Ontario

Whiskey Jack Forest
2012-2022 Forest Management Plan
2nd 5-year Term
April 1, 2017 to March 31, 2022

Plan Text

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Title, Certification and Approval Page
TEN-YEAR FOREST MANAGEMENT PLAN, April 1, 2012 to March 31, 2022
for the
WHISKEY JACK FOREST
(Management Unit #490)

PLANNED OPERATIONS
for the 2nd 5-year term from April 1, 2017 to March 31, 2022

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region

I hereby certify that I have prepared these planned operations, including the silvicultural ground rules, to the best of my professional skill and judgement with the assistance of an interdisciplinary planning team in accordance with the requirements of the *Forest Management Planning Manual* and *the Forest Information Manual*.

_____ _____ Date: _____
R.P.F. seal Kaitlin Moncrief, R.P.F.
Plan Author, Ontario Ministry of Natural Resources and Forestry

I recommend that these planned operations be approved for implementation and certify that they have been prepared in accordance with the requirements of the *Forest Management Planning Manual,* the *Forest Information Manual* and relevant policies and obligations (including any relevant MNRF agreements with Aboriginal peoples). I also certify that these planned operations have been prepared using the applicable forest management guides. In these planned operations, prescriptions that differ from specific direction or recommendations in the applicable forest management guides are identified in the attached List of Exceptions.

Recommended by:

_____ Date: _____
Shelley Isleifson
District Manager, Kenora District
Ontario Ministry of Natural Resources and Forestry

**Approved by:_____ Date: _____
Amanda Holmes
Regional Director, Northwest Region
Ontario Ministry of Natural Resources and Forestry

** *Approved subject to the Terms in the attached Schedule**

Forest Information Portal Submission Identifier: _____

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SCHEDULE TO

Title, Certification and Approval Page
TEN-YEAR FOREST MANAGEMENT PLAN, April 1, 2012 to March 31, 2022
for the
WHISKEY JACK FOREST
(Management Unit #490)

MNRF and Grassy Narrows (Asubpeeschoseewagong Netum Anishinabek) First Nation have engaged in discussions, including under the 2008 Ontario Process Agreement, in an attempt to address issues raised by Grassy Narrows First Nation relating to commercial forest harvesting on a portion of the Whiskey Jack Forest.

This Forest Management Plan was prepared in the anticipation that those discussions could address such issues, and economic opportunities could be derived from across the Whiskey Jack Forest. However, despite the efforts of both parties to date, Grassy Narrows First Nation's concerns remain unresolved.

Therefore, notwithstanding anything else in this Forest Management Plan, the planned harvest blocks within the area depicted in Figure 1 shall not be harvested during the term of this Plan.

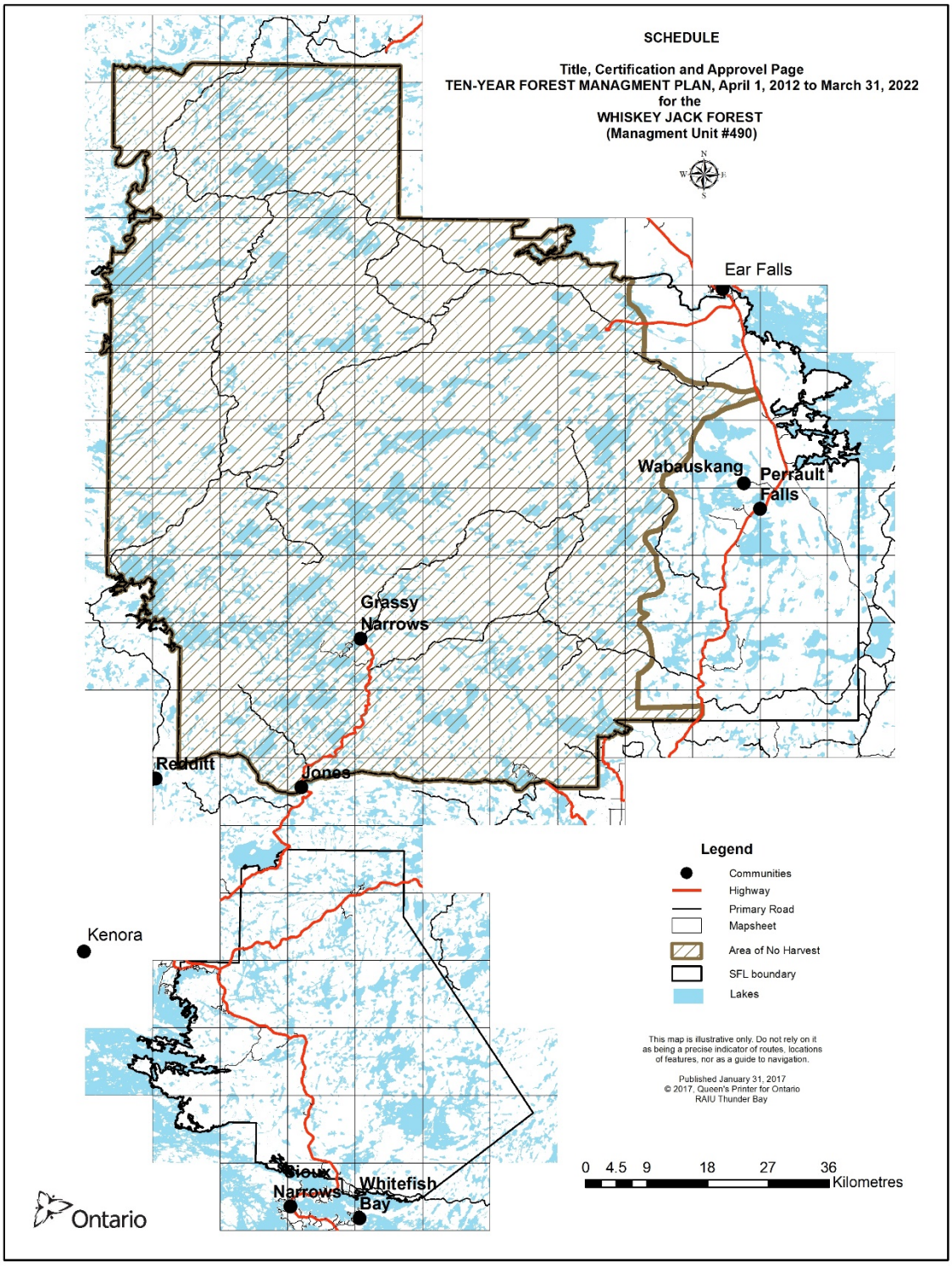
MNRF may reconsider the harvest of these blocks if the issues are resolved and Grassy Narrows First Nation communicates a withdrawal of its concerns.

_____ Date: _____

Amanda Holmes
Regional Director, Northwest Region
Ontario Ministry of Natural Resources and Forestry

The original signed and stamped version of this page is retained at the MNRF Kenora district office in Kenora.

Figure 1


SCHEDULE
Title, Certification and Approvel Page
TEN-YEAR FOREST MANAGMENT PLAN, April 1, 2012 to March 31, 2022
for the
WHISKEY JACK FOREST
(Managment Unit #490)
Ear Falls
Wabauskang
Perrault Falls
Grassy Narrows
Redditt
Jones
Kenora
Sioux Narrows
Whitefish Bay
Ontario
Legend
Communities
Highway
Primary Road
Mapsheet
Area of No Harvest
SFL boundary
Lakes
This map is illustrative only. Do not rely on it as being a precise indicator of routes, locations of features, nor as a guide to navigation.
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RAIU Thunder Bay
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FOREST MANAGEMENT PLAN
for the
WHISKEY JACK FOREST

LIST OF EXCEPTIONS
for the 2nd 5-year term from April 1, 2017 to March 31, 2022

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region

All silvicultural treatments in the silvicultural ground rules which are exceptions to the recommendations in the silvicultural guides, and all operational prescriptions for areas of concern which are exceptions to the specific direction or recommendations (standards and guidelines) in the applicable guides, are provided in this list of exceptions. The specific section of the planned operations that provides documentation of the exception is also referenced in this list.

Description of Exception	Specific Section of Plan
The following are exceptions to the Silviculture Guide to Managing for Black Spruce, Jack Pine and Aspen on Boreal Forest Ecosites in Ontario (3 volumes, MNR, 1997) • Full tree logging on ecosites 11 and 12 where total soil depth (mineral and surface organic) is less than 20cm • Artificial seeding of black spruce onecosites 14 and 21 • Natural regeneration of Jack Pine or Spruce on ecosite 21	Table FMP-4, Section 8.2.2.1: Silviculture Ground Rules and Monitoring Section 8.7.2: Exceptions

FOREST MANAGEMENT PLAN
for the
WHISKEY JACK FOREST

LIST OF MANAGEMENT PLAN CONTRIBUTORS
for the 2nd 5-year term from April 1, 2017 to March 31, 2022

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region

Planning Team Members

Planning Team Member Name	Representing	Role
Kaitlin Moncrief, R.P.F.	MNRF – Kenora District	Plan Author, Management Forester
Dean Hample, R.P.F.	MNRF – Northwest Region	Project Manager/Chair, Regional Planning Forester
Shawn Stevenson	MNRF – Kenora District	Co-Chair, Resources Management Supervisor
Donna Puls	Miisun Integrated Resource Management Company	GIS Service Provider
Peter Hettinga	MNRF – Kenora District	Management Biologist
Christy MacDonald	MNRF – Kenora District	Resource Liaison Specialist
Wayne Bruce	Kenora LCC	LCC Representative
Dutchie Loman	Red Lake Resource Advisory Committee	LCC Representative
Kurt Pochailo, R.P.F.	Miisun Integrated Resource Management Company	Industry Representative
Doug Riffel	Doug Riffel Harvesting	Industry Representative
Robert Boyce, R.P.F.	Weyerhaeuser	Industry Representative – Receiving Facility
Dale Munro, R.P.F.	Kenora Forest Products	Industry Representative – Receiving Facility
Darlene Paypompee	Ojibways of Onigaming First Nation	Aboriginal Community Representative
Joel Henley	Kenora Métis Council	Aboriginal Community Representative
Kyle Myschowoda, R.P.F.	MNRF – Red Lake District	Management Forester (Support for Red Lake District)

1 Observers

Observer	Affiliation
Allan Anderson	Ochiichagwe'babigo'inning (Dalles) First Nation

2 Key Advisors and Support

Key Advisors/Support Staff	Position
MNRF – Kenora District	**Position**
Shawn Stevenson	Resources Management Supervisor
Jessica Malone	District Planner
Brenda Skene	Forestry Technical Specialist
Darren Ellery	GIS Data Technician
MNRF – KEN Fire Management	**Position**
John Mash	Fire Operations Supervisor
MNRF – Red Lake District	**Position**
Nadine Thebeau	Resources Management Supervisor
Jennifer Nielsen	Management Biologist
MNRF – Region/Province	**Position**
Chris Schaefer, R.P.F.	Forest Management Planning Specialist
Angus Carr, R.P.F.	Regional Planning Analyst
Brian Campbell, R.P.F.	Forest Industry Liaison Officer
Lisa Eddy	Regional Planning Biologist
April Mitchell	Regional Species at Risk Biologist
Bill Taylor	Regional Aboriginal Advisor
Renee Bellini	Cultural Heritage Specialist
Garnett Beemer, R.P.F.	Regional Planning Analyst
Almos Mei	Regional GIS Officer
MNRF – Parks	**Position**
Julie Sullivan	Senior Parks Planner-Northwest Region
Matt Yeo	Park Superintendent
Ron Leekam	Natural Heritage Specialist
MNRF Science Advisors	**Position**
Nicholas Buda	Forested Ecosystem Science Specialist
Ricardo Velasquez	Forested Ecosystem Science Specialist
Rob Mackereth (CNFER)	Research Scientist
Ministry of Northern Development and Mines	**Position**
Hugh Lockwood	Regional Land Use Geologist
Frank Bastone	Tourism Consultant
Ministry of Citizenship and Immigration	**Position**
Paige Campbell	Regional Archaeologist

Key Advisors/Support Staff	Position
Ministry of Tourism, Culture and Sports	**Position**
James Antler	RSA Advisor

Plan Reviewers

Plan Reviewer Name	Position
MNRF – Kenora District	**Position**
Ian Pyke, R.P.F.	Management Forester
Peter Hettinga	Management Biologist
Al Theiss	Integrated Resource Management Technical Specialist
Brenda Skene	Forestry Technical Specialist
James Williams	Resource Management Technician
Fred Zroback	Resource Management Technician
Jessica Malone	District Planner
Darren Ellery	GIS Data Technician
John Mash	Fire Operations Supervisor
MNRF – Red Lake District	**Position**
Jennifer Nielsen	Management Biologist
Kyle Myschowoda, R.P.F.	Management Forester
MNRF – Region/Province	**Position**
Neil Peterson, R.P.F. (prior to October 24th, 2016)	Regional Forest Operations Specialist (formally Regional Planning Forester)
Dean Hample, R.P.F. (after October 24th, 2016)	Regional Planning Forester
Chris Schaefer, R.P.F.	Regional Forest Management Planning Specialist
Angus Carr	Regional Planning Analyst
Lisa Eddy	Regional Planning Biologist
Ron Leekam	Natural Heritage Specialist
April Mitchell	Regional Species at Risk Biologist
Neil Graham	Regional Forester Intern
MNRF - Parks	**Position**
Julie Sullivan	Senior Planner, Ontario Parks

Any **Plan Advisor** who provided direction during the production of this Forest Management Plan was required to ensure that sections of the plan pertaining to their advice were reviewed.

Kenora Local Citizens Committee Members

Member	Representing
Clarke Anderson (Chair)	Kenora Trapper's Council
Wayne Bruce (Planning Team Member)	Lake of the Woods District Property Owners Association
Mark Scott	Kenora Independent Loggers
Rod McKay	Forest Industry
Alasdair Mowat	Mining
Alex Rheault	Tourism Industry
David Canfield	City of Kenora
Sandra Triskle	Kenora Metis Council
Karen Cederwall	Independent
Francis Kavanaugh	Naotkamegwanning Anishinabe First Nation

The Local Citizens Committee (LCC) was involved in the development of this Whiskey Jack Forest planned operations for the second five-year term. The LCC's report on its involvement in the planning process is included in Supplementary Documentation H of the forest management plan.

Red Lake District Resource Advisory Committee (LCC) Members

Member	Representing
Russ Powers (Chair)	Township of Red Lake
Len Hercun (Vice-Chair)	Forest Industry Representative
Hugh Carlsol	Northern Ontario Tourist Outfitters
Lori Lamond	Ear Falls Trappers Council
Dutchie Loman	Ear Falls Anglers & Hunters Club
John Whitton	Ontario Prospector's Association
Niall Scarr	Forest Industry/ SFL's
Carolynne Bauch	Committee's Executive Secretary
Nadine Thebeau	MNRF Liaison

The Red Lake District Resource Advisory Committee (LCC) was involved in the development of this Whiskey Jack Forest planned operations for the second five-year term. The RLDRAC's report on its involvement in the planning process is included in Supplementary Documentation H of the forest management plan.

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8.0 PLANNED OPERATIONS FOR THE SECOND FIVE-YEAR TERM

8.1 Introduction

The planned operations for the second five-year term (2017-2022) of the Whiskey Jack Forest 2012-2022 Forest Management Plan (FMP) describes the planned harvest, renewal and tending. Also summarized is a description of the prescriptions for operations, planned clearcuts, harvest volumes, wood utilization, forest access and road use management, road construction, road maintenance, road decommissioning, forestry aggregate pits, monitoring and assessment and fire preparedness and prevention activities.

The Whiskey Jack Forest Phase 2 Forest Management Plan was developed in accordance with the Forest Management Planning Manual (2009) and the Forest Information Manual (2009) and includes plan text, tables, supplementary documentation and geospatial layers. Any part of the ten year FMP that is not referenced within the planned operations for the second five-year term remains valid for the entirety of the 10 year plan.

The plan text describes the areas planned for operations for the first and second five-year terms (2012-2017 and 2017-2022) including area of concern planning. Any approved access, harvest, renewal and tending operations for the first five year term of the forest management plan, that were not completed remain approved for implementation during the second five-year term, with no further planning requirements. The planned operations for the second five-year term as well as contingency harvest areas and volumes have been reviewed, updated as required, and approved for operations during Phase II Planned Operations.

The updated supplementary documentation includes the updated Planning Team Terms of Reference (Supplementary Documentation J) and the Statement of Environmental Values Consideration Document (SEV) (Supplementary Documentation K) which contains a brief description of how the Ministry of Natural Resources and Forestry's (MNRF) SEV under the Environmental Bill of Rights, as amended from time to time, has been considered in the development of the planned operation..

All planned operations are provided in digital format as per the requirements of the *Forest Information Manual (2009)*. The information products for harvest, renewal and tending operations will serve as the stand listing.

8.2 Prescriptions for Operations

8.2.1 Operational Prescriptions for Areas of Concern

An "area of concern" (AOC) is defined as a geographic area associated with an identified natural resource feature, land use or value that may be affected by forest management activities. A detailed prescription is developed for the area of concern in order to prevent, minimize or mitigate adverse effects of forest management operations on the value. MNRF guidelines, site inspection by ground or air, regular and supplementary aerial photographs, contour and elevation maps, slope analysis, and local knowledge of trappers, Aboriginal groups, tourist operators and forestry workers were used to develop area of concern prescriptions in order to consider and protect identified values.

The area of concern prescriptions for this FMP have been prepared by the Operations Task Team to address identified values that may be affected by planned operations. The primary guide used to direct area of concern prescriptions is the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010). The Forest Management Guide for Cultural Heritage Values (2007) was used for the protection of Archaeological Potential Areas. Prescriptions have also been prepared in advance for values not currently identified on the forest, but which may be encountered during the course of operations (e.g. previously unidentified stick nests, or low potential sensitivity (LPS) streams).

Operational prescriptions for areas of concern within the areas of operations are documented in Table FMP-10. Table FMP-10 presents for each AOC the unique identifier which is illustrated on maps, a description of the value, the operational prescription, the source of the prescription, and identifies if there are conditions on roads, landings and forestry aggregate pits. AOC operational prescriptions related to roads, landings and aggregate pits within the areas of operations are documented in Table FMP-19. Where required, AOC operational prescriptions are documented in Supplementary Documentation Section F.

Some of the AOC prescriptions associated with the protection of tourism values were based on previously negotiated Resource Stewardship Agreements (RSAs). The RSAs are no longer in effect due to the Whiskey Jack Forest reverting to a Crown Unit. The planning team, however, is still committed to protecting tourism values in the areas of operations through the application of the *Management Guidelines for Forestry and Resource-Based Tourism* as one method of protecting and sustaining these values.

The selection and planning of harvest, renewal, tending operations and road locations was conducted in consideration of all currently identified values. During the planning for the second five-year term refinements to area of concern prescriptions, updating of values information and implementation of relevant direction provided by any new or updated forest management guides was completed. FMP-10 was revised to reflect new,

modified and deleted operational prescriptions for areas of concern within the areas of operations. Prescriptions in the revised FMP-10 will serve as the prescriptions for areas of concern for the second five-year term of the FMP. There are no exceptions to the FMP as a result of operational prescriptions for areas of concerns that are different from the specific direction or recommendations (standards or guidelines) in a forest management guide.

New direction was provided that required updated AOC prescriptions for Active Bank Swallow Nests (BS01), Active Barn Swallow Nests and Bat Hibernacula (NO08) and new prescriptions for Bat Roosting Sites (NO09) and Woodland Caribou Calving Lakes and Nursery Areas (CC01). Updated values information required the development of new AOC prescriptions for Waste Management Sites (WM01), Identified Cultural Heritage Values (CH01) and various Tourism related AOCs (TVal, TVrdl, TVsl, TVchu1 and Tvchu2). Supplementary documentation for new and revised operational prescriptions for an AOC that requires additional information, including comments from the public and Aboriginal communities can be found in Supplementary Documentation F. Any objections to an operational prescription for an AOC as a result of public or Aboriginal peoples comments and the response to those objections will also be documented in the supplemental documentation.

Operational prescriptions for Olive-sided Flycatcher nest sites (NO06), Canada Warbler nest sites (NO07) and Woodland pools known to support Flooded Jellyskin (WW02) have been deleted from FMP-10. The AOC prescriptions for Flooded Jellyskin were deleted because this species has been removed from the Species at Risk in Ontario List. Olive-sided Flycatcher and Canada Warbler continue to be listed as species of special concern however their habitat and nest sites are protected through the implementation of the Condition of Regular Operations (CRO) for songbirds, the emulation of natural disturbance and developed coarse filters at the landscape level that create a diversity of ecosystem conditions through space and time which provides habitat for the majority of native species.

The tourism based AOC for North Star Lodge (TVnsl) was also deleted. This AOC was developed as part of a previously negotiated RSA. The harvest block that prescriptions were negotiated for was part of the 2004 FMP is no longer part of the 2012-2022 FMP. No comments were received by this individual during the development of the Phase 2 FMP. AOC HO03 for Inactive nests of great grey owl, northern goshawk or red-shouldered hawk was also added to the FMP. I was not included in the Phase 1 FMP as there are no valus identified on the Whiskey Jack Forest at this time, however there are prescriptions in the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010) and therefore were added.

Table 1. Summary of AOC changes between Phase 1 and Phase 2 FMP.

AOC Identifier	AOC Description	Changes between Phase 1 and Phase 2
BS01	Active Bank Swallow Nests	Updated
BS02	Active Barn Swallow Nests	Updated
HO03	Inactive nests of great grey owl, northern goshawk or red-shouldered hawk	Updated
NO06	Olive-sided Flycatcher nest sites	Deleted
NO07	Canada Warbler nest sites	Deleted
NO08	Bat Hibernacula	Updated
NO09	Bat Roosting Sites	New
TVnsl	Tourism - North Star Lodge	Deleted
Tval	Tourism - Aerobus Lake	Updated
TVsl	Tourism - timing restriction	New
TVrdl	Tourism - Red Deer Lake	New
TVchu1	Tourism - Chukuni1	New
TVchu2	Tourism - Chukuni2	New
WW02	Flooded Jellyskin	Deleted
WM01	Waste Management Sites	New
CH01	Identfied Cultural Heritage Values	New
CC01	Woodland Caribou Calving Lakes and Nursery Areas	New

The AOC prescriptions that were applied to known values and common prescriptions from the previous FMP were used where possible and relevant. New prescriptions were created based on new direction in new forest management guides and new values found on the forest. Prescriptions can be one of the following:

- Reserve – no harvest, renewal or tending operations.
- Modified – modified forest management activity – timing, operational conditions.
- Regular – no conditions on harvest, renewal or tending operations.

The following is related to some of the values as documented in Table FMP-10. Refer to Table FMP-10 for the actual prescriptions that apply:

Archaeological Potential Areas (AOC A01)

Forest management activities are to be planned and carried out in a manner to prevent adverse effects on cultural heritage values. Areas of concern planning for cultural heritage values will be carried out in accordance with the *Forest Management Guide for Cultural Heritage Values (2007)*.

Archaeological Potential Areas (APAs) for the Whiskey Jack Forest were determined through the use of the Heritage Assessment modelling tool. The model predicts areas

where archaeological sites are likely to exist based on the presence of specific landscape features that resemble the location and site conditions of known sites on the forest management unit. Each archaeological potential area on the Whiskey Jack Forest is an area of concern. The APA areas of concern are identified on maps as AOC A01 and their prescription is found in Table FMP-10.

Identified Cultural Heritage Values (AOC CH01)

Prescriptions for the protection of identified cultural heritage values are developed through consultation with the individuals or communities who have identified the value. These values have specific geographic locations that have been identified as having significant importance to members of Aboriginal Communities.

Prescriptions are developed to protect the identified values while ensuring that the exact location of the value remains undisclosed. If agreed upon, additional information for areas of concern will be included in Area of Concern Planning Supplementary Documentation F.

Discovery of Cultural Heritage Values During Forest Operations

If a cultural heritage value is discovered during operations then operations must immediately stop and the district MNRF staff is to be contacted. The value class of the discovery will determine who of the following will be contacted: Ontario Ministry of Culture staff, the local Aboriginal community, Registrar of Cemeteries, and/or the provincial cultural heritage specialist.

As per the Guide, if human remains are discovered, operations at the site must stop immediately. MNRF district staff, the local or Ontario Provincial Police, and the Registrar of the Cemeteries Regulation Section of the Ministry of Consumer and Business Services at (416) 326-8393 will be contacted as soon as possible. The police will investigate the report to determine if the human remains are of forensic interest or represent a burial site as defined by the Cemeteries Act. All involved parties must act to safeguard the location until the police attend the site, and to limit media contact or display. In addition, if the protection measures for an area of archaeological potential are not complied with, operations must immediately cease within the area of concern and a Stage 2 archaeological assessment per the Ontario Ministry of Culture's current standards and guidelines for consultant archaeologists shall occur.

Furbearer Dens (AOCs D01 to D05)

In accordance with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010), prescriptions for the protection of furbearer dens have been included in Table FMP-10 as AOCs D01 to D05. These prescriptions apply to identified black bear, grey fox, cougar, Algonquin wolf (formally Eastern wolf) and wolverine dens. In general, regular harvest, renewal, and tending operations are permitted within the AOC outside the denning period (varies by species) and are subject

to the general direction for the protection of dens of furbearing mammals (text Section 8.2.2.2 Conditions on Regular Operations).

