2024 – 2034
Forest Management Plan

for the

Whiskey Jack Forest

Photo Credit: Claire Hensrud

FINAL PLAN

Title, Certification and Approval Page

Forest Management Plan for the

Whiskey Jack Forest

(Management Unit #490)

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region
for the 10-year period from April 1, 2024 to March 31, 2034.

I hereby certify that I have prepared this forest management plan, 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*.

< Original signed version of this page is retained at the Kenora District MNRF >

_____ *Original signed by Kurt Pochailo* Date: _____
R.P.F. seal Kurt Pochailo, R.P.F., Plan Author,
Miisun Integrated Resource Management Company

Submitted by: _____ Date: _____
Chief Lorraine Cobiness, President, Miitigoog LP

_____ Date: _____
Erik Holmstrom, R.P.F., Vice-President, Miitigoog LP

I recommend that this forest management plan be approved for implementation and certify that it has 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 Indigenous peoples). I also certify that the forest management plan has been prepared using the applicable forest management guides. In this forest management plan, prescriptions and conditions that differ from specific direction or recommendations in the applicable forest management guides are identified in the attached List of Exceptions.

Certified and Recommended for Approval By:

_____ Date: _____
Brian Kilgour, District Manager, Kenora District, MNRF

_____ Date: _____
Kevin Ride, Regional Resources Manager, Northwest Region, MNRF

Approved by:

_____ Date: _____
Michael Gluck, Regional Director, Northwest Region, MNRF

Plan Components Not Prepared By the Plan Author

Forest Management Plan for the
Whiskey Jack Forest

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region
for the 10-year period from April 1, 2024 to March 31, 2034.

I hereby certify that I have prepared the sections of the forest management plan as indicated, to the best of my professional skill and judgement, in accordance with the requirements of the *Forest Management Planning Manual*.

Sections Prepared: **Wolverine Den Management Plan – WJF-001-2022**

Name: Peter Hettinga
Job Title: Regional Planning Biologist

_____ _____
Signature Date

<Original signed versions of this page are retained at the Kenora District MNRF office>

Forest Management Plan - List of Exceptions

Forest Management Plan for the
Whiskey Jack Forest

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region
for the 10-year period from April 1, 2024 to March 31, 2034.

All silvicultural treatments in the silvicultural ground rules (Table FMP-4) that are exceptions to the recommendations in the silvicultural guides, and all operational prescriptions and conditions for areas of concern that are exceptions to the specific direction or recommendations (standards and guidelines) in the applicable forest management guides, are provided in this list of exceptions. The specific section of the forest management plan that provides documentation of the exception is also referenced in this list.

There are no forest management activities included in this plan that are "Exceptions".

Forest Management Plan Contributors

Forest Management Plan for the
Whiskey Jack Forest

Ontario Ministry of Natural Resources and Forestry (MNRF)
Kenora District, Northwest Region
for the 10-year period from April 1, 2024 to March 31, 2034.

Planning Team Members

Planning Team Member	Affiliation	Role
Kurt Pochailo, R.P.F.	Miisun Integrated Resource Management Company	Plan Author, Planning Team Co-Chair, Service Provider Lead
Mitchell Legros, R.P.F.	MNRF - Northwest Region	Planning Team Co-Chair, Project Manager, MNRF Lead Regional Planning Forester
Susan Jarvis, R.P.F.	Forest Concepts	FMP Planning Consultant
Sam Hawken, R.P.F.	MNRF – Kenora District	Management Forester
Donna Puls	Miisun Integrated Resource Management Company	G.I.S. Applications Specialist
Josh Peacock	MNRF – Kenora District	Management Biologist
Peter Hettinga	MNRF - Northwest Region	Regional Planning Biologist
Krista Prosser	MNRF – Kenora District	Resource Liaison Specialist
Dave Canfield (Primary) Dean Caron (Alternate)	Kenora Local Citizens' Committee	LCC Representative
Tim Neidenbach (Primary) Kathie Taylor (Alternate)	Red Lake Local Citizens' Committee	LCC Representative
Matt Wilkie R.P.F.	Weyerhaeuser - Kenora	Collective Representative of Wood Supply Commitments
Tom Anderson	Shoal Lake #40 First Nation	Community Representative
Chief Darlene Comegan	Northwest Angle #33 First Nation	Community Representative
Chief Jeffery Copenace	Ojibways of Onigaming First Nation	Community Representative
Ryan Haines	Wabauskang First Nation	Community Representative
Tekay Nelson	Lac Seul First Nation	Community Representative
Josh Rognvaldson	Niisaachewan Anishinaabe Nation	Community Representative

Planning Team Member	Affiliation	Role
Brian Gouliquer	Region One - Métis Nation of Ontario (MNO), or otherwise known as the Northwest Ontario Métis Community (NWOMC).	Community Representative

Indigenous Communities that are invited to appoint an Indigenous Community Representative to the Planning Team at any time through plan development:

Animakee Wa Zhing #37 First Nation	Naotkamegwanning Anishinaabe Nation
Anishinaabeg of Naongashiing	Obashkaandagaang
Asubpeeschoseewagong First Nation	Shoal Lake #40 First Nation
Eagle Lake First Nation	Wabaseemoong Independent Nations
Iskatewizaagegan #39 Independent Nation	Washagamis Bay First Nation
Mishkosiminiziibing First Nation	Wauzhusk Onigum Nation

Planning Team Advisors and Key Support

Company	Position
Shannon Rawn, R.P.F.	Miisun Integrated Resource Management Company – General Manager
MNRF – Kenora District	**Position**
Erik Lockhart	Regional Planner
Claire Hensrud	IRM - Lands
Nicholas Clugston	IRM – F&W
Megan Engstrom	IRM - Compliance
MNRF – AFFES Kenora	**Position**
Pat Harvey	Fire Management Supervisor
MNRF Region/Province	**Position**
Scott Hole, R.P.F.	Regional Analyst
Garnet Beemer	Regional Forest Analyst
Ricardo Velasquez, R.P.F.	Regional Forested Ecosystems Science Specialists
Gwenyth Foley	Forest Industry Liaison Officer
Erin Knight	Regional Aboriginal Advisor
TBD	Cultural Heritage Specialist
Laura Darby	Regional Planning Ecologist
Todd Moore, R.P.F.	Regional FMP Specialist
Matthew Corbett, R.P.F.	Fire Science and Planning Specialist, Aviation Forest Fire and Emergency Services (AFFES)

Company	Position
Ministry of the Environment, Conservation and Parks (MECP)	
Katherine Onyshkewych	Senior Parks Planner, Ontario Parks
Ryan Seeley	Park Superintendent - Woodland Caribou Provincial Park
Ministry of Northern Development	
Catherine Daniels	Acting Land Use Policy & Planning Coordinator
Jennifer Findlay	Tourism Consultant
Ministry of Tourism, Culture and Sport	
TBD	Archaeology Review Officer
James (AKA Jim) Antler	Policy Advisor

Local Citizens' Committees

Kenora Local Citizens' Committee Members

Dave Canfield, Planning Team Representative
Dean Caron, Alternate Planning Team Representative
Clarke Anderson
Karen Cederwall
Garth Collier
Jordan Benoit / Marney Richot
Ian Murray
Pat Rheault
Mark Scott
Sandra Triskle
Alasdair Mowat

Red Lake Local Citizens' Committee Members

Tim Neidenbach, Planning Team Representative
Kathie Taylor, Alternate Planning Team Representative
Len Hercun
Hugh Carlson
Jan "Dutchie" Loman
Laurent Tetreault
John Whitton
Cole Wear
Barry Anderson
Paul Mossip
Warren Baduik
Carolynne Bauch
Alissa Van Wynen

The Kenora Local Citizens' Committee (LCC) and the Red Lake Local Citizens' Committee (LCC) consist of local citizens representing a broad range of interests in forest management. Many have the knowledge and ability to provide expert advice on resource-related matters. One LCC member from each LCC was invited to participate as a member of the Forest Management Plan (FMP) Planning Team and to act primarily as a liaison between the Planning Team and their LCC.

The report on the involvement of the Kenora LCC and Red Lake LCC during the planning process is included in Supplementary Documentation K of the FMP.

Plan Reviewers

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

MNRF – Kenora District	**Position**
Sam Hawken, R.P.F.	Management Forester
Josh Peacock	Management Biologist
Erik Lockhart	Regional Planner
Claire Hensrud	IRM - Lands
Nicholas Clugston	IRM – F&W
Megan Engstrom	IRM - Compliance
Krista Prosser	Acting Resource Liaison Specialist
MNRF – AFFES Kenora	**Position**
Pat Harvey	Fire Management Supervisor
MNRF Region/Province	**Position**
Mitch Legros, R.P.F.	Regional Planning Forester
Scott Hole, R.P.F.	Regional Analyst
Peter Hettinga	Regional Planning Biologist
Gwenyth Foley	Forest Industry Liaison Officer
Laura Darby	Regional Planning Ecologist
Todd Moore, R.P.F.	Regional FMP Specialist
Matthew Corbett, R.P.F.	Fire Science and Planning Specialist, Aviation Forest Fire and Emergency Services (AFFES)
Ministry of the Environment, Conservation and Parks (MECP)	
Katherine Onyshkewych	Senior Parks Planner, Ontario Parks
Ryan Seeley	Park Superintendent - Woodland Caribou Provincial Park

Preface

Forest management on Crown land in Ontario is the ultimate responsibility of the Ontario Minister of Natural Resources and Forestry. The Crown Forest of Ontario is subdivided into forests or management units for the purpose of forest management. The Crown may delegate the responsibility for many aspects of forest management to companies through the licensing of Sustainable Forest Licenses for particular management units. Planning is done through the use of forest management plans for a 10-year period and will normally be renewed every ten years. The strategic, long-term planning and the operational planning for the 10-year plan period are conducted prior to final plan approval. The implementation of operations is scheduled annually in an Annual Work Schedule (AWS) to provide the link between the work approved in the forest management plan and the required financial resources on an annual basis.

Forest management plans must be prepared in accordance with the planning requirements described in the *Forest Management Planning Manual* (MNRF, 2020). This manual is referenced in this plan as the "FMPM", "FMP Manual" or "Forest Management Planning Manual". Forest management plans must also be prepared in accordance with the *Forest Information Manual* (MNRF, 2020) (FIM). Each forest management plan must be prepared by a professional forester registered under *Bill 110,* the *Ontario Professional Foresters Act, 2000* in an open and consultative fashion with the assistance of an interdisciplinary Planning Team and a Local Citizens' Committee(s) (LCC).

The Whiskey Jack Forest is a Crown Forest with a third-party management agreement under Forest Resource License #554463 (FRL) with Miitigoog LP. Miisun Integrated Resource Management Company has been contracted by the Crown to author the 2024-2034 Whiskey Jack FMP. Working under Miitigoog LP, Miisun Integrated Resource Management Company assumes all associated responsibilities in terms of the preparation of the 2024-2034 FMP for the Whiskey Jack Forest.

The FMP will be prepared by the Plan Author, who will be assisted by an interdisciplinary Planning Team and two Local Citizens' Committees (LCC). In addition, plan advisors with a specialty in a particular subject area will play a role in providing advice and support during plan preparation.

A Forest Management Plan Summary has been prepared and is available at https://nrip.mnr.gov.on.ca or by contacting the Kenora District Office of the Ontario Ministry of Natural Resources and Forestry.

Page No.:

TABLE OF CONTENTS

Page No.:

List of Tables

FMP Tables: (located in FMP file MU490_2024_FMP_ TBL_Tables.PDF)

Additional Tables in FMP Text:

Page No.:

Page No.:

List of Figures

Page No.:

List of Supplementary Documentation

(located in FMP file MU490_2024_FMP_ TXT_SuppDoc.PDF)

A - Historic Forest Condition
B - Analysis Package (contained in file MU490_2024_FMP_ TXT_AnPack.PDF)
C - First Nation and Métis Background Information Reports
D - Summary of First Nation and Métis Involvement
E - Social and Economic Description
F - Monitoring Program for Exceptions
G - Monitoring Program for Success of Silvicultural Activities
H - Primary Road Planning
I - Area of Concern Planning
J - Summary of Public Consultation
K - Local Citizens' Committee Report
L - Final List of Required Alterations
M - Planning Team's Terms of Reference
N - Statement of Environmental Values
O - DFO – MNRF Water Crossing Standards Protocol
P - In-water Work Timing Window Guidelines
Q – Wolverine Den Management Plan

List of Digital FMP File Names

File Name:	Plan Component:
MU490_2024_FMP_TXT_PlanText.pdf	FMP Plan **Text**
MU490_2024_FMP_TBL_Tables.pdf	FMP Plan **Tables**
MU490_2024_FMP_TXT_AnPack.pdf	FMP Supp. Doc. B – **Analysis Package**
MU490_2024_FMP_TXT_SuppDoc.pdf	FMP **Supp. Docs**. A, C-P compiled into 1 file
Maps - Index:	
MU490_2024_FMP_MAP_Index_00.pdf	FMP Index Map (scale 1:110,000) Harvest, renewal and tending, roads.
Maps – Operational:	
MU490_2024_FMP_MAP_Ops#####_00.pdf	Set of Operations Maps by OBM # (scale 1:20,000)
Maps - Values Maps (scale 1:100,000):	
MU490_2024_FMP_MAP_ValWild_00.pdf	Natural Resource Features – Flora & Fauna
MU490_2024_FMP_MAP_ValFish_00.pdf	Natural Resource Features - Fisheries & Wetlands
MU490_2024_FMP_MAP_ValRec_00.pdf	Resources Uses
MU490_2024_FMP_MAP_ValLand_00.pdf	Land Values (excluding existing roads responsibility)
MU490_2024_FMP_MAP_ValBMA_00.pdf	Bear Management Areas
MU490_2024_FMP_MAP_ValTrap_00.pdf	Trap Line Areas
MU490_2024_FMP_MAP_ValRBT_00.pdf	Resource-based Tourism Values
MU490_2024_FMP_MAP_ValCult_00.pdf	Cultural Heritage Values, First Nation and Métis Values *
** The Cultural Heritage Values map is not available in the FMP - Information is retained at MNRF Kenora District Office.*	
Maps – Landscape Pattern:	
MU490_2024_FMP_MAP_LandPat_01.PDF	Landscape Pattern-2024 Young Forest
MU490_2024_FMP_MAP_LandPat_02.PDF	Landscape Pattern-2024 BLG Landscape Class
MU490_2024_FMP_MAP_LandPat_03.PDF	Landscape Pattern-2024 Mature-Old Forest
MU490_2024_FMP_MAP_LandPat_04.PDF	Landscape Pattern-2034 Young Forest
MU490_2024_FMP_MAP_LandPat_05.PDF	Landscape Pattern-2034 BLG Landscape Class
MU490_2024_FMP_MAP_LandPat_06.PDF	Landscape Pattern-2034 Mature-Old Forest
MU490_2024_FMP_MAP_DistHarv_00.pdf	Projected Distribution of Harvest – 2024-2064

File Name:	Plan Component:

Inventory and Operational Planning Geospatial Data:

MU490_2024_FMP.gdb

MU490_24PCI00	Planning Composite Inventory
MU490_24OPI00	Operational Planning Inventory
MU490_24FDP00	Forecast Depletions
MU490_24BMI00	Base Model Inventory
MU490_24PHR00	Planned Harvest
MU490_24PRP00	Planned Residual
MU490_24AOC00	Areas of Concern
MU490_24PRC00	Planned Road Corridor
MU490_24WSY00	Wood Storage Yard
MU490_24ORB00	Operational Road Boundaries
MU490_24ERU00	Existing Road Use Management Strategy
MU490_24WXI00	Water Crossing Inventory
MU490_24PAG00	Planned Aggregate Extraction Area
MU490_24IMP00	Tree Improvement with Renewal and Tending

Model Files:

SFMM - Contains SFMM model case files for key scenarios and LTMD-01
MIST - Contains the three MIST files used for Yield Curve development
OLT - Contains LTMD OLT export scenarios for Plan Start 2024 and Plan End 2034
eFRT (Residual) - Contains eFRT file for Plan End 2034 (3 analyses)

Forest Management Plan Summary:

MU490_2024_FMP_TXT_Sum.PDF	FMP Summary Text (English)
MU490_2024_FMP_TXT_SumFR.PDF	FMP Summary Text (French)
MU490_2024_FMP_MAP_Sum_00.PDF	FMP Summary Map (English)
MU490_2024_FMP_MAP_SumFR_00.PDF	FMP Summary Map (French)

The FMP Summary is also available at https://nrip.mnr.gov.on.ca or by contacting the Kenora District Office of the Ontario Ministry of Natural Resources and Forestry.

1.0 INTRODUCTION

The Forest Management Plan (FMP) establishes long-term strategic direction and identifies short-term operational goals for managing forest resources on the Whiskey Jack Forest management unit.

The *Crown Forest Sustainability Act* and the *Environmental Assessment Act* provide the legislative framework for forest management on Crown lands in Ontario. The forest management planning requirements and the provisions of the environmental assessment approval are incorporated into the *Forest Management Planning Manual* (MNRF, 2020*)* and the *Forest Information Manual* (MNRF, 2020), which provides direction for the preparation of forest management plans.

The *Crown Forest Sustainability Act* requires that each forest management plan provide for the long-term health of the Crown forest and have regard for plant life, animal life, water, soil, air and social and economic values, including recreational values and heritage values. The forest management plan meets these requirements by developing and incorporating a management strategy that balances objectives related to forest diversity, socio-economics, forest cover and silviculture. This FMP identifies a set of indicators that are monitored and assessed over time to determine the effectiveness of activities in achieving management objectives and to assess the sustainability of the forest.

Forest management on Crown land in Ontario is the ultimate responsibility of the Ontario Minister of Natural Resources and Forestry (MNRF). The Crown forest in Ontario is subdivided into forests or management units for the purpose of forest management. The Crown may delegate the responsibility for many aspects of forest management to companies through the issuing of Sustainable Forest Licenses (SFL) for particular management units. The Whiskey Jack Forest is a Crown Forest with a third-party management agreement under Forest Resource Licence #554463 (FRL) with Miitigoog LP. Miisun Integrated Resource Management Company has been contracted by the Crown to author the 2024-2034 Whiskey Jack FMP.

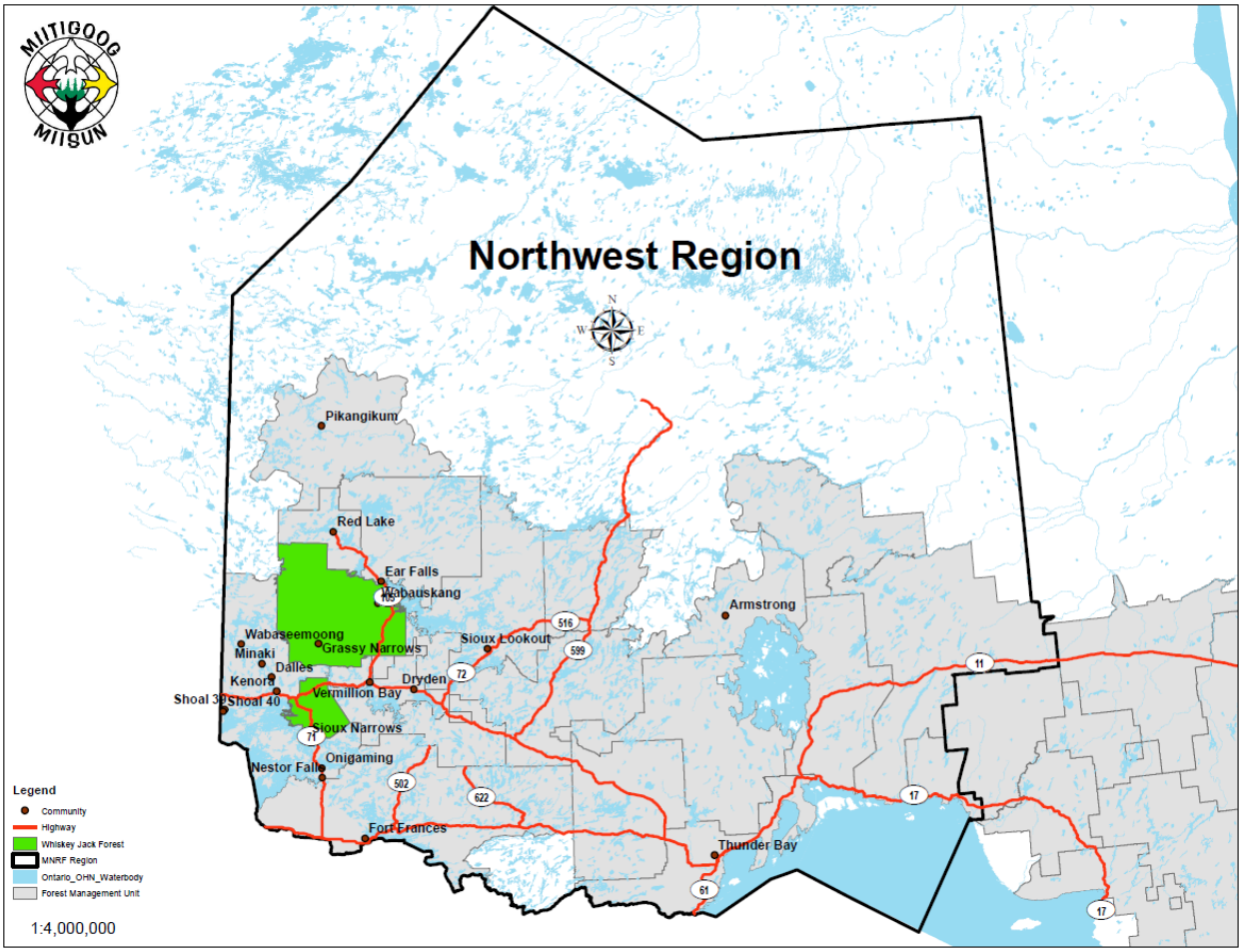
1.1 Location of the Whiskey Jack Forest

The Whiskey Jack Forest (Management Unit #490) is located approximately 450 kilometres west of Thunder Bay, in the Northwest Region of the Ontario Ministry of Natural Resources and Forestry (MNRF). The Whiskey Jack Forest is administered from the Kenora District Office with administrative support from the MNRF Northwest Region Office in Thunder Bay. The MNRF Northwest Region Office takes the lead role in

coordinating all forest management planning activities, including the preparation and review of this forest management plan. The MNRF is responsible for the approval of land and resource-use decisions pertaining to the forest.

The Whiskey Jack Forest is one of two management units administered from the MNRF Kenora District Office, one of 19 management units in the MNRF Northwest Region, and one of the 35 management units in the Province of Ontario. The location of the Whiskey Jack Forest within the MNRF Northwest Region is illustrated in Figure 1.

Figure 1 Location of the Whiskey Jack Forest in Northwestern Ontario



The Whiskey Jack Forest is predominantly Crown forested land occurring in large continuous tracts with seven provincial parks and nine conservation reserves in or adjacent to the forest. The Whiskey Jack Forest is comprised of:

- 10,467 square kilometres of Crown forested land, which includes:
  - 7,823 square kilometres of productive forested land, and
  - 2,644 square kilometres of unproductive land (including water and unproductive forest).

Since the approval of the 2012-2024 FMP, there have not been any legal changes to the licensed area; however, refinements in the forest resources inventory and the ownership classification of the Whiskey Jack Forest area have resulted in some minor changes from area reported in the 2012-2024 FMP. The current outer boundary of the Whiskey Jack Forest encompasses 10,633 square kilometres, approximately 128 ha less than the 2012-2024 FMP; from 1,063,447 ha in 2012 to 1,063,319 ha in 2024 primarily resulting from updated mapping.

Communities within or adjacent to the Whiskey Jack Forest include the City of Kenora (including the former Keewatin and Jaffray Melick), Sioux Narrows, Redditt, Vermilion Bay, Ear Falls and Red Lake. First Nation and Métis communities that are within or adjacent to the Whiskey Jack Forest include the following:

- Wabauskang First Nation
- Asubpeeschoseewagong First Nation
- Naotkamegwanning First Nation
- Wabaseemoong Independent Nations
- Northwest Angle 33 First Nation
- Niisaachewan Anishinaabe Nation
- Ojibways of Onigaming
- Shoal Lake 40 First Nation
- Anishinaabeg of Naongashiing
- Wauzhusk Onigum Nation
- Washagamis Bay First Nation
- Animakee Wa Zhing 37 First Nation
- Lac Seul First Nation
- Eagle Lake First Nation
- Region One - Métis Nation of Ontario (MNO), or otherwise known as the Northwest Ontario Métis Community (NWOMC).

1.2 Management Responsibilities

The Ministry of Natural Resources and Forestry (MNRF) has the ultimate responsibility for the province's natural resources. In particular, those relate to resource development and the provision of the sustainability of Crown forests by the management of Crown forests to meet social, economic and environmental needs of present and future generations.

The Whiskey Jack Forest is a Crown management unit, previously licensed under a Sustainable Forest Licence (S.F.L.#542253, effective April 1st, 1997) to Abitibi Consolidated Company of Canada. Abitibi surrendered the SFL to the Crown in September of 2009. The Crown is responsible for all aspects of forest management planning, harvesting, reforestation, compliance, and monitoring associated with the Whiskey Jack Crown Forest. MNRF has entered into a service agreement with Miitigoog LP to prepare the 2024-2034 Forest Management Plan. Working under Miitigoog LP, Miisun Integrated Resource Management Company assumes all associated responsibilities in terms of the preparation of the 2024-2034 FMP for the Whiskey Jack Forest. The Plan Author, Kurt Pochailo, R.P.F., works for Miisun and was supported by interdisciplinary and multi-organizational Planning Team members and advisors.

MNRF also issued a Forest Resource Licence (F.R.L#554463, effective July 2020) to Miitigoog LP which further delegates the responsibilities for annual planning, harvesting, reforestation, compliance and monitoring. Maintenance and monitoring of roads within the Identified No Harvest Area will remain the responsibility of the Crown.

Miisun's responsibilities are to conduct management activities on behalf of Miitigoog LP, such as forest management planning, overlapping forest licensing activities, wood allocations, road construction and maintenance, forest compliance, regeneration, etc. The operating company coordinates the allocation of harvesting to meet mill wood directive requirements and harvest commitments.

The majority of conifer timber produced from the Whiskey Jack Forest is delivered to International Forest Products Limited (Interfor) in Ear Falls with smaller amounts being delivered to Dryden Fiber Canada ULC in Dryden for the production of pulp. Hardwood fibre is delivered to the Weyerhaeuser Timberstrand facility in Kenora. Additional wood volumes may be sold on the Open Market. Harvesting is carried out by individual overlapping Forest Resource Licence holders and past harvesting commitments of individual FRLs will continue to be honoured.

This forest management plan (FMP) is prepared for the 10-year period from April 1, 2024 to March 31, 2034, and was prepared by an interdisciplinary Planning Team. The function of the Planning Team is set out in Planning Team's Terms of Reference found in FMP Supplementary Documentation M. The management plan describes forest management activities, such as timber harvesting, road construction and silviculture that will take place during the plan period. The strategic, long-term planning and the planning of operations are conducted prior to final plan approval for the 10-year plan. This management plan includes the results of strategic planning and details for specific operations for the ten-year period. This forest management plan supersedes the 2012-2024 Forest Management Plan for the Whiskey Jack Forest.

The *Ontario Ministry of Natural Resource's Statement of Environmental Values* (SEV), 1994 under the *Environmental Bill of Rights* (EBR), 1993 as amended from time to time, is a document that describes how the purposes of the EBR are to be considered whenever decisions that might significantly affect the environment are made. In the development of this forest management plan, MNRF's Statement of Environmental Values has been considered. The plan is intended to reflect the direction set out in the SEV, and to further the objective of managing Ontario's natural resources on a sustainable basis. An SEV briefing note has been prepared by MNRF for the plan, and is included in the FMP Supplementary Documentation N.

2.0 MANAGEMENT UNIT DESCRIPTION

This section of the FMP describes the forest condition, social and economic description and references the First Nation and Métis Background Information Reports for the Whiskey Jack Forest.

The Whiskey Jack Forest is generally well-accessed at Plan Start 2024.

The southern portion of the Whiskey Jack Forest between the communities of Sioux Narrows and Kenora is relatively well-accessed and highway #71 traverses the area north to south. The northeastern portion of the forest is accessed by highway #105 and several forest access roads. The central portion of the Whiskey Jack Forest has seen a significant decrease in drivable roads in recent years, but the main roads (English River, Conifer, Longlegged and Iriam roads) through it remain passable.

The Whiskey Jack Forest is accessed by the following major road systems:

1. Highway 17E (Trans-Canada Highway) through Kenora to Vermillion Bay
2. Highway 71 connecting Kenora to Sioux Narrows
3. Highway 105 Ear Falls to Vermillion Bay
4. Highway 671 Kenora to Grassy Narrows
5. Highway 804 Ear Falls to English River Dam / Longlegged Road
6. English River Road north of Separation Lake Narrows bridge (English River bridge)
7. Longlegged Road connecting Highway 804 and Iriam Road
8. Iriam Road along east side of Woodland Caribou Provincial Park
9. Conifer Road north of English River system
10. Maybrun Road north of Whitefish Bay on Lake of the Woods
11. Yellow Girl Road north of Mist Inlet on Lake of the Woods
12. Mac Lake Road west of Dryberry Lake
13. Witch Bay Road west of Gibi Lake
14. Dryden Paper Railbed Road
15. April Road east from Highway 105 to Railbed Road
16. Ord Road north from April Road between Cedar Lake and Ord Lake
17. Aerobus Road south of Keynote Lake
18. Lost Lake Road east of Perrault Lake
19. Farewell Bay Road south of Ear Falls

The following First Nation and Métis communities have been identified to have traditional lands, values and interests in or adjacent to the Whiskey Jack Forest:

- Wabauskang First Nation
- Asubpeeschoseewagong First Nation
- Naotkamegwanning First Nation
- Wabaseemoong Independent Nations
- Northwest Angle 33 First Nation
- Niisaachewan Anishinaabe Nation
- Ojibways of Onigaming
- Shoal Lake 40 First Nation
- Anishinaabeg of Naongashiing
- Wauzhusk Onigum Nation
- Washagamis Bay First Nation
- Animakee Wa Zhing 37 First Nation
- Lac Seul First Nation
- Eagle Lake First Nation
- Region One - Métis Nation of Ontario (MNO), or otherwise known as the Northwest Ontario Métis Community (NWOMC).

The Whiskey Jack Forest has seven Provincial Parks surrounded by, or immediately adjacent to the forest boundaries. Parks within the management unit include the West English River, Eagle-Dogtooth, Tide Lake and the Maynard Lake Parks. Pakwash Provincial Park is located adjacent to the northeast corner of the unit, Rushing River Provincial Park is located in the southern portion of the forest, and Woodland Caribou Provincial Park (and Park Addition) is located in the northwest portion of the unit. More detail on the parks and protected areas is included in text Section 2.1.4.3.1.

2.1 Forest Description

2.1.1 Historic Forest Condition

The historical management unit information is useful in understanding trends and changes in forest composition, and past use of forest resources from the management unit. The observations may also allow for an adjustment to current management practices that will build on those past events or move the forest condition closer to past forest conditions.

The summary of the historic forest condition of the Whiskey Jack Forest is included in Supplementary Documentation A.

To emulate natural disturbances and landscape patterns through forestry practices it is necessary to know how forest ecosystems develop without human intervention, and to try to re-establish the historic natural environmental conditions.

a) **Natural Disturbances**: In the Boreal Forest, wildland fire, wind, ice and snow storms and insect outbreaks are the most significant factors in shaping the future forest. Fire is recognized as the principal natural disturbance initiating stands in the Boreal Forest. Typically, fire creates large disturbance areas with larger fires occurring less frequently than smaller ones in an inverse relationship. During periods with large numbers of fires, large patches of younger forest emerged and would continue to age until the next disturbance would occur. This created a "quilted" mosaic pattern of even aged stand groupings, ranging in size up normally reaching thousands of hectares. Prior to modern fire suppression efforts, it is estimated that on average the Whiskey Jack Forest burnt every 81 years (i.e., the total area of the Whiskey Jack Forest would burn every 81 years).

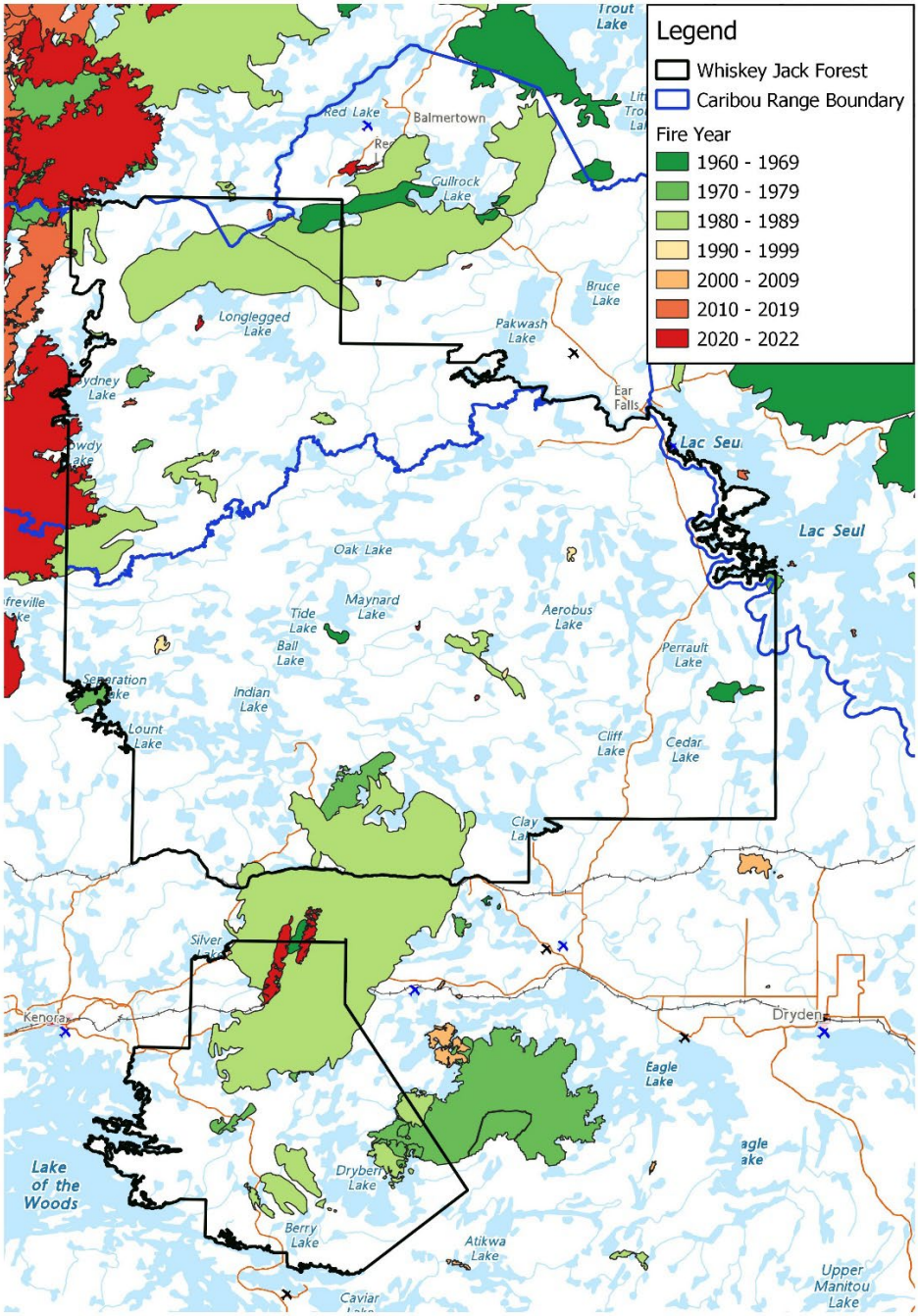
   The Whiskey Jack Forest has had numerous small to large wildfires every decade since the 1960s. The most notable examples of the large natural disturbances include:

   1980 – RED14 (43,666 ha)
   1983 – KEN73 (82,323 ha) and RED149 (21,597 ha)
   1991 – Pakwash Blowdown (31,507 ha)
   2021 – KEN51 (3,277 ha).

   With fire being a very prominent feature on the Whiskey Jack Forest landscape since 1977 and into 1995, much of the older forest was burned, and then renewed.

Stands that burned during this time period could be as old as 46 years old, or as young as 28 years as of Plan Start 2024, which is why we see such a strong presence of Jack Pine, over 60% in the 21-60 age classes at Plan Start of this 2024 FMP.

Figure 2 Fires by decade within the Whiskey Jack Forest



b) **Humans**: Although Northwestern Ontario is sparsely populated compared to the southern part of the province, its forests show the influence of more than a century of industrial forestry activity and have a much longer history of continuous use by Indigenous people. Humans have significantly influenced forest development and condition. The introduction to mechanized fire suppression and the increased demand for forest resources in the 1950s started a pivot towards the current role of human intervention. As human influences grew, the surrounding forest development and condition did as well. The average burn rate increased from 81 years (prior to active fire management) to approx. 299 years currently.

Historically, fire has caused the greatest degree of natural disturbance to the Whiskey Jack Forest. Fires are responsible for the establishment of nearly all the mature forests in the region, which is reflected in the predominance of Black Spruce, Jack Pine, Poplar and White Birch stands. With the current fire suppression program in place in the Whiskey Jack Forest, major fires generally play a lesser role in local forest dynamics today, than in the past. With successful fire suppression, the overall incidence of insect damage and wind/snow events may be increased.

2.1.2 Current Forest Condition

This section of the FMP describes the Whiskey Jack Forest Crown forested land and patent land Crown timber, as described in the planning inventory, and discusses any implications of land types on the development of this FMP.

The Management Unit Crown Land Summary is reported in Table FMP-1. This land base data is summarized from the Planning Composite Inventory (PCI), as approved by MNRF for use in the development of this FMP. Table FMP-1 reports the area (in hectares) of different land types (forested & non-forested), by land ownership for the Whiskey Jack Forest.

- Productive Forest is “all forest areas which are capable of growing commercial trees, irrespective of planning decisions, and which is further sub-divided into “protection forest and production forest”.
- Protection Forest is “productive forest land on which forest management activities cannot normally be practiced without incurring deleterious environmental effects because of obvious physical limitations such as steep slopes and shallow soils over bedrock”.
- Production Forest is “productive forest land, at various stages of growth, with no obvious physical limitations on the ability to practice forest management”.

The current enhanced Forest Resource Inventory (eFRI) was produced by the Ministry of Natural Resources and Forestry based on aerial imagery captured in 2009 and was prepared for use in the 2024-2034 FMP. The planning inventory has been updated with the most up-to-date depletions and silviculture up to 2021-2022. Additionally, forecasts for harvest were estimated to April 1, 2024 (Plan Start), therefore some variance in land classifications are possible, though are minor in scope. The description of the development of the planning inventory products can be found in Supplementary Documentation B – Analysis Package (Part 1: Section 4.0). See supplementary Table FMP-1a for a comparison of the Whiskey Jack Forest land base for the 2012 and 2024 forest management plans. This table illustrates the changes in land classifications, which are further described below:

Since the approval of the 2012 Forest Management Plan (FMP), there have not been any legal changes to the licensed management unit area; however, refinements in the forest resources inventory and the ownership classification of the Whiskey Jack Forest area have resulted in some changes from the area reported in the 2012 forest management plan. The total Crown land base (Parks Ownership 5 and 7 and Managed Ownership 1) has decreased by 1,735 ha from 2012 to 2024. This is attributed primarily to the decrease

in Managed Crown area (Owner 1), partially offset by the increase in Patent Land (Ownership 2) area in the revised inventory. The spatial data footprint of the Whiskey Jack Forest that was provided by the MNRF for this FMP is similar as that used for the previous 2012 FMP, however, some variances in land ownership are evident between the 2012 FMP and 2024 FMP due to the revised inventory and current provincial ownership information.

The total Crown, Managed land base (ownership code 1) has decreased from 2012 to 2024 by 6,728 ha. A revision in the forest inventory and water layer resulted in increased area of water and Productive Forest area, and significant reductions in Non-forested area and Protection Forest area.

Approximately 163,884 ha of the Crown, Managed land base (Ownership 1) is covered by water and another 4,770 ha is other non-forested land base, a net total increase of 3,537 ha non-forested land from the 2012 FMP. Crown Managed forested area decreased by 6,728 ha from 2012 to 2024 because of the reclassification of non-productive area as described above. Approximately 50,629 ha of the Crown, managed land base is non-productive forest made up of treed muskegs, open muskegs, brush, and bedrock (a decrease of 46,031 ha from the 2012 FMP). The re-inventory of the forest results in significant area previously classified as non-productive forest being reclassified as productive forest area.

Protection Forest with site limitations covers 3,920 ha, which decreased from the 32,515 ha reported in the 2012 FMP, most of which was reclassified as production forest area. The remaining 734,328 ha is Production Forest increased by 64,361 ha from the 669,967 ha reported in the 2012 FMP.

Crown Other land base (Parks) (ownership codes 5, 7) within the Whiskey Jack Forest decreased by 78 ha from 89,295 to 89,217 ha from 2012 to 2024. Crown land parks on and adjacent to the Whiskey Jack Forest are discussed in Section 2.1.4.3.1.

There was no Patent land with some, or all timber rights reserved to the Crown in the 2012 FMP (ownership 2 or 3). Patent land (with some or all timber reserved to the Crown, Ownership 2) was reclassified prior to the 2024 FMP, resulting in 5,071 ha now being Ownership=2 in the 2024 FMP. Patent land on the Whiskey Jack Forest that does not have rights to the timber reserved to the Crown (Ownership 3, 4,665 ha) is not included in Tables FMP-1 or FMP-1a (nor is it included in the FMP).

2.1.3 Forest Classification

2.1.3.1 Forest Units and Analysis Units

The Forest Management Planning Manual (FMPM) defines forest units as: "A classification system that aggregates forest stands for management purposes that will normally have similar species composition; will develop in a similar manner (both naturally and in response to silvicultural treatments); and will be managed under the same silvicultural system."

There are three different types of forest units used in the production of and reporting for the Whiskey Jack Forest Management Plan 2024:

1. Regional Standard Forest Units (NWSFU),
2. Landscape Guide Forest Units (LGFU), and
3. Plan Forest Units (PLANFU).

(Plan forest units may be further subdivided into Analysis Units – See Section 6.1.1).

The three sets of forest units are directly related to each other and are used or combined to provide required information for strategic planning or reporting. Boreal Landscape Guide Forest Units are the foundation, and are based on Northwest Region standard forest units, and may be rolled up into to planned forest units.

1. **Regional Standard Forest Units (NWFU)**
   The standard forest units are developed regionally to reflect the different forest conditions and management considerations found across the region and the different forest types. The regional standard forest units are based on a classification system that aggregates forest stands for management purposes, combining those that will normally have similar tree species composition, will develop in a similar manner, and will be managed under the same silviculture system. The Northwest Region is dominated by Boreal Forest with a portion of the southern section of the region has characteristics of Great Lake-St. Lawrence forest types. Therefore, the dominant forest types reflect conifer forest types such as Spruce, Jack Pine and Balsam Fir. Hardwood forests are dominated by Aspen, White Birch and Mixedwood. The Northwest Region standard forest units cover these forest types and include some regional ecosite considerations and management considerations for upland, lowland and shallow sites.

2. Boreal Landscape Guide Forest Units (LGFU)

Landscape Guide Forest Units are classifications for broad forest types and are defined in the *Forest Management Guide for Boreal Landscapes* (Boreal Landscape Guide; BLG) and associated Science Packages. Landscape Guide Forest Units were based on regional standard forest units.

Landscape Guide Forest Units are used to describe the current forest composition, structure and pattern at the landscape level. LGFUs that are used to describe the current forest condition are defined in MNRF's approved forest management guide(s) relating to landscape pattern and structure. The Landscape Guide Forest Units were the base units used for simulations of the estimated natural forest condition, which were used as the desired state for biodiversity indicators in this forest management plan. Landscape Classes based on Landscape Guide Forest Unit groupings are considered in the indicators of management objective achievement (Table FMP-10), in the strategic modelling (LTMD, Section 3), and in reporting during and after implementation of the FMP.

Landscape Guide Forest Units are further grouped and stratified by age groupings into Landscape Classes (defined in the BLG). Landscape Classes are considered in the indicators of management objective achievement, in the strategic modelling, and in reporting during and after implementation of the FMP.

3. Plan Forest Units (PLANFU) – Primary Classification for FMP

The Plan Forest Units provides the primary classification for assumptions regarding how the forest develops, through time and in response to treatment. Forest units are applied to the entire Crown forest on the management unit. Plan Forest Units are the forest unit classification used in data tables included in this forest management plan, and in required reports during and after implementation of the FMP. The Whiskey Jack Forest FMP plan forest units are described in Table FMP-2 and included in the Base Model Inventory (BMI) and Operational Planning Inventory (OPI).

The Plan Forest Units directly align with the Northwest Regional Standard Forest Unit classification, and also provide the ability to assess the requirements of the forest management guide(s) that address the conservation of biodiversity at the landscape scale (Landscape Guide Forest Units, LGFU). The relationship between the three types of forest units is illustrated in Table 1 (includes total area of Crown land Ownerships 1, 5, 7).

Table 1 Relationship Between Plan Forest Units and Other Forest Unit Classifications

Whiskey Jack FMP 2024 - Relationship Between Types of Forest Units

Areas of Crown Forest (OWNER=1-5-7)

Version 1

Planning Team agreement June 17, 2021

LTMD Task Team consensus: May 28, 2021

Regional Standard Forest Units (22) (specific sort order)			Landscape Guide FU (14)					2024 Plan Forest Units PLANFU (11)		
SFU	Name	Crown, Forest Area (ha)	LGFU	(NWSFU)	Name	Crown, Forest Area (ha)		PLANFU	Crown, Forest Area (ha)	
PwDom	White Pine Dominant	788	PrwMx	Pw Dom PrDom Prw Mx	Red Pine and White Pine Mix	3,588	→	PRW	3,588	0%
PrDom	Red Pine Dominant	675								
PrwMx	Red and White Pine Mix	2,125								
ConMx	Conifer Hardwood Mix	117,199	ConMx	ConMx UplCe	Conifer Hardwood Mix	119,352	→	CMX	119,352	15%
UplCe	Upland Cedar	2,154								
OCLow	Other Conifer Lowland	3,879	OCLow	OCLow	Other Conifer Lowland	3,879	→	SBL	58,977	8%
SbLow	Black Spruce Lowland	55,098	SbLow	SbLow	Black Spruce Lowland	55,098	→			
SbSha	Black Spruce Shallow	7,956	SbDom	SbSha SbDee	Black Spruce Dominant	94,417	→	SBD	94,417	12%
SbDee	Black Spruce Deep	86,461								
PjSha	Jack Pine Shallow	24,333	PjDom	PjSha PjDee	Jack Pine Dominant	120,386	→	PJD	120,386	15%
PjDee	Jack Pine Deep	96,052								
PoSha	Poplar Shallow	36	PoDom	PoSha PoDee	Poplar Dominant	48,642	→	POD	48,642	6%
PoDee	Poplar Deep	48,606								
SbMx1	Black Spruce Dominant Conifer Mix	74,058	SbMx1	SbMx1	Black Spruce Dominant Conifer Mix	74,058	→	SBM	74,058	9%
PjMx1	Jack Pine Dominant Conifer Mix	70,391	PjMx1	PjMx1	Jack Pine Dominant Conifer Mix	70,391	→	PJM	70,391	9%
BfPur	Balsam Fir Pure	1,073	BfDom	BfPur BfMx1	Balsam Fir Dominant	26,616	→	BFM	26,616	3%
BfMx1	Balsam Fir Conifer Mix	25,544								
BwSha	Birch Shallow	104	BwDom	Bw Sha Bw Dee	Birch Dominant	11,831	→	HRD	85,725	11%
BwDee	Birch Deep	11,727								
OthHd	Other Hardwood	4,008	OthHd	OthHd	Other Hardwood	4,008	→			
HrDom	Hardwood Dominant	69,887	HrDom	HrDom	Hardwood Dominant	69,887	→			
HrdMw	Hardwood Mix	80,185	HrdMw	HrdMw	Hardwood Mix	80,185	→	HMX	80,185	10%
		782,337				782,337	red matches LGFU		782,337	100%
							blue is clean roll-up			

Details on forest unit classifications are included in Supplementary Documentation B – Analysis Package, Section 5.1.3. The 11 PLANFUs match the LGFUs exactly, except that SBL PLANFU includes both the OCLow and SbLow LGFUs, and the HRD PLANFU includes the BwDom, HrDom and OthHd LGFUs. These groupings were appropriate given the relatively small areas of the OCLow, BwDom and OthHd LGFUs on the Whiskey Jack Forest.

These forest units have a cleaner use or roll up of regional standard forest units, as compared to the 2012-2024 FMP. These forest units match the Kenora Forest 2012-2022 FMP forest units which is advantageous as both units are adjacent to each other, and bot managed by Miisun Integrated Resource Management Company.

4. Analysis Units (AU)

The 11 Plan Forest Units were divided, where appropriate, into Plan Analysis Units (AU) (17 in total) for strategic modelling and analysis purposes. Analysis units refine or subdivide forest units to more accurately project forest development and biological considerations such as site limitations or site richness, and differing responses in post-disturbance or successional pathways. Analysis Units are described in detail in Section 5.1.4 of Supplementary Documentation B – Analysis Package, including their direct relationship to plan forest units, to regional standard forest units, through to the landscape guide forest units. Analysis Units are included in the Base Model Inventory. The Analysis Package also contains details associated with how forest units and analysis units have been applied and are being used to support management decisions.

<u>Managed, Crown Forest</u>

A summary of managed, Crown productive forest (Ownership 1) by plan forest unit is summarized in Table FMP-3, by 20-year age class (source data BMI).

There are 738,249 ha of Managed, Crown productive land base on the Whiskey Jack Forest, which includes of 196,134 ha available for timber production. The remainder is comprised of unavailable forest area (538,194 ha, estimated to be unavailable for strategic modelling) due to management decisions like management reserves and the strategic zone in which no forest management operations are planned in this FMP, and Protection Forest (3,920 ha, classified as unavailable in the BMI) where site limitations exist. These areas are considered part of the unavailable land base for strategic modelling.

Table 2 Relationship of Analysis Units to Plan Forest Units

Whiskey Jack Forest 2024 FMP PLANFUs:			Whiskey Jack Forest 2024 Analysis Units (AUs):		
1	**BFM**	Balsam Fir Mix	1	**BFM_**	(same as PLANFU / SFU sort)
2	**CMX**	Conifer Mix	2	**CMX_**	ConMx component
			3	**CMXC**	Upland Cedar component
3	**HMX**	Hardwood Mix	4	**HMX_**	
4	**HRD**	Hardwood Dominant	5	**HRDA**	OthHd component (Ash)
			6	**HRDB**	Birch component
			7	**HRD_**	Hardwood Dom component
5	**PJD**	Jack Pine Dominant	8	**PJDD**	Jack Pine deep
			9	**PJDS**	Jack Pine shallow
6	**PJM**	Jack Pine Mix	10	**PJM_**	
7	**POD**	**Poplar Dominant**	**11**	**POD_**	
8	**PRW**	Red Pine and White Pine Mix	12	**PRWR**	Red Pine component
			13	**PRWW**	White Pine component
9	**SBD**	Spruce Dominant	14	**SBD_**	
10	**SBL**	Spruce Lowland	15	**SBL_**	Lowland Spruce component
			16	**SBLC**	Lowland Cedar component
11	**SBM**	Spruce Mix	17	**SBM_**	

The available area is the portion of the Crown managed land considered available for operational planning and implementation of forest management activities. The unavailable land area is generally not considered part of the area available for timber extraction or operational planning and this area includes area currently considered inaccessible (islands, inoperable areas peninsulas, etc.), protected areas (including known AOC reserves), or areas related to other management decisions such as the strategic zone in which no forest management operations are planned in this FMP.

The areas reported for Table FMP-3 match the Crown, Managed forest areas reported in Table FMP-1. The processes used to build and update the Base Model Inventory, used for FMP-1 and 3, are recorded in Supplementary Documentation B - Analysis Package, Section 6.1. Table 3 provides a summary from Table FMP-3 showing the Plan Forest Unit break down into the categories of available or unavailable land base for timber production (Ownership 1).

Table FMP-3 displays that approximately 73% of the Crown, Managed Production land base (Ownership 1) is estimated to be unavailable for operational management (Protection Forest, estimated reserve area, and strategic zone in which no forest management operations are eligible to be planned in this FMP (see text Section 3.5)). This unavailable area does contribute to the evaluation of general landscape pattern in the Boreal

Landscape Guide (BLG) and its achievement of associated management objectives. The Whiskey Jack Forest is predominantly Black Spruce and Jack Pine conifer-dominated forests, with additional areas of Poplar mixed hardwood stands. BLG indicator achievement will be a significant influence on the setting of management objectives particularly caribou habitat management and pattern of young forest and mature/older forest. Table FMP-3 shows that most of the available forest is in the 81-100 year old age class followed by 41-60 and 61-80 year old age classes. These forest stands are at a prime age for timber production, which will have to be balanced with the benefits projected for retaining some areas (preferably unavailable forest, but possibly some available forest) for other benefits such as provision of old growth or mature-old forest types. There is proportionally less area in the 0-20 and < 100-year age classes, which will influence the availability of forest diversity and timber supply. Development of the LTMD will consider the balance of short-term and long-term objective achievement for both forest diversity and socio-economic objectives.

Table 3 Summary of Available and Unavailable Plan Forest Unit Area from FMP-3

Forest Unit	Unavailable	Available	% of Available
BFM	20,817	3,869	2%
CMX	81,059	30,451	16%
HMX	55,999	19,511	10%
HRD	56,818	21,613	11%
PJD	78,089	34,487	18%
PJM	49,861	17,239	9%
POD	36,337	8,881	5%
PRW	1,024	1,082	1%
SBD	66,574	26,308	13%
SBL	41,205	16,467	8%
SBM	54,330	16,227	8%
TOTAL	542,115	196,134	100%

2.1.3.2 Forest Landscape Classes

Forest landscape classes are used to describe the current forest composition, structure and pattern at the landscape level. Landscape classes that are used to describe the current forest condition are defined in the *Forest Management Guide for Boreal Landscapes* (MNRF, 2014). Landscape classes are groupings of forest units by development stage that are meaningful to how forests function as habitat for wildlife.

Ontario's Landscape Tool (OLT) was used to analyze the current forest condition (Plan Start 2024) and calculate area by forest landscape classes.

2.1.3.2.1 Landscape Structure and Composition:

There are five (5) indicators described in the BLG under Structure and Composition that provides management direction for the Whiskey Jack Forest. The BLG places focus on (a) landscape classes, (b) old growth, (c) red pine and white pine forest, (d) upland pine and spruce forest, and (e) young forest.

(a) Landscape Classes:

The BLG provides specific direction for management and improvement of the older four classes:

1. Mature and Late Balsam Fir,
2. Mature and Late Lowland Spruce and Low Other Conifer,
3. Mature and Late Conifer and Conifer Mixedwood, and
4. Mature and Late Hardwood and Hardwood Mixedwood.

Figure 4 is a "Box and Whisker" report for landscape class indicators generated using Ontario's Landscape Tool (OLT, 2021, version 2.5.7324). The boxes are the inter-quartile ranges (IQR) that illustrate the results from the middle 50% of results (i.e., 25% to 75% of results). The whiskers above and below the box extend to include the upper 25% and lower 25% of results and are considered the outer limits of the Simulated Range of Natural Variation (SRNV).

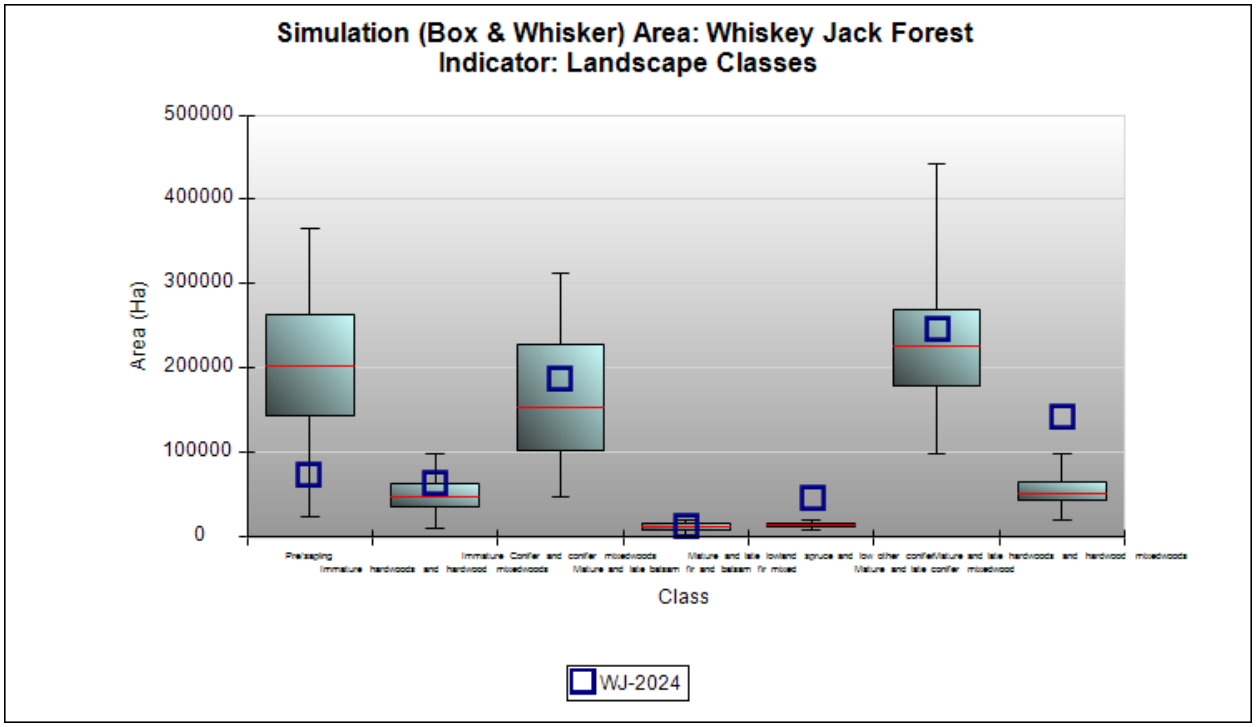
The Boreal Landscape Guide (p. 26, and Page 67 Table A2) identifies the middle 50% of the SRNV (the "inter-quartile range") as the appropriate desirable level for area-based indicators in an FMP (e.g., area of young forest, area of old growth, etc.). The 2024 Plan Start level for these area-based landscape classes are discussed in the following paragraphs.

Figure 3 shows achievement of landscape class area at 2024 Plan Start, in relation to the SRNV for the Whiskey Jack Forest (OLT scenario WJ-2024). The IQRs for the Mature-

Late (ML) classes were used as the indicator desirable levels. ML Balsam Fir and ML Upland Conifer classes have areas within their respective IQRs. ML Hardwood and ML Lowland Conifer are above their upper IQR levels at Plan Start 2024.

The direction from the Boreal Landscape Guide is to have the indicator levels for each of these classes within the IQR's. These starting points for Plan Start 2024, illustrated by blue squares in Figure 3, inform the direction forest management activities should implement to start moving towards (increasing, decreasing) or maintaining the landscape classes within the IQR's for each landscape class.

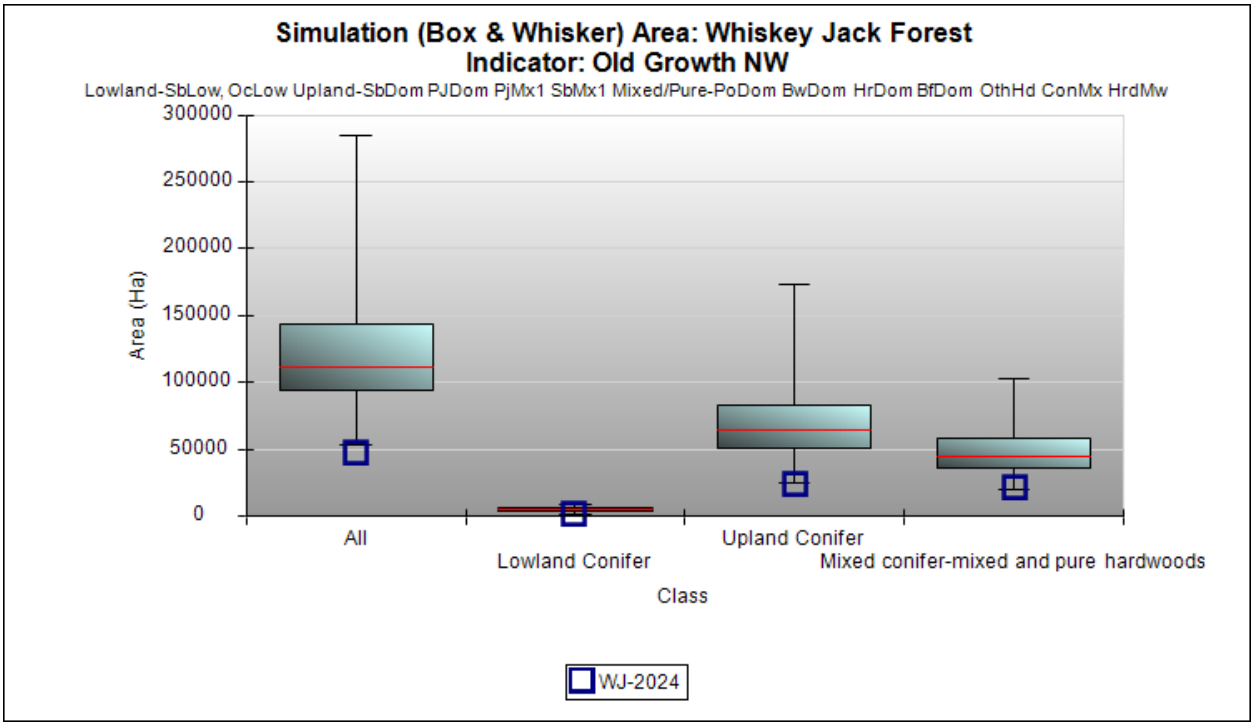
Figure 3 Landscape Class Indicator Achievement for 2024 Plan Start



(b) Old Growth:

The BLG set direction for old growth (OG) indicators where targets are to be managed by forest units or appropriate Old Growth grouping. For the Whiskey Jack Forest, the four MNRF NWR Old Growth groupings were adopted to quantify the forest condition at Plan 2024 Start (Lowland Conifer, Upland Conifer, Mixed Conifer – Mixed and Pure Hardwood, and Red Pine-White Pine). A summary of Old Growth area at 2024 Plan Start can be seen in Figure 4 (with the blue boxes)(Note: OLT does not include Red Pine-White Pine Old Growth). Old Growth Upland Conifer, OG Mixedwoods and Hardwood, and OG Lowland Conifer are all below their IQRs at 2024 Plan Start. LTMD development will consider that within this 10-year plan period, old growth areas should increase towards the IQRs. OG Red Pine-White Pine does not have an IQR in OLT, but has a desirable level from the BLG to "increase" area from the Plan Start 30 ha of old growth (is currently below the 1995 level of 195 ha).

Figure 4 Old Growth Indicator Achievement for 2024 Plan Start



(c) Red Pine and White Pine Forest:

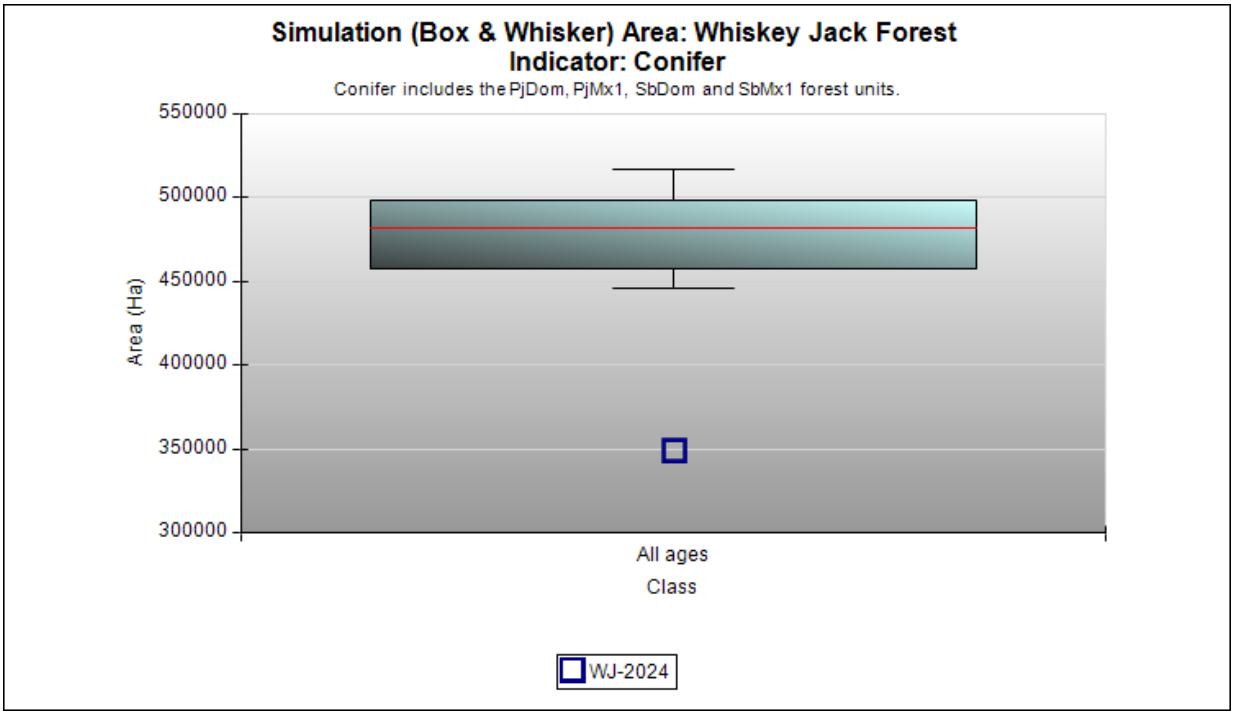
The BLG set direction for the red pine and white pine (all ages) forest indicator. Red pine and white pine desirable level is not available in Ontario's Landscape Tool due to the underlying fire simulation model BFOLDS not being able to simulate ground fires. Policy direction for all ages Red Pine-White Pine forest area contains two statements, to

increase towards pre-industrial condition (estimated to be 46,940 ha for the Whiskey Jack Forest) and to not drop below the 1995 levels (2,491 ha). With 3,587 ha at 2024 Plan Start, currently the Whiskey Jack Forest is above the 1995 level. Planning efforts in this FMP will be focused on increasing the area that contributes towards the goal (PRWMX forest unit).

(d) Upland Pine and Spruce Forest:

The BLG set direction for an upland pine and spruce indicator (referred to as "Conifer" in OLT) that considers all ages of conifer (defined as PJMX1, PJDOM, SBDOM and SBMX1 LGFU's). Figure 5 (blue box) shows that the conifer indicator is currently well below the SRNV so planning efforts will be guided to create more conifer in the four LGFU's that contribute to this upland conifer indicator.

