support the creation of, information set out in the FIM.

Ownership and copyright of source information may be held by a third party external to the sustainable forest licensee. The Minister will take into consideration the costs of production, and copyright obligations affecting the sustainable forest licensee or other parties, in making decisions regarding requests for access to, or use of source information.

If mutually agreed, the sustainable forest licensee could provide source data if it is the most economical and practical means of providing access. In these cases, ownership and copyright of source data remains with the sustainable forest licensee.

1.2.4 Licence Transfers, Surrenders and Cancellations

Where a SFL is transferred under section 35 of the CFSA or where a SFL is surrendered under section 35.1 of the CFSA, or where a SFL is cancelled under section 41.1 of the CFSA, the holder or former holder of that forest resource licence, a company or entity that is under common ownership, management or control as the holder or former holder of that forest resource licence, a court appointed officer (e.g., a monitor, receiver, bankruptcy trustee, or chief restructuring officer) or a person appointed by a lender to the forest resource licence holder (e.g., a receiver or receiver-manager), as the case may be, will provide the Minister upon request any information relating to meeting requirements of Parts B, C and D of the FIM, including:

    (a) approved or delivered products;
    (b) supporting materials, work in progress or completed work that has not yet been provided to the ministry;
    (c) the other material or information products required to support forest management planning and ongoing harvesting and renewal programs; or
    (d) agreements for ongoing or planned forest management activities.

The Minister may request the assistance of any of the persons or entities described above to obtain any of the information described in this Section if that information is in the custody or control of another person or entity.

1 **1.3 Intellectual Property Rights, Freedom of Information and Protection of**
2 **Privacy Act and Classified Data**

3 Intellectual property is the expression and/or organization of ideas, data, and

4 information, and the rights that protect it. Intellectual property rights are protected

5 by mechanisms that include copyright, patents, trademarks, and other forms of

6 intellectual property protection. Examples of some mechanisms that government

7 uses to protect intellectual property rights are: trademarks, such as the stylized

8 trillium symbol; and copyright statements, such as "© Queen's Printer for Ontario"

9 that appear on government publications, maps, databases, research findings, and

10 photographs.

11 Access to information and the protection of privacy of individuals associated with

12 information set out in the FIM are governed by FIPPA.

13 FIPPA has two primary purposes:

14 (a) To provide a right of access to information under the control of institutions in
15 accordance with the principles that:
16 a. information should be available to the public;
17 b. necessary exemptions from the right of access be limited and specific;
18 and
19 c. decisions on the disclosure of government information should be
20 reviewed independently of government.
21 (b) To protect the privacy of individuals with respect to personal information
22 about themselves held by institutions, and to provide individuals with a right
23 of access to that information.

24 Access to information set out in the FIM may be limited in some instances by

25 MNRF's Protection and Distribution of Provincially Tracked Species Data Policy set

26 out in Part A, Section 1.3.1.

27 The Minister determines whether information obtained in accordance with the CFSA

28 can be made available to a person making a FIPPA request. In making these

29 determinations, the Minister will comply with the FIPPA. Access decisions made by

the Minister may be appealed by the requestor or the affected party (e.g., sustainable forest licensee or other party) to the Information and Privacy Commissioner of Ontario.

In addition, the Minister may restrict access to certain information that, if made available, could cause harm or threaten the existence, integrity or health of a value (e.g., archaeological sites, species at risk).

1.3.1 MNRF Classified Data

The MNRF supports open, easy and equitable access to its information and intellectual property. However, protecting classified data and information is a necessary and valid component of the MNRF's mandate.

The Corporate Policy on Information Sensitivity Classification and the Information Sensitivity Classification Guidelines are used by the MNRF to assign a sensitivity classification to its data. This policy and guidelines cover the management of all data and information created by the Ontario Government.

Four possible sensitivity classifications exist – high sensitivity, medium sensitivity, low sensitivity and non-sensitive (i.e., unclassified).

This classification ensures that information is created, acquired, updated, handled, used, transmitted, transported, filed, stored, and destroyed in a manner appropriate to its sensitivity. These security measures ensure the integrity of all records; protect sensitive information from unauthorized access, disclosure or use; and protect valuable information from damage or loss.

The MNRF acknowledges that while classified data will have restrictions on access, this data may be made available for specific purposes on a "need to know" basis to public and non-public organizations to meet the MNRF's mission of sustainability of resources. Classified data features will be encountered by the MNRF and sustainable forest licensees in managing, accessing, harvesting and renewing forest resources.

1   Preparing FMPs and conducting forest operations meets the "need to know"

2   principle.

3   The sustainable forest licensee will, along with the MNRF, ensure that classified data

4   features are protected in forest management planning and in conducting forest

5   operations. Detailed direction on classifying, accessing and using sensitive

6   provincially tracked species data is given in the MNRF's Protection and Distribution

7   of Provincially Tracked Species Data Policy. Additional guidance on the use and

8   display of classified values in forest management planning is given in the FIM Base

9   and Values Technical Specifications, the FIM Forest Management Planning Technical

10   Specifications and the FIM Annual Work Schedule Technical Specifications.

11   Medium sensitive data is only accessible to the sustainable forest licensee and the

12   MNRF through the issue of access privileges from the data custodian (i.e., section or

13   branch within the MNRF that has stewardship and management responsibility for

14   data). This privilege is usually obtained through participation in data sensitivity

15   training offered by the MNRF. Data sensitivity training may be specific to particular

16   data sets or groupings of data.

17   ### *1.3.2   Organization of Information*

18   The FIM sets a minimum standard for the organization and quality of data to be

19   exchanged between the sustainable forest licensee and MNRF. The organization and

20   quality of information, or the infrastructure and the resources needed to update and

21   maintain information, may differ significantly among sustainable forest licensees.

22   The FIM does not set out how a sustainable forest licensee will organize its data or

23   information for their own purposes. The sustainable forest licensee may organize

24   and maintain data or information in whatever form they need, as long as they

25   provide the mandatory information set out in the FIM. The sustainable forest

26   licensee may provide the MNRF with information products in addition to those set

27   out in the FIM. If the sustainable forest licensee is providing the MNRF with

28   information beyond what is required in the FIM and if the information is confidential

and public disclosure is likely to cause a harm set out in section 17 of FIPPA, the sustainable forest licensee should identify that information either in a cover letter or by noting this on the documents provided to the MNRF. The Minister will respect the intellectual property rights of sustainable forest licensees or other parties about their organization of data or information.

1.4   Procedure to Resolve Information Issues

The procedure described in this section may be applied to resolve issues between the sustainable forest licensee or other parties and the MNRF regarding requests for information or requirements for information deemed in accordance with the FIM. This procedure is specific to matters related to the FIM and the exchange of information and will not be confused with, or used as, an alternative mechanism to the issue resolution procedure set out in the FMPM, Part A, Section 2.4.

This procedure may be applied, but is not limited in application, to the following situations:

(a) requests for different or additional information created by a sustainable forest licensee that are intended to meet the mandatory information requirements set out in the FIM;

(b) requests for information from the MNRF made by sustainable forest licensees or other parties that are deemed in accordance with information set out in the FIM;

(c) requests for access to source data, records and information;

(d) requests for supporting records and information not described by information in the FIM, but that contain information about Crown forests or that are required for the purpose of forest management planning or ensuring compliance with the CFSA and its regulations; or

(e) any issue or dispute regarding the information requirements set out in the FIM.

The issue should initially be dealt with and, where possible, resolved between the initial parties involved. Most information requests will be related to carrying out the business of forest management planning at the local level. The concerned party may

1 be a representative of a sustainable forest licensee, another party, or the MNRF. The

2 concerned party will comply with the following procedure to ensure that the issue

3 has been dealt with fairly, fully, and promptly.

4 1. The concerned party will identify the issue, provide sufficient detail about
5 how the information request affects their operations, and offer a proposed
6 solution, in writing, to the sustainable forest licensee or an MNRF contact
7 (e.g., Resource Management Supervisor). The sustainable forest licensee, the
8 MNRF contact and the concerned party (i.e., when not one of these two
9 parties), will meet to discuss the issue and attempt to resolve it. The
10 sustainable forest licensee and the MNRF contact may each choose to
11 involve an information management specialist or information systems person
12 employed by their respective organizations to assist with any technical
13 discussions related to the information request or issue. If these discussions
14 do not produce a resolution, either the sustainable forest licensee, the MNRF
15 contact, or the concerned party may communicate the issue, in writing, to
16 the appropriate MNRF district manager or regional director.
17 2. The MNRF district manager or regional director arranges and attends a
18 meeting of the sustainable forest licensee, the MNRF contact and the
19 concerned party. The MNRF district manager or regional director may choose
20 to involve other specialist or positions from each respective organization to
21 assist with technical discussions.
22 3. The MNRF district manager or regional director provides a resolution to the
23 issue normally within 21 days of receipt of those submissions and provides a
24 copy of a written resolution, with reasons, to the affected parties. Written
25 submissions from all parties will be maintained on record by the parties
26 involved.
27 4. All documentation resulting from the MNRF review will be maintained as
28 reference and will be used for future reference and consideration when
29 resolving other information issues through this procedure.

30 The MNRF district manager or regional director develops appropriate rationale to

31 support a resolution or decision at each stage in the issue resolution procedure and

32 considers the following factors as appropriate:

33 (a) the relevance and importance of the information request to the purpose of
34 forest management planning or ensuring compliance with the CFSA and its

1 regulations. If the information request does not satisfy this test, then the
2 request for information is not valid;
3 (b) the sensitivity of the information requested (i.e., if released would it pose a
4 threat to the existence, integrity, and health of a value, including land uses);
5 (c) the implications and provisions of the FIPPA, in terms of protecting the
6 interests of the party providing the information and the institution (i.e.,
7 government) in control of the information;
8 (d) the copyright implications (e.g., infringements) on the creator or owner by
9 releasing the requested information. For example, copyright may restrict the
10 ability of a sustainable forest licensee to provide information when they have
11 purchased a copy of, or access rights to, satellite imagery. This factor may also
12 apply to the MNRF. Crown copyright is administered by the Queen's Printer for
13 Ontario, who will be involved in making decisions that affect copyright of
14 information owned by the Crown or information obtained by the Minister in
15 accordance with the FIM;
16 (e) the potential uses of the information requested. Where possible, discussions
17 regarding the use(s) of the information with the party requesting it should be
18 encouraged in an open and consultative fashion;
19 (f) the costs of collecting and producing the information and making the
20 information available to the party requesting it. The Ontario Government's
21 policies on managing, pricing, and distributing government intellectual
22 property may provide guidance;
23 (g) the degree of access needed to meet the information request (e.g., should the
24 information be provided in its original form, in digital or paper form, provided
25 in a lesser or more convenient form, made available for viewing, or returned to
26 the sustainable forest licensee after the ministry has had an opportunity to
27 view it);
28 (h) available records from previous cases where similar issue resolution
29 procedures have been applied to ensure consistency with previous decisions
30 made by the ministry; and
31 (i) any other factors or unique circumstances that may influence decisions
32 respecting information requests or information issues.

33 **1.5   Access to Information**

34 The CFSA and forestry manuals support an open and consultative planning process

35 that is transparent to the public. The public will normally be provided access to all

36 information set out in the FIM, unless otherwise determined by the Minister in

1   consideration of sensitive information about resource features and values, copyright

2   restrictions, proprietary restrictions, or the FIPPA.

3   Public (i.e., third party) requests for access to information about Crown forests will

4   be handled by the ministry in accordance with its policies relating to data access and

5   sharing and the direction set out in the FIM. Information that has been obtained by

6   the Minister in accordance with the FIM may include paper and digital information

7   products (e.g., maps, audits, reports, documents, tables, computer files or records,

8   digital spatial information, databases, model runs).

9   Access to information or provision of information to satisfy public requests may be

10   through open houses, appointments, internet publication and viewing or other such

11   arrangements that allow quick and efficient public access to information.