Cougars, grey fox, Algonquin wolves and wolverine are designated as Species at Risk. When a wolverine den site is identified, MNRF will prepare a den site management site plan that will outline the extent and timing of harvest, renewal and tending operations acceptable within the AOC, If there are changes in the conservation status of species identified on the Species at Risk in Ontario List and of which are located in the Whiskey Jack Forest, a FMP amendment will be submitted to reflect required operational changes.

Mineral Licks (AOC M01)

In accordance with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010), a prescription has been included in Table FMP-10 (AOC M01) to protect known mineral licks.

Bird Nests (AOC numbers starting with N, ON, BH, BG, HO, or NO)

Bird nests that have been identified are recorded in the current Land Information Ontario (LIO) values information. Each nest has a unique identifier as per LIO numbering system and LIO maps (not shown on FMP maps). Other bird nests will be identified during forest operations as encountered.

In accordance with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010), prescriptions have been included in Table FMP-10 to protect identified bird nests. The level of protection around the nests are based on many factors: the bird species associated with the nest(s), location of the nest (trees or ground), whether the nest is a primary, alternate or inactive nest, the nest occupancy, the timing since the nest was known to be occupied, timing of identification of the nest (before or during operations), timing of the critical breeding period (varies by bird species), and the relative impact of harvest, renewal or tending operations on the birds and their nests.

There is an AOC prescription for Eastern Whip-poor-wills (AOC NO04) which is classified as a threatened species on the Species at Risk in Ontario List. If there are changes in the conservation status of species located in the Whiskey Jack Forest during Phase 2 operations, a FMP amendment will be submitted to reflect required operational changes.

Bats (AOC NO)

There are AOC prescriptions for bat hibernacula and bat maternity roosting sites. Although these AOCs cover all bat hibernacula and bat maternity roosting sites, the species of importance are the Little Brown Bats and Northern Myotis which are classified as endangered on the Species at Risk in Ontario List. If there are changes in

the conservation status of species located in the Whiskey Jack Forest during Phase 2 operations, a FMP amendment will be submitted to reflect required operational changes.

Growth and Yield Plot (AOC PGP01)

The Forest Ecosystem Science Cooperative Permanent Growth Plot (PGP) Growth and Yield Trial Plot is a value that has an associated prescription in Table FMP-10 for adjacent harvest, renewal or tending operations.

Land Ownership or Non-timber Use Values (AOCs FL01, PL01, NG01, RR01, HB01, WM01)

Areas were identified that were not owned by the Crown (patent land, federal land) or Crown land with management uses other than or in addition to timber production (e.g. provincial parks, railway right of way, natural gas transmission pipelines, highway corridors, waste management areas). Where these land ownership/management use areas were in proximity to planned operations on the Whiskey Jack Forest, area of concern prescriptions were developed to protect the values. Prescriptions included in Table FMP-10 include precautions to identify the location of the land value, slash management adjacent to railway right of ways, communication with natural gas pipeline staff prior to operations on pipelines, delay of harvest adjacent to highway corridors until adjacent forest is a minimum height and no harvest reserves.

Tourism Values (AOC numbers starting with TV)

Prescriptions for the enhancement of tourism values were developed through consultation with the affected parties and tourist outfitters, either as a component of previously negotiated Resource Stewardship Agreement or through regular communication with stakeholders during areas of concern prescription development.

The Operations Task Team, with input from interested tourist outfitters and/or the public, applied varied prescriptions around various tourism values. These prescriptions included increased riparian reserves in specific locations to enhance shoreline aesthetics, conditions on operational roads to address access concerns, seasonal restrictions on harvest, road construction or mechanical site preparation.

All the tourism areas of concern prescriptions have been developed using a variety of directions and recommendations provided in the *Management Guidelines for Forestry and Resource-Based Tourism* as well as direction from the *Ontario's Crown Land Use Policy Atlas*.

All negotiated areas of concern are included in Supplementary Documentation F.

Lakes, Ponds, Streams and Rivers (AOCs starting with WL and WS)

Values associated with lakes, ponds, streams, and rivers were identified in accordance with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010). The values are classified based on the type of water body, as well as the relative potential impact from forest management activities (low, moderate or high potential impact from operations). The width of the reserve or the permitted harvest, renewal or tending activities will be dependent on the value being protected and the potential sensitivity of the value to forest management operations.

Areas of concern are identified adjacent to the specific aquatic values. Depending on the value being protected, AOCs are of a fixed dimension (e.g. 15 metres from ponds with low potential sensitivity to forest management operations) or are variable width based on shoreline slope (e.g. 30-90 metres AOC on lakes with high potential sensitivity to forest management operations).

Wetlands Occupied by Breeding Black Terns and Least Bittern (AOC WW01)

Specific restrictions are identified for wetlands occupied by breeding Black Terns and Least Bittern (Species At Risk). If there are changes in the conservation status of species listed on the Species at Risk in Ontario List and which are located in the Whiskey Jack Forest during Phase 2 operations, a FMP amendment will be submitted to reflect required operational changes.

Woodland Caribou Calving Lakes and Nursery Areas (CC01)

In accordance with the Forest Management Guide for Boreal Landscapes (MNR, 2014) and the Caribou Conservation Plan (2009), prescriptions have been included in Table FMP-10 to protect against harm and harassment during the calving and nursery season.

Caribou calving and nursery areas that have been identified are recorded in the current Land Information Ontario (LIO) values information. These values are broadly identified and analysis on suitable habitat and known occurrences can be used to redefine the feature. Prescriptions included in Table FMP-10 and FMP-19 includes prohibiting high and moderate potential impact operations during the calving and nursery season and constructing operational roads to minimum standards to assist in decommissioning and reforestation requirements.

8.2.1.1 Operational Prescription for Areas of Concern Information Products

The spatial locations of areas of concern are included in the forest management plan in two information formats: illustrated on maps and included in the digital coverages of electronic information to be viewed with the planned harvest layer of information.

In both formats, the (a) area of concern identifier, and (b) the area of concern type are identified. The spatial location of the area of concern when cross referenced with the

operation prescription for the area of concern (Table FMP-10) identifies the operational prescriptions for harvest, renewal and tending to be applied to the specific AOC.

8.2.2 Prescriptions for Harvest, Renewal and Tending Areas

Prescriptions for harvest, renewal and tending operations are discussed in the following sub-sections:

Section 8.2.2.1 Silvicultural Ground Rules
Section 8.2.2.2 Conditions on Regular Operations
Section 8.2.2.3 Silvicultural Treatments of Special Public Interest

Digital spatial information products for harvest, renewal and tending operations that are included with the FMP will serve as the stand list for forest operations. The information product for the harvest, renewal and tending areas is the SGR field in the planning composite (PCM) coverage and linked information for the planned harvest is in the PHR coverage.

8.2.2.1 Silvicultural Ground Rules (SGRs)

Silvicultural Ground Rules (SGRs) are defined as “Specifications, standards, and other instructions, that direct silvicultural activities on a management unit during the period of the forest management plan” (FMPM, 2009).

Silvicultural ground rules which identify a unique combination of current forest unit/ecosite and future forest unit were established to specify the silvicultural systems, types of harvest, renewal and tending treatments that will be used to manage forest cover on the Whiskey Jack Forest. SGRs were developed to reflect planned silvicultural intent and are consistent with the development information used in the Long-term Management Direction (LTMD) strategic model projections. SGRs are not included for unplanned future forest conditions (e.g. resulting from unintentional treatment failures), though the impact of estimated failures was factored into the calculation of the available harvest area in the Long-term Management Direction.

SGRs are documented in Table FMP-4 and it has been updated for the second five-year term to include additional regeneration standards. FMP-4 was not revised to include new silvicultural ground rules and all existing silvicultural ground rules continue to be applied. The prescriptions for harvest, renewal and tending presented in the updated Table FMP-4 will serve as the prescriptions for operations, including naturally depleted areas that are salvaged, for the second five-year term of the forest management plan.

The silvicultural ground rules identify the type of forest that is expected to develop over time and the regeneration standards used to measure renewal success (see Section 8.7.3 Assessment of Regeneration Success). Table FMP-4 includes renewal and forest development information for native tree species to the Whiskey Jack Forest. Exotic tree

species, not naturally found on the forest, will not be planted or otherwise encouraged through renewal efforts.

Regeneration Standards

- MNRF report NWSI TM-009 was used to assist in the development of renewal standards and to ensure that provincially consistent terminology was used.
- It is expected, with a reasonable level of confidence that achievement of the regeneration standards will result in the stated future forest conditions at maturity (Forest Unit, Stand Characteristics, Silvicultural Intensity, and Projected Yields) in Table FMP-4.
- Acceptable tree species are compatible with the stand objectives, and where competitive tree species are considered acceptable, they are limited to a specific proportion of the stand's species composition to align with the forest conditions represented in the stated stand characteristics and projected volume yields at maturity.
- Balsam Fir has not been included as an acceptable species; unless it is stated in the future stand characteristics.
- Regeneration standards include a minimum target of 80% of site occupancy (target and acceptable species).
- Regeneration standards include a measure of tree distribution. The use of density versus stocking targets depends on the type of treatments employed. Areas that receive extensive or basic treatments will receive regular free-to-grow, Large Scale Photography and Photo Interpretation (methodology in Supplementary Documentation D) or ocular surveys and contain an estimate of tree stocking. Areas treated intensively and that are density regulated will receive a well-spaced free-growing survey or be surveyed with Large Scale Photography and Photo Interpretation.
- Regional Forested Ecosystems Science Specialists assisted in the development of well-spaced free-growing density renewal standards that have been included for extensive and basic silviculture intensity treatment packages. These densities were developed to facilitate the use of a more intensive survey methodology (well-spaced free-growing) that is commonly used at the time of silviculture effectiveness monitoring (Section 8.7.3.1). The well-spaced free-growing survey is not required to be implemented on extensive or basic treatments.
- Regional Forested Ecosystems Science Specialists used a modelling approach to extrapolate density information from the yield curves developed as part of the Phase 1 FMP. It was determined that the 100% stocking densities for "all species" for the extensive treatment were 1250 well-spaced free-growing (WSFG) stems/ha and 2500 WSFG stems/ha for basic and intensive treatments. The minimum densities for "all species" were determined to be 1000 WSFG stems/ha (extensive), 1850 WSFG stems/ha (basic) and 2000 WSFG stems/ha (intensive). The target densities for "all species" for extensive and intensive are 1250 WSFG stems/ha (extrapolated from the model) and 2500 WSFG stems/ha (100% stocking). The basic target densities for "all species" are determined by multiplying the target stocking identified in the

SGR by 2500 stems/ha. The target densities for the "target species", regardless of treatment intensity, were determined based on the 100% stocking density multiplied by the average stocking of the desired future stand composition (extrapolated from the model) which is based on the list of target species identified in the SGR. The minimum densities for the "target species" are 10% less than the target densities for the "target species". If the minimum density for "target species" for the extensive treatment is lower than 625 WSFG stems/ha, the minimum density will be set at 625 stems/ha. If the minimum densities for "target species" for the basic and intensive treatment are higher than the minimum density for "all species" the minimum density for the "target species" will be equivalent to the minimum density for "all species". This approach is further explained in Table 2. Well-spaced Free-growing Density Renewal Standards.

Table 2. Well-spaced Free-growing Density Renewal Standards

		All Species		Target Species	
Treatment Intensity	**100% Stocking Density**	**Minimum Density**	**Target Density**	**Minimum Density**	**Target Density**
Extensive	1250 stems/ha	1000 stems/ha	1250 stems/ha	10% of the target density or 625 WSFG stems/ha (whichever is greatest)	1250* average stocking of desired future stand consition (defined by target species)
Basic	2500 stems/ha	1850 stems/ha	SGR target stocking*2500 stems/ha	10% of the target density or 1850 WSFG stems/ha in rares cases where target minimum is higher than all species minimum	2500* average stocking of desired future stand consition (defined by target species)
Intensive	2500 stems/ha	2000 stems/ha	100% stocking density (2500 stems/ha)	10% of the target density or 2000 WSFG stems/ha in rares cases where target minimum is higher than all species minimum	2500* average stocking of desired future stand consition (defined by target species)

The planned SGR represents the best estimate of the proposed operations at the time of FMP preparation, and will not limit the selection of any of the acceptable alternative silvicultural treatments in the silvicultural ground rules at the time of implementation of operations. For each forest unit, the most common silvicultural treatment package (summarized in Table 3) in Table FMP-4 is considered to be the package most likely to be used that will reflect the silviculture strategy for each forest unit. Overall the most common silvicultural treatment packages are designed to meet the Long-term Management Direction strategy of moving the forest to a more natural (pre-fire suppression) state where there are fewer mixedwood stands and more pure conifer and hardwood stands.

Acceptable alternative treatments are also identified in the silvicultural ground rules. It is recognized that individual treatments within a silvicultural treatment package or alternate identified acceptable treatments are implemented in succession, and therefore it may take longer than a five-year phase of the FMP for an entire silvicultural treatment package to be implemented.

Where in accordance with the use management strategy for the road, operational roads will be regenerated, where possible, as harvested areas are regenerated. Site

preparation will cross ungravelled roads and they will be planted or seeded. Those roads that cannot be site prepared will be planted tightly to the edge.

All operational maps (1:20,000) show ecosite type and proposed silvicultural ground rule (for each stand planned for harvest). The harvest and renewal and tending layers will serve as the stand listing. Silvicultural Ground Rules are found in the field "SGR" in the planning composite inventory coverage.

There are some silvicultural treatments that are of special public interest (Section 8.2.2.3). These activities include the aerial application of herbicides. The aerial application of herbicide as a tending operation is proposed in this plan, with the location of eligible areas identified on the Potential Aerial Spray and Renewal Areas Index map. The identification of areas for aerial chemical tending will be scheduled in the Annual Work Schedule if treatment is being proposed for that year. Approvals by the Ministry of the Environment and Climate Change (MOECC) will be required prior to the aerial application of registered herbicides on the Whiskey Jack Forest.

Table 3. Most Common Silvicultural Treatment Packages by Forest Unit

Forest Unit		Most Common Silviculture Treatment	
Forest Unit	**Stand Description**	**SGR Code ***	**SGR Description**
BFM	balsam fir mixed stands	BFM-BA1-PJM	Conventional harvest, followed by mechanical site preparation and planting, resulting in a jack pine dominated mixedwood (includes a spruce component).
CMX	conifer mixedwood stands	CMX-BA1-PJM	Conventional harvest, followed by mechanical site preparation and jack pine seeding, resulting in a jack pine dominated mixedwood.
HMX	mixed hardwood dominated stands	HMX-EXT-POD	Conventional harvest, followed by natural regeneration, resulting in a poplar dominated stand.
OCL	larch and cedar dominated lowland stands	OCL-EXT-OCL	(No OCL area planned for harvest in this plan.) Conventional harvest, followed by natural regeneration, resulting in a larch and cedar dominated lowland stand.
OTH	other hardwood mixedwood stand	OTH-EXT-OTH	(No OTH area planned for harvest in this plan.) Conventional harvest, followed by natural regeneration, resulting in an other hardwood mixedwood stand.
PJD	jack pine dominated stands with minimal hardwood component	PJD-BA1-PJD	Conventional harvest, followed by mechanical site preparation and jack pine seeding, resulting in a jack pine dominated stand.
PJM	jack pine dominated mixedwood stands with minimal hardwood component	PJM-BA1-PJD	Conventional harvest, followed by mechanical site preparation and jack pine seeding, resulting in a jack pine dominated stand.
POD	poplar dominated stands	POD-EXT-POD	Conventional harvest, followed by natural regeneration, resulting in a poplar dominated stand.
PRW	red pine and white pine mixedwood stands	PRW-BA1-PRW	Conventional harvest, followed by mechanical site preparation and planting, resulting in a red pine and/or white pine dominated stand.
SBL	lowland black spruce stands	SBL-EXT-SBL	Conventional harvest, followed by natural regeneration, resulting in a lowland black spruce stand.
SPD	upland black (or white) spruce dominated stands with minimal hardwood component	SPD-EXT-SPM	Conventional harvest, followed by natural regeneration, resulting in a spruce dominated mixedwood stands.
SPM	spruce dominated mixedwood stands with minimal hardwood	SPM-BA1-SPD	Conventional harvest, followed by mechanical site preparation and planting, resulting in a spruce dominated stand.

* SGR CODE reflects the [current forest unit]-[silvicultural intensity]-[future forest unit]

8.2.2.1.1 Exceptions

Any silvicultural ground rules involving treatments that are not recommended (NR) in the approved silvicultural guides are recorded as "exceptions" in Table FMP-4 and in the List of Exceptions. Not recommended activities cannot be implemented until the associated rationale and effectiveness monitoring plan is approved in an FMP. The monitoring program for exceptions will be documented in Supplementary Documentation Cand will include methodologies, timing and duration, documentation and reporting, and the opportunities for local citizens committee participation.

Any silvicultural ground rule involving treatments that are conditionally recommended (CR) in the approved silvicultural guides are identified in Table FMP-4. The conditions under which these guideline recommendations apply, and any associated conditions or best management practices that must be applied during the implementation of the silvicultural treatment are identified for each silvicultural ground rule. The treatments for the specific sites are not considered "exceptions" to the approved guides when implemented with the stated conditions.

Monitoring of Silvicultural Treatments Not Recommended in Guides

The following activities are not recommended in the Silviculture Guide to Managing for Black Spruce, Jack Pine and Aspen on Boreal Forest Ecosites in Ontario (1997) and will be monitored as exceptions: full tree logging on ecosites 11 and 12 where total soil depth is less than 20 cm, artificial seeding of black spruce on ecosites 14 and 21 and natural regeneration of jack pine on ecosite 21. Results will be submitted as part of the Annual Report.

Areas receiving treatments considered "exceptions" in Table FMP-4 will be monitored for the effectiveness of the treatment to the site on which it was applied. In the event that any exceptions to the silvicultural guides do occur, they will be monitored as required with the results documented. Inspections will involve a visual evaluation of indicative sites by experienced foresters to evaluate whether the effectiveness of the respective renewal treatment is satisfactory. If the silvicultural results are in question, a regeneration survey will be conducted in accordance with corresponding Forest Operations Prescriptions.

The assessment of these surveys will be documented in the annual report with a discussion on the progress toward completing the forecast assessments of regeneration success (comparison to Table FMP-21).

Full Tree Logging on Ecosites 11 and 12

"Full tree logging on Northwestern Ontario Ecosites 11 and 12, where total organic matter plus soil depth is less than 20 cm and age rotation is less than 80 years, is designated as a 'not recommended' practice in the *Forest Management Guide for Silviculture in the Great Lakes-St. Lawrence and Boreal Forests of Ontario (MNRF, 2015).*

MNRF and forest managers are contributing to a comprehensive, region-wide initiative to monitor the effect of this harvest method on site productivity for these shallow-soiled site conditions. As part of this monitoring program these shallow soil sites have been identified in this plan and operations will be conducted in accordance with the Best Management Practices approved for these conditions as per the letter from the NWR Regional Director of 3 Oct 2007: *Full Tree Harvesting of Ecosites 11 & 12 in Northwestern Ontario: Monitoring Procedures and Best Management Practices April 1, 2001* (Supp.Doc E).

Ecosites in the Whiskey Jack Forest are identified in the forest resources inventory and are identified within the planned operations digital information associated with the FMP. Actual Ecosite 11 and 12 areas scheduled for activities will be identified on the Annual Work Schedule maps.

The rationale for using full tree harvesting on these sites is that it is currently the common method of harvest and it would be uneconomical to bring in specialized equipment to harvest scattered areas of shallow soils. The shallow soil sites on the Whiskey Jack Forest are, for the most part, productive and it is felt that using full tree logging in a careful manner will preserve the sites' nutrient capacity.

Artificial seeding on Ecosites 14 is listed as an exception. This site is prone to drought which will limit the success of seeding.

Natural regeneration of jack pine or spruce on Ecosites 21 is an exception. Advance black spruce growth is not of sufficient distribution to regenerate this site and jack pine does not regenerate under a closed canopy.

8.2.2.2 Conditions on Regular Operations (CROs)

The conditions on regular operations have been developed through the application of the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNR, 2010). Where these conditions on regular operations apply to a specific management zone, the text identifies the management zone where the condition is applied. For example, Moose Emphasis Areas are such management zones and the associated CROs for these zones are included in the following table.

MNRF has not identified any S1, S2, or S3 Natural Heritage Information Centre vegetation communities or other uncommon vegetation communities which are likely to occur in areas of planned operations. Therefore CROs as per page 13 of the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales, 2010* have not been developed. If any of these communities are identified in the future, the MNRF Species At Risk and Regional Biologists will be consulted to develop CROs (or an AOC if determined appropriate). See Section 2.1.3.2.2 Rare Species and Section 2.1.3.2 Species At Risk (located as part of the Phase 1 FMP) for additional species information.

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

Biofibre Harvest:

Forest biofibre refers to forest resources from Crown lands that are not being utilized for other forest products and that are made available under an approved FMP, forest biofibre is comprised of:

1. Unmerchantable timber such as undersized wood, cull trees or portions of trees,
2. Individual trees and stands of trees that are merchantable, and
3. Trees that may be salvaged as a result of a natural disturbance.

Biofibre may be the primary (e.g., otherwise unmarketable stand of low-grade hardwoods) or secondary (e.g., undersized material after optimizing recovery of pulpwood, veneer and/or sawlog) product of a planned harvest operation.

- Direction applies to all planned harvest areas regardless of the product derived.
- Stumps and all below ground portions of a tree are not available for utilization as a forest product; movement or removal associated with normal operations (skid trails, renewal and tending, slash piling, etc., including incidental movement or removal during harvest operations), is permitted but will be minimized to that required for efficient operations; removal for forest health purposes is permitted.
- Organic matter that is not part of a harvested tree (including boles, branches, roots, bark, leaves, needles, debris, soil carbon, etc.) will remain on site; movement of such material for silvicultural purposes is permitted.

Salvage Harvest:

The direction in this section will apply to all salvage operations, regardless of the origin or type of natural disturbance that led to the decision to engage in salvage operations.

- Consistent with direction in Wildlife Trees – Clearcut Silviculture System, salvage harvest will normally retain a minimum average of ≥25 stems/ha ≥3 m in height and ≥10 cm dbh. This is the minimum average for the harvest block (or minimum average per 20 ha if the harvest block ≥20 ha) contingent upon sufficient numbers and types of standing stems being available and in a condition suitable for retention.
- In fire salvage areas, preferably retain conifers such as jack pine and black spruce as wildlife trees.
- Salvage operations will consider strategic landscape objectives.
- When finalizing boundaries of a salvage operation that results from wildfire, the area of undisturbed forest included in the salvage operation will be minimized.

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- When finalizing boundaries of a salvage operation that results from blowdown, insect infestation, or other factors (e.g., ice storms), the area of the salvage operation can include undisturbed forest. When salvage operations include undisturbed area, conditions on residual forest retention, wildlife trees, and downed woody material apply.
- The trees retained following salvage operations will have a range of distribution patterns (relatively even-spaced to some clumping), recognizing operational limitations, and subject to the availability of standing trees.
  - Whenever possible, the trees retained following harvest will be the same species and size classes as trees that would have been retained following normal harvest (as per direction below 'Wildlife Trees – Clearcut Silviculture System').
- Adjust the timing of entry and/or other operational factors to minimize unnecessary site disturbance that could potentially result in ecological damage (e.g., avoid salvaging a swamp in the frost-free period).
- Reasonable efforts will be made to avoid windrowing or crushing of downed woody material.

Downed Woody Material:

Material that was traditionally referred to as downed woody debris.

Downed woody material refers to wood above the soil and on the ground: coarse woody material refers to sound and rotting branches, boles, logs, and stumps, generally ≥7.5 cm in diameter at the small end; fine woody material refers to stems and twigs generally <7.5 cm in diameter at the small end.

- Stems retained as wildlife trees that fall down, or are felled for worker safety reasons, become downed woody material and will be left on site; moving such trees for silvicultural purposes is permitted.
- Dead trees present prior to harvest, including those lowered to the ground for safety considerations should be left on site.
- Downed trees (or pieces of trees) present prior to harvest will be left on site; moving such trees for silvicultural purposes is permitted.
- Trees leaning and downed by a recent disturbance (windstorms or other natural events e.g. snow, ice), which normally would have been available for harvest, may be harvested and utilized.
- Minimize the windrowing of downed woody material; where long windrows do occur, breaks should be provided to allow animals, other forest users and operations unobstructed access routes across the right of way e.g. a 10 m break for every 100 m of windrow.

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- Where compatible with logging methods, unmerchantable logs, or portions of logs, should be left on site, at the stump.
- Dead trees present prior to harvest, including those lowered to the ground for safety considerations should be left on site (only safe dead trees will remain standing).

Erosion:

Erosion can be defined as the overland movement of soil particles by water, wind or gravity.
Erosion can be the result of either natural causes or human site alterations.