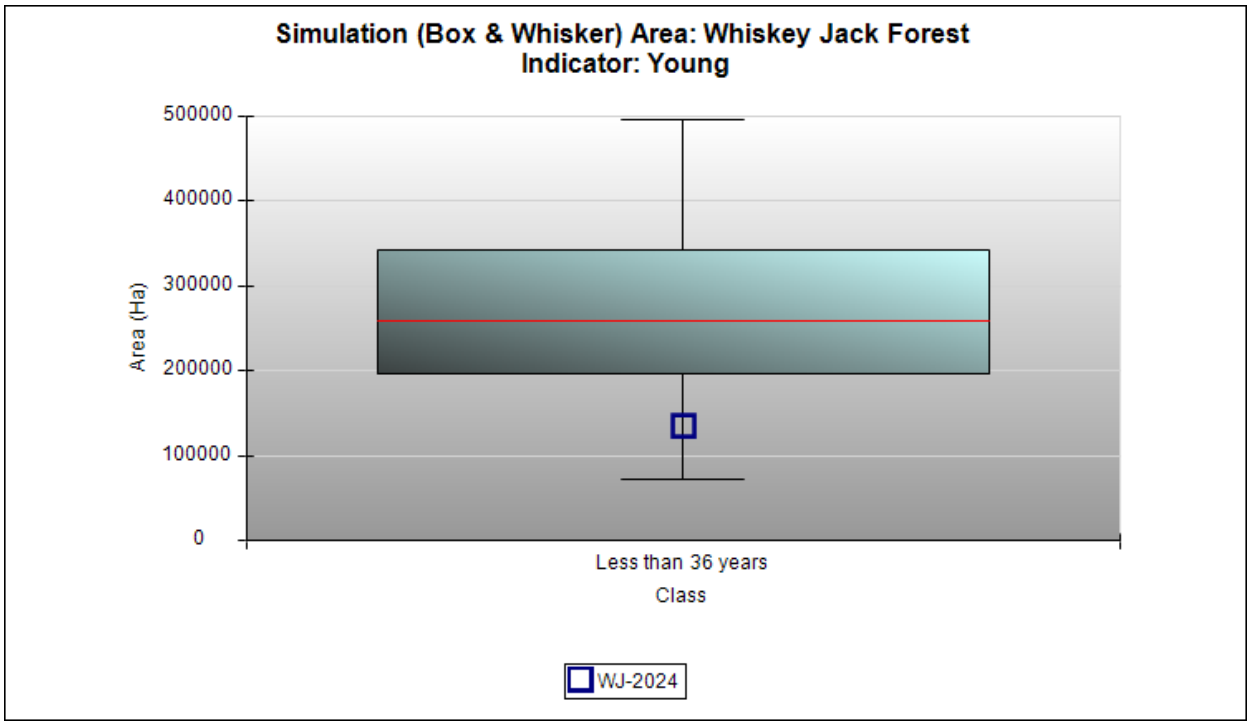
Figure 5 Upland Conifer Indicator Achievement for 2024 Plan Start



(e) Young Forest:

The BLG direction for a young forest indicator includes all forested area less than 36 years old. Figure 6 shows the plan start level is well below the IQR for the young forest indicator. Increasing the area of Young Forest towards the IQR will be a management consideration while balancing competing direction involved in managing towards some of the other landscape indicators and implementing forest management activities in the strategic management zones eligible for operations (see Section 3.5).

Figure 6 Young Forest Indicator Achievement for 2024 Plan Start



2.1.3.2.2 Landscape Pattern

The BLG set two general landscape pattern indicators for the entire Whiskey Jack Forest; a) texture of mature and old forest, and b) young forest patch size.

a) Texture of Mature and Old Forest:

Texture refers to the percent concentration (or “patchiness”) of mature and old forest found within each hexagon and not the amount of ‘old growth’ on the Whiskey Jack Forest. The texture of mature and old forest pattern is evaluated at two scales using Ontario’s Landscape Tool, specifically at 500 ha and 5,000 ha hexagon scales. The 500 ha scale is shown in Figure 7 and Figure 9 (map), and the 5,000 ha hexagon distribution is shown in Figure 8 and Figure 10 (map) for 2024 Plan Start.

At both scales, the texture of mature and older forest is relatively dense (very good for this indicator). Management efforts will be to move towards the SRNV means for both the 500 and 5,000 ha scales with the focus of the texture of mature and old forest in the denser > .60 proportion (concentration) classes.

Figure 7 Mature and Old Texture Indicator Achievement – 2024 Plan Start (500 ha scale)

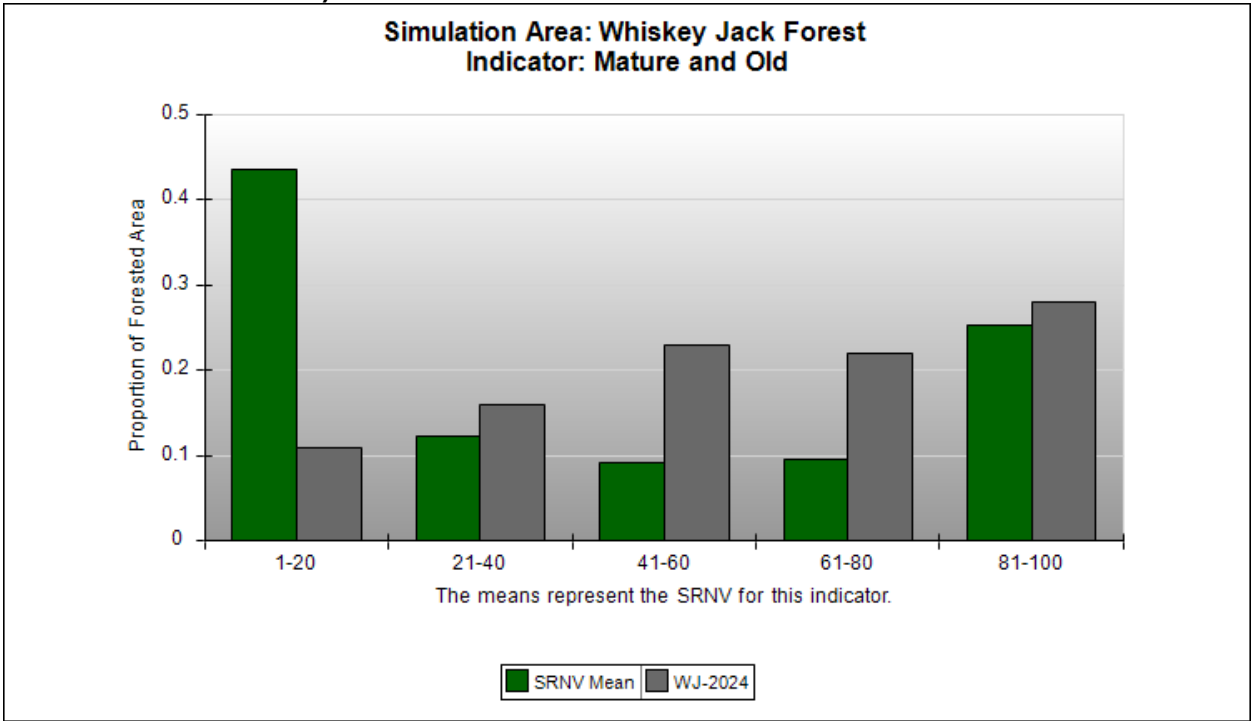


Figure 8 Mature and Old Texture Indicator Achievement – 2024 Plan Start (5,000 ha scale)

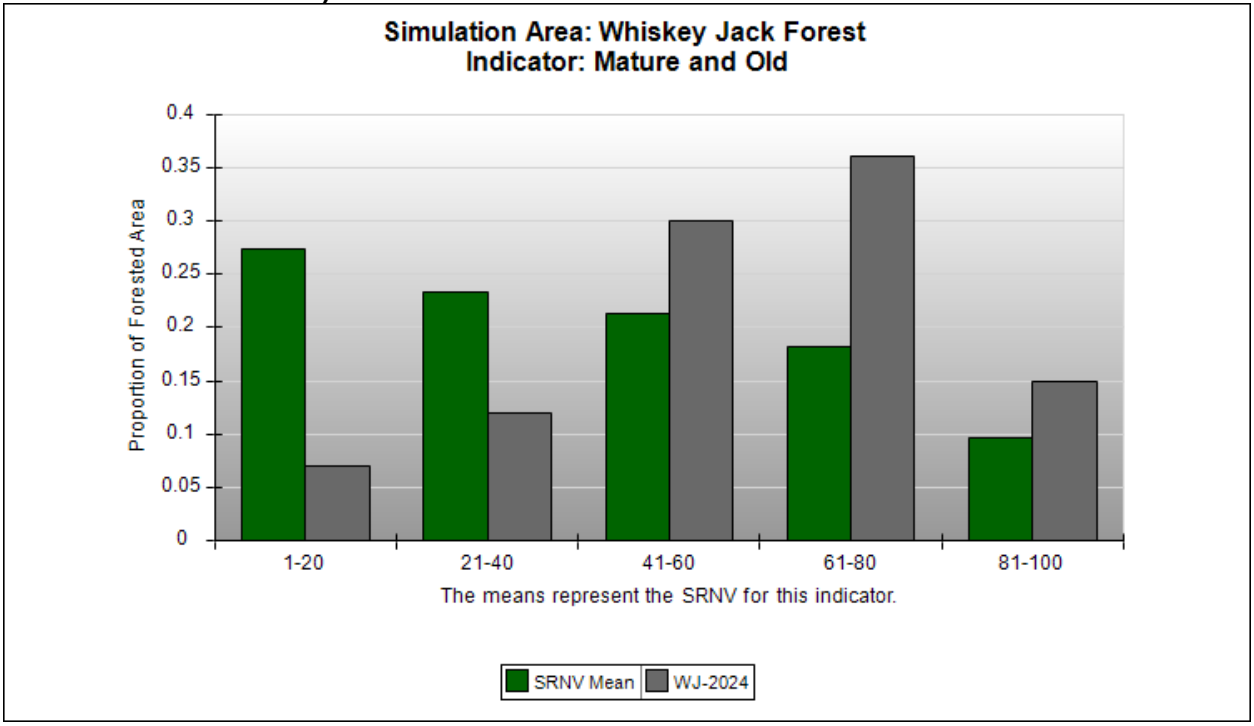


Figure 9 2024 Landscape Pattern Texture of Mature and Old (500 ha scale)

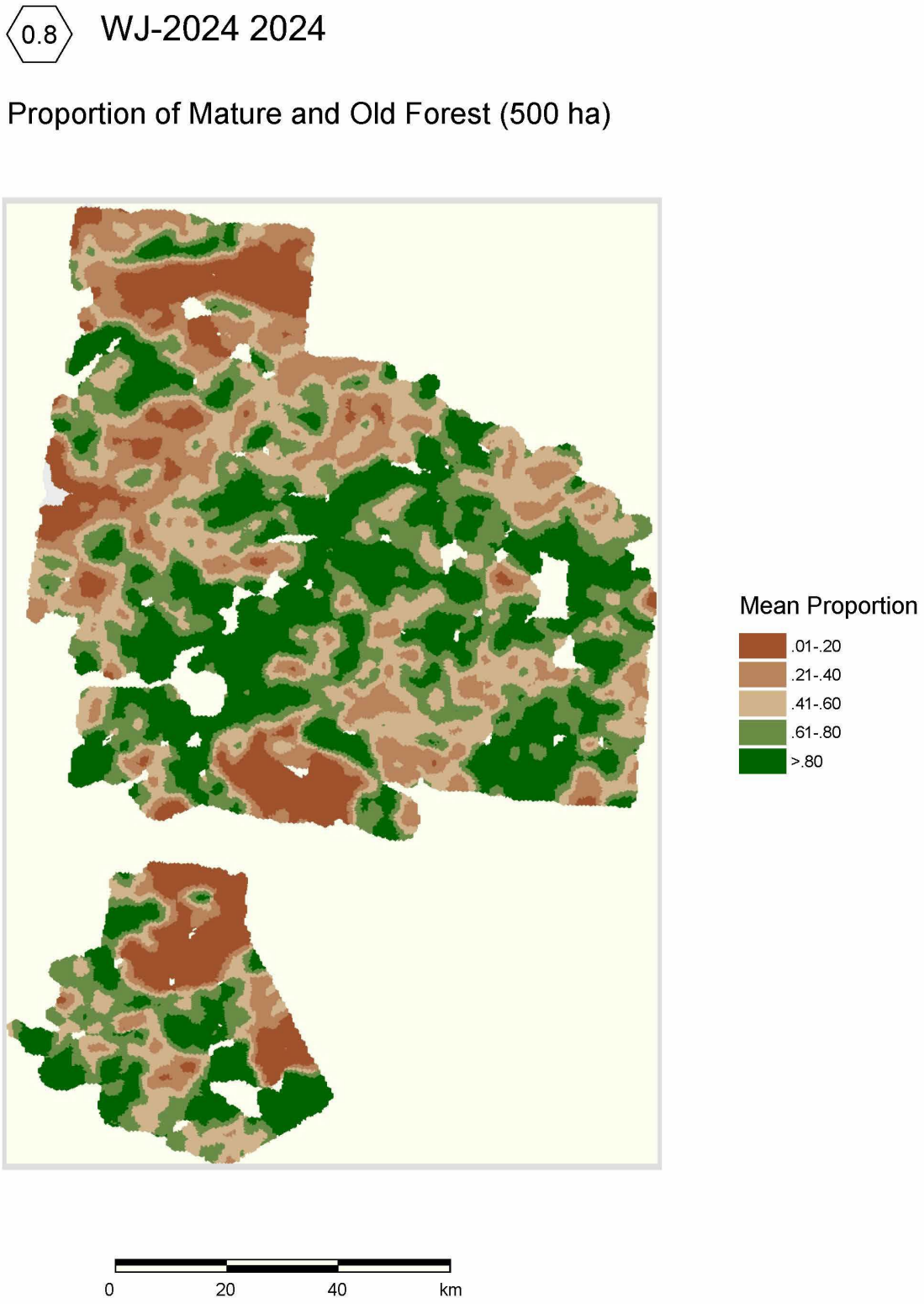
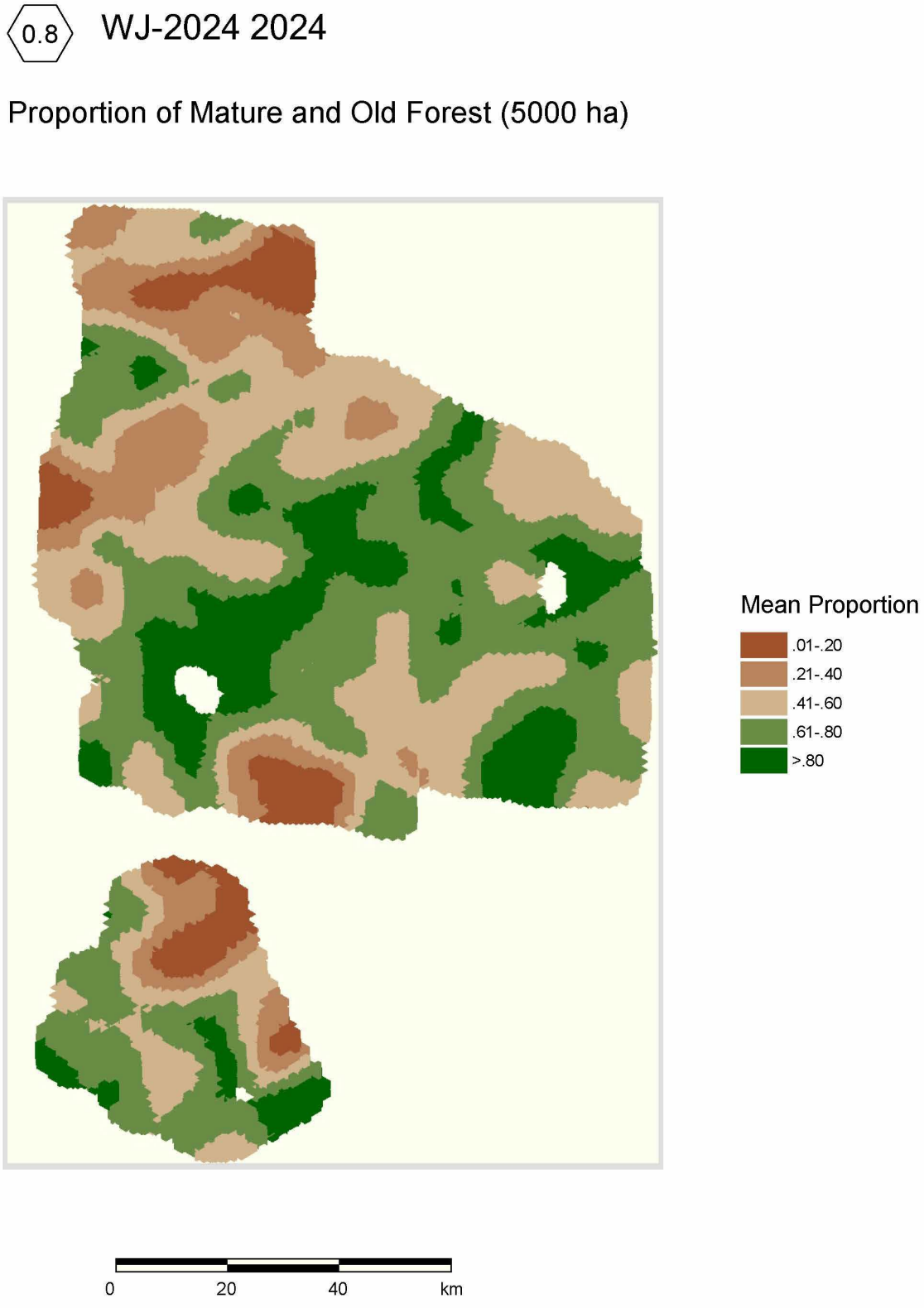


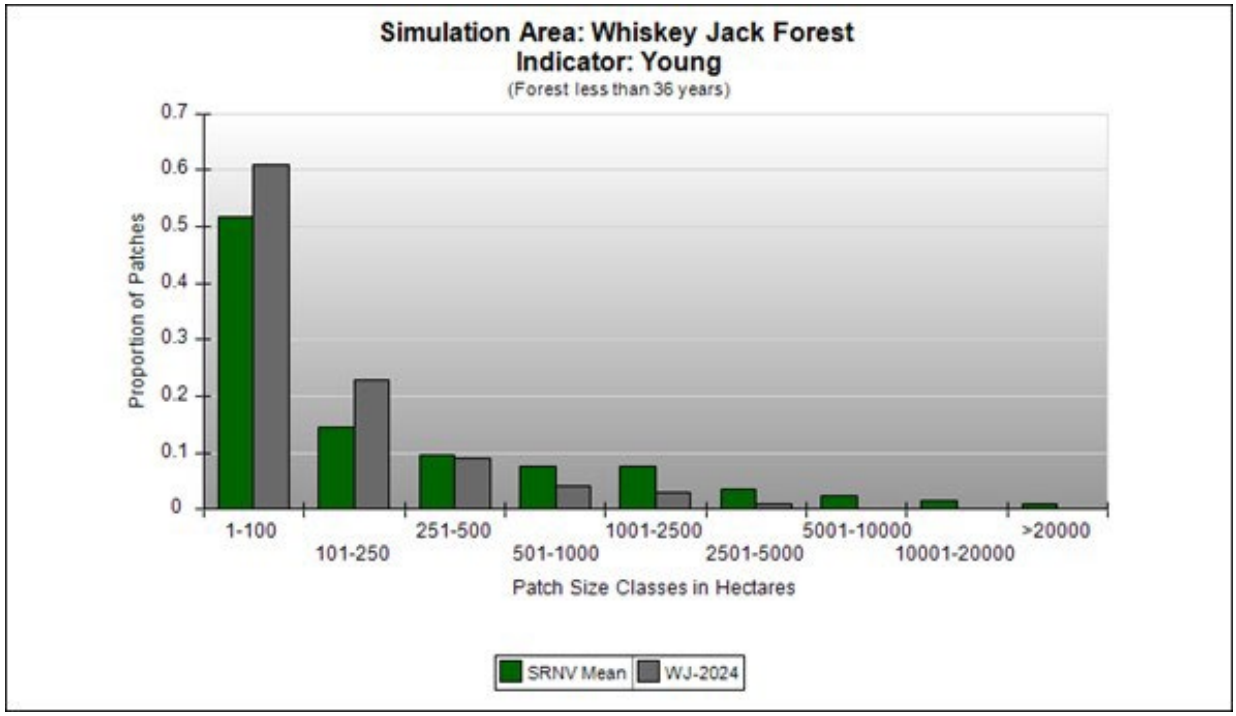
Figure 10 2024 Landscape Pattern Texture of Mature and Old (5,000 ha scale)



b) Young Forest Patch Size:

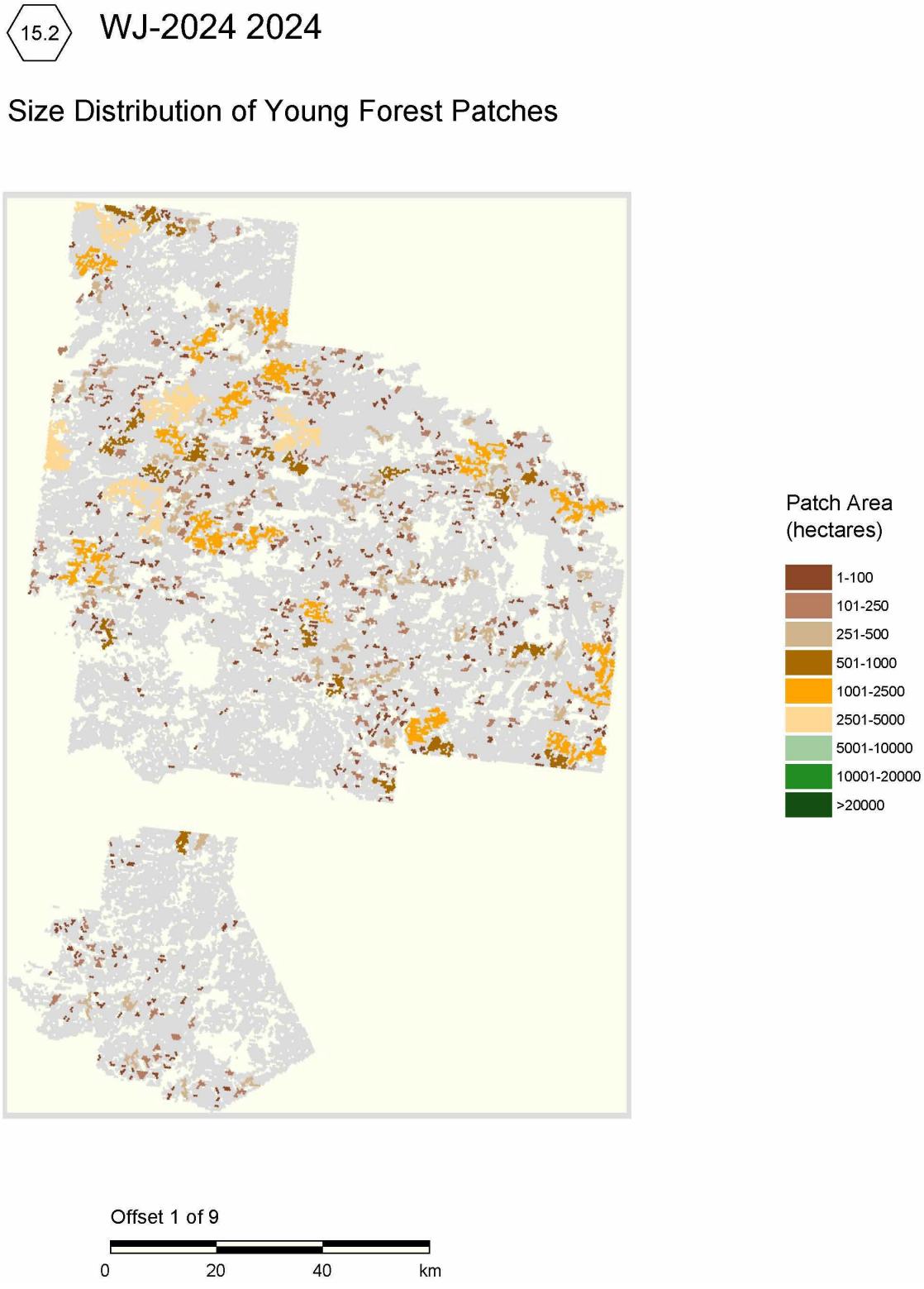
Young forest is evaluated by a young forest patch size frequency distribution using OLT. This analysis is frequency (number) of young forest patches by size class, not the area of young forest. Figure 11 shows the report generated for Plan Start 2024, and Figure 12 (map) shows the geographic distribution of young forest by patch size. Overall, the frequency distribution of young forest patches by size class is similar to that estimated for the natural condition, but with more, smaller patches of young forest <250 ha as compared to the natural condition, and less larger patches of young forest (>1,000 ha). If the overabundance of small, young forest patches continues for several decades without coalescing small cuts into bigger cuts (patches), the forest will be difficult to recover to the desired levels, and eventually the texture of the mature and old will become less dense and move away from its desirable level (mean of SRNV). In general, management trends may be explored to lower frequency of patches <250 ha by possibly producing some larger patch sizes in the young forest disturbance patches, or consolidating harvest patches adjacent to existing young forest.

Figure 11 Young Forest Frequency by Size Class Indicator for 2024 Plan Start



A landscape pattern map for the current 2024 forest condition is included in the FMP as a digital map file: MU490_2024_FMP_Map_LandPat_01.pdf.

Figure 12 Size Distribution of Young Forest Patches at 2024 Plan Start



2.1.3.2.3 Implications of Current Landscape Condition on the FMP

During development of the *Forest Management Guide for Boreal Landscapes* (Boreal Landscape Guide), MNRF consulted available historical data on the size, frequency, and intensity of fires on Crown land in the province to determine what a "natural" landscape would look like. Historical data are limited in the kind of information available, however. Therefore, MNRF developed a simulation model (the "Boreal Forest Landscape Dynamics Simulator or "BFOLDS") to "burn" the landscape guide region in which the Whiskey Jack Forest is situated according to a fire disturbance regime that would be natural for the region (ecoregion 3S/4S). This model recognized that a wide variety of influences determines the frequency with which fires burn, how large a fire can grow, how intensely the fire burns, and the outcome of the fire (the species composition of the new stand). There is no single "right answer" for the results of a natural disturbance regime when all these factors are taken into account, because factors related to the cause and rate of spread can interact, some forest types are more likely to burn than others, and variation in seed crops may result in dense regeneration to conifer in some cases but greater representation by hardwoods in other cases. Also, there are elements of randomness in where lightning strikes. By repeatedly burning the forest in the model over a 200 year period while allowing the computer to select at random from tables of actual historical values for lightning strikes, patch sizes, and other attributes, MNRF was able to identify a "simulated range of natural variation" (SRNV) for the landscape attributes of interest, such as the supply of young forest, the supply of old growth, the supply of conifer forest, and others.

The Boreal Landscape Guide (p. 26 and Table A2) identifies the middle 50% of the SRNV (the "inter-quartile range") as the appropriate desirable level for area-based indicators in an FMP (e.g., area of young forest, area of old growth), and the mean (average) of the SRNV as the appropriate desirable level for pattern-based indicators (e.g., texture or “patchiness” of the mature and old forest). The Boreal Landscape Guide provides milestones (Table A2 for the Whiskey Jack Forest) that indicate what the FMP should strive to do to ensure that the forest remains in or moves toward a natural condition that falls within the ranges identified by MNRF as acceptable.

During the LTMD planning efforts for the 2024-2034 FMP, the Planning Team conducted analysis and revised some of the milestone directional statements from the BLG. Table 4 below is a summary of the BLG milestones (as revised in 2023).

Table 4 Milestones for Forest Composition, Structure, and Pattern for the Whiskey Jack Forest from the Boreal Landscape Guide

(as revised March 2023)

CFSA Objective Category	*Landscape Guide Indicator Group*	*Landscape Guide Indicator*	*Directional Milestone for this FMP Period*
Forest Structure & Composition	Landscape Class Area	Mature and late balsam fir mixed	**Maintain** within the IQR
		Mature and late lowland spruce and low other conifer	**Maintain** within the IQR
		Mature and late conifer and conifer mixedwood	**Maintain** and maintain within the IQR
		Mature and late hardwood and hardwood mixedwood	**Decrease** and maintain within the IQR
	Old Growth Forest	Old Growth Lowland Conifer	**Increase** and maintain within the IQR
		Old Growth Upland Conifer	**Increase** and maintain within the IQR
		Old Growth conifer-mixed and pure hardwood	**Increase** and maintain within the IQR
		Old Growth Red Pine – White Pine	**Increase**
	Red Pine and White Pine Forest	All ages of red pine and white pine forest units	**Increase** towards pre-industrial condition estimate
	Upland Pine and Spruce Forest	All ages of conifer	**Increase** and maintain within the IQR
	Young Forest Area	All forest units combined	**Move towards and/or maintain** within the IQR
Pattern	Texture of Mature and Old Forest	Texture of mature and older forest (500 and 5,000 ha hexagon frequency distribution)	**Move towards** and/or mean of the SRNV, with a focus on the two concentration classes >60%.
	Young Forest Patch Size (less than 36 years)	Young forest patch size	**Move towards** and/or maintain mean of the SRNV
Habitat	Caribou Habitat (in caribou zone)	Refuge Habitat	**Increase towards** the IQR
		Winter Combined Habitat	**Maintain** within the IQR
		Texture/arrangement of refuge habitat (6,000 and 30,000 ha hexagon frequency distribution)	**Move towards** and/or maintain mean of the SRNV, with a focus on the two concentration classes >60%.
		Texture/arrangement of winter habitat (6,000 and 30,000 ha hexagon frequency distribution)	**Move towards** and/or maintain mean of the SRNV, with a focus on the two concentration classes >60%.

All these milestones and the 2024 Plan Start amount or texture of each indicator were taken into account by the Planning Team during development of the FMP objectives (Table FMP-10), and in planning the layout of harvested and unharvested blocks. MNRF's Ontario's Landscape Tool was used to calculate progress toward meeting these desirable levels during development of the FMP.

2.1.3.3 Other Forest Classifications

Other forest classifications to describe the current forest condition based on forest cover were adopted by the Planning Team for consideration and management during development of this FMP.

General habitat classification is discussed in subsections 2.1.3.3.1 to 2.1.3.3.3.

Habitat for all wildlife species that inhabit the Whiskey Jack Forest are considered through the management of forest composition, age structure and landscape pattern required by management indicators in accordance with the *Forest Management Guide for Boreal Landscapes* (BLG).

Forest-related Species at Risk are discussed in Forest Resources, Section 2.1.4.1 – Inventories and Information for Species at Risk.

2.1.3.3.1 Background on Habitat Conservation and Habitat Classification

Since 1994, the Crown Forest Sustainability Act (S.O. 1994) has required forest managers to conserve biological diversity during forest management planning and implementation. MNRF has recognized that there are hundreds of species of vertebrates (mammals, birds, reptiles, amphibians), many thousands of species of invertebrates (insects, spiders, mites and others), and hundreds of species of plants and fungi in the boreal forest region where the Whiskey Jack Forest is situated. It would be impossible to provide for them all using species-specific approaches, particularly since different wildlife species have very different needs. For example, marten prefer large patches of mature and older forest, but moose prefer patches of young forest containing abundant browse interspersed with mature forest stands for cover; ruffed grouse prefer mixedwood and deciduous forest, while spruce grouse prefer pure coniferous forest. There are many other cases where the needs of wildlife are in conflict with each other. To address this, MNRF developed a "coarse filter-fine filter" habitat management strategy to direct managers to produce landscapes that are as natural as possible with respect to composition and pattern (the coarse filter), and to protect certain representative or sensitive species and

sites (the fine filter). This strategy was described by OMNR (2001) in the "*Forest Management Guide for Natural Disturbance Pattern Emulation*", which represented the "coarse filter". The "fine filter" focused on direction from manuals and FMP training related to protecting water quality and fish habitat, providing habitat for moose, marten, caribou, a variety of songbirds, stick-nesting birds such as herons, eagles, ospreys, and hawks, grouse, species preferring old growth, and others. This direction was applied in previous FMPs for the Whiskey Jack Forest.

Prior to the development of the 2024-2034 FMP for the Whiskey Jack Forest, MNRF undertook a major review and revision of their coarse-filter fine filter direction to ensure that the direction for forest management has a strong scientific basis, is up to date, and minimizes redundancy to the extent possible. MNRF reviewed a large body of scientific literature and recent and historical databases, developed and tested natural disturbance simulation models, consulted with the public, experts, and Indigenous people, and consolidated their revised direction into two key science-based forest management guides that together describe the coarse filter-fine filter approach forest managers must take to conserve biological diversity in the boreal forest:

- *Forest Management Guide for Boreal Landscapes (MNRF 2014),* and
- *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (MNRF 2010)* (Stand and Site Guide).

These guides (see MNRF's web site with links to forest management guides: https://www.ontario.ca/page/forest-management-guides) direct forest managers to emulate the natural composition, pattern, and structure of a landscape that would develop in the area under a natural disturbance regime dominated by wild fire. The guides also require managers to protect fish habitat, to protect existing nests, dens, and spawning areas, and to address the larger habitat needs of a reduced list of featured species (e.g., caribou habitat through a dynamic caribou habitat schedule for forests that are within caribou range). The direction in the Boreal Landscape Guide, the Stand and Site Guide, and the requirements of the *Endangered Species Act* have been followed closely during development of this 2024-2034 FMP for the Whiskey Jack Forest.

2.1.3.3.2 Habitat Classification

In the FMP, wildlife habitat is described in terms of the "forest units" defined in Section 2.1.3.1 of the FMP (see also the "Forest Unit Analysis" in the Section 5.1.3 of Supplementary Documentation B - Analysis Package), and the "landscape classes" identified by MNRF for the Boreal Landscape Guide. Landscape classes are defined in Section 2.1.3.2 of the FMP and Section 3.1.1.1 of the Landscape Guide. Landscape classes are groupings of forest unit-development stage combinations that are considered to be meaningful to wildlife.

The Boreal Landscape Guide contains specific coarse filter milestones for the Whiskey Jack Forest FMP (Table A2 in the Boreal Landscape Guide, FMP text Table 4) that must be addressed to ensure that an approximately natural amount, distribution, and composition of habitat (the coarse filter) are provided over the long term. These milestones are addressed in FMP objectives and targets in Table FMP-10. As required by the Boreal Landscape Guide, the FMP objectives and targets address the amount of area of key landscape classes, the amount of area of old growth, the area of red and white pine (all ages), the amount of area and patch size distribution of young forest, and the spatial distribution ("texture" or patchiness) of mature and older forest.

The Stand and Site Guide contains a great deal of other direction that strives to assist forest managers to conserve biological diversity. This has been incorporated into the FMP as: (i) prescriptions for Areas of Concern (AOCs), and (ii) Conditions on Regular Operations (CROs). Table FMP-11 describes the AOC prescriptions in detail (e.g., for water quality and the protection of shorelines and riparian forest, for bat hibernacula, bear dens, eagle and osprey nests, nests of other birds of prey, heron colonies, and AOCs for other species at risk - see more detail on species at risk in Section 2.1.4.1 below). CROs are described in FMP text Section 4.2.2.2, and address aspects related to providing habitat by emulating natural disturbances at the stand level (part of the coarse filter), such as by retaining downed woody material, providing living and dead wildlife trees in each harvest block, and by providing residual patches of unharvested forest in and/or adjacent to harvest blocks. The CROs also address certain fine-filter aspects, such as protection of occupied songbird nests and grouse nests, the protection of occupied or unoccupied roost trees or nest trees used by hawks, owls, or chimney swifts, protection of occupied or unoccupied stick nests used by ravens and birds of prey (other than eagles and ospreys), protection of furbearer dens, and protection of wetlands and woodland pools.

2.1.3.3.3 Spatial Arrangement of Habitat

As discussed above, Ontario's coarse filter approach to management, as described in the Boreal Landscape Guide and the Stand and Site Guide, is designed to produce an approximately natural amount and spatial arrangement (distribution and patch size) of habitat for wildlife in general, including the American marten, moose, and all other species. The overall spatial arrangement of habitat is addressed in the FMP by referring to the texture indicators in the Boreal Landscape Guide (Table A2), by providing wildlife trees throughout harvest blocks (Section 3.2.3.1 of the Stand and Site Guide), similar to what a natural disturbance such as wildland fire would do in this area. In addition, protecting all known occupied nests, dens, and, in some cases, roost trees through Areas of Concern (AOCs) or Conditions on Regular Operations (CROs) will conserve the current spatial distribution of key habitat features where AOCs or CROs are appropriate.

The Boreal Landscape Guide (Section 3.5) and the Stand and Site Guide (Section 3.3.4) contain specific direction to enable managers to identify large landscape patches (LLPs) in the forest that can be used to meet biodiversity objectives and their targets associated with Landscape Guide indicators.

The continuous range of caribou distribution defined by MNRF in "Ontario's Woodland Caribou Conservation Plan" (the CCP) was used to identify the portion of the Whiskey Jack Forest with continuous caribou distribution (the “caribou zone”). Within the WJF caribou zone, the development of a tract-based Dynamic Caribou Habitat Schedule (DCHS) is an example of a mosaic of contiguous Large Landscape Patches (LLPs) that was used to meet objectives for caribou in this FMP. The spatial arrangement of habitat is important to caribou, especially in the northwest portion of the forest. The spatial caribou habitat requirements of the Boreal Landscape Guide are applied in the Whiskey Jack Forest caribou zone to address direction in the CCP.

Finally, the Boreal Landscape Guide (Section 3.5) and the Stand and Site Guide (Section 3.3.4) also contain specific direction to enable managers to identify large landscape patches in the forest that can be managed to enhance habitat specifically for moose or deer, while meeting the milestones in the Boreal Landscape Guide. These are identified as "moose emphasis areas" and “deer emphasis areas” in the Stand and Site Guide. Moose or deer emphasis area planning is not recommended nor required in areas where caribou habitat management is emphasized, such as the caribou zone with DCHS blocks on the Whiskey Jack Forest.

2.1.3.3.4 Habitat for Selected Wildlife Species

Selected Wildlife Species may be identified by the Planning Team to address desired forest and benefits identified by the Planning Team and LCC with input from the public and First Nation and Métis communities. Caribou, Moose and Deer are selected wildlife species in the 2024-2034 FMP that require specific projected habitat modelling in habitat emphasis areas (see Table FMP-7).

Habitat for all species that inhabit the Whiskey Jack Forest are accounted for through the management of forest composition, age structure and landscape pattern required by management indicators and milestones, in accordance with the *Forest Management Guide for Boreal Landscapes* (BLG). See Table FMP-10 for Boreal Landscape Guide indicator projections for caribou, moose and deer habitat in their respective emphasis areas. Moose habitat is planned for and considered based on various BLG indicators for the whole forest and within an identified Moose Emphasis Area (MEA). See Table FMP-10 for current and projected moose habitat in the MEA (by habitat type).

The eight caribou habitat indicators for the Whiskey Jack Forest caribou zone: (a) amount of caribou winter habitat (combined, includes used and preferred), (b) amount of caribou refuge habitat, (c) texture of caribou winter habitat (combined habitat), (d) texture of caribou refuge habitat, (e) conifer purity in Jack Pine and Black Spruce LGFU's, (f) amount and arrangement of on-line Caribou DCHS, and (g) planned and actual percent of total upland conifer harvest area successfully regenerated to upland conifer. Two of these seven indicators (e & g) will be assessed in the final year of plan implementation. These indicators are calculated for the zone of the Whiskey Jack Forest in the range of continuous caribou distribution.

(a) Caribou Winter (Combined) Habitat:
Figure 13 shows achievement of the amount of caribou winter combined habitat (in the caribou zone) at 2024 Plan Start, in relation to the IQR of the SRNV for the Whiskey Jack Forest caribou zone. Achievement of winter combined habitat is slightly below the median of the IQR which is a very good condition for caribou habitat. Whiskey Jack Forest (ownerships 1, 5, 7 in EFRI) Winter Habitat at plan start is 84,575 ha and is projected to be maintained within the desirable levels.

(b) Caribou Refuge Habitat:
Figure 14 shows that the amount of caribou refuge habitat (in the caribou zone) at 2024 Plan Start, is within the SRNV for the Whiskey Jack Forest caribou zone. Whiskey Jack Forest (ownerships 1, 5, 7 in EFRI) Refuge Habitat at plan start is 132,184 ha and is projected to be maintained within the desirable levels.

Figure 13 Caribou Winter Habitat Indicator Achievement for 2024 Plan Start

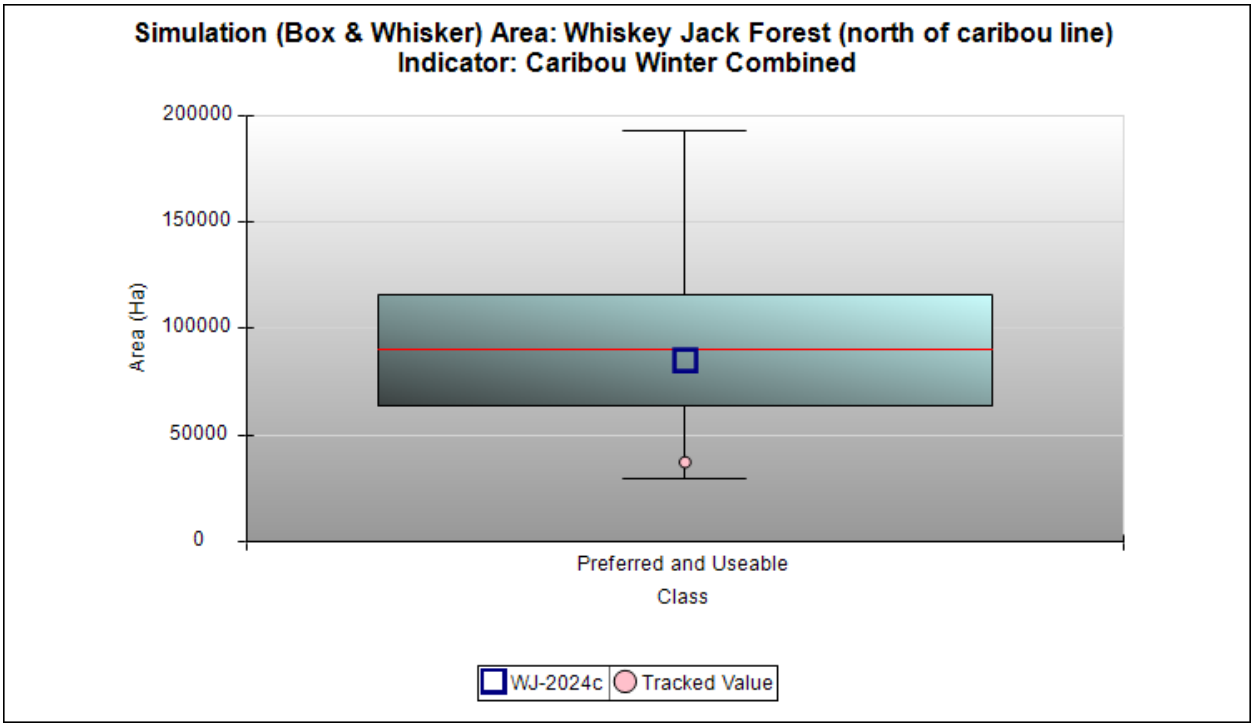
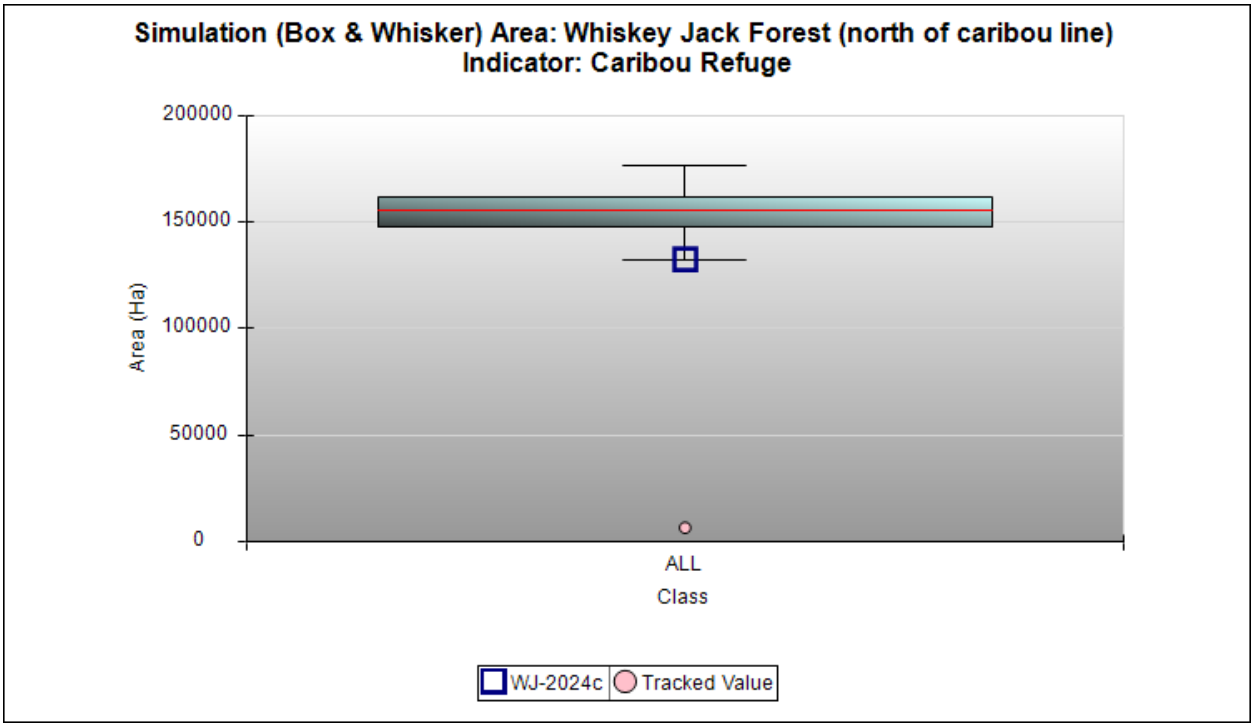


Figure 14 Caribou Refuge Habitat Indicator Achievement for 2024 Plan Start



c) and d) Texture of Caribou Habitat (Refuge and Winter):
Texture refers to the percent concentration (or "patchiness") of caribou habitat found within each hexagon on the Whiskey Jack Forest. Texture of caribou habitat is evaluated at two scales using Ontario's Landscape Tool, specifically at 60 km^2 (6,000 ha) and 300 km^2 (30,000 ha) hexagon scales.

For caribou habitat, the smaller scale corresponds with the "*Forest Management Guidelines for the Conservation of Woodland Caribou: A Landscape Approach*" where core winter ranges and summer ranges varied from 40 to 60 km^2. Therefore, reaching the milestone for this smaller scale is crucial for individual home ranges. For the larger 30,000 ha scale, achievement would ensure sufficient connectivity at the range level for caribou, whose ranges span multiple forest management units. Although woodland caribou do not migrate at large scales such as the northern tundra ecotype, having connectivity at the range level is important to have sufficient year-round supply of habitat.

c) Texture of Caribou Refuge Habitat:
The 2024 Plan Start 60 km2 scale distribution is shown in Figure 15 and Figure 17 (map), and at the 300 km2 hexagon scale distribution is shown in Figure 16 and Figure 18 (map).

Management efforts in future forest management plans will be explored to continue achievement if the SRNV for texture of caribou refuge habitat at both the 60 km^2 and 300 km^2 scales, with the focus of the texture in the > 60% concentration classes.

Figure 15 Caribou Refuge Habitat Texture Indicator Achievement – 2024 Plan Start (60 km² scale)

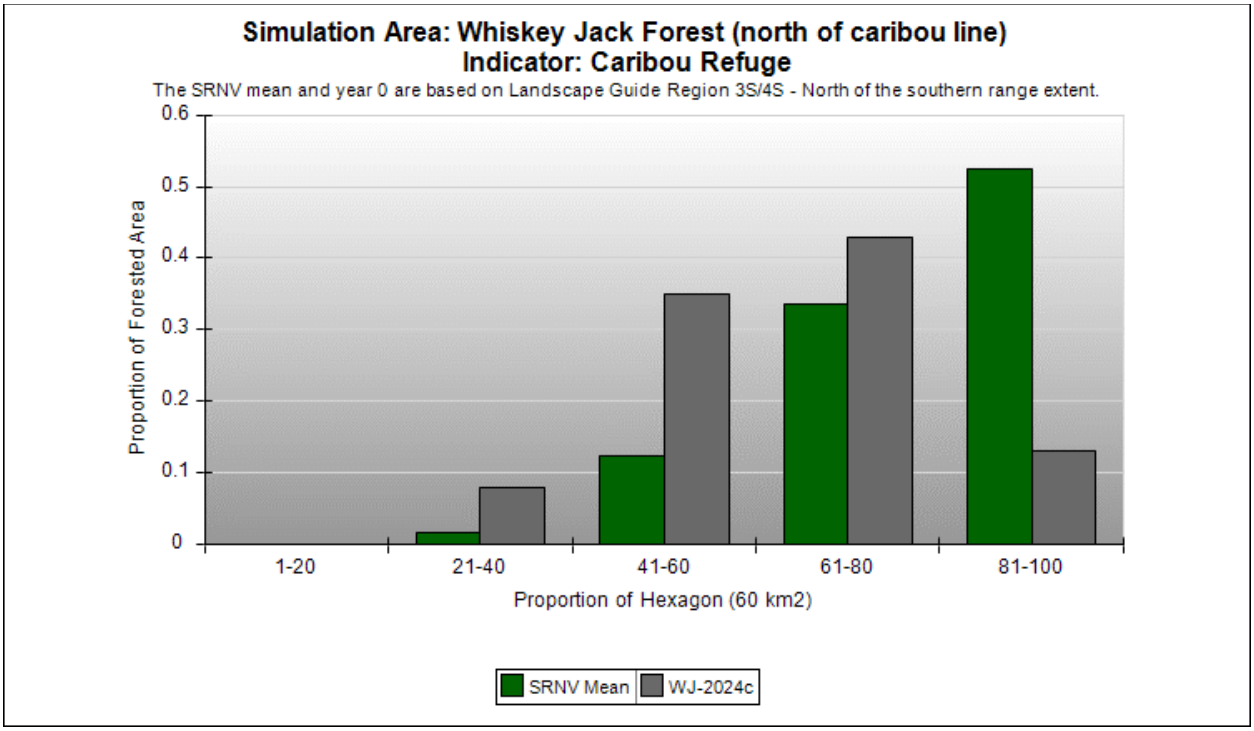


Figure 16 Caribou Refuge Habitat Texture Indicator Achievement – 2024 Plan Start (300 km² scale)

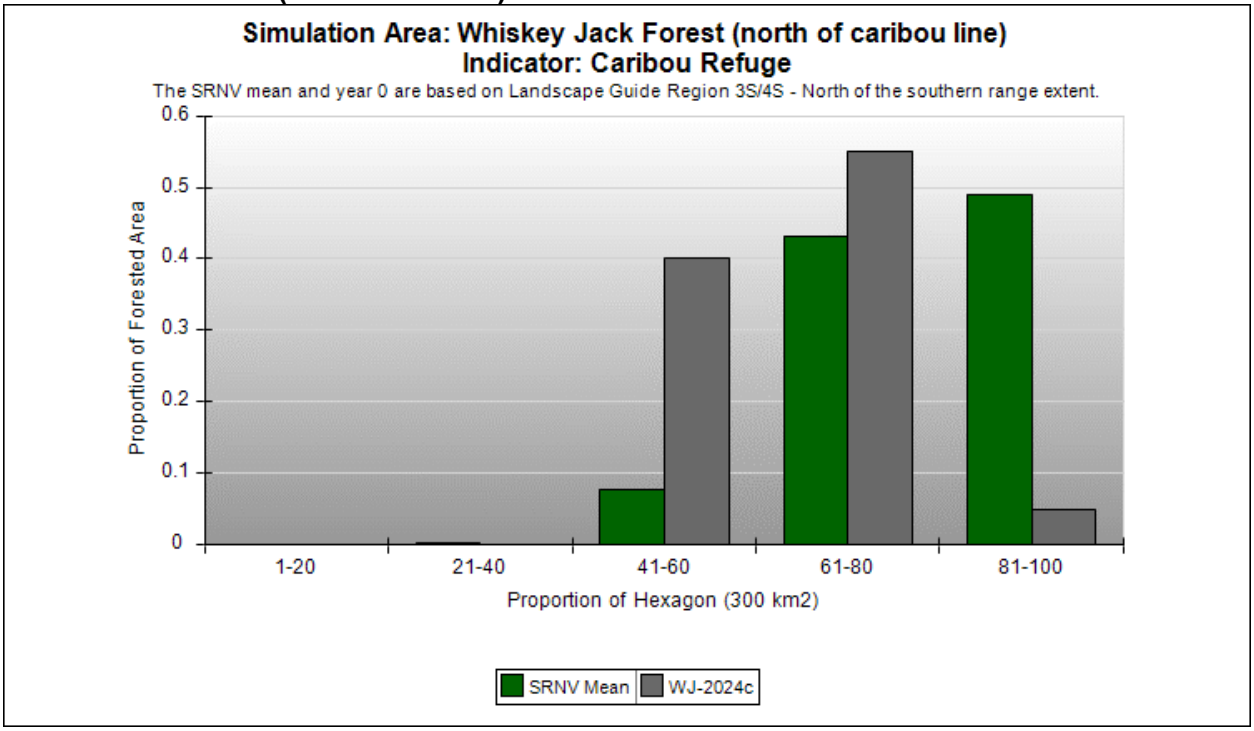


Figure 17 Landscape Pattern Texture of Caribou Refuge Habitat (60 km^2 scale)

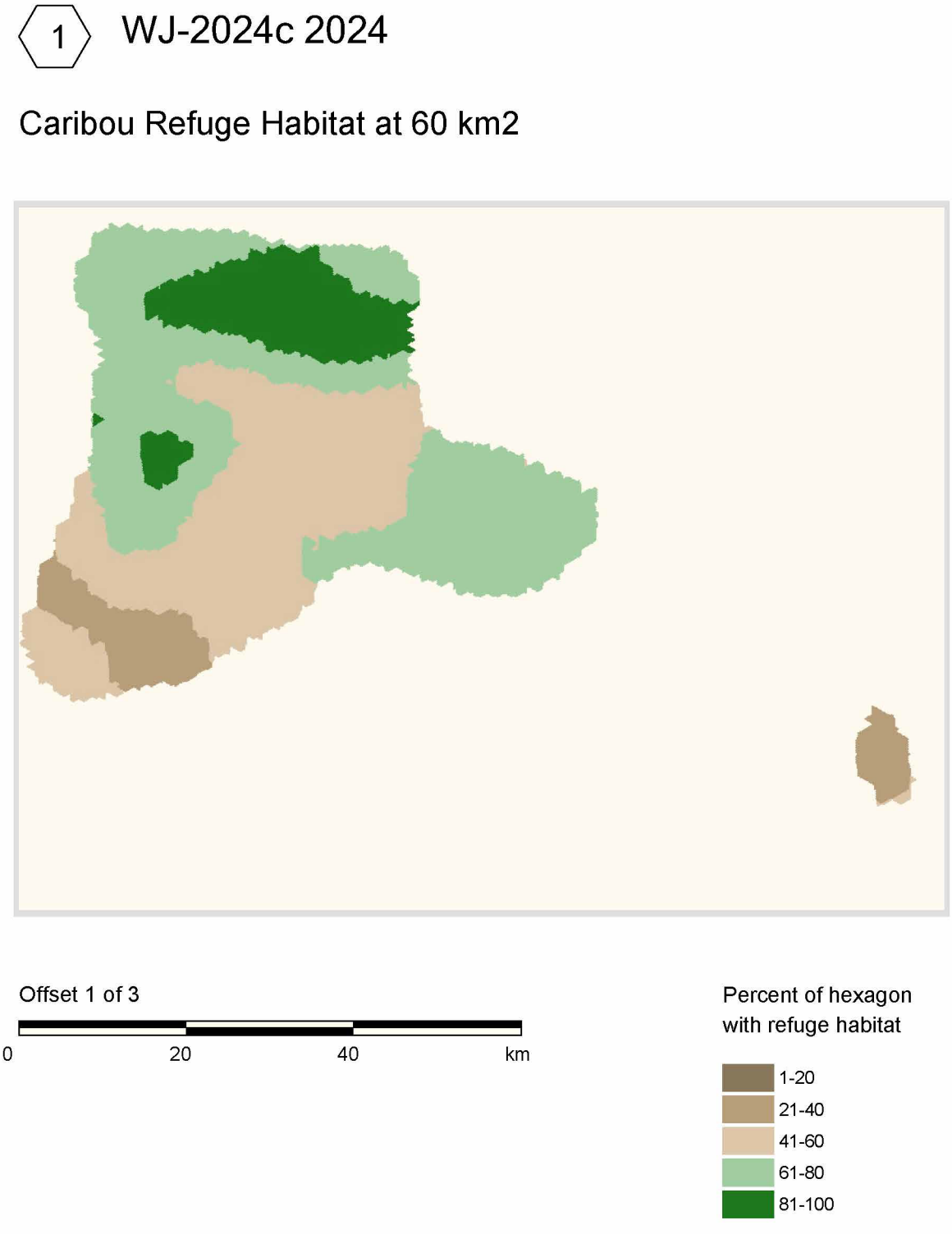
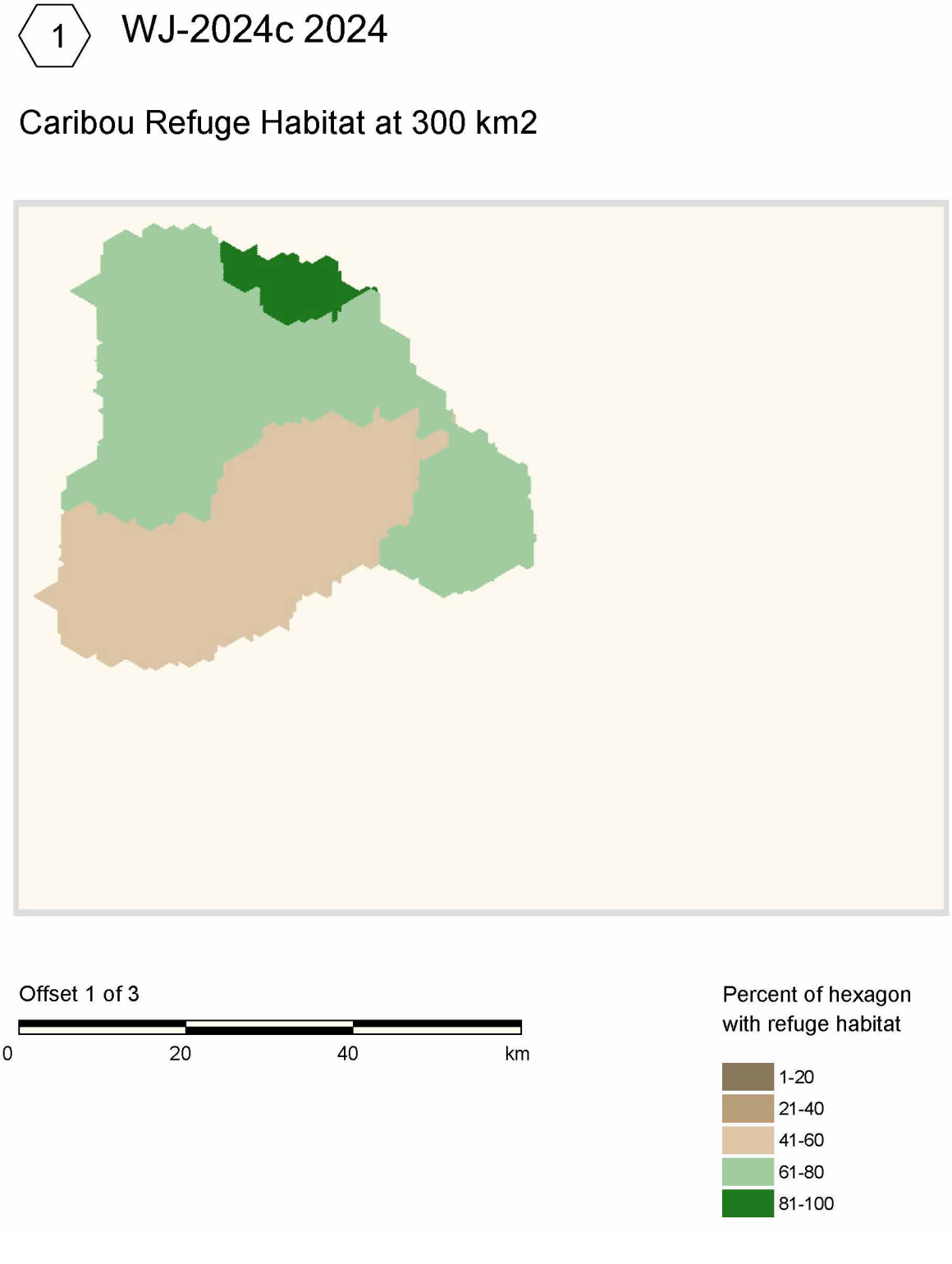


Figure 18 Landscape Pattern Texture of Caribou Refuge Habitat (300 km^2 scale)



d) Texture of Caribou Winter Habitat:

Texture of caribou winter habitat is evaluated at two scales using Ontario's Landscape Tool, specifically at 60 km^2 (6,000 ha) and 300 km^2 (30,000 ha) hexagon scales.

The 60 km^2 scale distribution for texture of caribou winter habitat is shown in Figure 19 and Figure 21 (map), and the 300 km2 hexagon scale distribution is shown in Figure 20 and Figure 22 (map) for 2024 Plan Start.

Management efforts during LTMD development and future FMPs will be to maintain required amounts of caribou winter habitat and to increase the density of patchiness within or above the desirable levels for both the 60 km^2 and 300 km^2 scales, with the focus of the texture in the > 60% concentration classes.

Figure 19 Caribou Winter Habitat Texture Indicator Achievement – 2024 Plan Start (60 km² scale)

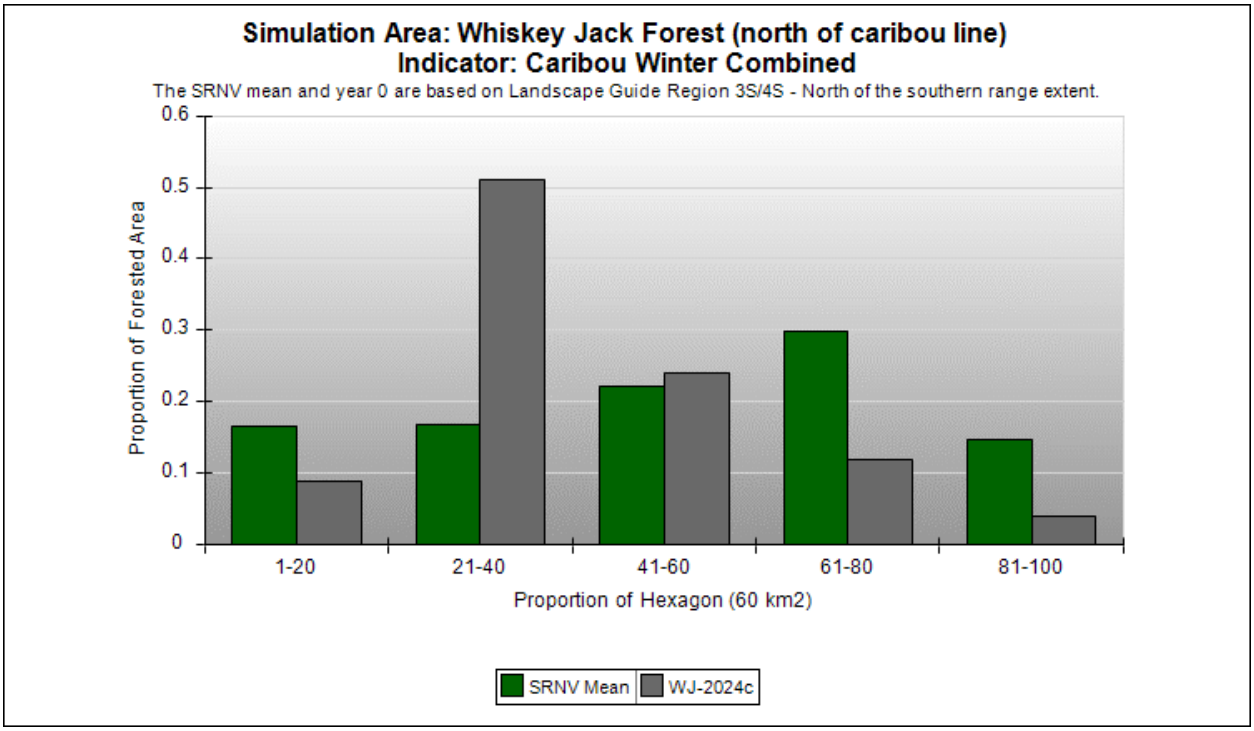


Figure 20 Caribou Winter Habitat Texture Indicator Achievement – 2024 Plan Start (300 km² scale)

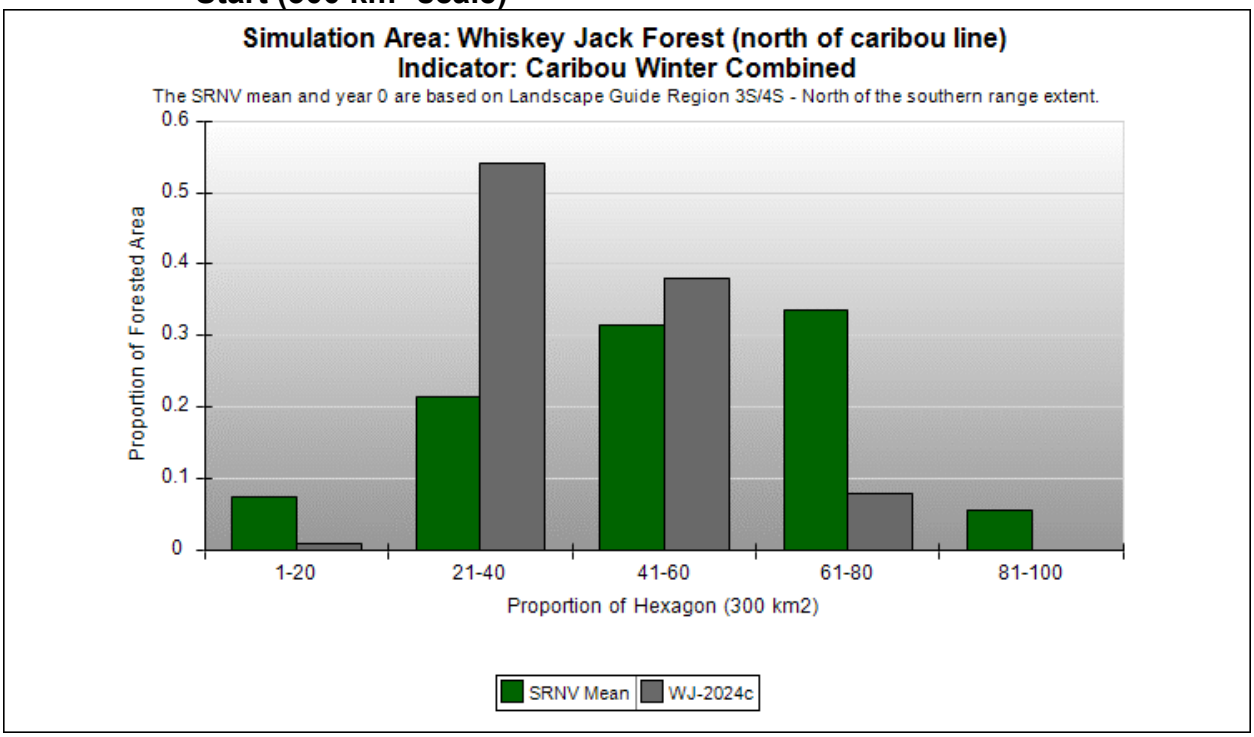


Figure 21 Landscape Pattern Texture of Caribou Winter Habitat (60 km^2 scale)

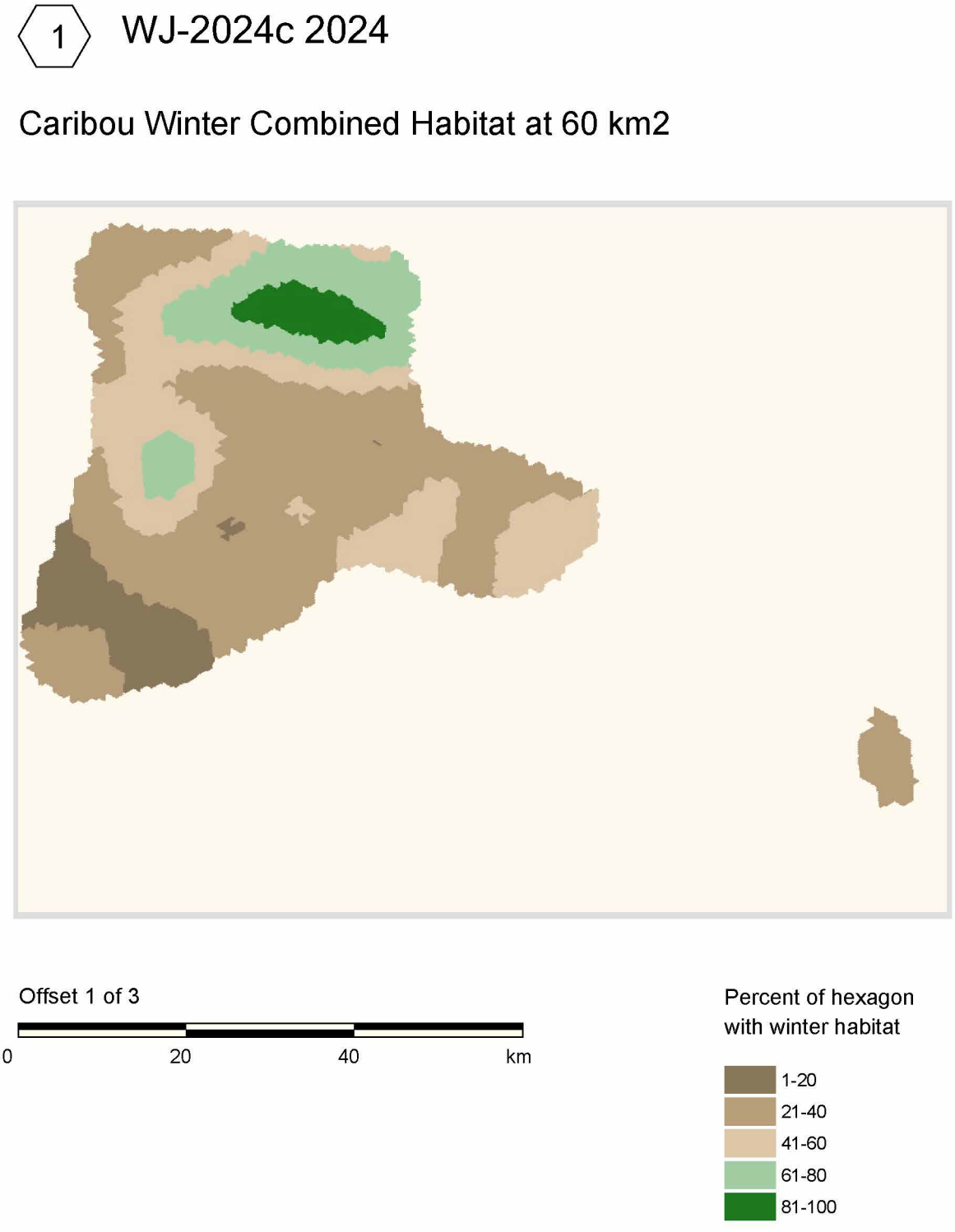
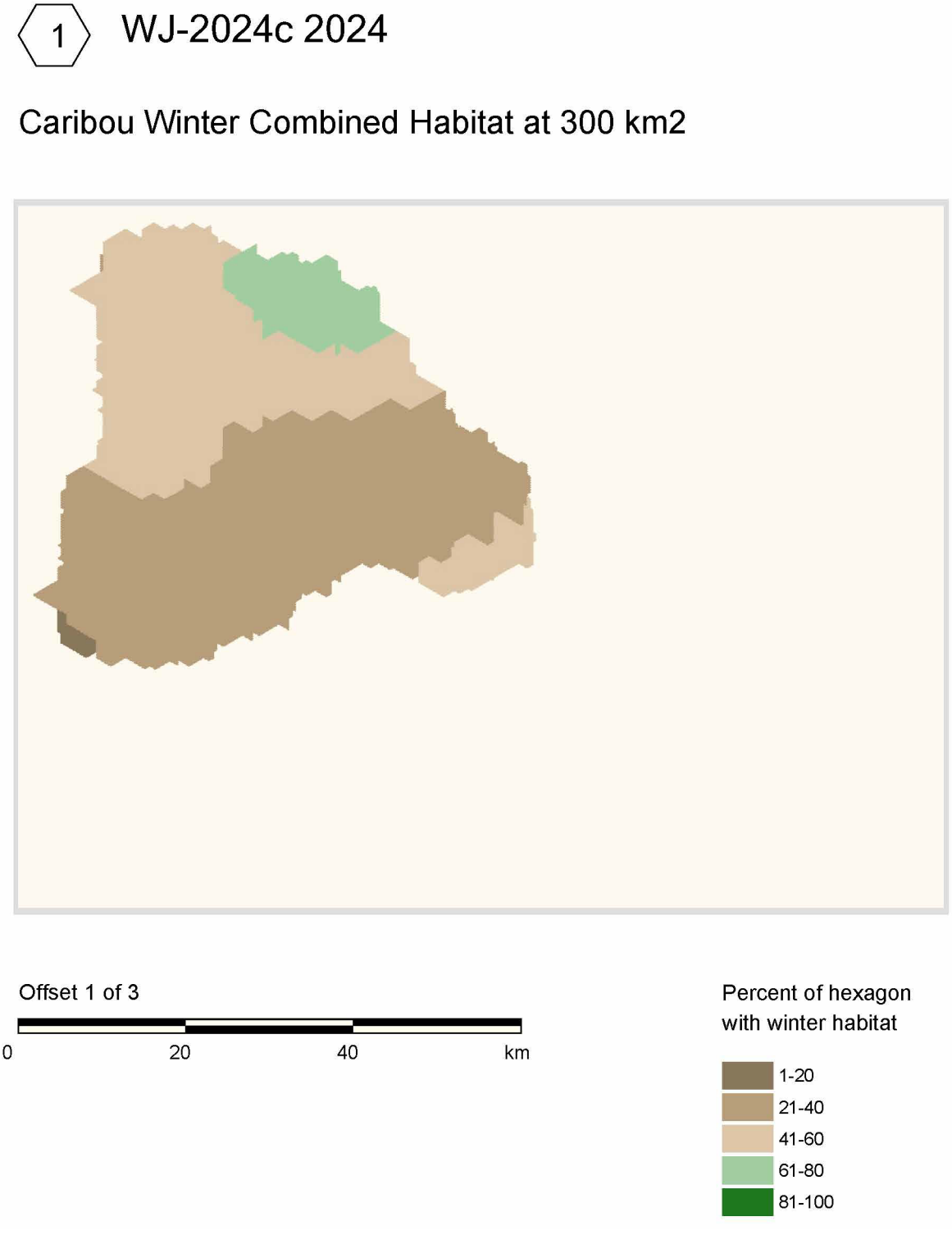


Figure 22 Landscape Pattern Texture of Caribou Winter Habitat (300 km^2 scale)



2.1.4 Forest Resources

2.1.4.1 Inventories and Information for Species at Risk

Ontario's *Endangered Species Act* (SO 2007, Section 5) identifies the following categories of species at risk:

Extirpated: lives somewhere in the world, lived at one time in the wild in Ontario, but no longer lives in the wild in Ontario.