12   The Minister may determine the conditions where access to information is provided.

13   The Minister may also determine how information set out in the FIM may be used by

14   third parties. The Minister may enter into agreements or arrangements with third

15   parties and specify the conditions where third parties may use the information

16   provided to them.

17   ### *1.5.1 Information Sharing*

18   The Government of Ontario promotes an Open by Default approach to the proactive

19   release of data. It promotes data management practices which enable the proactive

20   and ongoing release of government data which includes the FIM prescribed data and

21   information in a manner that is consistent with existing legal obligations, restrictions

22   and requirements, including the ARA, the FIPPA, and the *Accessibility for Ontarians*

23   *with Disabilities Act, 2005* (AODA) or other applicable legislation.

24   To meet the requirements of the AODA, and more specifically the Integrated

25   Accessibility Standards Regulation (IASR), the MNRF will provide sustainable forest

1 licensees with guidance and direction in the preparation of the AODA compliant

2 information products.

3 As technology advances and offers practical improvements for the production of the

4 AODA compliant FIM information products, the FIM technical specifications will be

5 updated to reflect these advancements.

6 **1.6 Records Management**

7 Information provided under the FIM, irrespective of media (e.g., paper, digital files),

8 will be managed and maintained in accordance with the ARA:

9 (a) to ensure that the public records of Ontario are managed, kept and preserved
10   in a useable form for the benefit of present and future generations;
11 (b) to foster government accountability and transparency by promoting and
12   facilitating good recordkeeping by public bodies; and
13 (c) to encourage the public use of Ontario's archival records as a vital resource for
14   studying and interpreting the history of the province.

15 Every public body prepares a records schedule that sets out, for each class of public

16 records that they create or receive, the length of time the records will be retained

17 and the disposition of the records at the end of their retention period. Every public

18 body retains and transfers or otherwise disposes of their public records in

19 accordance with the public body's approved records schedule.

20 This includes the information set out in the FIM, including draft and final FMPs and

21 associated supplementary documentation, FMP extensions, mid-plan checks, FMP

22 amendments, AWSs, and annual reports. Record keeping activities for the

23 information set out in the FIM and the ARA are the responsibility of the MNRF.

24 Additional information requirements set out in specific guides, protocols or

25 directives will be managed in accordance with the ARA. Information to support

26 Independent Forest Audits (IFA) is an example where the sustainable forest licensees

27 and the MNRF have a duty to retain and provide the information requirements listed

1   in the Independent Forest Audit Process and Protocol (IFAPP), including its

2   Appendices.

3   The sustainable forest licensees will retain source information or other documents in

4   cases where the information is not set out in the FIM or provided to the MNRF.

5   Access to recorded information is to be ensured in accordance with the

6   requirements of the FIPPA.

7   **1.7   Protocol for Information**

8   The MNRF recognizes the efforts and costs of sustainable forest licensees or other

9   parties to create and maintain certain information set out in the FIM. In

10   acknowledgement of these efforts, this section discusses:

11   (a) recognition of sustainable forest licensees in creating information set out in
12   the FIM;
13   (b) disclosure of information use to sustainable forest licensees regarding third
14   party use and users of information;
15   (c) the original source of information set out in the FIM;
16   (d) data sharing and data exchange agreements;
17   (e) information set out in other regulated manuals; and
18   (f) information partnering and innovation.

19   *1.7.1   Recognition for Creating Information*

20   Sustainable forest licensees may provide a logo that gives credit and recognition of

21   their company, on any information submitted to the Minister. The logo may include

22   a symbol and a name relevant to the sustainable forest licensee who provided the

23   information. The MNRF may also apply its logo, and the government copyright label,

24   to the information or information product.

25   The logo provided by a sustainable forest licensee will not, in any way, affect how

26   the Minister may use the information obtained in accordance with the FIM.

27   *1.7.2   Disclosure of Information Use*

1 The Minister of Natural Resources and Forestry determines how information

2 obtained in accordance with the FIM may be used. The FIM does not restrict the

3 Minister's use of information obtained in accordance with the CFSA and its

4 regulations. Sustainable forest licensees or other parties are not restricted as to how

5 they use information that they create and provide to the Minister in accordance

6 with the FIM, except as set out in FIM, Part A, Section 1.2.

7 The Minister is not required to disclose the use of information obtained in

8 accordance with the FIM. Sustainable forest licensees are not required to disclose

9 their use of information that they create and provide to the Minister in accordance

10 with the FIM.

11 The MNRF complies with the FIPPA regarding the disclosure of information obtained

12 by the Minister in accordance with the FIM, and the disclosure of related

13 information pertaining to the use or users of that information.

14 *1.7.3 Original Source of Information*

15 Information set out in the FIM is submitted to the MNRF via the information

16 management system (see Part A, Section 2.2). The information submitted and

17 residing in the information management system is considered to be the

18 authoritative source of the FIM required information.

19 *1.7.4 Data Sharing and Data Exchange Agreements*

20 Existing data sharing or exchange agreements or memoranda of understanding or

21 any parts of agreements that address an exchange or provision of the information

22 set out in the FIM will not supersede the requirements and standards for

23 information set out in the FIM.

24 The FIM has no effect on information sharing and exchange arrangements or

25 agreements that deal with information not in respect of Crown forests or outside

26 the purpose of forest management planning or ensuring compliance with the CFSA

27 and its regulations.

1 *1.7.5   Information Set Out in Other Regulated Manuals*

2 The information requirements of the other manuals mandated by the CFSA (i.e., the

3 Forest Management Planning Manual, the Forest Operations and Silviculture

4 Manual, and the Scaling Manual) are considered to be information set out in the

5 FIM. As such, the requirements to provide the information identified in the other

6 CFSA manuals will be administered in accordance with the FIM. Instances of non-

7 compliance in providing information set out in the FIM, or information requirements

8 of the other CFSA manuals, are subject to, and will be dealt with according to, Part

9 VII of the CFSA.

10 *1.7.6   Information Partnering and Innovation*

11 Information management is a costly and necessary investment. One of the principles

12 applied in the development and implementation of the FIM is to allow, promote,

13 and foster innovation with respect to the information needed to meet the purpose

14 of the CFSA and its regulations. Sustainable forest licensees, the MNRF, or other

15 parties, as identified in the FIM, will prepare and provide the information set out in

16 the FIM. Sustainable forest licensees, the MNRF, and other parties are free to

17 establish cooperative arrangements and partnerships to enhance the collection,

18 creation, quality, use, or provision of information for forest management planning or

19 to ensure compliance with the CFSA and its regulations.

2.0   Meeting Information Requirements

2.1   Responsible Parties

Information requirements in the FIM support the preparation, approval,

implementation, monitoring, and reporting of FMPs and forest operations.

Information products set out in the FIM are provided predominantly by:

- Sustainable forest licensees; and
- MNRF.

The definitions given in this section provide the scope and range for all parties

involved in providing the FIM requirements. The differences among the responsible

parties are, in some cases, very subtle. To simplify the FIM, responsible parties are

categorised into two distinct types: the sustainable forest licensee and the MNRF.

Sustainable Forest Licence (SFL) holders or other licence holders (e.g., forest

resource licence, enhanced forest resource licence) with forest management

responsibilities will be generalized as the sustainable forest licensee. For the

purpose of the FIM, the sustainable forest licensee is referenced as the party

responsible for preparing and implementing FMPs.

2.1.1   Sustainable Forest Licensees

Sustainable forest licensees will prepare FMPs on areas of Crown forest falling within

their respective SFL. On management units that are not managed under an SFL, the

Crown or another designated party prepares and implements a FMP. Where the

requirements of the FIM refer to the sustainable forest licensee, those requirements

apply to the MNRF or the party responsible for the preparation and implementation

of a FMP.

Sustainable forest licensees also schedule and conduct forest management

operations in accordance with an approved FMP, and report on those operations. As

such, sustainable forest licensees will provide the information set out in the FIM.

Where the requirements for information identify sustainable forest licensees as the

1   responsible party, those requirements apply to the holder of a licence issued under

2   section 26 of the CFSA.

3   Sustainable forest licensees will secure information set out in the FIM from

4   overlapping licence holders who are issued forest resource licences in accordance

5   with section 38 of the CFSA. Sustainable forest licensees are expected to enter into

6   an agreement with overlapping licence holders regarding the provision of

7   information set out in the FIM in accordance with section 8 of CFSA Regulation

8   167/95.

9   *2.1.2 Ministry of Natural Resources and Forestry*

10   The MNRF provides information, such as base information, values information or

11   forest resources inventory information, to SFL holders. Where the requirements for

12   information identify the MNRF as the responsible party, those requirements may

13   apply to the MNRF in general or may apply specifically to an MNRF division, branch

14   or section.

15   **2.2   Information Management System**

16   Information set out in the FIM will be exchanged and made accessible via an

17   information management system. The FIM recognizes the Natural Resources

18   Information Portal (NRIP) as the means to transfer and store the FIM data between

19   the MNRF, and sustainable forest licensees. The information management system

20   will also be used as one of the means to provide information access to other

21   stakeholders, the public, and First Nation and Métis communities.

22   The information management system is continually reviewed, updated and

23   evaluated. Additional functionality is added to increase efficiency, enhance ease of

24   use and to meet emerging business needs. The current information management

25   systems referred to as the Forest Information Portal (FI Portal) and Electronic Forest

26   Management Planning (eFMP) Website are approaching end of life. There may be a

27   transition period where both information management systems will be used for data

1   sharing and exchange among the MNRF, the forest industry, other stakeholders, the

2   public, and First Nation and Métis communities until such time that the FI Portal and

3   eFMP have been decommissioned.

4   The information management system is the repository for approved copies of the

5   FMP, the annual work schedule (AWS) submissions, and for annual report

6   submissions for the management unit. The information management system is also

7   the repository for FMP extensions, mid-plan checks, amendments, revisions,

8   changes or appended documents. The approved versions of the documents

9   referenced above and any of the submissions referenced above are made available

10   to the public, other stakeholders, and First Nation and Métis communities through

11   the Ontario Government Website information management system and are retained

12   per the ARA.

13   In developing FMPs, FMP extensions, mid-plan checks, or work schedules, and in

14   making amendments or revisions, it is necessary for sustainable forest licensees and

15   the MNRF to exchange information, review proposals and share data. The

16   information management system can be used for this type of exchange in advance

17   of the submission of the final FMP, schedule, amendment or revision. Without

18   exception, the approved or submitted information products (e.g., FMP, schedule,

19   FMP extension, mid-plan check, amendment or revision) will be exchanged using the

20   information management system as directed by the MNRF. The MNRF completes

21   the approval of the submission and publication on the information management

22   system.

23   The required forest management planning information products developed as

24   described in the FIM technical specifications, will be submitted through the

25   information management system which facilitates consultation with the public,

26   other stakeholders, and First Nation and Métis communities.

1   Use of the information management system will assist in meeting obligations of

2   complying with records management requirements of the ARA for information set

3   out in the FIM. The information management system is a repository for current

4   versions of the FIM, the FIM technical specifications, the FIM and the information

5   management system related training materials, and other forest planning and

6   information management direction.

7   The information management system is managed and maintained by the MNRF and

8   support is offered through the MNRF. The information management system is

9   generally available 24 hours a day, seven days a week. Users include the MNRF staff,

10   sustainable forest licensee personnel, Independent Forest Auditors, forest

11   consultants, other stakeholders, the public, and First Nation and Métis communities.

12   The information management system has functionality to ensure the efficient

13   management and transfer of information.

14   Only in exceptional cases or circumstances where internet line speeds, reliability of

15   power supply, or other limitations could affect efficient and economical transfer of

16   data, parties may mutually agree to provide the information on alternate media or

17   methods. If sensitive or classified data are included in these transfers, encrypted

18   devices will be used. In these instances, it is still mandatory for responsible parties to

19   enter a submission record into the information management system indicating that

20   provision of the information is by alternate media for information products set out

21   in the FIM. The MNRF subsequently will receive the data and acting on behalf of the

22   responsible party will load this data to the information management system and this

23   information will be validated.