- Skid trails will avoid steep slopes (>30% slope) where possible.
- Shallow soil sites that are particularly susceptible to erosion (i.e. moderate to steep slopes) will be harvested in winter.
- Wood will be winched or reached with a feller buncher on areas where the skidder operator feels the slope is unsafe for operations.
- Forest operations will not be conducted on extremely steep slopes.
- Green wildlife trees, organic matter and surface vegetation will be preserved on steep slopes (>30% slope).
- Stable slopes will be maintained on ditch lines, road fills and cuts.
- Slopes and banks will be reinforced (re-vegetate or use logging debris).
- Site disturbance associated with forest operations will be minimized on shallow soil sites.
- Skid trails will be kept to a minimum, with an emphasis on the protection of advanced regeneration.
- Post-harvest prescriptions and renewal efforts will be carried out as quickly as possible on shallow soil sites to encourage full site occupancy. This will minimize problems with erosion and loss of nutrients.
- Heavy mechanical site preparation (i.e. blading, heavy drags or continuous disc trenching with down pressure) will not be used on shallow soil sites.
- Harvest and site preparation will be scheduled for the appropriate season for the site. Sensitive sites will be cut in winter (or drier periods in summer).
- Decommission main skid trails constructed on steep slopes by installing water bars, diversion ditches, straw bales, etc. at appropriate intervals or critical landform junctures to filter runoff water through surrounding vegetation.
- Minimize mineral soil exposure to that required for efficient operations and effective silviculture (consistent with SGR for the site).

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

• Mitigate or rehabilitate areas of significant erosion that are transporting, or are likely to transport, sediment into a water feature.
Forest Composition • Harvest, renewal and tending treatments to maintain existing tree species composition at forest unit level unless strategic direction to do otherwise. • Forest unit conversion within moose emphasis areas to move towards desired forest composition ranges.
Furbearing Mammal Dens(other than red foxes, skunks, wolves, wolverines) – in caves, excavated burrows, under large piles of coarse woody material or other **enduring features** – known to have been occupied at least once within the past 5 years: • Harvest, renewal, and tending operations are not permitted within 20 m of the den entrance.
Furbearing Mammal Dens (other than red foxes, skunks, wolves, wolverines) – in tree cavities, hollow logs, brush piles, other **transitory features** – known to be occupied: • Known occupied dens encountered during operations will not be destroyed; in this context, destruction means the complete or partial damage of the den structure or its contents (i.e. adults or young). • To minimize disturbance harvest, renewal, and tending operations will be avoided within 3 metres of dens known to be occupied that are encountered during operations; this will include the following: retaining trees within 3 m (patch may be counted as a clump of wildlife tees), not felling trees into the area within 3m, heavy equipment will not travel within 3m.
Hydrological Impacts: • Based on local conditions, take reasonable precautions to ensure harvest, renewal, and tending operations will not result in disturbance of the forest floor that impedes, accelerates, or diverts water movement within recognizable ephemeral streams, springs, seeps, and other areas of groundwater discharge connected to lakes, ponds, rivers, or streams. • Based on local conditions, explore reasonable alternatives to crossing organic and saturated mineral soils during the

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

frost-free period.

- Minimize the potential for hydrological disruption when crossing during the frost-free period cannot be avoided (See conditions listed under the section titled “Rutting and Compaction” found in this table.).
- Train field staff, especially equipment operators, in the recognition and significance of disruption of hydrological function.
- On very dry sites, careful logging practices that retain some trees, shrubs, advanced growth, and slash can reduce overall ground temperature and reduce excess drying.
- Where possible, locate roads and landings so skidding and forwarding does not have to cross natural drainage patterns.
- Regenerate susceptible sites as quickly as possible to restore transpiration and moderate hydrological changes.

Large Landscape Patches – Deer Emphasis Areas (DEAs)

The following direction will apply to areas of operations in DEAs:

- If practical and feasible, the block will be scheduled for harvest in the winter season
- All bur oak will be retained except where required to be cleared for road right-of-way
- Operations will preferentially retain mature white spruce, white pine and cedar as wildlife trees, priority given to retaining small clumps of trees, as opposed to individual trees, if they occur.
- All blocks were reviewed by the District Biologist. Locations of the DEAs are portrayed on the MU490_2012_FMP_P2_MAP_MEA_DEA_00 index map.

Large Landscape Patches – Moose Emphasis Areas (MEAs)

The following direction will apply to areas of operations in MEAs:

- Residual shoreline forest (see FMP-10, WS and WL AOCs) (see Section 8.3.1, the operations maps and Residual, Mapped and Residual, Unmapped in this table) should be retained preferentially when it:
  - is adjacent to higher quality moose aquatic feeding areas (MAFAs) (i.e., class 4 MAFAs or class 3 MAFAs),
  - is adjacent to larger MAFAs (i.e., MAFAs > 8 ha are better than MAFAs 4-8 ha which are better than MAFAs < 4 ha),
- is adjacent to MAFAs without features that restrict access such as steep terrain,

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- will provide screening from roads,
- connects MAFAs to other residual forest (especially identified patches of summer thermal shelter and/or travel corridors), or
- minimizes the distance between the aquatic vegetation and cover.
- Residual patches required to meet residual forest guidelines (see Section 8.3.1, the operations maps and Residual, Mapped and Residual, Unmapped in this table) can be used to manage for summer cover in areas where forest operations are planned, using the following criteria:
    - Size and Distribution: minimum 2 ha
    - Location: Summer cover habitat will normally be adjacent to MAFAs moose are most likely to use (i.e., ≤ 200 m, measured from the edge of the MAFA to the nearest edge of the patch of summer cover). If high quality MAFAs (Class 3 or 4) are not present, suitable summer cover will be adjacent (≤ 200 m) to other MAFAs, or natural openings (e.g., beaver meadows). Link summer cover to immature, mature, old, or residual forests, particularly shoreline forests. Linkages are considered adequate when the distance from the edge of a patch of summer cover to immature, mature or residual forests is ≤ 200 m and the terrain is traversable by moose (e.g., the terrain is relatively flat).
    - Characteristics: Maintain or retain the best summer cover habitat available. In general, lowland conifer > upland conifer > lowland or upland hardwood > mixed woods.
- Location of the afore-mentioned unmapped residual patches required to meet residual forest guidelines will be determined in consultation with the MNRF district biologist at the AWS submission stage. This will include either mapping them on the AWS operations maps or providing more specific direction in the AWS text on a block by block basis.
- Silvicultural prescriptions will be consistent with moose habitat management objectives.
- Locations of the MEAs are portrayed on the MU490_2012_FMP_P2_MAP_MEA_DEA_00 index map.

Loss of Productive Land:

Loss of productive land can be described as the conversion of previously productive forest land to a long-term or permanently non-forested condition as a result of forest management operations. Some loss of productive land through the conversion to other land types (e.g., permanent roads) is inevitable.

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- Sites will normally be regenerated within three years of harvest and free to grow (FTG) by the age of FTG in the SGR.
- Minimize the amount of area being converted to non-forest (e.g., roads and landings) to the minimum required for efficient operations.
- Placement of landings should consider bedrock or other existing non-productive land and the creation of landings will be minimized.
- Pile unutilized fibre on non-productive rock or use in the production and/or reclamation of roadways where possible.
- Exposure of bedrock should be minimized.
- Ponding created by operations and roads will be mitigated where possible.

Slash and Chip Debris Piles:

- Slash and chip debris piles will not accumulate through time or result in a permanent loss of production land.
- The production land base will be recovered from new slash and chip piles (and existing piles as noted below) and these areas will be renewed except where they were not part of the production land base originally (e.g. rock outcrops).
- Operations will be conducted in a manner to prevent or minimize the creation of slash debris piles where full tree and/or tree-length logging is identified as an acceptable logging method in the SGRs.
- Operations will be conducted to remove slash and chip debris piles and recover the production land base from these areas (e.g. biofibre harvest, slash pile burning, spreading, site preparation, or planting/seeding).
- Slash/chip treatment operations are planned to be completed while equipment is still within the harvest area with renewal planned to be completed within one year of slash/chip pile treatment. Slash/chip treatment operations will be completed no later than two years following the completion of harvest operations and renewal will be completed no later than three years following the completion of harvest operations.
- The most applicable SGR will be applied to renew the area, based on the specific site conditions of areas formerly occupied by slash and/or chip piles, and the renewal including regeneration treatments should complement the treatments on the adjacent treated areas.
- Existing slash and chip piles (three years old or less) will be treated and regenerated as noted above usually within three years of the completion of harvest operations.
- Older existing slash and chip piles (more than three years old) will be reviewed and, where practical, treated and

Conditions on Regular Operations

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Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

regenerated as noted above using the most applicable SGR unless a different rehabilitation strategy including regeneration standards have been documented in Section 8.2.2.1 Silvicultural Ground Rules.

Slash Piles:

- Unutilized woody material, which accumulates at roadside and is expected to remain unutilized, will be piled, redistributed, or otherwise treated to increase the area available for regeneration.
- Avoid piling unutilized fibre on productive non-forest cover types (e.g., brush, alder or wet areas).
- Pile unutilized fibre on non-productive rock where possible.

Chip Debris:

- Suitable chipping pads and landings will be selected prior to the commencement of operations.
- Bedrock and/or non-productive areas are preferred locations for chipper pads.
- Windrowing and piling of chip debris on productive land must be limited in application (extraordinary circumstances).
- Piles are to be located to maximize skid distance and minimize the number of chipper pads.
- Piles will be no larger than 3 metres by 3 metres and a maximum of 3 metres high;
- Piles will be located at least 30m from standing timber or previously regenerated areas to reduce the fire hazard.
- When the skidder is returning to the harvest area for the next bundle, the operator will distribute logging debris back into the cutover. The debris will be dropped in front of the next bundle of trees and the bundle will be dragged over the newly dropped debris pile.
- In all other cases debris is to be carried as far as possible back into the harvest area.
- Mechanical site preparation through chipper pads will be done with the intent of exposing down to mineral soil for follow-up regeneration treatment.
- Incorporate debris into road construction or brush matting for crossing swamps, in accordance with the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales*.
- Rehabilitate gravel pits, borrow pits, and blow sand areas with chipper debris. Debris thickness should not exceed 15 cm.
- Use chipper debris as fill for road construction, landscape material for aggregate site rehabilitation, and road bank or ditch stabilization as appropriate.

Conditions on Regular Operations

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Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- Use of chipper debris to prevent rutting and compaction.
- Renew area following most appropriate SGR.
- For any chip debris remaining at chipping site the following measures may be taken following discussion with a representative of the forest manager:
    - Pile unutilized fibre on non-productive rock where possible.
    - Push up clean piles of remaining chipper debris for use by grinding operation or for burning.
    - For areas scheduled to receive site preparation, spread out any remaining chipper debris on the landing to a depth of 15 cm or less.
    - For areas not scheduled for site preparation, pile all clean debris for burning and distribute the remaining dirty debris back into the cut over.
    - Windrow the remaining chipper debris with a minimum 2.5 metre distance between rows.
    - Pile all the clean debris for grinding operations or burning and windrow the remaining dirty debris with a minimum 2.5 metre distance between rows.
    - After grinding operations are complete on each landing, spread out any remaining debris on the landing to a maximum depth of 15 cm to prepare the landing for site preparation. Alternatively, windrow the remaining debris to prepare site for renewal.
    - All chipper debris management must be completed before the harvest operation leaves the block. This will prevent the accumulation of backlog areas, especially for winter operations and improve the sequencing of harvest, debris management and silviculture. The FRL holder will notify the MNRF contact, **10 days prior** to the cessation of operations.

Roundwood Slash:

- Slash piles will be aerated (or “fluffed”) and piled for burning. Soil mixing will be minimized during the piling process.
- Pushed or fluffed piles will be in a location that is suitable for fall burning (away from wet ponds, drainage, or standing timber) and free of soil/foreign materials.
- Roundwood slash will not be placed on or near chipper pads so that burning operations will not be hampered.
- Use slash for brush mates to prevent rutting or compaction when available.

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- Incorporate slash into operational road sub-grades during construction, where possible.
- Use slash to create access restrictions, consistent to road use strategies.
- Carry out prescribed burn plan.
- Renew area following most appropriate SGR.

Note: It is understood some of the above listed methods are dependent on weather or proximity to heavy equipment. Although completion within 3-years is expected, the ability to complete these procedures within this time frame is not always feasible. In the event that unplanned circumstances arise, and debris management activities are not practical (unplanned loss of access, or new area of concern prescription implement), the following will apply:

- The location of the logging debris will be tracked.
- A follow-up silvicultural assessment will be carried out and once the debris has undergone sufficient decomposition to permit a follow-up silviculture treatment and renewal. Existing regeneration success will be a consideration.

Nests – Inactive Nest - **great grey owl, northern goshawk, red-shouldered hawk**: nests not known or suspected to have been occupied at least once within the past 5 years that are >400m from a primary nest, or <=400m from a primary nest but in poor repair; primary and alternate nests within nesting areas where all nests within the nesting area have been documented as unoccupied for >=3 consecutive years

- If the nest is in good repair, harvest is not permitted within 20m (the patch may be counted as residual forest); otherwise, the nest tree will be retained as a wildlife tree.
- There is no timing restriction on harvest, renewal, and tending activities.

Nests - Unoccupied Stick Nests known or suspected to have been built or used by **broad-winged hawk, merlin, sharp-shinned hawk,** unknown species **small** stick nest <75cm diameter

- The nest tree will be retained as a wildlife tree if the nest is in good repair or the nest tree contains a good fork.
- There is no timing restriction on harvest, renewal, and tending activities.

Conditions on Regular Operations

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Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

Nests - Unoccupied Stick Nests known or suspected to have been built or used by **barred owl, Cooper's hawk, common raven, great horned owl, long-eared owl, red-tailed hawk**, unknown species **large** stick nest >=75cm diameter

- The nest tree will be retained in an unharvested residual patch ≥20 m radius if the nest is in good repair (the patch may be counted as residual forest); otherwise, the nest tree will be retained as a wildlife tree.
- There is no timing restriction on harvest, renewal, and tending activities.

Nests - Unoccupied Nests in cavities known or suspected to have been used by **American kestrel, boreal owl, eastern screech-owl, northern hawk owl, northern saw-whet owl**

- The nest tree will be retained as a wildlife tree if not a safety concern.
- There is no timing restriction on harvest, renewal, and tending activities.

Nests – Unoccupied Nests/communal roosts in cavities known or suspected to have been used by **barred owl, great horned owl, chimney swift**

- The nest/communal roost tree will be retained in an unharvested residual patch>=20m radius (the patch may be counted as residual forest).
- There is no timing restriction on harvest, renewal, and tending activities.

Nests – waterfowl, grouse – known nests containing eggs encountered during forest management operations

- Known nests will not be destroyed; in this context, destruction means the complete or partial damage of the nest structure or its contents (i.e., attendant birds, eggs, or young).
- To minimize disturbance, harvest, renewal, and tending operations will be avoided within 10 metres of known nests containing eggs; this will include the following: retaining trees within 10 m (patch may be counted as a clump of wildlife tees), not felling trees into the area within 10 m, heavy equipment will not travel within 10 m.

Nests – Songbirds or other small birds – known nests containing eggs or young encountered during forest management operations

- Known nests will not be destroyed; in this context, destruction means the complete or partial damage of the nest

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

structure or its contents (i.e. attendant birds, eggs, or young).

- To minimize disturbance harvest, renewal, and tending operations will be avoided within 3 metres of nests known to contain eggs or young; this will include the following: retaining trees within 3 m (patch may be counted as a clump of wildlife tees), not felling trees into the area within 3 m, heavy equipment will not travel within 3 m.

Nutrient Retention on Shallow Soil Sites

- All ES11 & ES12 areas greater than 8 hectares will be identified in the Annual Work Schedule.
- Harvesting of shallow soil sites is preferred in the winter.
- Avoid harvesting and skidding on steep slopes with shallow soils and modify skidding patterns (i.e. along the contour) where possible.
- Site disturbance associated with forest operations will be minimized on shallow soil sites.
- Mechanical site preparation will not be used if there is adequate disturbance of the site for renewal purposes. Heavy mechanical site preparation (i.e. blading, heavy drags or continuous disc trenching with down pressure) will not be used on these sites. Planting or aerial seeding without site preparation may be an alternative to mechanical site preparation.
- Careful Logging Around Advance Growth (CLAAG) will be used where applicable.
- Wildlife trees will be left favouring green hardwood trees.
- Renewal efforts will be carried out as quickly as possible to encourage full site occupancy. This should also help to prevent problems with erosion and loss of nutrients.
- Establish lower nutrient demanding trees (i.e. jack pine) on nutrient poor sites where appropriate.
- The application of chemical aerial tending will be carefully assessed on shallow soil sites prior to use to determine if appropriate for the site.

Residual Forest – definition

Residual Forest is defined in the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR 2010) as:

- 35 years old or > 10 m tall
- >= 0.1 ha in size

Conditions on Regular Operations

NOTES: Conditions on regular operations apply to all harvest, renewal and tending operations.
Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- >= 30% crown closure, unless harvested with in the last 20 years, then >=50% crown closure

Residual, Mapped – movement of mapped residual (note that there are currently no mapped residual areas required to meet the 25 ha in 500 ha Stand and Site Guide rule in this forest management plan, areas where moveable residual is required to meet the 0.5 ha in 50 ha requirement are shown on the operations maps, but the residual patches are not mapped specifically – see next row in this table regarding Residual, Unmapped)

- Mapped residual that is not serving any other purpose (e.g. AOC, specific habitat function, etc.), and would otherwise be available for harvest, can be moved during operational implementation as long as:
  - The residual requirements from the Stand and Site Guide are still met after the residual is moved (i.e. 25 ha. residual in 500 ha. circle, or 0.5 ha. residual in 50 ha. circle);
  - The planned harvest area is not exceeded;
  - The mapped residual polygon is specifically identified in the FMP as eligible for movement;
  - The Annual Work Schedule will identify eligible residual areas for movement.

Residual, Unmapped - for areas where residual is not mapped in advance. (see the operations maps, Section 8.3.1 and Large Landscape Patches – Moose Emphasis Areas (MEAs) in this table)

- Implementation of the harvest plan will ensure that any point within a new clearcut harvest area will have at least 0.5 ha of residual within a 50 ha circle about that point.
- When locating unmapped residual forest, preference will be given to locations connected to habitat features encountered during operations such as bird nests, furbearer dens, woodland pools, MAFAs, etc. When additional habitat features are not encountered, give preference to uncommon forest types, locations connected to known values (water, nests, etc.), or located consistent with expected disturbance behaviour.

Rich Lowland Hardwood-Dominated Forest (black ash) – mapped and unmapped pockets greater than or equal to 0.5 ha. encountered during operations

- Harvest will follow direction for rich lowland hardwood-dominated forest found in FMP-4 Silvicultural Ground Rules (Forest Unit: OTH).
- No harvest, renewal or tending is permitted that: does not meet the 'rutting and compaction' conditions outlined in this

Conditions on Regular Operations

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table or that disrupts hydrological function (see above).

- Extraction trail crossings are not permitted during the frost-free period. During winter conditions extraction trails will be minimized and will follow the conditions listed under the section titled “Rutting and Compaction” found in this table to minimize potential site damage and effects on hydrological function.

Rutting and Compaction:

- No more than 50% of any 0.1 ha circle is permitted in ruts.
- No ruts permitted that channel water into, or within 15 m of lakes, ponds, rivers, streams, woodland pools, or those portions of mapped non-forested wetlands dominated by open water or non-woody vegetation.
- Shallow soils (<30cm): No more than 5% of any 20 ha area (or the operating block if less than 20 ha) is permitted in ruts.
- All other soils: No more than 10% of any 20 ha area (or the operating block if less than 20 ha) is permitted in ruts.
- The area of rutting and compaction will be minimized.
- In advance of any operations, MNRF and industry staff will agree to an approach to measuring the percent coverage, depth and length of a rut, definition of roadside work area, and percent coverage of extraction trails.
- Harvest and site preparation will be scheduled for the appropriate season for the site. Sensitive sites will be cut in winter (or drier periods in summer).
- During spring break-up, operations will be limited to frozen or dry ground conditions.
- In large complex blocks where a return winter cut is planned, organic and wet lowland areas will be harvested after freeze-up.
- There will be no mechanical site preparation of organic sites in summer conditions.
- Where advanced regeneration is a significant contributor to future forest development (e.g. CLAAG, white pine advanced regeneration) the area in extraction trails will be minimized. On sites susceptible to rutting, achievement will be balanced against the increased rutting that may occur when extraction is concentrated on fewer trails.
- Skid trails will be planned in advance. Where conditions warrant due to a high potential of compaction or rutting, skidding will be limited to main trails to reduce the overall disturbance across the block.
- Main skid trails will be located on upland areas, wherever possible. Non-productive areas such as rock outcrops shall be selected for skid trails.

Conditions on Regular Operations

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Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
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- Log loading areas, and turn-around areas should be located on high ground to avoid rutting and blocking of drainage paths.
- Brush mats, slash, or corduroy maybe be placed on heavy traffic areas such as main skid trails and organic sites to reduce rutting.
- If damage occurs, operations will shift to less sensitive areas.
- High floatation tires or other low impact equipment will be used on organic sites, during the spring and fall.
- Drainage will be maintained in areas with sub-surface water flow.
- The size of skidder loads will be decreased to prevent breaking through of the organic mat.
- Advanced regeneration will be protected, wherever possible, to minimize the area travelled by harvesting equipment.

Wetlands – mapped permanent non-forested (polygon types OMS, TMS, and BSH) (See FMP-19 WW01 and FMP-10 WW01 and FMP Section 8.5)

- No harvest, renewal, or tending operations are permitted that will result in significant damage to wetland vegetation or disruption of hydrological function.
- Operations specifically prohibited include:
    - Machine travel during the frost-free period within 3 m of those portions of the wetland dominated by open water or non-woody vegetation (i.e., vegetation communities with <25% canopy cover of trees, tall (≥1 m high) woody shrubs such as alder or willow, or low (<1 m high) woody evergreen shrubs such as Labrador tea or leatherleaf);
    - Excessive removal or damage of sapling-sized trees (<10 cm dbh) and shrubs within 3 m of those portions of the wetland dominated by open water or non-woody vegetation;
    - Felling of trees during the frost-free period into, or within, 3 m of those portions of the wetland dominated by open water or non-woody vegetation; trees accidentally felled into those portions of the wetland dominated by open water or non-woody vegetation will be left where they fall;
    - Operations that leaves ruts, a significant area of exposed mineral soil, or disrupt hydrological function within the wetland itself or within forest that is within 15 m of those portions of the wetland dominated by open water or non-woody vegetation. Ruts or significant patches of exposed mineral soil will be promptly rehabilitated.
- No contamination of wetlands by foreign materials is permitted.

Conditions on Regular Operations

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Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

- The use and storage of fuels will be carried out in accordance with the Liquid Fuels Handling Code;
- No equipment maintenance (e.g., washing or changing oil) is permitted within 15 m of non-forested wetlands.

- Extraction trail crossings are not permitted during the frost-free period. During winter conditions, crossings will be minimized and will follow the appropriate operating practices described in rutting and compaction to minimize potential site damage and effects on hydrological function.

Wildlife Trees – Clearcut Silvicultural System

The following is required in any given 20 ha area within a block where harvest has occurred or for the entire block when the block is less than 20 ha:

- Because trees or stems desirable as wildlife trees may not always be present, all requirements below include the provision 'when available'; in situations where wildlife tree requirements cannot be achieved because trees are too small, requirements will be considered to be met if suitable types of trees are retained from the largest size class available.
- Wildlife trees must be >=10cm dbh and >=3m in height unless 'large' wildlife trees/stubs or cavity, veteran trees or supercanopy trees are to be retained in which case the minimum dbh is >=25cm.
- Retain an average of ≥ 25 stems/ha; wildlife trees will generally be well dispersed; retain an average of at least 15 individual stems/ha; the remaining stems may occur in clumps.
- Retain an average of ≥ 10 large stems/ha with a minimum of 5 large living trees on each ha; large wildlife trees must be a minimum of >=25 cm dbh and ≥ 38 cm dbh are preferred, however supercanopy trees will generally be >=60cm dbh; the 10 large trees/ha will be a mix of living cavity trees, stubs, supercanopy trees, veteran trees, mast trees, diversity trees, and safe dead trees.
- Large hollow trees and those providing existing nesting or denning sites are preferred as cavity trees.
- When the number of large wildlife trees averages < 25/ha, additional wildlife tree requirements may be met by retaining small safe standing dead trees, small stubs or any other living trees.
- Stubs may be left on shallow sites (ES11/12) or on sites that are susceptible to windthrow. Prior to stubbing MNRF Kenora District must be contacted.
- Do not stub or knock down trees retained to meet specific wildlife functions such as cavity trees, mast trees, veteran

Conditions on Regular Operations

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Additional conditions may apply as documented in Table FMP-10 Operational Prescriptions for Areas of Concern and Table FMP-4 Silvicultural Ground Rules.
Conditions on roads, landings and aggregate pits are documented in Table FMP-19 (within AOCs) and FMP Section 8.5.5 (all areas of operations).

trees and supercanopy trees (preferred trees for stubbing are jack pine and black spruce).

- Do not stub trees being relied upon as a seed source.
- When stubbing, stub to a minimum height of ≥ 3 m (5 m is preferred) and have stubs scattered throughout the harvest area.