Endangered: lives in the wild in Ontario but is facing imminent extinction or extirpation

Threatened: lives in the wild in Ontario, is not endangered, but is likely to become endangered if steps are not taken to address factors threatening to lead to its extinction or extirpation.

Special Concern: lives in the wild in Ontario, is not endangered or threatened, but may become threatened or endangered because of a combination of biological characteristics and identified threats.

In Ontario, the Committee on the Status of Species at Risk in Ontario (COSSARO) reviews the status of species that occur within the boundaries of the province and assigns an "at risk" category, which could include any of the above categories, or "not at risk". The federal listing body is known as the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

A wide variety of sources were consulted to identify the species at risk that could occur in the Whiskey Jack Forest, including:

- annual aerial stick nest surveys conducted by MNRF (e.g., for the bald eagle),
- MNRF's caribou surveys conducted in support of the Caribou Conservation Plan,
- periodic moose aerial inventories conducted by MNRF in which species such as wolverine and caribou can be detected,
- MNRF's Natural Heritage Information Centre (NHIC) database, a compilation of historical and recent records submitted by MNRF, the public, and others (www.ontario.ca),
- iNaturalist website (www. iNaturalist.org),
- surveys conducted by naturalists and biologists, such as:
    - the Ontario Breeding Bird Atlas (www.birdsontario.org);
    - the eBird program (http://eBird.org)
    - the Ontario Reptile and Amphibian Atlas (www.ontarionature.org)
    - the Ontario Butterfly Atlas (www.ontarioinsects.org)

    - the Atlas of Ontario Odonata (dragonflies and damselflies; available from NHIC), and
    - the Atlas of the Mammals of Ontario (ongoing; www.ontarionature.org),
- trapper records submitted to MNRF (e.g., for wolverine),
- information compiled by Bat Conservation International (www.batcon.org),
- species at risk range maps published on MNRF's web site (www.ontario.ca),
- species at risk occurrences published in status reports and assessment reports by agencies responsible for species status assessments (national: COSEWIC http://www.cosewic.gc.ca; provincial: COSSARO on MNRF's web sitewww.ontario.ca),
- published recovery strategies (www.ontario.ca), and
- the 2012-2024 FMP for the Whiskey Jack Forest, Phases 1 and 2.

Using Coarse and Fine Filter Approaches to Provide Habitat for Species at Risk - The species at risk that are known or suspected to occur in the Whiskey Jack Forest are described below. For all of these species, the following general coarse filter direction will address some of their habitat needs: (i) providing an approximately natural amount and distribution of suitable forest habitat over the long term by following Ontario's coarse filter habitat direction (see the Boreal Landscape Indicators in Table 4 above, Table FMP-10 and Supplementary Documentation B - Analysis Package), and (ii) applying Conditions on Regular Operations (CROs) for retained wildlife trees and retained patches of unharvested forest in harvested blocks according to direction in the Stand and Site Guide. Other non-species specific fine-filter approaches (e.g., Areas of Concern prescriptions (AOCs) and CROs) may indirectly benefit or support Species At Risk, however their intent is not specific to SAR protection. Together, coarse and fine filter actions are consistent with the requirements of the *Endangered Species Act* (S.O. 2007), the *Crown Forest Sustainability Act* (S.O. 1994), the *Fish and Wildlife Conservation Act* (S.O. 1997), the *Migratory Birds Convention Ac*t (S.C. 1994), and other pertinent legislation.

All known Species at Risk featured species have their habitat managed in the plan using species specific guidelines (bald eagle) and/or by recognizing specific habitats as values and developing appropriate area of concern (AOC) prescriptions (eastern cougar, wolverine, and other species if encountered). If in the future, any species at risk are thought to exist near areas proposed for forest management operations, the area will be surveyed by a qualified individual, mapped and an appropriate area of concern prescription will be developed and applied.

Species at Risk known or suspected to occur on the Whiskey Jack Forest are listed in Table 5, followed by a description of the species' habitat needs and a reference to how habitat for the Species at Risk was considered in development of this FMP.

Table 5 Species at Risk and Their Occurrence on the Whiskey Jack Forest

Common Name	Scientific Name	*Endangered Species Act, 2007* Status	*Species at Risk Act, 2002* Status	Forest Dependent (Y/N)	Likelihood of Occurrence (H-High/ confirmed breeder; L -Low)	Occurrence Sources (1 – Land Information Ontario; 2 – iNaturalist /Ontario Reptile and Amphibian Atlas; 3 – E-bird /Ontario Breeding Bird Atlas)
Mammals						
American Badger	*Taxidea taxus*	Endangered	Endangered	N	L	1 (Observation immediately north of WJF on Dixie Rd.)
Caribou (Boreal Population)	*Rangifer tarandus*	Threatened	Threatened	Y	H	1
Gray Fox	*Urocyon cinereoargenteus*	Threatened	Threatened	Y	L	Historical Trap Records
Little Brown Myotis	*Myotis lucifugus*	Endangered	Endangered	Y	H	1
Mountain Lion (Cougar)	*Puma concolor*	Endangered	None	Y	L	1
Northern Myotis	*Myotis septentrionalis*	Endangered	Endangered	Y	H	1
Wolverine	*Gulo gulo*	Threatened	Special Concern	Y	H	1
Birds						
American White Pelican	*Pelecanus erythrorhynchos*	Threatened	None	N	L	1,2,3
Bald Eagle	*Haliaeetus leucocephalus*	Special Concern	None	Y	H	1,2,3
Bank Swallow	*Riparia riparia*	Threatened	Threatened	N	H	1,3
Barn Swallow	*Hirundo rustica*	Special Concern	Special Concern	N	H	1,2,3
Black Tern	*Chlidonias niger*	Special Concern	None	N	L	1,3
Bobolink	*Dolichonyx oryzivorus*	Threatened	Threatened	N	L	1,3
Canada Warbler	*Cardellina canadensis*	Special Concern	Threatened	Y	H	1,2,3
Chimney Swift	*Chaetura pelagica*	Threatened	Threatened	Y	L	1,2,3
Common Nighthawk	*Chordeiles minor*	Special Concern	Threatened	Y	H	1,2,3
Eastern Meadowlark	*Sturnella magna*	Threatened	Threatened	N	L	1,3
Eastern Whip-poor-will	*Antrostomus vociferus*	Threatened	Threatened	Y	H	1,2,3
Eastern Wood-pewee	*Contopus virens*	Special Concern	Special Concern	Y	H	1,3
Evening Grosbeak	*Coccothraustes vespertinus*	Special Concern	None	Y	H	1,2,3
Golden-winged Warbler	*Vermivora chrysoptera*	Special Concern	Threatened	Y	L	1,3

Common Name	Scientific Name	*Endangered Species Act, 2007* Status	*Species at Risk Act, 2002* Status	Forest Dependent (Y/N)	Likelihood of Occurrence (H-High/ confirmed breeder; L -Low)	Occurrence Sources (1 – Land Information Ontario; 2 – iNaturalist /Ontario Reptile and Amphibian Atlas; 3 – E-bird /Ontario Breeding Bird Atlas)
Grasshopper Sparrow	*Ammodramus savannarum*	Special Concern	Special Concern	N	L	3
Horned Grebe	*Podiceps auritus*	Special Concern	Special Concern	N	L	1,3
Least Bittern	*Ixobrychus exilis*	Threatened	Threatened	N	L	1,3
Olive-sided Flycatcher	*Contopus cooperi*	Special Concern	Threatened	Y	H	1,2,3
Peregrine Falcon	*Falco peregrinus*	Special Concern	Special Concern	Y	L	1,3
Piping Plover	*Charadrius melodus*	Endangered	Endangered	N	L	1,2,3
Red-Headed Woodpecker	*Melanerpes erythrocephalus*	Endangered	Threatened	Y	L	1,2,3
Rusty Blackbird	*Euphagus carolinus*	Special Concern	Special Concern	Y	H	1,2,3
Short-eared Owl	*Asio Flammeus*	Threatened	Threatened	Y	L	1,3
Wood Thrush	*Hylocichla mustelina*	Special Concern	Threatened	Y	L	1,3
Yellow Rail	*Coturnicops noveboracensis*	Special Concern	Special Concern	N	L	1,3
Reptiles						
Snapping Turtle	*Chelydra serpentina*	Special Concern	None	N	H	1,2
Fish						
Lake Sturgeon (Saskatchewan – Nelson River populations)	*Acipenser fulvescens*	Threatened	None	N	H	1
Shortjaw Cisco	*Coregonus zenithicus*	Threatened	None	N	H	1
Arthropods						
Gypsy Cuckoo Bumble Bee	*Bombus bohemicus*	Endangered	Endangered	Y	L	1
Monarch	*Danaus plexippus*	Special Concern	Special Concern	N	H	1,2
Transverse Lady Beetle	*Coccinella transversoguttata*	Endangered	Special Concern	Y	L	1
Yellow-banded Bumblebee	*Bombus terricola*	Special Concern	Special Concern	Y	H	1

1

Common Name	Scientific Name	*Endangered Species Act, 2007* Status	*Species at Risk Act, 2002* Status	Forest Dependent (Y/N)	Likelihood of Occurrence (H-High/ confirmed breeder; L -Low)	Occurrence Sources (1 – Land Information Ontario; 2 – iNaturalist /Ontario Reptile and Amphibian Atlas; 3 – E-bird /Ontario Breeding Bird Atlas)
Plants						
Black Ash	*Fraxinus nigra*	Endangered	None	Y	H	1,2
Showy Goldenrod (Boreal population)	*Solidago speciosa*	Threatened	Endangered	N	L	1
Small-flowered Lipocarpha	*Lipocarpha micrantha*	Threatened	Endangered	N	H	1,2
Western Silvery Aster	*Symphyotrichum sericeum*	Endangered	Threatened	N	L	1,2

1

Species at Risk are discussed in alphabetical order by grouping; same order as Table 5.

a) Mammals

American Badger - Northwestern Ontario population (*Taxidea taxus)* - Endangered – The American Badger prefers open areas and may also frequent brushlands with little groundcover. When inactive, badgers occupy underground burrows. Badgers are basically solitary animals, though home ranges may overlap. There is one record of American badger on the adjacent Red Lake Forest, so their occurrence is also possible on the Whiskey Jack Forest. The American Badger is not expected to be encountered during forest operations on the Whiskey Jack Forest. Should an American Badger den site be identified on the forest, an AOC to protect the den site will be developed.

Caribou – Boreal population (*Rangifer tarandus caribou*) – Threatened Woodland Caribou are native to Ontario's northern forests. They are an important indicator of the healthy boreal forest ecosystem on which they rely. As one of several jurisdictions responsible for managing the northern Boreal Forest, Ontario has an important role in Caribou stewardship.

Only the northernmost portion of the Whiskey Jack Forest is in the continuous caribou distribution boundary. Within the Whiskey Jack Forest there are two distinct areas within the continuous caribou distribution: 1) the area associated with the Sydney Range and Berens Range, in the northwest portion of the forest, and 2) the area associated with the Churchill Range in the northeast portion of the forest. Both locations are within the continuous caribou distribution.

All caribou in Canada are of the same species, *Rangifer tarandus,* and are reported to be the most abundant ungulate in Canada (Canadian Cooperative Wildlife Health Centre 2005). Within Canada, there are a number of distinct subspecies or ecotypes that receive consideration based on their unique geography, physiology and behaviour.

Ontario's caribou are all members of the caribou subspecies, but two distinct populations have been identified: Boreal and migratory. These populations differ mainly in their behaviour (the tendency to migrate from the forest to the tundra or to remain within the forest). Only boreal woodland caribou occurs within the northern portion of the Whiskey Jack Forest and is listed as 'threatened' under Ontario's Endangered Species Act. The 2020 Amended federal Recovery Strategy indicated that 5 of the 9 identified local populations of boreal woodland caribou in Ontario are considered to be self- sustaining

with only 15 out of 51 local populations throughout Canada receiving this same designation.

In a status report prepared for MNRF, Harris (1999) provided population estimates. The status report stated that in 1996 there were about 21,000 caribou in Ontario (all "woodland caribou" subspecies). This population included about 5,000 of the threatened "Boreal ecotype" (listed as "at risk" federally in 2002 and provincially in 2004), with the remainder (about 16,000) being the forest-tundra ecotype (Harris 1999), which has been listed by COSEWIC in 2017 as "endangered." The forest-tundra ecotype overlaps much of the Southern Hudson Bay population of the federal Eastern Migratory designatable unit, which was estimated to have declined to approximately 12,479 mature individuals in 2016 but where more marked declines have occurred with the George River and Leaf River herds in northern Labrador and Quebec.

The geographic range of caribou in Ontario has receded northward since the late 1800s. Several factors have been hypothesized to have had a role including hunting, wildland fires, land clearing, logging, and increased predation by wolves due to increased populations of moose and deer. Hunting of caribou by non-Indigenous people has been banned in Ontario since 1929. Another influence on caribou is a parasitic nematode (*Parelaphostrongylus tenuis*) commonly called the "brain worm" that is carried by deer. Although deer are not seriously affected, the parasite can cause death to infected caribou and moose. When deer invade moose and caribou habitat, the frequency of transmission of this parasite is increased.

Specific management actions have been undertaken for caribou in this forest since a draft version of the "*Forest Management Guidelines for the Conservation of Woodland Caribou – a Landscape Approach*" (Racey et al.1999) was first applied. The 2024-2034 FMP will be the fourth plan for this forest to address caribou habitat management explicitly, now following direction in the *Forest Management Guide for Boreal Landscapes* (MNRF, 2014).

In winter, caribou use open coniferous forest with abundant terrestrial or arboreal lichens (Racey et al. 1999). Refuge habitat, consisting of a variety of ages of conifer-dominated stands, is also important for caribou (Racey et al. 1999). Refuge habitat is habitat unlikely to support large numbers of alternate prey species suitable for large predators. It consists of immature and older shallow conifer, jack pine dominated conifer upland, spruce-dominated mixedwood, and all ages of lowland spruce.

The spatial caribou-related objective of the Boreal Landscape Guide is to provide a sustainable supply of connected, suitable year-round caribou habitat and to protect

sensitive sites, such as calving sites. The Boreal Landscape Guide requires that forest management units that are within or intersect the continuous distribution of caribou, must follow direction provided in *Ontario's Woodland Caribou Conservation Plan*. To apply the caribou habitat management direction spatially, MNRF identified calving sites and ecologically-based caribou habitat tracts in the Whiskey Jack Forest and adjacent management units. Dynamic Caribou Habitat Schedule blocks that are based on the habitat tracts have also been identified to assist in scheduling forest harvesting, and to maintain a continuous supply of connected habitat in suitably large patches.

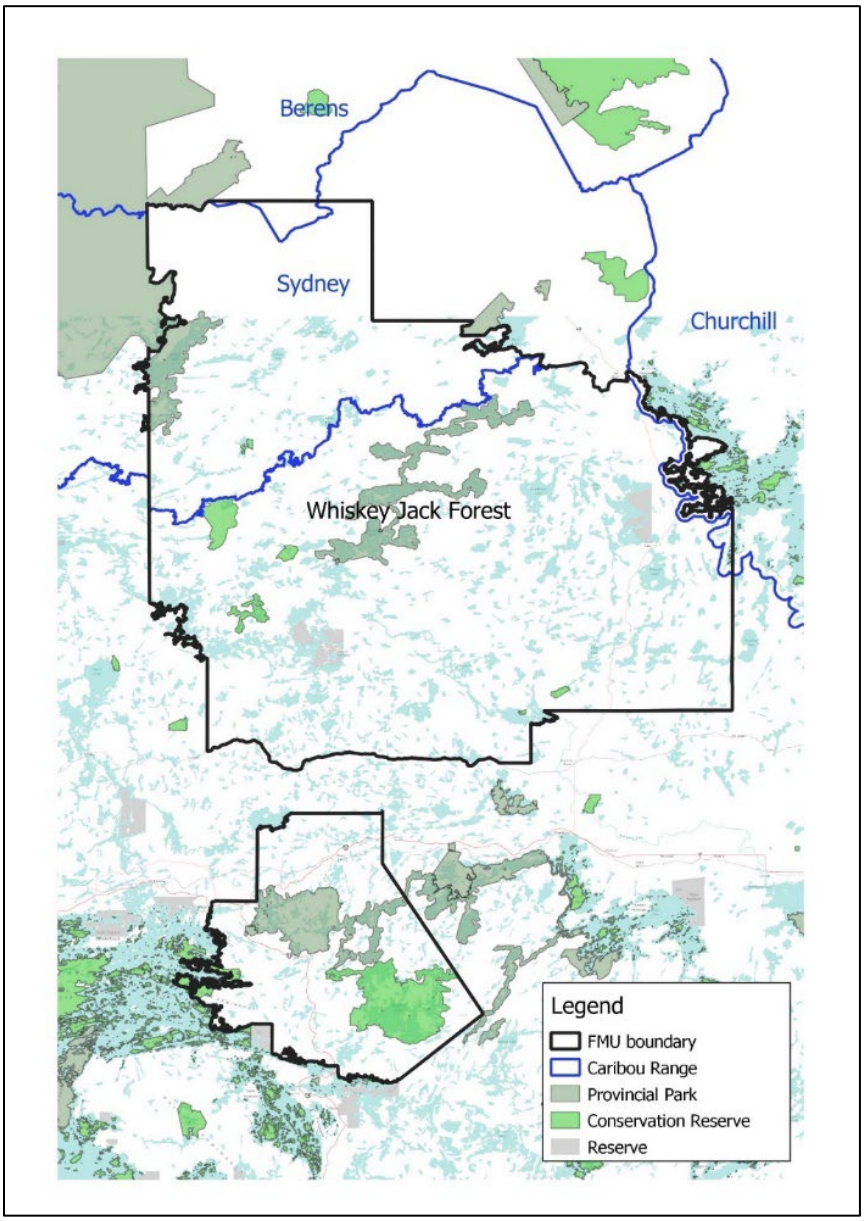
Ontario's Woodland Caribou Conservation Plan provides policy direction for the management and recovery of Woodland Caribou (Boreal population) and will apply to the areas of continuous and discontinuous distribution. In this FMP, the caribou habitat guidelines are used to assess caribou habitat spatially through application of the dynamic caribou habitat schedule (DCHS, previous referred to as the "caribou mosaic"), and habitat relationships defined in the guidelines are also used in non-spatial habitat supply modelling performed within the Strategic Forest Management Model (SFMM). The supply of caribou habitat was measured non-spatially in SFMM, treating habitat as an ecological constraint and a test of the sustainability of the overall Long-term Management Direction. Both winter combined habitat and refuge habitat were modelled over a 160-year period under the LTMD and analyzed for the short-term in Ontario's Landscape Tool (see Table FMP-7 and Section 3.7.0.3 Habitat for Species at Risk and Selected Wildlife Species).

The objective for forest management planning in the continuous caribou distribution is to maintain a continuous supply of suitable, mature, year-round habitat distributed both geographically and temporally, supporting and ensuring permanent range occupancy.

Within the Whiskey Jack Forest there are two distinct areas within the continuous caribou distribution: 1) the area associated with the Sydney Range and Berens Range, in the northwest portion of the forest, and 2) the area associated with the Churchill Range in the northeast portion of the forest. Both locations are within the continuous caribou distribution (Figure 23).

MNRF has completed Integrated Range Assessments for ranges in the continuous caribou distribution. The Integrated Range Assessments are based on population and habitat states; population state includes population size, which was determined using minimum animal count and population trend, which was calculated using annual recruitment rates and adult female survival rates, and habitat state was determined by analyzing natural and anthropogenic (human-caused) disturbance as well as the amount and arrangement of habitat.

Figure 23 Provincial Caribou Ranges in the Whiskey Jack Forest



The Sydney Range is one of the smallest caribou range in the province: it is approximately 7,500 km^2 in size. The towns of Red Lake, Balmertown, Cochenour, and Ear Falls are situated in the range and are associated with human infrastructure and a long industrial development history; this portion of the range is considered to be highly and indefinitely disturbed. The minimum animal count for caribou occupying the Sydney Range was determined to be 55 caribou in 2012. The current estimate of trend, based on the 2011 and 2012 biological years, using a one-year pooled survival estimate from the Berens and Sydney ranges, suggests the short-term population trend is likely declining ($\lambda = 0.92$).

At the time of the Integrated Range Assessment of the Sydney Range in 2017 is considered 64% disturbed. Given these results, risk is estimated to be high in the Sydney Range. The condition of the range is insufficient to sustain caribou.

The Berens Range is approximately 28,000 km2 in size. Some of the highest concentrations of year-round caribou activity currently occur in the southern portion of the range from Woodland Caribou Provincial Park to the eastern range boundary near Upper Goose Lake, including significant calving lakes such as Nungesser, Trout, and Valhalla Lakes. The minimum number of caribou on the Berens Range is 237 and likely exceeds 500 based on earlier minimum animal counts. The current estimate of population trend, based on 2011-2012 biological years, suggests a short-term decline (geometric mean $\lambda = 0.92$). The Integrated Range Assessment for the Berens Range was approximately 31.4% disturbed in 2017. Risk is estimated to be low in the Berens Range. The Assessment Team determined that it is uncertain if range condition is sufficient to sustain caribou.

The Churchill Range is approximately 21,300 km2 in size. Historical occupancy shows that caribou occur across much of the range but have been scarce from southern areas around Lac Seul and Sioux Lookout for decades, corresponding with persistent or permanent human activity and disturbance. The minimum number of caribou on the Berens Range is 262. The current estimate of population trend, based on 2011-2012 biological years, suggests a short-term decline (geometric mean $\lambda = 0.93$). The Integrated Range Assessment for the Churchill Range was approximately 45.5% disturbed in 2017. Risk is estimated to be intermediate in the Churchill Range. The Assessment Team determined that it is uncertain if range condition is sufficient to sustain caribou.

The implementation of the long-term management direction in this plan is expected to improve caribou habitat in the Sydney, Berens and Churchill Ranges. Additional discussion of caribou habitat management is included in Supplementary Documentation B – Analysis Package, Appendix 1.

There are several management objective indicators included in the Boreal Landscape Guide that have been incorporated into this 2024 FMP related to caribou habitat management: mature and old forest area (amount and pattern), old growth area, caribou refuge and winter habitat (amount and pattern/texture), young forest patch size by size class, and the simulated ranges of natural variation used to set desirable levels for these indicators was considered the best available science by the Planning Team and regional advisors. The direction identifies and helps to set landscape mosaic goals and targets for forest composition (forest tree species groups and age classes) and structure (pattern) in forest management plans. The time slice analysis to assess the proportion of online

caribou habitat and connectivity of habitat through time is an indicator described in Supplementary Documentation B – Analysis Package - Appendix 1c Development of the DCHS. Spatial and non-spatial indicators of caribou habitat amount and pattern/texture (refuge and winter habitats) were analyzed through use of Ontario's Landscape Tool (OLT) with the forest inventory for the Whiskey Jack Forest used as a primary input. This methodology used to set desirable levels and analyze spatial and non-spatial results is a significant step forward in forest management as compared to previous FMPs.

The CFSA includes a section describing forest operations as exempt from Sections 9 and 10 of the ESA when all direction in the applicable guides is appropriately implemented (e.g., including AOCs to address SAR habitat). The incorporation of the BLG direction in both FMP strategic planning and AOC development meet the requirements for the ESA exemption.

Details of the spatial analysis of habitat supply are provided in Supplementary Documentation B – Analysis Package, Appendix 1 Caribou Habitat Analysis.

Gray Fox (***Urocyon cinereoargenteus***) **– Threatened** – Gray Fox are extremely rare and are not normally reported to occur in this area but from time to time are reported in southern Forest Management Units. Historical trapping records include references to harvesting of Gray Fox. The Gray Fox lives in forests and marshes and have the unique ability of climbing trees, scrambling up steep trunks and then jump from branch to branch. The Gray Fox is a southern species that is more common in the United States and may demonstrate an increase in its range due to climate change.

The Gray Fox is not expected to be encountered during forestry operations on the Whiskey Jack Forest. There are no known denning sites at this time however should a denning location be identified during the course of implementation of this FMP, the FMP contains an AOC prescription for Gray Fox dens (Table FMP-11, AOC D02).

Little Brown Myotis (***Myotis lucifugus***) **- Endangered** - This small, forest-dwelling bat was formerly common across Ontario from the extreme south to at least Moose Factory. Geographic range of Little Brown Myotis overlaps the Whiskey Jack Forest. Roosting bats or maternal colonies could be encountered during forest management activities on the Whiskey Jack Forest. However, since 2010 a fungus (*Pseudogymnoascus destructans*) has caused a disease known as "white nose syndrome" in bats hibernating in caves and old mines in Ontario, and the disease has spread recently into northwestern Ontario from its first sighting in New York State in 2006. The disease disrupts the

hibernation cycle of bats and has caused extremely high mortality of overwintering populations in the hibernacula in Ontario that have been monitored by MNRF. For that reason, the species was listed by COSSARO as endangered. Ontario has developed a "*White Nose Syndrome Response Plan*". The species hibernates in caves and old mines, hunts for insects over water and through the forest, and creates maternal colonies in trees and rock crevices.

In this FMP, the needs of the Little Brown Myotis will be met by providing habitat using the coarse filter approach described above, and also by applying AOC prescriptions for bat hibernacula and bat roosting sites (Table FMP-11, AOCs M05 and M06).

Mountain Lion (Cougar) (*Puma concolor*) – Endangered - The cougar has been confirmed in southern Manitoba and confirmed sightings in the Whiskey Jack Forest. Although cougar sightings are occasionally reported, they are difficult to confirm. The cougar is a habitat generalist and deer are its preferred prey. Forest harvesting that creates conditions suitable for deer would benefit the cougar. The FMP contains an AOC prescription for cougar dens (Table FMP-11, AOC D03).

Northern Myotis (Northern Long-eared Myotis) (*Myotis septentrionalis*) - Endangered – Geographic range of Northern Myotis overlaps the Whiskey Jack Forest. They are likely in a reasonably moderate abundance on the Forest. Roosting bats or maternal colonies could be encountered during forest management activities on the Whiskey Jack Forest. Like the Little Brown Myotis (see above), the Northern Myotis was listed as endangered in Ontario because of a major population decline attributed to white nose syndrome. The species hibernates in old mines and caves, hunts for insects under the forest canopy and along forest edges, especially near water, uses tree cavities for roosting and maternal colonies, and also roosts under loose bark.

In this FMP, the needs of the northern long-eared myotis will be met by providing habitat using the coarse filter approach described above, and also by applying AOC prescriptions bat hibernacula and bat roosting sites (Table FMP-11, AOCs M05 and M06).

Wolverine (***Gulo gulo***) - **Threatened** - The wolverine is a stocky, powerful, medium-sized scavenger and predator with large paws and a long bushy tail. It is the largest member of the weasel family. Wolverines usually live alone and roam in search of food across large territories that vary from 500 to 1500 square kilometers or more in size in boreal forest and tundra. The wolverine's heavy skull enables it to crush and eat frozen carcasses and bones from moose and caribou. Because carrion is an important food, wolverines are sometimes trapped accidentally in traps set with bait for other species.

Females build dens under snow-covered boulders, fallen logs, and occasionally in snow drifts. Researchers are still learning about the ecology and habitat needs of the wolverine in Ontario.

Wolverine geographic range overlaps the Whiskey Jack Forest. There are multiple reproductive dens of wolverine located on the Trout Lake Forest and one on the Whiskey Jack Forest that were discovered through a recent Wildlife Conservation Society Canada multi-year wolverine collaring research project. Land Information Ontario has records for wolverine sightings on the Whiskey Jack Forest. There is a possibility that wolverine reproductive dens do exist on the Whiskey Jack Forest in any given year.

In this FMP, the needs of the wolverine will be met by providing habitat using the coarse filter approach described above. This FMP also contains an AOC prescription for known Wolverine dens (Table FMP-11, AOC D05).

b) Birds

American White Pelican (*Pelecanus erythrorhynchos)* – Threatened – *The American Pelican* is one of the largest and most distinctive birds in North America, with a 3 metre wing span, a large yellow-orange bill and throat pouch, and glistening white plumage, save for the black wing tips. Pelicans nest in colonies, sometimes at quite high densities, on isolated islands in freshwater lakes of central and western North America. A nesting pair produces two or occasionally three white eggs. The nest is a shallow debris-rimmed depression in the ground, or a low mound of matted vegetation and earth. Both parents incubate the eggs. Flocks of this gregarious water bird sometimes hunt communally for prey, which consists mostly of fish with little or no sport or commercial value and amphibians.

Lake of the Woods has a large proportion of Ontario's breeding population of American White Pelicans. In addition to Land Information Ontario (LIO) records, citizen science programs such as iNaturalist and E-bird/Ontario Breeding Bird Atlas also report observations. While populations are relatively robust they nevertheless remain vulnerable to disturbance of nesting sites by recreational boaters, disease and in some cases changes in water levels. Threats on their wintering grounds include human persecution and pollution. Forestry operations will not impact nesting habitat for American White Pelicans which are currently confined to Islands.

Bald Eagle *(Haliaeetus leucocephalus*) - Special Concern - The bald eagle is common in North America and on the Whiskey Jack Forest. The Bald Eagle has many confirmed breeding tiles in the Ontario Breeding Bird Atlas in the Whiskey Jack Forest during the most recent Breeding Bird Atlas. There are hundreds of active primary and alternate Bald Eagle nests on the Whiskey Jack Forest, according to Land Information Ontario. Citizen science programs such as iNaturalist, and E-bird/Ontario Breeding Bird Atlas indicate that the Bald Eagles are relatively abundant where habitat is available within the forest.

This majestic bird is not considered to be at risk nationally. The bald eagle hunts primarily for fish in large lakes and rivers. It builds a huge stick nest in a large, living, sturdy tree with good access for nesting adults, close to the shore of a large water body. The nesting pair will raise 1-2 (rarely 3) young. A living super-canopy tree (hardwood or conifer) is almost always chosen. A nesting territory may contain one active nest and one or two alternate (temporarily inactive) nests that were used previously and could be used again; nests may be used for many consecutive years.

Like other birds of prey, the bald eagle was affected by toxic chemical poisoning from the 1960s through the early 1970s and the population declined significantly throughout its range in North America as a result. The species was listed as endangered across Ontario until 2006 when it was down-listed to special concern in the northwest. Northwestern Ontario has been a notable stronghold for the bald eagle. The bald eagle has recovered well since the 1970s and has increased throughout its range in the province, which extends from the shores of Lakes Ontario and Erie to Hudson Bay, and from east to west. Depending on location and exposure, the species can be sensitive to disturbances during the nesting season.

Area of concern prescriptions have been applied around all known bald eagle nests in the Whiskey Jack Forest for many years. In this FMP, the needs of the bald eagle will be met by providing habitat using the coarse filter approach described above, and also by: (i) retaining unharvested stands of mature trees near shorelines through AOC prescriptions for water quality (Table FMP-11, AOC W01-W07), and by (ii) applying AOC prescriptions around primary and inactive bald eagle nests (Table FMP-11, AOCs N01 and N02), including new nests that are discovered during the course of operations. Forest management that protects existing nests, water quality, and provides a long-term supply of suitable nesting habitat would continue to be beneficial to the bald eagle.

Bank Swallow (*Riparia riparia*) - Threatened - The recovery strategy for the bank swallow (Falconer et al. 2016) estimated there are ~ 400,000 bank swallows in Ontario, up from ~ 200,000 at the time the species was listed as threatened (2013). LIO has

recorded values, as well as citizen science programs such as E-bird/Ontario Breeding Bird Atlas have observations of bank swallow in the Whiskey Jack Forest where habitat is suitable. There is potential for the bank swallow to nest in new and established aggregate pits.

Bank swallows forage for small insects while in flight. They nest in colonies at a wide variety of natural and artificial sites with vertical banks that are inaccessible to predators but where the swallows can dig horizontal burrows in soft, stable soil. Periodic episodes of erosion seem important to ensure the soil in which the swallows are nesting remains soft enough to dig. Riverbanks, bluffs, forestry aggregate pits, road cuts, and stockpiles of soil are used. Status reports suggest that habitat may have declined on the breeding range in Canada as a result of erosion control projects, flood control (dams), aggregate management activities, conversion of pastureland to cropland, and afforestation that converts open land to forest. Nests are vulnerable to damage during aggregate excavation activities, and the supply of habitat for bank swallows may be reduced by erosion control measures that create gradual slopes and reduce the intensity and frequency of beneficial erosion.

In this FMP, the needs of the bank swallow will be met by providing habitat using the coarse filter approach described above, and by applying an AOC prescription around active nest sites (Table FMP-11, AOC N08).

Barn Swallow (*Hirundo rustica*) - Threatened - The barn swallow is widespread around the world and is found on every continent except Antarctica. In Ontario, the barn swallow occurs from extreme southern Ontario to the James Bay coast and is described in the provincial recovery strategy as "still common and widespread in much of Ontario". It is most common in agricultural areas where it builds its mud nest on the walls, ledges, or beams of an open building that allows swallows to enter and leave at will. Bridges are also used as nest sites. This swallow probably expanded its range in Ontario as human settlements expanded, since it prefers to nest in or on structures built by people. The barn swallow is an aerial insectivore that forages for insects while in flight. The cause of its population decline is not known but parallels the declines of other aerial insectivores.

There is known breeding activity by Barn Swallow on the Whiskey Jack Forest. There is a high likelihood for Barn Swallow to nest on remote forestry bridges across the Whiskey Jack Forest. Citizen science programs such as iNaturalist, and E-bird/Ontario Breeding Bird Atlas indicate presence on the forest where habitat is suitable.

In this FMP, the needs of the barn swallow will be met by providing habitat using the coarse filter approach described above, and by applying an AOC prescription for the barn swallow around occupied nests (Table FMP-11, AOC N17).

Black Tern (*Chlidonias niger*) - Special Concern - The black tern is widely but very sparsely distributed in Ontario. The Breeding Bird Atlas shows that most occurrences are just south of the southern edge of the Canadian Shield in southern Ontario, with only a few in the boreal forest region. The black tern nests on floating mats of vegetation, patches of mud, or upturned roots in small colonies in or very close to open shallow water in marshes (especially cattail marshes). This tern eats larger insects (grasshoppers, dragonflies, moths, beetles) which it catches in flight.

There are no mapped breeding colonies of Black Tern on the Whiskey Jack Forest, however the likelihood for breeding colonies on numerous lakes across the Forest is very high, given there are regular and frequent sightings of the species in various lake systems. Black tern nesting is threatened by activities that may change the water level, including road and culvert work. Black terns generally nest in large waterbodies with water levels that are not impacted by road or culvert work. Marshes inhabited by the black tern are not subject to forest management activity.

In this FMP, the needs of the black tern will be met by applying an AOC prescription around the wetlands used by these birds for nesting (Table FMP-11, AOC W06).

Bobolink *(Dolichonyx oryzivorus)* – Threatened – The bobolink is a medium sized songbird found in grasslands and hayfields. In their summer breeding season, male Bobolinks are black with a white back and yellow collar. By late summer, males lose their breeding plumage to resemble the female's tan colour with black stripes. Bobolinks spend much of their time out of sight on the ground feeding on insects and seeds.

Historically, Bobolinks lived in North American tallgrass prairie and other open meadows. With the clearing of native prairies, Bobolinks moved to living in hayfields. Bobolinks often build their small nests on the ground in dense grasses. Both parents usually tend to their young, sometimes with a third Bobolink helping.

The Atlas of the Breeding Birds of Ontario has several confirmed Bobolink sightings listed for the Lake of the Woods area. LIO and eBird also record sites and observations on the Whiskey Jack Forest. Forestry operations on the Whiskey Jack Forest are not expected to impact Bobolinks as their habitat is not forest-dependent.

Canada Warbler (*Cardellina canadensis)* - Special Concern - The brightly coloured Canada warbler is widespread throughout the forested parts of Ontario. The Atlas estimated that there were 900,000 Canada Warblers in Ontario (2001-2005) before it was listed as "special concern" in 2012. As of March 2023, LIO, iNaturalist and E-bird/Ontario Breeding Bird Atlas have records of the Canada Warbler on the Whiskey Jack Forest.

The habitat of this warbler seems to vary across its range in Canada but is generally described as moist, mixed coniferous-deciduous forest with a well-developed [shrubby] understory. The Canada warbler eats spiders and insects, and it may be a “spruce budworm associate” whose population responds positively to outbreaks of the spruce budworm, because population declines and levels of the Canada Warbler in Ontario and elsewhere in its North American range seem to parallel population levels of the budworm, at least when assessed at a very large scale (province or state). The nest is placed on or near the ground, often in stumps or fallen logs. Since the species inhabits mature and older forest, it could be negatively affected by forest harvesting.

In this FMP, the needs of the Canada warbler will be met by providing habitat using the coarse filter approach described above (specifically by providing a natural amount of mature and older mixedwood and conifer mixedwood forest), and also by following the CRO for songbird nests if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Chimney Swift *(Chaetura pelagica)* – Threatened – The Chimney Swift has a dark cylindrical body with a short tail, long and narrow crescent-shaped wings, a very small bill, and a large mouth. Swifts are superb fliers and spend most of the day foraging for insects on the wing. Because of their very short legs, they cannot perch, but cling to the walls of chimneys or tree cavities. They used to nest and roost in hollow trees, but they have almost completely adapted to man-made structures, in particular chimneys. The biggest threat to Chimney Swifts is the loss of breeding and roosting sites. Changes in chimney construction and the move to gas furnaces reduces suitable habitat for breeding and roosting. Also, a general decline in insect populations due to insecticide spraying may be a factor. As of March 2023, LIO, iNaturalist and E-bird/Ontario Breeding Bird Atlas have records of the Chimney Swift on the Whiskey Jack Forest.

Forestry operations on the Whiskey Jack Forest are not expected to impact chimney swift habitat. Should Chimney Swift nests be encountered, the needs of the Chimney Swift will be met by applying an AOC prescription N13 (Table FMP-11).

Common Nighthawk (*Chordeiles minor)* - Special Concern - The common nighthawk is widely distributed in North and South America but was listed as “at risk” in Ontario owing to an apparent widespread population decline. The Ontario Breeding Bird Atlas (2001-2005) identifies confirmed breeding in the Whiskey Jack Forest. Locally, the species is known to breed on various rock outcrops or in cutovers on the Whiskey Jack Forest. It is not uncommon to see flocks of Common Nighthawk flying overhead foraging for insects at dusk and dawn on the Forest.

The Common Nighthawk is an "aerial insectivore" that hunts for insects while in flight. COSEWIC states that nesting occurs on bare rock or mineral soil, mine tailings, in peat bogs, marshes, on flat gravel roofs, in pastures, burns, and in cutovers (COSEWIC 2007); there is no built up nest structure. Population decline may be due to mosquito control programs in other areas, replacement of gravel roofs with tar-covered roofs, more intensive agriculture, or fire suppression that reduces the area of exposed ground resulting from severe fires (COSEWIC 2007). Generally, forest management that creates openings and younger forest conditions is thought to be beneficial to the nighthawk.

In this FMP, the needs of the Common Nighthawk will be met by providing habitat using the coarse filter approach described above (specifically by creating recent disturbances through forest harvesting), and also by applying an AOC prescription around nesting habitat (Table FMP-11, AOC N16).

Eastern Meadowlark (*Sturnella magna*) – Threatened - The Eastern Meadowlark is a medium-sized, migratory songbird (about 22 to 28 centimetres long) with a bright yellow throat and belly, a black "V" on its breast and white flanks with black streaks. Their backs are mainly brown with black streaks. Eastern Meadowlarks breed primarily in moderately tall grasslands, such as pastures and hayfields, but are also found in alfalfa fields, weedy borders of croplands, roadsides, orchards, airports, shrubby overgrown fields, or other open areas. Small trees, shrubs or fence posts are used as elevated song perches.

This species increased when forests were cleared in eastern North America. However, as with many grassland birds, Eastern Meadowlark numbers are shrinking due to changes in land use and the loss of suitable habitat that has resulted from development, changes in farming practices, over-grazing of pasturelands by livestock, grassland fragmentation, reforestation and the use of pesticides. Eastern Meadowlarks are also subject to predators, including foxes, domestic cats and dogs, coyotes, snakes, skunks,

raccoons and other small mammals. In Ontario, the number of Eastern Meadowlarks has decreased by almost 65 per cent during the past 40 years.

As of March 2023, LIO and E-bird/Ontario Breeding Bird Atlas have records of the Eastern Meadowlark on the Whiskey Jack Forest. Forestry operations on the Whiskey Jack Forest are not expected to impact Eastern Meadowlarks as their habitat is not forest dependent.

Eastern Whip-poor-will (*Caprimulgus vociferus*) - Threatened - The Eastern Whip-poor-will is an aerial insectivore that is more often heard than seen. It eats mainly moths and beetles. It is well camouflaged when it roosts by day parallel to the branch on which it sits, but its distinctive call is given loudly and is “almost endlessly repeated” during twilight hours or in bright moonlight. The species has experienced a large decline (>50%) in Ontario and elsewhere. The main threat to this species is considered agricultural expansion and intensification of wintering ground and reduced availability of insect prey as associated with levels of pesticide use. Forest management is considered a low level of concern.

The Ontario Breeding Bird Atlas describes habitat as "rock or sand barrens with scattered trees, savannahs, old burns in a state of early succession, and open conifer plantations", and COSEWIC describes its nesting habitat as "most types of forest at early stages of succession". The whip-poor-will lays its eggs directly on leaf litter on the ground, often in the shade of a shrub or small tree- there is no built-up nest structure. The foregoing suggests the whip-poor-will is more likely benefited than harmed by forestry which creates younger, open forest conditions.

Eastern-whip-poor-will have been found sporadically throughout the Whiskey Jack forest following directed survey efforts by the MNRF and/or through submissions to citizen science websites by members of the public (eBird, iNaturalist, etc.). There is some evidence of breeding site fidelity for eastern whip-poor-will and use of forested areas with exposed bedrock although this has not been examined explicitly for the Whiskey Jack where the overall number of birds identified is lower than the neighbouring Kenora and Boundary Waters forest management units.

In this FMP, the needs of the Eastern Whip-poor-will will be met by providing habitat using the coarse filter approaches described above (specifically by creating young and immature forest stands through forest harvesting), and also by applying an AOC prescription (Table FMP-11, AOC N15). Implementation of the AOC prescription is intended to protect occupied breeding territories/nesting sites and is not focused on a

specific known location of an occupied nest as actual nests are rarely found. Nest searches are not encouraged due to the likelihood of damaging the nest/offspring (General Habitat Description for the Eastern Whip-poor-will).

Eastern Wood-pewee (*Contopus virens)* - Special Concern - The eastern wood-pewee is a small songbird that lives in the mid-canopy layer of forest clearings and on the edges of deciduous and mixed forests. It is also an aerial insectivore. The Ontario Breeding Bird Atlas noted that its preference for open spaces near the nest is often provided by forest edges, clearings, roadways, and water. It is most abundant in intermediate-age forest stands with little understory vegetation. The eastern wood-pewee is an aerial insectivore, and the COSEWIC status report stated that its decline might have been caused by factors on the winter range or in migration where it spends most of the year, or by a widespread decline in the supply of flying insects. The wood-pewee is not thought to be particularly sensitive to forest management. LIO and E-Bird/Ontario Breeding Bird Atlas (2001-2005) identifies possible breeding on the Whiskey Jack Forest. The Eastern Wood-pewee can be heard singing on the Whiskey Jack Forest during the breeding bird season.

In this FMP, the needs of the Eastern Wood-pewee will be met by providing habitat using the coarse filter approach described above (specifically by creating young and immature forest stands through forest harvesting), and also by following the CRO for songbird nests if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Evening Grosbeak (*Coccothraustes vespertinus*) – **Special Concern** – The Evening Grosbeak is found across Canada. It breeds in coniferous forests and may be found in mature mixed-wood forests dominated by fir species, white spruce and trembling aspen. Their main prey is spruce budworm, and abundance of Evening Grosbeak is linked to the abundance of the spruce budworm. Other times of year, the species consumes seeds, mostly from fir and spruces but also from garden feeders. Evening Grosbeaks are often found along roadsides.

The LIO identifies probable breeding in the Whiskey Jack Forest. Citizen science programs such as iNaturalist and E-Bird/Ontario Breeding Bird Atlas indicate presence on the forest where habitat is suitable.

In this FMP, the needs of the Evening Grosbeak will be met by providing habitat using the coarse filter approach described above and also by following the CRO for songbird nests

if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Golden-winged Warbler (*Vermivora chrysoptera*) – Special Concern - The Golden-winged Warbler is a small warbler measuring 11 cm long. It is distinguishable by its grey back, white belly, yellow forehead and a yellow patch on its wings. This is the only warbler with both a yellow patch on its wings and a black throat (grey in females). Golden-winged Warblers breed in tangled, shrubby habitats such as regenerating clearcuts, wet thickets, and tamarack bogs. In their breeding areas, Golden-winged Warblers seem to be fond of regeneration zones where young shrubs grow, surrounded by mature forest, and characterized by plant succession of 10 to 30 years. These warblers frequent clusters of herbaceous plants and low bushes (where they place their nests, which are built on the ground). They often move into nearby woodland when the young have fledged. They spend winters in open woodlands and shade-coffee plantations of Central and South America.

LIO and E-Bird/Ontario Breeding Bird Atlas contain records, however there is a low probability of occurrence of Golden-Winged Warblers in the Whiskey Jack Forest.

In this FMP, the needs of the Golden-winged Warbler will be met by providing habitat using the coarse filter approaches described above (specifically by creating young and immature forest stands through forest harvesting), and also by following the CRO for songbird nests if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Grasshopper Sparrow (*Ammodramus savannarum*) – Special Concern - The Grasshopper Sparrow is a small brown songbird with a streaked back and buffy white underparts. It has a white stripe down the centre of its crown and a flat look to the top of its head. Its conical bill is beige. The male and female look similar to each other and the young have a streaked breast in the first fall. It lives in open grassland areas with well-drained, sandy soil. It will also nest in hayfields and pasture, as well as alvars, prairies and occasionally grain crops such as barley. It prefers areas that are sparsely vegetated. Its nests are well-hidden in the field and woven from grasses in a small cup-like shape. The Grasshopper Sparrow is a short-distance migrant and leaves Ontario in the fall to migrate to the southeastern United States and Central America for the winter.

E-Bird/Ontario Breeding Bird Atlas contain records, however there is a low probability of occurrence of Grasshopper Sparrows in the Whiskey Jack Forest. Forestry operations

on the Whiskey Jack Forest are not expected to impact Grasshopper Sparrows as their habitat is not forest dependent.

Horned Grebe *(Podiceps auritus)* – **Special Concern** - is a small duck-like water bird 31-38 cm long with a short, pointed bill. In breeding plumage, the Horned Grebe has a black head with a distinctive patch of golden yellow feathers behind its eye called “horns.” The front of its neck and upper breast are reddish. Males and females look similar, although males are typically brighter than females in breeding plumage. The Horned Grebe usually nests in small ponds, marshes and shallow bays that contain areas of open water and emergent vegetation. Nests are usually located within a few metres of open water. This vegetation provides adults with nest materials, concealment, and protection for their young. The Horned Grebe occupies natural habitat more often than man-made reservoirs and artificial ponds. It is not known why the Horned Grebe is declining across North America. It is expected that populations are threatened by the permanent loss of wetlands to agriculture and development, possibly resulting from drought.

LIO and E-bird/Ontario Breeding Bird Atlas record observations of the Horned Grebe however the likelihood of occurrence on the Whiskey Jack Forest is low. Habitat is not forest dependent so it is improbable that forestry operations on the Whiskey Jack Forest will impact the Horned Grebe. If a nesting site is found, the AOC W06 prescription will be applied (Table FMP-11).

Least Bittern (*Ixobrychus exilis*) - Threatened – In Ontario, the Least Bittern is found in a variety of wetland habitats, but strongly prefers cattail marshes with a mix of open pools and channels. The Least Bittern builds its nest above the water in stands of dense wetland vegetation. This tiny bittern eats mostly frogs, small fish, and aquatic insects.

LIO and E-bird/Ontario Breeding Bird Atlas record observations of the Least Bittern however the likelihood of occurrence on the Whiskey Jack Forest is low. The species is not likely to be affected by forest management because it nests in marshes and is not forest dependent.

In this FMP, the needs of the Least Bittern will be met by providing habitat using the coarse filter approaches described above, and by applying (i) a CRO to wetlands that could be used for nesting by the species (Section 4.2.2.2 Conditions on Regular Operations), and (ii) an AOC prescription around ground wetlands that are known to be occupied by Least Bitterns (Table FMP-11, AOC W06).

Olive-sided Flycatcher *(Contopus cooperi)* - Special Concern - The Olive-sided Flycatcher is widely but sparsely distributed in Ontario with only ~100,000 thought to occur in the province, according to the Ontario Breeding Bird Atlas. Lio, iNaturalist and E-bird/Ontario Breeding Bird Atlas identify confirmed records of Olive-sided Flycatcher on the Whiskey Jack Forest. It is not uncommon to hear the Olive-sided Flycatcher singing during the breeding bird season.

This aerial insectivore forages in the open from a high perch where it darts out to intercept flying insects and then returns to the same perch. Habitat is described as open areas that may include forest openings, forest edges near natural openings (such as rivers, muskeg, bogs or swamps), recently harvested areas, and burns in coniferous or mixed forest with tall trees or snags for perching. Thus, forest management that results in openings with residual wildlife trees that can act as perches is likely to benefit the Olive-sided Flycatcher.

In this FMP, the needs of the Olive-sided Flycatcher will be met by providing habitat using the coarse filter approach described above (including recently disturbed and regenerating coniferous forest stands, and creating forest openings in conifer stands that contain unharvested wildlife trees and residual patches), and by following the CRO for songbird nests if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Peregrine Falcon (*Falco peregrinus*) - Special Concern – The Peregrine Falcon is one of Ontario's best known Species at Risk, owing to efforts spanning over two decades by the Ontario Ministry of Natural Resources, Canadian Wildlife Service, the private sector, and naturalists and other volunteers to re-establish a breeding population in the province. The Peregrine Falcon is a streamlined flier renowned for its ability to dive at speeds of up to 300 km/hour as it "stoops" on its prey, literally knocking the birds out of the air. The adult Peregrine is best identified by its distinctive black facial mask, resembling a helmet, and by its black malar stripe, or "moustache". It has a slate blue-grey back and whitish underparts with fine, dark barring on the thighs and lower breast. As with most birds of prey, the female is substantially larger than the male.

In the wild, Peregrine Falcons usually nest on tall, steep cliff ledges adjacent to large waterbodies, but some birds adapt to urban environments and raise their young on ledges of tall buildings, even in densely populated downtown areas. Peregrine Falcon nesting sites, recorded by the Ontario Breeding Bird Atlas and LIO, have been documented along Lake Superior and as far west as the Boundary Waters Forest.

There are no documented nesting areas on the Whiskey Jack Forest, though numerous sightings of this bird have occurred in the area (LIO, E-bird). The last reported nesting site in the area was on the adjacent Kenora Forest was in the 1940s in the Minaki / Thompson Lake area. If a Peregrine Falcon nesting site is found on the Whiskey Jack Forest, an appropriate AOC prescription will be developed and applied.

Piping Plover (*Charadrius melodus*) – Endangered - The Piping Plover is a small sand-coloured, sparrow-sized shorebird that nests and feeds along coastal sand and gravel beaches in North America. The adult has yellow-orange legs, a black band across the forehead from eye to eye, and a black ring around the neck. It typically runs in short starts and stops. The bird's name is derived from its plaintive bell-like whistles which are often heard before the bird is visible.

Piping Plovers nest exclusively on dry sandy or gravelly beaches just above the reach of high water and waves. When not migrating, this bird spends virtually all of its time between the water's edge and the back of the beach. It pecks the sand and searches small pools of water for food - mostly insects and small crustaceans.

The Piping Plover is protected by the Federal *Species at Risk Act* and Ontario's *Endangered Species Act*. The Piping Plover has been recorded (LIO, iNaturalist, E-bird) however the likelihood of occurrence on the Whiskey Jack Forest is low. Risk of impact through forest management activities is low as they live in close proximity to water and do not occupy forested habitats.

In this FMP, there is no expectation that forest management activities will impact Piping Plover.

Red-Headed Woodpecker (*Melanerpes erythrocephalus*) - Special Concern - The Red-headed Woodpecker is a medium-sized bird – about 20 centimetres long – easily recognized for its vivid red head, neck and breast. The rest of the bird is black and white, mostly white underneath and black on top. This woodpecker's strong bill helps it dig holes in wood to find insects, its food source in the summer. In the winter, it eats nuts. Adults often return to the same nesting site year after year. Between May and June, females lay from three to seven eggs. Both parents incubate the eggs and then tend to the young.

The Red-headed Woodpecker lives in open woodland and woodland edges, and is often found in parks, golf courses and cemeteries. These areas typically have many dead trees, which the bird uses for nesting and perching. This woodpecker regularly winters in the

United States, moving to locations where it can find sufficient acorns and beechnuts to eat. A few of these birds will stay the winter in woodlands in southern Ontario if there are adequate supplies of nuts. Red-headed Woodpecker populations have declined by more than 60 per cent in Ontario in the last 20 years because of habitat loss. The removal of dead trees in which they nest is also believed to be a threat to these birds.

There are observations of Red-headed Woodpeckers in LIO, iNaturalist and E-bird/Ontario Breeding Bird Atlas for the area. Occurrence of the Red-Headed Woodpecker has a low probability in the Whiskey Jack Forest.

In this FMP, the needs of the Red-Headed Woodpecker will be met by providing habitat using the coarse filter approach described above, and also by: (i) retaining unharvested stands of mature trees near shorelines through AOC prescriptions (Table FMP-11) for water quality (AOCs W01-W08), tourism (several AOCs labelled like “Txx”) and/or archaeological potential areas (AOC A01).

Rusty Blackbird (*Euphagus carolinus*) – Special Concern – The rusty blackbird was recently listed by COSEWIC as a bird of “special concern” in Canada. The E-bird/Ontario Breeding Bird Atlas suggests it has declined by about 30% in northern Ontario since the first atlas 25 years ago. This bird nests in immature coniferous trees in open shoreline forests and scrubby habitat adjacent to wetlands such as beaver meadows, marshes, ponds, swamps, and bogs (COSEWIC 2006). The rusty blackbird forages by walking along shorelines searching for invertebrates. Forest management that results in some harvesting and coniferous regeneration along shorelines would benefit this species.

There is a high likelihood of occurrence of Rusty Blackbird in the Whiskey Jack Forest based on records in LIO, iNaturalist and E-bird.

Short-eared Owl (*Asio flammeus*) - Special Concern - This medium-sized owl inhabits open grassy areas, marshes, meadows, and regenerating clearcuts and burns where it hunts for small mammals. It nests on the ground. There are observation of the Short-eared Owl in LIO and E-bird with low likelihood of occurrence, and no known nesting sites. Since this owl sometimes nests in young, open, regenerating forests, the species may benefit from forest management activities that create suitable conditions for nesting.

In this FMP, the needs of the Short-eared Owl will be met by providing habitat using the coarse filter approach described above (specifically by creating open conditions and young forest through forest harvesting), and by applying (i) a CRO to wetlands that could

be used for nesting by the species (Section 4.2.2.2 Conditions on Regular Operations), and (ii) an AOC prescription around ground nests that are occupied by the species (Table FMP-11, AOC N14).

Wood Thrush (*Hylocichla mustelina*) – Special Concern - The Wood Thrush is a medium-sized songbird, about 20 cm long – slightly smaller than the American robin and similar in shape. These birds are generally rusty-brown on the upper parts with white under parts and large blackish spots on the breast and sides. The wood thrush forages for food in leaf litter or on semi-bare ground. Its prey includes larval and adult insects as well as plant material. In Canada, the Wood Thrush nests mainly in second-growth and mature deciduous and mixed forests, with saplings and well-developed understory layers. This species prefers large forest mosaics but may also nest in small forest fragments. Wintering habitat is characterized primarily by undisturbed to moderately disturbed wet primary lowland forests. There have been numerous sightings of Wood thrush in the Whiskey Jack Forest (LIO, E-bird), however likelihood of occurrence is low.

In this FMP, the needs of the Wood Thrush will be met by providing habitat using the coarse filter approaches described above (specifically by providing a natural amount of mature and older mixedwood and conifer mixedwood forest), and also by following the CRO for songbird nests if a nest is discovered during the course of operations (Section 4.2.2.2 Conditions on Regular Operations).

Yellow Rail (*Coturnicops noveboracensis*) - Special Concern – The Ontario Breeding Bird Atlas shows that there are only a few widely distributed nest records of this small, quail-like, elusive, wetland-dwelling bird in Ontario. Observations range from the extreme south to the north in Ontario, and from the east to the west. The species prefers wetlands dominated by grasses, rushes, and sedges where there is moist ground with shallow or no standing water throughout the nesting season. The nest is built on the ground and is usually overtopped by dead vegetation from the previous year, making the nest very difficult to see.

Yellow rail nesting habitat could potentially be affected by road building activities in the Whiskey Jack Forest. LIO and E-bird record observations of Yellow Rail in the Whiskey Jack Forest however likelihood of occurrence is low.

In this FMP, the needs of the Yellow Rail will be met by providing habitat using the coarse filter approach described above, and by applying (i) a CRO to wetlands that could be used for nesting by the species (Section 4.2.2.2 Conditions on Regular Operations), and (ii) an

AOC prescription around ground wetlands that are known to be occupied by Yellow Rails (Table FMP-11, AOC W06).

c) Reptiles

Snapping Turtle (*Chelydra serpentina*) - Special Concern – Snapping turtles are expected to occur regularly on the Whiskey Jack Forest, with known nesting along roadsides and potentially other habitats. There is a strong possibility that snapping turtles will be found nesting along the shoulders of forestry roads. Reporting of snapping turtle occurrences has been increasing as awareness of its designation as a Species at Risk becomes better known. The snapping turtle inhabits marshes, bogs, swamps, rivers, lakes, or streams with soft, muddy banks or bottoms. This unmistakable turtle is often very large and eats a variety of plants and animals and scavenges dead animals as well. It is a highly aquatic turtle that seldom leaves water except to migrate or to lay eggs. Egg-laying occurs in sandy or gravelly areas along streams, and sometimes on roadsides, at dam sites and in forestry aggregate pits. Snapping turtles could come into contact with forest management activities when migrating to or from nesting sites or if nesting along roadsides or in forestry aggregate pits.

Under Ontario's Endangered Species Act, Special Concern species do not receive species or habitat protection under the Endangered Species Act, 2007. However, in this FMP, an AOC for snapping turtle nesting sites has been included in FMP-11. Snapping turtle wetland habitat may also indirectly benefit from applying AOCs to protect water quality (Table FMP-11), and a CRO to protect wetlands (Section 4.2.2.2 Conditions on Regular Operations) however the intent of these fine-filter approaches are not specific to SAR protection. This FMP includes an AOC for Snapping Turtle Nesting Habitat (AOC N19), and a Condition on Roads, Landings and Aggregate Pits for identified Snapping Turtle nesting sites in in non-natural habitat (i.e., road embankment) (Section 4.5.9).

d) Fish

Lake Sturgeon *(Acipenser fulvescens)* – Threatened – The Saskatchewan – Nelson River population of Lake Sturgeon overlaps with the Whiskey Jack Forest. LIO contains records and DFO has reported Lake Sturgeon on the Whiskey Jack Forest.

The Lake Sturgeon is Canada's largest freshwater fish species: past records exist of specimens exceeding 2 metres in length and 136 kg in weight, although most mature specimens seen today are much smaller. Like catfish, the Lake Sturgeon is a specialized bottom feeder. It usually inhabits the bottoms of shallow areas of large freshwater lakes and rivers but migrates each year from early May to late June to swift-flowing water to spawn. Individuals usually return to the same spawning rivers year after year. The decline in numbers witnessed today may result from threats such as the construction of dams, which may disrupt habitat and interrupt spawning movements and timing; habitat degradation resulting from human activities; habitat contamination caused by chemicals, toxins, and fertilizers; and the introduction of non-native species that include competing and predatory fish and plants that may modify habitat.

Forestry operations on the Whiskey Jack Forest are not expected to impact Lake Sturgeon habitat directly as their habitat is in lakes and is not forest dependent. If Lake Sturgeon spawning areas are identified, any road construction in the vicinity would include consideration during road planning and through the use of the Identified Fish Spawning Areas AOC W08. MNRF District and regional wildlife biologists will be consulted for direction on the acceptable construction design to ensure there is no negative impact on spawning habitat.

Shortjaw Cisco (*Coregonus zenithicus*) - Threatened - The Shortjaw Cisco (lake herring) is a North-American freshwater whitefish in the salmon family. Adult fish range to about 30 cm (12 in) in length and are silver, tinged with green above and paler below.

There is low probability of occurrence of Short-jaw Cisco in the Whiskey Jack Forest (1 LIO record). Forestry operations on the Whiskey Jack Forest are not expected to impact Shortjaw Cisco habitat directly as their habitat is in lakes and is not forest dependent. If Shortjaw Cisco spawning areas are identified, any road construction in the vicinity would include consideration during road planning. MNRF District and regional wildlife biologists will be consulted for direction on the acceptable construction design to ensure there is no negative impact on spawning habitat.

e) Arthropods (Insects)

Gypsy Cuckoo Bumblebee (*Bombus bohemicus*) - Endangered – The Gypsy Cuckoo Bumblebee is a medium sized "social parasite" bumble bee which does not collect pollen or establish their own colonies. They instead take advantage of nests and other "host" bumble bees. In the spring, female Gypsy Cuckoo Bumblebees emerge from their

overwintering site and search for a host nest. Once located they displace the established queen and lay her own eggs which are then looked after by host workers. These parasitic eggs develop into both sexes which emerge and mate in late summer and fall. After mating, females will overwinter in soil, mulch or rotting logs.