24   **2.3   Roles and Responsibilities**

25   The roles and responsibilities of sustainable forest licensees and the MNRF are set

26   out in the FIM for each information product. The roles and responsibilities for

27   providing information may be further defined in the FIM technical specifications.

1   Sustainable forest licensees and the MNRF have separate and distinct

2   responsibilities in meeting information product requirements (e.g., MNRF prepares

3   values maps; licensees prepare the planning inventory), or they share

4   responsibilities for some information requirements (e.g., annual report tables). The

5   FIM sets out the information that the sustainable forest licensees or the MNRF will

6   provide and the minimum standards that will be met.

7   In some circumstances the terms of reference and/or project plan associated with

8   the preparation of a FMP may provide direction on roles and responsibilities. The

9   roles and responsibilities may be adapted to best meet the circumstances of the

10   management unit and maintain the established relationships between the

11   sustainable forest licensee and the MNRF.

12   **2.4   Timelines and Conditions**

13   Many of the timelines for providing information are set out in the FMPM (e.g.,

14   management unit annual reports are due November 15 each year). In cases where

15   only an implicit timeline is provided in the FMPM (e.g., sustainable forest licensee

16   will inform the MNRF of the discovery of a new value), the FIM or the associated FIM

17   technical specifications will set out the timeline associated with the information

18   product.

19   Timeline references for providing the FIM information are for general reference and

20   direction, and sustainable forest licensees should use best efforts to meet the

21   timelines set out in the FIM.

22   In some circumstances, timelines may be from the terms of reference and/or project

23   plan associated with the preparation of a FMP.

3.0 Forest Management Mapping

The FIM sets out that the sustainable forest licensee and the MNRF will portray mapped information to assist public understanding of forest management planning. This information will be standardized in accordance with the FIM Technical Specifications. FMPs and the associated mapped information have an audience beyond local stakeholders. Standardization of mapped information is crucial in supporting the forest management planning process (e.g., consultation).

3.1 Requirements and Standards

Mapped information is updated and enhanced to reflect the input received and decisions made throughout the forest management planning process. This updated information will be submitted or made available to support public consultation or other forest management planning processes.

Mapping requirements will be continually examined for efficiency. Where possible, emphasis on meeting the information requirement, public consultation or business requirement will be through the use of submitted digital spatial data.

The mapping products can be grouped into the following categories:

- Strategic and Operational Planning;
- Annual Operations;
- Management Unit Annual Reporting; and
- Other Mapped Information Used for Forest Management Planning Purposes.

Not all the mapped information that may be used during the preparation or implementation of FMPs is detailed in the FIM technical specifications. Other mapped information may also be set out by guides and other manuals relevant to the preparation and implementation of the FMP.

1   This section together with the FIM technical specifications will set out the format

2   and content of mapping products, including mandatory information and mapping

3   requirements, that are required by the FIM.

4   **3.2   Roles and Responsibilities**

5   The MNRF and sustainable forest licensees share responsibility for preparing

6   mapping products to support forest management planning. The sustainable forest

7   licensee will provide the information required to prepare mapped products. The

8   MNRF will provide all mapped values information products. The sustainable forest

9   licensee and the MNRF will prepare and provide mapped information to support

10   public consultation.

11   The FMPM indicates that values information will be continually updated as

12   information is assembled during the production and implementation of the FMP. At

13   each specific public consultation stage of the planning process, where significant

14   changes to the values information data has occurred, updated mapped values

15   information will be available to the public, First Nations and Métis communities.

16   *3.2.1   Sensitive and Confidential Map Information*

17   In most cases, the requirements for the mapping products and related information

18   set out in Part A, Section 3.1 are part of the open public consultation process for

19   forest management planning on Crown lands. However, some mapping products and

20   related information may contain sensitive or confidential information that, if made

21   available, could threaten the existence, integrity, or health of natural resources or

22   uses (e.g., values), or may expose confidential or personal information. The MNRF

23   may make decisions regarding the portrayal of sensitive or confidential information

24   in accordance with Part B, Section 3.1.4 and 3.1.5.

25   **3.3   Timelines and Conditions**

26   Forest management planning mapped information will be submitted as described by

27   the FMPM and the FIM technical specifications. The timelines for provision of forest

1   management plan mapped information are directly related to the information that

2   will be available for public consultation processes set out in the FMPM.

1 ## 4.0   Forest Management Documentation

2 To improve the efficiency in production, dissemination and storage of forest

3 management documentation, the FIM provides for the submission of these

4 documents in an accessible digital format.

5 The sustainable forest licensee will meet public consultation requirements of the

6 forest management planning process by providing information in an accessible

7 digital format. The MNRF makes forest management documentation (e.g., text, table

8 and mapped information) available on the information management system as an

9 efficient means of carrying out public consultation.

10 ### 4.1   Requirements and Standards

11 All forest management documentation (e.g., FMPs, FMP extensions, mid-plan

12 checks, amendments, AWSs, revisions, annual reports and changes to values

13 documentation) will be submitted in an accessible digital format.

14 The exchange format for the forest management documentation will be a common

15 and widely used format that will aid in web publishing of these documents in an

16 accessible format and permit an efficient exchange. The detailed technical standards

17 are given in the FIM Forest Management Planning Technical Specifications, the FIM

18 Annual Work Schedule Technical Specifications and the FIM Annual Report Technical

19 Specifications. These standards/specifications include naming conventions for the

20 series of files that will be necessary to complete a submission.

21 The title, certification and approval pages are required by the FMPM. The FIM

22 technical specifications prescribes the format for the title certification and approval

23 pages, and the process of meeting these requirements when submitting electronic

24 documentation.

25 Preliminary versions of forest management plan documentation required for public

26 consultation opportunities, as described by the FMPM, may or may not be

27 exchanged in a digital format.

1 The sustainable forest licensees and the MNRF will exchange components of this

2 public consultation documentation in advance of the actual FMPM timelines to

3 permit paper copy production where required, or to permit incorporation into other

4 documents.

5 **4.2 Roles and Responsibilities**

6 Submission of the forest management documentation is the responsibility of the

7 sustainable forest licensee. The MNRF arranges the dissemination of, and access to,

8 forest management plan documentation submitted via the information

9 management system. The MNRF carries the added responsibility of managing the

10 forest management documentation and information to ensure that the proper,

11 official copies are accessible on the Ontario Government website information

12 management system for the appropriate timeframes.

13 The sustainable forest licensees and the MNRF may provide other public

14 consultation documentation available to the public, First Nations and Métis

15 communities. Note that this additional or extra public consultation documentation is

16 not to be submitted with the draft or final FMP.

17 **4.3 Timelines and Conditions**

18 Forest management documentation will be submitted as described by the FMPM

19 and the FIM technical specifications. The timelines for provision of forest

20 management documentation is directly related to the information that will be

21 available for public consultation processes set out in the FMPM.

22 The MNRF produces components and provides them to the sustainable forest

23 licensee in advance of the scheduled submission date for the information in order

24 for the components to be incorporated into the submission.

Part B Information for Strategic and Operational Planning

1.0   Introduction

Part B of the Forest Information Manual (FIM) sets out information requirements for preparing FMPs on Crown lands in Ontario to support:

- development of the long-term management direction (LTMD); and
- planning of forest operations for the 10-year period of a FMP.

The information requirements include:

(a) Base information;
(b) Values information;
(c) Forest Resources Inventory (FRI) information;
(d) Forest management planning inventory information; and
(e) Operational planning information.

Section 2.0 details the requirements for the provision of base information used to support the development of FMPs, forest resources inventories and other spatial information relevant to forest management planning.

Section 3.0 details the requirements to collect, confirm, verify, provide, update, and maintain values information.

Section 4.0 details the requirements for forest resources inventory information provided by the MNRF in support of FMP development.

Section 5.0 details the requirements for planning, base model and operational inventories; information products provided by sustainable forest licensees and used as the basis for strategic and operational planning of forest management activities.

Section 6.0 details the requirements for operational planning information, including a series of geospatial data layers used in FMP development, review and approval.

The information in Part B is required periodically at specific stages throughout the forest management planning process and during FMP implementation, monitoring

1   and assessment. The terms of reference and/or project plan of a FMP will identify

2   the duties and responsibilities of specific planning team members to produce

3   strategic and operational planning information in accordance with the FMPM and

4   the FIM.

1 **2.0   Base Information**

2 Base features represent the geographic locations and descriptions of topographic,

3 cultural, and cadastral entities of Ontario's landbase. Base features can be natural,

4 physical features, such as lakes, rivers, and wetlands, or they can be features of

5 human influence such as hydro lines, gas pipelines, provincial highways, roads, and

6 railways. Base features may also include other physical and administrative

7 boundaries such as forest management units, parks and protected areas, and

8 ownership parcels that identify areas designated for legal, political, tax base,

9 population base, land-use zoning, or management decision purposes.

10 Base information provides a consistent geographic foundation for:

11 • relating information such as forest resources inventories, wildlife habitat,
12   ecological land classification, values, and other biological information;
13 • creation and maintenance of forest resources inventories;
14 • planning of operations such as road location, harvest layout and renewal
15   activities;
16 • context and reference on maps and other information; and for area of concern
17   planning; and
18 • various analytical modelling processes, such as viewshed analysis, water
19   movement and flow analysis, road location and transportation network
20   analysis, watershed analysis, landscape diversity analysis, harvest scheduling,
21   and other spatial analyses that require relational analysis of geographic
22   information.

23 Some base information, such as lakes, rivers, or parks and protected areas may also

24 be treated as values information, in accordance with Part B, Section 3.0, for the

25 purposes of forest management planning.

26 Requirements for base information are set out in the following sections. The

27 detailed description, information standards, formats and other exchange

28 parameters and procedures are provided in the FIM Base and Values Technical

29 Specifications.

1 **2.1   Requirements and Standards**

2 The provision and sharing of base information is integral to the preparation of a FMP

3 and the conducting of forest operations. The FMPM sets out the need for base

4 information for the preparation of information products, defining areas of concern,

5 providing databases, conducting analyses and preparing the FMPs.

6 The MNRF provides licensees with base information in digital form for the purpose

7 of forest management planning. Base information will be provided to sustainable

8 forest licensees in a digital format, and in the agreed-to exchange format, set out in

9 the FIM Base and Values Technical Specifications. Licensees may request base

10 information at any time. The MNRF provides the requested information in

11 accordance with the timelines and conditions set out in Part B, Section 2.3. Classified

12 base information is only provided as per Part A, Section 1.3.1.

13 In accordance with the FIM, licensees will update and provide changes to base

14 information as encountered in planning or conducting operations (e.g., newly

15 constructed roads, submitted with management unit annual reports as an update to

16 base information).

17 Base information, from Land Information Ontario (LIO), is used in forest

18 management planning and provided to licensees by the MNRF. LIO data is obtained

19 from a variety of sources. Base information stored in LIO is maintained in the

20 MNRF's values information system. Base information is also provided to LIO by other

21 government agencies, non-government organizations and the private sector each of

22 whom use a variety of geographic information systems and tools. Data in LIO is

23 managed in several geographic (i.e., thematic) layers or data classes.

24 The MNRF determines, in consultation with sustainable forest licensees, the data

25 classes and the attributes needed to support forest management planning and

26 compliance with the CFSA. The MNRF also consults sustainable forest licensees on

1   suitable data exchange formats for base information. Detailed standards for base

2   information are set out in the FIM Base and Values Technical Specifications.

3   Base information may be provided in the form of a complete layer for the

4   management unit. Also, it may be provided as a complete set of information (i.e., all

5   layers) or as individual layers.

6   **2.2   Roles and Responsibilities**

7   The MNRF maintains and updates base information used in forest management

8   planning in the MNRF's values information system and LIO. The MNRF also provides

9   the best available information to sustainable forest licensees.

10   The sustainable forest licensee will provide updates to base information through the

11   submission of information products set out in the FIM.