Woodland Pools – encountered during operations

- No harvest, renewal, or tending operations are permitted that will result in deposition of sediment within, or reduction of the water-holding capacity of, woodland pools
- Operations specifically prohibited include:
  - Machine travel within 3 m of the high-water mark of pools during the frost-free period.
  - Excessive removal or damage of sapling-sized trees (<10 cm dbh) and shrubs within 3 m of the high-water mark of pools.
  - Felling of trees into pools or within 3 m of the high-water mark of pools during the frost-free period; trees accidentally felled into pools will be left where they fall.
  - Disturbance of the forest floor that leaves ruts or a significant area of exposed mineral soil within 15 m of the high-water mark of pools; ruts or significant patches of exposed mineral soil will be promptly rehabilitated.
- Unmapped residual patches required to meet the direction outlined above [Residual – for areas where residual is not mapped in advance] will preferentially be connected to pools; when connecting residual patches to pools, trees will be retained in and within 3 m of the high-water mark to provide overhead shade and residual forest will be retained within at least 15 m of the high-water mark to provide amphibian cover.
- No contamination of pools by foreign materials is permitted.
- The use and storage of fuels will be carried out in accordance with the Liquid Fuels Handling Code.
- No equipment maintenance (e.g., washing or changing oil) is permitted within 15 m of the high-water mark of pools.

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8.2.2.3 Silvicultural Treatments of Special Public Interest

There are some silvicultural treatments that are of special public interest. These activities include the aerial application of herbicides for vegetation management, areas available for fuelwood, high complexity prescribed burns and the application of insecticides for pest management.

The aerial application of herbicides as a tending operation is proposed in this plan. The locations of eligible areas are identified on the Potential Aerial Spray and Renewal Areas Index Map (MU490_2012_FMP_P2_MAP_Herb_Comp_00). The identification of areas for aerial chemical tending will be scheduled in the Annual Work Schedule if treatment is being proposed for that year. Approvals by the Ministry of the Environment and Climate Change (MOECC) will be required prior to the aerial application of registered herbicides on the Whiskey Jack Forest.

Fuelwood is available at any approved FMP block. Fuelwood from these areas includes cull wood brought to roadside or wood in slash piles. The public is to obtain personal use fuelwood licences from the MNRF prior to harvesting fuelwood. Conditions within the personal use fuelwood licences are to be followed.

Fuelwood will only be available if timber was not left on site for a specific reason. In all blocks, timber will be left standing intentionally to enhance wildlife habitat and natural disturbance patterns and will be unavailable for fuelwood. No fuelwood will be considered available within a block once renewal activities have commenced, or after a period of two years after harvest operations have ended. This strategy is intended for the protection of regenerating trees, whether they were initiated naturally or artificially.

There are no areas planned for candidate high complexity prescribed burns or insect pest management.

If any new operations of special public interest were to be required on the unit during this plan period, an amendment would occur to the FMP where affected parties would be consulted.

8.2.2.4 Species at Risk

The Endangered Species Act (2007) is the key piece of legislation governing the management of species at risk in Ontario and is administered by the provincial government. This legislation sets out rules for classifying species as extinct, extirpated, endangered, threatened or special concern species. The Committee on the Status of Species at Risk in Ontario (COSSARO) is the provincial assessment body that provides recommendations on species status to MNRF. COSSARO is required to assess and classify species and to report the classifications to the responsible Minister. If a species is classified "at risk" they are added to the Species at Risk in Ontario (SARO) List in one

of four categories, depending on the degree of risk. The four categories or classes of "at risk" are:

Extirpated - a native species that no longer exists in the wild in Ontario, but still exists elsewhere (e.g. Greater Prairie Chicken)
Endangered – a native species facing extinction or extirpation (e.g. Golden Eagle)
Threatened – a native species at risk of becoming endangered in Ontario (e.g. Woodland Caribou)
Special Concern – a native species that is sensitive to human activities or natural events which may cause it to become endangered or threatened (e.g. Bald Eagle).

A comprehensive list of species designated under Ontario's Endangered Species Act (ESA) or the Federal Species at Risk Act (SARA) as extirpated, endangered, threatened, or special concern and potentially occurring within the Whiskey Jack Forest is provided below (Table 4).

Table 4. List of Species at Risk potentially on the Whiskey Jack Forest

Provincial Status (SARO List)	Common Name
Endangered	Eastern Cougar
Endangered	Northern Long Eared Bat
Endangered	Showy Goldenrod
Threatened	Bank Swallow
Endangered	Little Brown Bat
Threatened	Least Bittern
Threatened	Woodland Caribou
Endangered	American Badger
Threatened	Whip-poor-will
Threatened	Wolverine
Endangered	Piping Plover
Threatened	Barn Swallow
Endangered	Western Silvery Aster
Endangered	Golden Eagle
Special Concern	Olive-sided Flycatcher
Threatened	Grey Fox
Special Concern	Peregrine Falcon
Threatened	American White Pelican
Special Concern	Bald Eagle
Special Concern	Yellow Rail
Special Concern	Black Tern
Special Concern	Canada Warbler
Special Concern	Golden-Winged Warbler
Special Concern	Common Nighthawk
Special Concern	Short-Eared Owl

Special Concern	Red-Headed Woodpecker
Threatened	Algonquin Wolf (formally Eastern Wolf)
Special Concern	Monarch Butterfly
Special Concern	Horned Grebe
Special Concern	Snapping Turtle
Threatened	Lake Sturgeon
Threatened	Small Flowered Lipocapha
Threatened	Chimney Swift
Threatened	Bobolink
Special Concern	Wood Thrush
Special Concern	Eastern Wood-Pewee

In Phase II, AOCs were also developed for some species of special concern that did not have ecological requirements addressed by the strategic long-term management direction of this plan. AOCs developed or amended during Phase II to meet the requirements of the Endangered Species Act are listed below. These AOCs are fully described in Table FMP-10, FMP-19 and Supplementary Documentation F:

BS01 - Active Bank Swallow Nests
NO08 – Bat Hibernacula
NO09 – Bat Roosting Site
CC01 – Caribou Calving and Nursery Habitat

The need for habitat-based AOCs for olive-sided flycatcher and Canada warbler was not required as it was determined that the Whiskey Jack FMP long-term management direction was sufficient to meet the ecological requirements of these species' populations, while the songbird and other small bird CRO followed Stand and Site Guide direction and met Migratory Birds Convention Act requirements.

If there are changes in the conservation status of species located in the Whiskey Jack Forest during Phase 2 operations, a FMP amendment will be submitted to reflect required operational changes.

8.3 Harvest Operations

The strategic level planning was conducted for this FMP for the ten-year period (2012-2022) and was approved as part of the Phase 1 FMP. The strategic level planning and the detailed operational planning for the first five-year term of the FMP remain approved for implementation during the second five year term with no further planning requirements.

Phase II of the forest management planning process facilitates the "approval" of forest operations for the second five-year term (2017-2022). These forest operations were selected as part of the 10-year total planned harvest operations in this FMP and were confirmed and changed where necessary as a result of Phase II planning and the associated public consultation. Comprehensive area of concern planning has been completed for these second five-year term harvest areas in this FMP and includes the review and AOC planning consideration for all updated values identified at that time.

Surplus harvest areas, bridging or second-pass harvest areas (completion of on-going harvest operations from the previous plan), salvage and contingency harvest areas are discussed in sub-sections 8.3.2, 8.3.3, 8.3.7 and 8.3.8 respectively.

8.3.1 Harvest Areas

There were a number of management considerations and variables influencing operational planning on the Whiskey Jack Forest (as discussed in detail in Sections 3.2 and 3.4 of the Phase 1 FMP). MNRF conducted its operational planning with the following considerations:

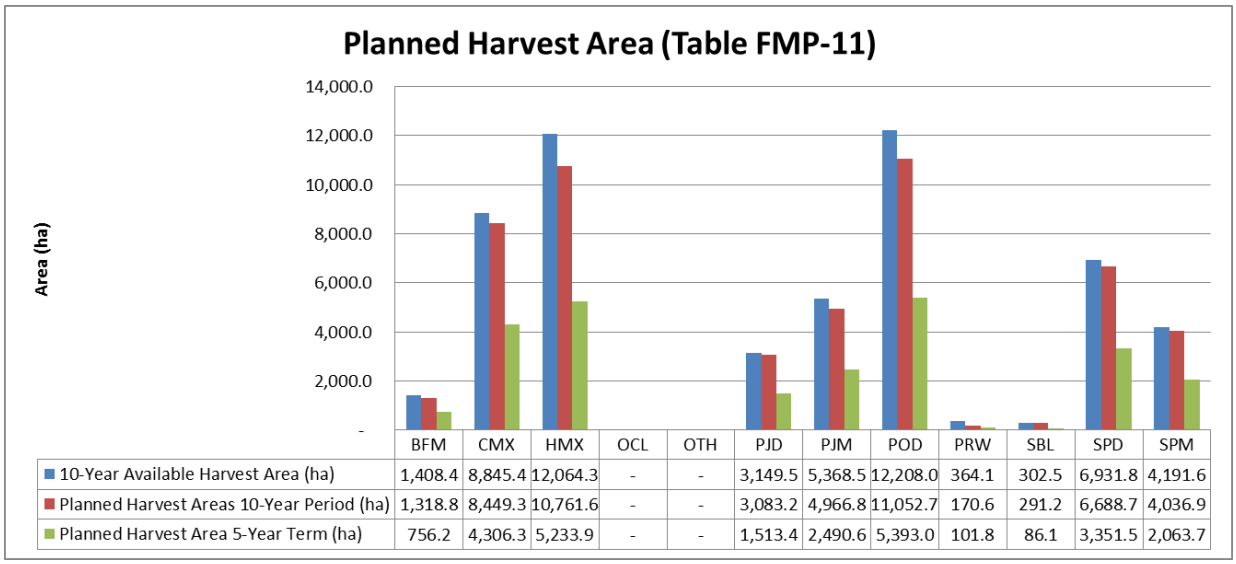
- Adherence to harvest eligibility and consideration for selection criteria (Sections 3.6.2.1 and 3.6.2.2 of the Phase 1 FMP);
- Adherence to the dynamic caribou habitat schedule areas and timing;
- Adherence to marten core habitat area deferrals;
- Selection of harvest areas to be consistent with the ten-year LTMD available harvest area by forest unit, with secondary consideration for age class;
- Consideration of all currently identified values through area of concern planning, including the implementation of no harvest reserve area of concern prescriptions;
- Consultation and negotiation with the public and other stakeholders;
- Consideration for residual forest pattern requirements and natural disturbance pattern emulation, wildlife habitat and cover to cover distances, etc.; and
- Identifying other operational considerations and conditions for specific harvest areas.

The areas planned for harvest operations for the first five-year term, and the areas planned for harvest operations for the second five-year term are identified on the operations maps (MU490_2012_FMP_P2_MAP_OPS_00). No areas were identified for harvest as a result of an insect pest management strategy at this time. The FMPM

stand listing requirement has been met through the provision of a spatial Planned Harvest Layer (PHR) and the planning composite inventory.

The available harvest area and the planned harvest area for the ten-year period, and the planned harvest area for the second five-year term is documented in Table FMP-11 by forest unit and age class. The total Available Harvest Area (AHA) for the ten year period projected by the Long-term Management Direction (LTMD) is 54,834.1 ha. The Phase 2 planned harvest area is 25,296.6 ha. The majority of the planned harvest area for Phase 2 is in the POD forest unit (5,393.0 ha), followed by the HMW (5,233.9 ha), CMX (4,306.3 ha) and SPD (3,351.5 ha). There is no area planned for harvest in the OCL and OTH forest units. Planned harvest areas for all forest units can be found in Figure1.

Figure 1. Planned Harvest Area (Table FMP-11)



	BFM	CMX	HMX	OCL	OTH	PJD	PJM	POD	PRW	SBL	SPD	SPM
10-Year Available Harvest Area (ha)	1,408.4	8,845.4	12,064.3	-	-	3,149.5	5,368.5	12,208.0	364.1	302.5	6,931.8	4,191.6
Planned Harvest Areas 10-Year Period (ha)	1,318.8	8,449.3	10,761.6	-	-	3,083.2	4,966.8	11,052.7	170.6	291.2	6,688.7	4,036.9
Planned Harvest Area 5-Year Term (ha)	756.2	4,306.3	5,233.9	-	-	1,513.4	2,490.6	5,393.0	101.8	86.1	3,351.5	2,063.7

Minor variation in the planned harvest area may result due to minor adjustments to harvest block boundaries from operational block layout. These adjustments will be permitted provided they meet the intent of the practice to allow the flexibility for operations to tailor the harvest areas to specific site conditions and values found in the field and so far as they do not impinge on areas of concern. Some expected adjustments may include marking to actual road locations, swamp boundaries or old regeneration. This practice will result in few administrative amendments for minor deviations, better wood utilization, and better protection of values. Any significant changes to block boundaries will be referred for approval as an FMP amendment.

Changes were made to the planned harvest areas for the second five-year term including the addition of new areas selected from the optional harvest areas identified in the Phase 1 FMP which are located near/adjacent to areas previously scheduled for regular harvest in Phase 2, and four new regular harvest areas were brought forward from contingency harvest areas. The rational for bringing forward previously identified

optional areas and contingency area into the Phase 2 FMP as regular harvest areas was to provide some additional opportunity for planned operations to use the same road system for multiple operations. This will allow for more efficient use of the resources required for construction and maintenance activities on the required road networks and increases the availability of fibre to local mills in a quicker timeframe. Operations on the Whiskey Jack Forest have not progressed as planned during the Phase 1 FMP which has resulted in deteriorating road systems across the Whiskey Jack Forest. These changes will help to support the increased demand for fibre from the Whiskey Jack Forest to local mills during their start-up period. There were three situations where comments were received during stage 1 and stage 2 of consultation that required changes to the harvest areas. After further discussion with the concerned parties and consideration of the comments received, one regular harvest area and one contingency area was removed from the FMP and one regular harvest area was changed to contingency.

In order to maintain the AHA by forest unit the status of seven regular harvest areas for the second five-year term were changed to contingency areas. New areas selected from optional areas and changes between regular harvest and contingency were determined with consideration from the criteria for selecting harvest areas (Phase 1 FMP Section 3.6.2.2). The landscape pattern objectives and indicators were not impacted by the changes made to the planned harvest areas.

The AHA for the ten year period was not exceeded in any of the forest units and all age classes within planned harvest areas meet the lower harvest eligibility ages for the 2012 FMP. The total planned harvest area for the ten year period is under the total available harvest area (50,819.8 ha, Table FMP-11, 93% of the LTMD AHA). All forest units are within 10% of the AHA, with the exception of PRW. The planned harvest area for the PRW forest unit is only 46.8% of the AHA. There continues to be efforts made to encourage the restoration of red pine and white pine forest units on the Whiskey Jack Forest through the protection of advanced growth and limiting the harvest of incidental red pine and white pine within other forest units. There are situations where the red pine and white pine are misrepresented in the Forest Resource Inventory (FRI) within the species compositions of other forest stands making these stands inoperable due to the requirements to leave incidental Red Pine and White Pine trees. In these situations, reasonable effort will be made to determine if these other forest units meet the criteria for PRW and if so they will be treated as such, including meeting the regeneration standards for the appropriate PRW silviculture ground rules. Changes to the forest unit will be documented in the Annual Report.

Only 5% of the area planned for harvest during the Phase 1 FMP had been completed as of the submission of the Year 3 Annual Report (2014-2015). The very low harvest levels during Phase 1 implementation will influence the harvest areas planned for harvest operations in Phase 2. During the forest industry's recession the more economical harvest areas were licensed and harvested. While the outlook of the Whiskey Jack Forest has been positive with the turnaround of the forest industry, during the start-up phases, local sawmills will continue to require the more economical harvest

areas. Table 5 shows the age class distribution for the ten-year and second five-year planned harvest areas.

Table 5. Age Class Distributions of Planned Harvest Areas (Table FMP-11)

Age Class	Planned Harvest Area 10-Year Period	Planned Harvest Area 5-Year Term
1-20	0.0	0.0
21 - 40	0.0	0.0
41 - 60	1,438.4	709.7
61 - 80	20,518.5	10,199.8
81 - 100	16,525.6	8,305.7
101 - 120	10,166.7	5,131.4
121 - 140	1,434.5	692.4
141+	736.1	257.7
Total	**50,819.8**	**25,296.6**

A conscious effort was made to schedule harvest allocations associated with Grassy Narrows First Nation (Asubpeeschoseewagong Netum Anishinabek) in the second five-year term.

8.3.1.1 Stand Level Residual in Harvest Areas

MNRF Forest Policy Branch has developed a series of guiding documents to assist forest managers in the planning and implementation of forest management activities so that forestry activities are consistent with direction contained within the Crown Forest Sustainability Act.

The Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales is one of such documents, and has been developed to provide forest management planning guidance to forest managers at the stand and site level. Of particular relevance to this section of the forest management plan is the requirement to maintain residual forest within clearcut harvest areas. The Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales directs the amount and distribution of stand level residual.

The residual requirement from the Stand and Site Guide does not apply to the caribou continuous range. Wildlife tree requirements, detailed in the Conditions on Regular Operations (CROs, Section 8.2.2.2), still apply, but not the patch sized residual requirements detailed below in this section. In the caribou continuous range, caribou

habitat management strategies take precedence over other landscape pattern strategies.

MNRF analyzed the amount of stand level residual associated with the planned harvest for the first and second five-years of the 10-year plan period through the use of an MNRF-developed computer spatial analysis program, Evaluate Forest Residual Tool (EFRT).

The Stand and Site Guide states that residual forest will be retained as follows:

- **"25 in 500 ha Analysis"** - Operational planning will ensure that any point within a planned clearcut harvest area will have at least 25 ha of mapped residual forest within a 500 ha circle (or hexagon) about that point (results discussed in Section 8.3.1.1.1).
- **"5 of 25 ha Analysis"** - A minimum of 5 ha of the mapped residual (minimum 25 ha) within any 500 ha circle (or hexagon) will belong to a patch greater than 5 ha (results discussed in Section 8.3.1.1.2).
- **"20% Residual Analysis"** - Operational planning will ensure the area of residual forest averaged over all planned clearcut harvest areas outside of large landscape patches for habitat management, using a 500 ha moving window assessment, is greater than or equal to 20% of the Crown forested area (results discussed in Section 8.3.1.1.3).
- **"0.5 in 50 ha Analysis"** - Implementation of the harvest plan will ensure that any point within a new clearcut harvest area will have at least 0.5 ha of residual within a 50 ha circle (or hexagon) about that point. This residual may or may not be mapped in advance of operations (results discussed in Section 8.3.1.1.4). The conditions on residual, unmapped in Section 8.2.2.2 CROs table apply.
- **Mapped residual** that is not serving any other purpose (AOC, specific habitat function, etc.), and would otherwise be available for harvest, can be moved during operational implementation. Refer to Section 8.2.2.2 CROs table for conditions that apply to movement of Residual, mapped (documents general direction from guide, however, as noted below, there are no mapped residual patches in this FMP).

8.3.1.1.1 25 in 500 ha Analysis Results

Requirement: *Operational planning will ensure that any point within a planned clearcut harvest area will have at least 25 hectares of **mapped** residual forest within a 500 hectare circle (or hexagon) about that point.*

Results: MNRF ran the EFRT on the Phase 1 and 2 allocations, resulting in five planned harvest areas being identified as requiring additional residual forest. These regular harvest blocks are 12.302, 12.366, 12.283 and 12.662. Blocks 12.302 and 12.366 were previously approved in Phase 1 and will not be altered.

8.3.1.1.2 5 of 25 ha Analysis Results

Requirement: *A minimum of 5 hectares of the mapped residual within any 500 hectare circle (or hexagon) will belong to a patch greater than 5 hectares.*

Results: MNRF ran the EFRT on the Phase 1 and Phase 2 allocations and there were no planned harvest areas identified as requiring additional residual greater than 5 hectares (therefore no mapped residual shown on operations maps).

8.3.1.1.3 20% Residual Analysis Results

Requirement: *Operational planning will ensure the area of residual forest averaged over all planned clearcut harvest areas where Section 3.2.2.2 of the Stand and Site Guide applies, using a 500 hectare moving window assessment, is greater than or equal to 20% of the Crown forested area.*

Results: The EFRT run by MNRF calculated that the area of residual forest averaged over all planned clearcut harvest areas is 41%. This exceeds the minimum average residual requirement by 21%.

8.3.1.1.4 0.5 in 50 ha Analysis Results

Requirement: *Implementation of the harvest plan will ensure that any point within a new clearcut harvest area will have at least 0.5 hectare of residual within a 50 hectare circle (or hexagon) about that point.*

Results:

MNRF ran the EFRT on the Phase 1 and Phase 2 allocations and identified the planned harvest areas (326 records) that require a minimum 0.5 hectare patch of residual to be retained during operations.

The designated areas where the 0.5 hectare patch of residual are required to be left are identified on 1:20,000 scale operations maps by a polygon, somewhere in which the required residual patch (es) will be left during operations. The residual patches identified during Phase 1 development and the residual patches identified using the Phase 1 and Phase 2 allocations do not align perfectly and therefore a conservative approach has been taken that will combine both results.

The 0.5 hectare patches will **not** be in the Planned Residual Patches layer (MU490_17_PRP00) as they are **unmapped**. Before harvest operations begin, the operators will be given a map showing the above identified areas where a 0.5 hectare residual patch will be required to be placed during operations.

The operators must follow the conditions on regular operations (Section 8.2.2.2) for “residual, unmapped”, and “Large Landscape Patches – Moose Emphasis Areas

(MEAs)" in determining the location of unmapped residual within the designated boundary.

8.3.1.2 Licensing of Harvest Areas

Forest Resource Licensees are allocated 100% of the planned harvest area as the Whiskey Jack Forest is a Crown Unit. Based on the allocation of planned harvest blocks for the ten-year period, FRL licensees can harvest the full 50,819.8 hectares during the ten-year term of the plan. The Phase 2 FMP provides the detailed planning on 25,296.6 hectares.

8.3.2 Surplus Harvest Area

The Whiskey Jack Forest available harvest area is planned to be fully utilized over this ten-year period. The full ten-year and five-year planned harvest areas were classified to be harvested therefore there is no surplus area.

8.3.4 Planned Clearcuts

Consistent with the requirements of the *Forest Management Guide for Natural Disturbance Pattern Emulation (MNR, 2001)*, an assessment was conducted to evaluate whether 80% of the planned clearcuts by frequency were less than 260 hectares in size. The definition of a planned clearcut is similar to that of a disturbance (i.e. less than 20 years old and less than 3 metres in height), except that a planned clearcut does not include naturally depleted areas, and is based on the net area disturbed. A "planned clearcut" must be separated an average of 200 metres (minimum 100 metres) and will include forest greater than or equal to 3 metres in height and 30% stocking or greater than 20 years old in order not to be part of the same planned clearcut. The guideline also states that, although less than 80% of fires in the Boreal Forest are smaller than 260 hectares, this direction recognizes the public sensitivity concerning large clearcuts.

Areas selected for harvest operations have been selected in accordance with landscape disturbance pattern requirements in the *Forest Management Guide for Emulating Natural Disturbance Patterns (MNR, 2001),* and according to the harvest eligibility and selection criteria outlined in Section 8.3.1.

The analysis of planned clearcuts identified planned clearcuts projected to be present in 2022, the end of the 10 year FMP. In the assessment of the "80% under 260 hectares" standard, the assessment has identified 75% of planned clearcuts to be equal to or under 260 hectares in size, leaving 25% of planned clearcuts greater than 260 ha. This result is lower than the 80% standard, but is acceptable as it results from strategic landscape pattern direction (e.g. dynamic caribou habitat schedule, marten core areas, moose / deer emphasis areas) and projected harvest allocations that balance consideration for all desired forest and benefits and operational challenges.
Planned clearcuts range from 3 to 5,293 hectares in size, with an average of 235 hectares. It should be noted that planned clearcuts contain both new and older harvest

areas (up to 20 years old). For those planned clearcuts over 260 hectares (average size 869 ha), the average size of "new cut" in these planned clearcuts is 414 hectares (47.6% of planned clearcut area).

Each proposed planned clearcut that exceeds 260 hectares is identified in Table FMP-12. These planned clearcuts over 260 hectares will provide large landscape patches for forest diversity and wildlife habitat in the future and contribute to a range of disturbance sizes on the forest which emulates a more natural disturbance pattern than if all planned clearcuts were the same size. These planned clearcuts result from the consolidation of eligible new cut harvest area adjacent to harvest areas from the past 20 years, or the allocation of a concentration of eligible harvest area in this plan period.

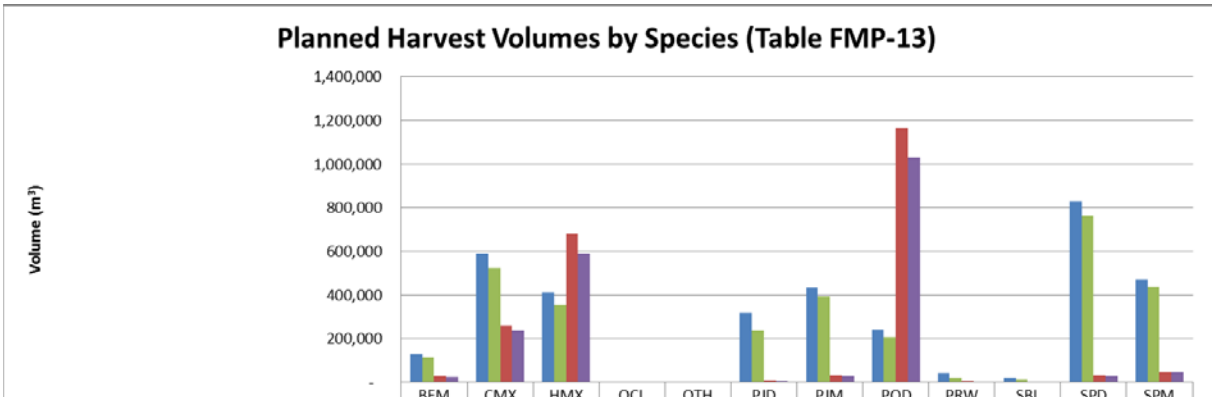
8.3.5 Harvest Volume

The available harvest volume and an estimate of the harvest volume for the planned harvest area for the 10-year period are recorded in Table FMP-13.