The decline of the host species on which it depends is considered the main threat to the Gypsy Cuckoo Bumble Bee. Additional potential threats, which also affect the Gypsy Cuckoo Bumble Bee's host species, include pesticide use, introduction of pathogens from managed bee colonies, habitat loss, and climate change.

In Canada, the Gypsy Cuckoo Bumble Bee has been recorded in every province and territory except Nunavut and occurs in diverse habitats such as open meadows, agricultural and urban areas, boreal forest and woodlands LIO records observations of the Gypsy Cuckoo Bumblebee in the Whiskey Jack Forest however likelihood of occurrence is low.

In this FMP, the needs of the Gypsy Cuckoo Bumblebee will be met by providing habitat for its host bumblebee species using the coarse filter approaches described above (specifically, by using forest harvesting to create open areas and young forest where bumblebees can find nectar-producing flowers). A CRO for wetlands will also provide foraging areas for the bumblebees (Section 4.2.2.2 Conditions on Regular Operations).

Monarch Butterfly (*Danaus plexippus*) - Special Concern - The Monarch Butterfly is a migratory butterfly that ranges widely across North America. Because the larvae (caterpillars) are specialist herbivores on milkweed and spreading dogbane, adults seek out these host plants to lay their eggs. Monarchs are often found on abandoned farmland and roadsides, but also in city gardens and parks. The eastern North American population migrates to Mexico each fall to overwinter at sites in the central mountains.

The Monarch is a poisonous butterfly. Animals that eat a Monarch get very sick and vomit (but generally do not die). These animals remember that this brightly-coloured butterfly made them very sick and will avoid all Monarchs in the future. The Monarch gets its poison (*cardenolide glycosides*) when it is a caterpillar, from eating the poisonous milkweed plant (genus *Asclepias*) while in its larval (caterpillar) stage.

Survival of the Monarch depends on protection of its overwintering sites in California, Florida, and Mexico. In Ontario, preferred habitat of the monarch is wetlands, burns, and clearcuts where the eggs are deposited on milkweed plants and adults find nectar-

producing wildflowers. Forest management is likely more beneficial than harmful to the monarch because it creates open areas for essential food plants.

Monarch butterflies are found in the Whiskey Jack Forest (LIO records, iNaturalist observations). The monarch butterfly does not rely on forest-dependent habitat but could potentially be impacted by road construction. In this FMP, the needs of the Monarch Butterfly will be met by providing habitat using the coarse filter approach described above (specifically, by using forest harvesting to create open areas and young forest where adult Monarchs can find nectar-producing flowers). A CRO for wetlands will also provide foraging areas for the Monarch Butterfly (Section 4.2.2.2 Conditions on Regular Operations).

Transverse Lady Beetle (*Coccinella transversoguttata*) – Endangered – The Transverse Lady Beetle is a small, round beetle that ranges between 5 and 8 millimetres in length. It has a unique colour pattern that helps distinguish it from other lady beetles. Adults have orange to red wing covers with a black band marking and four long black spots. The Transverse Lady Beetle is a habitat generalist, meaning it is able to live in a wide range of habitats, including agricultural areas, suburban gardens, parks, coniferous forests, deciduous forests, prairie grasslands, meadows and riparian areas. Their distribution is mainly driven by seasonal changes in prey availability (aphids and other small insects) across a variety of vegetation types.

In Ontario, all records are considered to be historical. There have been no new records of the Transverse Lady Beetle since 1990, despite greater search effort in recent years to find individuals in parts of its previous range. LIO records observations of the Transverse Lady Beetle in the Whiskey Jack Forest however likelihood of occurrence is low.

In this FMP, the needs of the Transverse Lady Beetle will be met by providing habitat using the coarse filter approaches described above.

Yellow-banded Bumble Bee (*Bombus terricola*) – **Special Concern** – The Yellow-banded Bumble Bee is a forage and habitat generalist, able to use a variety of nectar-producing plants and environmental conditions. The Yellow-banded Bumble Bee has a large range throughout much of Canada and parts of the United States. It can be found in mixed woodlands, particularly for nesting and overwintering, as well as a variety of open habitat such as native grasslands, farmlands and urban areas. Nest sites are often underground in abandoned rodent burrows or decomposing logs. In Ontario, it is still

observed but is less common than it was historically after steep declines. Less is known about historical or recent abundance of Yellow-banded Bumble Bee in northern portions of its range. The Yellow-banded Bumble Bee has been observed in the Whiskey Jack Forest (LIO).

In this FMP, the needs of the Yellow-banded Bumble Bee will be met by providing habitat using the coarse filter approach. If a nest is discovered additional protection in the form of an AOC or CRO shall be developed and applied.

g) Plants

Black Ash (*Fraxinus nigra*) – Endangered – Black Ash is a medium-sized deciduous tree reaching 15-20 metres tall commonly found in moist areas like swamps, floodplains and fens. The bark is grey, thick, and corky which becomes scaly and fissured with age. The leaves are opposite, pinnately compound with 7-13 finely toothed leaflets. Black Ash wood is unique with no fibers connecting the growth rings to each other which made it useful for baskets and other devices used by local First Nations. Black Ash is of cultural significance to Indigenous peoples. Low tannin levels make the tree a valuable food source particularly for tadpoles which feed upon dropped leaves in ponds. This species was considered abundant until the introduction of the emerald ash borer which was first detected in North America in 2002. Since then, the invasive insect has spread through most of the tree's geographic range. Black Ash is known to occur on the Whiskey Jack Forest singly, in small groups of trees, and in small stands across the Whiskey Jack Forest.

In this FMP, the needs of Black Ash will be met by applying a CRO to Rich Lowland Hardwood Dominated Forest (Black Ash) that could be used by the species (Section 4.2.2.2 Conditions on Regular Operations). The Long-term Management Direction (Section 3) will consider Black Ash strategies prior to determining the eligibility of forest areas for planned forest management activities.

Showy Goldenrod (Boreal population) *(Solidago speciosa)* – Threatened – Showy Goldenrod is a large perennial belonging to the aster family. It can grow to two metres in height. It has large, toothed, egg-shaped lower leaves and much smaller more smooth-edged upper leaves. The small yellow flowers form a cylindrical cluster along the upper 30 centimetres of the stem in late summer and early fall.

Showy Goldenrod is a plant of open habitats. In northwestern Ontario, it grows in prairie grassland on a south-facing slope, on shallow soils over bedrock, bordered by jack pine and white pine. Here, the habitat remains in an open condition due to the shallowness of the soil, which is not deep enough for trees and shrubs to become established. In northwestern Ontario, there is a single population of about 1000 plants. This species is not forest dependent.

Showy Goldenrod is protected by the federal Species at Risk Act and Ontario's Endangered Species Act. It receives general habitat protection under the ESA, 2007. LIO records observations of the Showy Goldenrod in the Whiskey Jack Forest however likelihood of occurrence is low. The area where it is known to occur is not subject to allocation on the Whiskey Jack Forest. Should new populations be discovered, an AOC will be developed.

Small-flowered Lipocarpha (*Lipocarpha micrantha*) – Threatened – The small-flowered lipocarpha is a tiny sedge that grows on periodically submerged, moist sandy shorelines of lakes and rivers. Sedges resemble grasses, but their stems are unjointed and often three-sided. It is most abundant in open, sunny areas with little vegetation. This sensitive plant does not tolerate even slight changes to its habitat, pollution, or competition from other plants. The numerous small flowers of the Lipocarpha are compactly arranged in a spikelet. This plant is an annual which dies at the end of the growing season, and it must produce many seeds in order to survive. Its seeds can lie dormant in the sand for long periods of time and germinate when conditions are favourable.

Cottage development, pollution, erosion and vehicle traffic on beaches all pose a threat to species such as the Small-flowered Lipocarpha that require relatively undisturbed sandy shoreline habitats. This species is not forest dependent. There are several known locations within the Whiskey Jack Forest (LIO and iNaturalist observation records). This species is more common in the United States than in Canada. Forestry operations on the Whiskey Jack Forest are not in the vicinity of the known location of this plant.

Western Silvery Aster (*Symphyotrichum sericeum*) - Endangered – The Western Silvery Aster has daisy-like flowers that come in various shades of bright pink to deep purple. Leaves of this plant are covered with silky hairs, giving it a silvery appearance. They are found in well-drained soil.

In Ontario, it is known to grow in two areas in the Rainy River district on the south shore of Lake of the Woods, and on an island in the lake. The Western Silvery Aster inhabits open habitats that are susceptible to succession from other vegetation. Western Silvery Aster is known to occur in the Whiskey Jack Forest (LIO and iNaturalist observation records).

Western Silvery Aster is protected by Ontario's *Endangered Species Act* and the federal *Species at Risk Act*. The habitat of Western Silvery Aster is regulated under the ESA, 2007. Like most species at risk, the loss and destruction of habitat is a cause of decline of Western Silvery Aster numbers. In particular, shoreline development and off-road vehicles pose threats to this species. Cottage development is a potential threat to the Western Silvery Aster. The risk of impact through forest management activities is low given the locations of the known sites.

Should Western Silvery Aster be discovered at a new location on the management unit, the site conditions, as defined in the regulation, would be avoided or an AOC developed.

2.1.4.2 Fish and Wildlife Inventories

2.1.4.2.1 Fisheries Resources and Fish Habitat

The fisheries resource on the Whiskey Jack Forest is diverse as many lakes, rivers and streams are found throughout the area. Stream and pond values are divided into High, Medium or Low Potential Sensitivity (HPS, MPS and LPS) to forest management activities. All waterbodies classified as either a lake or a river are considered to be "Highly Sensitive" to forest management activities. Streams will be assigned to the High Potential Sensitivity (HPS) category if they meet any of the following criteria:

- Known to contain fish species that are highly sensitive to perturbations (e.g., lake trout),
- Known to provide components of fish habitat for which there is a high degree of species dependence,
- Known to contain rare habitats or fish that are species at risk
- Low habitat resiliency
- Identified as significant habitat by specific fisheries management plans
- Mapped large permanent stream segments with a catchment area between ≥3 and <50 km2.
- Mapped small permanent stream segments (catchment area <3 km 2) <500 metres (stream distance) from lakes, rivers, mapped large permanent stream segments, or other water features identified as HPS based on inventory data.
- Recognizable unmapped permanent stream segments <500 metres from lakes, rivers, mapped large permanent stream segments, or other water features identified as HPS based on inventory data.

Streams will be assigned to the Medium Potential Sensitivity (MPS) category if they meet any of the following criteria:

- Known to contain fish species that are moderately resilient to perturbations (e.g., walleye, northern pike);
- Known to provide components of fish habitat for which there is a moderate degree of species' dependence;
- Known to contain habitats or fish that have a limited distribution;
- Moderate habitat resiliency;
- Mapped small permanent stream segments that are ≥500 metres (stream distance) from lakes, rivers, mapped large permanent stream segments, and other water features identified as HPS based on inventory data;
- Recognizable unmapped permanent stream segments ≥500 metres from lakes, rivers, mapped large permanent stream segments, or other water features identified as HPS based on inventory data; or

- Mapped or recognizable unmapped intermittent stream segments <500 metres from water features known to support brook trout.

LPS streams or ponds are those sites that do not meet the criteria for an HPS or MPS stream or pond.

There are over 1,700 lakes with a total surface area of approximately 500,000 hectares within the boundaries of Kenora District. There are over 200,000 hectares of water in the Whiskey Jack Forest. Lake of the Woods and three major river systems, the English River, Wabigoon River and Winnipeg River systems, which encompass 50% of the total water area of Kenora District.

The major sport and commercial species sought by anglers, tourist industry, commercial and subsistence fishers are: yellow pickerel (walleye), sauger, northern pike, muskellunge, black crappie, smallmouth bass, largemouth bass, yellow perch, lake trout, lake whitefish, and lake sturgeon. In addition to the major commercial and sport species, other species include ling (burbot), bullheads, cisco (lake herring), white sucker, and redhorse suckers.

Ontario has many policies in place to ensure that multiple uses of the forest are recognized and accommodated, both within the forest management planning process, and in parallel processes. The Whiskey Jack Forest has portions of Fisheries Management Zones (FMZs) 4 and 5. FMZs reflect certain ecological factors and angler use patterns, such as climate zones, watersheds, fishing pressure and road access. In general, FMZ 4 has less access with less fishing pressure and being more northerly, its waters are somewhat less productive with fisheries that are not as diverse as those of FMZ 5. The Fisheries Management Plans for these zones were used in the preparation and should be referenced for additional detail on fisheries resources.

In addition to the FMZ's, Whiskey Jack Forest includes the Specially Designated Waters (SDWs) Lake of the Woods and Winnipeg River. SDWs are managed and monitored separately to reflect their unique and important fisheries.

Unregulated forest management activities can have detrimental effects on fisheries resources by degrading, harmfully altering, disrupting or destroying fish habitat. The most common negative impacts occur with improper road water crossings which can remove or alter physical cover critical to fish habitat (spawning, rearing habitats) and/or block the migration of fish. To ensure this does not occur on the Whiskey Jack Forest, harvest block design and water crossings will follow the prescriptions and conditions outlined in this FMP that were developed using the *Stand and Site Guide*. For example, waterbodies

will be assigned AOC prescriptions from Table FMP-11 based on type of water body (i.e., lake, river or stream), potential sensitivity to forest management activities (i.e., high, moderate or low) and slope of surrounding land. Water crossings will be located away from critical fish habitats and appropriate crossings structures (bridge, culvert etc.) will be used to ensure fish migration.

The prescriptions in this FMP reflect the science-based direction in the provincial Stand and Site Guide. For ecological reasons, the Stand and Site Guide permits harvesting of trees to the shoreline of a waterbody in some cases. The following excerpt from the Stand and Site Guide (Background and Rationale, p. 101) provides the rationale:

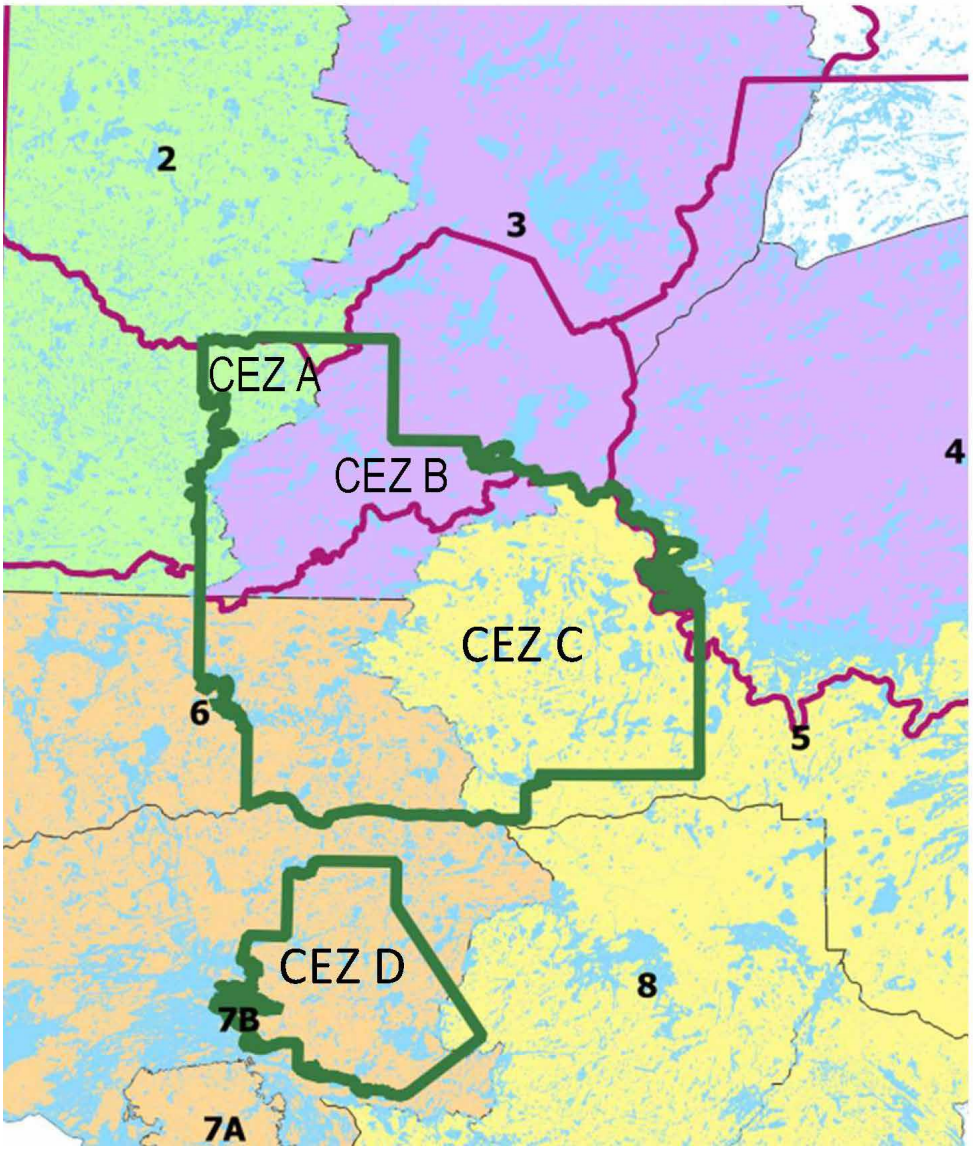
> "Shoreline forest is not static. As a consequence of succession and natural disturbance events, such as wildland fires, shorelines in natural landscapes are characterized by a shifting mosaic of young and old forest that, at broad scales, typically reflects the age and/or composition of the surrounding landscape (...). This diversity is exploited by the shoreline-inhabiting wildlife community."

The Stand and Site Guide explains (pp. 101-108, Background and Rationale document) that some species of wildlife (that could occur in the Whiskey Jack Forest) prefer young shoreline forest that cannot be created or maintained on the landscape where fire is suppressed, unless trees are harvested (e.g., American woodcock, alder flycatcher, yellow warbler, common yellowthroat, palm warbler, Wilson's warbler, least weasel, long-tailed weasel, meadow jumping mouse). Also, the Stand and Site Guide concluded that some clearcutting to the shoreline appears to be required to maintain a supply of habitat for the beaver and all the species dependent on beaver ponds (e.g., many species of waterfowl, amphibians, reptiles, small fish, invertebrates, and others). The AOC prescriptions for water and fish habitat in Table FMP-11 reflect these considerations.

2.1.4.2.1 Wildlife Resources (other than Species at Risk, Selected Species)

The MNRF assesses populations of wildlife that are hunted at the level of the Wildlife Management Unit (WMU). The Whiskey Jack Forest is comprised of five Wildlife Management Units (WMU); Zones 2, 3, 5, 6, 7B and 8 (Figure 24). The provincial hunting regulations specify where hunting can occur, and how much; this is outside the FMP process. The FMP process provides support for MNRF's wildlife habitat management program by creating or protecting habitat as directed by MNRF. Harvesting the forest for wood remains a primary management tool to facilitate the production of habitat for species that require recently disturbed, young or immature conditions, and those that require stands dominated by tree species that depend on disturbances to regenerate them (e.g., jack pine, poplar).

Figure 24 Cervid Ecological Zones (CEZs) and Wildlife Management Units (WMUs) within the Whiskey Jack Forest



The *Cervid Ecological Framework* states that it "harmonizes and integrates habitat and population management priorities to provide overarching guidance", and that "the forest management planning process will be the primary mechanism for addressing cervid habitat management on Crown lands within the Area of the Undertaking." The framework puts the northern portion of the Whiskey Jack Forest primarily in Cervid Ecological Zone C with the southern portion falling within Zone D (Figure 24). Where the "broad cervid management guidance" is:

- **Cervid Zone A**: Woodland Caribou habitat management should be emphasized as a primary consideration. Moose habitat management may be emphasized (where appropriate as per species-specific policy direction). Deer habitat management not emphasized.
- **Cervid Zone B:** Woodland Caribou habitat management should be emphasized. Moose habitat management should be emphasized (where appropriate as per species-specific policy direction). Deer habitat management not emphasized.
- **Cervid Zone C1**: Moose habitat management should be emphasized as a primary consideration. Deer habitat management not emphasized. Elk habitat management not emphasized.
- **Cervid Zone D1:** Moose habitat management should be emphasized. Deer habitat management should be emphasized, particularly provisions of winter deer concentration habitat in the most western portions of the Zone. Elk habitat management may be considered and addressed at the local level (where appropriate as per species-specific policy direction).

The framework also says that cervid management will be supported by the best available scientific information, and that cervid management objectives will be harmonized with other elements of biodiversity, including other wildlife species and habitat management direction to achieve a desired landscape and ecologically-based outcome.

As explained in section 2.1.3.3.1, the Ontario's coarse filter- fine filter approach is used in the FMP to provide habitat for wildlife. This is directed mainly through the Boreal Landscape Guide and the Stand and Site Guide. Both of these guides permit forest managers to identify "large landscape patches" 10,000 hectares or greater in size where long-term caribou habitat and short-term moose habitat will be enhanced, while remaining consistent with other landscape-level direction (such as the milestones for the Whiskey Jack Forest in the Boreal Landscape Guide, Table A2).

- ***Moose –*** Moose have an important ecological role and is one of the most important hunted species on the Whiskey Jack Forest. For many years the MNRF has conducted an annual aerial survey for moose that covers randomly selected plots in provincial WMUs according to a defined protocol. Population estimates are available at the following website: https://www.ontario.ca/page/moose-population-management

The MNRF develops the population objectives ranges for moose based on the 2009 Moose Population Objectives Setting Guidelines (MNRF 2009). The 2030 Population Objective Ranges were identified as a result of the 2016 Moose Project in response to low moose population numbers and consideration of population ranges in meeting

ecological and socio-economic reference points. The Population Objective Ranges for the WMUs that overlap with the Whiskey Jack Forest are summarized in Table 6 below.

Table 6 Population Objective Ranges for Moose in Wildlife Management Units that Overlap the Whiskey Jack Forest

Population Metric	Wildlife Management Unit (WMU)					
	2	3	5	6	7B	8
Cervid Ecological Zone	A	B	C1	D1	D1	C1
Year 2030 Population Objective Range	900 - 1,200	1,900 – 2,500	3,300 – 3,900	500 – 1,400	400 - 1,100	950 - 2,400
Current 2021 Population Estimate	1,268	2,202	2,996	199	212	692

Many factors can influence the moose population, including the supply of suitable habitat, the population of predators, hunting pressure and hunting success, and climate. MNRF manages the provincial moose population according to direction in the "*Cervid Ecological Framework*", which acknowledges that the allowable harvest of moose in each WMU is managed through the provincial hunting regulations, and that habitat is created for moose through forest management. Research from Ontario indicates that forest management can improve habitat conditions for moose on landscapes where fire is suppressed because forest harvesting can create accessible, nutritious browse where there would otherwise be only mature and older forest (e.g., the Stand & Site Guide 2010). This is reflected in the MNRF's non-spatial and spatial habitat models for moose (Ontario's Landscape Tool - Moose - Elkie et al. 2013).

- ***Furbearers*** **-** There are 101 registered traplines in the Whiskey Jack Forest. Registered trap lines cover the entire Whiskey Jack Forest. The major fur bearing animals that are of economic importance are beaver, fox, muskrat, lynx, otter, mink, fisher, weasel and marten. MNRF obtains information on these furbearers from trappers. In most cases the coarse filter approach described above is being used to provide habitat for these species (i.e., creating an approximately natural amount and distribution of forest types and age classes through forest harvesting, retention, and regeneration; see Section 2.1.3.3.1). However, there are also fine-filter actions that are being taken to provide shoreline forest habitat for beavers (some harvesting to shore is permitted in the water quality AOC prescriptions in Table FMP-11, as discussed above), and to protect occupied dens (CROs for furbearing mammal dens and burrows in the ground, under piles of coarse woody material, or in large trees; see Section 4.2.2.2 Conditions on Regular Operations).

(a) Herons and Ospreys – (Bald Eagles discussed in Section 2.1.4.1 Species at Risk) MNRF conducts surveys for large stick nests periodically in the areas identified for operations so that heron colonies and osprey nests can be protected. The locations are recorded in MNRF's values database (LIO) and updated as required. In September 2023, LIO contained 24 records for great blue heron nesting colonies within the boundaries of the Whiskey Jack Forest, and 217 osprey nests. All nests and colonies will be protected with appropriate AOC prescriptions that were developed from the Stand and Site Guide (Table FMP-11), including prescriptions for inactive or alternate nests. If new nests are discovered during the course of operations, these are protected as well. The coarse filter approach to habitat management described in Section 2.1.3.3.1, in combination with the AOCs for nests and the AOCs and CROs for wetlands and water quality will provide a supply of suitable nesting and hunting habitat for these species over the long term.

(b) Hawks, Ravens, Turkey Vultures, and Owls - The Whiskey Jack Forest provides nesting and hunting habitat for ravens, turkey vultures, and a wide variety of birds of prey (owls, hawks, falcons). The Ontario Breeding Bird Atlas (www.birdsontario.org) shows many occurrences of the following species within or adjacent to the Whiskey Jack Forest: red-tailed hawk, broad-winged hawk, Cooper's hawk, northern goshawk, merlin, kestrel, barred owl, great horned owl, northern saw-whet owl, boreal owl, northern harrier, short-eared owl, and long-eared owl. Some of these species use stick nests, and a few nest in cavities.

The coarse filter approach to habitat management described in section 2.1.3.3.1 will provide a supply of suitable nesting and hunting habitat for these species over the long term. To ensure that nests that are in LIO and those that are discovered during operations are protected, the FMP contains AOC prescriptions that were developed from the science-based direction in the Stand and Site Guide (Table FMP-11).

(c) Grouse - Ruffed grouse and spruce grouse are valued as game birds and both are common in the Whiskey Jack Forest, based on maps of occurrence in the Ontario Breeding Bird Atlas and an abundant supply of habitat. MNRF's "Habitat Relationships of wildlife in Ontario" concludes that ruffed grouse prefer sapling and immature poplar, birch, and mixedwood forest. About 17% of the Whiskey Jack Forest is hardwood-dominated forest (HRD, POD forest units) and 25% is dominated by mixedwoods (HMW, CMX). Holloway et al. concluded that spruce grouse prefer sapling age jack pine, and that they will use sapling and older forest types dominated by spruce as well. There is an abundance of habitat that could be used by spruce grouse in this forest; for example, about 58% of the forested area is conifer-dominated forest units. Forest harvesting followed by regeneration to pure conifer (especially jack pine) will be beneficial to spruce

grouse. The coarse filter approach to habitat management described in section 2.1.3.3.1 will provide a supply of suitable nesting and hunting habitat for these species over the long term. The FMP contains a CRO to protect grouse nests that are encountered during operations (Section 4.2.2.2 Conditions on Regular Operations).

(d) Black Bear - MNRF has a variety of sources of information on the black bear population in the region. Information is obtained from sources such as hair transects established in WMUs and from mandatory harvest reports by outfitters and bear hunters. Holloway et al. (2004) described preferred black bear habitat as the pre-sapling development stage (recently disturbed) of forest units dominated by spruce or jack pine (with an abundant supply of blueberries, ants, and other food), forest units dominated by mixedwoods, as well as old poplar, birch, and mixedwood forest where bears can find nutritious food in the fall. The Whiskey Jack Forest provides abundant habitat for black bears. The coarse filter approach to habitat management described in section 2.1.3.3.1 will continue to provide a supply of suitable habitat for the black bear over the long term. The FMP includes an AOC prescription to protect occupied dens of the black bear (Table FMP-11 AOC D01).

2.1.4.3 Values Information

Values are features, benefits, or conditions of the forest that are linked to a geographic area, that are of interest from various points of view, and that must be considered in forest management planning. The values maps are intended to be used primarily as background information for planning and will also be used for display purposes and to solicit additional information about natural resource features, land uses and values. Any person or party can provide values information at any time. Information about values normally comes from the MNRF or other government staff; SFL holders, other forest resource licence holders and their operators; non-government organizations, third parties, other resource users, or the public; and First Nation and Métis communities.

The public consultation process described in the *Forest Management Planning Manual* (2020) supports the collection and provision of information about values at any time during the development and implementation of a forest management plan.

Values can be classified into two groups based on the requirements to provide information for forest management planning: timber values and non-timber values. Timber values include such features as growth and yield plots, research plots, and seed orchards. The FRI is not considered as a timber value for purposes of prescribing requirements for values information.

Non-timber values include such features as cultural heritage sites, First Nation and Métis values, and critical wildlife and fisheries habitat areas, such as caribou nursery areas, mineral licks, raptor nests, or spawning areas. Non-timber values also include various uses such as wild rice production areas, recreational areas, native use areas, and traditional use areas.

Values maps provide a summary of the geographic location of *known* values about which further inventory information is available. A value is considered to be a *known* value when there is sufficient information to describe its geographic location and its basic features. Known values must be considered in forest management planning. The MNRF shall determine if a value can be treated as a known value based on the available information and in consideration of standards described in the *Forest Information Manual* (FIM, MNRF, 2020).

MNRF values information is stored in the *Land Information Ontario* (LIO). The *Land Information Ontario* is a Geographic information System (GIS) based system for managing the storage of the Ontario Ministry of Natural Resources and Forestry digital

land-related information in a standardized manner. It provides the ability to store, maintain and access over 600 different geographic feature types.

Information about certain values such as, the location and description of First Nation and Métis values, cultural heritage sites, sites of Species at Risk (special concern, threatened and endangered), lake sturgeon and muskellunge spawning sites, rare vascular plants, fish spawning areas, etc. may be considered as "sensitive information" that, if released or portrayed on maps may pose a threat to the existence, integrity, or health of those values. Sensitive information about values shall not be made available or accessible to the public. Where the availability of information could be considered as potentially detrimental to the existence of a value, the MNRF shall determine whether or how the value can be depicted on a values map.

For each forest management plan, *Forest Information Manual* and the FMPM require the production by MNRF of a series of maps depicting specific values on the Whiskey Jack Forest that are used for forest management planning purposes. The values maps consist of a set of maps based on the following themes:

- Natural Resource Features – Wildlife & Forestry (Flora & Fauna)
- Natural Resource Features – Fisheries & Wetlands
- Resource Uses
- Land Values
- Bear Management Areas
- Trapline Areas
- Resource-Based Tourism Values
- Cultural Heritage Values

The most up-to-date versions of the values maps are maintained at the MNRF Kenora District Office and are available for public viewing. Values Maps are included in the FMP as digital maps:

MU490_2024_FMP_MAP_VALWILD_00,
MU490_2024_FMP_MAP_VALFISH_00,
MU490_2024_FMP_MAP_VALREC_00,
MU490_2024_FMP_MAP_VALLAND_00,
MU490_2024_FMP_MAP_VALBMA_00,
MU490_2024_FMP_MAP_VALTRAP_00, and
MU490_2024_FMP_MAP_VALRBT_00.

The MNRF cultural heritage values map (MU490_2024_FMP_MAP_VALCULT_00) is not included as part of the digital submission and the maps is retained at the MNRF Kenora District office.

Where a known value may be affected by forest management activities, the *Forest Management Planning Manual* (2020) requires that a defined geographic area adjacent to the feature be established. The defined geographic area is called an "area of concern" (AOC) (Table FMP-11). An operational prescription is developed for each AOC or group of AOCs to prevent, minimize or mitigate adverse effects of forest management operations on the value. Operational prescriptions for AOCs may be reserves (e.g., prohibition of all operations, or prohibition of certain operations), modified operations (e.g., specific conditions or restrictions on operations) or regular operations (i.e., in accordance with the silvicultural ground rules), individually or in combination. Modified operations may be regular operations with conditions (e.g., timing, equipment), or unique prescriptions that are developed to protect or manage specific values or land uses. Areas estimated to be impacted by reserves were incorporated in the strategic modelling for the LTMD in order to calculate the most realistic available harvest area for this plan and to assess long-term objective achievement.

Operational prescriptions developed for an individual AOC or groups of AOCs are developed using the forest management guides identified by MNRF as applicable to the forest (e.g., the Stand and Site Guide). These AOC Prescriptions are documented in Table FMP-11. In some situations, the Planning Team will develop an operational prescription (e.g., C01 consideration for a Trapper's Cabin, or Tpt protect identified portage trails).

Additional information regarding the development of operational prescriptions for AOCs associated with known values on the Whiskey Jack Forest is provided in Section 4.2 Prescriptions for Operations.

To aid the protection of representative ecosystems of old growth red pine and white pine, the Northwest Region of the MNRF completed NWST Technical Report TR-98, titled *"Old Growth Red and White Pine Forests: Northwest Region Report on Protection*". The intent of this report was to identify old growth areas and candidate sites for protection. Old growth pine was defined as being older than 130 years of age for red pine, and 150 years of age for white pine. Once old growth stands were identified, candidate sites for old growth area protection were determined based on specific criteria. Basically core red pine and white pine stands which were identified in the first stage of the report, and associated stands containing red pine and white pine were identified as old growth area aggregations.

There were six (6) sites identified in the Whiskey Jack Forest in this report (NWST Technical Report TR-98 with previous references to Pakwash and Patricia Forests prior to amalgamation into the Whiskey Jack Forest).

- Scotty Lake (fringe area, 37 ha) contained in the Scotty Lake Conservation Reserve;
- Tide Lake (fringe area, 26 ha) contained in the Tide Lake Provincial Park (nature reserve);
- Maynard Lake (fringe area, 18 ha) contained in the Maynard Lake Provincial Park (nature reserve);
- Burden Lake (fringe area, 11 ha)
- Clay Lake (fringe area, 42 ha) contained within the Clay Lake Conservation Reserve; and
- Pipestone Peninsula, Lake of the Woods (1,005 ha).

The *Old Growth Policy for Ontario's Crown Forests (2003)* also guides the maintenance or restoration of old growth forests on the Whiskey Jack Forest. Old growth red pine and white pine forest communities, if present, portrayed on Map 4.1b Natural Resource Features Values – Wildlife and Forestry. There are 3,587 hectares of red pine and white pine forest on Crown land at the start of this plan (all PRW forest unit area), of which 30 hectares are classified as Old Growth.

Forest management considerations are important to the conservation of red pine and white pine on the land base. Some areas are protected with a combination of land-use planning and existing AOCs while others are going to be managed to promote regeneration by utilizing a clearcut with seed tree silviculture strategy to promote the regeneration of red pine and white pine forest types. CORLAPs and CROs have also been developed to help address conservation of red pine and white pine across the land base (Section 4.2.2.2 Table 28 and Section 4.5.9 Table 48, respectively) when encountered as incidental trees within harvest blocks or right of way.

This plan has specific red pine and white pine old growth forest targets in Section 3.6.2, Objective 2 Indicator 2b to increase the area of old growth in the red pine and white pine forest unit. Based on results from the strategic modelling, old growth forest communities on the Whiskey Jack Forest will increase in representation across the landscape at increasing levels, consistent with the desirable level endorsed in the Long-Term Management Direction.

2.1.4.3.1 Land Use Descriptions

Information on land use intent and management direction on the Whiskey Jack Forest is documented in the *Crown Land Use Policy Atlas (2003).* The Atlas outlines land use direction for public lands that are owned by the Province of Ontario and managed by the Ontario Ministry of Natural Resources.

The vast majority of the Whiskey Jack Forest is designated as General Use Areas. Based on the land use intent for a designated land use area, a variety of different land uses may be specified for a given area. Within General Use Areas there are generally no restrictions on forest operations. Where identified values are adjacent to or within areas proposed for forest operations, Area of Concern planning is initiated to mitigate any negative impacts on the value (Section 4.2, Table FMP-11).

(a) Resource-based Tourism Areas

The tourism industry has been an important component in the Kenora area for a long time. Lodges and cottages were in operation by 1905. At that time the activities were based on hunting, fishing and canoeing opportunities. The Whiskey Jack Forest has attracted recreation-based tourism since the late 19th Century due to its variety of natural values. The area continues to be a desired recreational destination for canoeing, boating, fishing, hunting, hiking, snowmobiling, camping and cottaging. Resource based tourism contributes to the economic stability of the Northwest Region, including the Kenora District.

There are approximately 76 resource-based tourism operations within and adjacent to the Whiskey Jack Forest. A variety of activities are offered such as fishing, moose hunting, and bear hunting. The majority of these businesses operate during the summer and fall months. Tourism co-exists with the many resource-based activities occurring within the Whiskey Jack Forest with considerations made for activities conducted within the vicinity of these values. Forestry impacts tourism by altering the landscape and affecting the experience of visitors.

Additional information on tourism is located in Supplementary Documentation E - Social and Economic Description in Section 2.2.3.2 Recreation and Tourism.

During Stage 1 of the planning process, tourism operators that have values/businesses within or adjacent to the forest were contacted by the MNRF to provide the opportunity to discuss values protection through Area of Concern (AOC) prescriptions in the FMP. Interested operators were engaged in Area of Concern planning in Stage Three of plan

production. Identified concerns have been addressed through area of concern planning (Table FMP-11).

Maintenance of the viability of the tourism industry has been considered in the development of this FMP through the protection of tourism values in the forest management planning process through the application of MNRF's approved forest management guide(s) that addresses forestry and resource-based tourism and methods of protecting and sustaining these values (Section 4.2 Conditions on Operations, Table FMP-11).

(b) Mineral, Aggregate and Quarry Areas

Currently, there is no mineral production occurring within the Whiskey Jack Forest. Historically, metal production occurred in the southern portion of the Whiskey Jack Forest between 1893 and 1951 at the Wendigo Mine.

Within the Whiskey Jack Forest, deposits of gold, copper, zinc, nickel, platinum, lithium, cesium and rubidium minerals have been identified. On the Forest, building stone occurs in a variety of marketable stone colours. There are two past-producing quarries and four producing quarries in this area. Two of the producing quarries, Forgotten Lake and Red Deer Lake, were in production year-round in 2020.

There are an estimated 4,238 active mining claim units recorded in this management unit as of May 2022, as indicated on the Ministry of Energy, Northern Development and Mines' Mining Lands Administration System (MLAS) website (ENDM, April 28, 2021). These claims cover an area of 132,455 ha, making up 12% of the WJF. The majority of the claims occur in the northernmost portion of the Whiskey Jack Forest.

Known prospectors and mining claim holders are on the FMP mailing list and have had the opportunity to review and provide comments on proposed forest operations in the Whiskey Jack Forest. Most often, prospectors and claim holders are interested in road construction, maintenance, abandonment and possible restrictions as a means of access to their claims. Normally, nothing on a mining claim is considered a value and rarely is claim or exploration-related AOCs required. The plan provides operational considerations for mining claim posts through CROs and CORLAPs. Also, each year, any known prospectors and mining claim holders are notified of scheduled forest operations as part of the AWS.

The FMP Values Maps provide detail for active mining claims, locations of producing quarries, past-producing mines and developed prospects with reserves.

The Whiskey Jack Forest has 30 forestry aggregate pit areas, 47 Category 9 quarries and 8 Category 11 quarries. The Ministry of Transportation also has 14 permitted sites on the unit for construction/maintenance of public highways.

There are five hydroelectric generating stations located within or adjacent to the Whiskey Jack Forest, all owned by Ontario Power Generation. Four of these stations are located on the English River between Lac Seul and the Manitoba border and one station is located on the Winnipeg River between Lake of the Woods and the English River.

(c) Crown Land Recreation and Cottaging

Non-commercial recreational opportunities are abundant on the Whiskey Jack Forest. People utilize Crown land and waters for fishing, boating, hunting, gathering, trails, camping and general recreation. There are approximately 657 kilometres of existing active primary and branch forest access roads and additional 468 km of inactive and operational roads in the existing roads database, providing opportunities such as hunting, camping, berry picking, fuelwood collection, bird watching, trails, snowmobiling and access to small lakes for angling. Additional recreational opportunities are provided through canoe routes, snowmobile trails and various public access points. There are numerous private homes and recreational camps on the Whiskey Jack Forest.

(d) Trapping (commercial fur)

There are 101 registered traplines in the Whiskey Jack Forest. Registered trap lines cover the entire Whiskey Jack Forest. The major fur bearing animals that are of economic importance are beaver, fox, muskrat, lynx, otter, mink, fisher, weasel and marten. Trappers also generate some income through nuisance beaver trapping along municipal and forest industry roads as well as railways. Wildlife habitat was considered during development of the Long-Term Management Direction for the FMP. Implementation of the Boreal Landscape Guide (coarse filter direction) provides the overarching guidance in ensuring forest management efforts are moving towards and/or providing for the necessary habitat requirements for a variety of species, (forest composition and landscape pattern). In the 2012 FMP, marten habitat was included as a selected wildlife species and direction from the *Forest Management Guidelines for the Provision of Marten Habitat* was followed. Similar landscape-level direction is achieved in this FMP through application of the texture of mature and old forest indicator and mature and late conifer-dominated landscape classes. Additionally, direction for wildlife trees and downed woody material support marten habitat at the stand and site scales.

All primary trappers are on the FMP mailing list and have had the opportunity to review and provide comments on proposed forest operations in the Whiskey Jack Forest. Individual trap line boundaries, as well as known trapline cabins and trails are considered values and mapped. Where identified values are adjacent to or within areas proposed for forest operations, Area of Concern planning may be initiated to mitigate any negative impacts on the value. Typically, AOC prescriptions may be applied to protect trails and address additional concerns brought forth by trappers regarding operations near trapline cabins, timing restrictions, or notification requests. All primary trappers are kept informed of changes to the planned operations on an annual basis through the notification associated with the Annual Work Schedule.

(e) Private Land

There are 5,071 hectares of patent private land on the Whiskey Jack Forest. In accordance with the *Crown Forest Sustainability Act,* Patent Land is not included in this forest management plan. Patent Land was not considered in the strategic modelling for this plan, nor are any forest operations proposed in this FMP on any Patent Land. Any future forest management activities planned for patent land must be planned and approved outside of the forest management planning process.

Where patent land is adjacent to areas proposed for forest operations, Area of Concern planning discussions are initiated with the patent land owner. Harvest operations proposed adjacent to patent land are planned to ensure no encroachment on these areas, unless a prior agreement with the landowner has been reached. Road building, road-use and forest operations adjacent to patent land are also planned to ensure no negative impact on these areas. Such mitigative techniques are documented in the AOC planning documentation (Table FMP-11, Supplementary Documentation I).

(f) Provincial Parks and Conservation Reserves

Parks and Protected areas in or adjacent to the Whiskey Jack Forest are listed in Table 7, sorted by their designation class. The Parks and Protected Areas are designated through regulation under the *Provincial Parks and Conservation Reserves Act,* 2006, (https://www.ontario.ca/laws/statute/06p12), or under the *Public Lands Act*, *Wilderness Areas Act*, etc. (e.g., Enhanced Management Areas, Wilderness Area, General Use Areas).

Table 7 Parks and Protected Areas on, or adjacent to, the Whiskey Jack Forest

Name	CLUPA* Reference ID	Designation (Class)	Area (ha)
West English River Provincial Park	P2345	Waterway	22,922
Pakwash Provincial Park	P2528	Natural Environment	3,993
Woodland Caribou Provincial Park	P2370e	Wilderness	470,620
Maynard Lake Provincial Park	P2698	Nature Reserve	30
Rushing River Provincial Park	P2615	Recreational	340
Tide Lake Provincial Park	P2614	Nature Reserve	54
Eagle-Dogtooth Provincial Park	P2363	Waterway	41,128
Campfire River Conservation Reserve	C2317	Conservation Reserve	4,180
Clay Lake Conservation Reserve	C2594	Conservation Reserve	80
Dryberry Lake Conservation Reserve	C2357	Conservation Reserve	21,850
Lac Seul Islands Conservation Reserve	C2317	Conservation Reserve	14,723
Lake of the Woods Conservation Reserve	C2366	Conservation Reserve	45,959
Scenic Lake Conservation Reserve	C2365	Conservation Reserve	1,890
Scotty Lake Conservation Reserve	C2361e	Conservation Reserve	775
Solitary Lake Conservation Reserve	C2362	Conservation Reserve	257
Twilight Lake Conservation Reserve	C2430	Conservation Reserve	396

* MNRF's Crown Land Use Planning Atlas (CLUPA) reference identification number

Parks and Conservation Reserve areas lying within the boundaries of the Whiskey Jack Forest encompass approximately 89,216 hectares, of which 43,952 hectares is forested (Table FMP-1). This represents about 8.5% of the Crown land area within the Whiskey Jack Forest.

Provincial Parks and Conservation Reserves contribute to the achievement of the following objectives:

1. To permanently protect representative ecosystems, biodiversity and provincially significant elements of Ontario's natural and cultural heritage and to manage these areas to ensure that ecological integrity is maintained.
2. To provide opportunities for ecologically sustainable outdoor recreation opportunities and encourage associated economic benefits.
3. To provide opportunities for residents of Ontario and visitors to increase their knowledge and appreciation of Ontario's natural and cultural heritage.
4. To facilitate scientific research and to provide points of reference to support monitoring of ecological change on the broader landscape.

Within Provincial Parks and Conservation Reserves certain activities are prohibited:

1. Commercial timber harvest.
2. Generation of electricity.
3. Prospecting, staking mining claims, developing mineral interests or working mines.
4. Extracting aggregate, topsoil or peat.
5. Other industrial uses. *2006, c. 12, s. 16 (1).*

Provincial Parks, Conservation Reserves and Forest Reserves are considered values and when forest operations are proposed on the Whiskey Jack Forest adjacent to these values, Area of Concern planning discussions are initiated with Ontario Parks staff for Provincial Parks, Conservation Reserves and Forest Reserves. If planned, harvest operations proposed adjacent to Provincial Parks, Conservation Reserves and Forest Reserves are planned to ensure no encroachment on these areas. Road building, road-use and forest operations adjacent to Provincial Parks, Conservation Reserves and Forest Reserves are also planned to ensure no impact on these areas. Such mitigative techniques are documented in the AOC planning documentation.

General Benefits of Parks and Protected Areas

Provincial parks and conservation reserves provide places where people can enhance their health and well-being through enjoyment and recreational use of the outdoors, while developing a greater appreciation for Ontario's natural diversity. The following are important benefits and help to demonstrate how parks support our quality of life:

- Protection and contribution to ecological functions (air quality, water quality, flood control, soil stabilization),
- Biodiversity contributions (genetic material, protection of species at risk),
- Protection of resource integrity (some of the last green spaces left in the province),
- Health effects from use of parks (mental, physical, spiritual benefits),
- Worker productivity (healthy and happy workers tend to be more productive - a visit to a provincial park can contribute),
- Educational benefits (young and old learning about our environment),
- Scientific benefits (research in provincial parks),
- International responsibilities to protect natural settings, features and wildlife,
- Business location decisions (quality of life/business) and community cohesion.

Economic impacts are based on expenditures such as those made by the park on operations and capital, as well as average visitor trip expenditures (camper and day visitor).

Economic impacts are based on expenditures such as those made by the park on operations and capital, as well as average visitor trip expenditures (camper and day visitor). As well, public and municipal officials should be aware that provincial parks help to make their communities attractive for business as well as for tourists and retirees. Communities with attractive waterfronts, low crime, recreational activities and healthy environments are sought out by the retirement community. The park budget (operating and capital) represents a grant or transfer payment from the government to their community. Not all communities have this transfer. The community may also receive grants in lieu of taxes.

Provincial Parks - Under the *Provincial Park and Conservation Reserves Act, 2006*, the Lieutenant Governor in Council may classify Provincial Parks in one of six classes. There are seven (7) Provincial Parks located on or adjacent to the Whiskey Jack Forest:

1. Wilderness Class Parks
   The objective of wilderness class parks is to protect large areas where the forces of nature can exist freely and visitors travel by non-mechanized means, except as may be permitted by regulation, while engaging in low-impact recreation to experience solitude, challenge and integration with nature. 2006, c. 12, s. 8 (2).

2. Nature Reserve Class Parks
   The objectives of nature reserve class parks are to protect representative ecosystems and provincially significant elements of Ontario's natural heritage, including distinctive natural habitats and landforms, for their intrinsic value, to support scientific research and to maintain biodiversity. 2006, c. 12, s. 8 (3).

3. Cultural Heritage Class Parks
   The objective of cultural heritage class parks is to protect elements of Ontario's distinctive cultural heritage in open space settings for their intrinsic value and to support interpretation, education and research. 2006, c. 12, s. 8 (4).

4. Natural Environment Class Parks
   The objectives of natural environment class parks are to protect outstanding recreational landscapes, representative ecosystems and provincially significant elements of Ontario's natural and cultural heritage and to provide high quality recreational and educational experiences. 2006, c. 12, s. 8 (5).

5. Waterway Class Parks
   The objectives of waterway class parks are to protect recreational water routes and representative and significant terrestrial and aquatic ecosystems and

associated natural and cultural features and to provide high quality recreational and educational experiences. 2006, c. 12, s. 8 (6).

6. Recreational Class Parks
The objective of recreational class parks is to provide a wide variety of compatible outdoor recreation opportunities in attractive natural surroundings. 2006, c. 12, s. 8 (7).

Conservation Reserves - There are nine (9) Conservation Reserves located in or adjacent to the Whiskey Jack Forest. Generally, Conservation Reserve sites contain representative landform and vegetation types.

General Use Areas – CLUPA also contains 15 general use areas in addition to the parks and protected areas. While there are no provincial-level policy restrictions to forest management in the general use areas, it should be recognized that there are some general use areas with local-level policy restrictions. Of the 15 general use areas in the Whiskey Jack Forest, 10 (67%) contain qualifying land use direction that denotes that forest operations will recognize the importance of tourism and recreational use in the area, and will be conducted so as to have minimal impact on such. Four (4) of the other general use areas identify the importance of recreation and tourism in the Land Use Intent for the area, but do not contain specific direction related to commercial timber harvest.

Description of Provincial Parks and Conservation Reserves

The following is a description of each Provincial Park and Conservation Reserve within the Whiskey Jack Forest and associated the benefits provided. See Supplementary Documentation E for additional details.

Provincial Parks

A description of each provincial park follows. The number associated with each area corresponds to the Crown Land Use Policy Atlas (CLUPA) area number.

West English River (P2345), a non-operating waterway class park of 22,922 hectares, was regulated in 2003. The area includes that portion of the English River from Barnston Lake to Tide Lake. The waterway contains old growth red and white pine at the northern extent of its range, wilderness environments and tourism attributes, and is an historic travel corridor. Two provincial nature reserves, Maynard Lake and Tide Lake abut the park. Motor boating, canoeing, sport fishing, hunting and camping are popular activities,

although the actual use is unknown. Part of this is subject to the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014).

Eagle-Dogtooth (P2363), a non-operating waterway class park of 41,128 hectares, was regulated in 2003. It provides a waterway linkage between Eagle Lake and nearby protected areas (e.g., Rushing River, Winnange). It is an important recreational waterway. The site contains regionally significant moraines, wetlands, pine forest ecosystems, eagles, waterfowl and is an important recreation and tourism area. Motor boating, canoeing, sport fishing, hunting and camping are popular activities, although the actual use is unknown.

This area contains a portion of the Experimental Lakes area. The experimental lakes area is a controlled area set aside by the Federal and Provincial Governments for the purpose of conducting experiments. The experiments are conducted by the Canadian Department of Fisheries and Oceans to provide quantitative guidelines for the management of lakes, streams, their watersheds and airsheds in order to protect them from the adverse effects of human activities and to enhance their value as resources. The current agreement was renewed in April 2010.

Maynard Lake (P2698), a non-operating nature reserve class park of 30 hectares, was regulated in 1997. It consists of a peninsula with deep soils on the east shore of Maynard Lake. It provides representation/protection of an atypical old growth white pine stand (age class + 160 years) at the northern limit of the species range. It is surrounded by West English River Provincial Park on three sides. Camping, day-use, hunting and most other recreational activities are prohibited because of the classification of the park. The actual amount of use is unknown.

Pakwash (P2528) is a staffed natural environment class provincial park of 3,993 hectares. Pakwash Provincial Park is located between Red Lake and Ear Falls on the west side of Highway 105. The park was established in 1967 and was regulated in 1989 as a natural environment class Provincial Park. The park provides representation/protection of Site District 4S-2, specifically the Hartman Moraine. Pakwash provides opportunities for car-camping and day-use. The park is operated through a partnership with Friends of Pakwash. This area is subject to the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014).

Rushing River (P2615), a staffed recreation class provincial park of 340 hectares was established in September 1958. Rushing River Provincial Park is scenically located along a series of rapids on Rushing River and on the shore of Dogtooth Lake. The park is situated approximately twenty kilometres southeast of Kenora on Highway 71. Natural

features include jack pine uplands, wetlands and a lush river valley. Rushing River Provincial Park offers a wide range of recreation opportunities including walking, cross-country skiing, swimming, boating, fishing, cross-country ski trails and camping.

Tide Lake (P2614), a non-operating nature reserve class park of 54 hectares, was regulated in 1997. It consists of the peninsula between Ball and Tide lakes. The park provides representation/protection of an atypical old growth white pine stand (age class + 160 years) at the northern limit of the species' range. It is surrounded by West English River Provincial Park on three sides. Camping, day-use, hunting and most other recreational activities are prohibited because of the classification of the park.

Woodland Caribou (P2370e), an operating wilderness class park of 470,620 hectares, was regulated in 1983. It protects representative earth and life science features of Site District 4S-1, such as the Eagle-Finlayson Moraine, prairie-boreal vegetation and habitat for Woodland Caribou, a threatened species. The Municipality of Red Lake is the closest community to Woodland Caribou Provincial Park, located approximately 30 kilometres east of the park. Other communities in the immediate planning area include Ear Falls, Kenora, Pikangikum, Wabaseemoong Independent Nations, Wabauskang First Nation, Asubpeeschoseewagong First Nation, Lac Seul and Little Grand Rapids in Manitoba. Woodland Caribou Provincial Park provides a wide range of tourism, recreation and economic benefits for the surrounding communities.

Facility-based establishments provide a wide range of use and visitation opportunities, the most popular being angling. Backcountry tourism outfitters provide a full range of canoeing and camping services. The diversity of lakes and river systems in Woodland Caribou Provincial Park provides some of the highest quality recreational fishing and canoeing in Ontario.

Conservation Reserves

A description of each conservation reserve follows. The number associated with each area corresponds to the Crown Land Use Policy Atlas (CLUPA) area number.

Campfire River Conservation Reserve (C2317), a protected area of 4,180 hectares is located approximately 73 kilometres north of the City of Kenora, immediately west of South Pakwash Road. The reserve was regulated on May 21, 2003 and contains extensive representation of wetland vegetation, including deep and shallow marshes, graminoid marshes, wet meadows, low shrub fens, and thicket swamps. Coniferous, deciduous and mixed forests are all represented within the reserve. The reserve is used

for fishing, hunting and trapping. The traditional harvesting of wild rice is practiced in Paintpot Lake. Winter activities include ice fishing and snowmobiling. Part of this area is subject to the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014).

Clay Lake Conservation Reserve (C2594), a protected area of 80 hectares located approximately 24 kilometres northwest of Vermilion Bay. This area is made up of a peninsula and an island in Clay Lake accessible by boat only. It contains a core of 27 ha of 70 percent red and white pine that are more than 121 years old. The adjacent island contains a concentration of 90 percent red and white pine forests. Clay Lake was regulated as a conservation reserve on January 7, 1995.

Dryberry Lake Conservation Reserve (C2357), a protected area of 21,850 hectares of land and water, with Dryberry Lake itself forming half of this total. Dryberry Lake CR was regulated as a conservation reserve on May 21, 2003. It is located approximately 25 kilometres southeast of the City of Kenora to the east of Highway 71, and 20 kilometres north of Sioux Narrows. This reserve incorporates Dryberry Lake, Point Lake and several smaller unnamed lakes located east of Northwest Bay and west of Point Lake. This site contains representative landform and vegetation types including mixed conifer, sparse forest and burn on weakly and moderately broken bedrock, and vegetated bedrock. There are also several red and white pine stands in excess of 85 years old. Dryberry Lake provides a world class lake trout, smallmouth bass, northern pike, and muskellunge fishery. There are a number of identified bald eagle nests within the boundary. There are also several identified archeological values within the area.

Lac Seul Islands Conservation Reserve (C2317), a protected area of 14,723 hectares was regulated as a conservation reserve on May 21, 2003. The vast waterway system of Lac Seul extends from Sioux Lookout westward to Ear Falls and abuts the communities of Whitefish Bay, Keesic Bay and Frenchman's Head of the Lac Seul First Nation Reserve. The Lac Seul Islands Conservation Reserve includes approximately 985 islands found within the Lac Seul waterway system. There are several established access points found within the Sioux Lookout area that provides easy access to Lac Seul. This conservation reserve contains sand dune complexes, historical, cultural and archaeological sites and offers excellent tourism, recreational and educational experiences. The forest cover of the islands primarily consists of balsam fir, black spruce, white birch and white spruce. The area includes a significant old growth red and white pine stand located on Eagle Island. These many features contribute to the important tourism industry and recreational uses that are associated with this area. This area is subject to the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014).

Lake of the Woods Conservation Reserve (C2366) is a protected area of 45,959 hectares and includes the majority of islands on Lake of the Woods (approximately 10,000) as well as portions of the Eastern and Western Peninsulas. This protected area spans 90 kilometers from north to south and 80 kilometers from east to west. Adjacent municipalities include Kenora to the north, and Sioux Narrows/Nestor Falls to the east, Morson and Rainy River to the southeast, and the Minnesota towns of Baudette and Warroad to the south. First Nation communities on the shores of Lake of the Woods include Big Island, Big Grassy, Northwest Angle #33 and Northwest Angle #37, Onegaming, Shoal Lake #39 and Shoal Lake #40, Washagamis Bay, Whitefish Bay, Rat Portage, and Rainy River.

Scenic Lake Conservation Reserve (C2365), a protected area of 1,890 hectares is located approximately 53 kilometres north of the City of Kenora and was regulated as a conservation reserve on May 21, 2003. This reserve incorporates Scenic Lake, all islands within the lake, Moose Lake, and lakeshores a distance of 200 metres from the water's edge. The site contains representative landform and vegetation types, including burns and mixed forests on organic deposits and weakly broken bedrock. The reserve contains representation of several forest types, including aspen, white birch, balsam fir, white and black spruce, and jack pine. Fishing opportunities exist for northern pike and smallmouth bass. There are also boating opportunities, as well as snowmobiling, and hunting opportunities for moose, deer, black bear, small game, and waterfowl.

Scotty Lake Conservation Reserve (C2361e) is a protected area of 775 hectares located near Scotty Lake, approximately 70 kilometres northeast of the City of Kenora. The Scotty Lake Conservation Reserve Addition was regulated on May 21, 2003 as an addition to the existing Scotty Lake Conservation Reserve that was originally regulated in 1995. The area is isolated and only accessible by floatplane or boat. The site contains an old growth white pine community at the northern fringe of its range in Ontario. This area contains lake(s) designated for lake trout management.

Solitary Lake Conservation Reserve (C2362), a protected area of 257 hectares, regulated on May 21, 2003, is located approximately 85 kilometres north of the City of Kenora, east of the Pakwash Road. The reserve incorporates the area adjacent to the northeastern shoreline of Solitary Lake and the peninsula on the west shore of the lake. It also includes the small island between these two areas, as well as the large island found in the southern basin of Solitary Lake. The site contains representative landform and vegetation types, including burns, conifer, deciduous and mixed forests on strongly broken ground moraine. Mixed stands of aspen, birch, spruce, balsam fir and some jack pine dominate the reserve. The majority of wetland vegetation is comprised of graminoid

meadows and fens, low shrub bogs, shrub-rich treed bogs, and red alder thicket swamps. This area is subject to the Range Management Policy in Support of Woodland Caribou Conservation and Recovery (2014).

Twilight Lake Conservation Reserve (C2430), a protected area of 396 hectares and is located approximately 25 kilometres north of the community of Vermilion Bay, west of Highway 105. The site includes all of Twilight Lake and its shoreline a minimum of 200 metres from the water's edge. Twilight Lake Conservation Reserve was regulated on May 21, 2003. The site contains representative landform and vegetation types, including mixed forests on weakly broken end moraine, ground moraine and bedrock. The reserve contains representation of several forest types: Aspen hardwoods, mixed stands of White Birch, Aspen/Spruce mixedwoods, and Jack Pine/Spruce stands on shallow soils on bedrock. Also existing here are Red Pine (along the western extremity of the reserve), a small stand of Black Ash (in the southeast portion), and wetland communities

(g) Enhanced Management Areas

Enhanced Management Area is a land use category that has been established as a result of Ontario's Living Legacy planning process in order to provide more detailed land use direction in areas of special features or values. There are no Enhanced Management Areas associated with the Whiskey Jack Forest.

(h) Other Uncommon or Notable Natural Resource Features

There are no identified provincially significant wetlands on the Whiskey Jack Forest.

(i) Areas with Access Conditions

There are no designated roadless areas on the Whiskey Jack Forest. Unless access controls or road decommissioning is identified in this forest management plan (Table FMP-18 Road Construction and Use Management), it is expected that existing primary and branch roads will remain open for public use during the 10-year period of this plan. The Lac Seul shoreline has an Area of Concern (AOC) prescription applied that requires the decommissioning of operational roads within a set distance of the lake. Roads are open for the public to use for any other purpose until road closure, if designated under the *Public Lands Act*.

2.2 Social and Economic Description

2.2.1 Overview of Social and Economic Context

This plan acknowledges that social and economic sustainability is a key component to sustainable forest management. The social and economic description describes the social and economic characteristics of communities that derive substantial social and economic benefits (e.g., employment, municipal taxes) related to the forest industry or forest management activities, forest resource-processing facilities, and other industrial users of the forest. It also accounts for non-industry users of the forest such as naturalists, trappers, recreationalists, and Indigenous communities. This description was considered in the development of the Long-Term Management Direction and the planning of forest operations.

The complete Social and Economic Description, including the demographic profiles, is included in Supplementary Documentation E of the forest management plan.

Forest management activities on the Whiskey Jack Forest impact a wide geographic area. There are several communities that rely in part on the forest for both social and economic benefits, including employment in woodlands operations such as harvesting, hauling and silvicultural activities, or employment in processing facilities that receive wood fibre from the forest. There are also many indirect benefits generated by forest operations as well as associated revenues and employment across the province.

Direct social and economic impacts occur primarily in the communities of Dryden, Ear Falls, Red Lake, Kenora, and Barwick (Chapple).

The following First Nation and Métis communities have been identified to have traditional lands, values and interests in or adjacent to the Whiskey Jack Forest:

- Asubpeeschoseewagong First Nation
- Wabauskang First Nation
- Wabaseemoong Independent Nations
- Naotkamegwanning First Nation
- Lac Seul First Nation
- Animakee Wa Zhing 37 First Nation
- Northwest Angle 33 First Nation
- Niisaachewan Anishinaabe Nation
- Wauzhusk Onigum Nation
- Washagamis Bay First Nation

- Ojibways of Onigaming
- Eagle Lake First Nation
- Shoal Lake 40 First Nation
- Anishinaabeg of Naongashiing
- Northwest Ontario Métis Community (NWOMC)

2.2.2 Summary of Demographic Profiles

Demographic information has been summarized in this section for communities that receive substantial amounts of wood fibre from the Whiskey Jack Forest, provide employment for the forest sector, or whose interests or traditional uses may be affected by forest management activities.

The standardized profiles prepared for the final Whiskey Jack Forest Management Plan are based on Statistics Canada's Census Subdivisions and were prepared by MNRF Forest Information Analysts using Statistics Canada's 2021 Census data. The standardized profiles have a couple of limitations that must be noted. The main data source was the 2021 Census, which does not reflect the most recent economic changes.

MNRF regional advisors worked with economic development officers and community members from all communities to review and develop the profiles. The demographic profiles include a description of demographics and migration, the economic environment, non-industrial uses of the forest, and investment intention for the major communities affected by forest management activities on the Whiskey Jack Forest. The summaries are standardized demographic profiles and economic measures, as well as any demographic information provided by communities. These communities are (listed alphabetically):

<u>Local Communities</u>:
Chappel (Barwick)
Dryden
Eagle Lake 27 (Eagle Lake First Nation)
Ear Falls
Emo
Fort Frances
Kenora
Rat Portage 38B (Wauzhusk Onigum Nation)
Kenora, Unorganized
Lac Seul 28 (Lac Seul First Nation)
Lake of the Woods

Lake of the Woods 37 (Animakee Wa Zhing 37 First Nation)
Northwest Angle 33B (Northwest Angle 33 First Nation)
Rat Portage 38A (Washagamis Bay First Nation)
Red Lake
Shoal Lake (Part) 40 (Shoal Lake 40 First Nation)
Sioux Narrows-Nestor Falls
The Dalles 38C (Niisaachewan Anishinaabe Nation)
Wabaseemoong (Wabaseemoong Independent Nation)
Wabauskang 21 (Wabauskang First Nation)
Whitefish Bay 32A, 33A, 34A (Naotkamegwanning First Nation)
Asubpeeschoseewagong First Nation - no data available

The summaries of each standardized profile include the data for population trends, community diversity, household incomes, and employment by industry for each community. Each standardized profile also displays the base line social and economic information which includes the previously mentioned data, along with information on dwellings, education, official languages, dependency ratios, et cetera. These provide an indication of reliance on the Forest for a community's well-being, and how resilient the community is to change resulting from forest management activities over time. The socio-economic demographic profiles prepared for the Whiskey Jack Forest FMP were prepared by the MNRF using 2021 Statistics Canada census data (contained in Supp. Doc. E). For Census districts dependent on wood flow from the Whiskey Jack Forest, population, unemployment rate and forestry employment dependency ratio data is summarized in Table 8.

This table clearly indicates the significance of the forest industry to Ear Falls, Dryden, Kenora (Unorganized), and Emo Canada Census districts. Summaries of community demographic and economic information are included in Supplementary Documentation E, Section 2.2.2 with the full demographic and economic reports included in the associated supplementary documentation appendix.

Table 8 Population, Employment Rate and Forestry Employment Dependency Ratio for Communities Dependent on Wood Flow from the Whiskey Jack Forest

Community	Population (persons)	Employment Rate (%)	Forestry Employment Dependency Ratio (%)
Asubpeeschoseewagong First Nation	Data not available	Data not available	Data not available
Chappel (Barwick)	763	96%	5
Dryden	7,388	92%	20
Eagle Lake 27 (Eagle Lake First Nation)	257	76%	0
Ear Falls	924	88%	44
Emo	1,204	93%	13
Fort Frances	7,466	92%	6
Kenora	14,967	93%	5
Kenora 38A (Wauzhusk Onigum Nation)	402	94%	0
Kenora, Unorganized	7,275	91%	15
Lac Seul 28 (Lac Seul First Nation)	1,022	88%	6
Lake of the Woods	308	85%	0
Lake of the Woods 37 (Animakee Wa Zhing 37 First Nation)	49	67%	0
Northwest Angle 33B (Northwest Angle 33 First Nation)	52	100%	Data not available
Rat Portage 38A (Washagamis Bay First Nation)	171	100%	0
Red Lake	4,094	95%	5
Shoal Lake (Part) 40 (Shoal Lake 40 First Nation)	81	100%	0
Sioux Narrows-Nestor Falls	727	80%	0
The Dalles 38C (Niisaachewan Anishinaabe Nation)	180	83%	0
Wabaseemoong (Wabaseemoong Independent Nation)	815	90%	0
Wabauskang 21 (Wabauskang First Nation)	57	75%	0
Whitefish Bay 32A (Naotkamegwanning First Nation)	610	84%	0
Whitefish Bay 33A (Naotkamegwanning First Nation)	94	71%	0
Whitefish Bay 34A (Naotkamegwanning First Nation)	125	80%	0

2.2.3 Industrial and Non-Industrial Uses of the Forest

This section of the forest management plan includes a summary of the industrial and non-industrial uses of the forest organized by sector. The sectors include:

- Section 2.2.3.1 Forestry and Wood Products;
- Section 2.2.3.2 Recreation and Tourism;
- Section 2.2.3.3 Mining, Aggregate and Hydro Generation; and
- Section 2.2.3.4 Other Uses.