12   Planning teams will determine and utilize the most current base information.

13   **2.3   Timelines and Conditions**

14   The MNRF provides sustainable forest licensees with base information to support

15   FMP development and AWS preparation. The MNRF provides sustainable forest

16   licensees with base information on an annual basis and on request in accordance

17   with the FIM Base and Values Technical Specifications. If the MNRF cannot meet the

18   timelines set out in the FIM Base and Values Technical Specifications, the MNRF will

19   advise the sustainable forest licensee.

20   The FIM Base and Values Technical Specifications will be revised and published

21   periodically to reflect updates to the numerous digital geospatial layers that contain

22   base information, and to incorporate additional layers/features when necessary.

23   If a sustainable forest licensee requests the MNRF to provide base information in

24   another form or format than set out in the FIM technical specifications, the MNRF

25   will use best efforts to accommodate the request.

3.0   Values Information

A value is a natural, cultural, First Nation or Métis attribute or use of land, including all lakes and streams, which must be considered in forest management planning.

No listing of values can be definitive. For the purposes of forest management planning, it can be any feature, entity or forest condition that could be impacted by forest operations. Base features can also be considered values (e.g., lakes). Values considered in forest management planning varies by forest management unit, landscape features, and stakeholders involved.

Examples of values include cross-country ski trails, spawning areas, moose calving sites, raptor nests, seed orchards, tourism outpost camps, registered trapline areas, canoe routes, archaeological sites, and evaluated wetlands.

The consideration or identification of values does not equate to values protection or prohibition of operations. FMPs provide operational prescriptions and conditions to protect identified values. These prescriptions and conditions may include: reserves (i.e., prohibition of operations), modified operations (i.e., specific conditions or restrictions on operations) or regular operations (i.e., in accordance with silvicultural ground rules).

Values information can be provided by any person or party at any time. The public consultation process set out in the FMPM, Part A, supports the collection and provision of information about values at any time during the development and implementation of a FMP.

Information about values normally comes from the MNRF or other government staff; sustainable forest licensees and their operators; non-government organizations; third parties; other resource users; and the public.

The quality of values information is related to the method used to identify and collect the information. The number of identified and confirmed values is expected

1   to increase, and the quality of information about those values is expected to

2   improve with each successive FMP.

3   The FIM Forest Management Planning Technical Specifications lists the variety of

4   values to appear on values maps in support of forest management planning.

5   The FIM does not categorize or explicitly define groupings or types of values. For the

6   purposes of the FIM, values information requirements apply to all known values.

7   ## 3.1   Requirements and Standards

8   Values information is an important input to forest management planning and

9   operations. The FMPM sets out the purpose of values information in the

10   development of FMPs.

11   The FIM Forest Management Planning Technical Specifications lists the variety of

12   values to be portrayed in support of forest management planning. The FIM does not

13   categorize or define groupings or types of values. For the purposes of the FIM,

14   values information requirements apply to all known values.

15   A value is considered to be a known value when sufficient information to describe its

16   geographic location and its basic features exist. Known values will be considered in

17   forest management planning. The MNRF determines if a value can be treated as a

18   known value based on the available information and in consideration of the

19   standards set out in FIM Base and Values Technical Specifications.

20   ### 3.1.1   Requirements for MNRF

21   The MNRF collects information about values in accordance with the standards set

22   out in the FIM and the FIM Base and Values Technical Specifications. Further, the

23   MNRF gives priority to those values that are potentially affected by proposed and

24   optional areas of forest operations for the FMP under preparation.

25   The MNRF provides the best available values information to planning teams for

26   forest management planning purposes and made available throughout the planning

1 process. The maps and information will include the values within the forest

2 management unit for the FMP that is being written, and values that are adjacent to

3 the forest management unit that may be affected by forest operations.

4 Values that are considered in forest management planning are supported by further

5 information gathered or created from field visits, inventories, surveys, tests, or

6 studies.

7 The MNRF enters and updates values information received from sustainable forest

8 licensees and other sources into the MNRF's values information database (i.e., using

9 LIO Editor) housed in a corporate data repository or information management

10 system (i.e., Land Information Ontario Data Warehouse, GeoHub).

11 The MNRF may enter into data collection arrangements with sustainable forest

12 licensees or third parties for the purpose of obtaining values information or for

13 confirming existing values information.

14 ### 3.1.2   Requirements for Sustainable Forest Licensees

15 Sustainable forest licensees will identify information for new values and corrections

16 to information about known values that are encountered during the implementation

17 of forest management operations and provide this information to the MNRF for

18 values database updating and for consideration in future planning initiatives and

19 operational activities. Sustainable forest licensees are to provide this information to

20 MNRF within the timelines and conditions set out in Part B, Section 3.3, and in detail

21 in FIM Base and Values Technical Specifications.

22 ### 3.1.3   Requirements for Planning Teams

23 Planning teams will determine and use the most current values information and

24 determine and use updates to values information set out in Part B, Section 3.2 and

25 Section 3.3.

3.1.4   Requirements Respecting Classified Values Information

In some cases, information about certain values such as the location and description of First Nation and Métis values, cultural heritage sites, or habitats of species at risk may be considered as classified data. Refer to Part A, Section 1.3.1 for a description of classified data. In these cases, releasing or portraying this data on maps may pose a threat to the existence, integrity, or health of those values. Classified values will not be made available or accessible to the public.

Where the availability of information could be considered as potentially detrimental to the existence of a value, the MNRF determines whether or how the value can be depicted on a values map, and the type and extent of the information that can be provided to members of the planning team and to members of the Local Citizens' Committee (LCC).

Where direction on the display of specific classified values in forest management planning is not provided in a related guide (e.g., the Forest Management Guide for Cultural Heritage Values), general direction has been provided in the FIM Base and Values Technical Specifications and the FIM Forest Management Planning Technical Specifications.

Information protocols or agreements that describe conditions respecting the use or users of classified values information, or restrict the availability of classified values information, may be established with other agencies or with the MNRF's Natural Heritage Information Centre (NHIC), and First Nation or Métis communities. The planning team will ensure that sensitive information about values is protected and used in accordance with any protocols or agreements established between the MNRF and other agencies.

For the purpose of preparing a FMP, the district manager appoints the members on the planning team and establishes a LCC, as described in the FMPM. The appointed members of the planning team and the LCC are considered to be agents of the

1 Crown for the purpose of fulfilling their duties in relation to preparing and

2 implementing a FMP. Consequently, they are bound by the MNRF's obligations

3 under the FIPPA. Members of the planning team and the LCC are also bound by any

4 protocols or agreements that the MNRF establishes with other agencies that

5 describe the conditions that the MNRF agrees to use and protect sensitive

6 information about values.

7 In the forest management planning process, planning for the protection of values

8 normally requires the MNRF and sustainable forest licensee involvement. Therefore,

9 the planning team or specific members of the planning team require access to

10 information, including classified values information, to ensure that roads and areas

11 of concern planning occurs in accordance with the FMPM.

12 If the MNRF determines that information about a value cannot be provided to

13 sustainable forest licensees or members of the planning team, the MNRF may

14 instead provide the boundary of the area to be protected and/or any restrictions to

15 forest operations. In these cases, the planning team will protect the provided area

16 through appropriate areas of concern prescriptions and/or conditions.

17 ### 3.1.5   Requirements Respecting Personal Information

18 Personal information is defined in Section 2 of FIPPA. The MNRF maintains personal

19 information related to values information, such as a person's name, address, phone

20 numbers, and other personal data associated with land use permits, trapline areas,

21 and other licensed or recognized natural resource uses. Personal information is

22 considered to be sensitive and will not be displayed on values maps. To do so

23 without the individual's consent would be a violation of FIPPA and considered a

24 privacy breach.

25 The MNRF collects, uses, discloses and retains personal information in compliance

26 with the FIPPA. Where the MNRF has collected personal information (name and

27 contact information) from an individual for a purpose unrelated to forest

management planning, the MNRF will obtain and retain the individual's documented consent to use their personal information to notify them of forest management planning activities. The MNRF determines whether this personal information relating to values can be made available to sustainable forest licensees, planning team members, or members of the LCC. The MNRF complies with the FIPPA in terms of the treatment and use of personal information related to values information used in forest management planning.

For the purpose of fulfilling their obligations in forest management planning, sustainable forest licensees, planning team members, steering committee, and members of the LCC, as agents of the Crown, must also comply with FIPPA in the collection, treatment and use, disclosure, retention and destruction of personal information. This includes, but is not limited to:

- Collecting only personal information that the MNRF has authorized its agents to collect, directly from the individual it belongs to, and providing a notice of collection (as specified by the MNRF) to that individual;
- Using the personal information only in accordance with Section 41 of FIPPA;
- Disclosing personal information only after ensuring the disclosure is in compliance with Section 42 of FIPPA and confirming they have the MNRF's approval to do so;
- Retaining personal information securely, ensuring it is only accessible (both physically and electronically) to those individual staff/group of staff that require access to the personal information for the purpose of forest management planning activities;
- Destroying personal information in a secure manner (according to the records series) to ensure the personal information can't be recreated or reconstructed. For example, hard copy records must be disposed of in secure shredding bins or shredded by an onsite cross-cut shredder. Agents must not place documents containing personal or confidential information in recycling bins. They must keep documents awaiting shredding secure at all times; and
- Reporting a privacy breach, suspected privacy breach or privacy complaint involving the personal information to the MNRF according to the MNRF's Privacy Breach Response Protocol.

Examples of FMP related privacy breaches have included the unintentional:

- Inclusion of personal information in a published Forest Management Plan;
- Insertion of personal e-mail addresses in the "To" field instead of the "Bcc" field of an outgoing e-mail to stakeholders; and
- Inclusion of personal information in meeting minutes that were made public.

3.1.6   Standards for Values Information

The MNRF in consultation with the sustainable forest licensees determines the types of values and the attributes that support forest management planning and compliance with the CFSA. Only a subset of the MNRF's natural resources and values information are used in forest management planning. Many of the attributes maintained in the MNRF's information system relate to the collection, storage, and management of the natural resources and values database and are not used in forest management planning.

The MNRF also consults sustainable forest licensees on suitable data exchange formats (e.g., shapefile, file geodatabase) for values information. Detailed standards for values information are set out in the FIM Base and Values Technical Specifications.

The standards identify the minimum information required to treat a value as a known value. This information consists of two parts: a geographic location and a basic description of each feature. Information that meets these standards is considered to be conclusive information required to confirm the presence and characteristics of a value. Information that meets these standards ensure that planning teams have sufficient background information to plan road locations and prepare area of concern prescriptions to protect the existence, integrity, and health of the value. Only known values will be depicted on values maps and considered in forest management planning.

The MNRF determines whether the available information satisfies the minimum standards and is sufficient to treat a value as a known value. The MNRF considers

1   recommendations by the planning team when making decisions about values or

2   when applying the precautionary principle, set out in Part B, Section 3.4.

3   The standards for the geographic location of values are given in the FIM Base and

4   Values Technical Specifications. In meeting the minimum requirements to declare a

5   value as known, the geographic location provided by the MNRF, the sustainable

6   forest licensee or third party should locate the value in relation to existing base

7   features or values (e.g., roads, stream-lake intersections, islands or points, township

8   boundaries, portage trails). Location descriptions could be geographic coordinates, a

9   reference to an attached photo or map, or reference to an accompanying digital

10   spatial data product.

11   The descriptive features of a value will provide sufficient detail for planning teams to

12   determine the appropriate area of concern prescriptions and conditions to protect

13   the existence, integrity, and health of a value. The descriptive features of a value will

14   consist of the following information:

15   (a) method, survey type, locational accuracy, or source of information that was
16   used to identify and describe the value;
17   (b) position title or stakeholder type of person(s) who discovered, collected, and
18   provided information about the value;
19   (c) date the values information was collected; and
20   (d) identification of the type of value, specific enough to help with the protection
21   of the value should it be impacted by forest operations.

22   Meeting these minimum requirements in declaring a value as a known value serves

23   to identify the presence of a value and to afford it protection if necessary. The MNRF

24   may complete additional field inspections or data collection to confirm the value and

25   to make a complete entry into the values information database (e.g., LIO).