The LTMD projected an available harvest volume of 5,745,950 net merchantable cubic metres for the ten-year period of the plan (3,490,381 cubic metres conifer and 2,255,569 cubic metres hardwood). An additional 1,044,785 cubic metres of defect (e.g. defect/cull, branches, twigs, leaves and bark) and 206,669 cubic metres of undersized volume (e.g. top wood) are estimated to be generated from the LTMD available harvest volume.

The total planned harvest volume for the 10-year period of the plan is 5,060,809cubic metres net merchantable volume with an additional 924,352 cubic metres volume of defect and 181,794 cubic metres of undersized volume (Table FMP-13). Based on the 10-year planned harvest operations, the total net merchantable conifer volume projected for harvest is 3,064,956 cubic metres, and the net merchantable hardwood volume is projected to be 1,995,853 cubic metres. On an annual basis, the average volume will be a total of 506,080 net merchantable cubic metres per year. Available and planned volumes for the 10-year plan period are portrayed in Figure 2.

Figure 2. Planned Harvest Volumes by Species (Table FMP-13)



	BFM	CMX	HMX	OCL	OTH	PJD	PJM	POD	PRW	SBL	SPD	SPM
10-Year Available Harvest Volume (m3) Conifer	128,524	590,692	411,613	-	-	318,237	436,093	239,484	42,670	22,237	829,749	471,082
10-Year Planned Harvest Volume (m3) Conifer	115,920	525,162	355,839	-	-	236,615	392,232	206,207	19,482	14,425	761,050	438,026
10-Year Available Harvest Volume (m3) Hardwood	28,040	258,118	679,872	-	-	9,218	31,957	1,163,459	4,889	220	31,566	48,230
10-Year Planned Harvest Volume (m3) Hardwood	24,919	236,767	590,577	-	-	6,770	28,271	1,029,281	1,965	136	30,165	47,002

The planned harvest volumes are below the projected harvest volumes in the LTMD by 12% for conifer and hardwood species. The minor variance in planned harvest volumes is a result of the 10% under allocation of harvest areas and minor age class substitution to younger and/or older stands that have less volume than the age classes projected by the LTMD. Generally the minimum volume yield for a stand to be operational is 80 cubic meters per hectare. A disadvantage of selecting more stands within the age group 81-100 year old in comparison to the LTMD during the development of the Phase 1 FMP are that yields may be lower than planned when they are eventually operated in.

The available harvest volume (LTMD from SFMM) projects 105 cubic metres per hectare and the actual allocations for the 10-year period are comparable with an average of 100 cubic metres per hectare. The volume trade-offs through age class substitution resulted in a very minor volume loss. If during implementation of the plan, residual areas are minimized while meeting applicable guides or if yield curve projections prove to be conservative, then additional volume may potentially result from harvesting the planned harvest areas.

Merchantable Harvest Volumes were calculated based in a combination of estimated yields (SFMM yield curves by forest unit and silvicultural intensity), estimated volume losses for stand level residual, wildlife trees and inoperable areas (SFMM unharvested volume percentages) and also based on the species composition of the allocated stands. For each forest unit and silvicultural intensity, the total volume from the yield curve was reduced by the applicable unharvested volume percentages. This resulted in a netted down total volume per hectare for each 10-year age class within each forest unit. This net total volume per hectare was then prorated by stand based on the actual species composition for each allocated stand for the 10-year period. While SFMM provides a good strategic estimate of volumes, it bases all calculations on the average condition for each forest unit. By pro-rating net harvested volumes based on each individual allocated stand's species composition, the estimated harvest volumes are

significantly more relevant at the stand and operating block levels. These volumes by stand were used and summarized for all harvest volume tables in the FMP.

Undersized and Defect Volumes also known as unmerchantable volume represent all of the volume that is not merchantable by the minimum utilization standards defined in the scaling manual. In general, this includes components of the tree that have not traditionally been utilized (i.e. stem tops (below minimum diameter limit based on CFSA standard, and DBH/Height from Plonski), defect or cull, branches, leaves, twigs and bark).

MNRF developed a science-based approach to estimate the undersize and defect volumes. This methodology for estimating undersize and defect volumes by species group and management unit was provided to estimate volumes for this forest management plan. The methodology uses species specific biomass and stem form equations and eco-regional calibration factors for each major species group. Resulting factors provide an operational estimate of unmerchantable volume that is available for harvest. Factors include ecological and operational netdown factors that address volumes that are not removed from the harvest site due to residual trees, coarse and fine woody debris, operational losses due to breakage and/or harvesting system limitations (i.e. cut to length operations, bark availability). These individual tree biomass equations relate mensurational variables for the average tree (i.e. diameter at breast height (DBH) and tree height) to oven-dry mass for each biomass component of the tree. Tree biomass components predicted using these equations include: whole tree, stem wood, branches, bark, twigs and leaves. Sources of biomass that are not included in the total volume calculation include trees left on site for ecological reasons, undersized trees in stands, downed wood debris, stumps and estimated breakage and loss due to operations.

8.3.6 Wood Utilization

The harvest volume for the second five-year term planned harvest area is recorded by volume type, product, and species in Table FMP-14.

The total utilized volume for the five-year term of the plan is estimated to be 3,124,796 cubic metres, which is comprised of 1,865,647 cubic metres of conifer (1,567,175 cubic metres net merchantable and 298,472 cubic metres defect/undersize) and 1,259,149 cubic metres of hardwood (999,281 cubic metres net merchantable and 259,868 cubic metres defect/undersized). Markets are currently available or will be sought for all allocated volume. All species are considered utilized at this time, including the defect and undersized volumes. The approval of the forest management plan is not an agreement to make areas available for harvest to a particular licensee, or an agreement to supply wood to a particular mill.

The proportion of harvest volume planned for the second five-year term is 50% of the total planned net merchantable volume for this 10-year plan period. All planned harvest volumes are assigned to Forest Resource Licensees in Table FMP-14 since the

Whiskey Jack Forest is a Crown Unit. As discussed in Section 8.3.1.2, FRLs harvest 100% of the planned harvest area and volume. This proportion was used to determine the planned harvest volumes by licensee reported in Table FMP-14.

Table FMP-14 presents the estimates of volume that will be utilized from the planned harvest area by fibre species and product. A portion of total stand volumes associated with the allocations will not be available at the time of harvest. Due to wildlife habitat management and the emulation of natural disturbance pattern guidelines, timber volume is expected to be left on site to enhance wildlife habitat and natural disturbance residual patterns. This anticipated unutilized volume associated with wildlife habitat (wildlife tree retention, downed woody material) and natural residual patches was not included in total allocated volumes in Table FMP-14, and was identified as unharvested volumes in the SFMM modelling. All available merchantable, live trees from allocated stands are anticipated to be utilized. However, certain areas may have residual wood left on site after logging operations have been completed, due to operating conditions (inoperable) such as steep slopes, etc.

FMP-14 reports estimated volumes for utilized unmerchantable (undersized and defect) material. Markets are developing regionally for this material and it is expected that the Weyerhaeuser – Kenora mill will purchase unmerchantable material to supply biofuel to their planned co-generation plant on an “as required” basis.

The harvesting of roadside unmerchantable fibre for biofuel will be permitted in blocks which have been closed to harvest activity, including those outside of the current FMP where the areas have been identified for renewal and tending. Any such activity will comply with existing areas of concern (Table FMP-10), conditions on regular operations (CROs Section 8.2.2.2 applies to piles), conditions on roads, landings and aggregate pits (CRLAPs Section 8.5.5, applies to landings) and all road use management strategies (Table FMP-18). Roadside unmerchantable fibre within 30 metres of the road centerline is acceptable to be harvested, and no standing timber will be harvested. Renewal of these areas will occur and will be consistent with the SGR for the stand; however spot planting of conifer trees on sites left for natural regeneration may be allowed where coppice growth is not occurring. These areas are small and planting conifer along the landings will not impact the achievement of the intended SGR.

Table FMP-15 lists the mills and the anticipated volumes each will utilize from the planned harvest area for the five-year term. Volumes are summarized by species and product type. This table also shows volume commitments to each mill. The source of information for this table is FMP-13 and FMP-14 and a combination of known mill commitments and traditional mill levels previously supplied from the management unit. Based on the planned harvest volume identified in Table FMP-15, the forest can supply sufficient wood fibre to satisfy identified commitments for all facilities.

Table FMP-15 volumes are subdivided by species and product committed by year. Planned deliveries to specific mills were calculated based on wood supply commitments, partially calculated by Appendix “E” of the previous SFL agreement and

historic and projected deliveries to mills and more recent ministerial letters and the Wood Supply Competitive Process (2007). The identification of "Open Market" volume in Table FMP-15 does not record a surplus area or volume condition.

Weyerhaeuser - Kenora is planned to receive 100,000 net merchantable poplar fibre annually from the Whiskey Jack Forest in accordance with the Ministerial Conditional Commitment (2009) for their timberstrand engineered lumber facility in Kenora during the five-year term of the plan.

Prendiville Industries - Kenora Forest Products Division in Kenora is planned to receive 76,000 cubic metres of Spruce-Pine-Fir annually in accordance their supply agreement and 7,500 cubic metres of Spruce-Pine-Fir annually is planned to be delivered to 1358807 Ontario Ltd. (D. Riffel Harvesting) for their sawmills.

During this five-year planning term, there is 33,935 cubic metres of conifer (red pine, white pine, cedar, larch) and 154,572 cubic metres of hardwood (mostly white birch, some black ash) net merchantable volume not allocated to any specific mill. These conifer and hardwood volumes are all identified as being Open Market volumes for this plan period. There is also 1,115,740 cubic metres net merchantable Spruce-Pine-Fir and 344,709 cubic metres net merchantable Poplar identified as Open Market Fibre. These are the volumes estimated to be located within Grassy Narrows self-identified Traditional Land Use Area and will not form part of any wood supply agreements to any specific mill while consultation efforts continue as expressed in Section 8.3.1.

There is also an estimated 558,340 cubic metres of defect and undersized volume associated with the planned harvest that is being included in this FMP as utilized fibre.

Implications of Volume Underutilization: If all the planned harvest volume is not harvested and utilized, there will be negative socio-economic impacts. Reduced volumes from the Whiskey Jack Forest will impact production at wood processing mills, direct and indirect employment rates and reduced socio-economic benefits to local communities. These economic impacts may be partially offset if local mills arrange to receive wood from other sources and can maintain their production levels. If planned harvest levels are not achieved in this plan period, there may be a short-term delay in achievement of management objectives and slower progress towards the desired forest condition.

8.3.7 Salvage

Salvage operations in areas of natural depletion were not included in planned harvest area or volumes (Tables FMP-11 to FMP-15), nor are they counted against the available harvest area. The SFMM incorporates an allowance for natural depletions in the Long-term Management Direction, and therefore, estimated natural depletions are already considered in the determination of the sustainable area available for harvest during the 10 year period of this plan.

No salvage operations are planned on the Whiskey Jack Forest at this time. A snow damage event occurred in October 2012, but the majority of the area on the Whiskey Jack Forest was relatively young and there are currently no plans for a salvage harvest. If any additional natural depletions occur during this term, that are suited to salvage harvest operations, appropriate planning and approval procedures will be followed to facilitate the salvage of the wood fibre.

8.3.8 Contingency Area and Volume

During the 10-year period of the forest management plan, unforeseen circumstances (e.g. wildfire, blowdown) may cause some of the planned harvest areas to be unavailable for harvest. In order to accommodate such circumstances, contingency areas for harvest have been identified and portrayed on the operations maps (FMP MAPS – Composite Maps and Operations Maps). This contingency area will serve as a replacement area for harvest, and will be used only if needed. This area is not in addition to the regular allocated harvest. It is identified as substitute areas, which have already been subjected to public consultation and area of concern planning. Reclassification of these areas from contingency to planned harvest area requires an amendment to the forest management plan.

Sufficient contingency area was selected from the optional harvest areas, to support approximately 20 months of harvest operations. In general, areas were chosen that have access along primary or branch roads for easy substitution. The area and volume of the contingency area is summarized in Table FMP-16. A total of 8,619 hectares of contingency area have been identified in the management plan, with an associated total contingency volume of 867,661 cubic metres (526,194 cubic metres conifer, 341,466 cubic metres hardwood). Contingency areas are included digitally in the Planned Harvest Layer information which will act as the stand listing.

Areas allocated as contingency blocks may be allocated for harvest at the beginning of the next ten-year period (2022-2032) if they are not harvested during this 10-year plan period. Most of the contingency blocks are near current allocations, and some are near primary roads to facilitate a spring haul of wood to the mills. A variety of forest units have been allocated as contingency area.

8.4 Renewal and Tending Operations

8.4.1 Renewal and Tending Areas

The planned levels of renewal and tending associated with harvest and natural disturbance are discussed in this section. The types and levels of renewal and tending operations planned for the ten-year period, and the proposed levels for the second five-year term are summarized in Table FMP-17.

Harvest areas planned in this forest management plan requiring artificial regeneration will be treated in subsequent years either in this phase of operations or the next FMP. Although the levels of some individual treatments are lower than the annualized five-year average, this is not a reflection of a change in the long-term management direction and does not move away from the desired future forest condition. The silvicultural strategies being employed are the same as the long-term management direction for each forest unit being treated. The identified renewal program represents the Long-term Management Direction of reducing mixedwood (HMX, CMX) and increasing pure conifer and pure hardwood dominated forest units.

Preliminary silvicultural treatment packages from Table FMP-4 will be confirmed, or changed to reflect actual site conditions if required, at the Annual Work Schedule stage upon site inspection by a Registered Professional Forester. During the preparation of the Annual Work Schedule, MNRF will review all identified values, and confirm that proposed renewal activities are planned so that all known values are protected.

During the implementation of the Phase 1 FMP, the majority of the regeneration treatments have been “leave for natural”. The renewal program that has been implemented is a result of very low harvest levels and a primary market for Poplar. Generally, hardwood areas are regenerated naturally, and conifer areas are artificially regenerated. As the demand for conifer species increases and the areas available for renewal treatment increases, the realized renewal program will be more consistent with the identified renewal program in Table FMP-17.

The planned renewal for the second five-year term includes 26,073 ha of total area to be regenerated made up of 12,539 hectares natural, 8,983 hectares planting and 4,551 hectares seeding. These levels were determined based on the areas planned for harvest for the first five-year term and not those that were actually depleted. Despite very low harvest levels, all areas eligible for harvest operations are considered eligible for renewal and tending operation in addition to previously harvested or naturally depleted areas which have not been deemed free-to-grow.

Tending levels are projected to be approximately 6,781 ha for the 2012-2017 plan term, 4,726 hectares of which will be aerial application of herbicides, and 1,000 hectares ground application. All areas planned for tending treatments will be assessed to determine their vulnerability for vegetative competition prior to implementation. Aerial application of herbicides is a silviculture treatment of special public interest (Section

8.2.2.3). Areas that are considered eligible to receive this type of treatment are outlined on Index Map MU490_2012_FMP_P2_MAP_Herb_Comp_00. This includes areas previously harvested or planned for harvest in the second phase of operations that are managed for conifer production. There are currently no supplemental treatments or retreatments anticipated or planned.

Slash piles created in blocks harvested will be burned in accordance with the conditions on regular operations (Section 8.2.2.2). Once exact site locations and hectares are known, the AWS will be revised following the September submission and approval of the Prescribed Burn Plan for Slash Pile Burning. Approximately 546 hectares of slash piles are projected to be burnt during the second 5-year term of the FMP.

The Index map (MU490_2012_FMP_P2_MAP_ Index_00) shows all areas eligible for renewal and tending during the term of the plan. This includes all areas harvested from 1997 to 2012. More detail on locations of actual planned renewal and tending treatments will be provided in the Annual Work Schedule.

8.4.2 Renewal Support

Renewal support includes those activities which are necessary to support the planned types and levels of renewal and tending operations during the second five-year term of this FMP. Renewal support includes activities such as tree seed collection, planting stock production and tree improvement operations which will be conducted on the Whiskey Jack Forest.

MNRF is responsible for seed collection, planting stock planning, procurement and payment. Planting stock will be procured from container nurseries under contract to MNRF. The planting stock will be monitored to ensure it meets the minimum specifications in the contract. Seedlings will be monitored for survival. Planting stock procurement for this forest management plan will be completed annually, one year in advance of planting. A mixture of seedlings consisting of black spruce, white spruce, jack pine, red pine and white pine will be ordered depending on the areas recently depleted or forecasted for harvest the following year. Current inventories of seed are adequate. MNRF may initiate a collection program for white spruce, red pine or white pine if seed crop conditions are favourable.

There are no tree improvement activities planned during the 10 year FMP due to the poor access to the orchards. When forest operations improve the roads accessing the orchards tree improvements may be amended into the plan.

8.4.3 Renewal and Tending Information Products

The spatial locations of renewal and tending areas are included in the forest management plan in two information formats: illustrated on maps and included in the digital coverages of electronic information to be viewed with the area of concern layer.

In both formats, the (a) operational prescriptions for areas of concern, (b) the applicable silviculture ground rules, and (c) silviculture treatments of special public interest are identified. There are no tree improvement activities planned during the 10 year FMP.

The spatial location and forest unit when cross referenced with the silvicultural ground rule (Table FMP-4) and area of concern (Table FMP-10) identifies the operational prescriptions for harvest, renewal and tending operations.

8.5 Roads

The planning requirements for new primary, branch, and operational roads that are required to access harvest areas, including contingency area that will be constructed during the ten-year period of the forest management plan are described in Section 8.5.1.1 and 8.5.1.2 Primary and Branch Roads and Section 8.5.1.3 Operational Roads.

This section outlines the planning requirements for new primary, branch and operational roads that will be constructed during the ten-year term of the FMP. These roads are required to access planned and future harvest areas. Plan text and Table FMP-18 information on the use management activities (construction, maintenance, monitoring, etc.) planned for this 2012-2022 forest management plan.

Existing and proposed roads, landings and aggregate pits are considered in AOC planning. If there are any conditions on any of these features, they are noted in Table FMP-10, and documented in Table FMP-19. Proposed road locations were considered with regard to all currently identified values. Sections 8.5.1.1 and 8.5.1.4 include discussions on the primary and branch roads proposed for construction during this plan period and conditions and analysis of any planned area of concern crossings. A summary of the operational road construction in this FMP period, and conditions and analysis of any planned area of concern crossings of these roads is included in Sections 8.5.1.3 and 8.5.1.5. Existing forest access roads are discussed in Section 8.5.2. Operational standards for forestry aggregate pits are included in Section 8.5.4.

Any primary or branch road crossing of an AOC requires completion of road supplementary documentation form Part D. Supplementary documentation for area of concern prescriptions can be found in Supplementary Documentation F.

Where a new or existing primary road, branch road, operational road, landing or aggregate pit does not intersect an area of concern for a value, any conditions on the primary road, branch road, operational road, landing or aggregate pit as described in the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* are documented in Section 8.5.5 - Conditions on Roads, Landings and Aggregate Pits.

No new primary roads, branch roads or operational roads are required for forest management purposes that will traverse a provincial park or conservation reserve.

8.5.1 Primary and Branch Roads

8.5.1.1 Primary Road Corridors

The *Forest Management Planning Manual for Ontario's Crown Forests (MNR, 2009)* defines a primary forest access road as a road that provides principal access for the management unit and are constructed, maintained and used as the main road system on the management unit. Primary roads are normally permanent roads, although there

may be significant periods of time when specific primary roads are not required for forest management purposes.

Each planned new primary road required for the twenty-year period (2012-2032) is identified in Table FMP-18 along with the use management strategy for the road and the length of road to be constructed during the second five-year term of the plan. The planned corridor for each primary road is portrayed on the operational maps and Planned Road Corridor layer.

Final locations of the one-kilometre wide corridors for primary roads are based on the environmental analysis of alternative corridors and public comments received during the planning process. Primary road use management strategies will be finalized after public consultation. The rationale for the proposed corridor and the associated use management strategy are documented in Supplementary Documentation E.

During the 2012-2022 period, no primary roads are being considered for transfer from the forest manager to the Crown.

Where a new primary road or landing does not intersect an area of concern (AOC) for a value, any conditions on the primary road or landing as described in MNRF's guide(s) relating to conserving biodiversity at the stand and site scales are documented in the forest management plan. These conditions on roads, landings and aggregate pits (CRLAPs) are shown in Section 8.5.5 in this FMP.

The Whiskey Jack Forest is generally well accessed at Plan Start, with minimal construction of primary access roads required in the next twenty-year period (2012-2032). There are only five new primary roads planned for construction during the 2017-2022 plan period: the Yellow Girl Road, the Bug Lake Road, the Witch Bay/Loon Lake Road, the April South Road and an extension of the Windfall Road.

During the development of the Phase 2 plan, changes were made to the proposed road corridors for the Bug Lake Road and April South Road. The Bug Lake Road road corridor was reduced in length after it was determined that the area proposed to be accessed was not necessary for the long term access to that area. Construction of the portion of the Bug Lake Road included in the adjusted road corridor was completed during the first five-year term. The April South Road road corridor was extended to facilitate long term access to that portion of the forest and was upgraded to a primary road. The existing Ord Road which connects to the April South Road was also upgraded to primary. The road use management strategy for the Witch Bay/Loon Lake Road was also adjusted to include a decommissioning strategy for a portion of the road due to comments provided during public consultation that spoke of concerns of increased traffic and hunting pressure. Further information on the road use management strategy can be found in Supplemental Documentation G.

8.5.1.2 Branch Road Corridors

Branch roads are roads other than primary roads, designed for all-weather access that branch off existing or new primary or branch roads, providing access to and through

areas of operations on a management unit. Each planned new branch road required for the 10-year period is identified in Table FMP-18 along with the length of road to be constructed and the use management strategy for the road. The planned corridor for each branch road is portrayed on the operational maps and Planned Road Corridor layer.

During the 2012-2022 period, no branch roads are being considered for transfer from the forest manager to the Crown.

There is one branch road planned for construction during the 2017-2022 plan period: the Aesthetic Road. Further information on the road use management strategy can be found in Supplemental Documentation G.

Where a new branch road, or landing does not intersect an area of concern (AOC) for a value, any conditions on the primary road, branch road or landing as described in MNRF's *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010) will be documented in the forest management plan. These conditions on roads, landings and aggregate pits (CRLAPs) are shown in Section 8.5.5 in this FMP.

8.5.1.3 Operational Roads

Operational roads are roads other than a primary or branch roads that provide short-term access for harvest, renewal and tending operations. Operational roads are normally not maintained after they are no longer required for forest management purposes, and are often decommissioned.

Table FMP-18 lists the new and existing operational road boundaries that will be required for the 10-year term of the plan. Planned construction, maintenance, monitoring, access control and future use management are recorded in the table. Any extensions to existing roads (construction during the plan period), or changes to the use management strategy for an existing road are documented in Table FMP-18.

The areas within which new operational roads are to be constructed during the 10-year plan period will be identified by **operational road boundaries** (ORBs). An operational road boundary identifies the perimeter of the harvest area and the area from an existing road or planned road corridor to the harvest area. Operational road boundaries for the FMP are identified on the operations maps and shown in the legend as operational road boundary. Each operational road boundary within which an operational road will be constructed during the plan period and the associated use management strategy (UMS) for the road(s) is recorded in Table FMP-18. Documentation of the use management strategy for each operational road or networks of operational roads is included in Supplementary Documentation E.

There are two new road use strategies developed for the Phase 2 FMP that will have decommissioning provisions included. These are use management strategy (UMS) 4

and 5. UMS-4 was developed to coincide with the implementation of the Moose Emphasis Area. All new operational roads within the Moose Emphasis Area will be decommissioned within 2 years of the completion of renewal and tending operations and a physical barrier erected within 100 meters of a primary or branch road. The Moose Emphasis Area is identified on Deer and Moose Emphasis Areas Index Map (MU490_2012_FMP_P2_MAP_MEA_DEA _00). UMS-5 was developed to functionally maintain or improve Woodland Caribou habitat. All new operational roads within the Caribou Continuous Distribution Area will be built to minimum standards needed to support harvest operations, regenerated with the same or similar silvicultural ground rule as identified for the adjacent stand, decommissioned within 2 years of the completion of renewal and tending operations and a physical barrier erected within 100 meters of a primary or branch road. The construction of loop roads in high value wildlife habitats, such as the Deer Emphasis Area, Moose Emphasis Area and the Caribou Continuous Distribution Area should be avoided or minimized to the furthest extent possible.

During the 2012-2022 period, operational road boundaries being considered for abandonment or decommissioning are identified in Table FMP-18. All operational roads within the identified ORBs will be decommissioned.

The operational road boundaries are delineated on the 1:20,000 Operational Maps. The applicable road use strategy is outlined in Table FMP-18 and will be the road use strategy for that particular road or network of roads for the period of this plan. Operational roads will be built in the most appropriate location to facilitate harvest.

Where a new operational road or landing does not intersect an area of concern (AOC) for a value, any conditions on the operational road or landing as described in MNRF's *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNRF, 2010) will be documented in the forest management plan. These conditions on roads, landings and aggregate pits (CRLAPs) are shown in Section 8.5.5 in this FMP.