The detailed description of industrial and non-industrial uses of the forest is included in Supplementary Documentation E – Social and Economic Description, Section 2.2.3 (Description of the Industrial and Non-industrial Uses of the Forest).

2.2.3.1 Forestry and Wood Products

Overlapping Licences and Wood Supply Commitments

Harvesting is carried out by individual overlapping Forest Resource Licence holders and past harvesting commitments of individual FRLs will continue to be honoured. Harvest volumes associated with these licenses are allocated annually, to provide opportunities for independent logging operations. All individual Overlapping Forest Resource Licence Agreement licensees (OFRLs) will be identified annually, and have required volumes, by block and species, assigned as needed.

The various wood supply commitments, tree species, and wood volumes, for the Whiskey Jack Forest, are described below in Table 9.

Table 9 Wood Supply Commitments for the Whiskey Jack Forest

Wood Supply Commitments			
Processing Facility	**Mechanism**	**Species**	**Volume (m3 - merchantable)**
Weyerhaeuser Company Limited (Kenora) - Composite	Ministerial Conditional Commitment	Poplar	100,000
Lumber Assets Holdings LP (LAH) (Kenora)	Proposed Supply Agreement Transfer	To be Determined	To be Determined

Regarding Weyerhaeuser Co. Ltd. Ministerial Conditional Commitment of 100,000 cubic metres per year of poplar, a significant portion of the Whiskey Jack Forest planned poplar volume remains unavailable from within Grassy Narrows First Nation's (GNFN) self-

described Traditional Land Use Area (TLUA). While MNRF has shown 100,000 m3/year as the commitment volume; there is less volume actually available for harvest outside of GNFN TLUA. All planned poplar from the area eligible for forest management activities is projected to be utilized in the Weyerhaeuser (Kenora) mill.

Kenora Forest Products (KFP) mill in Kenora was sold to Lumber Assets Holdings LP (LAH) (Kenora) and dismantled. Harvest volumes associated with the previous KFP Business Agreement are proposed for a Supply Agreement Transfer to the new owners if a mill becomes operational. Associated volumes are included in "Open Market" volumes in the table.

There are also many personal fuelwood harvesters in the Whiskey Jack Forest who rely on forest access roads. It is expected the number of personal fuelwood licenses to increase as the population seeks alternate sources of fuel to heat residential homes as fossil fuel-based energy prices continues to escalate.

Volume by Type and Facility

Communities that have received significant volumes of wood from the Whiskey Jack Forest over the last 12 years include Kenora, Dryden and Ear Falls. The amount delivered to each destination changed from year to year as impacted by mill closures and market conditions.

Table 10 provides the volume of wood from the Whiskey Jack Forest as utilized by facility over the 14-year period, from 2009 through 2023. Details of these wood deliveries are included in Supplementary Documentation E. This table also provides the percentage of total volume delivered to each mill during the 14-year period.

The community of Kenora received the greatest amount of timber, chips or other forest resources from the Whiskey Jack Forest due to the proximity of the Whiskey Jack Forest in relation to the Weyerhaeuser Company Limited mill situated in Kenora. Over the 12-year period reported, the Weyerhaeuser Company Limited mill received 46% of the delivered fibre from the Whiskey Jack Forest, the vast majority being Poplar. Prendiville Industries Ltd. In Kenora received 16% of the volume (majority being softwood fibre) between 2019-2022 when the mill was operational before being permanently shut down.

Deliveries to Domtar Inc. (now operating as Dryden Fibre Canada, ULC) in Dryden have been consistent as the second largest market of fibre with 32% of Whiskey Jack Forest delivered volumes (all softwood Spruce, Pine, Balsam Fir).

Eacom Timber Corporation (now operating as International Forest Products Limited (Interfor)) in Ear Falls received 3% volumes over the reporting period (all conifer).

Table 10 Destinations of Wood from the Whiskey Jack Forest 2009-2022

Facility Name	Facility Code	Location	Merchantable Volume (m3) 2009-2023	
Weyerhaeuser Company Limited	1422	Kenora	363,036	46%
Dryden Fibre Canada ULC	1103	Dryden	249,170	32%
Prendiville Industries Ltd.	1401	Kenora	126,230	16%
International Forest Products Limited (Interfor)	1510	Ear Falls	24,998	3%
Ontario	9999		13,707	2%
Norbord Inc.	1240	Barwick	5,854	1%
E.&G. Custom Sawing Ltd.	1410	Kenora	3,294	0.4%
1358807 Ontario Limited	1423	Perrault Falls	1,607	0.2%
Wincrief Forestry Products L.P.	1425	White Dog	48	0.0%
1358807 Ontario Limited	1426	Perrault Falls	22	0.0%
Total			**787,966**	**100%**

Sawmill Residue Destinations - Destination of sawmill residues (for example, chips, sawdust) produced by sawmills from fibre from the Whiskey Jack Forest are delivered to various mills across Northwestern Ontario, including mills in Dryden and Kenora (see Supp. Doc. E, Table 5 for specific locations).

Harvest Volumes and Crown Dues - A summary of the Crown revenues per cubic metre harvested for the 2009-2023 period is presented in Table 11. The reported Crown stumpage charges ranged from approximately $4.10 to $12.10/m3 over the 10-year period, with a 14-year average of approximately $8.00/m3.

Table 11 Crown Charges 2009-2023

Fiscal Year	Average Crown timber charges ($/m^3)
2009/2010	9.5
2010/2011	7.5
2011/2012	9.9
2012/2013	6.7
2013/2014	7.5
2014/2015	4.1
2015/2016	6.7
2016/2017	8.1
2017/2018	6.8
2018/2019	8.3
2019/2020	5.7
2020/2021	9.8
2021/2022	12.1
2022/2023	9.3
Average	**8.0**

2.2.3.2 Recreation and Tourism

Crown land recreation and tourism is an important benefit provided to the people of Ontario by the Whiskey Jack Forest. Many of the lakes and waterways of the Whiskey Jack Forest provide wilderness experiences and opportunities for recreational boating, fishing, hunting and other outdoor activities.

The tourism industry has been an important component in the Kenora and Red Lake areas for a long time. Some lodges and cottages were in operation by 1905. At that time the activities were based on hunting, fishing and canoeing opportunities. The Whiskey Jack Forest has attracted recreation-based tourism since the late 19th Century due to its variety of natural values. The area continues to be a desired recreational destination for canoeing, boating, fishing, hunting, hiking, snowmobiling, ATV, camping and cottaging for the following reasons:

- There are more interconnected lakes, rivers and portages.
- The rugged topography including cliffs, low wetlands, viewpoints and island-dotted lakes provide excellent scenery for summer and winter travelers.
- The area is traversed by numerous trails providing winter recreation opportunities by snowmobile, cross-country ski, or dog sled. In the summer, canoeist and hikers can access remote locations.
- There are numerous cultural heritage values including very old aboriginal heritage sites.
- And more recent logging and mining heritage sites.

There are numerous tourist operators in the Whiskey Jack Forest. The recreational activities provided by these outfitters include options for fishing, hunting, camping and other eco-tourism opportunities. The number of individuals, residents and non-residents, procuring services from these tourist establishments are numerous, and they contribute a significant amount of economic resources to local communities. See Supplementary Documentation E – Social and Economic Description, Section 2.2.4.1 for more information.

Although a variety of outdoor recreation activities are provided by these tourism businesses, the primary activities offered at the Resource-Based Tourism (RBT) lodges and outposts in the Whiskey Jack Forest are fishing and hunting opportunities. In addition to the RBT outfitters, there are a significant number of fishing and hunting opportunities offered by operators on the forest that are not classified as RBT.

Provincial Parks and Conservation Reserves offer local environmental, social and economic values, although these values can be impacted by land use decisions that occur within, adjacent and beyond the protected area boundary. Provincial Parks and Conservation Reserves provide places where people can enhance their health and well-being through enjoyment and recreational use of the outdoors, while developing a greater appreciation for Ontario's natural diversity. The provincial parks and conservation reserves in or adjacent to the Whiskey Jack Forest are listed and described in Section 2.1.4.3.1.

Economic impacts are based on expenditures such as those made by the park on operations and capital, as well as average visitor trip expenditures (camper and day visitor). As well, public and municipal officials should be aware that Provincial Parks help to make their communities attractive for business as well as for tourists and retirees. Communities with attractive waterfronts, low crime, recreational activities and healthy environments are sought out by the retirement community. The park budget (operating and capital) represents a grant or transfer payment from the government to their community. Not all communities have this transfer. The community may also receive grants in lieu of taxes.

Other recreation activities/facilities in the forest include; Crown land camping areas, snowmobile trails, cross-country ski trails and numerous old forest access roads and mining trails that are utilized by off-road vehicle enthusiasts. There are various MNRF public access points and campsites. There is potential for winter tourism activities such as snowmobiling and ice fishing.

Summary of First Nation and Métis Use of Other Resources

First Nation and Métis community members actively use portions of the Whiskey Jack Forest for many resource- based activities. First Nation and Métis values for the Whiskey Jack Forest are illustrated on Values Map 4.4.

a. Fishing

Several First Nation communities hold commercial fishing licenses on Lake of the Woods and inland lakes. Lake of the Woods and surrounding lakes are used for subsistence fishing by community members. Surrounding tourist lodges provide some employment opportunities for First Nation residents as guides in the sport fishery.

b. Trapping

First Nation community individual hold registered trap lines located all or partially within Kenora District. There are approximately 17 First Nation Community traplines located with the Whiskey Jack Forest.

c. Wild rice

Wild rice is harvested annually by community members for personal use and re-sale from various lakes throughout the area.

d. Cultural and Social, other Wildlife

Special sites within the forest are used for traditional cultural purposes such as fasting, vision quests and offerings. The specific location of these sites are known to community members, and the community is encouraged to participate in the forest management planning process to ensure these values are considered in proposed forest management activities.

Certain wildlife species, such as the bald eagle, have a cultural and social significance to Indigenous people. The protection and management of these species and their habitats is important.

While the subsistence hunting, fishing, and gathering of resources from within the forest are an integral part of community existence, there are no accurate records of the level of such harvest. The harvest of deer, moose, waterfowl, rabbits and grouse provides an important source of food to community members.

2.2.3.3 Mining, Aggregate and Hydro Generation

Mining and Mineral Exploration

Currently, there is no mineral production occurring within the Whiskey Jack Forest. Historically, metal production occurred in the southern portion of the Whiskey Jack Forest between 1893 and 1951 at the Wendigo Mine. Production totaled 67,324 ounces gold, 14,762 ounces silver and 1.89 million pounds of copper.

Within the Whiskey Jack Forest, the Uchi and Western Wabigoon subprovinces have the highest potential for metallic mineralization, with documented mineral deposits of gold, copper, zinc, nickel and platinum occurring throughout. Gold is particularly prospective in these areas. The West Wabigoon subprovince, in the southern portion of the WJFMU, is also host to uranium mineralization occurring within felsic intrusive pegmatites which can be found between East Hawk Lake and Vermillion Bay. The Richard Lake Prospect is a developed prospect with reserves with a possible resource of 650,000 tons at 0.10% U3O8 (uranium oxide).

Within the northern portion of the Whiskey Jack Forest, the English River subprovince, particularly the Separation Rapids greenstone belt, has a high potential for rare-metal mineralization. Lithium, cesium and rubidium minerals have all been identified in pegmatite intrusive rocks near the Separation Bridge area. Gold and copper mineral occurrences are also located in this part of the forest.

The Winnipeg River subprovince, located in the northern portion of the Whiskey Jack Forest, has a high potential for building stone, due to the presence of homogeneous, equigranular, low-fractured felsic intrusive rocks with a variety of marketable stone colours. There are two past-producing quarries and four producing quarries in this area. Two of the producing quarries, Forgotten Lake and Red Deer Lake, were in production year-round in 2020, producing a total of 2822.4 m^3 and 1449.2 m^3 for the year, respectively.

There are currently an estimated 4,238 active mining claim cells recorded throughout this management unit, as indicated on ENDM's Mining Lands Administration System (ENDM, April 28, 2021). These claims cover an area of 132,455 ha, making up 12.4% of the WJFMU. These claims represent an investment in the management unit of approximately $211,900 CDN for claim cell registration which directly relates to its mineral potential. In addition, there is an estimated dollar expenditure of $1,695,200 CDN per year related to mineral exploration work required to keep the claims in good standing. The majority of the claims occur in the northernmost portion of the Whiskey Jack Forest.

Please refer to Supplementary Documentation E - Appendix 2 for detailed maps of bedrock geology and mineral deposit inventory records, surficial geology, abandoned mines information system records and land tenure, past assessment work and valuation.

Aggregate

Most of the Whiskey Jack Forest, in both the north and south portions, consist predominantly of undifferentiated igneous and metamorphic bedrock exposed at surface or covered by a discontinuous, thin layer of drift.

The southern portion of the Whiskey Jack Forest contains pockets of ground moraine and glaciofluvial outwash material. The ground moraine is made up of till with a sand to silty sand matrix and a high content of clasts. It typically forms a thin veneer over much of the bedrock in the area but can be found in pockets 7 to 10 m thick. The glaciofluvial outwash deposits consist of sand and gravel and typically occur in topographic lows in the bedrock.

Extensive glaciolacustrine basin and quiet water deposits occur in the bottom half of the northern portion of the forest consisting of silt and clay and minor sand. In the eastern part of the northern forest, north and east trending belts of glaciofluvial ice contact deposits occur, made up of gravel and sand and minor till. These tend to occur alongside both glaciofluvial outwash deposits and glaciolacustrine nearshore and beach deposits. The outwash deposits consist of gravel and sand and the nearshore and beach deposits are made up of silt and clay and minor sand. Pockets of ground moraine till are found throughout the northern Whiskey Jack Forest. There is also a centrally occurring fluvial deposit of gravel, sand, silt and clay in the northern portion of the forest as well as some small local deposits of peat, muck and marl variably dispersed throughout.

Potential sand and gravel resources may be found within the ground moraine, glaciofluvial and fluvial sand and gravel deposits which can be found throughout most of the Whiskey Jack Forest, but particularly concentrated in the southern half of the WJFMU (including both the northern and southern portions).

Surficial geology information is from Ontario Geological Survey 2000, 1:1,000,000 scale Quaternary geology, seamless coverage of the Province of Ontario: Data Set 14 – Revised, and Aggregate Inventory of the Kenora Area, Ontario Geological Survey 1980, Open File Report 5301.

There are 58 active aggregate pits and quarries located in the WJFMU.

Hydro Generation

There are five hydroelectric generating stations located within or adjacent to the Whiskey Jack Forest. These generating stations are owned by Ontario Power Generation which employs 37 people (1 management, 36 Union Representatives) in the Kenora and Ear Falls Districts. Four of these stations are located on the English River between Lac Seul and the Manitoba border and one station is located on the Winnipeg River between Lake of the Woods and the English River.

1. Caribou Falls - Caribou Falls consist of three power generating units built in 1958 on the English River at the outlet of Umfreville Lake. The Caribou station was the third plant built along the English River which represented just a fraction of the widespread program undertaken to meet the challenge of expansion in mining and also pulp and paper industries.
2. Whitedog Falls - This facility consists of three power generating units built in 1958 on the Winnipeg River at Whitedog Falls.

3. Kenora Power House and Norman Dam - These generating stations are owned by Resolute Forest Products (formerly AbitibiBowater Inc.). The Kenora Power House is located on the Winnipeg River in Kenora at the outlet of Lake of the Woods. The Norman Dam generating station is located on the Winnipeg River in Kenora.

Two additional sites owned by Ontario Power Generation are located within the district:

4. Ear Falls - There are four power generating units at Ear Falls located on the English River at the outlet of Lac Seul. The first unit began operating in 1930. Additional generating capacity is being developed at the Ear Falls GS by adding a new 12.5 MW generating unit capable of generating approximately 52 million kilowatt hours of hydroelectricity per year.

5. Manitou Falls - This facility is located on the English River where it enters Barnston Lake downstream of Ear Falls. There are five operating units located at this facility. Construction on this facility began in 1953.

2.2.3.4 Other Uses

Trapping

Trapping provides seasonal employment for 101 registered traplines in the Whiskey Jack Forest. The expected average resources value per trapline is estimated at $2,440. Since all the trappers work out of their home it would not be appropriate to identify their names in this document. The major fur bearing animals that are of economic importance are beaver, fox, muskrat, lynx, otter, mink, fisher, weasel and marten. Registered trap lines cover the entire Whiskey Jack Forest (Values Map 4.4).

Baitfish

There are 71 baitfish harvest areas on the Whiskey Jack Forest. Baitfish is consumed locally by the angling industry. The baitfish industry provides primary and supplemental income to this sector and complements the local angling industry. These activities rely heavily on forest access roads in order to conduct their respective harvesting activities. Minnows and leeches are the primary types of baitfish harvested from the Whiskey Jack Forest.

Commercial Bear Management

There are approximately 131 commercial bear management areas on the forest operated by 37 tourist operators. Majority of these areas are accessible from the existing road network on the unit. The bear management areas are distributed throughout the unit except for the areas close to populated centres. Registered bear management areas cover all the Whiskey Jack Forest.

Fuelwood

Local residents use the forest for fuelwood cutting; jack pine, spruce, birch and poplar.

MNRF Kenora District Office

There are approximately seven (7) persons working at the MNRF Kenora District involved on a day-to-day basis with the Whiskey Jack Forest.

2.3 First Nation and Métis Background Information Report

The following First Nation and Métis communities have been identified to have traditional lands, values and/or interests in or adjacent to the Whiskey Jack Forest:

- Wabauskang First Nation
- Asubpeeschoseewagong First Nation
- Naotkamegwanning First Nation
- Wabaseemoong Independent Nations
- Northwest Angle 33 First Nation
- Niisaachewan Anishinaabe Nation
- Ojibways of Onigaming
- Shoal Lake 40 First Nation
- Anishinaabeg of Naongashiing
- Wauzhusk Onigum Nation
- Washagamis Bay First Nation
- Animakee Wa Zhing 37 First Nation
- Lac Seul First Nation
- Eagle Lake First Nation
- Region One - Métis Nation of Ontario (MNO), or otherwise known as the Northwest Ontario Métis Community (NWOMC).

During the initial stages of the FMP process, these First Nation and Métis communities were invited to select a Customized Consultation Approach intended to best meet the needs of their respective community. To respect the Northwestern Ontario Métis Community (NWOMC) Consultation Protocol for Treaty #3, Lake of the Woods/Lac Seul and Rainy Lake/Rainy River Traditional Territories, MNRF has directed correspondence relating to the forest management planning to the Northwestern Ontario Métis Community Consultation Committee. Four (4) First Nations and the NWOMC chose to appoint a community representative to the Planning Team, and two (2) First Nation communities developed separate formal Customized Consultation Approaches. The Planning Team fulfilled all requests for meetings, presentations or information from the participating First Nations communities in accordance with Customized Consultation Approaches, and as requested for other communities without formal CCAs.

MNRF invited the Indigenous communities to identify First Nation and Métis values and participate in the preparation of the draft First Nation and Métis Background Information Reports, or to review and update the existing First Nation and Métis Background Information Reports. In addition, these Indigenous communities were encouraged to

provide updated values information to the Planning Team for consideration in plan development.

The First Nation and Métis Background Information Reports include:

(a) a summary of the use of natural resources on the management unit, particularly with respect to hunting, fishing, trapping, harvesting of wood for domestic purposes, and gathering;
(b) a summary of forest management-related concerns;
(c) a summary of the involvement of First Nation and Métis communities in the preparation of the report; and
(d) a First Nation and Métis values map.

Any values discussed or shared, that are of importance to the Indigenous communities and that may be affected by forest operations in the management unit will be portrayed on the First Nation and Métis values map, held in confidence at the MNRF Kenora District Office.

First Nation and Métis Community Background Information Reports are included in the FMP Supplementary Documentation C only if a First Nation or Métis community individually agrees to their community's report being included in the FMP.

The Wabauskang First Nation Background Information Report is included in Supplementary Documentation C of the management plan with permission of the community. This Background Information Report was developed by the Wabauskang Resource Office with the participation of band members through interviews, along with a literature review of previous community land and resource use reports, and a review of the Wabauskang First Nation's community geospatial database of land and resource use sites. The Wabauskang First Nation BIR summarizes past and current resource use and recent forest management-related concerns as of July 2023.

Forestry-related interests and/or concerns identified in the Wabauskang First Nation Background Information Report are as follows:

> "Aside from commercial interests in wood harvesting, Wabauskang community members have participated in the forestry sector in the WJFMU as pinecone harvesters and tree planters for the Ministry's silviculture program, as well as working in the Ministry's local fire service. Community members appreciated these opportunities to earn money in the forest and to teach younger family members about hard work. Community members also expressed the value these opportunities create to learn more about the local forest and how it is

managed by the government. In addition to these individual benefits for community members and their families, many of those interviewed expressed an understanding and appreciation for the benefits that commercial forestry in the WJFMU brings to the communities in the surrounding area.

While community members recognize and appreciate the necessity of forestry in the economy of the community's traditional territory, many still express concerns about the impact it has on local wildlife and landscapes. In addition to the several forestry related concerns about wildlife outlined by community members in the earlier sections of this report, members also attribute high bird mortality to forestry-related chemical spraying. Several community members also expressed sadness at the sight of the "bald spots" clearcuts in the forest, and others feel that a temporary moratorium on commercial wood harvesting should be put in place to "give the forest a rest". Community members have also expressed concerns that natural resource companies operating in the Whiskey Jack Forest are not being held accountable when they do not follow proper environmental practices, for things such as storing of fuel and managing waste."

No other First Nation or Métis community provided permission for their Background Information Report to be included in the FMP. These reports are retained at the MNRF Kenora District Office and are not included in the FMP supplementary documentation.

3.0 LONG-TERM MANAGEMENT DIRECTION

3.1 Introduction

The long-term management direction for the Whiskey Jack Forest provides guidance for the levels of access, harvest, renewal and tending activities required to achieve the desired forest and benefits. Development of the long-term management direction was conducted to balance biological, social and economic objectives over the long-term.

Background information (Section 2), management considerations (Section 3.2), development of inputs for strategic modelling (Section 3.3), information gained through Desired Forest and Benefits consultation (Section 3.4), strategic management zones (Section 3.5) and management objectives (Section 3.6) were considered in the development of the Long-Term Management Direction.

The Long-Term Management Direction provides a means of assessing the sustainability of the management strategy through the measurement and monitoring of indicators that have been developed for each management objective. Analytical models and tools were used to analyze forest regulation (projected harvest and renewal levels) and their impact on achievement of management objectives. These management objectives, both quantitative and qualitative are based on the desired future forest and benefits.

The Available Harvest Area (AHA) for the 10-year period of this forest management plan is presented by forest unit in Section 3.7.1, as well as the criteria used for the selection of areas for harvest (Section 3.7.2). Assessments of the extent to which plan objectives have been achieved and a preliminary determination of sustainability are summarized and are also included in this section. Management objective achievement is determined by the overall achievement of the established desirable levels and targets (Section 3.7.3).

The spatial landscape pattern, social and economic assessment and a risk assessment associated with implementation of the Long-term Management Direction are also summarized in Sections 3.7.4 to 3.7.6.

Primary road corridors required for forest access for the next 20 years (2024-2044) are discussed in Section 4.5.1

3.2 Management Considerations

Management considerations are changes to the forest condition (e.g., large natural disturbance, or landscape pattern) or social, economic or environmental concerns that will be considered in the development of the long-term management direction. Management considerations are also considered in the planning and implementation of operations.

Some management considerations were identified from Section 1.2.3 of the *Forest Management Planning Manual*, while other management considerations were identified during development of the Long-term Management Direction by the Planning Team. Sources of information on the management considerations included direction from the 2012 FMP, new MNRF policies and guides, the MNRF decision on strategic management zones, results of consultation efforts, previous forest inventories, the process to update the 2024 forest resources inventory, the Independent Forest Audit, and Planning Team discussions on the Dynamic Caribou Habitat Schedule and primary road access.

The following significant management considerations for strategic LTMD development, or planned operations were discussed by the Planning Team, and the resulting considerations in the FMP are summarized:

A. Recent, large natural disturbances, changes in land base

Discussion:

- No management unit boundary changes
- Planning Composite Inventory was updated with new inventory, depletions, renewal to 2021-2022
- No large, natural disturbances 2012-2020.
- The Whiskey Jack Forest was recently impacted by three (3) significant fires (KEN051, KEN025 and KEN030) during the 2021-2022 operating period that collectively burnt 4,990 ha on the Whiskey Jack Forest. All three of these fires burnt on both the Kenora and Whiskey Jack Forests.
    - KEN051 was a large fire that started in Woodland Caribou Provincial Park and burnt across the Kenora Forest, before burning approximately 3,277 ha on the Whiskey Jack Forest.
    - KEN025 consumed approximately 1,323 ha on the Whiskey Jack Forest and was located along Highway 17E.
    - KEN030 was a fire adjacent to KEN025 and burnt at the same time, this fire burnt a total of 390 ha on the Whiskey Jack Forest.

How Addressed in FMP:

- Natural depletions were included in the revised Planning Composite Inventory (PCI) and used for the Base Model Inventory (BMI) for a description of the current forest condition and for strategic modelling.

B. Access to remote tourism areas

Discussion:

- Remote Tourism operations identified in Social and Economic Description (Supp Doc E)
- Considered in Stage Three: Proposed Operations planning for road construction and harvest block layout.
- No “roadless” areas designated on WJF.

How Addressed in FMP:

- Table FMP-11 includes conditions on road construction and use associated with tourism values (may be conditions on harvest, renewal and tending also).

C. Other planning initiatives

Discussion:

- The Kenora District decision on Strategic Management Zones (SMZs) was provided to the Planning Team for this FMP. The Kenora District SMZ decision was also considered in Operational Management Zones (OMZs) and resulting desirable levels of harvest area-related objective indicators.
- SMZs were identified with whether they were eligible for forest management activities, or not.

How Addressed in FMP:

- Harvest eligibility criteria based on OMZs (subunit).
- Operational planning of harvest areas and road construction in eligible zone only.
- Fire suppression is planned for strategic zone without forest management activities.
- “Harvest” zone planning for Stage Two: LTMD resulting Available Harvest Area for timber production (documented in Table FMP-12 Harvest Area, and associated harvest volume in Tables FMP-13-14-15, and relevant objective indictor achievement Table FMP-10).

D. Independent Forest Audit (IFA) Findings related FMP Development

Discussion:

- IFA completed in 2019, covering the 2014-2019 period.
- Findings related to FMP development:
  - Indigenous engagement by MNRF on forest use, forest benefits, education and training related to forestry, and other topics of interest to people who live in and

make extensive use of the Whiskey Jack Forest (FMP requirement was met, this is separate from FMP preparation, speaks to inter-FMP relationship building / community expectations).
- No harvest zone designated after plan approval without consultation. Next FMP LTMD must reflect harvest/no harvest zones.
- Renewal strategy for tending not met (Actual tending level lower than planned).
- Poplar management not consistently successful, especially on in-block roads, landings and skid trails.
- Red pine and white pine seed in storage for renewal low/insufficient.
- Compliance issues, including litter in an aggregate pit, number of inspections
- Plan objectives related to, or dependent on, harvest area and use of herbicides will not be achieved.
- Consistency in Forest Units between FMPs (mentioned in summary)
- Indigenous (and Public) information on use of herbicides as a silvicultural tool in forest management (mentioned in summary)

How Addressed in FMP:
- Efforts by District and Miisun staff to engage Indigenous communities in FMP development (described in Section 3.7.3).
- Indigenous communities may negotiate Customized Consultation Approaches (CCAs) for the FMP to aid meaningful engagement.
- The Kenora District decision on Strategic Management Zones (SMZs) was provided to Planning Team for this FMP. The Kenora District SMZ decision was also considered in Operational Management Zones (OMZs) and resulting desirable levels of harvest area-related objective indicators.
- Forest units following FMPM to be consistent with BLG LGFU (and regional SFUs)
- Renewal transitions and costs consider level of anticipated (realistic) herbicide use.

E. Any issues with funding for silviculture?

Discussion:
- No issues.

F. Shifts in wood markets or utilization

Discussion:
- While shifts in markets or wood utilization may be on-going, it is important to provide a supply of timber from the Whiskey Jack Forest in order to provide continued local and regional socio-economic benefits.
- The closed Kenora Forest Products sawmill was purchased out of receivership in October 2020 by GreenFirst. Lumber Assets Holdings LP (LAH) was formed to manage the facility restart and operations. LAH is also operating under the name

of GreenFirst. As of August 11, 2022, GreenFirst had commenced the dismantling of sawmill equipment at Kenora and started to move them to other sawmills.

- In June 2021, MNRF offered to commence a process to transfer the old Prendiville Supply Agreement to GreenFirst. No transfer has occurred to date. In the interim (while GreenFirst is not operating) Miitigoog LP has the ability to market the wood (Open Market) and to make short-term business arrangements for use of the wood.

How Addressed in FMP:

- Wood utilization included in Stage Three: Proposed Operations Tables FMP-14 and FMP-15.
- LAH (GreenFirst) volumes are identified as "Open Market" until a mill is operational.

G. Species At Risk (SARs)

Discussion:

- List of known SARs included in FMP text, not all are forest-dependent, many do not affect LTMD but may affect planned operations and area of concern planning.

How Addressed in FMP:

- Caribou zone will be specifically managed with DCHS.
- Some individual SARs will have AOCs in Table FMP-11
- Some groups of SARs (e.g. songbirds) will have Conditions on Regular Operations (CROs) in FMP text
- Some SARs (e.g. snapping turtle) will have Conditions on Roads, Landings and Aggregate Pits (CORLAPs) in FMP text
- If a new SAR is identified during plan implementation that may be impacted by operations, an AOC, CRO or CORLAP will be developed with MNRF, if needed (some are addressed through coarse filter / fine filter management, or considerations for a different SARs.).

H. Modified Wildland Fire Response Areas

Discussion:

- None identified in 2012 FMP
- **Allow Fire** – None.
- **Limit Fire** – Limit everywhere in Whiskey Jack Forest. All areas eligible for forest operations (SMZB), caribou zone, all of SMZA.
- "Limit Fire" in Wood Storage, Wood merchandizing yards, if any identified.

How Addressed in FMP:

- Managed Wildland Fire Response Areas are identified in FMP with areas for Limit Fire and Allow Fire (Section 4.8).

I. Climate change

Discussion:

- FMPM 2020 wording (pages vi-vii): " The MNRF continues to improve the understanding of climate change and its effect on Ontario's Crown forests working with other agencies and partners on research studies and the sustainable forest management framework will be adapted to reflect this improved understanding over time to ensure the long-term health of Ontario's Crown forests. "
- Ontario's sustainable forest management framework has been designed to maintain healthy, resilient forests that are best able to resist and adapt to climate change impacts.
- Ontario's Crown forests are managed to mitigate the effects of climate change through the amount of carbon that is stored in trees and harvested wood products, or released into the atmosphere (e.g. forest types/ages, harvesting, modified fire response).
- There are no provincially required strategies. Research continues to be monitored.
- Forest management guides are reviewed and revised, if warranted, every five years.

How Addressed in FMP:

- BLG direction to maintain a natural range of tree species mixes, ages, and patch sizes to enable forest ecosystems to be resilient (i.e. having the capacity to adapt) to changes in temperature and precipitation (Objectives 1, 2, 3).
- Operations Task Team will consider if seed transfer will be included in planned operations or can be considered during plan implementation.
- Re-planning is conducted frequently for 10-year FMPs, incorporating current forest inventories, forest management policy and guidance, and Planning Team decisions.

3.3 Base Model

The base model serves as the common starting point for strategic modelling and analysis for the development of the LTMD.

The assumptions used to develop the base model inventory and base model related to the land base (e.g., ecological zones, land use decisions), forest dynamics (forest succession, growth and yield), available silvicultural options, biological limits, and other model assumptions identified by the Planning Team are included in Supplementary Documentation B – Analysis Package.

Section 5 (Subsections 5.1 to 5.2) of Supplementary Documentation B – Analysis Package provides the details of the development of the base model inventory, and Section 6-8 includes details on the base model.

The Planning Team reviewed and confirmed or revised model assumptions utilized in the 2012-2024 FMP LTMD using current scientific research and recent surveys and reported information for the Whiskey Jack Forest.

An analysis of past silviculture performance provided the default silvicultural assumptions for the base model. The model assumptions were reviewed with consideration of the best available science and information, new legislation, regulation and policy, and changes to forest condition and land base.

3.3.1 Analysis of Silvicultural Activities

The Forest Management Planning Manual requires that a registered professional forester (R.P.F. licensed by the Ontario Professional Foresters Association) undertake an analysis of silvicultural activities for certain Annual Reports (FMPM 2009 required this analysis in the Year Seven Annual Report, (FMPMs 2017 and 2020 require this analysis in the Year Five Annual Report). This analysis was completed by a Miisun Registered Professional Forester, for inclusion in the Year Seven Annual Report (2018/2019) for the Whiskey Jack Forest. Excerpts from this silvicultural analysis follow:

As reported in the 2018/2019 Annual Report, only 15% of the 2012-2022 FMP for the Whiskey Jack Forest had been harvested at that time. This was not a new trend as over the previous FMPs, the actual harvest never approached the level of the planned area. Subsequently, the renewal and tending areas followed the same pattern.

The annualized amount of actual Natural regeneration compared to the forecast levels over the previous FMPs and the current FMP range between 5% all the way up to 64%. The high of 64% of planned natural regeneration was achieved during the 2004-2009 FMP and was indicative of the increased use of poplar on the Whiskey Jack Forest and the collapse of the local conifer markets. The harvesting operators were forced to change harvesting patterns to remain viable. This was a short-lived trend and the level in the 2012-2022 FMP was actually 5% of the planned level. This extremely low level of natural regeneration is a product of the location of recent harvest on the Whiskey Jack Forest. The majority of the pure poplar is located within the strategic zone where no forest management operations may be planned, and as such the recent harvest has been skewed to more conifer and mixedwood areas.

Actual planting levels ranged from 7% in the 2012-2022 FMP to a high of 188% during the 2004-2009 FMP. The current planting levels are indicative of the harvesting levels and the forest units that were being harvested.

The levels of actual seeding to planned seeding also varied greatly. During the 1999-2004 FMP there was an annualized level of 1,470ha of seeding conducted compared to the 2004-2009 FMP that had an annualized amount of 707ha seeded. 2012-2022 FMP levels of seeding were approximately 2% of planned and this is lower than expected based on harvesting levels of conifer. When the site conditions required for seeding were considered and the lack of tending, this decrease in seeding was expected.

Aerial tending on the Whiskey Jack Forest has not occurred since 2001, this has had an impact that can be seen through the forest units that show a higher rate of movement to a non-target forest unit at free-to-grow. A small ground spray was implemented during 2014 on a small, retreated area off Highway #804.

The overall level of achievement for all renewal operations is directly related to harvesting operations. As the harvest levels decrease, so does the area requiring silvicultural treatment. The one exception to this is tending. As chemical tending has not been completed on the Whiskey Jack Forest since 2014 and will most likely be used minimally moving forward, the planned levels will need to be a major consideration when the 2023-2033 FMP (now the 2024-2034 FMP) is created.

Registered Professional Foresters on the Planning Team (both Miisun and MNRF), as well as R.P.F.s contributing as Plan Science Advisors from MNRF NWR Region, developed and agreed on the growth and yield assumptions used in the Base Model inputs and silvicultural options (see Supplementary Documentation B – Analysis Package, Section 6).

3.3.2 Analysis of Past Silvicultural Performance

The analysis of past silvicultural performance was conducted by a Miisun Registered Professional Forester with assistance from other MNRF and consulting R.P.F.s. The analysis included a summary of past silvicultural treatments by forest unit and the resulting success of those silvicultural treatments (to specific future forest units and productivity yields). This analysis informed the projected renewal pathways included in the strategic modelling. The analysis of past silvicultural performance and the projected silvicultural options were reviewed by MNRF R.P.F.s on the Planning Team and Regional Science and Plan Advisors prior to being included in the Base Model inputs.

Silvicultural Options, including the Default Post-harvest Renewal Transitions (PHRT), are documented in Supplementary Documentation B – Analysis Package, Section 6.2.3.3. The Post-harvest Renewal Transition Rules are also included in Table FMP-5.

A systematic analysis was used to determine the post-harvest renewal transitions (PHRT) for the strategic model which utilized the draft "*MNRF Implementation Direction for Using Past Silvicultural Performance to Develop FMP Assumptions for Post-harvest Succession"* to inform this process. Past silvicultural information for successfully established renewal areas from the inventory was analyzed to summarize actual establishment success by forest unit.

This analysis utilized Whiskey Jack Forest Annual Report data collected from 2001 to 2021. The data was sorted to show the depleted forest unit, the silviculture treatments that were applied and what forest unit it transitioned to at the free-to-grow (FTG) stage. The results of the analysis of past silvicultural performance are included in Supplementary Documentation B – Analysis Package, Section 6.2.3.3, subsection A.

Next the pre-harvest forest unit was reclassified to approximate the 2024-2034 FMP PLANFU definitions. The PLANFU definitions in the 1999, 2004, 2009 and 2012 FMPs for the Whiskey Jack Forest all used different forest unit definitions as compared to this 2024 FMP. The above steps resulted in a regeneration database including the pre-harvest condition, broad renewal treatment applied (natural, plant, seed), and resulting 2024 stand condition, all using the 2024 FMP forest units.

Several pre-harvest forest conditions were identified as having "little" (lack of) data by the APSP. Lack of data can be attributed to two factors. The first being a small percentage of the forest being occupied by these forest units and the second a low level of utilization or harvesting in one of the forest units. Renewal data from adjacent geographic areas was compiled to address these renewal pathways with little data. Where local data was

not available, a regional review of the applied silvicultural options (i.e., silvicultural systems and applied SGRs) on regional forests was conducted and compared against the practices on the Whiskey Jack Forest to ensure that there was consistency. Since these changes to address poor transition data was supported by regional data or changes to the historic silvicultural program, no subsequent monitoring program will be required.

Each resulting post-harvest transition also includes a predetermined assignment of an appropriate yield curve based on the plan forest unit. Each plan forest unit yield curve was cross compared to the 2012-2022 FMP yield curves, to compare similarities and differences to ensure plan to plan assumptions were consistent with expected yield results. Likewise yield curves were compared with local operational knowledge.

Projected post-harvest renewal transitions are consistent with the analysis of past silvicultural performance and are consistent with the approved silvicultural guide. The 2024-2034 FMP inventories used for this analysis were of substantial size and generally had strong data, so minimal enrichment was needed, and direction in silvicultural guides was followed and included in default transitions.

Renewal strategies and the resulting transitions were reviewed for consistency between the renewal conducted for the past 20 years (renewal data) and other regional data. These transitions were also compared to the proposed silvicultural strategy for the 2024 FMP.

During the past 20 years, the silvicultural strategies applied to the Whiskey Jack Forest have been consistent with very low levels of herbicide use. The Planning Team confirmed a low to no chemical tending program for the Whiskey Jack Forest 2024-2034 FMP, consistent with forest management practices over the past 20 years, and in accordance with desired forest and benefits comments for this 2024-2034 FMP (i.e., limit herbicide use, allow very limited herbicide use only when needed for objective achievement).

The Post-harvest Renewal Transition Rules are documented in Table FMP-5. FMP Section 4.2.2.1 Silvicultural Ground Rules details the strategic renewal transitions planned for this FMP period (documented in Table FMP-4).

3.4 Desired Forest and Benefits

As part of the forest management plan objective setting process, it is necessary to understand forest structure and composition, and the goods and services, that are desired from the forest to achieve a balance of social, economic and environmental needs. The desired forest and benefits (DFB) are developed considering the background information available, and include the benefits identified locally by the Planning Team, Local Citizens' Committees (LCC), First Nations and Métis community representatives, and input from the public. Some DFBs are inherently suggested by the *Crown Forest Sustainability Act* (CFSA), the *Forest Management Planning Manual*, MNRF guidelines (e.g., *Forest Management Guide for Boreal Landscapes*); provincial policy (e.g., *Old Growth Policy for Ontario's Crown Forests*) or other direction.

The Kenora MNRF District hosted a series of six (6) desired forest and benefits (DFB) meetings in June, July and August 2021 with planning team members, plan advisors, LCC members, the public and First Nation and Métis community representatives. The purpose of these meetings was to inform participants of the background information and to provide a forum for participants to share their respective interests in the management of the forest. The meeting provided input for the development of objectives, indicators and desirable levels by:

(a) identifying local desired forest and benefits;
(b) reviewing management objectives, indicators, desirable levels, and targets in the current FMP;
(c) reviewing indicators and target achievement from the year five management unit annual report for the current FMP; and
(d) reviewing management objectives and indicators from the FMPM and forest management guides.

During the Desired Forest and Benefits Meetings, participants reviewed and discussed objectives from the 2012-2024 FMP to confirm which objectives were still desired forest and benefits applicable to the 2024 FMP. This review was conducted with information on what mandatory management objective indicators are required by the FMPM 2020 and the *Forest Management Guide for Boreal Landscapes*.

The DFB meeting provided participants with background information on the forest, an overview of landscape level guidelines, review of objectives from the 2012-2024 FMP, and discussion of current socio-economic considerations. Participants were also presented with an initial draft of objectives and indicators for the 2024-2034 FMP, that were prepared with consideration of current policy and forest management direction.

These draft objectives were a starting point for further DFB discussion and revision. Comments from participants of the meetings were recorded during the meetings.

Management objectives and indicators from the 2012-2024 FMP were reconfirmed as being important, and most were carried forward into this 2024-2034 FMP since indicators in the 2012-2024 FMP were consistent with the (then) earlier draft of the boreal forest landscape guide. Minor variations in objective wording and indicator groupings occurred, however the strategic direction for the Whiskey Jack Forest was not appreciably changed.

The Planning Team reviewed the Desired Forest and Benefits Meeting comments and reviewed the LTMD Task Team analysis of how each desired forest and benefits would be addressed in the FMP, or if they were “out of scope” of the FMP. The DFB meetings and comments resulted in one additional management objective for the identification of blueberry harvest areas being added to the set of proposed indicators. The Planning Team discussed indicators of objective achievement and desirable levels were rationalized in the context of overall objective achievement and forest sustainability (Section 3.6 and Section 3.7).

Once FMP objectives and indicators of objective achievement were finalized for the FMP, feedback was provided to DFB meeting participants in two (2) meetings in September 2021. These final DFB meetings provided participants with an understanding of the selected management objectives and indicators and how DFB comments had been considered in the FMP objectives.

Desired Forest and Benefits comments received are summarized below, with reference to how those comments were considered in management objectives or desired levels in the LTMD, or elsewhere in development of the FMP. Comments are broadly grouped by topic and are not listed or ranked in any specific order or priority.

Supplementary Documentation J – Summary of Public Consultation also includes the following summary of the Desired Forest and Benefits meeting comments as required by the FMPM.

Table 12 Summary of Desired Forest and Benefits Meeting Comments
(Table on following pages.)

#	Topic:	General Comment:	How Addressed in FMP:
1	Indigenous Engagement	- Are there any projects or activities planned toincrease engagement of Treaty #3 communitiesduring plan development? - Should FMP development be delayed past pandemic timelines?	Consultation: Miisun and MNRF undertake many meetings and will engage with anycommunity as requested. MNRF invites communities to have a representative on the Planning Team and undertakes the Indigenous Consultation Process. Customized Consultation Approach is offered and implemented when requested (asmay occur for this FMP). Covid has been a challenge for all. MNRF has received better engagement from communities over the past year, ascompared to previous plans. MNRF continues to engage and communicate withcommunities according to the FMPM consultation schedule, while trying to accommodate all communication requests and any Customized Consultation Approaches. Stage 2: LTMD - In addition to communication and consultation activities, the FMP will include a management objective for Indigenous Engagement. The indicator usedfor objective achievement is drafted for Stage 2: LTMD in Table FMP-10 and assessed prior to Stage 4: Draft Plan.
2	Traditional Rights Acknowledgement	- The MNRF hasn't made an acknowledgement and recognition of the rights of specific Indigenouscommunities' rights on this forest. - Our rights to harvest in the forest are recognizedand we haven't seen this written anywhere in the meeting materials to date.	The Forest Management Planning Manual (2020) describes an approach for workingwith First Nation and Métis communities to support their involvement in the forest management planning process in a manner that respects Aboriginal and treaty rights. This assists the Crown with considering specific and individual concerns that communities have and supports in addressing its duty to consult obligations. Consultation and involvement of First Nation and Métis communities during the forest management planning process involves providing an opportunity for communities to raise concerns or potential impacts to Aboriginal and treaty rights. During the development of a forest management plan, the Planning Team considers input from First Nation and Métis communities on how the manipulation of forest cover and other forestry operations can impact Aboriginal or treaty rights, and whether measures can be taken to avoid, minimize, mitigate and/or improve impacts.Information or concerns raised that are outside of the scope of the Forest Management Plan/Planning Team, will be recorded and addressed through the appropriate means.
3	Traditional Rights - Hunting Opportunities	- We need to be reconciled with in some paid capacity because the timber harvest will force us togo and buy meat. People have to be compensatedfor this and they haven't been.	

#	Topic:	General Comment:	How Addressed in FMP:
4	FMP Planning Process -Harvest Zone	- Is FMP planning being conducted with agreement from Asubpeeschoseewagong First Nation, in their traditional area? (with respect to potential moratorium on harvesting for portion of forest).	Out of scope of FMP: District will identify to the FMP Planning Team which area will not be eligible for harvesting during this FMP period. It will be identified in the strategic planning as aStrategic Management Zone.
5	Forest Sustainability(No harvest zone)	- Worried about commercial forestry overharvesting the rest of the forest.	Stage 2: LTMD - The 2023 FMP's LTMD Available Harvest Area will be calculated considering that the no harvest zone is not available. The total harvest volume will becontrolled to ensure that harvest for the long-term (100 years) may fluctuate based on forest condition, but is sustainable in the harvest zone.
6	Forest Renewal andHerbicide Use	- Indigenous community representatives / community members expressed opposition to the use of herbicides on their traditional area, and theydo promote the use of other means to control vegetation or competition of conifers. - Support for keeping herbicide as a tool applied inareas where needed to meet other management objectives (e.g. to maintain or increase conifer forest where broadleaf competition is a problem). - Support to keep herbicide as a necessary tool for forest renewal and want to keep in the available"toolbox". - Limited backpack herbicide application may bebetter than aerial spray. - Don't want available harvest to go down as aresult of lack of herbicide use (Social and Economic benefit). - Consider alternate renewal methods in lieu ofherbicide use (e.g. larger planting stock)	The current 2012 FMP has 30 ha backpack herbicide spray, and no aerial spray. Stage 2: LTMD - strategic modelling renewal assumptions must be consistent with the management decision and expected renewal results (e.g. no herbicides used or limited herbicide use will result in different conifer renewal success rates (Table FMP-5), and have different associated renewal costs). - The LTMD forest renewal projections will be consistent with the silvicultural andherbicide strategy (strategic modelling inputs and results) - Whether herbicide is used, or not, will impact potential future forest types regenerated and may impact timing or level of BLG objective indicator achievement. Stage 3: Planned Operations - includes planned harvest, renewal and tending(herbicide) areas (Tables FMP-12 and FMP-17). - Some prompt planting done (sometimes without prior site preparation), and somelarger planting stock is used. These practices will continue to be considered on a limited basis for appropriate sites. Plan Implementation: Any activities involving herbicides must follow the provincial legislation/regulations, and the approved and registered herbicide label directions forherbicide use.

#	Topic:	General Comment:	How Addressed in FMP:
7		- Support for leaving poplar to grow (no herbicideor tending) as it can be harvested sooner than conifer species, and there is a local mill that primarily uses poplar (Social and Economic benefit). - Concerns about the use of insecticide on theforests. -Feel that spraying is unhealthy and wouldn't gointo sprayed areas for several years to pick berries. - All of us are against pesticide (herbicide) use butdo understand that sometimes it needs to be done.Would appreciate different uses for vegetation management other than herbicides. - General support for prompt regeneration of forest.	-There is a provincial forest pest monitoring program that monitors forest pest activities and informs pest management Plans prior to severe forest mortality occurring. -The Insect Pest Management Plan is a separate FMP that goes through its own consultation process, outside the Whiskey Jack 2023 FMP development process.Information regarding the past Jack Pine Budworm Insect Pest Management Planwill be forwarded on to the concerned parties.
8	Fire Breaks, and ForestRenewal (promoting hardwood regeneration)	- The beneficial fire prevention qualities of hardwood species (poplar, birch) were discussed.Higher combustibility of conifer and older forests were also noted. - Can hardwood be considered and promoted around communities for a fire break (Wabauskangin particular)? - Can the FMP support the Fire Protection Plan fora community?	Customized Consultation Approach - discuss Indigenous community suggestions fornearby harvest (based on the community fire protection plan) Stage 3: Planned Operations - Planned harvest areas can include specific areas to harvest and regenerate to assist with fire breaks (Tables FMP-12 harvest area, FMP-17 renewal). Changing current forest types to less combustible forest types may take several 10-year FMPs to implement, and can be considered while balancing overall objective achievement.

#	Topic:	General Comment:	How Addressed in FMP:
9	Red Pine & White Pine - Forest Renewal, ForestValues, Social and Economic	- There is very limited red pine and white pine inPerrault Falls area, therefore desire to retain thered pine and white pine that is there (do not harvest it). - Support to preserve red pine and white - Noted that red pine primarily is planted (more than is harvested as objective is to increase areaof red pine and white pine). - Small amount of red pine and white pine that isharvested is processed by local sawmills. - Concern for white pine mortality due to blisterrust.	Stage 2: LTMD - Strategic modelling includes the silvicultural strategy to regenerateRed Pine and White Pine areas. Management objectives (Table FMP-10) include indicators for amount of Red Pine and White Pine forest unit area (PRW forest unit) and amount of Old Growth Red Pine and White Pine area. Provincial direction in theBLG requires an increase in PRW forest unit area during plan implementation and over the long-term. - amount of LTMD projected PRW harvest area will be low, due to limited matureRed Pine and White Pine on the Whiskey Jack Forest. Stages 3-4: Planned Operations - Wildlife trees will be left in all harvest areas inaccordance with the Stand and Site Guide. Incidental Red Pine and White Pinetrees in other forest unit areas (not PRW forest unit) will be emphasized for retention/protection as wildlife trees. - Harvest volumes and Wood utilization by mill will be planned, recognizing milldemand for Red Pine and White Pine. - Harvested PRW area will be regenerated to Red Pine (mostly) and White Pine in accordance with Silvicultural Ground Rules.
10	Climate change	- The province should be looking into forest management practices, because they are lookinginto everything else for climate change.	The Ontario government is using an adaptive management cycle for the forestrysector. As the science on climate change evolves and more data becomes available, provincial direction will be given to Planning Teams for future FMPs. Boreal Landscape Guide (BLG) direction (coarse filter, fine filter) provides for variedforest composition, structure and pattern on whole forest as expected under naturaldisturbance pattern. A diverse forest is expected to be more resilient to impacts of climate change.

#	Topic:	General Comment:	How Addressed in FMP:
11	Wildlife Habitat -General	Is there flexibility in which cervids are managed incertain areas?	Stage 2: LTMD - Planning Team must follow the Cervid Ecological Zones guide (which cervids are to be emphasized in various zones). North of caribou continuous distribution line caribou must be emphasized. There is more flexibility in non-caribouzone to emphasize moose or deer in specific areas. Boreal Landscape Guide (BLG) direction (coarse filter, fine filter) accounts for broad wildlife habitat on whole forest as expected under natural disturbance pattern. Cervidemphasis areas are identified as one type of operational management zones. Stages 3-4: Planned Operations - Operations and forest access roads are planned inaccordance cervid emphasis area direction BLG and Stand and Site Guide (SSG).
12	Protections for Species At Risk (Caribou)	- Is caribou south of line being thrown under the bus?	Stage 3 and 4: Planned Operations - Some caribou occurrences have been recorded south of the caribou line. If a calving area is identified south of the line, it has an Area of Concern (AOC) and doesn't allow any harvest during the calving season.
13	Wildlife Habitat - Deer	- Can White Cedar be retained in Deer Yards fordeer habitat and food?	Stages 2-3-4: Planned Operations - Deer Emphasis Area (DEA)(includes DeerYards) are operational management zones in LTMD. DEA developed around favourable forest types like white cedar.
14	Wildlife Habitat - Moose Emphasis Areas / Herbicide Use	- Recent cutover areas providing moose browseshould not be sprayed. - Support to limit the use of herbicide in moose emphasis areas	Stages 3-4: Planned Operations - Forest renewal in Moose Emphasis Areas will beplanned in accordance with current Stand and Site Guide direction to create or maintain specific proportion ranges of three moose habitat types, and to limit herbicide use in MEAs.

#	Topic:	General Comment:	How Addressed in FMP:
15	Wildlife Habitat - Moose EmphasisAreas	- Moose populations and habitat are very important to Indigenous communities. Support was expressed for moose habitat management. - Indigenous community members and knowledge holders can provide information about local moosevalues. - General support for Moose Emphasis Areas - Avoid herbicide in these MEA areas - Especially since some of wildlife habitat criteriataken away, it is good to have moose emphasis areas. Any protection for wildlife is of value. - Desired to have a Moose Emphasis Area developed in the Perrault Falls area. Question ofwhat size it would be?	Customized Consultation Approach - include discussions on Indigenous knowledgeand values Stage 2: LTMD - Candidate MEAs being analyzed (around 10,000 ha in size) andattributes reviewed according to habitat and pattern direction in the Stand & Site Guide for the whole WJF. Selection of FMP MEAs to occur from the candidate MEAs. - MEAs are operational zones and managed according to Stand and Site Guidedirection. - strategic objective indicators for MEA habitat and young forest pattern are assessedfor Plan Start 2023 and Plan End 2033 with planned operations. - Previous "Selected Species", including Moose, are now replaced with the BorealLandscape Guide direction Stages 3-4: Planned Operations - consultation on planned operations in MEAs (must consider Stand and Site Guide direction for moose habitat proportions andyoung forest pattern in MEAs). - road use strategies for roads open/decommissioned in MEAs.

#	Topic:	General Comment:	How Addressed in FMP:
16	Forest Access - MooseEmphasis Areas	- Anything that protects the wildlife in a good wayshould be considered - would like to discuss road decommissioningfurther with constituents - Must communicate benefit to moose population,if road decommissioning undertaken (in Moose Emphasis Areas). - Support for road use strategies in Moose Emphasis Areas to limit road access to reducehunting pressure. - Additional support for road removal/closure inareas where moose are evident. - Must consider leaving some forest access roadsopen for hunters and other forest users.	Public and Indigenous Consultation, Customized Consultation Approach - includediscussions on road use strategies (maintain or decommission) Stages 3-4: Planned Operations - consultation on planned operations in MEAs (must consider Stand and Site Guide direction for moose habitat proportions andyoung forest pattern in MEAs). - road use strategies for roads open/decommissioned in MEAs.
17	Wildlife Habitat - Marten Habitat, Social and Economic Benefits	- Marten Trapping is a priority for Indigenouscommunities and other trappers. - want to ensure marten habitat remains availableon the forest	Stage 2: LTMD - The Boreal Landscape Guide provides direction for forest composition, structure and pattern that is meaningful as wildlife habitat. - This BLG direction includes large landscape patches of mature and old forest(marten habitat). - The Boreal Landscape Guide replaces forest management direction previously included in the Forest Management Guidelines for the Provision of Marten Habitat. Stages 3-4: Planned Operations - Harvest block layout, Area of Concern Planning and road use strategies are planned in accordance with known forest values and stakeholders. Conditions on Regular Operations, Conditions on Roads Landings andAggregate Pits, or AOCs to protect identified values.

#	Topic:	General Comment:	How Addressed in FMP:
18	Harvest-To-Shore / Landscape Pattern	- Will cut to shore be close to moose aquatic feeding areas? What will that do to the moosepopulations? - Would like to see protections in place for MooseAquatic Feeding Areas (MAFA's) - Songbird habitat should be maintained in riparianareas close to shore.	Stages 3-4: Planned Operations - Known MAFAs (whole forest) and summer thermal cover (in MEAs) are considered during operational planning and applicationof AOCs (water quality). Songbirds - BLG indicators cover many habitats for songbirds. Riparian zone AOCswill be developed for water quality, SSG provides guidance for harvest-to-shore opportunities. Conditions on Regular Operations in FMP for areas outside AOCs.
19	Forestry Road Decommissioni ng / Social and Economic	- Roads should be decommissioned after logging. - Must also leave some access roads open forhunters and other forest users. - Would like to see consideration for the level of road decommissioning in areas of public interest on the forest. Understand that higher levels of decommissioning activities may be needed if thereare Ecological considerations. For example, in moose emphasis areas. - Barriers don't work – people just drive around them. There needs to be more policing to preventpeople from accessing these areas.	Stage 2: LTMD - 20-year Primary roads planning occurs, including primary road usestrategies (typically no decommissioning of primary roads). Stages 3-4: Planned Operations - Road Planning includes road use strategies for Primary, Branch and Operational roads. Roads typically remain open only while needed for forest management purposes. Existing and new road construction is identified, along with identification of any roads planned for decommissioning in the10-year plan period (Table FMP-18). Road decommissioning typically only occurs after forest renewal activities are complete. Out of Scope: formal road closures are done under the Public Lands Act, not within FMP decisions or approvals.
20	Forest Access Roads to Support Indigenous Traditional Activities	Road access is needed to support many Indigenous traditional activities: Healthy Recreation Opportunities Blueberry Harvesting Access to Fishing Grouse Hunting Moose and Deer Hunting Access to Traplines Mushroom Harvesting Gathering	Stage 2: LTMD - 20-year Primary roads planning occurs, including primary road use strategies (typically no decommissioning of primary roads). Stages 3-4: Planned Operations - Road Planning includes road use strategies for Primary, Branch and Operational roads. Roads typically remain open only while needed for forest management purposes. Existing and new road construction is identified, along with identification of any roads planned for decommissioning in the 10-year plan period (Table FMP-18). Road decommissioning typically only occurs after forest renewal activities are complete. - road access will be considered during selection of any candidate blueberry production area. -An objective for blueberry harvesting areas will be added into the FMP.

#	Topic:	General Comment:	How Addressed in FMP:
21	Forestry Roads (in the No harvest zone)	- In the no harvest zone, will there be maintenance of forestry roads and bridges? What is being planned? - How about deteriorating bridges?	MNRF: Forest access roads are being supported by active forestry and this is a downside when no forestry activity happens in such a large portion of the unit. We are trying to hold on to main corridors in the WJF and in the absence of forestry the road network will continue to shrink. There aren't funds available to maintain roads on Crown land in the absence of forestry. MNRF: This year there is some money set aside for flights for liabilities on the WJF. We will continue monitoring the road network and continue to maintain water crossings and bridges. But there is a lot of infrastructure in the WJF that we cannot hold onto.
22	Social and Economic - Wood Supply	- Need to look at any tools to maintain forest area and not lose any jobs (local mills and tourism operations that reply on the WJF).	Stage 2: LTMD - (Considerations for Forest Renewal and Herbicide Use listed above) Considered in objective indicator achievement and projected harvest volumes for each 10-year period. Short (10-years) and longer-term (20-100 years) wood supply targets are included in LTMD strategic modelling to manage harvest volumes through time (while also balancing other management objectives). Stages 3-4: Planned Operations - planned harvest area and wood supply to mills, protection of tourism values (Area of Concern Planning) and associated road use strategies.
23	Social and Economic - Jobs	- Identified as a priority for one Indigenous community. - Want to have a timber source from WJF for community sawmill (Perrault Falls area) to retain employment	Stage 2: LTMD - Initial preferred harvest areas identified, as well as optional harvest area. Ensure sufficient area is identified to satisfy wood supply commitments to the sawmill and mills with wood supply commitments. Stages 3-4: Planned Operations - Planned harvest area and harvest volume will be identified, and wood projected for utilization by specific mills in accordance with current wood supply commitments (includes the local sawmill and other commitment holders, as well as any additional "Open Market" volumes).

#	Topic:	General Comment:	How Addressed in FMP:
24	First Nation and Métisengagement / Social and Economic Benefit	- Would like to see First Nation and Métis communities in or adjacent to the Forest Management Unit benefit from the implementationactivities of the FMP. - One Indigenous community identified that they are not seeing any benefits from the forest. Thereis no revenue resource sharing. They are not receiving contracting benefits from companies or the Crown. Harvesting is not a benefit; it is an inherent right. - One Indigenous community identified harvestingfirewood as a priority (Wood Supply, Road Access)	Stages 3-4: Planned Operations - Planned harvest area and harvest volume will beidentified, and wood projected for utilization by specific mills in accordance with current wood supply commitments. - who undertakes the harvest, renewal or road construction/maintenance contracts isoutside the scope of the FMP. - opportunities for harvesting fuelwood will be considered when identifying preferredareas for harvest in the FMP. Plan Implementation: Fuel wood areas are identified in each Annual Work Schedule.
25	Social and Economic - Blueberry Production and Harvesting, Forest Access	- Interest was expressed in how and where blueberries may be produced (suitable access required). One Indigenous community has workedon a blueberry suitability model and will discuss this during their Customized Consultation Process.	For any Indigenous communities: Customized Consultation Approach - include discussions on candidate blueberryproduction areas. Stage 2: LTMD - Miisun can assist with a GIS sort for suitable blueberry productionareas based in community criteria. Stages 3-4: Planned Operations - If a candidate area is selected by the community,the Planning Team can plan for its harvest (without forest renewal), with associated road use strategy to ensure continuing road access.

#	Topic:	General Comment:	How Addressed in FMP:
26	Forest Values - WaterQuality Protection, Protection of Fish Habitat	- Identified priority for Indigenous communitymembers - Support for buffers of timber being left adjacent to waterbodies or keep harvest blocks away fromthe water.	Stages 1-2-3-4: (throughout plan development and plan implementation) values identification by public and Indigenous communities welcome, and MNRF surveysundertaken. Stage 2: LTMD - Management objectives includes an indicator for compliance withwater quality and fish habitat Area of Concern prescriptions. Stages 3-4: Planned Operations - harvest block layout and Area of Concern planning. If harvest-to-shore is considered, the direction from the Stand and Site Guide must be followed. Otherwise variable reserve area adjacent to waterbodies isnot planned for harvest (Stand and Site Guide direction based on water type and/or slope of land adjacent to the waterbody).
27	Harvest-To-Shore /Landscape Pattern	- Support for harvest close to the water in certainlocations where it can be done in an environmentally sound manner. It would more closely mimic the landscape pattern of natural disturbances. - Support for buffers of timber being left adjacentto waterbodies - Don't want harvesting to shore on lakes - Support for harvest close to the water in certainlocations where it can be done in an environmentally sound manner. It would more closely mimic the landscape pattern of natural disturbances. - Support for buffers of timber being left adjacentto waterbodies.	Stages 3-4: Planned Operations - Planned harvest block layout, and Area Of Concern planning around values (including areas around waterbodies), road useplanning. - Stand and Site Guide direction must be followed for any harvest-to-shore areas(limited criteria for locations and amount). - Stakeholders that have concerns about the aesthetics can also comment on proposed operations where cut to shore is prescribed and the Planning Team canconsider what appropriate balance of objectives for that particular area is.

#	Topic:	General Comment:	How Addressed in FMP:
28	Social and Economic -Remote Tourism, Aesthetic Values	- Support for retaining remoteness (not seeing a harvest block and not hearing harvest activities) - Will there be harvesting near Red Deer Lake? Will there be opportunity for input if harvesting isconsidered in the area? - Remoteness in Red Deer Lake / Farlane Lakearea and adjacent lake is valued (concern with seeing or hearing harvest, and road safety) - Need additional consultation if operations near lakes are being considered, or if operations are proposed between the lakes and the road (noiseconcern). - Want quicker regeneration (replant) of anyharvest areas near remote areas. - Would like to see considerations for cottager's and tourism operators in areas above the manualrequirement. - Can a buffer be left around the highway/roads toprevent folks from seeing clearcuts ? - buffer would provide cover for moose.	Stage 1 and throughout plan development - Values identification and direct contactwith Resource-based Tourism Operators (RBTOs). Stages 1-2-3-4: Public and Indigenous consultation Stage 2: LTMD - identification of operational management zones and initial preferredand optional harvest areas. Whether Red Deer Lake area is eligible for harvest activities will be identified at this stage. Stages 3-4: Planned Operations - Planned harvest and block planning, AOC planning (riparian, highway buffers, etc.), planned road construction, and road usestrategies. Can consider harvest timing restriction (fall to spring) and operational block layout planning to mitigate impact.
29			

1

#	Topic:	General Comment:	How Addressed in FMP:
30	Indigenous Forest Values / Blueberry Production	- Want enhancement of values (medicinal plants, blueberry production) and forest access (for blueberry harvesting). - protection for traditional medicine sites - Have consideration for White Cedar as it has importance to First Nation and Métis communities in or adjacent to the FMU	Customized Consultation Approach and Stages 1-2-3-4: Values identification (public, Indigenous and MNRF surveys). MNRF generated values maps updated for each stage of plan preparation, and during plan implementation. Stage 3-4: Planned Operations - Can work with the community to identify forest values and candidate blueberry production areas, and plan operations including road access strategies, to protect or enhance specific Indigenous values.
31	Forest Values	- Identified large heron rookery in Perrault Falls area (to be confirmed on values maps) and want protection for this rookery. - Noted the importance of stick nest surveys to identify locations (values mapping) in various forest types, including mature jack pine (Great Blue Heron rookery). - Identified nests need protection. - Would like to ensure that ecological values are receiving the best protection possible and are using the best available science to protect the feature.	Stages 1-2-3-4: Values identification (public, Indigenous and MNRF surveys). MNRF generated values maps updated for each stage of plan preparation, and during plan implementation. Stages 3-4: Planned Operations - Area of Concern (AOC) planning around identified values occurs, as well as refinements to harvest block layout. AOC planning may include prescriptions for harvest, renewal and tending activities, as well conditions for use of existing or new roads or aggregate pits in the AOC. - If not already considered in AOC prescriptions, additional protection for values encountered during operations are identified in FMP text in Conditions on Regular Operations and Conditions on Roads, Landings and Aggregate Pits.
32	Social Economic - Wood Utilization, Fuelwood	- Upset seeing large slash piles or decked timber not being used. - Was wondering if areas can be used for fuelwood. - want areas and road access to harvest fuelwood	Stage 2, 3 and 4 of FMP development: - opportunities for harvesting fuelwood will be considered when identifying preferred areas for harvest in the FMP. Plan Implementation: Fuel wood areas are also identified in each annual work schedule. - It could be a compliance issue if there is a certain amount of unutilized fiber left on the block.

#	Topic:	General Comment:	How Addressed in FMP:
33	Compliance concerns(cut to shore)	- If an individual is out moose hunting, can theybring pictures to MNRF where a company has gone right to the lake? Will something be done?	If the MNRF is given pictures of any issues, they will review them and assess if it is acompliance issue or in accordance with the FMP.
n/a	Respect for way of life, biodiversity and reconciliation within the current no harvest area	An Indigenous community shared the following desired forest and benefits that would apply specifically to the current no harvest area within the Whiskey Jack Forest: • Respect for community self determination and for rights • Maintaining the community way of life • Hunting, fishing, trapping, berry picking, medicine harvesting, camping, • Healing of people though land based activities and land based sanctuary • Tourism and recreation • Preventing further mercury impacts • Scientific studies and monitoring • community non-extractive livelihood including guiding, monitoring, access maintenance, guardians, eco-tourism, • Maintenance and restoration of access roads required for the practice of Treaty rights <u>Reconciliation</u> • Restoration and remediation of the forest and water towards its natural state • Restoration of wildlife populations to their former health including moose, caribou, and pine marten <u>Biodiversity</u> • Healthy wildlife and fisheries • Climate change mitigation and adaptation • Firewood and cabin building materials for ANA members	MNRF is undertaking a re-assessment of the no harvest area in a process outside of the FMP which is intended to inform an approach for the area in the contemplated 2023-2033 FMP.

1

3.5 Strategic Management Zones

In the development of the long-term management direction, the Planning Team chose to partition the management unit into management zones. A management zone is a geographical area within a management unit that provides spatial context to the long-term management direction, and may influence strategic analysis, and operational planning. Two types of management zones, strategic and operational, can be used to represent spatial considerations.