26   **3.2   Roles and Responsibilities**

27   This section identifies the roles and responsibilities of the sustainable forest

28   licensees and the MNRF associated with providing, receiving, and using values

1   information. The terms *identify* and *confirm* distinguish the roles and responsibilities

2   of the sustainable forest licensees and the MNRF for collecting and using values

3   information in forest management planning.

4   The term *identify* is used to describe the roles and responsibilities of the provider of

5   values information. The term *confirm* is used to describe the roles and

6   responsibilities of the MNRF with respect to acceptance and use of the information.

7   Identification precedes confirmation.

8   The provider collects values information and will identify that the information

9   collected and provided is accurate and meets the standards set out in Part B, Section

10   3.1. The provider could be the sustainable forest licensee, the MNRF, or a third

11   party. Sustainable forest licensees often, during the course of operations, identify

12   the presence of values and provide information about those values. Sustainable

13   forest licensees will provide information about new values and corrections to

14   information about known values to the MNRF when these values are encountered

15   during the implementation of forest management operations. This information will

16   be provided in accordance with Part B, Sections 3.1 and 3.3.

17   The MNRF confirms that the information received is accurate, meets the standards

18   set out in Part B, Section 3.1, and is sufficient to be used to plan road locations and

19   to develop area of concern prescriptions and conditions. That is, the MNRF

20   determines whether a value can be treated as a known value based on assessing the

21   available information against the standards set out in Part B, Section 3.1.

22   The MNRF identifies the presence of values and collects and provides information

23   about those values. Identification of values information can occur at various times

24   throughout FMP preparation or implementation set out by the timelines in Part B,

25   Section 3.3. The MNRF enters and maintains values information in MNRF's values

26   information database (e.g., updating through the Land Information Ontario Editor),

1 and provides updates of this information to sustainable forest licensees and

2 planning teams in accordance with Part B, Section 3.0.

3 **3.3 Timelines and Conditions**

4 There are two categories of timelines for providing values information. The first

5 category of is associated with the FMP development and implementation; a

6 continual update of values information data holdings. This timeline is set out in Part

7 B, Section 3.3.1. The second category of timelines is associated with values

8 encountered during active forest operations, in accordance with Part B, Section

9 3.3.2. The activity of value identification and confirmation is more stringent in the

10 second category. Also, when prioritizing effort and allocation of resources, a higher

11 priority will go to the collection of values information associated with the second

12 category of timelines.

13 The timing of forest management operations that may adversely impact values

14 determines when information about those values will be exchanged between the

15 sustainable forest licensees and the MNRF. The timelines provided in the following

16 sections should be viewed in conjunction with the specific timelines and details

17 provided in the FIM Base and Values Technical Specifications.

18 Other guides, local agreements or protocols may also provide direction on the

19 timing of values information sharing and exchange related to specific values or local

20 situations.

21 ***3.3.1 Plan Development and Implementation – Values Provision Timeline***

22 Values information is assembled as background information during the preparation

23 of a FMP in accordance with the FMPM.

24 New information on values often becomes available during the FMP

25 implementation. Where this new information identifies that values may be impacted

26 by active operations, the MNRF provides this information as set out in Section 3.3.2.

27 Otherwise, the MNRF provides this new information through annual values

1 information updates in order for sustainable forest licensees to incorporate changes

2 into amendments or the next AWS.

3 Sustainable forest licensees will provide information about new values and

4 corrections to information about known values as per the FIM Base and Values

5 Technical Specifications.

6 ### *3.3.2   Active Operations – Values Provision Timeline*

7 Active operations are defined as forest management operations identified in an

8 AWS. As per the FMPM, updated information on the location and description of

9 values that were previously unidentified (i.e., new values), incorrectly located,

10 incorrectly described, or that no longer exist, will be exchanged between the

11 sustainable forest licensee and the MNRF.

12 The timelines associated with values information exchange, where active operations

13 are involved, is provided in the FIM Base and Values Technical Specifications. The

14 responsibilities and procedures associated with values information sharing and

15 exchange are set out below for the two situations with defined timelines provided in

16 the FIM technical specifications.

17 **A) Sustainable forest licensee** reports a new value, corrects location or

18 description of previously identified value, or confirms a value no longer exists

19 Where the sustainable forest licensee identifies that new information about

20 a value (e.g., new value, changed value, non-existent value) will result in the

21 addition or change to an area of concern prescription or condition, they will

22 provide the MNRF with the necessary documentation of the change.

23 The MNRF updates the values database to reflect this change and notifies the

24 sustainable forest licensee when it has occurred.

25 The MNRF confirmation of the value no longer existing is required in

26 instances of values associated with species at risk and where a third party is

1   associated with the value and/or area of concern (e.g., cultural heritage, First

2   Nation, Métis, tourism value).

3   **B) The MNRF** identifies a new value, corrects location or description of

4   previously identified value, or confirms a value no longer exists

5   When the MNRF identifies and confirms the location and description of

6   values previously unidentified (i.e., unmapped) or incorrectly located,

7   incorrectly described, or that no longer exist, they notify the licensee.

8   The MNRF notification provides enough detail to allow the sustainable forest

9   licensee to assess when operations may be impacted. Subsequently, the

10   sustainable forest licensee notifies the MNRF of the results of their

11   assessment (e.g., timing of the operations and potential impacts). The MNRF

12   collects and provides additional information and updates the values database

13   in a timeline reflective of the sustainable forest licensee notification.

14   The above procedures, and timelines as per the FIM Base and Values Technical

15   Specifications, are valid where area of concern planning requirements described in

16   the FMPM have been met. In instances where a FMP amendment or a revision to an

17   AWS is required; the above timelines will be adjusted as per the timelines associated

18   with the amendment or revision.

19   Sustainable forest licensees will provide the MNRF with information about values,

20   set out in the FIM Base and Values Technical Specifications, and the MNRF provides

21   sustainable forest licensees with information about values for the purpose of forest

22   management planning.

23   If the provision of information or the location of classified values could threaten the

24   existence, integrity, or health of a value, the Minister may withhold such

25   information. The MNRF, in consultation with the planning team, will determine the

26   kind of protection for such a value.

3.4   Precautionary Principle in Values Identification and Protection

The geographic location and basic description of a value will be available for the value to be considered as a known value. If a value does not have a geographic location, or if the basic description information about the features of a value does not exist or is insufficient to meet the minimum requirements of Section 3.1.6, then the value will not be considered as a known value and will not normally be considered in forest management planning.

In some cases, although the information is incomplete, a general location or partial description of the features of a value may be available. In such cases the MNRF may apply the precautionary principle to ensure that values are protected during forest management planning or implementation of forest management operations.

The precautionary principle is defined as follows:

> *In the absence of conclusive information to confirm the presence or features of a value, this principle requires the consideration of the value in the planning of road locations and area of concern prescriptions in order to ensure that the value is protected, based on the high probability of its presence and the potential that it may be affected by forest management operations in a significant and negative way.*

The precautionary principle recognizes that some forest management activities may be detrimental to the existence, integrity, and health of some values or may cause irreparable damage to values. The rationale for applying the precautionary principle is to reduce the risks of significantly affecting a value in a negative way, in the absence of conclusive information about a value, by considering values in forest management planning using the best available information about those values.

Members of the planning team will consider the available information and may make recommendations as to whether sufficient information exists to treat the value as a known value. Members of the planning team may also make recommendations regarding the applicability of the precautionary principle and the

1   extent that the precautionary principle should be applied to ensure the protection of

2   the value.

3   Using planning team recommendations and assessing the available information

4   against the standards set out in Part B, Section 3.1, the MNRF determines the values

5   that will be considered in forest management planning and to what extent the

6   precautionary principle may apply.

7   The MNRF may exercise reasonable latitude to designate a value as a known value,

8   based on the availability of sufficient information, to ensure that it can be

9   considered in forest management planning. In designating a value as a known value

10   based on applying the precautionary principle, the MNRF provides sustainable forest

11   licensees with this decision, an explanation of the concerns related to potential

12   impacts from forest management, the rationale to support the decision, and the

13   available information about the value. The MNRF makes these decisions and ensures

14   that these decisions are carried out by the planning team.

15   The precautionary principle is not designed to make sustainable forest licensees

16   become the *de facto* collector of values information. The precautionary principle is

17   not to be applied in circumstances where it is reasonably possible to collect field

18   information that meets the minimum standards of section 3.1.6 to declare that a

19   value should be considered a known value.

20   **3.5   Predictive Modelling in Values Identification**

21   The MNRF, with the assistance of sustainable forest licensees and other parties, has

22   developed an extensive values information database. However, not all values on

23   Crown forests have been identified. Assisting in the identification of values on Crown

24   lands, predictive models are being used to identify the location of areas that have a

25   high probability of containing values based on the presence of specific landscape

26   features that resemble the location and site conditions of and have characteristics

27   similar to known values. Archaeological potential modelling is an example of

1 predictive modelling used in forest management planning. The MNRF approves the

2 application of any predictive models that are used to identify values for the purpose

3 of forest management planning.

4 Predictive models may be used to provide preliminary identification of potential

5 areas where values are likely to be present. Predictive models need to be re-

6 calibrated to consider new information and to develop better trends or predictions

7 from that information. The results produced from predictive modelling should not

8 be used in isolation of further investigation. Further investigation or analysis may

9 identify the existence of values within the predicted area. The MNRF conducts this

10 investigation or analysis, or causes the investigation or analysis to be conducted.

11 The MNRF gives priority to investigating or analyzing areas identified by predictive

12 modelling that are located within, or are in close proximity to, proposed areas of

13 forest operations. Based on the results of analysis, the candidate areas identified by

14 predictive modelling will be reviewed and may be revised to identify potential areas.

15 Potential areas that can be described by further information that meets the

16 standards set out in Part B, Section 3.1, will be treated as known values. The MNRF

17 confirms that potential areas will be treated as known values.

18 Further investigation or analysis of predictive modelling results cannot always

19 provide the exact location or basic description of the features of a value that may

20 exist within a potential area to the standards set out in Part B, Section 3.1. In this

21 case, the MNRF may apply the precautionary principle to designate potential areas

22 as known values, based on the availability of sufficient information needed to

23 consider the appropriate protection for that value in forest management planning.

24 The MNRF also determines if the information produced by predictive modelling is

25 considered to be classified information. The MNRF treats classified information in

26 accordance with Part A, Section 1.3.1.

1   The Forest Management Guide for Cultural Heritage Values provides additional

2   detail, guidance and direction for the identification and protection of archaeological

3   potential values. Other cases of the use of predictive models for values identification

4   may have documentation and direction set out in the FIM or the FIM Base and

5   Values Technical Specifications.

4.0   Forest Resources Inventory Information

The forest resources inventory (FRI) is a snap shot of the forest cover (e.g., composition) at specific points in time. It provides a description of the forest, water and other landbase features within a forest management unit. It has a spatial component (i.e., geographic location) and a tabular component (i.e., description of characteristics).

The FRI is considered background information (e.g., depicting the forest condition) for the initial stages of preparing a planning inventory and to support the initial development of a new FMP in accordance with the FMPM.

The FRI information is scalable, the MNRF may also use it to support the analyses of forest cover for various forest management and land-use planning decisions over a wide range of geographic areas (e.g., district, habitat ranges, mill woodshed, watershed, eco-regional, provincial).

The MNRF provides sustainable forest licensees with the FRI for all areas within a forest management unit. The FRI will contain sufficient information to serve as a base for planning teams to prepare the FMPs in accordance with the FMPM. The FRI is calibrated using field measurements, collections of the FIM regulated forest reporting information and in the absence of having this information the best available information will be used. The sustainable forest licensee will use the FRI in developing the FMPs and specifically in the creation of a planning inventory information product in accordance with Part B, Section 5.1.

The following sections set out the requirements, standards, roles and responsibilities, timelines, and conditions for providing spatial and tabular information components of the FRI. Further technical details and requirements are contained in the FIM Forest Resources Inventory Technical Specifications.

4.1   Requirements and Standards

In preparing the FRI, the MNRF uses the best available data (e.g., remotely sensed data, modelled data, Ontario Hydrological Network, Ontario Road Network, Ownership), annual reporting and other local historical data.