8.5.1.4 Area of Concern Crossings – Primary and Branch Roads

AOC crossings that were planned for the portion of the roads proposed to be constructed during the first five-year term and the second five-year term were reviewed and confirmed. Additional crossings for the April South Road and Witch Bay/Loon Lake Road (west) were identified, planned and included in the FMP.

There are five primary roads and one branch road planned for construction in this FMP. Table FMP-10 identifies if there are conditions on crossings, landings or aggregate pits within an AOC associated with the planned primary or branch road. Table FMP-19 contains the conditions and locations of the AOC crossings on the Bug Lake Road, Witch Bay/Loon Lake Road, Yellow Girl Road, April South Road, Windfall Road and the Aesthetic Road. Conditions on a landing within an area of concern will also be documented in Table FMP-19.

For each crossing of an AOC within a primary and branch road corridor, the conditions on construction and acceptable variations to locations and conditions are documented in Table FMP-19, organized by the same AOC codes used in Table FMP-10.
Where primary or branch roads cross an AOC, the rationale for the crossing is documented in Supplementary Documentation F. Supplementary Documentation F also includes reference to any public comments received and how they were considered in the AOC prescription.

AOC crossings are illustrated on the Operational Map series and include the following:

- Preferred 100-metre wide crossing location of the road;
- Restricted crossing areas, if applicable;
- Acceptable variations to the crossing area (remainder of area where there are no restricted areas or area already identified as the preferred crossing location (as above)); and
- Crossing reference number.

The portrayed 100-metre wide road locations and documented conditions on road construction in the forest management plan for area of concern crossings are preliminary locations and conditions. The locations and conditions will be finalized in the applicable Annual Work Schedules consistent with the acceptable variations described in the FMP.

No new roads required for forest management purposes will traverse a Provincial Park or Conservation Reserve during the 10-year period of the management plan. There are no new primary or branch roads planned for construction within Enhanced Management Areas.

All water crossings will be submitted for approval in the Annual Work Schedule (AWS) in accordance with the requirements outlined in Part D, Section 3.2.5.1. of the FMPM (2009). Any water crossing that requires a span over 3 meters (i.e. bridge) must be constructed in accordance with direction (standards) outlined in MNRF's "Crown Land Bridge Management Guidelines (2008). All applicable construction conditions will be identified during MNRF's review of the crossing and the conditions on construction will be documented in AWS-1. Approval of the crossing and the conditions on construction will occur as a part of the AWS approval, or as a revision to the AWS.

8.5.1.5 Area of Concern Crossings – Operational Roads

For new operational road crossings of areas of concern, any necessary conditions on the location(s) and/or construction of the crossings are identified for individual areas of concern or groups of areas of concern. Table FMP-10 identifies if there are conditions on operational road crossings of an area of concern, or landings in an area of concern. AOCs are individual or grouped according to the value(s) and are assigned a common code identifying the AOC.

For operational road crossings of areas of concern, conditions on the location(s) or construction of the crossing(s) for individual areas of concern, or groups of areas of concern, are documented in Table FMP-19, organized by the same AOC codes used in Table FMP-10. Conditions on a landing within an AOC are also documented in Table FMP-19. If public comments have been received concerning a crossing of an area of concern by an operational road, the public comment will be noted in Table FMP-19 and documented in Supplemental Documentation G.

Operational road locations and conditions on construction will be finalized in the applicable annual work schedule, consistent with the conditions described in the FMP.

All water crossings will be submitted for approval in the Annual Work Schedule (AWS) in accordance with the requirements outlined in Part D, Section 3.2.5.1. of the FMPM (2009). Any water crossing that requires a span over 3 meters (i.e. bridge) must be constructed in accordance with direction (standards) outlined in MNRF's "Crown Land Bridge Management Guidelines (2008). All applicable construction conditions will be identified during MNRF's review of the crossing and the conditions on construction will be documented in AWS-1. Approval of the crossing and the conditions on construction will occur as a part of the AWS approval, or as a revision to the AWS.

8.5.2 Existing Roads

Each existing road or road network, and the associated use management strategy, is documented in Table FMP-18. Documentation of new or revised use management strategies, and the associated rationale, is included in the Supplementary Documentation E. All roads information for the FMP is included in the Existing Road Use Layer submitted electronically with the plan.

If an existing road, landing or aggregate pit within an area of concern is planned to be used for forest management purposes during the period of FMP, Table FMP-10 identifies if there are conditions on the roads, landings or aggregate pit. Details of the conditions on the road, landing or aggregate pit as described in MNRF's guide entitled *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010), are documented in Table FMP-19.

If an existing road and/or landing is planned to be used for forest management purposes during the period of the FMP, and where the road and/or landing does not intersect an area of concern for a value, conditions on the road and/or landing as described in MNRF's guide entitled *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010) are documented in Section 8.5.5.

There are no primary or branch roads scheduled for removal over the ten-year period of this FMP.

There are no other existing roads planned for additional restrictions or modifications to existing access restrictions, decommissioning or road transfers during this plan term.

All existing access restrictions (e.g. Aesthetic Road, Lennan Road, Mac Lake Road, Tide Road, Unexpected Road and the Sydney Lake Road) will remain in place, as shown in Table FMP-18.

Existing operational road boundaries and their use management strategies are also summarized in Table FMP-18. During the 2012-2022 period, operational road boundaries being considered for abandonment or decommissioning are identified in Table FMP-18. All operational roads within the identified ORBs will be decommissioned.

8.5.3 Road Information Products

The spatial locations of Primary and Branch road corridors, operational road boundaries and existing roads are included in the forest management plan in two information formats: illustrated on maps and included in the digital coverages of electronic information.

The spatial location when cross referenced with the Road Construction and Use Management strategies (Table FMP-18) and operational prescriptions for Roads Crossings, Landings and Aggregate Pits in Area of Concerns (Table FMP-19) identifies the operational prescriptions for road construction, maintenance, monitoring, access controls and decommissioning activities.

8.5.4 Forestry Aggregate Pits

The criteria for a Forestry Aggregate Pit apply as per regulations under the *Aggregate Resources Act,* however, Forestry Aggregate Pits (previously Category 14) are exempt from the requirement for an aggregate permit under the Aggregate Resources Act as per the exemption criteria below. Previously operated Forestry Aggregate Pits may be utilized for a ten-year period starting from the initial aggregate extraction from the pit. Forestry Aggregate Pits must remain within the road corridor or area of operations that was identified in the AWS at the time the site was established.

The extraction of aggregate from Forestry Aggregate Pits for use on forest access roads on the management unit will comply with the exemption criteria as outlined below:

<u>Exemption Criteria</u>

By regulations under the *Aggregate Resources Act*, a person engaged in forest operations on Crown land is exempt from subsection 34(1) of that Act, if the following criteria are satisfied. Those criteria are the following:

- A Forest Management Plan (FMP) for the management unit has been approved;
- The aggregate is required for a forest access road in a management unit;
- Aggregate is extracted:
    (a) no closer than 1.5 metres above the established groundwater table; or
    (b) closer than 1.5 metres above the established groundwater table if:
        (i) the proposed site is remote or isolated; and

(ii) the excavation limit of the site is not within:
- 500 metres of a cold-water stream;
- 1,000 metres of a water well, whether dug or drilled; and
- 5,000 metres of a receptor;

- Aggregate extraction will be completed within 10 years from the commencement of the pit; and
- The pit is or has been established within:
  (a) An approved new primary or branch road corridor in the Forest Management Plan and the Annual Work Schedule;
  (b) An approved area of operations in the Forest Management Plan and in the Annual Work Schedule;
  (c) An approved operational road boundary in the Forest Management Plan and in the Annual Work Schedule; or
  (d) An approved aggregate extraction area in the Forest Management Plan and in the Annual Work Schedule that is located within 500 metres of an existing forest access road.

Aggregate pits that satisfy these criteria are referred to as “Forestry Aggregate Pits”.

Aggregate Extraction Areas

Forestry Aggregate Pits are established according to the criteria previously listed. If aggregate pits are required in areas outside those areas covered by the stated criteria, aggregate extraction areas may be identified. If needed, aggregate extraction areas are to be identified for the five-year term of the FMP and are to be shown on the operations maps. They must also be identified in the Annual Report for the year that they were established and the Annual Work Schedule(s) for the following year.

No aggregate extraction areas are identified for this plan period.

If aggregate is required from an area not identified as an aggregate extraction area, an amendment to the forest management plan will be required to identify the new aggregate extraction area. The amendment will be consistent with the requirements for an aggregate extraction area identified in the *Forest Management Planning Manual (2009)*.

8.5.5 Conditions on Roads, Landings and Aggregate Pits

If an existing road, landing and/or forestry aggregate pit is planned to be used for forest management purposes during the period of the forest management plan, and where the road, landing and/or forestry aggregate pit does not intersect an area of concern, any conditions on the road and/or landing as described in the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010) are documented in this section of the forest management plan. This section also includes the Operational Standards for Forestry Aggregate Pits both within and outside AOCs.

Where a new primary road, branch road, operational road or landing does not intersect an area of concern for a value, any conditions on the primary road, branch road, operational road or landing as described in the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010) are documented in this section of the forest management plan.

The extraction of aggregate from forestry aggregate pits for use on forest access roads within the forest management unit will comply with the operational standards in this FMP as outlined in this section.

When a forestry aggregate pit intersects an area of concern, Table FMP-10 identifies if there are conditions on operations. Any operational conditions related to aggregate pits intersecting with area or concerns are stated in Table FMP-19.

The conditions on operations for forestry aggregate pits must take into consideration the *Endangered Species Act, 2007*, including any applicable habitat regulations and relevant policy direction.

All existing forestry aggregate pits will be identified in each Annual Work Schedule.

The following table documents the Forestry Aggregate Pit Operational Standards as well as conditions on roads, landings and forestry aggregate pits outside of areas of concern. Reclamation of Landings (Section 8.5.5 Conditions on Roads, Landings and Aggregate Pits) applies to conditions on new (primary, branch, operational) and existing roads and landings (outside of AOCs).

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

Forestry Aggregate Pit Operational Standards (all pits inside and outside of AOCs as applicable):

- Topsoil and overburden, where present, must be stripped and stored on site.
- Aggregate material may be removed only within areas where access, harvest, renewal, or aggregate extraction has been planned and approved, with no removal occurring within 15 metres of the boundary of any planned area.
- Aggregate material must not be removed from an area of concern or within 15 metres of the boundary of an area of concern, except:
    - *for a cultural heritage landscape or historic Aboriginal value, as defined in the Forest Management Guide for Cultural Heritage Values, if,*
        - *Table FMP-19 of the forest management plan documents conditions on location, construction or use of the Forestry Aggregate Pit, as per the advice of a qualified individual as defined by the Forest Management Guide for Cultural Heritage Values, and*
        - *the aggregate material is removed in accordance with such conditions; and*
    - *for all other values, if,*
        - Table FMP-19 of the forest management plan documents conditions on location, construction or use of the Forestry Aggregate Pit, and
        - the aggregate material is removed in accordance with such conditions.
- Notwithstanding Standard 3 above, aggregate material must not be removed from an area of concern or within 15 metres of the boundary of an area of concern for the following values, as defined in the *Forest Management Guide for Cultural Heritage Values*:
    - archaeology site;
    - cemetery; or
    - archaeological potential area.
- When operating within 15 metres of a proposed roadside ditch, no excavation is to take place below the elevation of the planned depth of the proposed ditch; all excavations must be immediately sloped to no steeper than a 2:1 (horizontal: vertical) angle.
- During extraction, no undercutting of the working face is permitted and:
    - the working face must be sloped at the angle of repose; or
    - the vertical height of the working face must not be more than 1.5 metres above the maximum reach of the

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

equipment.

- All trees within 5 metres of the excavation face must be removed.
- The maximum disturbed pit area (harvested area including excavation area) must not exceed 3 ha. When a pit or a portion of a pit is rehabilitated (silviculturally treated), it is no longer part of the pit.
- When the site is inactive, all pit faces must be sloped at the angle of repose.
- Within the excavation area, no ponding is allowed and offsite drainage must be designed to prevent sediment from entering any water feature.
- Unless an aggregate permit (e.g. Category 9) has been issued, by the end of the 10-year period starting from the commencement of the Forestry Aggregate Pit:
    - buildings, structures, or processing equipment must be removed from the site; and
    - rehabilitation of the site must be completed.
- Notwithstanding standard 11 above, MNRF may direct that a Forestry Aggregate Pit be rehabilitated prior to the end of the above-noted 10-year period.
- Final rehabilitation must include:
    - sloping of all pit faces to a minimum of 3:1(horizontal: vertical);
    - re-spreading of any topsoil and overburden that was stripped from the site; and
    - mitigative measures, to the satisfaction of MNRF, to prevent erosion (e.g. establishment of vegetation).
- Existing or proposed Forestry Aggregate Pits within areas of concern, or in the vicinity of features that are addressed by conditions on operations, as described in MNRF's forest management guide(s) relating to conserving biodiversity at the stand and site scales, must not be constructed or operated except in circumstances as identified in the conditions on operations in the forest management plan. This includes any restrictions on the construction of new Forestry Aggregate Pits and timing of aggregate extraction, rehabilitation, or other associated operations in existing pits.
- Progressive rehabilitation of the site must be ongoing during the 10-year period, starting from the commencement of the Forestry Aggregate Pit.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

Reclamation of Landings

- The production land base will be recovered from landings and these areas will be renewed except where they were not part of the production land base originally (e.g. rock outcrops).
- Operations will be conducted in a manner to minimize the establishment of landings through operational block planning and road layout.
- For any landings that are created the following will occur:
    - Operations will be conducted to recover the production land base from landings (e.g. site preparation, planting/seeding).
    - Woody material (logging debris), which accumulates at roadside is expected to be utilized during this plan, but if not utilized, this material will be piled, redistributed or burnt to increase the area available for regeneration.
    - Avoid piling unutilized fibre on productive non-forest cover types (e.g., brush and alder).
    - Landing treatment operations will be completed no later than two years following the completion of harvest operations and renewal will be completed no later than three years following the completion of harvest operations.
    - The most applicable SGR will be applied to renew the area, based on the specific site conditions of areas formerly occupied by the landing, and the renewal treatments including regeneration should complement the treatments on the adjacent treated areas.
    - Existing landings (three years old or less) will be treated and regenerated as noted above within three years of the completion of harvest operations.
    - Older existing landings (more than three years old) will be treated and regenerated as noted above using the most applicable SGR.
    - Operations are to be completed no later than the decommissioning timelines outlined in the adjacent roads' UMS.
    - The AWS will identify the location of landings scheduled for operations, the operations to be conducted, and the scheduled regeneration treatments.
    - The AWS will identify the inspection of landing treatments and subsequent regeneration as a compliance priority and will indicate how the inspections will be completed.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

The following conditions apply outside of Areas of Concern:

General Conditions on Road Planning, Construction and Maintenance; Landings; Forestry Aggregate Pits:

- These conditions include the mitigative measures/design principles to minimize the risk of sediment/disruption of hydrological function referred to below for LPS ponds/streams, rich lowland hardwood-dominated forest, wetlands, woodland pools.
- Plan and construct roads to minimize costs associated with decommissioning (e.g., use temporary re-useable bridges).
- Engineering safety considerations will be incorporated into road planning.
- When practical and feasible, access should be planned to prevent or minimize site damage (e.g., build roads well in advance of operations so lack of access is not a recurring reason for off-season operations on susceptible sites).
- Road right-of-way widths for all primary and branch roads will be a maximum of 40 metres through unallocated stands, with the exception for landings which may be increased to a maximum of 50 metres.
- Road right-of-way widths for all operational roads will be a maximum of 30 metres through unallocated stands, with the exception for landings which may be increased to a maximum of 50 metres.
- Haul roads and skid trails will avoid steep slopes.
- Materials moved during construction, such as grubbed or earth fill material, will not be piled where they block drainage courses.
- Fill material for roads built below the high water level, within the floodplain of a water feature, will be erosion resistant and/or protected from erosion.
- Any exposed mineral soil between the height of land and a water crossing, or within 100 m of a water crossing, whichever is less, will be trimmed to a stable angle and be protected from erosion so sediment will not enter the water after construction.
- Mitigation techniques will be used to prevent or stop erosion in ditches, on steep slopes, etc.
- When all-weather roads must cross wetlands, frequent cross drainage culverts will be provided to ensure that surface water is equalized on both sides of the road and impacts to hydrologic flow and wetland function are minimized.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

- When the road location and landings within the approved corridor are being finalized, avoid recognizable ephemeral streams, springs, seeps, and other areas of groundwater discharge that are connected to lakes, ponds, rivers, or streams and small unmapped wetlands (e.g. woodland pools)
- If recognizable ephemeral streams, springs, seeps, and other areas of groundwater discharge that are connected to lakes, ponds, rivers, or streams, or small unmapped wetlands must be crossed, use construction and maintenance techniques and practices to minimize impacts to hydrologic flow and wetland function; natural water movements will not be impeded, accelerated, or diverted
- Identify areas of concentrated surface water flow and prevent blockage through appropriate use of cross drainage culverts; some of these locations may be determined the following spring when ponding is evident at unpredicted locations along a new road.
- Where ditches leading downhill from rock cuts pass over earth material, techniques will be used to protect the earth/rock interface from erosion.
- Grubbing of low vegetative cover between the height of land (e.g., the high point on a ditch line) and a water crossing, or within 100 m of a water crossing, whichever is less, will be limited to that required to address engineering issues and safety concerns, such as the removal of hazards.
- Where explosives and blasting are required, this work will be planned to ensure rock or earth remains within the right of way
- Windrows or grubbing materials will not be placed across known migration paths of wildlife in a manner that could impede their travel
- Minimize the windrowing of downed woody material; if long windrows (e.g. of slash or rock) are created, breaks should be provided to allow animals, other forest users and operations unobstructed access routes across the right of way e.g. a 10 m break for every 100 m of windrow.
- Decommission main skid trails constructed on steep slopes by installing water bars, diversion ditches, straw bales, etc. at appropriate intervals or critical landform junctures to filter runoff water through surrounding vegetation.
- During decommissioning, workers will prevent contamination of a water feature by foreign materials such as lumber, nails, logs, brush, fuel and oil.
- Minimize the amount of area being converted to non-forest (e.g., roads and landings) to that required for efficient operations.
- MNRF will ensure that the signs used to identify travel restrictions under the Public Lands Act are maintained.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

- Harvest of rare tree species (e.g. white pine, yellow birch, bur oak and white elm) will be avoided where practical, but may occur if encountered during road construction or gravel extraction.
- Roads on Crown Land maintained by cottagers and/or public groups (i.e. Local Roads Boards (LRB)) that are planned for harvest block access will at a minimum maintain a pre-harvest condition or any other negotiated agreements between the Forest Manager and those responsible for the maintenance of the road following the completion of hauling operations.
- Implement a monitoring program for roads or road networks (see Monitoring and Assessment Section 8.7.4 Roads and Water Crossings).
- The planning, construction, and maintenance of primary and branch road corridors and road network locations, and their applicable use management strategies, will consider:

  i) the strategic direction associated with other resource plans, policies and directives (e.g., *Crown Land Use Policy Atlas*);

  ii) the strategic direction being addressed through the use of LLPs resulting from the application of the Landscape Guide;

  iii) the management objectives, and emphasis for specific areas (e.g., direction provided by the *Crown Land Use Policy Atlas*; LLPs as described in Section 3.3 of this guide); and iv) the potential impact (including benefits) to other natural resource features, land uses, and values (e.g. lakes and streams, cottage sites, boat caches.

Roads Crossing Recreational Portage Routes, Trails used for Accessing and Working Traplines that are not AOCs:

- Ensure that identified recreational portage routes and trails used for accessing and working traplines are passable following forest management operations.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

Biofibre Harvest

- Direction applies to all planned harvest areas regardless of the product derived
- Stumps and all below ground portions of a tree are not available for utilization as a forest product; movement or removal associated with construction of roads or landings is permitted but will be minimized to that required for efficient operations
- Organic matter that is not part of a harvested tree (including boles, branches, roots, bark, leaves, needles, debris, soil carbon, etc.) will remain on site; movement of such material for access is permitted.

Furbearing Mammal Dens (other than red foxes, skunks, wolves, wolverines) – in caves, excavated burrows, under large piles of coarse woody material or other **enduring features** – known to have been occupied at least once within the past 5 years

- New roads/road construction, landings, and aggregate pits/aggregate extraction are not permitted within 20 m of an occupied den entrance.
- Hauling and road maintenance operations of existing roads are not permitted within 20 m of an occupied den entrance unless the road predates the den or is required for safety reasons or environmental protection.

Furbearing Mammal Dens (other than red foxes, skunks, wolves, wolverines) – in tree cavities, hollow logs, brush piles, other **transitory features** – known to be occupied

- Known occupied dens encountered during operations will not be destroyed; in this context, destruction means the complete or partial damage of the den structure or its contents (i.e. adults or young)
- New roads, landings, and aggregate pits are not permitted within 3 m of the den entrance.

Nests – Inactive Nest - **great grey owl, northern goshawk, red-shouldered hawk**: nests not known or suspected to have been occupied at least once within the past 5 years that are >400m from a primary nest, or <=400m from a primary nest but in poor repair; primary and alternate nests within nesting areas where all nests within the nesting area have been documented as unoccupied for >=3 consecutive years

- New roads, landings and aggregate pits will not be constructed within 20 m
- No timing restriction on operations associated with existing roads, landings and aggregate pits

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

Nests - Unoccupied Stick Nests known or suspected to have been built or used by **broad-winged hawk, merlin, sharp-shinned hawk,** unknown species **small** stick nest <75cm diameter • Reasonable efforts will be made to avoid constructing new roads, landings, and aggregate pits within 20 m of nests**.** • No timing restriction on operations associated with existing roads, landings and aggregate pits.
Nests - Unoccupied Stick Nests known or suspected to have been built or used by **barred owl, Cooper's hawk, common raven, great horned owl, long-eared owl, red-tailed hawk**, unknown species **large** stick nest >=75cm diameter • New roads, landings and aggregate pits will not be constructed within 20 m • No timing restriction on operations associated with existing roads, landings and aggregate pits
Nests - Unoccupied Nests in cavities known or suspected to have been used by **American kestrel, boreal owl, eastern screech-owl, northern hawk owl, northern saw-whet owl** • Reasonable efforts will be made to avoid constructing new roads, landings, and aggregate pits within 20 m of nests. • No timing restriction on operations associated with existing roads, landings and aggregate pits.
Nests – Unoccupied Nests/communal roosts in cavities known or suspected to have been used by **barred owl, great horned owl, chimney swift** • New roads, landings, and aggregate pits will not be constructed within 20 m • No timing restriction on operations associated with existing roads, landings and aggregate pits
Nests – waterfowl, grouse – known nests containing eggs encountered during forest management operations • Known nests will not be destroyed; in this context, destruction means the complete or partial damage of the nest structure or its contents (i.e. attendant birds, eggs, or young).

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

• Reasonable efforts will be made to minimize disturbance of known nests encountered during operations including: New roads, landings and aggregate pits will not be constructed within 10 m; and No heavy equipment within 10 m of known nests with eggs. • No timing restriction on operations associated with existing roads, landings and aggregate pits.
Nests – Songbirds or other small birds – known nests containing eggs or young encountered during forest management operations • Known nests will not be destroyed; in this context, destruction means the complete or partial damage of the nest structure or its contents (i.e. attendant birds, eggs, or young) • Reasonable efforts will be made to minimize disturbance of known nests encountered during operations including: New roads, landings and aggregate pits will not be constructed within 3 m; and No heavy equipment within 3m of known nests with eggs, young. • No timing restriction on operations associated with existing roads, landings and aggregate pits.
Rich Lowland Hardwood-Dominated Forest(black ash, – mapped and unmapped pockets encountered during operations reasonable efforts will be made to avoid constructing new roads (i.e. unless excessive steep terrain prohibits road construction); when construction of roads is necessary, it will follow design principles to minimize disruption of hydrological function outlined above under 'General Conditions on Road Planning, Construction and Maintenance'). • Landings and aggregate pits are not permitted.
Wetlands – mapped permanent non-forested (polygon types OMS, TMS, and BSH) • Reasonable efforts will be made to avoid construction of new all-weather roads within wetlands or portions of the wetlands characterized by open water or non-woody vegetation (i.e. unless excessive steep terrain prohibits road construction); when this is necessary it will follow the design principles outlined above under 'General Conditions on Road Planning, Construction and Maintenance' to minimize risk of sediment entering the wetland and disruption of hydrological function • Landings are not permitted within the wetland itself or within adjacent forest that is <15 m from those portions of the wetland dominated by open water or non-woody vegetation • Aggregate pits are not permitted within 15 m.

Conditions on Roads, Landings and Aggregate Pits

NOTES: Additional conditions may apply as documented in Table FMP-19 Road Crossings, Landings and Aggregate Pits in Area of Concerns and Table FMP-18 Road Construction and Use Management.

Woodland Pools – encountered during operations

- New roads are not permitted within 15 m of the high-water mark of pools unless there is no practical or feasible alternative (i.e. excessive steep terrain prohibits road construction) and the mitigative measures outlined above under 'General Conditions on Road Planning, Construction and Maintenance' are taken to minimize the risk of sediment entering pools and disruption of hydrological function
- Landings and aggregate pits are not permitted within 15 m of the high-water mark of pools.