Strategic Management Zones (SMZ) represent areas with distinct ecological characteristics, landscape biodiversity requirements or forest-level harvest and retention considerations. Strategic management zones are identified in the SMZ field of the spatial Operational Planning Inventory (OPI) and Base Model Inventory (BMI). For this Whiskey Jack Forest 2024-2034 FMP, two management decisions were fundamental to the identification of SMZs. Firstly, the MNRF decision on the area of the WJF that could be planned for forest management activities and the rest of the forest in which no forest management activities were to be planned in this FMP. Secondly, the area of continuous caribou distribution was identified ("the caribou zone"), which included area in both the area that was eligible for forest management activities and the area without activities. These decisions resulted in four (4) SMZs being classified for this 2024-2034 FMP (Figure 25).

Operational Management Zones (OMZ) are subdivisions of the strategic management zones that provide additional delineation of geographic areas which allows for operational variations during strategic LTMD planning, during operational planning and plan implementation. The OMZ field in the BMI contains the unique subunit (which may be letters or a combination of letters and numbers (e.g. "MEA1", "LOTW", "H105", etc.).

Operational management zones were identified for:

- SMZ areas CAR1, CAR2 and SMZA were classified with their same codes for the OMZ field;
- SMZB was further subdivided into OMZs:
    - Moose Emphasis Areas (MEA) – 3 MEAs classified as MEA1, MEA2, MEA3;
    - Deer Emphasis Area (DEA) – 1 DEA classified as DEA1;
    - Large Landscape Patches (LLP) for current or future Mature-Older Forest pattern – 3 LLPs classified as LLP1, LLP2 and LLP3;
    - Remainder of area in geographically separate southern Lake of the Woods section of the WJF, and not in above OMZs – 1 OMZ classified as LOTW;

- Remainder of northern geographic area in SMZB that was not in above OMZs – 1 OMZ classified as H105.

This OMZ classification resulted in 12 OMZs, covering the entire Whiskey Jack Forest, being classified for this 2024-2034 FMP (Figure 26). See Appendices 2, 3, and 4 in this Analysis Package (Supp. Doc. B) for rationale and description of the development of the Large Landscape Patches for moose habitat, deer habitat and mature-older forest landscape pattern.

Additional modelling inputs and constraints were applied to SMZ / OMZs during LTMD development. Model inputs and constraints used in SFMM are described in Supp. Doc. B – Analysis Package, Sections 6.2.3 – 6.2.5.

Figure 25 Strategic Management Zones (SMZs) on the Whiskey Jack Forest

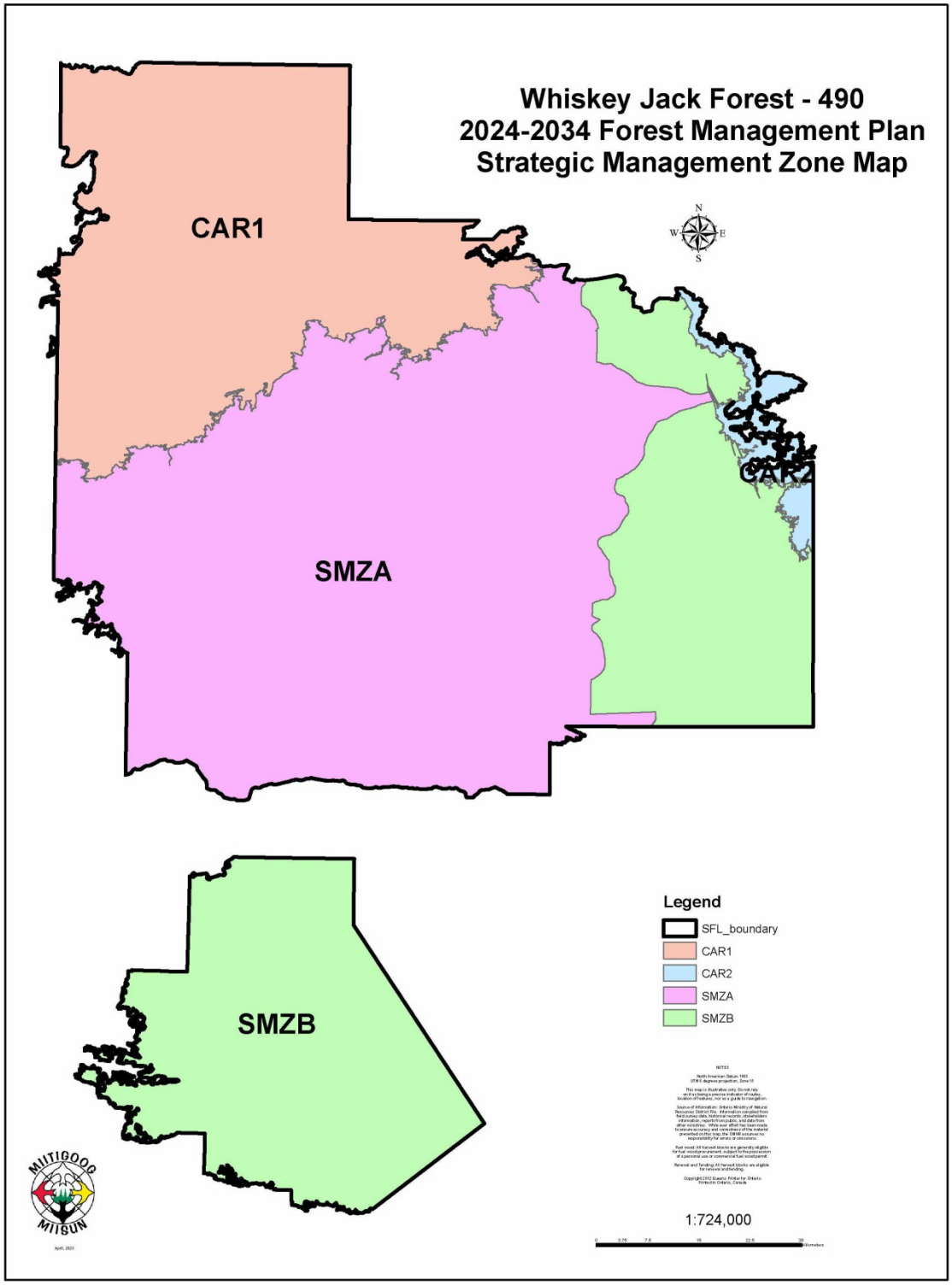
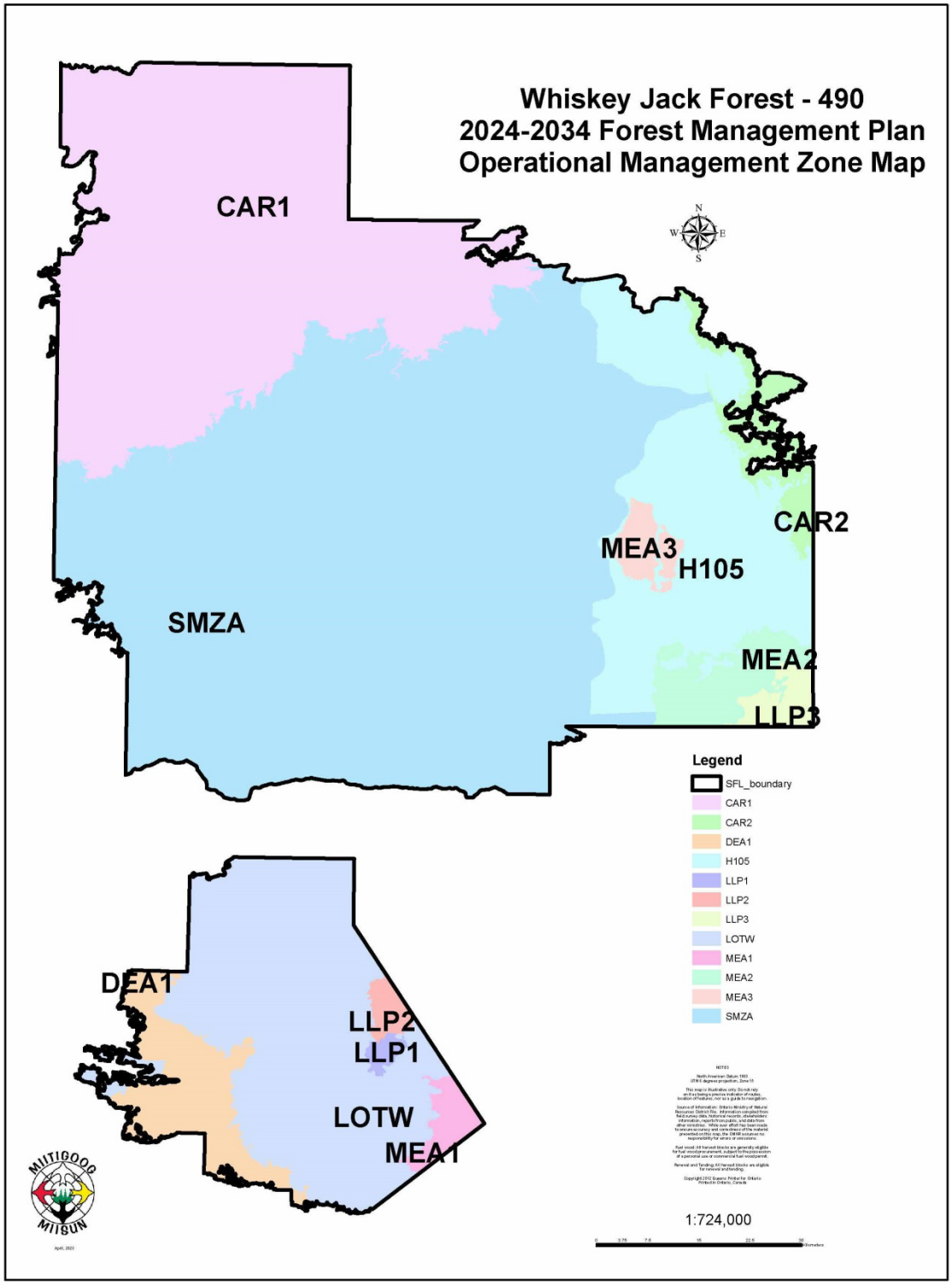


Figure 26 Operational Management Zones (OMZs) on the Whiskey Jack Forest



3.6 Objectives and Indicators

The desired forest conditions and goods and services from the Whiskey Jack Forest were discussed by the Planning Team and Local Citizens' Committees, as well as results from discussions with local First Nation Communities and the Northwest Ontario Métis Community. Results and comments were reviewed and resulted in the management objectives to be strategically planned for and assessed for achievement in this 2024-2034 FMP.

The process of finalizing management objectives and assigning appropriate desirable and target levels for objective indicators are described in the following subsections:

1. Finalize plan management objectives and assign relevant indicators of objective achievement (included in Section 3.6.2 documentation);
2. General approach to determine desirable levels for indicators (Section 3.6.1); and
3. Document desirable and target levels for objective indicators and provide rationale for choice of these levels (Section 3.6.2, Table FMP-10).

A summary of the specific management objectives for this plan is included in Section 3.6.2. For each objective, an indicator or multiple indicators are identified including the actual "measure" for each indicator, timing of assessment, the general rationale for desirable levels for each indicator, and references where modelling investigation results influenced the setting of desirable and target levels for indicators.

Table FMP-10 summarizes plan management objectives, indicators desirable levels and targets, and the timing of assessment.

3.6.1 General Approach to Determining Desirable Levels for Indicators

The *Forest Management Planning Manual* (FMPM, 2020) requires objectives for natural landscape patterns, forest structure and composition, and distribution and abundance of forest ecosystems. For these objectives, the FMPM requires indicators of landscape pattern, area by forest unit and development stage, and amount and distribution of old growth forest to be included in a forest management plan. The FMPM refers to forest management guides for the specific indicators and desirable levels for which a target will be established. The Boreal Landscape Guide requires objective indicators for caribou habitat (amount and pattern), landscape class area, upland conifer area, and young forest (amount and pattern). In addition to the forest management guides, when developing

objectives for the amount and distribution of old growth forest, Planning Teams are to follow direction in the *Old Growth Policy for Ontario's Crown Forest* (2003).

For this Whiskey Jack Forest FMP, the desirable levels for certain indicators of objective achievement were determined after analysis of a simulated natural forest scenario, that estimated how the forest might develop in the absence of human intervention. The Science and Information Packages and Ontario's Landscape Tool (OLT) include the most current science-based estimates of the natural forest condition. The Simulated Range of Natural Variation (SRNV) estimates recorded in OLT are forest management unit specific and are both area and landscape pattern based. For each of the indicators required by the FMPM, the Planning Team used the Regional Specific Science and Information Packages and/or OLT to identify specific indicators for their plan and used the associated SRNV to identify desirable levels. The current levels on the management unit for each indicator were also considered when developing targets. Planning for a future forest condition that is comparable to the BLG natural forest condition projections was the primary consideration for development of the LTMD.

Indicators of forest composition and structure, proportion of old forest and wildlife habitat are examples of indicators with desirable levels determined in relation to the simulated ranges of natural variation. During development of the LTMD, SFMM strategic modelling results were compared to the SRNV for relevant area indicators and reviewed to see if the estimated SRNVs were reasonable desirable levels for these indicators for the FMP.

Some of the objective indicators are not based on strategic modelling; e.g., compliance with prescriptions, Local Citizens' Committee engagement, and First Nation and Métis community engagement. Desirable levels for other indicators were determined after analysis of the quantity that was currently or historically available from the forest, or the amount that can be sustainably produced while considering the achievement of all objectives (e.g., harvest area, harvest volumes) or the quantity that was expected to be achieved through implementation of the plan (e.g., compliance with area of concern prescriptions, actual harvest area, harvest volume and deliveries to mill, areas successfully established (renewed), and Indigenous engagement).

Spatial analyses for landscape pattern were used to assess the potential of the Whiskey Jack Forest to produce spatial caribou habitat, moose habitat, texture of mature and old forest, and landscape pattern of young forest by standard size classes. Modelling investigations for various indicators of forest composition, structure and pattern were conducted early in the development of the LTMD and were considered in the determination of desirable and target levels for the desired forest and benefits from the Whiskey Jack Forest (documented in Section 3.6.2).

3.6.2 Plan Management Objectives, Indicators and Desirable Levels

The list of desired forest and benefits, past management plans for the Whiskey Jack Forest, and MNRF sources of direction (including Figure A-3 from the *Forest Management Planning Manual*, 2020) and forest management guides were used to develop plan objectives, indicators of objective achievement, desirable levels, and targets for the 2024-2034 Whiskey Jack Forest FMP.

As per direction in the 2020 FMPM, objective categories, criteria and indicators from the Crown Forest Sustainability Act (CFSA) objective categories were developed. A total of 11 Management Objectives, including 35 indicators of objective achievement, were developed by the Planning Team for the Long-Term Management Direction for this FMP (Table FMP-10).

A management objective was developed for each desired forest and benefit indicator (or group of related indicators) identified for the plan. A desirable level and the timeframe for achievement were also developed for each indicator of objective achievement. Only indicators that could be quantified were selected for the FMP.

In accordance with management objectives, it is desirable that the FMP project forest management activities (Long-Term Management Direction) that will create a future forest landscape with a composition, structure and pattern that is like those created by natural processes. These management objectives for natural forest diversity also serve to provide a sustainable range of wildlife habitat types through time, necessary for most of wildlife species on the Whiskey Jack Forest.

The Strategic Forest Management Model (SFMM) computer model was used to develop a Long-Term Management Direction that balances the achievement of certain management objectives over time (those that can be modelled through time). The objectives considered in the Long-Term Management Direction include forest composition and age class structure, old growth forest areas, available forest area, caribou habitat, moose habitat, harvest areas, and harvest volumes.

SFMM was used to track the entire Whiskey Jack Forest land base through time and produce projections of changes to the forest structure and composition for 160 years into the future. A process of repetitive analyses was conducted to balance the achievement of management objectives while developing an LTMD for the Whiskey Jack Forest. Results or findings of strategic investigations and analyses were used to guide the balancing of management objective achievement. During LTMD development, the Planning Team was forced to make trade-offs for conflicting management objectives (e.g., young forest versus mature or old, and conifer versus hardwood) or where the land base

of the Whiskey Jack Forest did not allow achievement of desirable levels in the short or medium-term between multiple indicators. Trade-offs in achievement levels were required when the achievement of certain desired forest conditions conflicted with the provision of desired goods and services, or vice versa. If desirable levels could not be reached in this 10-year plan period, short-term compromises were reached, and target levels for this plan period were established to allow movement towards the desirable levels for the indicator in the future.

The Analysis Package (Supplementary Documentation B) includes information on the modelling inputs (Section 6), results (Appendix 7) and conclusions for the development of management objectives and scoping investigations (Section 8.3).

A summary of the plan objectives, indicators of objective achievement, desirable levels, targets and timing of assessment follows in this text section and is included in Table FMP-10. The following text also describes the rationale for desirable and target levels for each indicator and references where scoping investigation results influenced the setting of desirable and target levels for indicators.

3.6.2.1 Objective 1: Caribou Habitat

Objective 1: Caribou Habitat:
"To maintain forest function for caribou habitat in the Whiskey Jack Forest (within the area of continuous caribou distribution)"

This objective includes indicators carried forward from the 2012 FMP. These indicators are required by the *Forest Management Guide for Boreal Landscapes (2014)* and are consistent with *Ontario's Woodland Caribou Conservation Plan* (CCP). Caribou (Boreal ecotype) is a Species at Risk and their habitat is regulated by the *Endangered Species Act* (federal) and *Species at Risk Act* (provincial).

Ontario Regulation 242/08 specifies the conditions under which a person who conducts forest operations are exempt from sections of the Endangered Species Act (ESA) that prohibit a person from killing, harming or harassing a caribou or damaging or destroying its habitat. These conditions specify that the forest management plan must provide for the following:

i. the continuous availability of habitat for caribou (boreal population), both spatially and temporally,
ii. the establishment and growth of areas of conifer forests that are suitable to provide caribou (boreal population) habitat in the future, and
iii. road-use management strategies that assist in maintaining or improving habitat conditions for caribou (boreal population).

(Above ESA condition items relate to:

i) indicators 1a, 1b, 1c, and 1d;
ii) implementation of a caribou DCHS and provision of online caribou habitat indicators 1d and 1e; and
iii) Table FMP-18 Road Construction and Use Management, Text Section 4.5.9 Conditions on Roads, Landings and Aggregate Pits (CORLAPs) and Supplementary Documentation H – Road Planning.)

Indicators 1a and 1b: Caribou Winter Habitat Area, Refuge Habitat Area

This indicator objective is carried forward from the 2012 FMP and relates to Desired Forest and Benefits for wildlife habitat management. These habitat area indicators are required by the Boreal Landscape Guide and address the requirement for habitat for forest-related Species at Risk (FMPM).

Timing of Assessment: Preliminary assessment at LTMD, assessment at completion of operational planning and Annual Reports for Year 5 and final year of plan implementation.
Measurement: Crown productive area of caribou winter combined habitat and caribou refuge habitat for the caribou zone, projected through time in the SFMM model.
Desirable Level: The desirable level is to maintain caribou winter combined habitat and caribou refuge habitat within the interquartile hectare ranges of the respective Simulated Ranges of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest (Table 13).
Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides an analytical projection of the natural range of forest types/age class structure for the Whiskey Jack Forest. The interquartile range (IQR) of the SRNV for caribou habitat (refuge, winter combined) was adopted as the desirable level and was the best available science on the natural forest structure, including amount of caribou habitat. At Plan Start 2024, caribou winter habitat was within the IQR (met desirable levels), and caribou refuge habitat was below the desirable IQR level. Therefore, the target level was to maintain winter caribou habitat levels and to increase caribou refuge habitat towards desirable levels during the plan period.

Table 13 Amount of Caribou Habitat Desirable and Target Levels

Caribou Habitat	Plan Start 2024 (ha)	Desirable Level (ha)	Target (2034)
(1a) Winter Combined	84,575	63,721 – 115,622	Maintain
(1b) Refuge	132,184	147,605 – 161,804	Increase

Indicator 1c: Texture of Caribou Winter Habitat

This indicator is carried forward from the 2012 FMP. It measures the patchiness (how spatially concentrated) caribou winter combined habitat is on the forest. In general, landscape patterns are an indicator on the degree of fragmentation. Fragmentation and connectivity play a large role in the functionality of a landscape and provide different habitat needs based on the wildlife species present. Winter combined habitat includes both winter used and winter preferred habitats.

Timing of Assessment: Preliminary assessment at LTMD, assessment at completion of operational planning and Annual Reports for Year 5 and final year of plan implementation.

Measurement: Spatial measurement of the caribou zone in OLT model at 6,000 ha and 30,000 ha scales.

Desirable Level: The desirable level is to have the landscape pattern move towards percentage projections as recorded in OLT for caribou winter combined habitat (mean by concentration class), focusing on 60% and greater concentration classes (Table 14).

Rationale for Desirable and Target Levels: The BLG provides the indicator desirable level, including the focus on concentration classes >60%. The BLG was the best available science on the natural forest structure, including the estimated texture of caribou habitat in a natural forest. Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural landscape pattern for the Whiskey Jack Forest. The winter habitat texture is below the desirable level for >60% proportion classes at Plan Start (minor underachievement), therefore the target level is to move towards the desirable level through this 10-year plan period.

Table 14 Desirable and Target Levels for Texture of Caribou Winter Combined Habitat

Analysis Scale and Concentration Class	Plan Start 2024	Mean Desirable Level	Target (2034)
(1c) Texture of Caribou Winter Habitat (Combined) (hexagon frequency distribution by mean proportion):		Move towards mean, focusing on >60% concentration classes	Move towards or exceed the mean for > 60% proportion classes
6,000 ha Hexagon Scale:			
1 - 20% concentration	9%	17%	
21 - 40% concentration	51%	17%	
41 - 60% concentration	24%	22%	
61 - 80% concentration	12%	30%	
81 - 100% concentration	4%	15%	
30,000 ha Hexagon Scale:			
1 - 20% concentration	1%	8%	
21 - 40% concentration	54%	22%	
41 - 60% concentration	38%	32%	
61 - 80% concentration	8%	34%	
81 - 100% concentration	0%	6%	

Indicator 1d: Texture of Caribou Refuge Habitat

This objective indicator is carried forward from the 2012-2024 FMP. It measures the patchiness (how spatially concentrated) caribou refuge habitat is on the forest.

Timing of Assessment: Preliminary assessment at LTMD, assessment at completion of operational planning and Annual Reports for Year 5 and final year of plan implementation.
Measurement: Spatial measurement of the caribou zone in OLT model at 6,000 ha and 30,000 ha scales.
Desirable Level: The desirable level is to have the landscape pattern move towards percentage projections as recorded in OLT for caribou refuge habitat (mean by concentration class), focusing on 60% and greater concentration classes (Table 15).
Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural landscape pattern for the Whiskey Jack Forest. The mean frequency of caribou refuge habitat by concentration classes (with focus on the 61-80% and 81-100% concentration classes) was adopted as the desirable level and was the best available science on the natural forest structure, including caribou habitat texture. The refuge habitat texture approximates the desirable level for >60% proportion classes at Plan Start (excellent achievement with minor underachievement for 60 km2 scale and minor overachievement at 300 km2 scale), therefore the target level is to move towards or exceed the desirable level through this 10-year plan period.

Table 15 Desirable and Target Levels for Texture of Caribou Refuge Habitat

Analysis Scale and Concentration Class	Plan Start 2024	Mean Desirable Level	Target (2034)
(1d) Texture of Caribou Refuge (hexagon frequency distribution by mean proportion):		Move towards mean, focusing on 60% and greater concentration classes	Move towards or exceed the mean for > 60% proportion classes
6,000 ha Hexagon Scale:			
1 - 20% concentration	0%	0%	
21 - 40% concentration	8%	2%	
41 - 60% concentration	35%	12%	
61 - 80% concentration	43%	34%	
81 - 100% concentration	13%	53%	
30,000 ha Hexagon Scale:			
1 - 20% concentration	0%	0%	
21 - 40% concentration	0%	0%	
41 - 60% concentration	40%	8%	
61 - 80% concentration	55%	43%	
81 - 100% concentration	5%	49%	

Indicator 1e: Conifer Purity in Jack Pine and Black Spruce LGFUs

This indicator contributes to the silvicultural objective requirements of *Ontario's Woodland Caribou Conservation Plan* and the *Forest Management Guide for Boreal Landscapes.*

Timing of Assessment: Annual Report for final year of plan implementation.
Measurement: This indicator is calculated from an updated Base Model Inventory. Total percentage species composition of Jack Pine (Pj), Black Spruce (Sb) and White Spruce (Sw) combined in the targeted landscape guide conifer forest units (in only PJDOM, PJMX1, SBLOW, SBDOM and SBMX1 landscape guide forest units). Percentages are reported by forest units which match the LGFUs (PJD, PJM, SBL, SBD and SBM respectively).
Desirable Level: The desirable level is to maintain or increase the combined percentage of Jack Pine, Black Spruce and White Spruce in targeted conifer dominated forest units (Table 16).
Rationale for Desirable and Target Levels: The specific targeted forest units are the purer conifer forest units which have the capability of producing better caribou habitat than mixedwoods do. Conifer forest composition in these forest units is critical to caribou habitat (Species at Risk) therefore a reduction in hardwood, mixedwood and balsam fir forests in the caribou zone is desirable and will result in an increase in preferred caribou habitat. The desirable and target levels are to maintain or increase the percentage of Jack Pine, Black Spruce and White Spruce in these specific conifer-dominated forest unit areas at or above the Plan Start levels.

Table 16 Desirable and Target Levels for Conifer Purity

(1e) Conifer Purity in Jack Pine and Black Spruce LGFUs:	Plan Start 2024 (% Pj+Sb+Sw)	Desirable Level	Target (2034)
PJD	93%	Maintain or increase percentage of jack pine and spruce in PJD, PJM, SBD, SBL, and SBM.	Same as Desirable Level
PJM	89%		
SBD	89%		
SBL	84%		
SBM	87%		

Indicator 1f: Amount and Arrangement of Online Caribou DCHS

This objective indicator is carried forward from the 2012 FMP. Direction in the Boreal Landscape Guide and Caribou Conservation Plan, require the Whiskey Jack Forest to demonstrate that it is providing sufficient online habitat for caribou persistence.

Timing of Assessment: Assessment at LTMD.
Measurement: This indicator is not analyzed in SFMM modelling. Analysis was completed based on an assessment of habitat suitability through review of habitat characteristics and age. Proportion of DCHS blocks assessed as being online divided by total DCHS area.
Desirable Level: The desirable level is to maintain >= 40% of DCHS area online (Table 17).
Rationale for Desirable and Target Levels: To meet the requirements of the Boreal Landscape Guide and Caribou Conservation Plan, forest management units within the Caribou Continuous Distribution are required to integrate a Dynamic Caribou Habitat Schedule into the planning process. This desirable level is calculated to be >= 40% for a DCHS based on five 20-year periods over 100 years. The target level is the same as the desirable level.

The amount of online DCHS is 29% prior to the start of the 2024 FMP, below the desirable level. At the start of the 2024 FMP (2024-2044 period) the online DCHS is calculated to be 23%, still less than the desirable level (Table 17). The target level is to move towards then maintain the desirable level during the period of the FMP.

Table 17 Desirable and Target Levels for Online Caribou DCHS %

(1f) On-line Caribou DCHS	Plan Start 2024	Desirable Level	Target (2034)
Amount and arrangement of online caribou DCHS (% of online blocks in DCHS):	Pre-plan: 29% Plan Start: 23%	>= 40%	Move towards then maintain desirable level

Indicator 1g: Planned and actual percent of total upland conifer harvest area successfully regenerated to upland conifer (PJD, PJM, SBD, SBM).

New indicator added by the Planning Team as the regeneration of conifer forest in the caribou zone aligns with the Caribou Recovery Strategy.

Timing of Assessment: Annual Report for final year of plan implementation.
Measurement: This indicator is not analyzed in SFMM modelling; requires GIS and forest inventory analysis. Total hectares of harvest area during plan period for PJD, PJM, SBD and SBM forest units (upland conifer). Assess total successfully established area of PJD, PJM, SBD and SBM forest units for this upland conifer area harvested during the plan period. For caribou zone, divide total upland conifer regeneration, by total upland conifer harvested.
Desirable Level: The desirable level is for 100% of harvested upland conifer in the caribou zone to be regenerated back to (upland conifer forest.

Rationale for Desirable and Target Levels: To meet the requirements of the Boreal Landscape Guide and Caribou Recovery Strategy, forest management units within the Caribou Continuous Distribution are required to plan for caribou habitat that is predominantly confer-dominated upland forest. To maintain or increase caribou habitat, it is most logical and economical to retain (maintain) the upland conifer that is harvested as future upland conifer, and then convert (increase) other suitable harvested forest unit areas to upland conifer. This indicator measures whether forest managers are successful in retaining the harvested upland conifer areas as upland conifer. Retaining 100% is the desirable level. The target level is the same as the desirable level.

Indicator 1h: Road density - Kilometres of FMP roads per square kilometre of Crown forest (caribou zone)

This indicator for road density in the caribou zone was carried over from the 2012 FMP. The Planning Team decided that road density in the caribou zone was important to continue to record and compare between FMPs as any linear features are considered potentially detrimental to caribou persistence.

Timing of Assessment: Annual Reports for Year 5 and final year of plan implementation.
How Measured: Not included in strategic modelling; requires GIS and forest inventory analysis. For caribou zone only (CAR1 and CAR2 strategic management zones): Total km. of primary and branch roads (existing roads layer) is divided by the total km2 of Crown forest in the caribou zone (Ownerships 1-5-7). Resulting road density is compared to Plan Start density to determine trend in road density in the caribou zone.
Desirable Level: Maintain or decrease FMP primary and branch forest access road density in the caribou zone (no increase).
Rationale for Desirable and Target Levels: The Plan Start (2024) road density of primary and branch roads in the Whiskey Jack Forest caribou zone is 0.08 km/km2 of productive forest. There is projected to be minimal road construction needed to access CAR2 strategic zone where forest operations may be planned, and potentially some decommissioning of roads in the CAR1 strategic zone (no operations planned). Therefore the desirable level for this indicator was determined to be: To maintain or decrease FMP primary and branch forest access road density in the caribou zone (no increase). The target level is the same as the desirable level.

3.6.2.2 Objective 2: Forest Composition

Objective 2: Forest Composition:
"To emulate natural forest composition and age classes which includes old growth forest."

This objective combines several objectives and indicators carried forward from the 2012-2024 FMP and includes indicators to address two indicators from the *Forest Management Planning Manual* (2020) required for this FMP (area by forest unit and age grouping, amount and distribution of old forest). This objective is also required by the *Forest Management Guide for Boreal Landscapes (2014).* This objective also addresses several desired forest and benefits related to forest composition and structure, and wildlife habitat and forest sustainability identified as Desired Forest and Benefits.

Indicator 2a: Landscape Class Area

Landscape classes are groupings of Landscape Guide Forest Units by development stage, which are meaningful to how forests function as habitat. Forest landscape classes are used to describe the current forest composition, structure and pattern at the landscape level. There are seven Landscape Classes used to describe forest composition and age structure (Section 2.1.3.2). The four "Mature and Late" successional landscape classes are considered for this indicator in accordance with the milestones table prepared and considered according to the Boreal Landscape Guide during preparation of Table FMP-10 Management Objectives.

Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: SFMM projected Crown productive area by mature/late successional stage provincial Landscape Class projected through time.
Desirable Level: The desirable level is to maintain the mature and late successional landscape class areas within the interquartile hectare range Simulated Range of Natural Variation (SRNV) for each mature and late successional landscape class as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest (Table 18).
Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural range of forest types/age class structure for the Whiskey Jack Forest. The interquartile range of the SRNV for mature/late successional landscape classes was adopted as the desirable level and was the best available science on the natural forest structure. The Plan Start levels for all mature and older components of the indicator are within or above (ML hardwood) the desirable ranges, therefore the target levels are to maintain within the desirable level through this 10-year plan period and decrease amount of ML hardwood.

Table 18 Desirable and Target Levels by Landscape Class

(2a) Landscape Class	Plan Start 2024 (ha)	Desirable Level (ha)	Target (2034)
Mature and late balsam fir	14,784	8,706 – 16,237	Maintain
Mature and late lowland conifer	46,556	12,845 – 16,276	Maintain
Mature and late upland conifer	244,859	178,461 – 269,185	Maintain
Mature and late hardwood	144,335	43,021 – 65,739	Decrease

Indicator 2b: Old Growth Forest Area

This indicator objective is carried forward from the 2012-2024 FMP, and relates to the requirements of the FMPM, the Boreal Landscape Guide and the Old Growth Policy (2003).

Timing of Assessment: Preliminary assessment at LTMD, final assessment at completion of operational planning, and Annual Reports for Year 5 and final year of plan implementation.

Measurement: SFMM projected Crown productive area by old growth grouping projected through time. MNRF NWR Regional old growth groupings and onset/duration age criteria were used for this FMP.

Desirable Level: The desirable level is to maintain the amount of old growth by standard old growth grouping within the interquartile hectare range (Simulated Range of Natural Variation)(SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest for all groupings except Big Pines (red pine, white pine) (Table 19). The "Big Pines" (Red Pine and White Pine) do not have calculated desirable level recorded in OLT, however the Planning Team followed direction in the BLG to increase or maintain area, and the old growth policy requiring levels of old growth red pine and white pine to not fall below the 1995 level of 195 ha old growth. The Planning Team agreed that a desirable level would be to "increase" the amount of area of old growth red pine and white pine.

Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural range of forest types/age class structure for the Whiskey Jack Forest. The Interquartile range (IQR) of the SRNV for old growth forest groupings was adopted as the desirable level and was the best available science on the natural forest structure. The Planning Team set the desirable level for old growth Red Pine-White Pine to "increase" as no calculation was available in OLT. The target level for Plan End (2034) is to increase area groups towards the desirable levels as all indicator components are below desirable levels at Plan Start 2024.

Table 19 Desirable and Target Levels by Old Growth Grouping

(2b) Old Growth Area	Plan Start 2024 (ha)	Desirable Level (ha)	Target (2034)
Lowland Conifer	1,111	4,282 – 6,477	increase
Upland Conifer	24,617	51,310 – 82,642	increase
Mixedwood and Hardwood	23,010	35,996 – 58,909	increase
White Pine and Red Pine "Big Pines"	30	Increase (to above 1995 level of 195 ha)	increase

Indicator 2c: All Ages Red Pine and White Pine Forest Unit Area

This indicator is included in the FMP to address "*A Conservation Strategy for Old Growth Red and White Pine Forest Ecosystems for Ontario"* (MNRF, 1995). While this policy was replaced by "*Old Growth Policy for Ontario's Crown Forests"* (MNRF, 2003), the requirement in the policy to maintain or increase 1995 levels of red pine and white pine (all ages) is still being implemented, as well as consideration for the "pre-industrial condition" referenced in the Boreal Landscape Guide.

Timing of Assessment: Preliminary assessment at LTMD, final assessment for Annual Reports for Year 5 and final year of plan implementation.
Measurement: GIS query for PRW forest unit area after plan implementation (includes the NWR PwDom, PrDom, PrwMx standard forest unit (SFU) areas).
Desirable Level: Increase towards 46,940 ha, while not falling below the 1995 level of 2,491 ha.
Rationale for Desirable and Target Levels: The desirable level for all ages Red Pine – White Pine was derived from Boreal Landscape Guide science package information:

6% of productive forest in ecoregion 4S = 46,940 ha. (productive forest is 782,338 ha)

This resulted in a desirable level of increasing PRWMX area towards 46,940 ha on the Whiskey Jack Forest. The Boreal Landscape Guide requires that red pine and white pine area does not fall below 1995 levels. Since regional standard forest units did not exist in 1995, working group area was used to inform the comparison of the desirable level to 1995 levels. The area of all ages red pine was estimated to be 2,491 ha in 1995. The Plan Start 2024 level is above the 1995 level, and it is expected that current red pine or white pine stands should continue to persist and increase (target level) in area through regeneration efforts to move towards the pre-industrial condition.

Indicator 2d: Upland Pine and Spruce Area

This objective indicator for upland, pure conifer (jack pine and spruce) is required by the *Forest Management Planning Manual* (2020) and the *Forest Management Guide for Boreal Landscapes* (2014). It is carried forward from the 2012 FMP.

Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: Total area of the Crown productive forest land base in the PJD, PJM, SBD and SBM forest unit areas.

Desirable Level: The desirable level is to increase the amount of upland pure conifer to the interquartile hectare range of the Simulated Range of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest (Table 20).
Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural range of forest types/age class structure for the Whiskey Jack Forest. The interquartile range of the SRNV for upland conifer was adopted as the desirable level and was the best available science on the natural forest structure. Since the desirable level is not achieved at Plan Start, the target level is to increase towards the desirable level through this 10-year plan period. See Section 3.7.3.1 (Objective Achievement) and Section 4.4.1 Renewal and Tending Areas for the silvicultural strategy to regenerate upland pine and spruce forest.

Table 20 Desirable and Target Levels for Upland Conifer

Indicator	Plan Start 2024 (ha)	Desirable Level (ha)	Target (2034)
(2d) Upland Conifer (PJD+PJM+SBD+SBM)	349,953	475,260 – 497,902	Increase

Indicator 2e: Young Forest Area

This indicator is a new indicator for amount of young forest (<36 years old) required by the FMPM (2020) and the *Forest Management Guide for Boreal Landscapes* (2014). The 2012 FMP included an indicator for forest unit area by broad age grouping, including young/immature, which is now replaced by this indicator.
Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: Total area of the Crown productive forest land base less than 36 years of age (all forest units combined).
Desirable Level: The desirable level is to maintain the amount of young forest (all forest units) in the interquartile range of the Simulated Range of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest (Table 21).
Rationale for Desirable and Target Levels: Ontario's Landscape Tool (OLT) provides a record of the analytical projection of the natural range of forest types/age class structure for the Whiskey Jack Forest. The interquartile range of the SRNV for young forest area was adopted as the desirable level and was the best available science on the natural forest structure. Plan Start area is below the desirable level, therefore the target level is to increase young forest area towards the desirable level through this 10-year plan period.

Table 21 Desirable and Target Levels for Young Forest

Indicator	Plan Start 2024 (ha)	Desirable Level (ha)	Target (2034)
(2e) Young Forest (<36 years)	136,870	196,754 – 342,348	Increase

3.6.2.3 Objective 3: Landscape Pattern

Objective 3: Landscape Pattern:
"To emulate natural disturbance and landscape patterns characteristic of the Whiskey Jack Forest."

This objective includes two indicators for landscape pattern texture of mature and old forest and for young forest required by the *Forest Management Planning Manual* (2020) and the *Forest Management Guide for Boreal Landscapes* (2014).

Indicator 3a: Texture of Mature and Old Forest by Concentration Class

This objective is carried forward from the 2012-2024 FMP (was then following the *Forest Management Guide for Natural Disturbance Pattern Emulation (2001)*) and also addresses a required landscape pattern indicator from the FMPM (2020) and the Boreal Landscape Guide (2014).

Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: Spatial measurement in OLT model at 500 ha and 5,000 ha scales.
Desirable Level: The desirable level is to have the landscape pattern consistent with mean percentage concentration projections for mature/old forest by concentration class as established for the forest and recorded in OLT, with a focus on the concentration classes >60% (Table 22).
Rationale for Desirable and Target Levels: This landscape pattern indicator is assessed to determine whether the projected planned harvest for this 10-year plan period will create a landscape pattern consistent with the simulated natural forest condition. The mean desirable level for concentration of mature and old forest areas was calculated by Ontario's Landscape Tool and accepted by the Planning Team as the best estimation of the natural forest condition. The desirable level is to move towards the mean, with a focus on the two concentration classes > 60%. The target level is the same as the desirable level. Strategies to improve achievement of this indicator include consolidating harvest

area patches to create concentrated larger, patches of young forest capable of aging into future patches of mature and old forest in the future.

Table 22 Desirable and Target Levels for Mature and Old Forest Texture

Analysis Scale and Concentration Class	Plan Start 2024	Mean Desirable Level	Target (2034)
(3a) Mature and Old Forest: 500 ha Hexagon Scale:		Move towards mean with a focus on the two concentration classes > 60%	Move towards or exceed the mean for > 60% proportion classes
.01 - .20	11%	44%	
.21 - .40	16%	12%	
.41 - .60	23%	9%	
.61 - .80	22%	10%	
> .80	28%	25%	
5,000 ha Hexagon Scale:			
.01 - .20	7%	27%	
.21 - .40	12%	23%	
.41 - .60	30%	21%	
.61 - .80	36%	18%	
> .80	15%	10%	

Indicator 3b: Young Forest Patch Size (Frequency Distribution by Size Class)

This indicator is like an indicator in the 2012-2024 FMP (the 2012-2024 FMP included an indicator for frequency of disturbance patches by size class as per the previous Natural Disturbance Pattern Emulation (NDPE) forest management guide). This indicator also meets the requirement of the FMPM, and the *Forest Management Guide for Boreal Landscapes*.

Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: Spatial measurement in Ontario's Landscape Tool.
Desirable Level: The desirable level is to have the young forest landscape pattern consistent with projections of mean frequency by size class calculated for the forest and recorded in OLT (Table 23).
Rationale for Desirable and Target Levels: This landscape pattern indicator is assessed to determine whether the projected planned harvest for this 10-year plan period will create a landscape pattern consistent with historic natural disturbances. The mean desirable level for proportions of frequency of young forest patch size were recorded in Ontario's

Landscape Tool and accepted by the Planning Team as the best estimation of the natural forest condition. The target level is to move towards the desirable level through implementation of planned harvest in this 10-year plan period through a reduction of the smallest patches and increase frequency of mid-sized young forest patches.

Table 23 Desirable and Target Levels for Young Forest Patch Size Frequency

(3b) Young Forest Patch Size Classes (ha)	Plan Start 2024	Mean Desirable Level	Target (2034)
		Move towards mean:	
< 100	61%	52%	
101-250	23%	15%	
251-500	9%	10%	
501-1,000	4%	8%	Move towards mean
1,001-2,500	3%	8%	
2,501-5,000	1%	4%	
5001-10,000	0%	3%	
10,001-20,000	0%	2%	
>20,000	0%	1%	

3.6.2.4 Objective 4: Wildlife Habitat

Objective 4: Wildlife Habitat:
"To maintain forest function for moose habitat and deer habitat in the Whiskey Jack Forest."

These objective and related indicators meet the requirement of the FMPM, and the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNRF 2010). As related to the previous two objectives, the objective relates to identified Desired Forest and Benefits comments for ungulate habitat, support for "Emphasis Areas", as well as opportunities for roads and recreation (including hunting).

Indicator 4a: Habitat Proportion by Moose Emphasis Area

Timing of Assessment: Proposed LTMD and completion of operational planning.
Measurement: Spatial measurement in Ontario's Landscape Tool for the MEA (Supp. Doc. B – Analysis Package, Section 5.2.1 and Appendix 2).
Desirable Level: The desirable level is to have the moose habitat proportion by habitat type by MEA consistent with projections for the habitat as recorded in OLT (consistent with Stand and Site Guide) (Table 24).

Rationale for Desirable and Target Levels: The mean proportions by moose habitat type were recorded in Ontario's Landscape Tool and accepted by the Planning Team as the best estimation of the natural forest condition. At Plan Start 2024, Browse habitat is lower than the desirable le vel in MEA #1 (0%) and within desirable levels for MEA #2 and #3. Plan Start (2024) level of habitat generally meets the desirable level for Hardwood/Mixedwood forest in all MEAs. The proportion of Mature Conifer exceeds desirable levels in all MEAs. Therefore, the target level is to move towards or maintain within the proportion range by habitat type in each MEA. Overall achievement will be assessed for this FMP indicator, recognizing that achievement may be varied between the three habitat types.

Table 24 Desirable and Target Levels for Moose Habitat by MEA

Moose Emphasis Area	Indicator Habitat Type	Plan Start 2024	Desirable Level	Target (2034)
MEA #1 – Dryberry Lake	Browse Producing Forest	0%	5-30%	Move towards or maintain within proportion range by habitat type
	Hardwood/Mixedwood Forest	30%	20-55%	
	Mature Conifer Forest	62%	15-35%	
MEA #2 – Cedar Lake	Browse Producing Forest	13%	5-30%	Move towards or maintain within proportion range by habitat type
	Hardwood/Mixedwood Forest	28%	20-55%	
	Mature Conifer Forest	56%	15-35%	
MEA #3 – Keynote Lake	Browse Producing Forest	21%	5-30%	Move towards or maintain within proportion range by habitat type
	Hardwood/Mixedwood Forest	31%	20-55%	
	Mature Conifer Forest	41%	15-35%	

Indicator 4b: Frequency of Young Forest Patch Size by MEA

Timing of Assessment: Proposed LTMD and completion of operational planning (Table FMP-10).

Measurement: Spatial measurement in Ontario's Landscape Tool for each MEA.

Desirable Level: The desirable level is to have the frequency distribution of young forest patches in each MEA consistent with Stand and Site Guide prescribed ranges (Table 25).

Rationale for Desirable and Target Levels: The Stand and Site Guide prescribes that all young forest patches in MEAs be less than 500 ha in size, to maximize the functional habitat for moose habitat. At Plan Start 2024, MEA #1 (Dryberry) does not have any young forest so frequency is 0% in all size classes.

MEA #2 and #3 contain smaller proportions of young forest patches >500 ha. The target level is to move towards or maintain the desirable frequency by size class for the three

smallest size classes <=500 ha. This target was accepted by the Planning Team in recognition that landscape pattern indicators may take more than one 10-year plan period to achieve desirable levels and the smallest three size classes correspond to the Stand and Site Guide direction.

Table 25 Desirable and Target Levels for Young Forest Frequency by MEA

Moose Emphasis Area	Indicator – Young Forest Patch Size Class (ha)	Plan Start 2024	Desirable Level	Target (2034)
MEA #1 – Dryberry Lake	< 100	0%	100% of young forest patches in the <100, 101-250 ha, and 251-500 ha size classes.	Move towards or maintain the young forest patch size frequency for the smallest three size classes.
	101-250	0%		
	251-500	0%		
	501-1,000	0%		
	1,001-2,500	0%		
	2,501-5,000	0%		
	5001-10,000	0%		
	10,001-20,000	0%		
	>20,000	0%		
MEA #2 – Cedar Lake	< 100	62%	100% of young forest patches in the <100, 101-250 ha, and 251-500 ha size classes.	Move towards or maintain the young forest patch size frequency for the smallest three size classes.
	101-250	25%		
	251-500	9%		
	501-1,000	4%		
	1,001-2,500	0%		
	2,501-5,000	0%		
	5001-10,000	0%		
	10,001-20,000	0%		
	>20,000	0%		
MEA #3 – Keynote Lake	< 100	71%	100% of young forest patches in the <100, 101-250 ha, and 251-500 ha size classes.	Move towards or maintain the young forest patch size frequency for the smallest three size classes.
	101-250	20%		
	251-500	1%		
	501-1,000	9%		
	1,001-2,500	0%		
	2,501-5,000	0%		
	5001-10,000	0%		
	10,001-20,000	0%		
	>20,000	0%		

Indicator 4c: Proportion of Deer Critical Thermal Cover in Deer Emphasis Area

This new indicator was added with agreement from the Planning Team to assess the proportion of Deer Critical Thermal Cover in the DEA.

Timing of Assessment: Draft Plan (Table FMP-10).
Measurement: Area of Classes 3-10 deer Critical Thermal Cover in the DEA divided by the area (ha) of Stratum 1 habitat in the DEA, expressed as a percentage.
Desirable Level: The desirable level is to have 10-30% Critical Thermal Cover (Classes 3-10) of Stratum 1 area in the DEA.
Rationale for Desirable and Target Levels: The Stand and Site Guide prescribes that DEAs contain 10-30% of Stratum 1 area being deer Critical Thermal Cover. The precise percentage required is based on deer habitat management objectives where increased Critical Thermal Cover is associated with increased deer population numbers. Conversely, lower percentages of CTC are related to reduced deer densities and where percentages below 10% are associated with declines in the deer population and where additional harvest of CTC is seen as a management option for areas experiencing deer overabundance.

The Plan Start 2024 amount of deer Critical Thermal Cover (CTC) was revised to include all CTC classes (Classes 2-10) at 48%. It was recognized that Classes 3-10 are expected to provide better quality CTC so that amount was also added to FMP-10 (Plan Start 30%) and CTC classes 3-10 were used for measurement of this indicator. The Desirable Level (10-30%) and Target Level for this plan period (25-30%) were both revised to reflect measurement of CTC classes 3-10 in accordance with the management intent to retain the better CTC and to support growth in deer population numbers regionally. For this FMP period, the target level was determined to be at the higher range of the desirable level, with 25-30% Critical Thermal Cover (Classes 3-10) of Stratum 1 area in the DEA.

3.6.2.5 Objective 5: Wood Supply

Objective 5: Wood Supply:
"To provide a predictable and continuous supply of wood to the forest products industry from the Whiskey Jack Forest."

This objective is carried forward from the 2012-2024 FMP and meets the requirement of the FMPM for indicators of Managed Crown Available Forest, Long-term Projected Harvest Area and Volumes and Actual Harvest Areas and Volumes. Short-term wood supply was an identified Desired Forest and Benefit, as well as long-term sustainable wood supply and wood available for personal use. This objective also addresses Desired

Forest and Benefits comments of forest-related jobs identified by the Local Citizen's Committee and First Nations' communities.

Indicator 5a: Area of Managed Crown Forest Available for Timber Production

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
Measurement: Analysis of SFMM projections through time for Ownership 1 Managed Crown forest available for timber production.
Desirable Level: Maintain a minimum of 194,000 ha of Managed Crown forest available for timber production over the next 100 years.
Rationale for Desirable and Target Levels: Plan Start level of available forest is 196,134 ha and is expected to decline slightly through time with planned construction of primary and branch roads over the next 20 years. The desirable level of maintaining a minimum of 194,000 ha available forest was proven reasonable through strategic modelling for the 2024-2034 FMP. The target level for this 10-year plan period is to maintain at least 195,000 ha, slightly higher than the desirable level. The target level was reasonable given the area available for forest operations in this 10-year period.

The 2024-2034 FMP desirable level for available forest is significantly lower than the desirable level in the 2012-2024 FMP (570,000 ha). This reduction in available forest is a direct result in the MNRF decision on the reduction of area of the Whiskey Jack Forest that is eligible for forest operations (24% of the forest), as compared to the 2012-2024 FMP.

Indicator 5b: Long-term Projected Available Harvest Area

Timing of Assessment: Completion of Proposed LTMD.
Measurement: Analysis of SFMM projections of annual available harvest area through time.
Desirable Level: Highest long-term AHA required to balance objective achievement and operational considerations.
Rationale for Desirable and Target Levels: Strategic modelling did not include any minimum constraints for available harvest area, but rather included targets for harvest volume (Indicator 5c) as well as constraints for several other management objectives to aid overall objective achievement. The Planning Team recognized that the amount of harvest area was less critical to the viability of the forest industry supplied with fibre from the Whiskey Jack Forest, and the direct and indirect forest-related jobs associated with harvest, than was the resulting available harvest volume (Indicator 5c). The acceptable target level is the same as the desirable level.

Indicator 5c: Long-term Projected Available Harvest Volume by Species Group

Timing of Assessment: Completion of Proposed LTMD.
How Measured: Analysis of SFMM projections of annualized available harvest volume by major species group through time.
Desirable Level: Highest long-term AHA required to balance objective achievement and operational considerations.
Rationale for Desirable and Target Levels: Strategic modelling did not include any minimum constraints for available harvest area, but rather included targets for harvest volume (Indicator 5c) as well as constraints for several other management objectives. The Planning Team recognized that the amount of harvest area was less critical to the viability of the forest industry supplied with fibre from the Whiskey Jack Forest, and the direct and indirect forest-related jobs associated with harvest, than was the resulting available harvest volume (Indicator 5c). The acceptable target level is the same as the desirable level.

Indicator 5d: Long-term Available Harvest Volume by Broad Size

This is a new objective indicator required by the *Forest Management Planning Manual* (2020). Broad size groups of small and large timber volume were used for this FMP (Supplementary Documentation B – Analysis Package, Section 6.2.2.5).

Timing of Assessment: Completion of Proposed LTMD.
Measurement: Analysis of SFMM projections of available harvest volume per year by broad size group through time.
Desirable Level: Maintain or increase the proportion of large volume, as compared to 2024 Plan Start.
Rationale for Desirable and Target Levels: Desirable and target levels are the same. The proportion of small and large volume at Plan Start (2024) comes from the strategic model. There are markets for all wood from the Whiskey Jack Forest, however maintaining or increasing the large volume was considered by the Planning Team to be reasonable given the healthy sawlog demand from the forest.

Indicator 5e: Actual Harvest Area as a Percentage of Planned, by Forest Unit

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
How Measured: % of the planned harvest area by forest unit actually harvested
Desirable Level: 80% or 90% up to 100% of the planned harvest area by forest unit actually harvested. Desirable level is a minimum of 90% for the larger forest units: CMX,

HMX, HRD, PJD, PJM, and POD. Remaining forest units have a desirable level of a minimum of 80% of planned actually harvested (BFM, PRW, SBD, SBL and SBM).
Rationale for Desirable and Target Levels: The desirable level is generally to harvest at least 90% of the planned harvest area in this FMP. It is easier to implement operational harvest blocks for the larger forest units that have more area available to allocate (min. 90% desirable level). Smaller forest units often have eligible stands that are more scattered, making it more difficult to implement economic and operationally feasible harvest opportunities (min. 80% desirable level). The target levels for this plan period are the same as the desirable levels by forest unit.

Indicator 5f: Actual Harvest Volume as a Percentage of Planned, by Major Species Group

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
Measurement: % actual harvest volume 2024-2034 by species group divided by planned harvest volume by species group.
Desirable Level: Minimum 70 - 90% (varied by volume species group) of the planned harvest volume by species group harvested.
Rationale for Desirable and Target Levels: Desirable level is to realize 100% of the planned harvest volume for major species groups during plan implementation. While strategic planning must be undertaken assuming 100% utilization, the Planning Team considered it reasonable and attainable to allow flexibility for a lower target volume utilization, as it is subject to market conditions, and demand for tree species that are dependent on harvested forest types. The target volume utilization is 90% for Spruce-Pine-Fir and Poplar, a minimum of 80% for Poplar and a minimum of 70% for White Birch.

3.6.2.6 Objective 6: First Nation and Métis Engagement

Objective 6: First Nation and Métis Engagement:
"To engage during plan development First Nation and Métis communities."

The *Forest Management Planning Manual* (2020) requires a mandatory indicator to be assessed concerning First Nation and Métis community involvement in plan development.

The Planning Team decided to develop an additional indicator of sustainability that provides an opportunity for First Nation communities and the Northwest Ontario Métis Community (NWOMC) to identify their level of satisfaction they had during forest management plan development. This indicator was intended to be similar to Indicator 7a that records the LCC's self-evaluation of their effectiveness in FMP development.

Further discussion resulted in the decision to split the proposed First Nation and Métis engagement indicator into two (2) indicators (6b and 6c) to assess and report on First Nation and Métis community satisfaction of engagement separately.

Indicator 6a: Opportunities for Involvement of First Nation communities and Métis Nation of Ontario in plan development.

Timing of Assessment: Draft Plan (Table FMP-10).
Measurement: Review of list of potentially affected First Nation communities and NWOMC, and review of First Nation and Métis Consultation Summaries to ensure all communities were contacted and encouraged to participate during Stages 1-3. Listing of potentially affected communities is included in Section 2.5.
Desirable Level: 100% of the 14 listed First Nation communities within of adjacent to the Whiskey Jack Forest and the Northwest Ontario Métis Community (NWOMC) be provided opportunities to contribute information during plan development.
Rationale for Desirable and Target Levels: It is desired for all (100%) listed First Nation communities and NWOMC to participate in the planning process. The target level is the same as the desirable level. Contact very early in the planning process will provide the greatest opportunity for involvement and will ensure all potentially affected First Nation communities and NWOMC are aware of opportunities for engagement in plan development, background information and values identification. Regular communication will also inform communities of their opportunity to develop a Customized Consultation Approach to First Nation and Métis consultation.

Indicator 6b: First Nation evaluation of their engagement during FMP development

Timing of Assessment: Draft Plan (Table FMP-10).
Measurement: One (1) First Nation engagement survey to be completed by each affected community including both numerical and comment questions. Data and comments compiled collectively for all First Nations communities.
Desirable Level: Engagement survey results indicate at least 60% overall satisfaction during the development of the forest management plan.
Rationale for Desirable and Target Levels: A 50% satisfaction ranking does not confirm satisfaction nor dissatisfaction. Therefore a 60% satisfaction ranking was determined to be the minimum desirable and target levels. MNRF district staff and Miisun staff, including the Plan Author, have history of good, regular on-going communication with local First Nation communities, therefore the desirable level was considered quite reasonable for this FMP.

Indicator 6c: Métis evaluation of their engagement during FMP development

Timing of Assessment: Draft Plan (Table FMP-10).
Measurement: One (1) Northwest Ontario Métis Community (NWOMC) engagement survey to be completed including both numerical and comment questions. Data and comments compiled.
Desirable Level: Engagement survey results indicate at least 60% overall satisfaction during the development of the forest management plan.
Rationale for Desirable and Target Levels: A 50% satisfaction ranking does not confirm satisfaction nor dissatisfaction. Therefore a 60% satisfaction ranking was determined to be the minimum desirable and target levels. MNRF district staff and Miisun staff, including the Plan Author, have implemented regular, on-going communication with NWOMC during development of the FMP, therefore the desirable level was considered quite reasonable for this FMP. The splitting of Indicators 6b and 6c addressed a concern expressed during Planning Team discussions that issues affecting NWOMC and First Nations' communities may be different during plan preparation, thereby warranting separate satisfaction ranking in the assessment of objective achievement.

3.6.2.7 Objective 7: Local Citizens' Committee Engagement

Objective 7: LCC Engagement:
"To have the Local Citizens' Committee (LCC) effectively participate in the development of the forest management plan."

Indicator 7a: LCC Self-evaluation of its Effectiveness in Plan Development

Timing of Assessment: Draft Plan (Table FMP-10).
Measurement: Analysis of LCC effectiveness survey completed by LCC members. Data and comments compiled for both the Kenora LCC and the Red Lake LCC..
Desirable Level: LCC Effectiveness survey results indicate at least 60% overall effectiveness in the development of the forest management plan.
Rationale for Desirable and Target Levels: A 50% effectiveness ranking implies neither effectiveness nor ineffectiveness. Therefore a 60% effective ranking was determined to be the minimum desirable and target levels. MNRF district staff and Miisun staff, including the Plan Author, have history of good, regular on-going communication with the Kenora LCC and the Red Lake LCC, therefore the desirable level was considered quite reasonable for this FMP.

3.6.2.8 Objective 8: Forest Renewal

Objective 8: Forest Renewal:
"To effectively regenerate harvest areas consistent with the regeneration standards outlined in the Silvicultural Ground Rules (Table FMP-4)."

This objective is related to objectives carried forward from the 2012-2024 FMP. This objective is associated with mandatory indicators from the *Forest Management Planning Manual* (2020) required for this FMP.

The achievement of these forest renewal indicators will demonstrate that the silvicultural strategies implemented in the FMP (Section 4.2.2.2 Silvicultural Ground Rules) are on track to achieve the desired future forest condition as projected in the LTMD (Section 3.7). These silvicultural strategies include treatments that move towards achievement of objective indicators for forest composition, age and landscape pattern, as well as sustainable achievement of socio-economic indicators in the future.

Indicator 8a: Percent of Harvested Forest Area Assessed as Successfully Established, by Forest Unit

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
How Measured: Identify hectares harvested by plan period from previous Annual Reports and Year 5 and final Annual Reports. Identify areas declared successfully established by plan period and determine % success by forest unit. Compare to desirable and target % by forest unit. Successful establishment based on regeneration standards in Table FMP-4 Silvicultural Ground Rules.
Desirable Level: 95-100% of the harvested area successfully established (meeting establishment standards in Table FMP-4 SGRs).
Rationale for Desirable and Target Levels: While it is desirable that all harvested areas successfully meet regeneration standards, there is approx. 1-2% loss due to road construction. The target level reflects that certain sites may slightly under achieve forest productivity or need additional time after surveying to reach establishment standards. The desirable is 95% achievement recognizes that some harvested areas may require slightly more time to reach the average establishment standards of an SGR. Target level is the same as the desirable level.

Indicator 8b: Planned and Actual Percent of Harvest Area Treated by Broad Treatment Type

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
How Measured: Planned (target): Identify proportion of broad treatment types of Natural, Plant and Seed for planned harvest areas for plan period from the LTMD scenario and express as a percent of total regeneration area for plan period. Actual: Identify hectares treated by broad treatment type for the plan period from Annual Reports and express as percent of total regeneration area for the plan period.
Desirable Level: Minimum of 90% of the projected treatment percentage actually treated by the planned broad treatment type.
Rationale for Desirable and Target Levels: Treatment types were identified as Natural, Plant and Seed with a target achievement of 90% of planned. Target level is for >= 70% of the projected percentage of treatment by broad treatment type to be conducted. It is important that renewal treatment efforts match the level of intensity projected by the LTMD and these levels were determined to be necessary to achieve the long-term management objectives for the forest. However, variation in chosen broad renewal treatments may be acceptable if similar results can be achieved through less intensive or less costly methods, or if in fact an area requires more intensive treatment to achieve desirable results. Where one intensity level is overachieved, another is underachieved compounding the variance from planned when this indicator is reported. Therefore, it was considered that a desirable level of a minimum of 90% treatment to planned treatment types was reasonable.

Indicator 8c: Planned and Actual Percent of Area Successfully Regenerated to the Target Forest Unit, by forest unit

While regeneration success of established stands is expected, there may be some areas that regenerate to forest units other than those originally planned. This indicator is a measure of silvicultural success and planning assumptions. Variance may or may not be critical to overall strategic objective achievement and should be assessed and considered in development of future FMPs.

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
How Measured: Planned: Percentages from strategic modelling LTMD results for harvested forest unit to future regenerated forest units (recorded in Table FMP-5). Actual: Identify hectares harvested by plan period by forest unit from previous Annual Reports and Year 5 and final Annual Reports. Identify hectares declared successfully established

(according to FMP-4 SGRs) by plan period and forest unit, then calculate % of harvested area by forest unit by broad treatment applied. Compare planned to actual rates by forest unit by broad treatment type.

Desirable Level: Achieve within -/+ 5 of the percentage projected to be renewed to the target future forest unit, by harvested forest unit and broad treatment type, as compared to Table FMP-5.

Rationale for Desirable and Target Levels: Target level allowed slightly more variance from the desirable level with the target of -/+ 10 of the percentage projected to be renewed to the target future forest unit, by harvested forest unit and broad treatment type, as compared to Table FMP-10a. The desirable and target levels recognize that regeneration to forest units other than originally planned is not "as planned" but may still result in acceptable future forest conditions that are consistent with the strategic post-harvest renewal transitions in the LTMD. The statistical difference between a planned and unplanned forest unit transition may not be significant (e.g., only 1-2% difference in a hardwood component may change the resulting forest unit), therefore increased flexibility in the definition of planning success needs to be recognized in the target level. Lower achievement does not mean that the forest is not being regenerated effectively, but it does reflect the change in forest units on certain sites through time.

3.6.2.9 Objective 9: Forest Values

Objective 9: Forest Values:
"To implement forestry operations in a manner that minimizes negative impacts on all identified resource users and protects all identified values."

This objective consolidates several indicators from the 2012-2024 FMP and is also associated with a mandatory compliance indicator from the *Forest Management Planning Manual* (2020) required for this FMP. This indicator also addresses several Desired Forest and Benefits meeting comments on wildlife habitat, Species at Risk, cavity tree retention, and monitoring and compliance.

Indicator 9a: Percent of Forest Operation Inspections in Non-Compliance, by activity and remedy type

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.

Measurement: Percentage of compliance reports in non-compliance divided by total number of compliance reports, by activity and remedy type.

Desirable Level: 0% of Forest Operations Inspection Program (FOIP) inspections reported as non-compliant, by activity and remedy type.
Rationale for Desirable and Target Levels: The desirable level indicates the intent to successfully implement forest management activities so that 100% of FOIP compliance inspections are reported in compliance (0% non-compliance). The target level of a maximum of 5% non-compliance annually recognizes that while not desirable, an incidence of non-compliance may occur. The maximum allowance for 5% non-compliance is a reasonable level given the importance of successfully implementing appropriate forest management activities.

3.6.2.10 Objective 10: Healthy Ecosystems

Objective 10: Healthy Ecosystems:
"To maintain productivity of soil function, and to protect water quality and fisheries habitat where forest management activities occur in the Whiskey Jack Forest."

This objective is carried forward from the 2012-2024 FMP, and is also associated with a mandatory compliance indicator from the *Forest Management Planning Manual* (2020) required for this FMP.

Indicator 10a: Compliance with Management Practices that Prevent, Minimize, or Mitigate Site Damage (% of inspections in non-compliance by activity and remedy type)

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
Measurement: For Forest Operations Inspections of Management Practices that Prevent, Minimize, or Mitigate Site Damage: Percentage of compliance reports in non-compliance divided by total number of compliance reports, by activity and remedy type.
Desirable Level: 0% of Forest Operations Inspection Program (FOIP) inspections reported as non-compliant with management activities that prevent, mitigate or minimize site damage, by activity and remedy type.
Rationale for Desirable and Target Levels: The desirable level indicates the intent to successfully implement forest management activities so that 100% of FOIP compliance inspections reported in compliance with management activities that prevent, mitigate or minimize site damage (0% non-compliance). The target level of a maximum of 5% non-compliance annually recognizes that while not desirable, an incidence of non-compliance may occur. The maximum allowance for 5% non-compliance is a reasonable level given

the importance of successfully implementing appropriate forest management activities in a manner that prevents, mitigates or minimizes site damage.

Indicator 10b: Compliance with Management Practices that Protect Water Quality and Fish Habitat (% of inspections in non-compliance, by activity and remedy type)

Timing of Assessment: Year 5 Annual Report, and Annual Report for final year of plan implementation.
Measurement: For Forest Operations Inspections of management activities that protect water quality and fish habitat: Percentage of compliance reports in non-compliance divided by total number of compliance reports, by activity and remedy type.
Desirable Level: 0% of Forest Operations Inspection Program (FOIP) inspections reported as non-compliant with management activities that protect water quality and fish habitat.
Rationale for Desirable and Target Levels: The desirable level indicates the intent to successfully implement forest management activities so that 100% of FOIP compliance inspections are reported in compliance with management activities that protect water quality and fish habitat. The target level of a maximum of 5% non-compliance annually recognizes that while not desirable, an incidence of non-compliance may occur. The maximum allowance for 5% non-compliance is a reasonable level given the importance of successfully implementing appropriate forest management activities in a manner that protects water quality and fish habitat.

3.6.2.11 Objective 11: Blueberry Harvesting Areas

Objective 11: Blueberry Harvesting Areas:
"To harvest trees from candidate areas on the Whiskey Jack Forest for a local First Nation community to establish blueberry harvesting areas."

This objective is new for the 2024-2034 FMP and was added in response to Desired Forest and Benefits comments and a request by a local First Nation community.

Indicator 11a: Blueberry harvesting areas identified for harvest)

Timing of Assessment: Preliminary assessment at Proposed LTMD, assessment at completion of operational planning, and assessment at Annual Reports for Year 5 and final year of plan implementation.
Measurement: Number of candidate blueberry harvesting areas planned for harvest in the FMP period.

Desirable Level: The desirable level is that two (2) candidate blueberry harvesting areas be planned for harvest in the 10-year FMP period.

Rationale for Desirable and Target Levels: Manipulate of the forest cover through forest management planning is expected to be advantageous for the regeneration of blueberries, while later meeting the regeneration obligations for a stand harvested in the FMP. With two (2) candidate areas being harvested every 10 years, and blueberry harvesting sites being productive for approx. 3-15 years, it is expected that community needs will be met continually met through a rotation of suitable blueberry harvesting areas on the Whiskey Jack Forest. Identification of more than two (2) sites was also considered to be beneficial.