The FRI for a forest management unit will contain information as described in the FIM Forest Resources Inventory Technical Specification for planning teams to prepare the FMPs in accordance with the FMPM.

4.2   Roles and Responsibilities

The MNRF provides sustainable forest licensees with the FRI for all areas within a forest management unit. The MNRF uses the best available inventory information for all areas within a management unit when producing the FRI.

Sustainable forest licensees will verify that the FRI provided by the MNRF is complete. Checking for completeness includes, but is not limited to, ensuring that:

   (a) the correct spatial and tabular attributes are provided for by the FIM Forest
        Resources Inventory Technical Specification;
   (b) updates or changes to the base feature information are consistent and
        applied; and
   (c) updates adequately reflect the landscape conditions.

The sustainable forest licensee will notify the MNRF that the information has been checked for completeness and whether the information meets the requirements set out in the FIM Forest Resource Inventory Technical Specification. If the information does not meet the requirements set out in the FIM and the FIM Forest Resources Inventory Technical Specifications, the sustainable forest licensee will provide a description of the errors or the reasons why the information does not meet the requirements. The sustainable forest licensee and the MNRF will determine the extent of the corrections and a timeframe that the revisions can be made in. The MNRF reissues updated FRI information.

1   **4.3   Timelines and Conditions**

2   MNRF will provide newer FRI no later than nine months before the invitation to

3   participate (i.e., FMPM, Part A, Section 2.3.3), otherwise the sustainable forest

4   licensee will use the most recent inventory provided.

5   The planning team can use a FRI received after the nine-month timeline if it will not

6   adversely effect or delay the planning process.

7   The sustainable forest licensee has three months after receiving the FRI to check the

8   information for completeness.

5.0   Forest Management Planning Inventory Information

The forest management planning inventories are used as a basis to prepare and monitor the development of a FMP and to support decisions made in an approved FMP and subsequent work schedules. The planning inventory is created from the forest resources inventory (FRI) or similar product in cases where the FRI described in Section 4.0 is not available.

The forest management planning inventories are prepared for each FMP and remains with the FMP from its initial preparation through its implementation to its subsequent evaluation. The usefulness of the inventories may extend beyond the period of an FMP to support the Independent Forest Audits (IFA) and may provide relevant background information when referencing and assessing the past FMPs during the development of future FMPs.

The planning composite inventory will contain updated forest description information from forest management activities and natural changes to the forest. The planning inventory also provides forecasted changes to forest description information based on the expected outcomes of planned operations that have not yet been implemented from the currently approved FMP.

The base model inventory adds forest classification information, sometimes referred to as management decision information, to the planning inventory. The base model inventory provides the basic information for forest modelling, habitat modelling, and landscape diversity analyses that are applied during the strategic and operational planning stages of developing a FMP.

The operational planning inventory includes the appropriate planning composite inventory and base model inventory information and incorporates the management decision information from the approved LTMD to be used for operational planning and monitoring.

1   The roads and road water crossings inventories will be confirmed and updated as

2   required by the FMPM.

3   **5.1   Requirements and Standards**

4   The requirements for providing planning composite inventory (PCI), base model

5   inventory (BMI), operational planning inventory (OPI), existing roads inventory and

6   existing water crossing inventory information are directly related to specific stages in

7   the development of a FMP.

8   The differences between the PCI, the BMI, and the OPI are not related to area

9   classification, but are related to their different purposes, the timelines when each is

10   required, the timing for the inclusion and population of forest classification

11   information and separate component structure versus a combined, single layer

12   entity.

13   The process to develop the PCI, the BMI and the OPI starts with the most recent and

14   best available base features provided in accordance with Part B, Section 2.0 and with

15   the most recent FRI provided in accordance with Part B, Section 4.0. The process to

16   develop the forest management planning inventories is not defined in the FIM. The

17   format and standards of forest management planning inventories are identified in

18   the Forest Management Planning Technical Specifications.

19   <u>Base Information</u>

20   The MNRF provides sustainable forest licensees with the best available base

21   information in accordance with Part B, Section 2.0. Base information used in

22   preparing the PCI, the BMI or the OPI may include:

23   (a) water;
24   (b) forest management unit boundaries;
25   (c) ownership and land tenure;
26   (d) parks and protected areas;
27   (e) roads;

1 (f) railways;

2 (g) utility lines; and

3 (h) small rivers and streams.

4 Depending upon the time between delivery of the base information and the FRI and

5 preparation of the PCI, it may be necessary to update some of the base information

6 to ensure the best available, most current information is used in the forest

7 management planning inventories. Updates to base information will be provided as

8 per the FIM Base and Values Technical Specifications.

9 <u>Planning Inventory</u>

10 Sustainable forest licensees will create and provide two specific information

11 products in a planning inventory:

12 1. A **planning composite inventory** layer that will incorporate updated base
13   feature and FRI information; and
14 2. A **forecast depletions** layer of those harvest operations projected to be
15   implemented in the current FMP.

16 These two types of information are collectively referred to as the planning

17 inventory. Not included in the PCI, but a component of the planning inventory, is a

18 forecast layer of those harvest operations approved in the current FMP and

19 expected to be completed by the start of the new FMP.

20 <u>Base Model Inventory</u>

21 Sustainable forest licensees will create and provide a base model inventory by

22 combining the planning composite inventory and the forecast depletions layer with:

23 1. **Forest classification information** representing stand level management
24   decision information (i.e., tabular attributes).

1　Operational Planning Inventory

2　Sustainable forest licensees will create and provide an OPI by combining the

3　necessary PCI and BMI information with management decision information which

4　includes silvicultural ground rule information.

5　Existing Roads and Existing Water Crossing Inventories

6　A specific requirement exists for the updating of a road base data layer and a road

7　water crossing data layer set out in the FMPM. The planning team will confirm and

8　update an inventory or data layer of all roads and road water crossings on the

9　management unit.

10　**5.2　Roles and Responsibilities**

11　Sustainable forest licensees will update information in all components of the

12　planning, base model and operational inventories. These updates are done to

13　prepare inventories used for the FMP development, implementation and

14　assessment.

15　The MNRF checks information contained in the planning composite and the forecast

16　information layer for completeness. The MNRF reviews the forest classification

17　information for completeness and confirms that all components have been correctly

18　combined into a base model inventory. The MNRF reviews additional operational

19　attributes and ensures completeness of the operational planning inventory. The FIM

20　Forest Management Planning Technical Specifications sets out the format and

21　detailed data standards for these inventories.

22　Sustainable forest licensees, the MNRF and the planning team share the

23　responsibility of meeting progress checkpoints. Progress checkpoints set out in the

24　FMPM are key steps in the development of a FMP.

1 The MNRF provides sustainable forest licensees with base information set out in the

2 FIM Base and Values Technical Specifications and with the FRI set out in the FIM

3 Forest Resources Inventory Technical Specifications.

4 Sustainable forest licensees will provide the MNRF with planning, base model and

5 operational inventory information set out in the FIM Forest Management Planning

6 Technical Specifications.

7 ### 5.2.1   Checking for Completeness

8 The sustainable forest licensee and the MNRF check that information provided by

9 either party is complete and meets the requirements of two forest management

10 planning progress checkpoints – the Planning Inventory progress checkpoint and the

11 Base Model Inventory and Base Model progress checkpoint. Inventory information

12 submitted undergoes a mandatory validation process. The validation process assures

13 these information products meet the requirements of the FIM technical

14 specifications and the progress checkpoints as described in the FMPM.

15 The sustainable forest licensee and the MNRF determine whether information

16 meets the requirements and standards. These considerations include, but are not

17 limited to, verifying the following planning, base model, and operational inventory

18 components at the identified step in the FMP development as per the FMPM (shown

19 in brackets). These are shown below.

20   (a) Planning Composite (Planning Inventory progress checkpoint)

21   a. the updated FRI and base features have been correctly assembled

22   into a planning composite; and

23   b. the planning composite contains sufficient information to support the

24   remaining FMP development process that includes landbase

25   summary, forest modelling, habitat supply modelling, landscape

26   diversity analysis, and identification of eligible areas for operations.

27   (b) Forecast Information (Planning Inventory progress checkpoint)

28   a. the forecast information represents the remaining three to four years

29   of harvest, and large natural disturbances not yet reported in an

30   annual report, to the start of the new FMP; and

b. the forecast information will contain sufficient information to support the remaining FMP development process that includes landbase summary, forest modelling, habitat supply modelling, landscape diversity analysis, and identification of eligible areas for operations.

(c) Forest Classification Information (Support for Base Model Inventory and Base Model progress checkpoint)

a. the forest classification information is correct and supports the remaining FMP development process that includes landbase aggregation, SGR development, forest modelling, habitat supply modelling, landscape diversity analysis, identification of eligible areas for operations, and selection of areas of operations and road construction areas; and

b. the combination of the planning composite, the forecast information and the forest classification information is correct and integral.

(d) Operational planning inventory (Submission at draft and final FMP)

a. the forest classification information from the approved LTMD will be incorporated with the appropriate planning inventory information (i.e., BMI, PCI) in order to create the OPI; and

b. the operational planning inventory is correct and contains sufficient information to support the implementation of the approved FMP.

(e) Submission of Revised Information (Submission at draft and final FMP – Revisions Made)

a. the forecast information represents the remaining one to two years of harvest, and large natural disturbances not yet reported in an annual report, to the start of the new FMP; and

b. the forecast information will contain sufficient information to support the identification of areas for operations and implementation of the new FMP.

The MNRF notifies the sustainable forest licensee that the information has been checked for completeness and whether the information meets the requirements set out in the FIM. If the information does not meet the requirements set out in the FIM and the FIM Forest Management Planning Technical Specifications, the MNRF provides a description of the errors or the reasons why the information does not meet the requirements. The sustainable forest licensee and the MNRF determine the extent of the corrections and a timeframe for the revisions to be made. The

1 objective is to correct and resubmit the information such that it does not affect the

2 completion of the new FMP.

3 **5.3   Timelines and Conditions**

4 Sustainable forest licensees will provide all the planning inventory information to

5 meet the planning inventory progress checkpoint. The planning inventory is included

6 in the approved FMP for file retention purposes and assists the MNRF in meeting its

7 requirements set out in the ARA.

8 Sustainable forest licensees will provide all the base model inventory information to

9 meet the base model inventory at the base model progress checkpoint stage of the

10 FMP development. The base model inventory is included in the approved FMP for

11 file retention purposes and assists the MNRF in meeting its requirements set out in

12 the ARA.

13 Sustainable forest licensees will provide all the operational planning inventory

14 information with the draft and final FMP. The operational planning inventory is

15 included in the approved FMP for file retention purposes and assists the MNRF in

16 meeting its requirements set out in the ARA.

17 The FMP Terms of Reference sets out the timelines for the sustainable forest

18 licensee and the MNRF for a period of review and revision in advance of the

19 progress checkpoints or draft and final FMP.

6.0   Operational Planning Information

Operational planning information is a component of the draft FMP and the final FMP. The operational planning information represents the results of planning and summarizes decisions made in respect of forest operations. This information identifies all forest operations (e.g., planned harvest, existing roads) as described by the FMPM.

6.1   Requirements and Standards

The operational planning information as described in FMPM will be submitted as digital geospatial data and contain spatial and tabular attributes. These layers (e.g., harvest, road corridors) will be spatially compatible, such that it can be overlaid and/or spatially linked to the operational planning inventory.

The information contained in these layers are required for the public consultation process in accordance with the FMPM. The FIM Forest Management Planning Technical Specifications describe the information standards (e.g., data attributes, format) for the information requirements, and the conditions for provisions (e.g., naming conventions, exchange parameters, validation standards).

6.2   Roles and Responsibilities

The sustainable forest licensee will prepare and submit operational planning information as described in the FMPM.

The MNRF verifies that the operational planning information meets the standards defined in the FIM Forest Management Planning Technical Specifications and is consistent with the information contained in the FMP documentation.