8.5.6 Decommissioning of New and Existing Roads and Road Networks

The following standard conditions are applied to all new and existing roads inside and outside of AOCs and are documented in Table FMP-18 if applicable:

- The expected period of use of all roads has been considered during access planning. In certain circumstances (e.g. tourism, dynamic caribou habitat schedule blocks), MNRF made a preliminary determination of whether or not the road will be maintained for public use.
- Preliminary decommissioning provisions, including regeneration conditions and timelines, have been documented for all roads where MNRF has indicated the road will not be maintained for public use.
- Road classification and construction standards are consistent with the expected period of use of all roads and will facilitate road regeneration where this is required.
- Progressive road decommissioning has been used where progressive harvest is applied and priority zones to focus decommissioning and renewal efforts have been considered and documented where applicable.
- Natural access traps, winter roads, corduroy and portable bridges have been used where practical to assist with future road renewal and regeneration.
- Signage will be posted to identify planned future decommissioning including regeneration at time of construction.

In addition to the above, the following conditions apply to all roads planned to be decommissioned and regenerated (including roads not identified for transfer):

- Specific use management conditions are included in Table FMP-18 and/or Supplementary Documentation E.
- The production land base will be recovered and these areas will be renewed except where they were not part of the production land base originally (e.g. rock outcrops).
- Operations to be conducted to recover the production land base include the following: site preparation, planting/seeding.
- The decommissioning (including renewal) will be completed no later than 5 years from the end of the FMP period in which decommissioning took place, unless otherwise stated in the appropriate Use Management Strategy.
- The most applicable SGR will be applied to renew the road, based on the specific site conditions of areas formerly occupied by the road, and the renewal treatments including regeneration should complement the treatments on the adjacent treated areas.
- The Annual Work Schedule (AWS) will identify the location of the road scheduled for decommissioning, the operations to be conducted, including the scheduled regeneration treatments.
- The AWS will identify the inspection of decommissioning treatments including regeneration as a compliance priority and will indicate how the inspections will be completed.

8.6 Expenditures

The expenditure data for the second five-year term is presented in Table FMP-20 and discusses projected expenditures required for renewal and tending operations, insect pest management and renewal support for the second five-year term of the plan, 2017-2022.. The following text provides the rationale and methodology for the economic data calculation.

The planned expenditures required to complete the planned silvicultural activities, renewal support and regeneration assessments for the second five-year term of this plan (as reported in Tables FMP-17 and FMP-20) are $11.250 million. These projected expenditures include $2.984 million for site preparation, $6.563 million for artificial regeneration (planting and seeding), and $1.179 million for tending activities. No expenditures are currently projected for renewal support, or other eligible activities. Road construction and maintenance costs are not included in the planned expenditure total.

Rationale for the calculation of silvicultural expenditures includes consideration for:

- Estimated expenditures per unit are based on past experience on the Whiskey Jack Forest.
- Projected cost of all mechanical site preparation activities, including the proportion of area renewed with and without mechanical site preparation, and slash pile burning;
- Projected costs of tree seed collection and processing, and the quantity of seed required for aerial seeding and sowing of tree seedlings for planting;
- Projected tree planting costs, including the cost of planting stock production, based on projected densities and proportion of tree species planted in a given future forest unit, as well as the proportion of area planted with and without mechanical site preparation;
- Projected cost of manual tending and tending by chemical herbicide application, including the cost of the herbicide;
- Projected cost of on-the-ground surveys, Free-To-Grow surveys, and forest operations prescription (FOP) verification; and
- Administrative costs for silviculture.

MNRF evaluated the silvicultural requirements for areas treated prior to 2012, based on existing information and silvicultural ground rule prescriptions and regeneration standards. This evaluation was made to determine outstanding treatments (not yet completed) and their associated costs. For areas planned to be harvested in the 2012-2022 FMP, preliminary silvicultural ground rules were assigned to each area. The regeneration treatments and expenditures were planned based on average annual harvest by forest unit and an estimate of area to be treated during the plan period. The rates for the Forest Renewal Trust Fund (FRTF) will be monitored annually by the MNRF and adjusted, if necessary.

Expenditures funded through the Forestry Futures Trust Fund (FFTF) will include various eligible projects or expenditures approved on an annual basis during implementation of the plan, and a portion of the costs associated with the maintenance of the Forest Resources Inventory (FRI) for the management unit (Forest Trust Forest Resources Inventory, FTFRI).

8.7 Monitoring and Assessment

This section discusses the monitoring and assessment program for the ten-year forest management plan period for forest operations inspections, exceptions monitoring, assessment of regeneration success and monitoring of roads and water crossings.

Forest management operations are regularly monitored to ensure compliance with the management plan, with particular emphasis on prescriptions for operations including: area of concern prescriptions, any restrictions on operations, water crossings and adherence to harvest boundary lines. Monitoring is also conducted to evaluate silvicultural activities, renewal success and changes in forest cover. MNRF also conducts surveys of forest values to support forest management planning. Monitoring of exceptions to silvicultural guides and other guidelines is also conducted.

MNRF's web-based Forest Operations Information Program (FOIP) will be used to document inspections and operational issues associated with identified compliance issues, and to ensure that appropriate actions have been carried out when operational issues are identified.

All Forest Resource Licence (FRL) holders and contractors are required to report all new values encountered during operations. The general public will be encouraged to report new values in the Whiskey Jack Forest, and will be provided opportunities to review the annual work schedules at any time of the year.

8.7.1 Forest Operations Inspections

The goal for Ontario's forest is "to ensure the long term health of our forest ecosystems for the benefit of the local and global environments, while enabling present and future generations to meet their material and social needs." (Source: *Policy Framework for Ontario Forests*, 1994, MNR).

To help meet this goal, the MNRF has prepared a Forest Compliance Strategy, which has as its objectivel: "to ensure compliance with rules, standards and requirements that are desgined to protect the forest ecosystem while allowing for the realization of benefits which do not compromise the long-term health of the forest ecosystem." (Source: *A Forest Compliance Strategy*, 2007, MNR).

A requirement of both the *Forest Management Planning Manual* and the *Forest Information Manual* is that a Forest Compliance Plan for planning, monitoring, reporting, and education/prevention on forest management operations be prepared to ensure compliance with all applicable legislation, regulation, the forest management plan, and with MNRF manuals and guidelines affecting those operations.

FRL holders and contractors will comply with legislation, regulated manuals and all requirements described within this FMP (including but not limited to Forest Operations

Inspection procedures outlined in Section 8.7.1) and accompanying Annual Work Schedule (AWS). If the Licensee fails to abide by the requirements outlined in Section 8.7.1, they will be ordered by MNRF to stop activities until the issue has been resolved and corrected.

As a Crown forest, the MNRF Kenora District is responsible for the monitoring of all forest operations on the Whiskey Jack Forest and the preparation of Forest Operations Inspection Reports, for each operation inspected. The MNRF will investigate all operational issues identified by the public and FRL holders. The MNRF will continue to develop an annual compliance plan at the district level and focus on priority areas identified in that plan as appropriate.

There are a variety of methods and procedures that can be employed as part of the overall monitoring program, including direct methods, such as field inspections and observations, as well as indirect methods such as the use of aerial photography. Both formal and informal procedures will contribute to an effective monitoring program. The Compliance Plan for the Whiskey Jack Forest provides specific details of monitoring and assessment to be conducted during the 2012-2022 period.

8.7.1.1 Compliance Goal

The goal of the compliance plan is to encourage and ensure adherence to rules and requirements which contribute to the sustainable management of Ontario's forests. In doing so, this plan will meet the compliance requirements as set forth in the Forest Compliance Handbook section FOR 07 02 04.

8.7.1.2 Background

The Whiskey Jack Forest has been a Crown managed forest since the fall of 2009 and as a Crown Forest the Ontario Ministry of Natural Resources and Forestry, Kenora District is responsible for all obligations and responsibilities described within the FMP.

The compliance strategy outlined within the FMP will assist in improving operating practices throughout the forest. It will guide and direct all FRL holders, and contracted activities. In support of this, MNRF Kenora District will be responsible for:

- All forest management activities (planning, renewal, roads, etc.) on the Whiskey Jack Forest;
- Implementation of the compliance plan including education, monitoring, FOIP maintenance and updates; and
- Reporting of the Whiskey Jack Forest compliance program.

Compliance priorities will be based on three levels. Issues associated with the 2004-2009 Independent Forest Audit (IFA), along with historical and/or current trends that highlight potential areas for improvement. These focus areas are summarized below along with their associated action plans that are ongoing. A priority for compliance

inspection will be to identify harvest operations, slash/chip debris pile, landings and road decommissioning operations, and winter water crossings.

i. **Winter Water Crossing Installations**: During the 2004-2009 Independent Forest Audit (IFA) concerns were identified with permanent watercourse crossing installations performed during winter months. The opportunities for improvement involve ensuring that proper culverts and associated approaches were stable in the spring after thawing.
Action Plan: A specific *Stream Crossing Toolkit* is in place with all operators on the Whiskey Jack Forest. It works in conjunction with all requirements of the guidelines contained within the provincial documents *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010), and the CSP Culvert Installation at Water Crossings on Forest Access Roads (Wilson, 1994). All crossing installations are inspected during and after installation to ensure they are aligned with expectations, followed by an early spring inspection to ensure road bank / shoulder stability of the site and to mitigate any erosion issues.

ii. **Category 9 Pit and Forest Industry Aggregate Pits**: During the 2004-2009 Independent Forest Audit (IFA) there was concerns with the improper sloping and steep pit faces on some Category 9 and Forest Industry pits.
Action Plan: All FRL holders and contractors are required to follow Category 9 site plans and the Aggregate Resources Act, Operating Standards. All Category 9 pits are inspected annually and Compliance Assessment Reports are submitted to the MNRF Aggregate Specialist. Forest Industry Pits are specifically monitored in the field, managed in accordance with these requirements and entered into FOIP.

iii. **Decked Wood**: During the 2011-2012 Operating Season two harvest blocks had the timber harvested using feller buncher however, due to an early spring this wood remained in the harvest block in buncher piles.
Action Plan: This is now a formal part of the pre-work review conducted on each block. Whiskey Jack Forest Compliance Inspectors will work with FRL holders on the scheduling of their operations to ensure the decked wood is utilized in a timely manner. If necessary, FRL's may be withheld if movement of this fibre is not prioritized by the licensee and/or contractor.

iv. **Slash/Chipper Debris Management**: In-block field chipping has been occurring on the forest for several years and the continued proper management of this debris in accordance with standards will continue to be a key focus.
Action Plan: Management of this issue has resulted in an evolving process to limit the amount of productive land lost to large piles of accumulated debris. As a result practices and options have been built into the FMP. MNRF forestry staff and FRL holders have been working closely to distribute debris back into the cutover. Specific direction through the Chipper Debris Management Guidelines is built into the FMP. These requirements form part of the pre-work meeting and

are audited during compliance checks and feedback given to the contractor to form the continual improvement loop.

v. **Road and Landing Decommissioning**: Operational roads and landings where applicable will be site prepared and regenerated and any associated water crossings will be removed.
Action Plan: This issue will be monitored to ensure that as much road/landing area is reclaimed as possible.

vi. **Review of Silvicultural Activities:** It is the responsibility of the forest manager to ensure that the silvicultural activities on the forest are as planned in the FMP.
Action Plan: All silvicultural activities will be monitored for compliance with the plan, as well for effectiveness.

8.7.1.3 Compliance Objectives, Strategies and Actions

The goal of the compliance plan is to encourage and ensure adherence to rules and requirements which contribute to the sustainable management of Ontario's forests. There are a number of specific compliance objectives, strategies, and actions set forth in support of achieving this goal;

Objective: **Resource Protection**

- Strategy: To prioritize forest ecosystem integrity in the planning and implementation of all harvest, access, renewal-maintenance and protection activities
  - Utilize sound management techniques, adhere to established operating procedures and management standards
- Strategy: To continuously evaluate forest operations for impacts on the environment
  - Reviewing pre-work requirements with operators
  - Ongoing inspections and audits of active operations
  - Monitoring operations on shallow soils
- Strategy: To manage and protect against fire, disease and insects
  - Prepare and implement a fire prevention plan as part of the AWS
  - Monitor and report any changes to the forest cover as a result of disease and/or insect infestation.

Objective: Risk Management

- Strategy: To perform a risk assessment for each operation that will rank the operations potential to have a compliance issue.
  - Review each operations environmental and operational components
  - Rank operations from high to low based on complexity, AOC numbers and operators experience and compliance history.
  - Implement compliance monitoring program that puts an emphasis on the higher risk operations and focuses inspector's efforts to these operations.

Objective: Staff & Operator Training

- Strategy: To ensure appropriate training is supplied to those with forest management responsibilities regarding current and upcoming standards
    - Staff, FRL holders and/or contractors participate in training workshops and site visits
    - Ensure that FRL holder employees who are actually doing the work in the field are participating in pre-work and field training sessions.
- Strategy: To ensure staff, licensees and/or contractors are trained to recognize and implement environmentally sound practices.
    - Staff licensees and/or contractors are trained at least annually in standard operating procedures, environmental policy, and emergency response processes.
    - Pre-harvest reviews with each new block and/or work project
    - Requiring that licensees and contractors train their employees in all applicable standards and procedures.

Objective: Education and Communication

- Strategy: To ensure management personnel and operators are knowledgeable and competent in the regulations, guidelines and policies related to compliance.
    - Promote open communication with MNRF staff and contractors.
    - Staff to participate in all applicable MNRF training sessions (i.e. compliance courses stand & site guideline training, watercourse crossings, etc.)
    - Facilitating training sessions as required for various safety and environmental standards that exist on the forest.
    - Continued focus on self-reporting by operators
- Strategy: To ensure management personnel are current and updated on the new forest science, planning process and operational techniques related to ecosite management and forest operations.
    - Ensure operational and operational issues are identified in a timely manner and appropriate action is taken to identify, document, and mitigate concerns.
    - Staff to participate in all applicable MNRF training sessions (i.e. compliance courses, stand & site guideline training, watercourse crossings, etc.)

Objective: Compliance Efficiency

- Strategy: To conduct compliance activities in a cost effective and efficient manner
    - Utilize multiple techniques (aerial, ground, photography, etc.) to monitor operational activities
    - Utilize the risk analysis to focus efforts on the high risk areas.
    - Encourage joint inspections or joint time in the field to ensure calibration
    - Ensuring timely submission of FOIP reports

Objective: Compliance with Legislation, Plans, Policies

- Strategy: To stay current with changes in compliance policies, procedures and guidelines.
    - Participate in MNRF training sessions which relate to the compliance program
- Strategy: To conduct activities in a manner that meets or exceeds existing standards
    - Implement all applicable legislation, policies, and procedures
    - Conduct pre-work reviews with each new block and/or work project
    - Maintain and continually update operational procedures

Objective: Overcome Historical Compliance Problems

- Strategy: To actively monitor forest operations, evaluate results, and take corrective action as required.
    - Analyze forest operations compliance information report data
    - Include within each AWS focused compliance monitoring areas based upon historical trends and/or changes to compliance standards.
    - Incorporate focus areas from this compliance plan into field inspections to proactively manage historical trends.

Objective: Continuous Improvement

- Strategy: To develop benchmarks, both locally and regionally within the forest operations to measure the improvements and performance
    - Collect appropriate field data to be able to analyze and verify required changes to the compliance program
    - Identify and recommend solutions that will improve the overall compliance program
    - Continue to work with licensees and/or contractors in the process of compliance monitoring and self-reporting.

8.7.1.4 Risk Analysis and Management

"Risk management is defined as the balancing of assessed risks against expected benefits so the best decisions are made for a given resource allocation (people, equipment, money) and degree of tolerance." *Forest Compliance Handbook FOR 07 02 03.* Risk management in forest management consists of the balancing of operational and environmental risks, ranking the associated operations as to the potential risk and associated tolerance levels, to determine the level of monitoring for the given operation.

Assessment of Risk

In forestry, environmental and operational components influence the inherent risk of any given operation. Environmental components consist of the planned Areas of Concerns (AOC's) utilized to protect values and public concerns and Conditions of Regular Operations (CRO's). These are assessed in detail during planning phases and are built into the Forest Management Plan and if applicable, are implemented at time of

operations. The inherent risk for the environmental component is assessed at the Annual Work Schedule (AWS) level and depending on complexity and number of AOC's within any given operation will depend on the level of monitoring applied to the operation.

The operational component consists of aspects such as, operator experience, compliance history, season of harvest and harvest method. The operational aspects influence compliance monitoring levels greatly and is applied at the AWS level during the risk analysis. Operators with good history and lots of experience may receive less monitoring.

Operational Control System(s)

The Whiskey Jack Forest is a Crown forest and does not have additional certification systems (EMS, ISO) that industry operated forests have in place to monitor and track forest operations. Forest compliance reporting is the responsibility of the Ministry of Natural Resources and Forestry, Kenora District (MNRF) and the MNRF's Forest Operations Information Program (FOIP) is the method utilized to track and document forest operations. During operations it is the forest operator's responsibility to abide by all legislation and FMP requirements, additional compliance responsibilities also apply to all harvest operators who operate under the authority of a Forest Resource Licence.

In order to minimize risk, the MNRF has established pre-work authorization for all Forest Resource Licenses issued. The pre-work authorizations are carried out on site, prior to the start of operations, and include MNRF forest compliance inspectors, company supervisors and equipment operators. The pre-work form consists of a detailed harvest/silviculture map, list of applicable AOC's and CRO's. The MNRF forest compliance inspector reviews all information that pertains to operation and the form is signed off in duplicate by both parties. This process allows all parties to discuss operations and clarify concerns and operating procedures prior to commencement.

Risk Analysis

The risk analysis is completed during the preparation of the Annual Work Schedule, where operations (i.e. harvest blocks) will be analyzed to determine the level of operational and environmental risk. The risk ranking system that is utilized assigns a numeric value to the operation based on criteria such as, type of operation (harvest, access, renewal), season of operation, operator compliance history, forest stand and soil conditions, water crossings and the number of Area of Concerns or values present.

Areas of Concern are scored individually, per occurrence and are given an assigned numeric value from zero to three based on the complexity and value being protected. Each operation is tallied for a total score, which ranks the operations risk from high to low, high rankings have a greater chance of having a compliance issue, therefore requiring a higher level of monitoring and low rankings requiring less monitoring.

Risk analysis will be prepared for all operations during the preparation of the AWS and at this time the MNRF will determine the level of compliance monitoring that will apply to each operation. Because there is no other means of documentation for compliance monitoring on the Whiskey Jack Forest reporting will occur for every operation within FOIP.

8.7.1.5 Roles and Responsibilities

Compliance Plan Preparation and Updates

As a Crown Forest the MNRF, Kenora District is responsible for the compliance plan and any amendments to the plan. The MNRF will complete any required amendments to the compliance plan. The Management Forester is responsible for this area.

Identification of Certified Inspectors

The Resources Management Supervisor for Kenora MNRF is responsible for ensuring that certified inspectors are trained and identified to conduct inspections on the Whiskey Jack Forest.

The MNRF has approved forest compliance inspectors on this Crown Forest to conduct inspections. The Resources Management Supervisor is designated to review and approve FOIP inspections reports for submission into the MNRF database.

Prevention, Monitoring and Reporting

The MNRF is responsible for all prevention, monitoring, and reporting activities in relation to compliance obligations on the Crown Forest. The Integrated Resource Management Specialist will be the main communications linkage between the MNRF and FRL holders / contractors for this area of responsibility.

Forest Resource Licence (FRL) Holders

FRL holders are independent operators who are fully responsible for all operations performed within their licensed harvest area. The Whiskey Jack Forest currently has two FRL holders: D Riffel Harvesting and Sawing and Miisun Integrated Resource Management Company Inc. Prior to the start of each operation, an operations foreman will be designated as the main contact for FRL holder.

As described in Section 8.7.1.6 Notification of status, FRL holders are required to contact MNRF 5 days prior to the start-up of operations so that a pre-work meeting can be scheduled.

Operations cannot begin until an on-site pre-work meeting has been completed with FRL holder employees and a MNRF Representative.

Preventative, Mitigative and Follow-Up Action

The MNRF is responsible for all preventative, mitigative, and follow-up activities in relation to compliance obligations on the Crown Forest. The MNRF Forest Compliance Inspectors will act as the communications linkage with FRL holders and contractors. Where operational issues arise, the MNRF Integrated Resource Management Specialist and MNRF Management Forester will be brought into the situation.

As Forest Resource License holders all harvest contractors are responsible and liable for all operations. Harvest contractors are to ensure that all operators are knowledgeable of the issues within the harvest area and are aware of the preventative and mitigative measures while operating.

Training Responsibilities

The FRL holders and contractors are independent and are fully responsible to ensure that their employees are trained to the standards required to perform the forest operation being conducted.

The MNRF will work closely with the FRL holders for ensuring that those who operate on the Crown Forest are properly trained. This will involve, at a minimum, annual operator meetings, pre-work reviews, and inclusion in any focussed training offered by the MNRF or other entities in the region.

8.7.1.6 Notification of Status

The Forest Compliance Handbook, section FOR 07 03 05 outlines the specific requirements regarding notification of operational status. Notification will be given to the MNRF by the FRL holders when:

- Operations are about to commence (Start-Up Notification). Such notification will be provided prior to or within 5 working days of the beginning of a new operation so that on site pre-work meetings can be scheduled with operators.
- Operations are temporarily stopped but not finished (Suspended). Such notification will be made prior to or within 20 days of suspending an operation or activity, and will clearly describe the operation being suspended, its location, the reason for the suspension, and the likely date of activities being resumed.
- Operations are within 10 days of completion and the forest operation is ready for released for final MNRF inspection (Release). This will ensure that MNRF inspectors can be on site with operators and mitigate any issues prior to moving equipment.
- Operations may not be suspended for more than the balance of the period of the current AWS and one further AWS period.

Notifications will generally take the form of an email or verbal notification by the FRL holder. All verbal notifications will be documented by the MNRF inspector and confirmed through email to the FRL holder.

8.7.1.7 Prevention, Avoidance, and Mitigation

It is the responsibility of the FRL holder to take action to prevent and avoid potential operational issues in a decisive, timely and appropriate manner.
Where any industry operating personnel, during ongoing monitoring of operations, identify a situation they believe could be an operational issue(s), they will undertake one of the following actions:

1. If they feel it is a violation of the approved plan or a threat to the environment, they will immediately stop the operation and take the necessary steps to stop further possible non-compliance/harm.
2. They will immediately report the situation to MNRF staff who will arrange for an immediate compliance inspection of the issue. MNRF staff will determine if the situation is a violation of an approved plan or Annual Work Schedule (AWS) or a threat to the environment and what further action to take.
3. If the situation cannot be immediately corrected, the MNRF certified inspector will submit a report in FOIP that documents their findings as an operational issue.

8.7.1.8 Compliance Reporting Areas (CRAs)

FOIPS will be submitted by each individual harvest block. Silvicultural operations will be reported on a project basis identifying the silviculture blocks within the FOIP report.

8.7.1.9 Monitoring Compliance of Forest Operations

As per the actions outlined in the section on OBJECTIVES, STRATEGIES AND ACTIONS, monitoring of compliance activities will take place on a continual basis as a means of achieving the overall compliance objectives. These actions are in support of the direction set forth in the Forest Compliance Handbook, section FOR 07 03 04 and FOR 07 03 05, the directive and procedure on compliance inspecting and reporting.

Harvest and Access Operations

- The MNRF will conduct forest operations inspections on all harvest and access operations during the period covered by this FMP. Inspectors will perform spot checks and/or audits as directed by the risk management analysis. High risk operations will be inspected weekly on each ongoing operation and low risk operations will be inspected as required. At a minimum one FOIP report will be submitted upon completion of each forest operation as defined by the compliance reporting area.

- Access operations will receive several spot checks during construction and will receive a final FOIP inspection at the end of the project.
- If an operational issue is encountered, that cannot be immediately repaired a FOIP report will be prepared to track the operational issue until repaired or until a remedy is applied.

Silviculture Operations

- Priorities during the review of silviculture activities will include determining:
  - Whether actual operations at the AWS level are in accordance with the assigned SGR and appropriate silvicultural treatments from the Forest Operation Prescription (FOP).
  - Whether the SGR being implemented was changed from that assigned in the FMP to reflect actual site conditions; whether the assigned SGR and silvicultural treatments from the FOP are appropriate for the actual site conditions.
  - Whether the approved silvicultural program identified in SFMM is being implemented by forest unit and intensity as required by the FMP strategic LTMD, including application of tending operations on competitive sites.

8.7.1.10 Opportunities for LCC Involvement

The Terms of Reference for the Kenora Local Citizens Committee (LCC) does not contain specific commitments regarding the involvement of committee members in forest operations inspections and MNRF District monitoring of forest operations. Committee members are, however, provided with an annual overview of forest operations compliance activities during the presentation of Annual Reports and are encouraged to participate in the Independent Forest Audit process. A standing invitation will be offered for LCC members to join inspection personnel on field inspections by appointment.

The LCC will also be given the opportunity to review the forest operations inspections summary (Table AR-6) which forms part of each year's Annual Report. Significant non-compliance issues that concern the LCC will be brought to the committee's attention at regular or specially scheduled meetings.

8.7.2 Exceptions

Exceptions monitoring will be carried out to determine the effectiveness of prescriptions included in the management plan that are not recommended (NR) in MNRF forest management guides. These exceptions monitoring programs are identified below.