3.7 Long-Term Management Direction

3.7.0 Introduction

The Long-Term Management Direction (LTMD) is the management objectives, indicators, assessment of sustainability, social and economic assessment, and levels of activities required to achieve the desired forest and benefits and provide for the sustainability of the forest for the management unit.

Strategic modelling with SFMM was conducted to determine the location, types, and levels of activities (i.e., access, harvest, renewal and tending) required to manage forest cover and balance the achievement of management objectives.

The Long-Term Management Direction is described in the following subsections (and FMP tables):

- 3.7.0 Introduction
  - 3.7.0.1 Analysis Package
  - 3.7.0.2 Forest Condition for the Crown Productive Forest (FMP-6)
  - 3.7.0.3 Habitat for Selected Wildlife Species (FMP-7)
- 3.7.1 Available Harvest Area and Volume
  - 3.7.1.1 Available Harvest Area by Forest Unit (FMP-8)
  - 3.7.1.2 Available Harvest Volume by Species Group and Broad Size Group (FMP-9)
- 3.7.2 Selection of Areas for Harvest
- 3.7.3 Assessment of Objective Achievement (FMP-10)
- 3.7.4 Spatial Assessment of Projected Harvest Area
- 3.7.5 Social and Economic Assessment
- 3.7.6 Risk Assessment
- 3.7.7 Overall Preliminary Determination of Sustainability

The LTMD was presented to and accepted by the Planning Team and Local Citizens' Committees, and endorsed by the Regional Director, MNRF Northwest Region. Public review of the LTMD during FMP production included opportunities at Stage Two - Review of Proposed Long-Term Management Direction, and Stage Three – Review of Proposed Operations.

3.7.0.1 Analysis Package

Strategic modelling was conducted to determine the location, types, and levels of activities (i.e., access, harvest, renewal and tending) required to manage forest cover to balance the achievement of management objectives. Strategic modelling was conducted with the use of SFMM and Ontario's Landscape Tool. Outputs of strategic forest modelling have been submitted to MNRF with the FMP in digital form.

The key decisions made during development of the Long-Term Management Direction model are documented in Supplementary Documentation B – Analysis Package, Section 9.

A process of repetitive analyses was conducted to balance the achievement of management objectives while developing a LTMD for the Whiskey Jack Forest. The Long-Term Management Direction was developed through an iterative process of adding modelling constraints to the SFMM Base Model without harvest options to build to and reach a good balance of management objective achievement and operational reality (described in Supp. Doc. B – Analysis Package, Section 9).

Results or findings of analyses and investigations were used to guide the balancing of achievement of management objectives. The final LTMD model run (LTMD-3) represents a balance in the achievement of management objectives. Modelling outputs from the LTMD, showing how the forest is expected to develop over time in terms of forest composition and structure, and the projected types and levels of activities required to achieve management objectives are summarized in Supplementary Documentation B – Analysis Package, Sections 9.2 and 9.3 and Appendix 5.

A summary of how the management objectives were represented in the analysis is included in Supplementary Documentation B - Analysis Package, Section 9.1. The Analysis Package also includes a summary of changes made to the base model, and how the achievement of objectives was interpreted from the model results.

3.7.0.2 Projected Forest Condition for the Crown Productive Forest

The forest condition for the Crown Productive Forest projected in the Long-Term Management Direction is documented in Table FMP-6 by forest unit and age class. This information is derived from outputs form the SFMM model dataset. The Crown productive forest includes managed area as well as parks and protected areas.

Table FMP-6 records the Crown productive forest at 2024 Plan Start to be 782,337 hectares as calculated from the SFMM Plan Start 2024. Total productive forest area in Year 2024 (782,3372 ha) is comparable to Table FMP-1 (782,338 ha). SFMM reconciled land base is 1 ha lower than BMI area (strategically identical). Supplementary Documentation B – Analysis Package describes the Calibration of the SFMM Base Model Land Base and rationale that the initial modelling land base is consistent with the inventory for the Whiskey Jack Forest.

The productive land base is projected to decrease <.01% over 100 years to 781,252 hectares (Table FMP-6). This decrease in productive forest area is a result of projected conversion of 984 ha of harvested area to non-productive roads and landings. New forest access is estimated to be required for approximately 20 years, to access all parts of the operable zone on the Whiskey Jack Forest.

Overall, the decrease in Crown productive forest area over the next 100 years is not projected to be significant, and results from the strategic modelling to achieve a balance of achievement of varied management objectives. In particular, objectives for forest composition and age structure required by the Boreal Landscape Guide influence the changes by forest unit in the future forest condition. Specifically achievement of Indicator 2a: Landscape Class Area, Indicator 2d: Upland Pine and Spruce forest area, as well as Indicator 5c: Long-term Harvest Volume influence projected forest unit area through time. Section 3.7.3 describes the assessment of objective achievement.

Table 26 summarizes the amount of change in productive forest unit area over the 100-year planning horizon. Forest units with less than a 30% change are shaded grey. The forest units are listed from the greatest percentage increase in area, down to the greatest decrease percentage in area.

Most forest units are projected to have a relatively stable area through the next 100 years (+/- 30% from Plan Start (2024), being POD, PRW, SBL, PJM, SBM, CMX, and HMX. The three (3) forest units projected to significantly increase in proportion are BFM, SBD and PJD. The only forest unit projected to significantly decrease over the next 100 years is the HRD forest unit with projected conversion to conifer-dominated forest or purer poplar. As noted above, the projected changes in productive area by forest unit are a result of balancing overall objective achievement from implementation of the LTMD

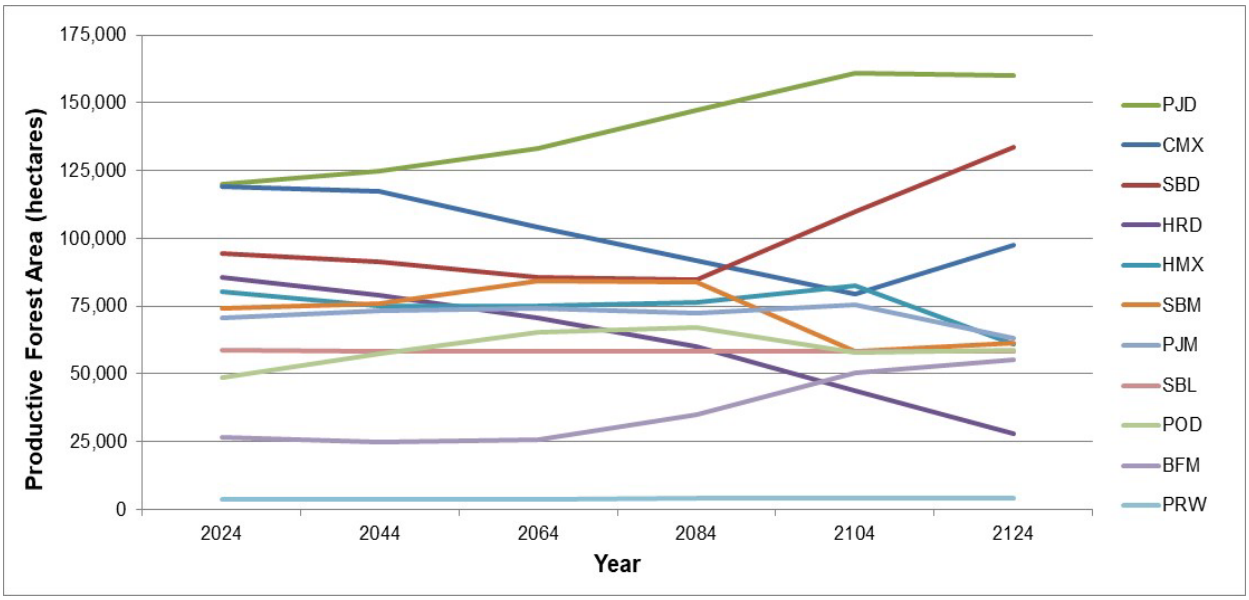
renewal projections and changes from aging of the forest (natural succession) in the large zone of the forest where no forest management operations may be planned. Therefore the implications to these changes by forest unit are positive for overall forest sustainability as these changes meet long-term management objectives, as further described by management objective in Section 3.7.3.

Table 26 Change in Productive Forest Area by Forest Unit

Forest Unit	Productive Forest Area: 2024	2124	Change	Ha	%
BFM	26,616	55,058	increase	28,441	107%
SBD	94,413	133,467		39,054	41%
PJD	120,245	159,901		39,656	33%
POD	48,642	58,802	similar	10,160	21%
PRW	3,587	4,178		590	16%
SBL	58,977	58,959		- 19	0%
PJM	70,531	63,331		- 7,200	-10%
SBM	74,058	61,250		- 12,809	-17%
CMX	119,352	97,474		- 21,878	-18%
HMX	80,207	60,976		- 19,231	-24%
HRD	85,706	27,958	decrease	- 57,747	-67%
TOTAL	**782,337**	**781,353**		- 984	0%

The projected Crown productive forest area by forest unit for the next 100 years is also illustrated in Figure 27.

Figure 27 Projected Crown Productive Forest Unit Area Through Time



3.7.0.3 Habitat for Selected Wildlife Species

Selected Wildlife Species can be identified for specific consideration by the Planning Team in FMP development. Caribou, Moose and Deer are selected wildlife species in the 2024-2034 FMP that require specific projected habitat modelling in their respective habitat emphasis areas (see Table FMP-7).

Caribou habitat in the caribou zone was managed as a primary management objective in strategic modelling and planned operations. To reflect the consideration during LTMD development, Table 27 below reflect data for caribou habitat in Table FMP-7. The discussion of caribou habitat is included in Section 3.7.3.1 Objective 1: Caribou Habitat.

Table 27 Projected Caribou Habitat in Caribou Zone Through Time

Species	Habitat Area (ha)					
	2024	2044	2064	2084	2104	2124
Caribou - refuge	86,255	111,036	120,540	121,767	124,845	128,055
Caribou - winter combined	132,854	156,292	166,030	167,928	170,502	175,033

Moose habitat is planned for and considered based on various indicators for the whole forest and within the identified Moose Emphasis Areas (MEAs). See Table FMP-10 for current and projected moose habitat in the MEA (by habitat type).

Deer habitat is planned for and considered based on various indicators for the whole forest and within the identified Deer Emphasis Area (DEA). Specifically critical thermal cover within Stratum 1 habitat in the Deer Emphasis Area is being managed and reported. See Table FMP-10 for current and Plan End (2034) proportion of critical thermal cover in the DEA.

Habitat for all species that inhabit the Whiskey Jack Forest are accounted for through the management of forest composition, age structure and landscape pattern required by management indicators and milestones, in accordance with the Forest Management Guide for Boreal Landscapes (BLG) and the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (SSG). See Table FMP-10 for indicator projections for caribou and moose habitat in their respective emphasis areas.

3.7.1 Available Harvest Area and Volumes

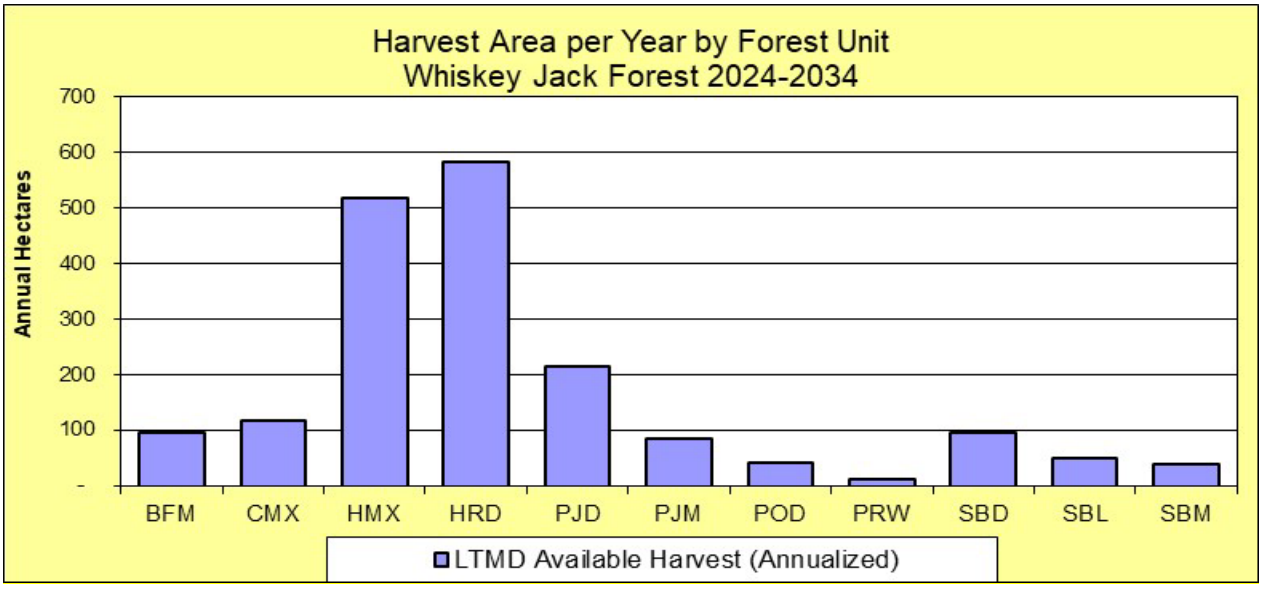
The available harvest area associated with the LTMD is discussed in Section 3.7.1.1. The harvest volume resulting from the available harvest area is discussed in Section 3.7.1.2 by major tree species group and broad size group. The spatial distribution of harvest over the first four FMP periods (i.e., 40 years) is discussed in Section 3.7.3.3.

3.7.1.1 Available Harvest Area

A set of criteria was developed to identify the areas that could reasonably be harvested during the 2024-2034 period of the Whiskey Jack Forest FMP. The Available Harvest Area (AHA) by forest unit (which was derived from the SFMM outputs for the proposed LTMD) was the primary criterion for the selection of "preferred harvest areas". Harvest areas are planned to match, but not exceed, the projected available harvest areas by forest unit during the 10-year plan period. MNRFs *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNR, 2010) and the *Forest Management Guide for Boreal Landscapes* (MNR, 2014) provided additional direction.

Based on eligibility and selection criteria, a total of 17,882 hectares of preferred LTMD harvest area were identified for the ten-year plan period. The projected Available Harvest Area by forest unit (total of 18,513 ha for this 10-year period) is documented in Table FMP-8 (projected available harvest area over a 100-year planning horizon). The 2024-2034 FMP annual projected available harvest area by forest unit is portrayed graphically in Figure 28 (1,851 ha per year, 18,513 ha for the 10-year plan period).

Figure 28 Annualized Available Harvest Area by Forest Unit 2024-2034

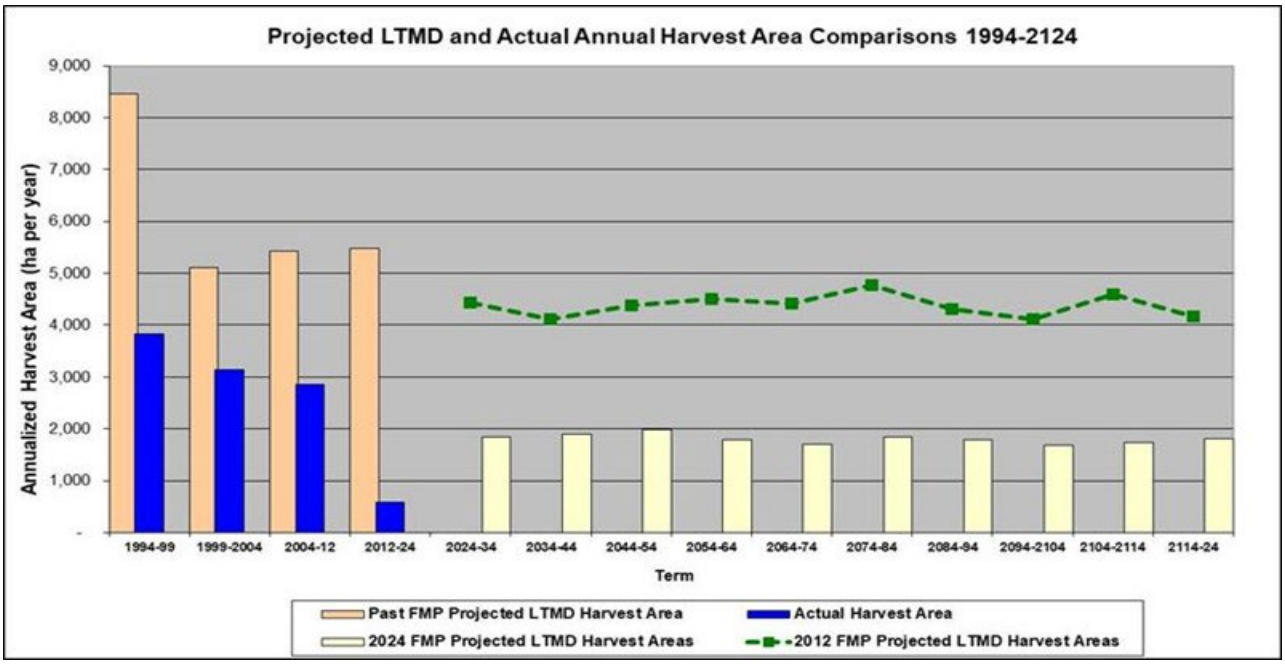


The forest unit with the greatest annualized available harvest area is the HRD forest unit (32%), followed by HMX (28%), and PJD (12%). CMX (6%), PJM (5%), SBD (5%) and BFM (5%) comprise another 21% of the AHA. The remaining forest units all combined account for the remaining 7% of the available harvest area (SBL 3%, POD 2%, SBM 2%, and incidental areas of PRW 0.7%).

The annualized LTMD available harvest area level is significantly less than the 2012 FMP available harvest area (1,851 ha versus 5,483 ha per year in the 2012 FMP, a 66% decrease). The decrease in projected available harvest area directly results from the 2024 FMP management decision regarding the zone of the Whiskey Jack Forest that may have forest operations planned (e.g., harvest, renewal). The eligible harvest zone in this FMP period is 24% of the forest, whereas the LTMD for the 2012 FMP was based on the entire forest.

The projected available harvest area trend over the 100-year planning horizon is documented in Table FMP-8 and portrayed graphically in Figure 29. A comparison of projected harvest areas to past planned and actual harvest areas (1994-2024) is also included in the graph. The 2024 FMP AHA of 1,851 ha per year was determined by the Planning Team as the amount of harvest area that projected the best balance of management objective achievement now and for the future in terms of strategic area eligible for planned forest operations, desirable forest condition and desirable social and economic benefits from the forest (Section 3.7.3).

Figure 29 Planned and Actual Annual Harvest Area Comparisons 1994-2124



Annual total harvest areas are projected to average approximately 1,809 hectares per year for the next 100 years (vary from 1,678 to 1,980 ha per year), significantly lower than projections in the 2012 FMP (4,382 ha per year over same 100 years). Variation in projected harvest areas between 10-year periods primarily results from the zone of the forest eligible for planned harvest. Minor variations between terms result from the age class distribution of the forest and the amount of area required to be retained for BLG indicator areas (amount of Landscape Class mature-older forest areas, old growth forest, upland conifer, young forest, etc.), as well as optimizing harvest volumes for socio-economic benefits from the Whiskey Jack Forest. Long-term strategic planning trends in projected harvest area have changed significantly with the management decision on the zone eligible for planned harvest.

A rough comparison of Available Harvest Area by forest unit for the 2012-2024 FMP and the 2024-2034 FMP has been undertaken. The eleven (11) 2024-2034 FMP forest units include aggregations of Northwest Region Standard Forest Units (SFU), and each SFU is classified into only one plan forest unit (very clean sort / roll-up). The 12 forest units from the 2012-2024 FMP included aggregations of the same SFUs, however not all regional SFUs were classified wholly into one forest unit (some splitting of SFU into multiple plan forest units occurred). The comparison of the 10-year AHA by forest unit for the 2012 and 2024 FMPs is included in Table 28, and as noted above the total AHA decreased between FMPs by 66%, a result of the strategic decision of area on which forest management activities could be planned. There have been moderate to significant decreases in AHA for all forest units from the 2012 FMP to the 2024 FMP, except for an increase in the SBL available harvest area.

Table 28 Comparison of 10-year AHA by Forest Unit 2012 and 2024 FMPs

2012 FMP Forest Units			2024 FMP Forest Units			Comparison 2024 to 2012		
	10-year AHA (ha)	Primary Regional Standard Forest Units	Code	10-year AHA (ha)	Regional Standard Forest Units	2022 Forest	Change (%)	Comment
BFM	1,408	BfMx1, BfPur	**BFM**	952	BfMx1, BfPur	**BFM**	-32%	decrease
CMX	8,845	ConMx, UplCe	**CMX**	1,188	ConMx, UplCe	**CMX**	-87%	significant decrease
HMX	12,064	HrdMw, HrDom, BwDee, BwSha	**HMX**	5,180	HrdMw	**HMX**	-57%	decrease
			HRD	5,841	HrDom, OthHd, BwDee, BwSha	**HRD**	new	was combined in 2012 HMX, overall decrease
OTH	-	OthHd						
PJD	3,149	PjSha, PjDee	**PJD**	2,138	PjDee, PjSha	**PJD**	-32%	decrease
PJM	5,369	PjMx1	**PJM**	841	PjMx1	**PJM**	-84%	significant decrease
POD	12,208	PoDee, PoSha	**POD**	409	PoDee, PoSha	**POD**	-97%	significant decrease
PRW	364	PrwMx, PwDom, PrDom	**PRW**	125	PrwMx, PwDom, PrDom	**PRW**	-66%	decrease
SPD	6,932	SbDee, SbSha, SbMx1, BfMx1	**SBD**	954	SbDee, SbSha	**SBD**	-86%	significant decrease
SBL	302	SbLow	**SBL**	500	SbLow, OCLow	**SBL**	65%	increase, now includes OCL
OCL	-	OCLow						
SPM	4,192	SbMx1	**SBM**	383	SbMx1	**SBM**	-91%	significant decrease
	54,834			**18,513**			**-66%**	**overall significant decrease**

Preferred LTMD harvest areas by forest unit were further refined and balanced to be planned harvest area prior to the Public Consultation Stage Three: Review of Proposed Operations, after reserves associated with the Area of Concern (AOC) planning process were confirmed (Section 4.2), with subsequent refinement of planned harvest areas occurring for the draft plan (Section 4.3.1, Table FMP-12).

3.7.1.2 Available Harvest Volume

The projected Available Harvest Area by Forest Unit for the FMP period from 2024-2034 is projected to yield an Available Harvest Volume 10-year total of 1,969,091 net merchantable cubic metres, and is comprised of:

1,000,000	cubic metres of Spruce-Pine-Fir (SPF);
700,000	cubic metres of Poplar (PO);
242,336	cubic metres of White Birch (BW);
21,732	cubic metres of Red Pine, White Pine (PWR); and
5,023	cubic metres of other species (Cedar, Larch, Other Hardwood)
1,969,091	**cubic metres TOTAL volume.**

The projected volume in the LTMD was compared to the historical and benchmark levels identified in the Ontario Forest Accord Advisory Board (OFAAB) report. The following graphs show the historical and benchmark harvest levels which have occurred in the Whiskey Jack Forest from 1994 to the present. The planned and actual harvest volumes are also illustrated by 10-year FMP period from 1994 to 2024, and projected LTMD harvest volumes from 2024 to 2124. Volume comparisons are included for all volumes (TOTAL, Figure 30), Spruce-Pine-Fir (Figure 31), Poplar, (Figure 32), and White Birch (Figure 33). Red Pine and White Pine is not a major volume species group on the Whiskey Jack Forest, however comparative information is also included in Figure 34. Other Conifer (OC)(cedar, larch) and Lowland Hardwood (black ash) are incidental species in the Whiskey Jack Forest.

A comparison to current industrial demand and Forest Accord (OFAAB) benchmark levels is also provided for each species group. Volumes are illustrated for the 100-year 2024-2124 period however the trends continue at similar levels through to the end of the strategic modeling horizon of 2174 for each species group.

Projections for TOTAL volume, SPF and Poplar volumes are all projected to be lower than their OFAAB benchmark levels through to 2124 (result of harvest zone strategic management decision). White Birch volumes are projected to be greater than OFAAB benchmark levels in all terms. Red Pine – White Pine is projected to be greater than the

OFAAB Benchmark level for this 10-year plan period, then again for 2044-2094 (not achieved in 2034-2044).

The annual total harvest volume level in the LTMD for the 2024-2034 Whiskey Jack FMP (196,900 cubic metres) is 66% lower than the harvest volumes projected in the selected management alternative for the 2012-2024 FMP (574,600 cubic metres). The decreased harvest volume corresponds to the decrease in harvest area discussed above. The decrease in harvest area and volume is a result of the management decision on the reduced area on which forest operations (e.g., harvest, renewal) are eligible to be planned. The decrease in projected harvest volumes was balanced with desired forest and benefits included in management objective indicators while balancing other socio-economic indicators and forest sustainability that are consistent with strategic direction from the 2012-2024 FMP. The Planning Team carefully considered the impact of the 2024-2034 projected harvest area on long-term harvest area/volume and future desired forest and benefits. The Planning Team supports this balance of long-term objective achievement.

Associated with the available harvest volumes are additional potential volumes of defect volume (branches, twigs, leaves, bark) and undersize volumes (top wood). As reported in Table FMP-9, an estimated 101,502 m3 of defect volume and 37,062 m3 of undersized volume per year are potentially available through harvest of the full available harvest area for this 10-year plan period. The total of net merchantable available harvest volume, plus defect and undersized volume is estimated to be 3,354,740 m3 for this 10-year plan period 2024-2034 (total 335,474 m3 per year for all three volume types).

Broad Size Group - The projected Available Harvest Volume by Species Group and Broad Size Group is documented in Table FMP-9 (projected harvest volumes over a 100-year planning horizon). The estimate of harvest volume by small and large product size through time was calculated in the SFMM model. 20 cm diameter-sized trees were identified by the Planning Team as being an important indicator of operational productivity. Small product was an estimate of volume from trees <=20 cm diameter at breast height; Large product was an estimate of volume from trees >20 cm diameter at breast height. See Supp. Doc. B – Analysis Package, Section 6.2.2.5 for further details on the estimation of volume by broad product size.

The projection of harvest volumes by broad size group is useful in strategic planning to quantify if projected forest management activities will maintain a similar proportion of small and large volumes through time, or if management activities will lead to change relative to the current proportions. Volumes reported in Table FMP-9 support that the broad size groups of harvest volume will remain relatively constant by volume species group for the next 100 years. It is estimated that approx. 1% of volume in all major species groups will be available as large sized diameter volume (1% in 2024, increasing to 5% by 2124).

Figure 30 Planned and Actual Harvest Volume Comparisons, Species Group – Total

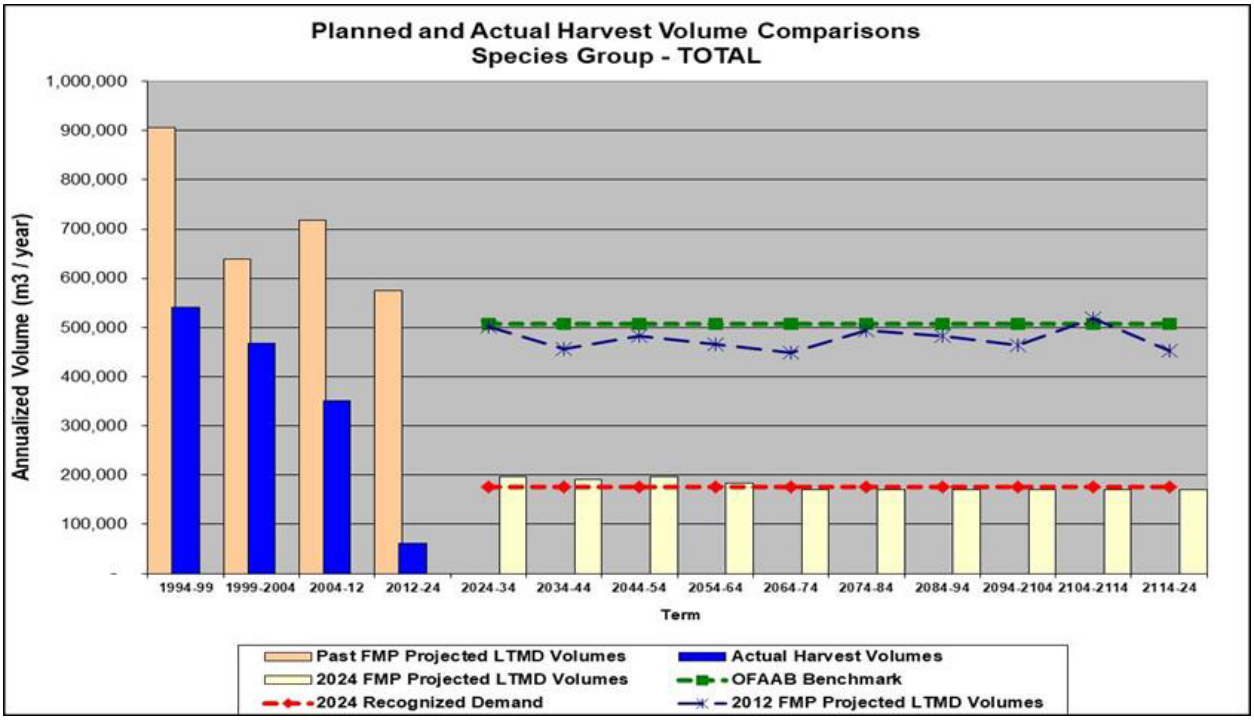


Figure 31 Planned and Actual Harvest Volume Comparisons, Species Group – Spruce-Pine-Fir

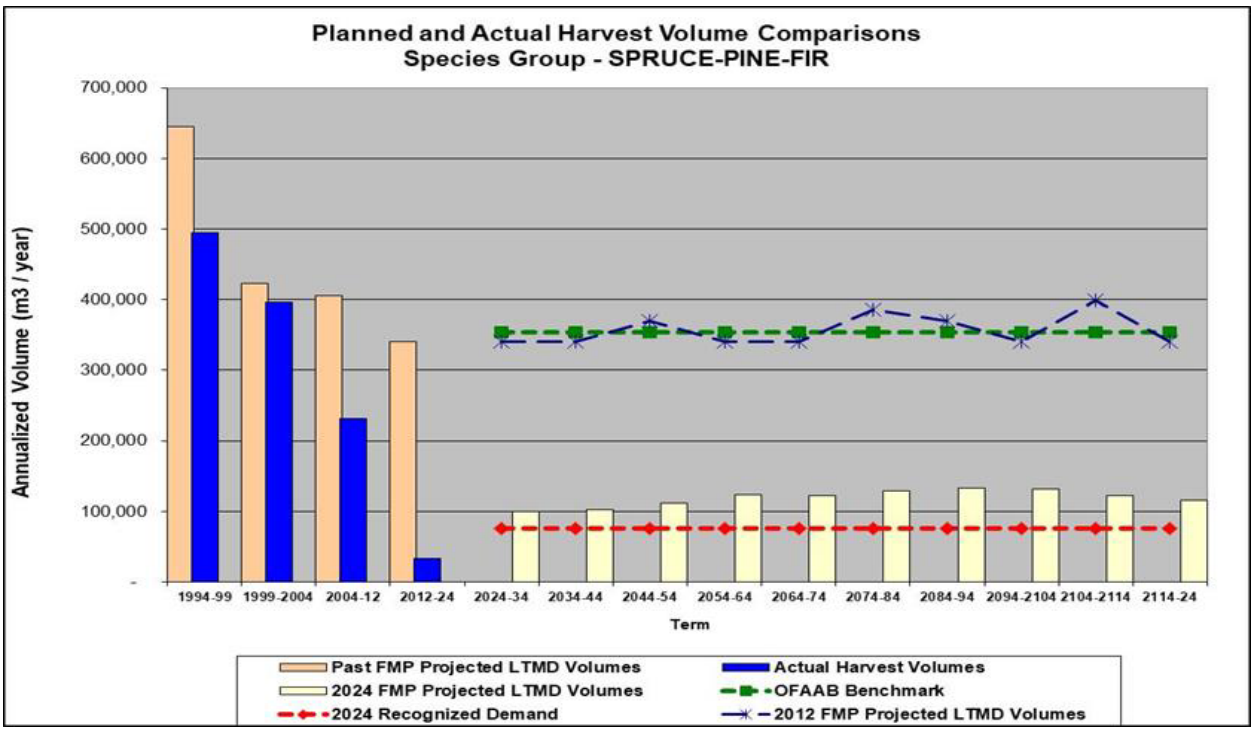


Figure 32 Planned and Actual Harvest Volume Comparisons, Species Group – Poplar

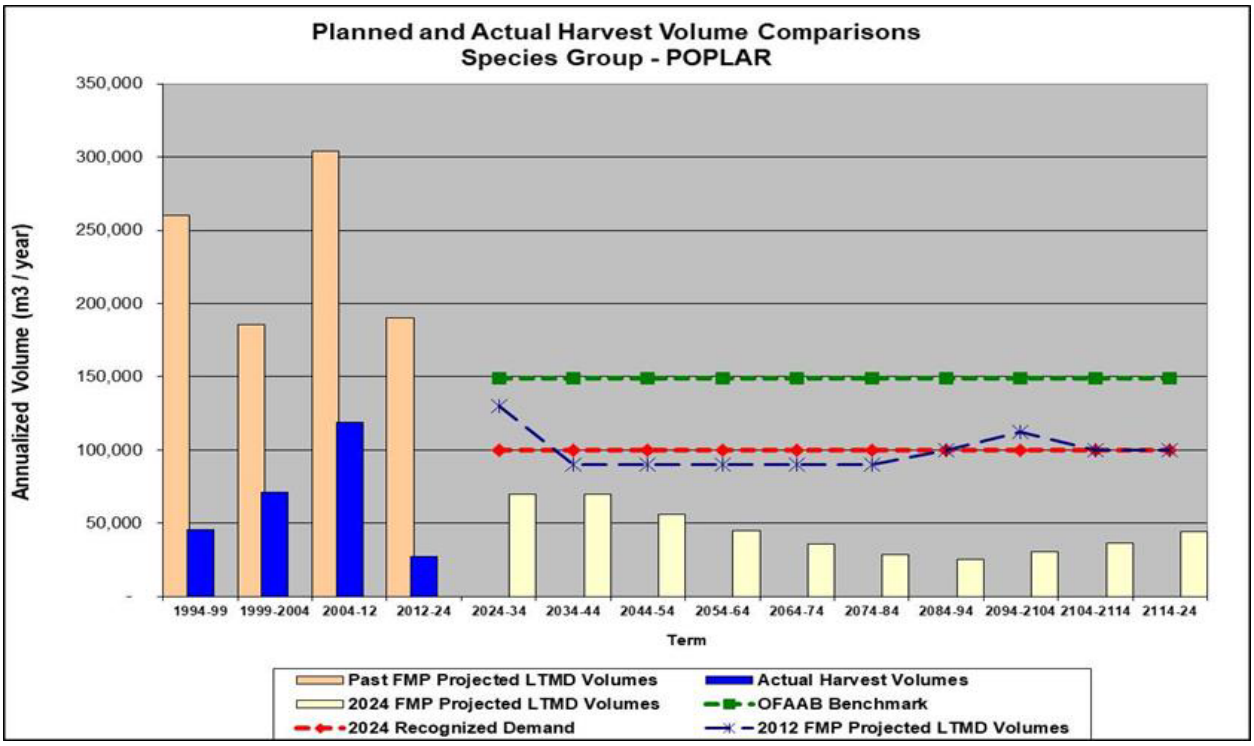


Figure 33 Planned and Actual Harvest Volume Comparisons, Species Group – White Birch

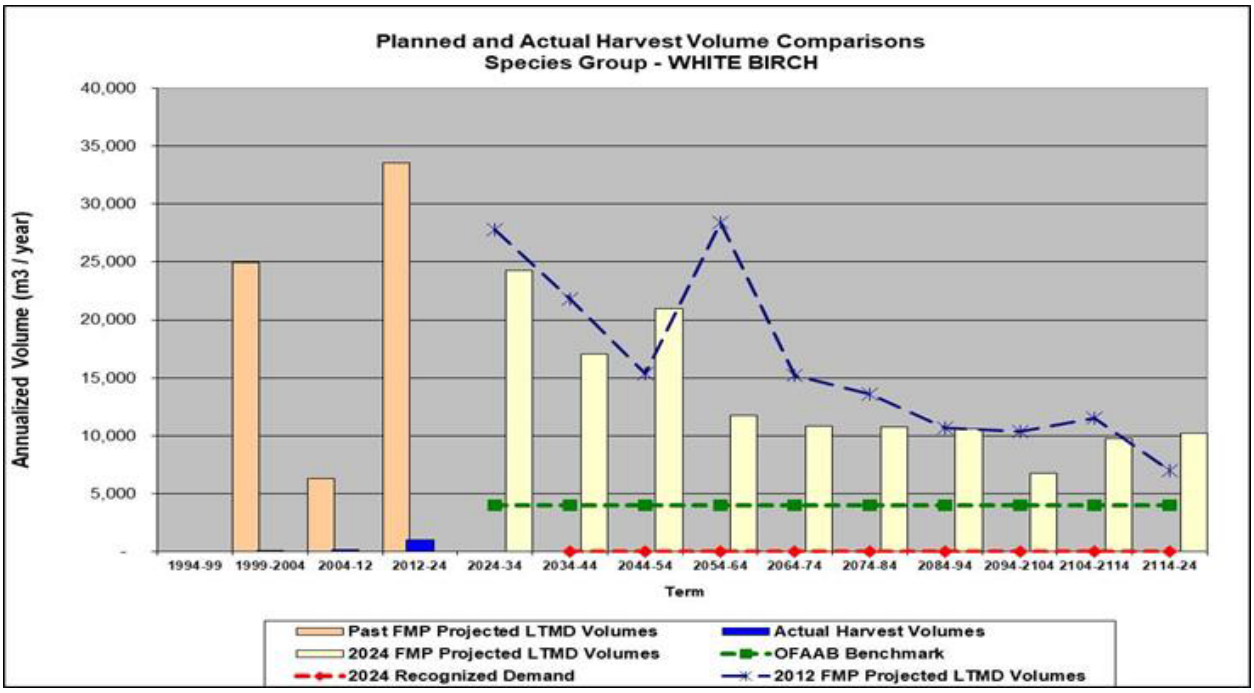
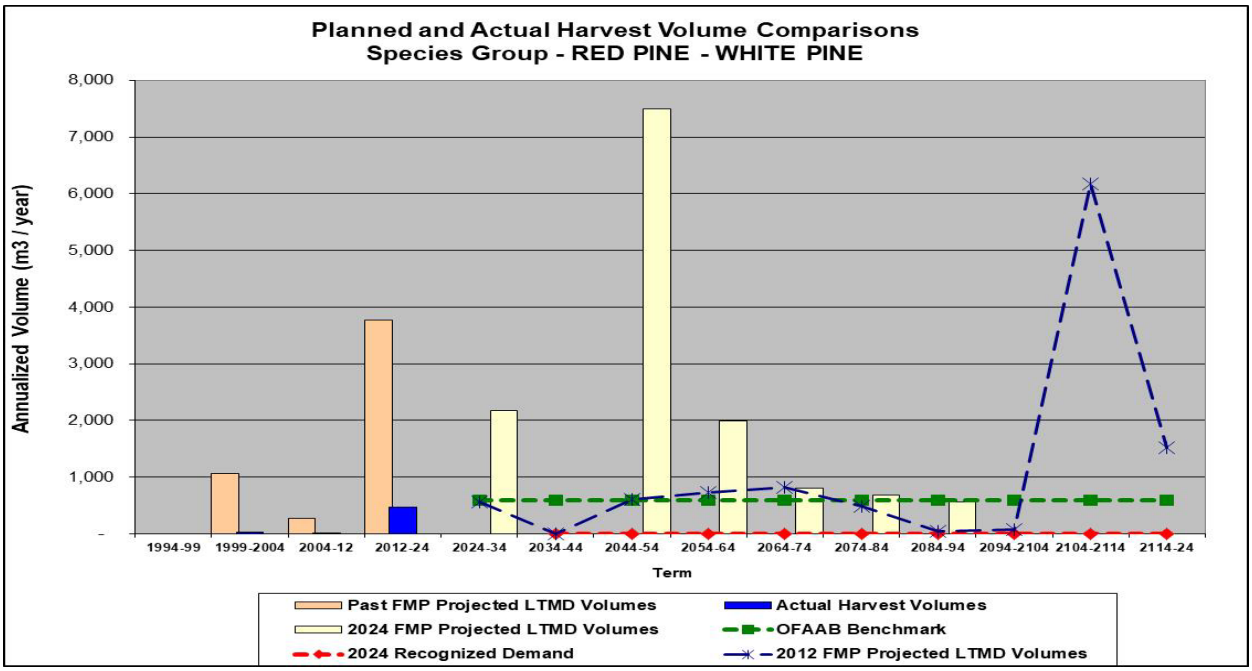


Figure 34 Planned and Actual Harvest Volume Comparisons, Species Group – Red Pine – White Pine



3.7.1.3 Spatial Distribution of Harvest

The spatial distribution of harvest over the first four FMP periods (i.e., for 40 years from 2024-2064) was projected in the LTMD with SFMM. Operational zones with projected harvest area over the next 40-years are graphically portrayed (Figure 35) and map MU490_2024_FMP_MAP_DistHarv_00.pdf.

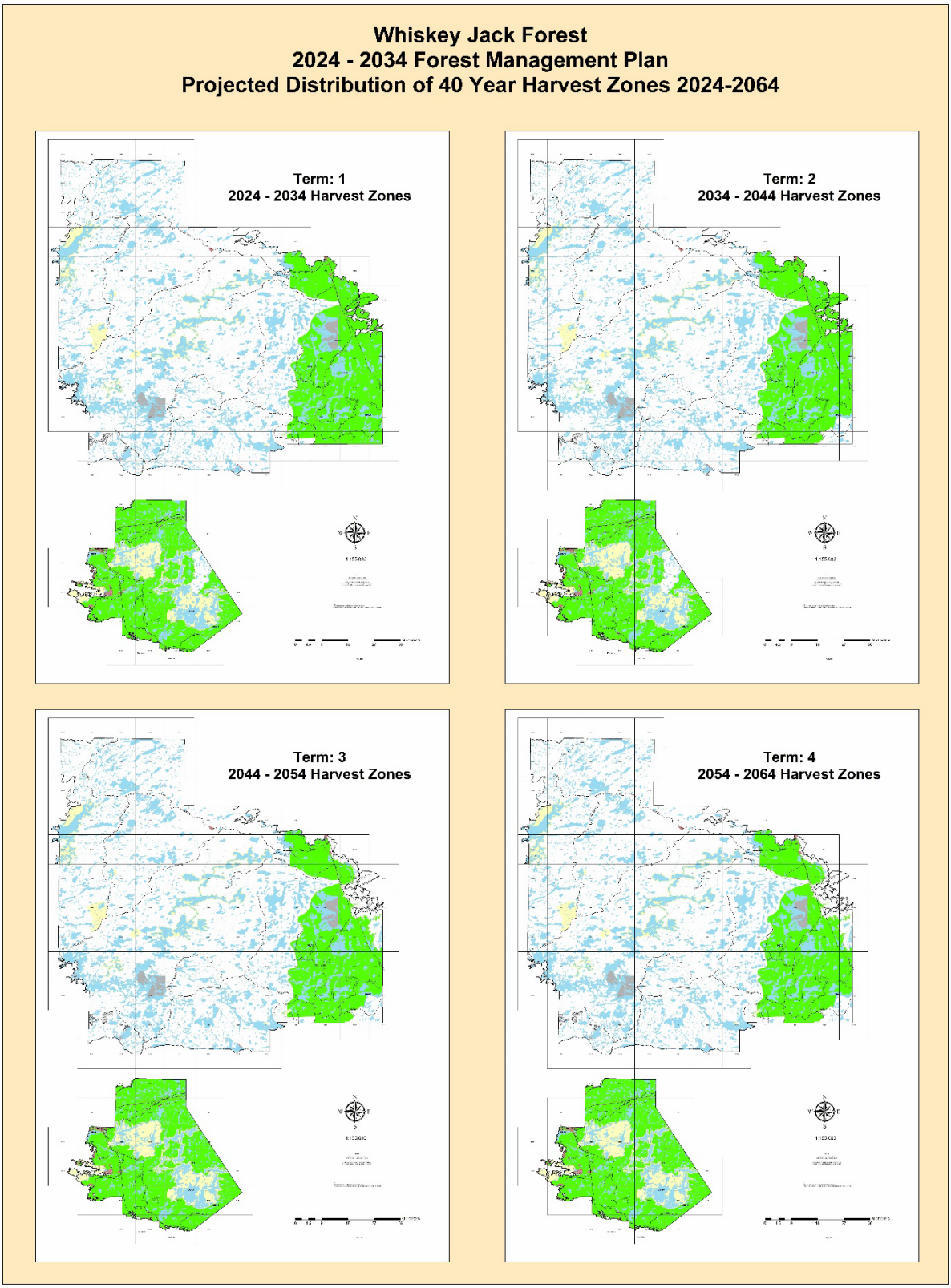
During the SFMM strategic modelling process, certain spatial considerations were built directly into the model to reflect harvest area feasibility and accessibility through strategic and operational management zones. Projected harvest areas for the 2024-2064 plan period adhere to the Dynamic Caribou Habitat Schedule timing for current and future caribou habitat management in the caribou zone, consistent with inputs for SFMM strategic modelling (Supplementary Documentation B – Analysis Package, Section 6.2.5.5 Sub-Unit Harvest and Renewal Operability Timing, and Appendix 1 Caribou Habitat Analyses).

This spatial distribution of harvest areas contributes to short-term and long-term management objective achievement (as discussed in Section 3.7.3) and adheres to the management considerations included in the SFMM LTMD scenario (LTMD-01). The 40-year projection of harvest was considered by the Planning Team to be generally operationally feasible and economically feasible (see Section 3.7.4). Additional strategic and operational planning for the Whiskey Jack Forest will be conducted prior to forest management plan approvals for the future FMP periods 2034-2064.

During development of the Long-term Management Direction, the projected Available Harvest Area for each 10-year period from 2024-2064 was:

Available Harvest Area:	Total area per 10-year period:	
Proposed Harvest Years 1-10:	2024-2034	18,513 ha
Proposed Harvest Years 11-20:	2034-2044	19,023 ha
Proposed Harvest Years 21-30:	2044-2054	19,805 ha
Proposed Harvest Years 31-40:	2054-2064	17,908 ha

Figure 35 Projected Distribution of 40 Year Harvest Zones 2024-2064



3.7.2 Selection of Areas for Harvest

During the selection of eligible areas for planned harvest operations, the Planning Team considered the application of MNRF's forest management guides. The LTMD was developed using the Strategic Forest Management Model (SFMM) that provided the projected Available Harvest Area areas within an acceptable balance of objective achievements (Section 3.7.3 to 3.7.7). Before the LTMD was supported or received preliminary endorsement by MNRF for use in this FMP, 10-year LTMD harvest areas were strategically selected and called "preferred harvest areas". Later during operational planning, preferred harvest areas were further refined to determine the "planned harvest areas". Details on the selection of planned harvest areas are documented in Section 4.3.1.1 Operational Considerations for Specific Harvest Operating Areas.

The following highlights the strategic consideration of the main forest management guides that occurred during the selection of preferred harvest areas for the LTMD. Other provincial guides were also considered and are discussed in Section 4.2 in relation to operational planning.

Forest Management Guide for Boreal Landscapes (BLG):

- SFMM projected LTMD Available Harvest Area was used to guide selection of preferred harvest areas since the LTMD AHA provided a balance of favourable achievement of BLG and socio-economic indicators.
- In particular a Dynamic Caribou Habitat Schedule (mosaic of large landscape patches) to balance caribou habitat was spatially identified in the strategic modelling. In accordance with district direction, no scheduling of forest management activities was planned for the contiguous DCHS area in the northwest of the forest. Harvest and renewal activities were allowed and projected in the LTMD for the eastern caribou habitat area near Lac Seul.

Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (SSG):

- SFMM strategic modelling and selection of preferred harvest areas considered certain SSG considerations (e.g., estimated riparian reserve area, volume net-down for wildlife trees).
- The SSG prescriptions for riparian areas were considered in the strategic modelling land base. These areas were considered as estimated reserve, with the understanding that planned harvest could still be operationally allocated in the FMP in some of the riparian areas in accordance with SSG guidelines.

- Three (3) Moose Emphasis Areas, one (1) Deer Emphasis Area, and three (3) large landscape patches (for future Mature and Older landscape pattern) were identified and considered as separate subunits in the strategic modelling. Preferred harvest area was timed to broadly consider forest management activities in accordance with the purpose of the LLPs.
- Detailed consideration for SSG prescriptions was undertaken during operational planning for Stage Three: Proposed Operations in the FMP (Section 4.2).

Additional strategic constraints were included in the modelling for LTMD not to directly adhere to required forest management guides, but rather to bring some elements of operational reality into the LTMD. Operational constraints added included optional deferrals for harvest for one or more 10-year periods (also included by turning subunits off from eligibility for certain terms). It is noted that selection of planned harvest or planned road construction in these areas was still valid if verified as operationally feasible by the Service Provider, and without negatively impacting overall objective achievement.

There were no unresolved issues over forest resource use or habitat for Species At Risk that were needed to be considered in the development of the LTMD, nor did they limit the strategic achievement of forest management objectives (see Section 3.7.3 for Assessment of Objective Achievement). Consideration for the protection of habitat for Species At Risk occurred during strategic planning (specifically for caribou habitat) and also during operational planning (see Section 4.2). After preliminary MNRF-endorsement of the LTMD, during the operational planning stage or draft plan stage, public comments resulted in the development of certain new AOCs with reserve area and/or areas of modified operations. Forest operations or road corridors were adjusted spatially (reserves, road corridors) or through conditions on operations in the AOC (modified zone), to address these AOCs (Sections 4.2, 4.3 and 4.5).

Harvest eligibility criteria were incorporated into the strategic SFMM modelling. Additional selection criteria are considered by the forest manager to further refine and determine planned harvest from the eligible areas. All planned harvest areas will contribute to greater or lesser degrees to overall objective achievement, including landscape pattern, during the 10-year period of the FMP and the long-term modelling horizon. The following further describes the harvest area eligibility and selection criteria considerations.

Eligibility Criteria

The Long-Term Management Direction provides the strategic, long-term direction for management of the Whisky Jack Forest. In order for the LTMD to be successfully implemented, areas eligible for harvest, renewal and tending operations during the 10-year period of the plan are identified.

For this forest management plan, areas eligible for harvest operations during the 10-year period must meet the following eligibility criteria:

a) The first, and most important criterion is that harvest area must be managed, Crown land ownership in the strategic management zone SMZB in which forest management activities (e.g., harvest, renewal) may be scheduled;
b) While the possibility of harvest is somewhat unlikely, all shoreline reserves and areas previously bypassed are considered eligible for harvest;
c) The third criterion was to ensure harvest allocations were selected from areas eligible for harvest within this 10-year period (Period 1), including adherence to any DCHS block and LLP timing decisions.
d) Within the plan period, all eligible areas should be at or above the lower average age requirement by forest unit (PLANFU) and forest productivity class (YIELD) (Table 29).

Note Forest Productivity Class (YIELD) Definitions and Codes:
NAT = Stands originating from natural disturbances, not recorded as being harvested
LOW = Managed, low productivity stands
MED = Managed, moderate productivity stands
HIGH = Managed, higher productivity stands

These minimum average operability ranges were included in the base model and were consistent throughout the strategic modelling analyses that involved harvest operations. The average minimal volume yield to be considered operational is approximately 70-80 cubic metres per hectare. No upper operational limits were included in strategic modelling (all were “infinite”).

Table 29 Lower Average Harvest Operability Limits by Forest Unit and YIELD

	YIELD:	NAT		LOW		MED		HIGH	
Forest Unit	Analysis Unit	Lower	Upper	Lower	Upper	Lower	Upper	Lower	Upper
BFM	all	80	inf			70	inf		
CMX	all	90	inf	120	inf	60	inf		
HMX	all	60	inf			50	inf		
HRD	all	60	inf			50	inf		
PJD	PJDD	50	inf	80	inf	50	inf	40	inf
	PJDS	70	inf	80	inf	50	inf	40	inf
PJM	all	70	inf	70	inf	50	inf		
POD	all	60	inf			70	inf	60	inf
PRW	PRWR	80	inf	110	inf	90	inf	70	inf
	PRWW	110	inf	110	inf	90	inf	70	inf
SBD	all	80	inf			80	inf		
SBL	all	130	inf	110	inf				
SBM	all	70	inf			80	inf	60	inf

Younger stands are considered eligible for harvest where they are spatially associated with older stands and their harvest at the same time as the rest of the area is beneficial for landscape pattern or operational reasons (harvest, road access, renewal timing or consideration for other forest uses); or

e) All areas in which timber has been damaged by blowdown, insects, or disease.

As part of the eligibility map, all blocks not yet harvested during the 2012-2024 FMP are identified as eligible harvest area. The preferred harvest areas will be update during plan production in a timely fashion as 2012 FMP planned blocks are harvested. It is expected that the number of blocks remaining from the 2012-24 plan will decrease by April 2024.

Preferred and Optional Harvest Area Selection Criteria

The areas for harvest operations were selected from within the areas that passed through the eligibility criteria filter. The stands deemed eligible had to meet specific stand characteristics. The application of this set of selection criteria aided the application of sustainable forest management and enhanced plan continuity from the previous plan period to the current plan period. It is important to recognize that the following selection criteria were applied after the potential harvest stands met the eligibility criteria based on harvest timing according to harvest, wildlife habitat or landscape pattern deferrals.

The following are the selection criteria that were used to direct the harvest allocation from within the eligible areas. The order that these criteria are presented, represent a general ranking of importance.

a) Allocate areas that will be reasonably accessed within the plan period;
b) Allocate the full available harvest area for each forest unit as projected by in the LTMD. Allocations must not exceed the available harvest area by forest unit for the 10-year period;
c) Allocate in accordance with negotiated tourism prescriptions;
d) Allocations will be planned to consider the demands of different stakeholders, including First Nation and Métis communities, tourism, trapping, mining, outdoor enthusiasts and the public;
e) Manage wildlife habitat needs through avoiding known sensitive areas that require protection or create disturbances that support enhancement of wildlife habitat;
f) Stand age should meet lower minimum average operability criteria by forest unit and forest productivity class during the 10-year period (eligibility criteria). Some variance is warranted where the intent is to defragment an area or create operational blocks;
g) Allocate harvest areas utilizing geographical boundaries such as streams, lakes, non-productive areas, topography and stand boundaries to define the boundaries of the harvest area;
h) Within the designated Moose Emphasis Areas and Deer Emphasis Area, allocate harvest areas that show movement towards meeting moose or deer habitat management objectives.
i) Allocations must be sensitive to the needs of the forest industry:
    - Areas must meet the forest industry product, volume and delivery requirements. Mill yard inventories require year-round delivery of specified species;
    - Create a balance of summer and winter wood to provide continuous year round harvest opportunities, and volume and delivery requirements of destination mills;
    - Areas must constitute an economical harvest opportunity (min. operability limits);
    - Areas appropriate to meet the planned volume needs of specific harvesting operators; and
    - Haul distances must be balanced in an attempt to control fibre costs. The harvest blocks must be made accessible with a road construction and maintenance program that will be balanced annually through the 10-year period.
j) Allocations must consider the Minister signed Volume Agreements (commitments) applied to the Whiskey Jack Forest;
k) Allocate areas to meet the anticipated needs of overlapping licensees; Allocate areas for potential fuelwood opportunities (to be identified in Annual Work Schedules);
l) Allocate candidate areas for blueberry harvesting for Objective 11; and
m) Allocate areas of natural disturbance for salvage harvest operations, where feasible.

The balancing of these selection criteria does not always follow the same order depending on location, access, forest unit and age classes, and tourism and stakeholder interests.

Planned harvest areas are closely matched to the projections of forest operations in the LTMD. All eligible areas that were not identified as preferred areas for harvest were considered to be optional harvest areas.

Other than the selection of blueberry harvesting areas (criterion L above), there was no direct input from the public, First Nation communities or NWOMC that influenced the selection of areas for preferred LTMD harvest. Public and/or Indigenous community comments received in the planning process during Stage 3 (Proposed Operations) and Stage 4 (Draft Plan) that influenced selection of harvest area are described in Section 4.3.1.1.

The planned harvest areas for the 10-year period and the optional harvest areas are discussed in Section 4.3.1 and Area of Concern planning described in Section 4.2. The planned harvest areas and optional harvest areas are displayed on the FMP map MU490_2024_FMP_MAP_Index_00.pdf. During selection of areas for planned harvest operations, MNRF's forest management guide(s) were considered as well as any discussions related to tourism prescriptions. Planned harvest areas will contribute to the achievement of management objectives, including indicators of landscape pattern, as discussed in Section 3.7.3.

The selection criteria for contingency areas are:

a) Maximum of two years total available harvest area to be allocated as contingency area;
b) Areas must be accessed or expected to be accessed in a reasonable timeframe; and
c) Areas must be able to be harvested year-round.

Contingency areas have been identified from the optional harvest areas and have received detailed area of concern planning (Section 4.3.8).

3.7.3 Assessment of Objective Achievement

The achievement of individual management objectives was assessed for acceptability to the Planning Team using the results of the SFMM forest modelling for the LTMD, the results of the preliminary spatial assessment using Ontario's Landscape Tool and other plan components developed during preparation of the plan.

A summary of the projected objective achievement assessment, desirable levels and targets in the LTMD are included in Table FMP-10. The methods for assessment of objective indicator achievement were referenced in Section 3.6.2. Plan objectives that have been addressed in the Long-term Management Direction for this plan are summarized as:

Assessed During Plan Preparation (19 indicators): (listed by plan management objective number, and number of indicators assessed for objective achievement)

1. Caribou Habitat (5 indicators);
2. Forest Composition (5 indicators);
3. Landscape Pattern (2 indicators);
4. Wildlife Habitat (3 indicators);
5. Wood Supply (3 indicators); and
11. Blueberry Harvesting Areas (1 indicator);

Assessed at Draft Plan Stage (4 indicators):

6. First Nation and Métis Engagement (3 indicators);
7. Local Citizens' Committee Engagement (1 indicator).

Assessed After Plan Implementation (12 indicators):

1. Caribou Habitat (3 indicators);
5. Wood Supply (3 indicators);
8. Forest Renewal (3 indicators);
9. Forest Values (1 indicator); and
10. Healthy Ecosystems (2 indicators).

The objective achievement assessment was based on the extent to which the established desirable or target levels for each indicator have been satisfied. All indicators are assessed as having:

(a) ACHIEVED the desirable level or movement towards desirable level through meeting the target level,
(b) PARTIALLY ACHIEVED with achievement of, or movement towards, target levels;
(c) NOT ACHIEVED desirable or target levels, or
(d) FUTURE assessment will occur after plan implementation.

Of the 35 indicators included in Table FMP-10, 19 of the indicators can be assessed up to Stage 2: Proposed Long-Term Management Direction). Two management objectives (with 4 indicators combined) are assessed prior to the submission of the Draft Forest Management Plan (Stage 4 of plan development). The remaining 12 indicators (and reassessment of some of the original 19 indicators) will be assessed in the future, after plan implementation as appropriate (specific indicator timing of assessment is noted in Table FMP-10).

The following is a discussion of the desirable and target level achievement assessments for each indicator, with a summary of assessment and relevant detail provided.

3.7.3.1 Objective 1: Caribou Habitat

Indicator 1a: **Caribou Winter Habitat Area**
Indicator 1b: **Caribou Refuge Habitat Area**

Assessment: 1a and 1b **both ACHIEVED** (2 indicators). The desirable levels are to maintain caribou winter combined habitat and increase refuge habitat within their respective interquartile hectare ranges (IQR) of the Simulated Ranges of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest.

Table 30 Projected Caribou Habitat Area

- Caribou winter combined (preferred and useable) habitat is within the desirable range at Plan Start and remains within the IQR from 2024 to the end of the planning horizon 2184 (see
- Table 30 to right).
- Caribou refuge habitat is below the desirable range at Plan Start and is projected to increase towards the desirable range during this 10-year plan period (target achieved) and increase into the desirable range in the following 10-year period.
- Both winter combined and refuge habitats are projected to increase above their respective IQRs within 30-40 years and remain above their IQRs for the remainder of the 160-year planning horizon (to 2184).

(Obj. 1) Caribou Habitat (Caribou Zone):		
Term	Winter (1a)	Refuge (1b)
2024	86,255	132,854
2034	103,992	146,188
2044	111,036	156,292
2054	114,479	162,981
2064	120,540	166,030
2074	119,203	166,380
2084	121,767	167,928
2094	122,522	168,871
2104	124,845	170,502
2114	126,952	172,753
2124	128,055	175,033
2134	125,345	175,430
2144	124,564	176,127
2154	126,256	178,223
2164	127,590	180,093
2174	131,133	181,920
2184	132,118	182,898
BLG Upper	115,633	161,804
BLG Lower	63,721	147,605

Indicator 1c: **Texture of Caribou Winter Habitat**

Assessment: **ACHIEVED**. The desirable level is to have the landscape pattern move towards percentage projections for caribou winter combined habitat (mean by concentration class) as recorded in OLT, focusing on 60% and greater concentration classes.

- Texture of caribou winter habitat is below the mean desirable level for >60% concentrations classes at Plan Start 2024 (Table 31).
- Desirable level is achieved with movement towards the mean proportion of 61-100% concentrations at both assessment scales.
- Limited harvest in the caribou zone in this 2024-2034 plan period results in forest aging into higher concentrations of coarse texture caribou winter habitat. Target level is achieved.

Table 31 Assessment of Caribou Winter Habitat Texture 2024-2034

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
(1c) Landscape Pattern (texture) of Caribou Winter Combined Habitat (hexagon frequency distribution by mean proportion):				
Analysis Scale and Concentration Class:	(%)	Move towards mean, focusing on >60% proportion classes. Mean:		(%)
60 km2 Hexagon Scale:			Same as desirable level.	
1 - 20% concentration	9%	17%		5%
21 - 40% concentration	51%	17%		26%
41 - 60% concentration	24%	22%		48%
61 - 80% concentration	12%	30%		17%
81 - 100% concentration	4%	15%		4%
300 km2 Hexagon Scale:				
1 - 20% concentration	1%	8%		0%
21 - 40% concentration	54%	22%		17%
41 - 60% concentration	38%	32%		69%
61 - 80% concentration	8%	34%		15%
81 - 100% concentration	0%	6%		0%

Indicator 1d: **Texture of Caribou Refuge Habitat**

Assessment: **ACHIEVED**. The desirable level is to have the landscape pattern move towards percentage projections for caribou refuge habitat (mean by concentration class) as recorded in OLT, focusing on 60% and greater concentration classes.

- Texture of caribou refuge habitat is below the mean desirable level for >60% concentrations classes at Plan Start 2024.
- Caribou refuge texture is projected to increase close to the desirable levels (both scales) during this plan period 2024-2034 (Table 32).

- Target level is achieved with increase coarse texture for caribou refuge habitat (very good for caribou).

Table 32 Assessment of Caribou Refuge Habitat Texture 2024-2034

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
(1d) Landscape Pattern (texture) of Caribou Refuge Habitat (hexagon frequency distribution by mean proportion):				
Analysis Scale and Concentration Class:	(%)	Move towards mean, focusing on >60% proportion classes. Mean:		(%)
60 km2 Hexagon Scale:			Same as desirable level.	
1 - 20% concentration	0%	0%		0%
21 - 40% concentration	8%	2%		4%
41 - 60% concentration	35%	12%		16%
61 - 80% concentration	43%	34%		59%
81 - 100% concentration	13%	53%		21%
300 km2 Hexagon Scale:				
1 - 20% concentration	0%	0%		0%
21 - 40% concentration	0%	0%		0%
41 - 60% concentration	40%	8%		11%
61 - 80% concentration	55%	43%		76%
81 - 100% concentration	5%	49%		13%

Indicator 1f: **On-line Caribou DCHS (%)**

Assessment: **ACHIEVED** through long-term.

- On-line caribou habitat through time was considered when developing geographic delineation and operability timing of DCHS subunits.
- Prior to Plan Start, on-line DCHS blocks are 29% of the DCHS which is below the desirable range (>=40%) due to generally younger age class structure of the caribou zone forested area.
- Majority of caribou zone is in strategic management zone where forest management operations cannot be planned, therefore it is projected to age throughout the planning horizon (no harvest).
- Desirable level is approximated within 20 years by 2044 at 39%, and then desirable level is achieved for rest of planning horizon:
- Online DCHS:
  - Pre-2024 – 29%
  - 2024 – 23%
  - 2034 – 23%
  - 2044 – 39%
  - 2064 – 92%
  - 2084 – 93%
  - 2104 – 100%
  - 2124 – 93%.

3.7.3.2 Objective 2: Forest Composition

Indicator 2a: **Landscape Class Area**

Assessment: **ACHIEVED**. The desirable level is to maintain the mature and late (ML) successional landscape class areas within the interquartile hectare range Simulated Range of Natural Variation (SRNV) for each mature and late successional landscape as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest. Strategic modelling was conducted with management constraints to direct the future forest condition towards indicator achievement. The SFMM projected productive forest area by landscape class from Plan Start (2024) through the long-term (2184) is reported in Table 33 and Plan Start and Plan End OLT projections are shown in Figure 36.

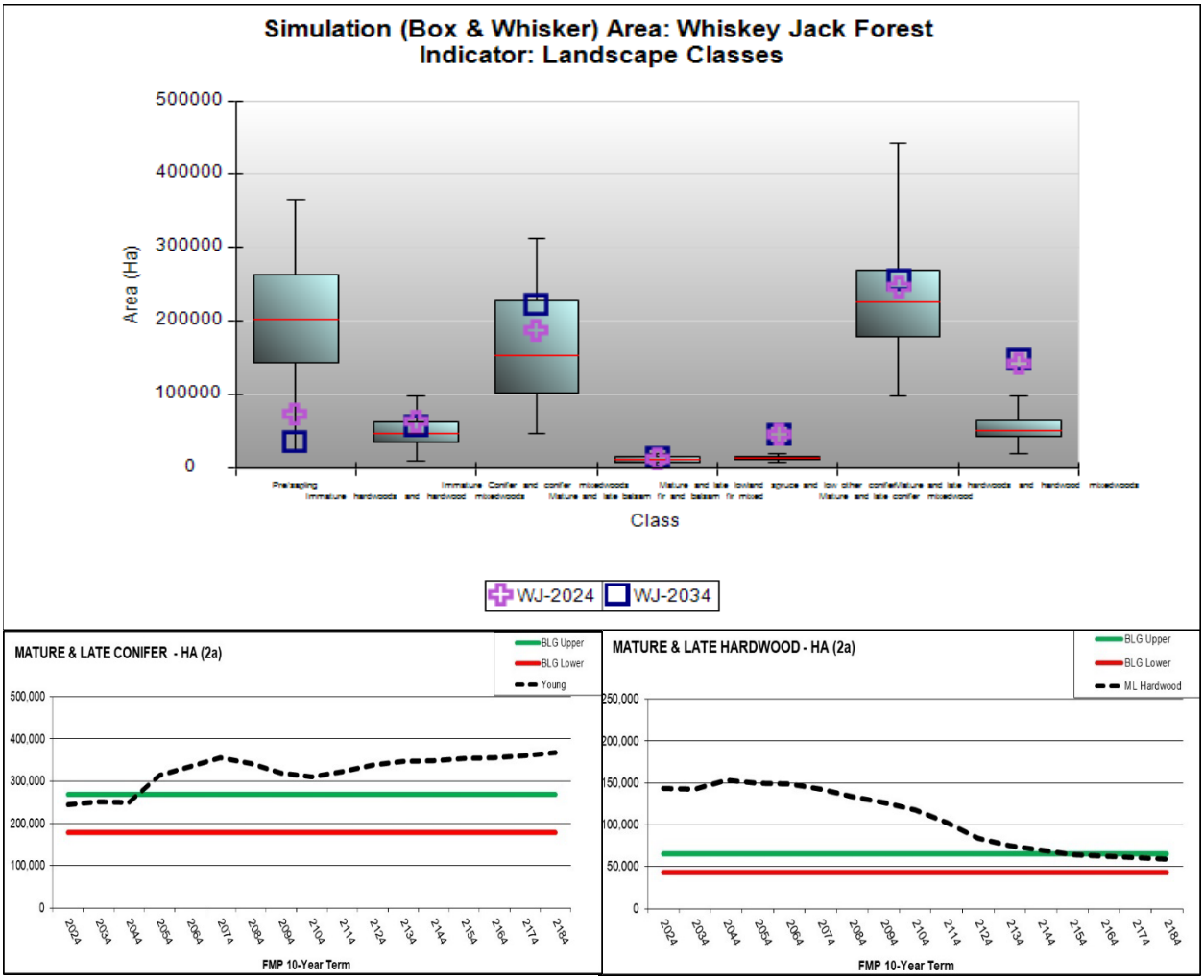
- ML Balsam and ML upland Conifer are within their desirable levels at Plan Start 2024. Through aging of forest stands without harvest, these two ML classes increase to above their desirable ranges within 20-30 years.
- ML Hardwood is above its desirable range at Plan Start 2024 and moves towards and achieves its desirable range over 130 years.
- ML Lowland Conifer is above the desirable level at Plan Start 2024 and remain well above the desirable range for the entire 160-year planning horizon.
- The overachievement of Mature-Late areas was considered acceptable by the Planning Team in the context that the strategic management zone that allowed for forest management operations, such as harvesting to reduce ML forest, was a smaller portion (24%) of the Whiskey Jack Forest.