6.3   Timelines and Conditions

Operational planning information is required for the 10-year FMP. The operational planning information is submitted with the draft and final FMP.

Part C Information for Annual Operations

1.0   Annual Work Schedules Information

This part identifies the information requirements for the planning, scheduling and monitoring of annual forest operations. The information requirements are for the development of forest operations prescriptions and the preparation of an annual work schedule (AWS) as described in the Forest Management Planning Manual (FMPM).

The FMPM sets out the requirements for three types of forest operations where detailed project planning (i.e., prescribed burning, and aerial application of pesticides) or additional information (i.e., high risk water crossings) is required for approval before their implementation. The FMPM requires these operational project plans and additional information to be available with the AWS.

Sustainable forest licensees will provide the information in accordance with the Forest Information Manual (FIM) Annual Work Schedule Technical Specifications.

1.1   Requirements and Standards

The FMPM requirements set out the development and submission of an AWS. The AWS is typically used by the sustainable forest licensee and the MNRF staff for scheduling operations and public inspection.

The AWS information as described in the FMPM will be submitted as digital geospatial data and contain spatial and tabular attributes. These layers (e.g., harvest, tending) will be spatially compatible, such that it can be overlaid and/or spatially linked to the operational planning inventory.

The FIM Annual Work Schedule Technical Specifications describe the information standards (e.g., data attributes, format) for the information requirements, and the conditions for provisions (e.g., naming conventions, exchange parameters, validation standards).

Standardization of the AWS information is mandatory to enable publication on the information management system.

All the AWS information products will be submitted in an accessible digital format via the information management system.

1.1.1 Forest Operations Prescriptions Information

Forest operations prescriptions and silvicultural activities for a given area of operations will be maintained by the sustainable forest licensee as part of their information records. The information will be maintained for each area within an area of operations.

A forest operations prescription for an area is not normally required to be submitted as a complete, comprehensive package. However, at the request of the MNRF the sustainable forest licensee will provide access to, or provision of, information relating to the forest operations prescription for the purposes of monitoring, compliance and auditing.

Existing requirements for silvicultural monitoring, as described in the Forest Operations and Silviculture Manual (FOSM), are largely met by meeting the information requirements of the FIM. The regeneration standards discussed in FOSM and associated policies provides guidance regarding the linkages between silvicultural objective setting, assessing the effectiveness of silvicultural treatments and forest operations prescriptions, and tracking and reporting of silvicultural monitoring at the site, forest, management unit, and provincial levels.

1.1.2 Additional Information and Project Plans

Higher risk water crossing information, prescribed burn plans and aerial pesticide project plans will be available with the AWS for the year when they are scheduled.

The information and project plans are submitted separately from the AWS through the information management system. These documents require a certified approval page that is provided as per the FIM Annual Work Schedule Technical Specifications.

Higher risk water crossings scheduled for construction, including existing water crossings scheduled for replacement, and decommissioning that require an MNRF review will be submitted as described in the FMPM. Prescribed burn plans and aerial pesticide project descriptions and plans are prepared as described in the FMPM. Aerial insecticide projects can only occur after the requirements for an insect pest management program have been completed, as described in the FMPM.

1.1.3   AWS Revisions and Changes to Values

Revisions are to be available with the AWS as described in the FMPM. The FMPM prescribes the documentation requirements for submitting information required for all changes to values that do not require an AWS revision (e.g., updated information on the location and description of values).

Direction on submitting the AWS revisions and changes to values information appears in the FIM Annual Work Schedule Technical Specifications and/or the FIM Base and Values Technical Specifications.

1.2   Roles and Responsibilities

The sustainable forest licensee will prepare and provide the AWS information products. The specific and detailed responsibilities are set out in the FIM Annual Work Schedule Technical Specifications.

1.3   Timelines and Conditions

In accordance with timeline described in the FMPM, a sustainable forest licensee is required to submit an AWS. The MNRF will provide the sustainable forest licensee with information (e.g., water crossing review results) to be included in the AWS.

1   Refer to the FMPM and the FIM Annual Work Schedule Technical Specifications for

2   specific direction on timelines related to AWS components.

Part D Information for Reporting, Monitoring and Evaluation

1.0   Introduction

This part discusses the requirements for information related to monitoring, reporting and evaluation of forest management activities including forest operations compliance information, roads and water crossings monitoring, exceptions monitoring, and silvicultural monitoring information. Reporting, monitoring and evaluation information is required at various times during and after the 10-year period of a forest management plan (FMP).

Section 2.0 identifies the information required to support the preparation of management unit annual reports as described in the Forest Management Planning Manual (FMPM). The annual report (AR) includes results of monitoring activities (e.g., forest operations inspections, assessments of regeneration).

Section 3.0 identifies requirements to provide information collected from forest inspections in accordance with the Forest Compliance Handbook and the MNRF's compliance information system.

Section 4.0 discusses silvicultural monitoring information.

1 ## 2.0   Annual Report Information

2 ### 2.1   Requirements and Standards

3 An annual report will be prepared for each forest management unit as described in

4 the FMPM. Reporting on forest management activities, specifically the actual

5 treatments applied and results of these treatments, as expressed in the reporting of

6 assessments of regeneration, completes the forest operations prescription and

7 permits monitoring and assessment to be undertaken.

8 The MNRF provides sustainable forest licensees with information on forest

9 operations inspections, natural disturbances, and harvest volume utilization for the

10 annual report period.

11 The AR information as described in the FMPM will be submitted as digital geospatial

12 data and contain spatial and tabular attributes. These layers (e.g., harvest, renewal)

13 will be spatially compatible, such that it can be overlaid and/or spatially linked to the

14 operational planning inventory. The Forest Information Manual (FIM) Annual Report

15 Technical Specifications describe the information standards (e.g., data attributes,

16 format) for the information requirements, and the conditions for provisions (e.g.,

17 naming conventions, exchange parameters, validation standards).

18 Standardization is mandatory to enable publication of annual report information on

19 the information management system.

20 Sustainable forest licensees will create and provide the AR in accordance with the

21 FIM Annual Report Technical Specifications. All annual report information products

22 will be submitted by the sustainable forest licensee in an accessible digital format via

23 the information management system.

24 ### 2.2   Roles and Responsibilities

25 Sustainable forest licensees will prepare and submit complete annual reports that

26 incorporate information provided by MNRF (i.e., forest operations inspections,

27 natural disturbances and harvest volume utilization).

1 The FMPM specifies that annually the MNRF provide sustainable forest licensees

2 with information on forest operations inspections, natural disturbances and harvest

3 volume utilization for use in meeting their annual report requirements.

4 Sustainable forest licensees will ensure that the information provided by the MNRF

5 is checked for completeness. The sustainable forest licensees will notify the MNRF of

6 any discrepancies between information provided by the MNRF and similar data,

7 records, and information that are maintained by the sustainable forest licensee.

8 Discrepancies in annual report information will be resolved before the submission of

9 the annual report.

10 The MNRF will have the opportunity to review the AR for completeness and accuracy

11 and to validate it against the FIM Annual Report Technical Specifications. The MNRF

12 will provide the results of the review to the plan author. Year five and final year

13 management unit annual reports will be reviewed and approved by the MNRF. The

14 status of report submissions and notice of review results is provided via the

15 information management system.

16 **2.3   Timelines and Conditions**

17 Sustainable forest licensees and the MNRF will provide annual report information in

18 accordance with the FIM Annual Report Technical Specifications.

19 The MNRF provides most information, to the sustainable forest licensee by

20 September 15 each year. Natural disturbance information, specifically fire

21 disturbance, insect and disease related disturbance, and abiotic disturbance related

22 to wind, ice storm or other events, are provided by MNRF on April 1 of each year.

3.0   Forest Operations Compliance Information

The Forest Compliance Handbook provides the specific policies and procedures of the forest operations compliance program. Generally, under the forest operations compliance program, sustainable forest licensees perform compliance planning, monitoring, inspection, and reporting. The MNRF performs audits or spot checks of company inspections, verifies all reported instances of non-compliance, and determines enforcement actions and applicable remedies.

Forest operations inspection reports are available for public inspection. The MNRF may make decisions regarding the availability of certain information contained in a forest operations inspection report based on the confidentiality or sensitivity of that information with respect to the FIPPA or to ensure the protection of values.

3.1   Requirements and Standards

Sustainable forest licensees will conduct monitoring that includes inspecting and reporting on all forest operations carried out on Crown forests and will provide a report to the MNRF in digital form in accordance with the Forest Compliance Handbook. The Forest Compliance Handbook also provides for the process for the conduct of forest operations inspections and the requirement to provide a report in each case. The digital information required in a forest operations inspection report will be provided to the MNRF office responsible for approving and monitoring the implementation of forest management operations conducted by the sustainable forest licensee.

The MNRF similarly provides sustainable forest licensees with forest operations inspection information. The MNRF maintains all forest operations compliance information produced by sustainable forest licensees and the MNRF in the MNRF's compliance information system.

The requirement to provide digital forest operations inspection information complements the direction in the following documents:

1   (a) Forest Compliance Handbook – all policies and procedures related to the
2   MNRF's compliance information system;
3   (b) approved compliance plans and their implementation through FMPs and
4   AWSs; and
5   (c) conditions in Sustainable Forest Licenses that pertain to the collection and
6   provision of forest operations compliance inspection information.

7 Sustainable forest licensees will provide operations inspections information to the

8 MNRF in accordance with the Forest Compliance Handbook. MNRF provides forest

9 operations inspection information to sustainable forest licensees in accordance with

10 the Forest Compliance Handbook. Additionally, standards for operations inspections

11 information are dictated by MNRF's compliance information system.

12 **3.2   Roles and Responsibilities**

13 Sustainable forest licensees will complete an inspection of forest operations and

14 provide a digital report. For each forest operations inspection, sustainable forest

15 licensees will confirm that the mandatory data requirements and standards have

16 been met in accordance with the FIM, Part D, Sections 3.1.

17 The MNRF reviews the digital information provided by sustainable forest licensees

18 for completeness. The check for completeness and verification may consist of, but is

19 not limited to, the following:

20   (a) the comments and rationale that are provided as part of the forest
21   operations inspection report information are sufficient to evaluate each
22   instance of non-compliance;
23   (b) the forest operations inspection information has been received in
24   accordance with the compliance component of the approved FMP and in
25   accordance with the timelines in the Forest Compliance Handbook;
26   (c) the reference and location to source data, information and records that have
27   been used in the preparation of the forest operations inspection report
28   information, is complete and traceable; and
29   (d) verification, in some cases, of the ground observations and the information
30   related to those observations.

1   The MNRF completes forest operations inspections reports for inspections they

2   conduct and provides the digital information to the sustainable forest licensee.

3   **3.3   Timelines and Conditions**

4   The timeline for providing forest operations inspection report information described

5   in this section applies to sustainable forest licensees and the MNRF. Forest

6   operations inspection reports will be provided at different times depending on the

7   following direction:

8   (a) the frequency and timelines (i.e., inspection schedules) described in the
9   company and/or district compliance planning and strategies identified in the
10   approved FMP, and in the AWS related to submission of forest operations
11   inspection reports; and
12   (b) the timelines set out in the Forest Compliance Handbook – specific to
13   Directive FOR 07 03 04 and FOR 07 03 05 or their successors.

14   Forest operations inspections information is specified in the Forest Compliance

15   Handbook and the MNRF's compliance information system.

1   **4.0   Silvicultural Monitoring Information**

2   **4.1   Requirements and Standards**

3   FIM provides a framework for the information to support a monitoring program as

4   many of the information requirements to support a monitoring plan are met by

5   existing FIM requirements or are described in the FMPM.

6   The results of the assessments of regeneration will be recorded in the annual report.

7   The information collected during implementation of the program will support the

8   review of renewal and maintenance activities as described in the FMPM. The

9   information supports an adaptive management approach to forest management.

10 The FMPM, and FOSM and its associated policies define the information to be

11 collected and survey methodologies to be used during monitoring.