The exception monitoring may occur at either the district, regional or provincial levels, depending on the significance of the exception. A good example of this is the monitoring procedures and best practices for full tree harvesting on shallow soil sites (see below). The *Full Tree Harvesting of Ecosites 11 and 12 In Northwestern Ontario: Monitoring*

*Procedures and Best Management Practices (April 1, 2001)*is a carryover from the 2004 FMP and 2009 FMP.

The LCC will be given the opportunity to review the results of exceptions monitoring. Significant exceptions monitoring issues that concern the LCC will be brought to the committee's attention at regular or specially scheduled meetings. If the Local Citizens Committee would like to include some surveyed areas in a field visit, the data and maps would be provided.

Monitoring of Full Tree Logging on Shallow Sites

The full tree logging of ecosites 11 and 12 where total organic matter plus soil depth is less than 20 cm and age rotation is less than 80 years is designated as a 'not recommended' practice in the *Silvicultural Guide to Managing for Black Spruce, Jack Pine, and Aspen on Boreal Forest Ecosites in Ontario (MNR, 1997)*. This practice has been identified as an "exception" in this plan. Where this activity occurs, the monitoring program, including timing and duration, described in *Full Tree Harvesting of Ecosites 11 and 12 In Northwestern Ontario: Monitoring Procedures and Best Management Practices (April 1, 2001)* will be implemented (Supplementary Documentation C). MNRF Science and Information staff as well as licensees on other Sustainable Forest Licences have been and will continue to implement the monitoring procedure.

The forest industry is contributing to a comprehensive, region-wide initiative to monitor the impact of this treatment on these site conditions, as outlined in this forest management plan. As part of this monitoring program, these shallow soil sites have been identified in this forest management plan and operations will be conducted in accordance with the best management practices.

Ecosites in the Whiskey Jack Forest are identified in the forest resources inventory and are identified within the planned operations digital information supplied with the plan. Actual Ecosite 11 and 12 areas scheduled for activities in the Annual Work Schedules will be identified through interpretation of aerial photographs and field checked prior to harvest.

The rationale for using full tree harvesting on these sites is that it is currently the common method of harvest and it would be uneconomical to bring in specialized equipment to harvest scattered areas of shallow soils. The shallow soil sites on the Whiskey Jack Forest are, for the most part, productive and, it is felt, that using full tree logging in a careful manner will preserve the sites nutrient capacity.

Not Recommended Renewal Treatments

The following treatments are included in Silvicultural Ground Rules (FMP-4) and are exceptions to the *Silvicultural Guide to Managing Black Spruce, Jack Pine, and Aspen on Boreal Forest Ecosites in Ontario, 1997*. The application of these treatments on these ecosites is not planned but they may form a very minor component of renewal

options for forest unit areas being treated in this plan period. Exceptions monitoring programs will be implemented as described below and results will be submitted as part of the Annual Report if any of the following treatments are planned to be implemented:

- Artificial seeding of black spruce on ecosite 14 and 21.
- Natural regeneration of jack pine or spruce on ecosite 21.

Areas receiving treatments considered "exceptions" in Table FMP-4 would be monitored for the effectiveness of the treatment to the site on which it was applied. In the event that any exceptions to the silvicultural guides do occur, they will be monitored as required with the results documented. Inspections will involve a visual evaluation of indicative sites by experienced staff to evaluate whether the effectiveness of the respective renewal treatment is satisfactory. If the silvicultural results are in question, a regeneration survey will be conducted for designated sites and/or further renewal treatment may be prescribed in accordance with corresponding Forest Operations Prescriptions.

8.7.3 Assessment of Regeneration Success

An important component of the monitoring program is determining the success of the harvest, renewal and tending operations in regenerating the forest to the desired future forest condition. Assessments are conducted to determine the status of the regeneration on particular sites, the effectiveness of silvicultural treatments and the need for any additional treatments. The monitoring program will assess the success of silvicultural activities in the achievement of standards contained in the silvicultural ground rules (Table FMP-4).

"**Silvicultural Success**" is defined as meeting the regeneration standards for a desired future forest unit, by means of an intended silvicultural prescription and treatment, as per the silvicultural ground rules (SGRs) in Table FMP-4. The overall intent is to achieve a successful regeneration standard for all harvested areas. Although some areas may achieve a free-to-grow status, they may not necessarily be considered "successful" with respect to the desired future forest unit or the intended silvicultural prescription and treatment (e.g. the regeneration standards for the intended future forest unit were not met, however regeneration standards for another forest unit were met called "**Regeneration Success"**).

Silvicultural effectiveness monitoring is used to create a new stand description which will be used to update the forest resources inventory. Once an area has been harvested, it is classified as depleted and is not reclassified as forested area until it has been regenerated and assessed as free-growing. The requirements for free-to-grow status include a measurement of species composition, average height and stand density (as per the SGRs in Table FMP-4).

Another purpose of silvicultural effectiveness monitoring is to confirm not only the success of the applied treatment, but to confirm growth and yield development

information. Data collected is used to confirm the yield curve and future forest condition (i.e. species composition, stocking) on which the stand is expected to track.

The results of assessments are the basis for determining if the regeneration levels associated with the Long-term Management Direction have been met. These results can be used to adjust modelling assumptions and silvicultural strategies in future forest management plans.

8.7.3.1 Assessment Methods

Assessments are conducted to determine the status of the regeneration on particular sites, the effectiveness of silvicultural treatments and the need for any additional treatments. The monitoring program will assess the success of silvicultural activities in the achievement of standards contained in the silvicultural ground rules (Table FMP-4).

There are a variety of methods and procedures which can be utilized as part of a regeneration success monitoring program. They may apply either informal or formal survey methodologies (i.e. professional observations/ocular estimates or intensive surveys with plot measurements) that are generally conducted through ground field inspections/surveys, aerial surveys and/or aerial photography assessments. The survey methodology used will depend on the type and cost of the silvicultural treatment(s) which were applied and the degree of information to be collected. A comprehensive program of surveys for the assessment of regeneration and silvicultural effectiveness will be applied on this forest for this plan period. Information to be collected and survey methodologies are based on professionally accepted and reviewed methods. Different survey methodologies may be employed during the term of the plan based on the availability of new technology/procedures.

The monitoring program including methodologies, procedures, documentation and reporting is included in Supplementary Documentation D. The five survey methodologies are:

- Pre-free growing survey;
- Ocular Estimate Survey;
- Large Scale Photography and Photo Interpretation;
- Regular Free-to-Grow Survey; and
- *Well-Spaced Free-Growing Regeneration Assessment Procedure for Ontario* (MNR 2005).

Additional Assessment of Slash/chip Debris Areas, Landings, Decommissioned Roads

- Slash/chip debris areas, landings, and decommissioned roads will be assessed for the effectiveness of treatments during regeneration and free–to-grow assessments and will be considered in the determination of the free-to-grow status for the area.
- The methodology to be undertaken is outlined in this section of the FMP and will ensure that a minimum site occupancy standard is achieved across the entire assessment area. The assessment area will include all harvested areas, landings,

slash and chip debris piles and roads that are to be renewed, excluding only those areas that did not originally support production forest (rock outcrops) and retained roads. Assessment areas with more than 20% gaps (16 m^2 circular plot areas without a single target or acceptable tree species over 30 cm in height) would not be identified as free-to-grow.

- The regeneration standards to be achieved on new or existing slash/chip debris areas or landings (three years old or less) will be the same as those in the applicable SGR.
- The regeneration standards to be achieved on older slash/chip pile debris areas (more than three years old), landings and decommissioned roads will be the same as those in the applicable SGR.
- The monitoring program includes the creation and maintenance of an inventory of new and existing slash debris piles, chip debris piles and landings by location (mapped), age and category (biofibre or debris).
- The monitoring program requires reporting of the effectiveness of slash/chip debris, landings, and decommissioned road treatment and regeneration annually, and reporting on the loss of production land base (objective achievement) in the year 3, 7, and 10 Annual Report.

All Other Silviculture Operations

- This plan includes a clear and concise survey assessment methodology for both intensive and extensive evaluations (including block stratification, calibration methods, ground truthing, quality control, and documentation). The assessment methodology provides results that can be evaluated against MNRF's silvicultural effectiveness monitoring assessments which are used to verify the results reported (assessment methodologies in Supplementary Documentation D).
- Site occupancy will be determined as a component of the regeneration assessment and in determining the free-to-grow status for the area.
- In determining site occupancy, the assessment area will include all harvested areas, landings, slash and chip debris piles and roads that are to be renewed, excluding only those areas that did not originally support production forest (rock outcrops) and retained roads. Assessment areas with more than 20% gaps (16 m^2 circular plot areas without a single target or acceptable tree species over 30 cm in height) would not be identified as free-to-grow.
- Silvicultural effectiveness monitoring (SEM) will be undertaken by MNRF. SEM information will be used to verify results reported in year-3/7/10 Annual Reports, to review or determine changes to renewal rates, to determine any necessary modification for Phase II operations (e.g. to address silvicultural shortfalls), and to verify or make adjustment to the silvicultural inputs and yield curves for future FMPs.
- Regeneration surveys will be considered to verify establishment (e.g. competition, site occupancy and species composition) and to determine if additional treatments are necessary to ensure projected stand development is in accordance with the SGR and FMP strategic long term management direction (LTMD) with an emphasis

on sites with high potential risk of failure and those of high value (i.e. intensive treatments that are of strategic importance to the LTMD).

8.7.3.2 Area to be Assessed for Regeneration Success

A summary of the area to be assessed for the determination of regeneration success during this ten-year plan period is presented in Table FMP-21. The areas listed in the table will be assessed for free-to-grow (FTG) status. These areas are generally assessed 10 years after harvest and renewal. The area in FMP-21 is based on the area available for FTG surveys, reflecting areas that were harvested between 2002-2012. The total area planned for assessment during the 2012-2022 plan period is projected to be 16,223 hectares of harvested area; no salvage harvest area and no natural depletion area.

The results of the assessment of regeneration success will be documented and reported annually through the annual reporting process (AR-13).The annual report will be presented to the Local Citizens Committee. If the Local Citizens Committee would like to include some surveyed areas in a field visit, the data and maps would be provided.

8.7.4 Roads and Water Crossings

All existing and newly constructed primary, branch and operational roads, and associated water crossings are subject to inspection and monitoring, to ensure no environmental or public concerns arise. Table FMP-18, Road Construction and Use Management, summarizes planned new forestry road construction and use management for all primary, branch, and operational roads or operational road boundaries, for the second five-year plan term. Existing roads are also identified.

While the road/road network is in use for forest management purposes (e.g. Harvest, Renewal, Tending, Transportation and Hauling activities), it will be monitored on an ongoing basis with bridges used for ‘heavy truck hauls’ inspected by a certified inspector at least once a year. When the road is not in use for forest management purposes, monitoring will be based on a yearly schedule of specific roads to be inspected. This yearly schedule will be based upon a risk assessment approach with emphasis on public safety and the values that could be impacted (e.g. fish habitat). At a minimum, these roads (including bridges open to public travel) will be inspected once every three years at minimum. Monitoring may occur as part of other forest management work such as an aerial survey of values or reforestation (i.e. stick nest survey or FTG regeneration survey). In addition, all staff and contractors (i.e. harvest, renewal and tending contractors) are to report any existing or potential concerns regarding the road/road network and water crossings encountered while travelling on/or over roads throughout the forest. Reports from the general public and other user groups will also contribute to the monitoring of the condition of the roads and water crossings. Additional monitoring will be considered based upon a risk assessment approach following severe weather conditions (e.g. heavy rainfall).

Monitoring of road construction (new and maintenance) and water crossing (new and maintenance) will also be carried out through forest operations compliance inspections and reported through the Forest Operations Inspection Program (See Section 8.7.1.9 Monitoring Compliance of Forest Operations).

8.8 Fire Prevention and Preparedness

This section describes the forest fire prevention and preparedness measures to be implemented during the period of the forest management plan. These measures apply to the entire management unit. These measures will address how MNRF, Licensees and Contractors will prevent the start of wildfires, and how forest workers will be prepared to take immediate action to suppress small fires. These measures will include any business practices and guidelines for modifying industrial operations; developed for fire prevention, preparedness and suppression purpose.

MNRF recognizes that any forest operation undertaken in Ontario must be done with careful consideration to the prevention of forest fires. Accidental wildfire can have a large impact on annual operations or timber sustainability. Operators must also be prepared to safely take initial action to prevent fire spread, should a fire occur.

MNRF, Licensees and Contractors shall adhere to the Forest Fire Prevention Act, associated regulations, Modified Industrial Operations Protocol and Forest Fire Operations by Forest Industry - Business Practices. As an operational guideline, MNRF, Licensees and Contractors will utilize the Modifying Industrial Operations Protocol when determining restrictions on operations, as well as, the standard to meet for minimum fire suppression equipment requirements. Ultimately, the Modifying Industrial Operations Protocol outlines the minimum standard for fire prevention and preparedness that will be achieved by all industrial forest operations associated with this forest management plan.

8.8.1 Fire Prevention

It is the responsibility of MNRF, Licensees and Contractors to understand and comply with the Forest Fires Prevention Act and the Modifying Industrial Operations Protocol.

The Modifying Industrial Operations Protocol will be used on a daily basis by all MNRF, Licensees and Contractors during the Fire Season; so that industrial activities are modified as fire danger increases; to reduce the risk of igniting a wildfire.

8.8.1.1 Fire Situation Awareness

Due to the variability of each harvest operation, the Licensee will do an evaluation of the Fuel Group (1 to 5) for the different areas in their operating area and the Operational Risk (low, moderate, high or very high) for each operation, based on the *Modifying Industrial Operations Protocol*.

The MNRF weather station closest to each operation will be utilized to determine the woods modification that applies to each operation on a daily basis. No other weather station will be considered or authorized for use unless agreed upon by the MNRF.

Daily communication will occur with the MNRF by all Licensees and Contractors working in the Whiskey Jack Forest during the Fire Season to determine the Fire Intensity Codes on a daily basis. The MNRF will normally publish the Fire Intensity Codes by 3 pm CDT; by internet, telephone or faxed/emailed report.

It is the responsibility of all Licensees and Contractors to know the Fire Intensity Codes for the weather stations used by each area of operations daily (the closest weather station to the operation) and determine the operational modifications for that day.

Should the Fire Intensity Codes not be available in a timely manner, operators will contact the MNRF Sector Response Officer or the MNRF Kenora District office to determine the appropriate woods modification that will be in place for their operations prior to commencing work the next day. Operations will be modified on site the following day according to the daily Fire Intensity Code report (available after 3:00 p.m. daily).

8.8.1.2 Operational Modifications

Operational modifications may include one of the following measures, which will be used to modify operations on the Whiskey Jack Forest:

P = Prevention (Normal Operations)

Site Foreman will:

- Monitor operations compliance to the Forest Fires Prevention Act and other fire related conditions that are specified within their Annual Work Schedule.
- Correct any deficiencies to ensure that all fire related conditions are being adhered to.
- Ensure staff are notified daily of hazard.
- Consolidate operations where practical.

Welding/Acetylene Cutting:

- Situate equipment on mineral soil and remove all flammable materials from work area.
- Ensure the correct size and number of extinguishers is on hand.
- Ensure that 1 shovel and 1 back pack pump is on site.
- Use welding blankets to prevent spread of burning material where it is not possible to situate equipment on mineral soil.
- For areas of possible fire spread, establish a fire watch during work and one hour after completion of the job.

Smoking:

- Sit down before lighting smoking material. Use a lighter instead of wooden matches.
- Remain seated until smoking material is extinguished.

- Double check to ensure smoking material is dead out before standing up.
- Equipment operators must not smoke in their machine as this is considered to be an extension of the workplace – they must exit the cab and follow the above procedure.

Open Fires:

- Open fires will not be allowed during the period that prevention measures are in place.

Power Saws:

- Must have operable muffler.
- Be kept clean and in good running order.
- Hot power saws are to be set on mineral soil or a stump; never on forest litter.
- Power saws are to be allowed to cool for five minutes before refuelling.
- Power saws are to be refueled on mineral soil, and not to be started within 3 metres of the fuelling site.
- Power saw operators will have a minimum (225 grams) of dry chemical fire extinguisher (ABC type) readily available during the fire season.

Equipment Maintenance

- Check daily for accumulation of flammable material and remove any accumulation found in a safe manner.
- Conduct weekly inspection of electrical systems.
- Park equipment on a mineral site when not being used.

Fire Extinguishers:

- All operators must keep a serviceable fire extinguisher rated at least 6A-80BC on the equipment or within five metres from it.
- When operations are shut down, fire extinguishers maybe removed for security reasons (theft & vandalism).

Patrols:

- During normal operations and prevention measures patrols will be conducted by staff as they leave the operating area for the day.

SS = Short Shift Operations are not permitted between 12:00 and 19:00, local daylight savings time. Prevention measures still apply and a dedicated patrol of the area must be carried out for one hour after operations shut down.

RS = Restricted Shift Operations are <u>not</u> permitted between 08:00 and 22:00, local daylight savings time. Prevention measures still apply and a dedicated patrol of the area must be carried out for one hour after operations shut down. Identify water sources close to operations prior to commencing any operations.

SD = Shutdown Operations are not permitted starting at 06:00, local daylight savings time, on the first day of shutdown. Operations will remain suspended until conditions change and Prevention, Short Shift or Restricted Shift is indicated. Prevention measures still apply and a dedicated patrol of the area must be carried out for one-hour after operations cease. Once this initial patrol is complete, lower risk operations working in the vicinity can offer dedicated fire patrols during the shutdown period.

Should any licensees be operating during periods of high fire hazard, resulting in Modified Operations restrictions, their travel to and from the work site will also serve as a daily fire detection patrol. Any wildfires will be reported immediately to the MNRF District Fire Management Headquarters (Telephone (807) 548-5837 or 310-FIRE (3473)).

The following table (Table 1) outlines the work modifications for limited and trained and capable operations by Operational Risk and Fire Intensity Code.

Table 1. Work Modifications by Operational Risk and Intensity Code

Operational Risk	Fire Intensity Code	Work Modifications	
		Limited	Trained
Very High Risk	A	SD	SD
	B	SD	RS
	C	SD	SS
	D	P	P
	E	P	P
High Risk	A	SD	RS
	B	SD	SS
	C	SS	P
	D	P	P
	E	P	P
Moderate Risk	A	SD	SS
	B	SS	SS
	C	P	P
	D	P	P
	E	P	P
Low Risk	A,B,C,D,E	P	P
P= Prevention SS=Short Shift RS= Restricted Shift SD= Shut Down			

8.8.1.3 Determining Operational Risk and Fire Danger

The Modifying Industrial Operations Protocol provides guidance for determining Operational Risk in section 2.0 Determining Operational Risk & Fire Danger. The following are the steps used in making the operational risk and fire danger determination:

1. Determine Operational Risk using Table 2 of the *Modifying Industrial Operations Protocol*
2. Determine if the forest is in Leaf On/Leaf Off condition through the local MNRF Fire Management Supervisor.
3. Determine Fuel Group (1-5) on the worksite using the Fuel Group Decision Keys – Section 6.0 of the Modifying Industrial Operations Protocol.
   - Determine initial fuel group
   - Account for applicable modifiers (+1/-1)
   - Determine final fuel group
4. Obtain the fire intensity code:
   - using the closest weather station
   - based on the worksite fuel group
   - reported each afternoon for the next day
5. Determine work modifications, for the next day - using section 4.0 Operational Modifications Table – Table 5 – of the *Modifying Industrial Operations Protocol*.
6. Modify operations the next day as necessary.

8.8.2 Fire Preparedness

Annually, a spring meeting (March 15 – April 15) with representative from the MNRF Fire Management Headquarters and members of the MNRF Kenora District is organized to prepare for the upcoming fire season, identify training needs, and convey awareness of fire prevention plans and initiatives.

8.8.2.1 Trained and Capable, and Limited Operators

As per the *Forest Fire Prevention Act* and the Provincial *Modifying Industrial Operations Protocol*, Licensees and Contractors will be considered either a) trained and capable or b) limited operators. A forest operation, to be considered trained and capable, must meet each of the following criteria:

1) **Prevention**: Implementation of an effective prevention program for the type of operation.

2) **Suppression:** Minimum resource and equipment availability as identified in Section 1.2 of the *Modifying Industrial Operations Protocol*.

3) **Communication**: The ability to communicate and report fires **immediately*** and to receive or obtain updated information on the fire danger. Satellite phones and

FM two-way-radio phones are acceptable means of communication. Cell phones are not advised as their reach is poor outside of the immediate Kenora area.
*** Immediately** - means two way radio or telephone capabilities from the site to the MNRF office.

4) **Training:** A minimum 25% of all staff involved in forest operations on a particular site must be trained to the MNRF SP-102 standard. Training will involve initial training or refresher courses completed within the past three years.

Operations that do not meet all of the above criteria will be considered Limited Operators with respect to the modifications that will apply to their operations.

8.8.2.2 Fire Suppression Equipment

As part of the Compliance Plan, all Licensees and Contractors will inspect their operations to ensure that there is the proper amount and type of forest fire suppression equipment as per Modifying Industrial Operations Protocol Table 1, and that it is in good working order.

Fire suppression equipment requirements are outlined in Section 1.2 Fire Suppression Equipment of the *Modifying Industrial Operations Protocol*. The minimum fire suppression equipment requirements are as follows:

A serviceable fire extinguisher will be on or within 5 metres of all mechanical equipment operating in the forest.

For groups of workers in the same general area, equipment for the suppression of wildfires may be stored in a centrally located fire equipment cache, no more than 10km from the operations, and accessible by ground transportation in fewer than 20 minutes. This includes those operations which are working independently, but in close proximity of one another. *i.e.* two or more separate operations may aggregate their fire suppression equipment, provided that their operations are within the 10 km radius of the fire cache. A fire equipment cache* contains at a minimum:

- one pumping unit, and
- 3 shovels.

In the event the fire cache is used, the fire cache will be replenished to a serviceable state before operations begin the following day.

The following table (Table 2) outlines the required equipment by type of operations and number of machines.

Table 2 Required Equipment by Type of Operations and Number of Machines

Operations	Number of Machines	Number of Equipment Caches	Back Pack Pumps*
Heavy Equipment with tire chains or tracks, working in forest fuels	1 to 5	0	1/machine
	6+	1	
OR** Heavy Equipment at work within a 10km radius of each other (includes hot work).	1 to 9	0	1/machine or hot work operations
	10+	1	
Tree Plant, manual tending or other labour-intensive operations	n/a	0	1 for every 4 workers, to a maximum of 10/site

* A serviceable pressurized water delivery system located on a machine can replace a backpack pump.
**Only one fire equipment cache will be required on site, providing it is within 20 minutes (by ground transportation of all equipment.

Most non-mechanical, low-risk forest activities such as timber cruising or regeneration surveying do not require fire suppression equipment. However, labour-intensive activities such as hand tending and tree planting do require some suppression tools, as outlined in the table above.

8.9 Supplementary Documentation

The updated Supplementary Documentation for the planned operations for the second five-year term is included in the digital file: MU490_2012_FMP_P2_TXT_SuppDoc. The following is a listing of the required Supplementary Documentation:

Supplementary Documentation A	Aboriginal Background Information Report
Supplementary Documentation B	Summary of Aboriginal Involvement
Supplementary Documentation C	Monitoring Program for Exceptions
Supplementary Documentation D	Monitoring Program for Regeneration Success
Supplementary Documentation E	Roads Planning Documentation
Supplementary Documentation F	Area of Concern Planning Documentation
Supplementary Documentation G	Public Consultation Documentation
Supplementary Documentation H	Local Citizen Committee (LCC) Report
Supplementary Documentation I	Final List of Required Alterations
Supplementary Documentation J	Planning Team Terms of Reference
Supplementary Documentation K	Statement of Environmental Values Consideration Document
Supplementary Documentation L	Moose Emphasis Area Supplement

8.10 Other Documentation

The public correspondence related to the development of the planned operations for the second five-year term will be retained on file at the Kenora District MNRF office. The report on the Protection of Identified Aboriginal Values will be retained at a location as agreed to in consultation with the Aboriginal Communities.

8.11 Planned Operations Summary

A summary of planned operations for the second five-year term will be prepared to facilitate public inspection of the approved planned operations. The planned operations summary files are as follows and are available in English and French.

Summary Text (English)	MU490_2012_FMP_P2_TXT_SUM
Summary Text (French)	MU490_2012_FMP_P2_TXT_SUMFR
Summary Map (English)	MU490_2012_FMP_P2_MAP_Sum_00
Summary Map (French)	MU490_2012_FMP_P2_MAP_SumFR_00

9.0 Forest Management Plan Tables

The following is a listing of the updated tables required by the Forest Management Planning Manual (2009) for the second five-year term planned operations.

FMP-4	Silvicultural Ground Rules
FMP-10	Operational Prescriptions for Areas of Concern
FMP-11	Planned Harvest Area
FMP-12	Planned Clearcuts >260 Ha (5-year)
FMP-13	Planned Harvest Volume by Species (10-year)
FMP-14	Planned Harvest Volume and Wood Utilization (5-year)
FMP-15	Planned Wood Utilization by Mil (5-year)
FMP-16	Contingency Harvest Area and Volume
FMP-17	Planned Renewal and Tending Operations
FMP-18	Road Construction and Use Management
FMP-19	Road Crossings, Landings and Forestry Aggregate Pits in Areas of Concern
FMP-20	Planned Expenditures (5-year)