12 **4.2   Roles and Responsibilities**

13 The sustainable forest licensee will develop a monitoring program for the

14 management unit, record it in the FMP as described in the FMPM, and implement

15 the program. The MNRF reviews the monitoring program as part of the approval

16 process for the FMP.

17 The sustainable forest licensee will maintain all records of information gathered

18 during implementation of the monitoring program and use this information in

19 annual reporting and in the development of the next FMP.

20 The MNRF may provide additional information to the sustainable forest licensee

21 regarding the results of the assessments of regeneration and will provide the

22 information when assessment results have been rejected.

23 **4.3   Timelines and Conditions**

24 The timeline associated with provision of silvicultural monitoring information is

25 linked to the annual reporting timelines and to the FMP development timelines.

1   Technical guidance and other direction in meeting silvicultural monitoring

2   requirements are available in the FMPM and the FIM Annual Report Technical

3   Specifications. The processes and timelines will be explicitly outlined in FOSM and its

4   associated policies.

1 *Glossary of Terms*

2 Definition Source

3 Definitions taken fully, modified or adapted from an already existing source, note

4 the source following the definition – [source]. Sources are abbreviated as follows:

5 **AGI**	On-line dictionary of GIS terms by the Association for Geographic
6	Information and the University of Edinburgh Department of
7	Geography.
8 **ESRI**	On-line GIS Dictionary at Environmental Systems Research Institute
9	(ESRI) Support Center website (http://support.esri.com).
10 **FITC**	Forestry Canada, 1988. Forest Inventory Terms in Canada. Canadian
11	Forest Inventory Committee, Forestry Canada.
12 **FIPPA**	*Freedom of Information and Protection of Privacy Act*, R.S.O. 1990, c.
13	F.31
14 **ISAC**	Province of Ontario, Information Security Advisory Council.
15 **IASR**	Integrated Accessibility Standards set out in O. Reg. 191/11 made
16	under the *Accessibility for Ontarians with Disabilities Act, 2005*.
17 **ISO**	International Standards Organization.
18 **OpenGIS**	On-line glossary at Open Geospatial Consortium, Inc. website
19	(http://www.opengeospatial.org/resource/glossary).
20 **U GIS**	ESRI. 1992. Understanding GIS: The Arc/Info Method.

21 Definition/Term

22 *Attribute*

23 Nonspatial information about a geographic feature in a GIS, usually stored in a table

24 and linked to the feature by a unique identifier. For example, attributes of a river

25 might include its name, length, and sediment load at a gauging station. [Source:

26 ESRI]

1 *Base Features*

2 Base features represent the geographic locations and descriptions of topographic,

3 cultural, and cadastral entities of Ontario's landbase. Base features can be natural,

4 physical features, such as lakes, rivers, and wetlands, or they can be features of

5 human influence such as hydro lines, gas pipelines, provincial highways, roads, and

6 railways. Base features include areas that identify subdivisions of land, water,

7 vegetation, environmental features, and other physical and administrative

8 boundaries. Examples of this latter type of base features include forest management

9 units and ownership parcels that identify areas designated for legal, political, tax

10 base, population base, land-use zoning, or management decision purposes.

11 *Buffer*

12 A polygon enclosing a point, line, or polygon at a specified distance. [Source: ESRI]

13 *Data*

14 Any collection of related facts arranged in a particular format; often, the basic

15 elements of information that are produced, stored, or processed by a computer.

16 [Source: ESRI]

17 *Data Attribute*

18 See Attribute

19 *Datum*

20 The reference specifications of a measurement system, usually a system of

21 coordinate positions on a surface (a horizontal datum) or heights above or below a

22 surface (a vertical datum). [Source: ESRI]

23 *Digital Data / Digital Information*

24 Data / information represented in a computer compatible format. [Source: modified

25 AGI]

1 *Electronic Information*

2 See *Digital Data /* Digital *Information*

3 *Forest Information Portal (FI Portal)*

4 The Forest Information Portal is an extranet (an internet site with user name and

5 password security restrictions) available to MNRF and the licensees for the sharing,

6 distribution and exchange of forest information and data.

7 *Forest Management Planning Manual (FMPM)*

8 The Forest Management Planning Manual refers to the July 2017 version of the

9 manual prepared in accordance with Section (68) of the *Crown Forest Sustainability*

10 *Act*. This FMPM provides direction for all aspects of forest management planning for

11 Crown lands in Ontario.

12 *Forest Management Unit*

13 An area of Crown forest designated under section 7 of the *Crown Forest*

14 *Sustainability Act*, 1994.

15 *Forest Resources Inventory*

16 The Forest Resources Inventory (FRI) is a spatial product that provides description of

17 all areas within a forest management unit and provides a snapshot in time of the

18 characteristics of water and landbase geography.

19 *Geographic Information / Geographic Data*

20 Information describing the location and attributes of things, including their shapes

21 and representation. Geographic data is the composite of spatial data and attribute

22 data. [Source: ESRI]

23 *Geographic Information System (GIS)*

24 (1) An integrated collection of computer software and data used to view and

25 manage information about geographic places, analyze spatial relationships, and

26 model spatial processes. A GIS provides a framework for gathering and organizing

1 spatial data and related information so that it can be displayed and analyzed.

2 [Source: ESRI]

3 (2) A computer system for capturing, storing, checking, integrating, manipulating,

4 analyzing and displaying data related to positions on the Earth's surface. [Source:

5 modified AGI]

6 ***Geographically Referenced***

7 Refers to the condition of data for which "positional" information is available,

8 enabling the geographical position of the data to be established and communicated.

9 The normal functioning of a geographic information system requires the existence of

10 geographically referenced data in a spatial data base and a means of manipulating

11 these data. [Source: FITC]

12 ***Geo-referenced***

13 See *Geographically* Referenced

14 ***Geospatial Data***

15 See *Geographic* Information */ Geographic Data*

16 ***Information***

17 Information comes from data that have been processed (e.g., synthesized,

18 organized, selected, sorted) to provide products that can be used in decision making.

19 Information includes numerical data, text, drawings, designs, maps, photographs,

20 video and audio recordings, and ideas.

21 ***Intellectual Property***

22 Data, information and their related intellectual property rights, including: text,

23 brochures, books, tables, software, maps, photographs, research findings, and new

24 plant strains.

1 *Intellectual Property Rights*

2 Intellectual property rights include copyright, patent, trademark, and other forms of

3 intellectual property protection.

4 *Known Value*

5 A value is a natural, cultural, First Nation or Métis resource attribute or use of land,

6 including all lakes and streams, which must be considered in forest management

7 planning. A value is considered to be a known value when sufficient information

8 exists to describe its geographic location and its basic features.

9 *Layer*

10 A reference to a spatial data source, such as a shapefile, coverage, geodatabase

11 feature class, or raster image. [Source: modified ESRI]

12 *Map Projection*

13 A mathematical model that transforms the locations of feature on the Earth's

14 surface to locations on a two-dimensional surface. Because the Earth is three-

15 dimensional, some method must be used to depict a map in two dimensions. Some

16 projections preserve shape; others preserve accuracy of area, distance, or direction.

17 Map projections project the Earth's surface onto a flat plane. However, any such

18 representation distorts some parameter of the Earth's surface be it distance, area,

19 shape, or direction. [Source: U GIS]

20 *MNRF*

21 **"MNRF"** means the Ministry of Natural Resources and Forestry, or the ministry of

22 the Minister that has been assigned to undertake responsibility for the *Crown Forest*

23 *Sustainability Act*.

24 *Resolution*

25 (1) The detail with which a map depicts the location and shape of geographic

26 features. The larger the map scale, the higher the possible resolution. As scale

27 decreases, resolution diminishes and feature boundaries must be smoothed,

simplified, or not shown at all; for example, small areas may have to be represented as points.

(2) The dimensions represented by each cell or pixel in a raster.

(3) The smallest spacing between two display elements, expressed as dots per inch, pixels per line, or lines per millimeter. [Source: ESRI]

Map Scale

The relationship between distance on a map and the corresponding distance on the earth's surface. Map scale is often recorded as a representative fraction such as 1:1,000,000 (1 unit on the map represents a million units on the earth's surface) or 1:24,000 (1 unit on the map represents 24,000 units on the earth's surface. The terms "large" and "small" refer to the relative magnitude of the representative fraction. Since 1/1,000,000 is a smaller fraction than 1/24,000, the former is said to be a smaller scale. Small scales are often used to map large areas because each map unit covers a larger earth distance. Large-scale maps are employed for detailed maps of smaller areas. [Source: OpenGIS]

Metadata

Information that describes the content, quality, condition, origin, and other characteristics of data or other pieces of information. Metadata for spatial data may describe and document its subject matter; how, when, where, and by whom the data was collected; availability and distribution information; its projection, scale, resolution, and accuracy; and its reliability with regard to some standard. Metadata consists of properties and documentation. Properties are derived from the data source (for example, the coordinate system and projection of the data), while documentation is entered by a person (for example, keywords used to describe the data). [Source: ESRI]

1 *Natural Resources Information Portal (NRIP)*

2 The Natural Resources Information Portal is an extranet (an internet site with user

3 name and password security restrictions) available to MNRF and the licensees for

4 the sharing, distribution and exchange of forest information and data. NRIP is also an

5 internet site available to the public that enables the portal of FMP approved

6 information and draft products supporting consultation requirements and ensures

7 data is open and accessible.

8 *Personal Information*

9 Personal information means recorded information about an identifiable individual,

10 including:

11 (a) information relating to the race, national or ethnic origin, colour, religion,
12   age, sex, sexual orientation or marital or family status of the individual,
13 (b) information relating to the education or the medical, psychiatric,
14   psychological, criminal or employment history of the individual or
15   information relating to financial transactions in which the individual has been
16   involved,
17 (c) any identifying number, symbol or other particular assigned to the individual,
18 (d) the address, telephone number, fingerprints or blood type of the individual,
19 (e) the personal opinions or views of the individual except where they relate to
20   another individual,
21 (f) correspondence sent to an institution by the individual that is implicitly or
22   explicitly of a private or confidential nature, and replies to that
23   correspondence that would reveal the contents of the original
24   correspondence,
25 (g) the views or opinions of another individual about the individual, and
26 (h) the individual's name where it appears with other personal information
27   relating to the individual or where the disclosure of the name would reveal
28   other personal information about the individual; ("renseignements
29   personnels") [Source: FIPPA]

30 *Precautionary Principle*

31 In the absence of conclusive information to confirm the presence or features of a

32 value, this principle requires the consideration of the value in the planning of road

locations and area of concern prescriptions in order to ensure that the value is
protected, based on the high probability of its presence and the potential that it may
be affected by forest management operations in a significant and negative way.

Quality Assurance

All the planned and systematic activities implemented within the quality system, and
demonstrated as needed, to provide adequate confidence that an entity will fulfill
requirements of quality. [Source: ISO]

Quality Control

Comprises the operational techniques and activities that are used to fulfill
requirements of quality and quality assurance. [Source: modified ISO]

Records

A record is any information however recorded, whether in printed form, on film, by
electronic means or otherwise and includes:

(a) correspondence, memorandum, a book, a plan, a map, a drawing, a diagram,
a pictorial or a graphic work, a photograph, a film, a microfilm, a sound
recording, a videotape, a machine-readable record, any other documentary
material regardless of physical form or characteristics, and any copy thereof;
and
(b) subject to the regulations, any record that is capable of being produced from
a machine readable record under the control of an institution by means of
computer hardware and software or any other information storage
equipment and technical expertise normally used by the institution. [Source:
FIPPA]

Scale

See *Map* Scale

Standard

Measurable parameters established for use as a rule or basis for comparison in
measuring or judging quantity, quality, value, capacity, or other characteristics.

1 *Tabular Data/Information*

2 Descriptive information, usually alphanumeric, that is stored in rows and columns in

3 a database and can be linked to spatial data. [Source: ESRI]

4 See Attribute

5 *Theme*

6 See Layer

7 *Value*

8 Values are features, benefits, or conditions of the forest that are linked to a

9 geographic area, that are of interest from various points of view, and that must be

10 considered in forest management planning.

11 See *Known Value*