Table 33 Projected Crown Productive Forest by Landscape Class

(2a) Area by Landscape Class (Productive ha)							
Ha	PreSapling +Sapling	Immature Conifer	Immature Hwd	Mature and Late Successional:			
				Balsam	Conifer	Hardwood	Lowland
2024	81,424	186,273	66,561	14,802	243,544	143,145	46,587
2034	42,339	222,608	60,703	15,722	250,806	142,421	47,513
2044	61,696	211,214	42,322	17,982	250,263	152,961	45,462
2054	80,052	121,942	45,846	22,424	313,903	149,976	47,750
2064	97,601	78,888	49,061	24,298	335,079	149,227	47,727
2074	98,703	56,265	52,465	28,869	356,257	142,336	46,890
2084	100,957	67,954	58,094	34,027	341,632	133,701	45,378
2094	102,240	85,316	60,011	45,036	318,851	126,294	43,791
2104	102,460	102,776	55,647	49,720	310,947	117,634	42,302
2114	102,417	106,069	52,092	52,846	322,499	102,366	43,095
2124	101,794	107,874	51,446	54,556	337,819	84,394	43,470
2134	100,777	108,939	51,711	54,887	346,207	74,959	43,839
2144	100,943	108,210	51,283	58,075	349,019	69,647	44,119
2154	101,767	107,747	50,013	59,436	353,359	64,657	44,313
2164	102,557	107,412	47,806	60,911	355,679	62,493	44,426
2174	102,327	108,057	44,040	60,242	361,383	60,870	44,365
2184	100,006	110,565	40,973	58,761	367,837	58,853	44,279
BLG Upper	263,084	228,782	63,469	16,237	269,185	65,739	16,276
BLG Lower	143,268	103,333	36,052	8,706	178,461	43,021	12,845

under min. | within desirable level range | above desirable range

Figure 36 OLT Landscape Classes Areas 2024-2034



Indicator 2b: **Old Growth Forest Area**

Assessment: **ACHIEVED**. The desirable level is to maintain the amount of old growth by regional old growth grouping within the interquartile hectare range (Simulated Range of Natural Variation)(SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest for all groupings, and "increase" the amount of old growth Red Pine – White Pine (The overachievement of Old Growth areas was considered acceptable by the Planning Team in the context that the strategic management zone that allowed for forest management operations, such as harvesting to reduce OG forest, was a smaller portion (24%) of the Whiskey Jack Forest.

Table 34).

- All Old Growth (OG) groups are below desirable levels at Plan Start 2024 (Figure 37).
- Target levels met for all classes for FMP period with movement towards desirable ranges.

- All OG groups increase to within or above desirable and target levels through the short- to long-term (OG upland conifer achieves in 10 years, OG low conifer 30 years, OG hardwood 10 years, OG Red / White Pine 50 years).
- The overachievement of Old Growth areas was considered acceptable by the Planning Team in the context that the strategic management zone that allowed for forest management operations, such as harvesting to reduce OG forest, was a smaller portion (24%) of the Whiskey Jack Forest.

Table 34 Projected Crown Productive Forest by Old Growth Grouping

(2b) Old Growth by Grouping (Prod. ha)				
	Lower Old Growth Age (Years):			
Term:	OGupC	OGloC	OGhmx	OGprw
2024	23,536	1,071	22,603	30
2034	62,957	1,693	67,865	125
2044	103,413	1,803	119,874	296
2054	132,861	4,333	140,600	522
2064	136,892	7,152	156,383	914
2074	142,815	12,825	163,601	1,504
2084	185,558	19,862	172,092	1,638
2094	195,793	27,951	186,943	1,719
2104	211,426	30,147	185,520	1,740
2114	215,796	30,972	188,015	1,694
2124	222,701	30,567	180,654	1,643
2134	218,426	29,862	172,183	1,594
2144	218,175	31,856	169,534	1,695
2154	222,098	32,150	165,723	1,678
2164	224,291	32,365	163,845	1,643
2174	225,705	31,478	161,413	1,767
2184	226,313	30,424	160,028	1,820
BLG Upper	82,642	6,477	58,909	
BLG Lower	51,310	4,282	35,996	1,500

under min. | within desirable level range | above desirable range

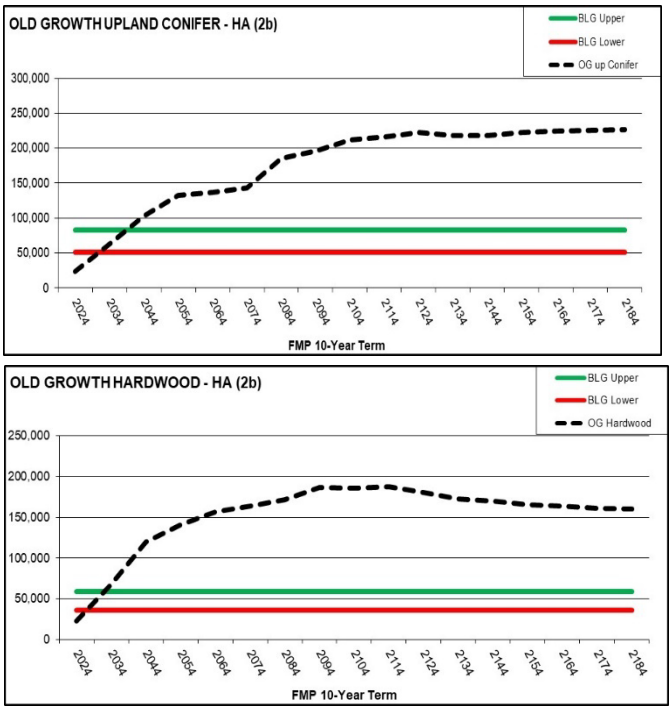
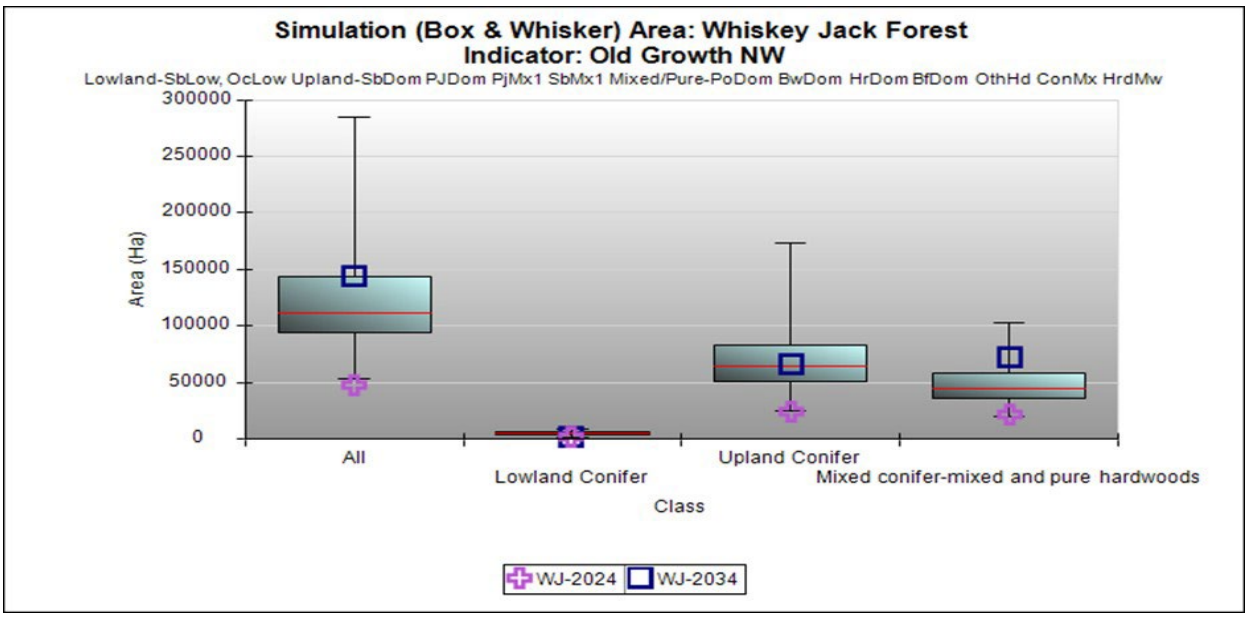


Figure 37 OLT Old Growth Forest Areas 2024-2034


Simulation (Box & Whisker) Area: Whiskey Jack Forest
Indicator: Old Growth NW
Lowland-SbLow, OcLow Upland-SbDom PJDom PjMx1 SbMx1 Mixed/Pure-PoDom BwDom HrDom BfDom OthHd ConMx HrdMw
Area (Ha)
300000
250000
200000
150000
100000
50000
0
All
Lowland Conifer
Upland Conifer
Mixed conifer-mixed and pure hardwoods
Class
WJ-2024
WJ-2034

1

Indicator 2c: **All Ages Red Pine and White Pine Forest Unit Area**

Assessment: **ACHIEVED**. The desirable level is to increase the red pine and white pine area toward 46,940 ha on the Whiskey Jack Forest. Target level is to increase the red pine – white pine area in this plan period.

- Projected area assessed in strategic modelling with SFMM. Silvicultural strategy inputs were included in SFMM to ensure a projected increase in all ages red pine – white pine area (PRW forest unit) (Table 35).
- Through renewal planned for this 10-year period, PRW area is projected to increase by 106 ha, meeting the desirable and target levels.
- The amount of increase possible is limited by areas of WJ Forest on which renewal activities (including conversion to PRW) can be planned (e.g.' limited to the strategic zone where harvest and renewal activities may be planned).
- Operational renewal strategies will continue 100+ years to ensure continued increase. Actual increase in area may be greater than was strategically modelled.

Table 35 Projected Crown Productive Forest – Three BLG Indicators

Indicator:	(2c)	(2d)	(2e)
(Ha) Year:	All Ages Red Pine - White Pine	Upland Conifer Area	Young Forest <36 yrs
2024	3,587	359,248	136,124
2034	3,687	360,810	88,454
2044	3,768	365,455	87,058
2054	3,876	373,957	111,439
2064	3,935	377,979	135,923
2074	3,983	382,769	145,814
2084	4,024	388,407	144,997
2094	4,076	392,460	144,218
2104	4,116	404,844	143,494
2114	4,153	411,320	143,142
2124	4,178	417,949	143,140
2134	4,188	422,418	142,786
2144	4,188	424,970	142,366
2154	4,194	431,222	141,427
2164	4,195	435,463	139,206
2174	4,200	440,474	136,965
2184	4,205	444,388	134,632
BLG Upper	46,940	497,902	342,348
BLG Lower	3,587	475,260	196,754

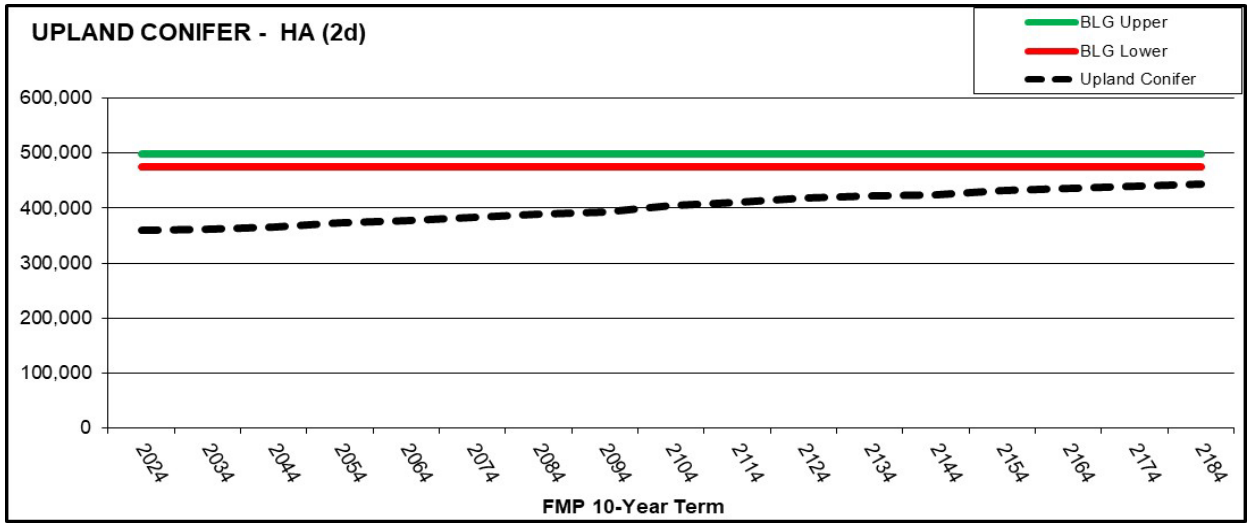
under min. | within desirable level range | above desirable range

Indicator 2d: **Upland Jack Pine and Spruce Area**

Assessment: **PARTIALLY ACHIEVED**. The desirable level is to increase the amount of upland pure conifer to the interquartile hectare range Simulated Range of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest.

- Upland Conifer - Jack Pine and Spruce Area (PJD, PJM, SBD, SBM forest units) 2024 Plan Start level is approx. 125,000 ha below the lower desirable level (Table 35, Figure 38).
- Upland Conifer increases steadily though time (target level achieved) however desirable level is not achieved.
- Amount of increase possible is limited to harvest areas on 24% of the WJ Forest on which harvest and renewal activities (including conversion through renewal treatments to conifer) can be planned (desirable level not achieved).

Figure 38 SFMM Projected Upland Conifer Area 2024-2184

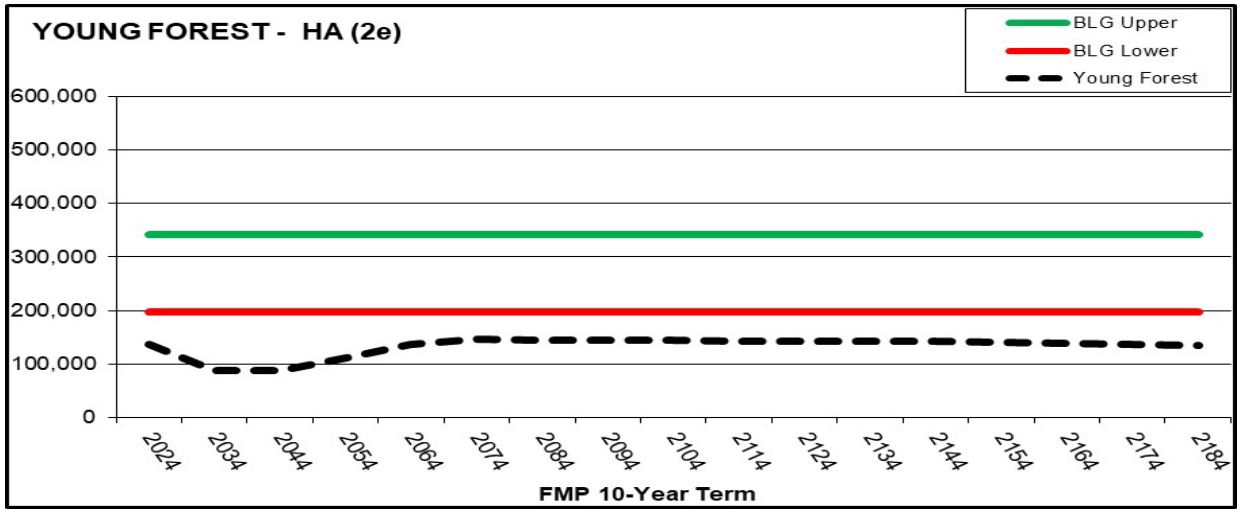


Indicator 2e: **Young Forest Area** (<36 years old)

Assessment: **NOT ACHIEVED**. The desirable level is to maintain the amount of young forest (all forest units) in the interquartile hectare range Simulated Range of Natural Variation (SRNV) as recorded in Ontario's Landscape Tool for the Whiskey Jack Forest.

- Young Forest is significantly below the desirable level at Plan Start (Table 35).
- Strategic modelling included constraints to increase the amount of young forest in the future forest condition in the zone where forest management activities (e.g., harvest and renewal) were eligible to be planned.
- The amount of Young Forest on the Whiskey Jack Forest is projected to decrease for 40 years, then increase back to Plan Start levels with implementation of this Proposed LTMD. The decline in area for 20 years results from aging of Plan Start Young Forest in SMZA (no forest management activities may be planned) past the age where it is classified as Young Forest.
- Available harvest levels in SFMM contribute to an increase in projected young forest area (harvest and renewal creates young forest).maintained from Plan Start 2024 through the entire 160-year strategic planning horizon to 2184 (Table 35, Figure 39).
- This LTMD projection does not meet desirable or target levels based on the simulated natural range of young forest area (min. of approx. 40% more Young Forest than is present at Plan Start 2024).
- The Planning Team improved indicator achievement where possible through meeting minimum Young Forest area for the zone where harvest operations may be planned, while controlling Proposed LTMD harvest to ensure that no over harvesting was projected. Young forest is projected to be created where possible, but not at a sufficient level to compensate for under achievement of Young forest on the entire Whiskey Jack Forest.

Figure 39 SFMM Projected Young Forest Area 2024-2184



3.7.3.3 Objective 3: Landscape Pattern

Indicator 3a: **Texture of Mature and Old Forest by Concentration Class**

Assessment: **ACHIEVED.** The desirable level is to have the landscape pattern consistent with percentage concentration projections for mature/old forest by concentration class as established for the forest as recorded in OLT, with a focus on the concentration classes >60%.

- This indicator is measured at Plan Start (2024) and at Plan End (2034) with OLT to assess the impact on landscape pattern of harvesting the preferred LTMD harvest allocations (Table 36). LTMD preferred harvest allocations were not confirmed until the secondary OLT analysis was completed.
- Mature and Old Forest amount and texture is above the desirable level at Plan Start and is projected to remain stable during this plan period.
- Target level is achieved as more dense Mature and Old Forest is positive.
- Strategies are being implemented to defragment certain areas and also to plan harvest areas in patches of currently mature/old forest.
- Aging of the forest contributes to dense patches of Mature and Old Forest in the strategic management zone not planned for harvest, with concentrations expected to increase significantly in future plans.

Table 36 OLT Assessment of Mature and Old Forest Texture 2024-2034

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
(3a) Landscape Pattern (texture) of Mature and Old Forest (hexagon frequency distribution by mean proportion):				
Analysis Scale and Concentration Class:		Move towards mean, with a focus on the two concentration classes > 60%. Mean:		
500 ha Hexagon Scale:				
1 - 20% concentration	11%	44%	Same as desirable level.	10%
21 - 40% concentration	16%	12%		15%
41 - 60% concentration	23%	9%		23%
61 - 80% concentration	22%	10%		23%
81 - 100% concentration	28%	25%		29%
5,000 ha Hexagon Scale:				
1 - 20% concentration	7%	27%		5%
21 - 40% concentration	12%	23%		10%
41 - 60% concentration	30%	21%		31%
61 - 80% concentration	36%	18%		38%
81 - 100% concentration	15%	10%		15%

Indicator 3b: **Young Forest Patch Size** (Frequency Distribution by Size Class)
Assessment: **NOT ACHIEVED**. The desirable level is to have the young forest landscape pattern consistent with projections of mean frequency by size class calculated for the forest as recorded in OLT.

- This indicator was measured at Plan Start (2024) and at Plan End (2034) with OLT to assess the change on young forest pattern of harvesting the preferred LTMD harvest allocations (Table 37).
- This indicator was assessed as NOT ACHIEVED: The frequency of all sized patches of young forest are projected to move slightly away from the mean on the Whiskey Jack Forest during the 10-year period.
- Desirable and target levels are not expected to be achieved until the long-term with implementation of harvest to defragment the forest and create more, larger young forest over many planning periods in the zone planned for harvest.
- This deviation in young forest pattern objective achievement was reviewed and considered acceptable by the Planning Team in the context of overall objective achievement and consideration for the zone of the Whiskey Jack Forest in which forest operations, including forest harvesting to create young forest patches, could be planned.

Table 37 Assessment of Young Forest Patch Size Frequency 2024-2034

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
(3b) Young Forest Patch Size: (frequency by size class, ha)				
Patch Size Classes:		Move towards mean. Mean:	Same as desirable level.	
< 100	61%	52%		62%
101-250	23%	15%		27%
251-500	9%	10%		8%
501-1,000	4%	8%		2%
1,001-2,500	3%	8%		1%
2,501-5,000	1%	4%		0%
5001-10,000	0%	3%		0%
10,001-20,000	0%	2%		0%
>20,000	0%	1%		0%

3.7.3.4 Objective 4: Wildlife Habitat

Indicator 4a: **Moose Habitat Proportion by Moose Emphasis Area (MEA)**

Assessment: **ACHIEVED.** The desirable levels are set habitat proportions for browse (5-30%), hardwood (20-55%) and mature conifer (15-35%) consistent with the Stand and Site Guide. The target level is to move towards or maintain the desirable level of habitat types through implementation of planned harvest in this 10-year plan period.

- The spatial impact of LTMD harvest was analyzed in OLT (Table 38).
- Most habitat types in the three MEAs are moving towards or maintaining desirable ranges.
- Desirable and target levels of habitat proportions are projected to be generally ACHIEVED by Plan End 2034 with implementation of planned harvest areas.
- Only MEA1 Hardwood decreases below desirable level, and MEA3 Mature Conifer moves away from (overachieves) desirable level at Plan End 2023.

Table 38 Assessment of Moose Habitat by MEA

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034	Medium (20 yrs)	Long (100 yrs)
(4a) Habitat Proportion by Moose Emphasis Area (MEA):					**Supplemental Analysis:**	
Moose Emphasis Area and Habitat Type:		Move towards and maintain range:	Move towards or maintain within proportion range by habitat type, by MEA		Estimated 20-40-60 years:	
MEA#1 - Dryberry Lake:						
Browse Producing Forest	0%	5-30%		24%	22% - 57% - 46%	
Hardwood/Mixedwood Forest	30%	20-55%		17%	18% - 16% - 19%	
Mature Conifer Forest	62%	15-35%		50%	54% - 25% - 17%	
MEA#2 - Cedar Lake:						
Browse Producing Forest	13%	5-30%		20%	23% - 29% - 42%	
Hardwood/Mixedwood Forest	28%	20-55%		24%	17% - 18% - 22%	
Mature Conifer Forest	56%	15-35%		54%	55% - 46% - 27%	
MEA#3 - Keynote Lake:						
Browse Producing Forest	21%	5-30%		21%	25% - 31% - 44%	
Hardwood/Mixedwood Forest	31%	20-55%		29%	26% - 20% - 23%	
Mature Conifer Forest	41%	15-35%		44%	43% - 39% - 24%	

A supplemental analysis was done to estimate future moose habitat proportions in the three MEAs. Future projections are for information only and were not controlled for achievement in strategic modelling. Spatial management of habitat in MEAs is critical to achieving habitat management goals, therefore future habitat will be operationally planned in each FMP with appropriate planned harvest for each MEA.

Indicator 4b: **Frequency of Young Forest Patch Size by MEA**

Assessment: **ACHIEVED.** The desirable level is for all young forest patches to be in three size classes =<500 ha. Target levels to move towards the desirable frequency by size class were accepted by the Planning Team in recognition that landscape pattern indicators may take more than one 10-year plan period to achieve desirable levels.

- The harvest strategy in MEAs is to maintain a high proportion of small, young forest patches to maximize edge. This strategy and young forest patch size projected achievement may be improved through operational planning and harvest block layout.
- OLT assessment of overall young forest pattern shows for most size classes that frequency is moving towards desirable distribution <=500 ha patches (Table 39).
- Only patches 501-1,000 ha in MEA3 increase 1% away from desirable level.
- Future young forest pattern in MEAs will be operationally planned in each FMP with appropriate planned harvest blocks for each MEA. Overall achieved.

Table 39 Assessment of Frequency of Young Forest Patch Size by MEA

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
(4b) Frequency of Young Forest Patch Size by MEA:				
Patch Size Class:		100% of young forest patches in the <100, 101-250, and 251-500 ha size classes	Move towards or maintain the young forest patch size frequency for the smallest three size classes.	
MEA #1 - Dryberry Lake:				
< 100 ha	0%			67%
101-250 ha	0%			13%
251-500 ha	0%			20%
501-1,000 ha	0%			0%
1,001-2,500 ha	0%			0%
2,501-5,000 ha	0%			0%
5001-10,000 ha	0%			0%
10,001-20,000 ha	0%			0%
>20,000 ha	0%			0%
MEA #2 - Cedar Lake:				
< 100 ha	62%			75%
101-250 ha	25%			21%
251-500 ha	9%			3%
501-1,000 ha	4%			2%
1,001-2,500 ha	0%			0%
2,501-5,000 ha	0%			0%
5001-10,000 ha	0%			0%
10,001-20,000 ha	0%			0%
>20,000 ha	0%			0%
MEA #3 - Keynote Lake:				
< 100 ha	71%			58%
101-250 ha	20%			29%
251-500 ha	1%			4%
501-1,000 ha	9%			10%
1,001-2,500 ha	0%			0%
2,501-5,000 ha	0%			0%
5001-10,000 ha	0%			0%
10,001-20,000 ha	0%			0%
>20,000 ha	0%			0%

Indicator 4c: **Proportion of Deer Critical Thermal Cover in Deer Emphasis Area**
Assessment: **ACHIEVED.** The desirable level is to have 10-30% Critical Thermal Cover (Classes 3-10) of Stratum 1 area in the DEA. For this FMP period, the target level was to be at the higher range of the desirable level, with 25-30% Critical Thermal Cover (Classes 3-10) of Stratum 1 area in the DEA.

- Preferred LTMD harvest in the DEA did not include any CTC Class 3-10 areas (all higher quality CTCs were planned for retention).
- With Preferred LTMD harvest, it is projected that desirable and target levels of % CTC of Stratum 1 area will be achieved in the DEA (Table 40).
- Additional refinement of harvest will occur during operational planning.
- Plan Start 2024 total proportion of CTC Classes 2-10 is provided for information only.

Table 40 Assessment of Deer Critical Thermal Cover in DEA

Indicator	Plan Start 2024	Desirable Level	Target (by Plan End)	Plan End 2034
4c) Proportion of deer critical thermal cover in the Deer Emphasis Area	30% (Classes 3-10) 48% (Classes 2-10)	10-30% critical thermal cover of Stratum 1 area in DEA (CTC Classes 3-10)	min. 25-30% (Classes 3-10)	29% (Classes 3-10)

3.7.3.5 Objective 5: Wood Supply

Indicator 5a: **Area of Managed Crown Forest Available for Timber Production**

Assessment: **FUTURE** assessment using the updated forest resources inventory for the next 2034-2044 FMP (FMPM 2020) with "ACHIEVED" based on preliminary assessment at LTMD. The available forest for timber production through time is projected in the SFMM strategic modelling, so a preliminary assessment is also provided in this FMP. The desirable level is to maintain a minimum of 194,000 ha of Managed, Crown forest available for timber production over the next 100 years. The target for this 10-year FMP period is to remain above 195,000 ha. The LTMD projects available forest area to decrease 1% from 196,134 ha at 2024 to 194,350 ha in 100 years (2124) (Table 41). It is expected that in the next 20 years, the majority of the Whiskey Jack Forest that is eligible for forest management activities will be accessed, after which the amount of available forest area should be stable with minimal additional losses from road construction.

Table 41 Projected Available Forest Area Through Time

(6a) Managed, Crown Forest Available for Timber Production:	
Year	(ha)
2024	196,134
2034	195,242
2044	194,350
2054	194,350
2064	194,350
2074	194,350
2084	194,350
2094	194,350
2104	194,350
2114	194,350
2124	194,350
2134	194,350
2144	194,350
2154	194,350
2164	194,350
2174	194,350
2184	194,350
Min. Desirable level	194,000

Indicator 5b: **Long-term Harvest Area**

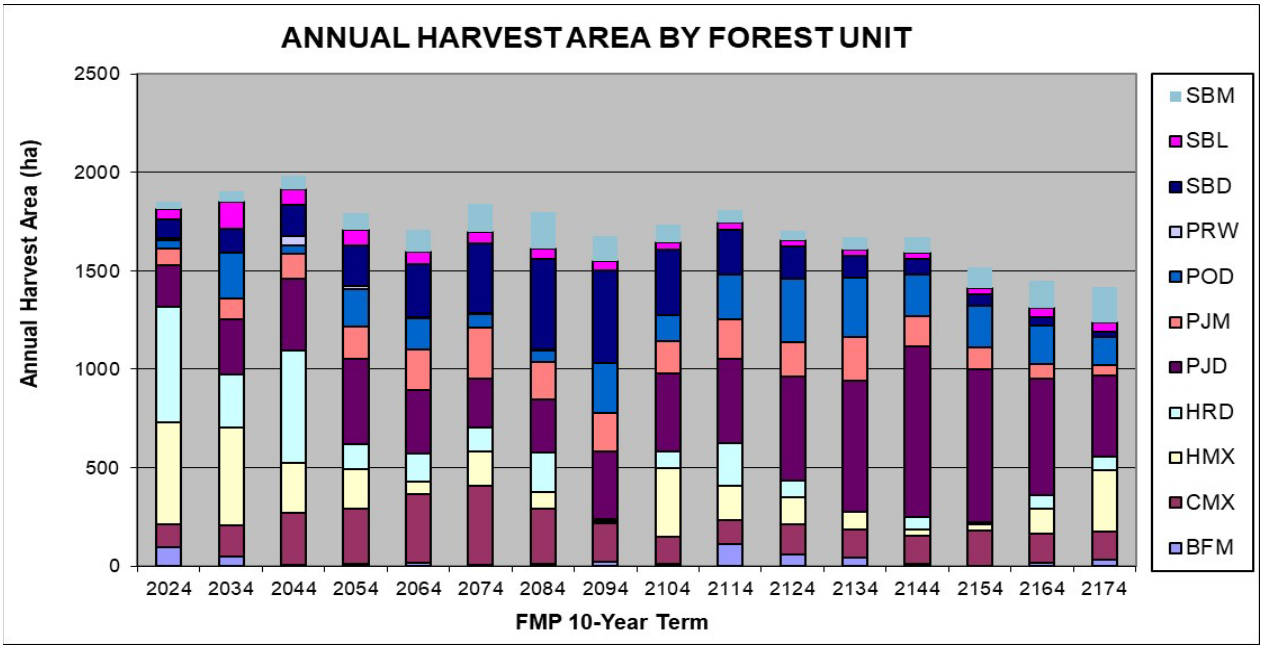
Assessment: **ACHIEVED**. The desirable level is the long-term AHA required to balance objective achievement and operational considerations.

- Harvest area is projected through time to achieve harvest volumes and to provide for a good balance of objective achievement in short and long-term. Indicator was assessed as being ACHIEVED (Figure 40).
- Short-term available harvest areas in the 2024-2034 FMP averages 1,851 ha per year, or 18,513 ha for the 10-year plan period.
- The LTMD harvest area level is significantly less than the 2012 FMP available harvest area (1,851 ha versus 5,483 ha per year in the 2012 FMP, a 66%

decrease). The decrease in projected available harvest area directly results from the 2024 FMP management decision regarding the zone of the Whiskey Jack Forest that may have forest operations planned (e.g., harvest, renewal). The eligible harvest zone in this FMP period is 24% of the forest, whereas the LTMD for the 2012 FMP was based on the entire forest.

- Minor adjustments to modelling assumptions were made and revised desirable levels for management objective indicators were included in this plan.
- The projected annual harvest area in the LTMD was compared to the historical planned and actual total harvest areas for 1994 through to 2124, as well as the 2012-2024 FMP, in Section 3.7.1.1 (Figure 29).
- Long-term AHA is reported in Table FMP-8.

Figure 40 Projected Total Available Harvest Area 2024-2174



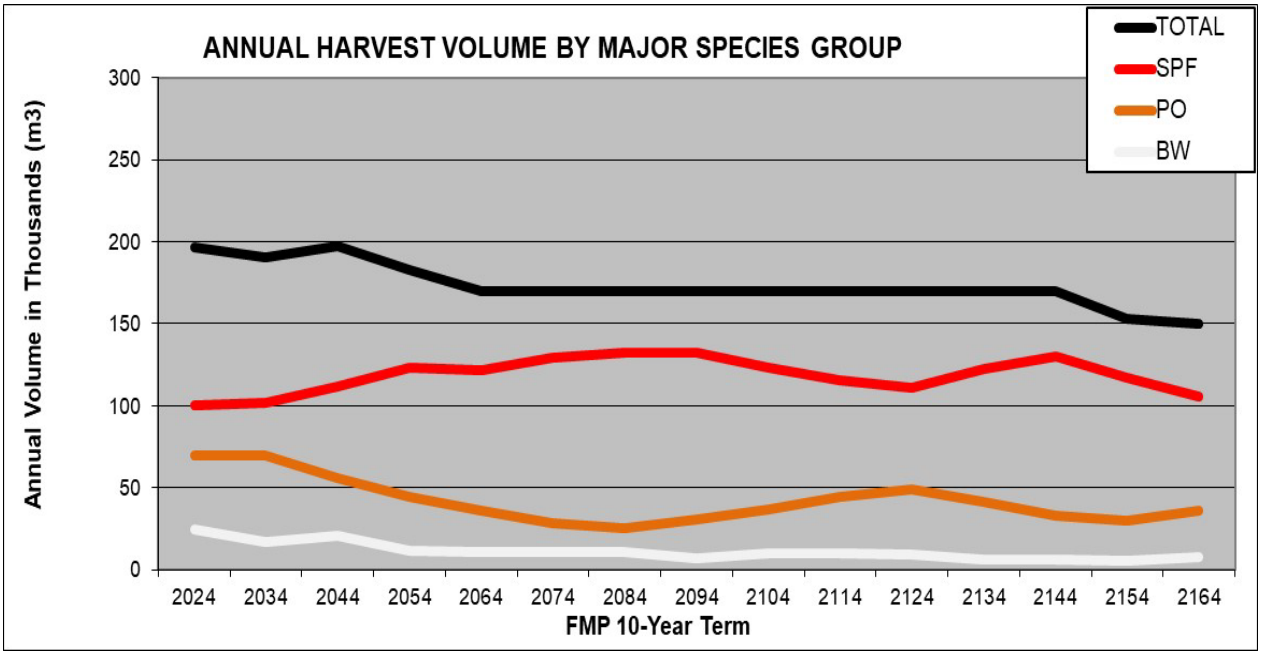
Indicator 5c: **Long-term Harvest Volume by Species Group**

Assessment: **PARTIALLY ACHIEVED**. The desirable level is to meet or exceed recognized wood supply commitments (reported by volume by major species group).

- Major volume species groups include: Spruce-Pine-Fir (SPF), Poplar (PO), and White Birch (BW). Red Pine – White Pine is not a major volume species group on the Whiskey Jack Forest. Other Conifer (OC)(cedar, larch) and Lowland Hardwood (black ash) are incidental species in the Whiskey Jack Forest.
- This short-term harvest volume was strategically modelled to ensure a satisfactory LTMD result, which is consistent with harvest-related desired forest and benefits, including consideration for wood supply commitment levels.

- Short to long-term harvest volumes meet SPF commitments. However short- to long-term Poplar commitments are below current commitment.
- Overall volumes are acceptable with consideration for strategic management zones able to be scheduled for harvest and overall balanced objective achievement (Figure 41).
- Short-term Available Harvest Volume is 196,909 total net merchantable cubic metres per year for 2024-2034 (breakdown and discussion by major species group in Section 3.7.1.2 Available Harvest Volume).
- An estimated 101,500 m3 of defect volume and 37,000 m3 of undersized volume per year are potentially available through harvest of the full available harvest area for this 10-year plan period.

Figure 41 Projected Total Available Harvest Volume 2024-2174



Indicator 5d: **Long-term Harvest Volume by Broad Size Group**

Assessment: **ACHIEVED**. The desirable level is to maintain or increase the proportion of "large"-sized volumes (>20 cm DBH) as compared to 2024 Plan Start.

- Strategic modelling inputs included proportions for small and large volume on the forest, which resulted in reported volume breakdown by broad size group through time.
- Proportion of large diameter harvest volume is projected to increase over the next 100 years. It is estimated that approx. 1-8% of volume in all major species groups will be available as large sized diameter volume (1% in 2024, increasing to 8% by 2124). Desirable and target levels are achieved.

- Harvest volumes are directed towards wood receiving mills primarily based on mill demand and tree species, rather than stem size or potential product. There are markets for all wood from the Whiskey Jack Forest.
- This indicator will provide baseline information that can be expanded in future FMPs.

3.7.3.6 Objective 6: First Nation and Métis Engagement

Indicator 6a: **Opportunities for involvement of First Nation communities and Northwest Ontario Métis Community in plan development.**

This indicator was assessed after Stage 2: LTMD, prior to Stage 4: Draft Plan.

Assessment: **ACHIEVED** desirable level. The desirable level is for 100% of First Nation communities within or adjacent to the Whiskey Jack Forest and Northwest Ontario Métis Community (NWOMC) to be provided opportunities to contribute information during plan development.

In Dec. 2018, the planning process for the 2022-2032 FMP was initiated and 14 First Nation communities and Northwest Ontario Métis Community were assessed to have traditional lands, values and/or interests in or adjacent to the Whiskey Jack Forest. All 15 communities (100%) were notified by MNRF at the beginning of the planning process prior to Stage 1 with a customized Invitation to Participate and an offer for each to identify a Community Representative to participate as a member of the FMP Planning Team. Contact early in the planning process provided the greatest opportunity for involvement and ensured that all potentially impacted First Nation and Métis communities were aware of the opportunities for engagement in plan development.

Stage 1 - As per the FMPM requirements, Invitation to participate opportunities included the following:

1. Appoint a community representative;
2. Develop a Customized Consultation Approach (CCA);
3. Involvement in the development of the First Nation and Métis Background information reports and Identification of values; and
4. Offer to meet and discuss these opportunities or other interests.

In response to the Stage 1 Invitation to Participate, Wabauskang First Nation, Shoal Lake 40 First Nation, Ojibway of Onigaming, Niisaachewan Anishinaabe Nation and Northwest Ontario Métis Community appointed their selected individuals to participate on the Planning Team as their community representatives.

As the 2022-2032 FMP planning efforts were delayed, it resulted in a FMP extension to March 31, 2024. First Nation community and Métis Nation of Ontario were again contacted in March 2020 about involvement in FMP development..

Two (2) First Nation communities developed separate formal Customized Consultation Approaches. A third First Nation discussed elements of a CCA but did not sign a formal agreement.

Grand Council Treaty 3 was not assessed as a specific affected community however representatives attended several Planning Team meetings as Observers.

The remaining First Nation communities did not identify a representative for the Planning Team and have not shown interest in the planning efforts for the Whiskey Jack Forest from a community perspective, although local land users and trappers have commented in various stages through public/stakeholder commenting opportunities. All assessed communities will continue to be formally notified of each stage of planning.

At each stage of plan production (Stages 1-4), there was additional correspondence with all 14 assessed First Nation communities and Northwest Ontario Métis Community, including invitations to encourage involvement in plan development, contribution to their community's Background Information Report and First Nation and Métis values identification/protection, and other components of plan development. In addition to these formal opportunities to engage in the planning efforts, multiple communications with the participating communities between the formal stages of consultation were carried out as well (desirable level of 100% was achieved). MNRF will continue efforts to get responses and input into the First Nation and Northwest Ontario Métis Community reports in order that they are as accurate and useful in the planning process as possible.

In response to feedback on various methods and timing for consultation, MNRF and relevant Planning Team members met with community representatives or community members several times throughout plan development. These meetings took various forms depending on the individual consultation methods each community asked for: informal meetings with certain individuals, First Nation community meetings, phone calls, and/or written correspondence. Whenever requested, MNRF and Planning Team members provided information in formats as requested by the community. For example, a summary of LTMD, specific maps or digital products as requested by the community.

While this objective indicator was assessed as being ACHIEVED for the Draft Plan, communications continued through to final plan development with consideration for any First Nation and Northwest Ontario Métis Community comments received.

Indicator 6b: **First Nation evaluation of their engagement during FMP development**
This indicator was assessed after Stage 2: LTMD, prior to Stage 4: Draft Plan.
Assessment: **ACHIEVED** desirable level. The desirable level is for engagement survey results to indicate at least 60% overall satisfaction during the development of the forest management plan.

In September 2023, engagement surveys were distributed to all affected First Nation communities for feedback on their engagement in the FMP process to date, up to development of the Draft Plan. The survey included ranking for opportunities provided to the community, community participation, consideration of values provided by the community, and effectiveness of the Planning Team's delivery of information in ways to enable the community to effectively provide input into the forest management plan. Comments were also requested in the survey about what engagement efforts the Planning Team did well, and what were areas for improvement. While this indicator is measured prior to Draft Plan submission as per the FMPM, this latter comment (areas for improvement) would influence activities through to Final Plan approval in order to further improve or maintain community engagement in the forest management planning process.

One survey was returned in October by one community who identified an overall engagement ranking of 100%. The responding community "strongly agreed" with all four survey question statements regarding engagement in FMP development (scored 4 of 4 for each):

1. *My community was given adequate opportunity to provide input into the forest management plan by the Planning Team.*
2. *I felt my community's participation in the forest management plan impacted the forest management plan in a meaningful way.*
3. *The values identified by my community were adequately considered when presented to the Planning Team through the forest management planning process.*
4. *I feel that the Planning Team attempted to deliver information to my community in a way that enabled the community to effectively provide input into the forest management plan.*

In response to the questions on what was done well by the Planning Team and areas for improvement, the following comments were provided:
From your perspective what aspects of the forest management planning process did the Planning Team do well?
Responsive to community interests and accommodated the customized consultation process developed by the First Nation to engage with band

membership, ensure that community members had an opportunity to learn about the FMP in the manner that worked best for them, and made amendments to proposed operations to protect identified community values.

From your perspective what are areas of improvement for the Planning Team?

As with other FMP Planning Teams, this FMP Team/Process would benefit from working with First Nations to customize and/or streamline the process for First Nation participants so that First Nation representatives had the opportunity to participate exclusively in the parts of the FMP process that are the most applicable to them. For example, separating out the Desired Forest and Benefits exercise as well as proposed operations, and other priority areas as identified by participant First Nation may help improve and increase First Nation participation throughout the FMP process. A separate facilitated forum/table of FN representatives, meeting quarterly, may result in increased participation and engagement of First Nations in the FMP process.

The survey results clearly indicate effective engagement with this First Nation community. The Planning Team regularly engaged with this community during plan development and was adaptive to providing information in requested formats and during consideration of community values. While the Planning Team followed up with communities that had not return surveys to encourage responses, no additional survey responses were received.

Following development of the Draft Plan, the Planning Team will continue to provide opportunities for engagement to all affected First Nation communities and to be responsive to community requests and to consider all identified values.

Indicator 6c: **Métis evaluation of their engagement during FMP development**
This indicator was assessed after Stage 2: LTMD, prior to Stage 4: Draft Plan.
Assessment: Desirable level was **NOT ACHIEVED.** The desirable level is for engagement survey results to indicate at least 60% overall satisfaction during the development of the forest management plan.

In September 2023, an engagement survey was distributed to the Northwest Ontario Métis Community for feedback on their engagement in the FMP process to date, up to development of the Draft Plan. The survey included ranking for opportunities provided to the community, community participation, consideration of values provided by the community, and effectiveness of the Planning Team's delivery of information in ways to enable the community to effectively provide input into the forest management plan. Comments were also requested in the survey about what engagement efforts the Planning Team did well, and what were areas for improvement. While this indicator is

measured prior to Draft Plan submission as per the FMPM, this latter comment (areas for improvement) would influence activities through to Final Plan approval in order to further improve or maintain community engagement in the forest management planning process.

No survey response was received prior to Draft Plan, resulting in an indicator assessment of Not Achieved. While the Planning Team followed up with NWOMC to encourage a response prior to Draft Plan, no survey response was received.

Following development of the Draft Plan, the Planning Team will continue to provide opportunities for NWOMC engagement during plan development to be responsive to any consultation requests and identified values.

3.7.3.7 Objective 7: Local Citizens' Committee Engagement

Indicator 7a: **LCC Self-evaluation on Committee Effectiveness**
This indicator was assessed after Stage 2: LTMD, prior to Stage 4: Draft Plan.
Assessment: **ACHIEVED.** The desirable level is for LCC Effectiveness survey results to indicate at least 60% effectiveness in the development of the management plan (Target level same as desirable level).

- The Kenora LCC and the Red Lake LCC completed their self-evaluation surveys just before Draft Plan submission. The results from the six (6) surveys were compiled showing 83.5% overall effectiveness in FMP development, **ACHIEVING** the desirable and target levels (Table 42).
- Summarized overall LCC self-evaluation of effectiveness results are as follows: Comments received for what the Planning Team did well or areas for improvement are included where applicable.

  Informed: Overall the LCCs were very well-informed (3.7-3.8 out of 4). LCCs were provided good information and training to understand the FMP process. Information provided was sufficient to enable informed decisions. LCCs received regular FMP updates.
  Comments:
  - Planning Team did well with what was given/presented and covered all aspects of the plan.
  - Excellent dialogue by all people on the Planning Team. Communication was well done.
  - Some technical terminology (and maps) were challenging, otherwise was very well done.
  - Sending presentations out in advance would be helpful.
  - The professionalism of the Planning Team was appreciated.

Involved: Overall very good involvement (3.3-4.0 out of 4). Good opportunities provided to LCC members to become involved, voice opinions, participate in discussions and have the Planning Team consider LCC viewpoints during FMP development. Overall the Desired Forest and Benefits Meeting was considered useful.

Comments:

- Not all LCC members were able to attend all training or LCC meetings.
- There was generally very good involvement and participation by individual LCC members during FMP development, and all had good opportunities to voice opinions.
- There was very good support for the usefulness of the Desired Forest and Benefits meeting as a means to assess what local citizens want from the forest.

Influential: Overall good (3.4-3.6 out of 4). Overall, the LCCs assessed that they were very effective in influencing FMP decisions.

Comments:

- Some individual LCC members were not as vocal which limited their influence on planning decisions.
- The Planning Team have guidelines and cannot make change in the plan requested by the LCC, if the change is not within these guidelines.

Representative: Overall good involvement (3.0-3.7 out of 4). Responses indicated a good representation in membership of the LCCs, however while still very good, “LCC representation” received slightly lower rankings than the other groups of LCC effectiveness survey questions.

Comments:

- It was difficult to define as some LCC members represent an industry but do not directly receive stakeholder input. Result is individual representation on LCC, reflecting knowledge of certain industries.
- Some LCC members responded that they were able to represent views of stakeholders very effectively.
- LCC representation should be increased for more stakeholders, such as hunters and hikers. Majority of stakeholders represented on LCC should represent “Ontario” concerns.

Overall Effectiveness: Average 83.5%, with results ranging from 50-99% with majority >85%. See Table 42 for the summary of results from the LCCs’ self-evaluation of effectiveness in development of the FMP. The complete Local

Citizens' Committee Reports are located in File:
MU490_2024_FMP_TXT_SuppDoc.pdf, document "K".

Table 42 Results of Kenora LCC and Red Lake LCC Self-Assessment of Effectiveness Surveys

	QUESTIONS Respondant:	1	2	3	4	5	6	AVERAGE
	Member of which LCC (K=Kenora, RL=Red Lake):	K	K	K	K	K	RL	
	Ranking Score: 1 = strongly disagree; 2 = disagee; 3 = agree; 4 = strongly agree; N/A = not applicable.							
Informed								
i)	I was provided with good understanding of the FMP process	4	4	4	4	3	4	**3.8**
ii)	I was provided with adequate training and information was given to me to assist me in understanding the FMP process	4	4	4	4	3	4	**3.8**
iii)	I have an adequate understanding of the contents of the FMP	4	4	4	4	3	3	**3.7**
iv)	I was provided with sufficient and accurate information to enable me to make informed decisions	4	4	4	4	3	3	**3.7**
v)	I was provided with regular updates on the progress of the FMP by planning team members	4	4	4	4	3	4	**3.8**
Involved								
i)	I attended all LCC meetings, functions and events	3	4	4	3	4	3	**3.5**
ii)	The LCC has been provided with an adequate opportunity to become involved with the FMP	4	4	4	4	4	4	**4.0**
iii)	I have been given adequate opportunity to voice my opinions within the LCC	4	4	4	4	4	3	**3.8**
iv)	I have participated in LCC discussions regarding the development of the FMP	3	4	4	3	3	3	**3.3**
iv)	I feel that the planning team considered all viewpoints in developing the FMP	3	4	4	4	3	3	**3.5**
vi)	I thought the Desired Forest and Benefits Meeting was a useful	3	4	4	4	NA	4	**3.8**
Influential								
i)	The LCC is effective at influencing decisions made in the FMP	4	4	4	4	2	3	**3.5**
ii)	I was able to personally influence the decisions made in the FMP	3	4	4	NA	3	3	**3.4**
iii)	I feel that the FMP team considered my opinions in forming their decisions	3	4	4	NA	3	3	**3.4**
iv)	I believe the results of the Desired Forest and Benefits meeting were incorporated into the FMP	3	4	4	4	NA	3	**3.6**
Representative								
i)	I feel my stakeholders were genuinely interested in providing input and actively participating the FMP process	1	4	4	4	2	3	**3.0**
ii)	I was able to represent the views of my stakeholders as a member of the LCC	3	4	4	4	4	3	**3.7**
iii)	I actively engaged my stakeholders in discussions about the forest management plan	1	4	4	4	2	3	**3.0**
iv)	The LCC contains a broad cross-section of stakeholders	2	3	4	4	3	3	**3.2**
v)	I feel that other members on the LCC accurately reflected their stakeholder's viewpoints	4	3	4	4	3	3	**3.5**
vi)	Other LCC members attended all LCC meetings, functions and events	3	3	3	4	2	3	**3.0**
Overall Effectiveness								
i)	Overall, how effective do you feel the LCC has been in the development of the Whiskey Jack Forest 2024-2034 Draft Forest Management Plan? (rank 1-100%)	75	99	99	88	50	90	**83.5**

3.7.3.8 Objective 11: Blueberry Harvesting Areas

Indicator 11a: **Blueberry harvesting areas identified for harvest**

Assessment: **ACHIEVED.** The desirable level is for two (2) candidate blueberry harvesting areas to be planned for harvest in the 10-year FMP period. (Target level same as desirable level).

- Preferred LTMD harvest area included four (4) candidate blueberry harvesting areas that met criteria identified by and discussed with the local First Nation community.
- Identification of four candidate sites achieved the desirable and target levels.
- Identification of more than two (2) sites was considered to be beneficial.
- Scheduling of harvest of these candidate sites through the 10-year FMP period will be discussed with First Nation community to ensure blueberry harvesting needs are considered and suitable opportunities are provided.

3.7.3.9 Summary of Indicators Measured After Plan Implementation

Some objectives indicators measure the results of plan implementation, such as actual harvested area or volumes, results of silvicultural renewal activities, amount of certain forest types or age groupings after harvest and renewal, compliance with planned forest operation Inspections and implementation of Area of Concern prescriptions.

The following 24 indicators of objective achievement are measured during and after FMP implementation, specifically in the enhanced Annual Reports for Year 5 and the final year of the plan. Twelve (12) indicators will be measured for the first time at the plan mid-point (Year 5 enhanced Annual report) and end of implementation of the FMP period (enhanced final year Annual Report). Also, of the 23 indicators measured during plan development, 10 indicators will be re-measured: four (4) caribou habitat indicators, five (5) forest composition indicators, two (2) landscape pattern indicators and one (1) blueberry harvesting areas indicator are also re-measured and reported in the enhanced Annual Reports for Year 5 and the final year of the plan. See Section 3.6.2 for details on the desirable and target levels, and timing of assessment.

Objective 1: Caribou Habitat

Indicator 1a: Caribou Winter Habitat Area (re-measured)
Indicator 1b: Caribou Refuge Habitat Area (re-measured)
Indicator 1c: Texture of Caribou Winter Habitat (re-measured)
Indicator 1d: Texture of Caribou Refuge Habitat (re-measured)
Indicator 1e: Conifer Purity in Jack Pine and Black Spruce LGFUs
Indicator 1g: Actual Upland Conifer Successfully Regenerated to Conifer

Indicator 1h: Road Density in Caribou Zone

Objective 2: Forest Composition

Indicator 2a: Landscape Class Area (re-measured)

Indicator 2b: Old Growth Forest Area (re-measured)

Indicator 2c: All Ages Red Pine and White Pine Forest Unit Area (re-measured)

Indicator 2d: Upland Jack Pine and Spruce (re-measured)

Indicator 2e: Young Forest Area (re-measured)

Objective 3: Landscape Pattern

Indicator 3a: Texture of Mature and Old Forest (re-measured)

Indicator 3b: Young Forest Frequency by Patch Size (re-measured)

Objective 5: Wood Supply

Indicator 5a: Available Forest Area

Indicator 5e: Actual Harvest Area by Forest Unit

Indicator 5f: Actual Harvest Volume by Species Group

Objective 8: Forest Renewal

Indicator 8a: Percent of Harvested Area Assessed as Successfully Established (by forest unit)

Indicator 8b: Planned and Actual Percentage of Harvest Area Treated by Broad Treatment Type

Indicator 8c: Planned and Actual Percentage of Harvest Area Successfully Regenerated to Target Forest Unit, by Forest Unit

Objective 9: Forest Values

Indicator 9a: Percent of Forest Operation Inspections in Non-Compliance, by activity and remedy type

Objective 10: Healthy Ecosystems

Indicator 10a: Percent Compliance with Management Practices that Prevent, Minimize, or Mitigate Site Damage, by activity and remedy type

Indicator 10b: Percent Compliance with Management Practices that Protect Water Quality and Fish Habitat, by activity and remedy type.

Objective 11: Blueberry Harvesting Areas

Indicator 11a: Blueberry harvesting areas identified for harvest (re-measured)

3.7.3.10 Conclusion of Assessment of Objective Achievement

Of the 35 indicators in the FMP, 19 of the indicators can be assessed at the LTMD stage of FMP development, four (4) indicators are assessed prior to Draft Plan and 12 (and some of the original 19) will be assessed only after implementation of the plan.

LTMD Assessment of the 35 plan indicators:

15 indicators **Achieved** desirable levels or movement towards desirable level through meeting the target level within the plan period;
2 indicators are **Partially Achieved** with achievement of or movement towards target levels (Upland Conifer area, and Long-Term Harvest Volumes);
2 indicators do **Not Achieve** desirable or target levels (young forest area, and young forest patch size); and
16 indicators are measured in the **Future**, prior to Draft Plan or after plan implementation.
35

Draft Plan Note: Four (4) indicators measured prior to Draft Plan resulted in the following update:

3 more indicators **Achieved** desirable levels within the plan period (total of 18);
1 more indicator did **Not Achieve** desirable or target levels (Métis engagement); (total of 3 indicators); and
12 indicators are measured in the **Future**, during or after plan implementation (reduced from 16 indicators).

See subsections 3.7.3.1 to 3.7.3.8 for assessment related to individual indicators. All of the plan objective indicators measured at this stage are achieving or progressing towards desirable levels during this plan period (Table FMP-10), except three (3) indicators as noted below:

Objective 2: Forest Composition Indicator 2e - Young Forest Area:
The amount of Young Forest on the Whiskey Jack Forest is projected to decrease for 40 years, then increase back to Plan Start levels with implementation of this Proposed LTMD. This projection does not meet desirable levels based on the simulated natural range of young forest area (min. of approx. 40% more Young Forest than is present at Plan Start 2024). The target level is also not achieved (to move towards the desirable level). The amount of increase in Young Forest possible is significantly limited by areas of the Whiskey Jack Forest on which harvest activities can be planned, in accordance with MNRF harvest eligibility direction. The Planning Team improved indicator achievement where possible through meeting minimum Young forest area for the zone where harvest operations may be planned. In the

zone eligible for harvest, Proposed LTMD harvest was controlled to ensure that no over harvesting was projected. Therefore Young Forest is projected to be created where possible, but not at a sufficient level to compensate for under achievement of Young forest on the entire Whiskey Jack Forest. Desirable and target levels are Not Achieved.

Objective 3: Landscape Pattern Indicator 3b - Young Forest Patch Size:
The frequency of small patches of young forest in all size classes is projected to move slightly away from desirable level on the Whiskey Jack Forest during the 10-year period. Desirable and target levels are not expected to be achieved until the long-term with implementation of harvest to defragment the forest and create more, larger young forest over many planning periods. This deviation in young forest pattern objective achievement was reviewed and considered acceptable by the Planning Team in the context of overall objective achievement and consideration for the zone of the Whiskey Jack Forest in which forest operations, including forest harvesting to create young forest patches, could be planned.

Objective 6: First Nation and Métis Engagement Indicator 6c - Métis Engagement:
In September 2023, an engagement survey was distributed to the Northwest Ontario Métis Community for feedback on their engagement in the FMP process to date. No survey response was received prior to Draft Plan, resulting in an indicator assessment of Not Achieved. While the Planning Team followed up with NWOMC to encourage a response prior to Draft Plan, no survey response was received. Following development of the Draft Plan, the Planning Team will continue to provide opportunities for NWOMC engagement during plan development to be responsive to any consultation requests and identified values.

Based on the assessment of objective achievement documented in Table FMP-10, the majority of the objective indicators had acceptable projections within desirable levels within this plan period or met target levels with progression towards desirable levels. Overall, plan objectives are being met and progress is projected to be made towards the desired forest and benefits through implementation of the Long-term Management Direction.

3.7.4 Spatial Assessment of Projected Harvest Area

A number of preliminary spatial assessments were conducted to analyze achievement of management objectives that are influenced by the location of planned harvest areas. Discussion of these spatial analyses is included in FMP Supplementary Documentation B – Analysis Package. Brief summaries for each analysis follow.

Management Zones – Strategic management zones were developed to reflect the decisions for areas of the WJF that allowed (or did not allow) the planning of forest management activities in this FMP, and for the zone where caribou habitat management guidelines are implemented. This resulted in four (4) SMZs being classified for this 2024-2034 FMP (Section 1). Strategic zones were further subdivided into operational management zones for the emphasis of wildlife habitat management on the WJF. Zones were identified for caribou (Dynamic Caribou Habitat Schedule), moose, deer and large landscape patches (for current or future mature and older forest). The Caribou Dynamic Habitat Schedule block timing was determined for the caribou zone, resulting in “B” blocks in CAR2 strategic zone being available for operations 2024-2044. Operational management zones were identified for areas not already classified as strategic management zones. These operational zones, some with specific harvest timing constraints, were used in strategic modelling to provide spatial control to projected operations.

Harvest Areas - Preferred harvest areas for the 2024-2034 plan period adhere to the operational timing for management zones, including the Dynamic Caribou Habitat Schedule timing for current and future caribou habitat management, consistent with inputs for SFMM strategic modelling. The spatial distribution of harvest over the first four FMP periods (i.e. for 40 years from 2024-2064) was projected in the Proposed LTMD. The 40-year projection of harvest was considered by the Planning Team to be generally operationally feasible and economically feasible. The projected harvest areas provided a mixture of closer and further harvest areas to aid in the balancing of socio-economic benefits and costs through the four 10-year periods. A general consideration for the amount of summer (non-frozen conditions) and winter harvest areas was also considered to ensure the balance of harvest areas would be operationally feasible. Additional operational planning for the Whiskey Jack Forest will be conducted during Stages 3 and 4 for the 2024-2034 period during development of this forest management plan, and additional strategic and operational planning will also occur prior to forest management plan approvals for the future FMP periods 2034-2064.

Landscape Pattern - Landscape pattern objectives were built on the 2012-2024 FMP objectives and have been refined for this FMP in accordance with the *Forest Management Planning Manual (2020)* and the *Forest Management Guide for Boreal Landscapes (2014)*. Landscape pattern objectives include indicators for amount and arrangement of caribou habitat, and maintaining or enhancing natural landscape structure, composition and patterns that provide for the long-term health of forest ecosystems in an efficient and effective manner. Landscape pattern objectives were assessed in the Proposed LTMD (including the arrangement of caribou habitat, young forest patches, and mature and old forest). The Planning Team used Ontario's Landscape Tool to measure the texture of caribou habitat, texture of mature and old forest and young forest patch size and compared this to the mean of the SRNV.

Conclusion – The overall spatial distribution of landscape pattern (measured by Ontario's Landscape Tool) is improved in the medium to long-term through implementation of the preferred harvest allocations in the LTMD.

3.7.5 Social and Economic Assessment

The *Forest Management Planning Manual* (2020) requires that a Social and Economic Assessment (SEA) be prepared to identify the expected social and economic impacts of implementing the management strategy proposed in the Long-Term Management Direction (LTMD) for the development of this FMP. The assessment examines how the quantity of timber supplied in the wood processing facilities, and the silvicultural investment requirements for the proposed management strategy may affect the communities identified in the Social & Economic Description (Supplementary Documentation E).

A social and economic assessment was completed for the proposed long-term management direction. This assessment outlines the expected social and economic impacts associated with the current direction.

The *Forest Management Planning Manual* (2020) requires that a Social and Economic Assessment (SEA) be prepared to identify the expected social and economic impacts of implementing the management strategy proposed in the Long-Term Management Direction (LTMD) for the development of this FMP. The assessment examines how the quantity of timber supplied in the wood processing facilities, and the silvicultural investment requirements for the proposed management strategy may affect the communities identified in the Social & Economic Description.

The Social and Economic Assessment of timber volumes and silvicultural expenditures was completed and is based on the qualitative comparison of the annual planned harvest volume levels for the 2012-2024 FMP and the levels shown in the Proposed LTMD for this 2024-2034 FMP. The proposed LTMD endorsed by the Planning Team, projected a 66% decrease in total net merchantable harvest volume during this plan period as compared to the 2012-2024 FMP. The 2012-2024 FMP included 574,595 m3 per year (TOTAL all species), 340,000 m3 Spruce-Pine-Fir and 190,000 m3 Poplar per year. The 2024-2034 LTMD includes 196,909 m3 per year (TOTAL all species), 100,000 Spruce-Pine-Fir and 70,000 m3 Poplar per year. This projected significant reduction in harvest volumes in this FMP is a direct result in the MNRF decision on the reduction of area of the Whiskey Jack Forest that is eligible for forest operations (24% of the forest), as compared to the 2012-2024 FMP.

The comparative assessment projects the following social and economic impacts:

Negative Impacts: The socio-economic impacts from wood utilization by the forest industry supplied by the Whiskey Jack Forest is expected to be significantly reduced with implementation of the 2024-2034 FMP (based on harvest of significantly lower LTMD harvest volumes). The projected decrease in volume is expected to decrease direct and indirect socio-economic effects to the Province of Ontario as provided in the 2012 FMP. Decreased harvest volumes generally result in lower industry output, person years of employment and gross domestic product. Decrease in the harvest volumes and associate forest access road construction and maintenance may also negatively impact other commercial activities that rely on forest access, such as baitfish operations, mining access, and road-based tourism.

Positive or Negative Impacts: Reduced harvest and renewal may be positive or negative based on location of activity or forest values. The first consideration is where the activity occurs or where the value is located. Impacts will be different between activities in the zone where harvest and renewal are planned versus the strategic zone where forest operations are not planned. The impacts of forest management and operations on recreation and tourism are not dependent on the harvest level but rather how the specific value has been addressed. Forest operations will directly affect certain traplines and not others depending on where harvest allocations are planned (may either be positive or negative impact). Bear management area (BMA) operators may also be affected by both the harvest operations and road access. Potential negative impacts are mitigated through stakeholder involvement during plan development.

Positive Impacts: Lower harvest and less forest access roads, particularly in the strategic zone where forest operations are not planned, may positively impact remote tourism.

All values and comments identified will be considered during operational planning (harvest block allocation, road planning and Area of Concern Prescriptions) to mitigate or minimize impacts of planned forest operations.

3.7.6 Risk Assessment

This section of the FMP summarizes the risk to plan implementation, if certain decisions made during development of the Proposed LTMD do not come to pass. The following bullet points describe certain assumptions and associated potential barriers to successful implementation of the FMP LTMD:

Lack of markets or mill labour disputes could reduce the demand for wood from the Whiskey Jack Forest. **Low Risk:** While market fluctuations may occur, this is not influenced by the FMP Planning Team.

Failure of approval or construction of proposed new primary roads is a risk to accessing certain planned harvest blocks during 2024-2034 and 2034-2044. **Low Risk**: Primary roads are approved in this FMP and planned for construction. Any delay in primary road construction would be mitigated through the reselection of approved harvest areas, accessible by existing roads or other branch roads.

Risk Assessment Conclusion – The above risks to implementation of the LTMD as planned are all **Low Risk**.

While not a risk to implementation of the LTMD, the decision to not permit forest management activities in a large area of the Whiskey Jack Forest will result in some negative impacts:

- Future forest composition, structure and pattern (specifically Young forest amount and pattern);
- Potential increased fire risk through accumulating fuel loading of older forest stands;
- Limited forest road access in the zone where operations are not planned; and
- Unrealized social and economic benefits where timber harvesting or forest access roads could be used, but forest operations are not planned and roads are not built or maintained.

3.7.7 Preliminary Determination of Sustainability

Overall, based on the quantitative and qualitative assessment of objective achievement (Table FMP-10) that can be assessed during preparation of the forest management plan, there has been achievement in meeting or exceeding the desirable levels and associated targets for most indicators (forest condition, and goods and services). The assessment of objective achievement in the LTMD includes three management objective indicators assessed as Not Achieved:

- Young Forest Area, and Young Forest Patch Size (Pattern) indicators are primarily constrained by the area of the Whiskey Jack Forest on which forest operations (harvest, renewal) may be planned in the FMP. The Proposed LTMD was planned to produce a good balance of objective achievement, while not over-harvesting area in the zone eligible for forest operations.
- Métis Engagement during Draft Plan development was conducted, however since no NWOMC evaluation or feedback was received for assessment of this indicator, the indicator was assessed as Not Achieved.

The spatial assessment indicates that the distribution of landscape pattern (measured by Ontario's Landscape Tool) is improved in the medium to long-term through implementation of the preferred harvest allocations in the zone of the Whiskey Jack Forest in which forest management activities may be planned in the FMP.

The social and economic assessment for this FMP indicates that current levels of social or economic benefits are projected to significantly decrease for the 2024-2034 plan period, in comparison with the 2012-2024 FMP.

The risk assessment indicated the risk of using improper assumptions for strategic planning or risks to implementation of the LTMD as planned are all Low risk.

Overall, objective achievement, social and economic assessment and planned forest operations according to the Proposed LTMD have all demonstrated that the 2024-2034 Forest Management Plan for the Whiskey Jack Forest has regard for plant life, animal life, water, soil, air, social and economic values, including recreational and heritage values. This forest management plan provides for the sustainability of Ontario's Crown forest.

See Section 5.0 for the final Determination of Sustainability for the FMP.

4.0 PLANNED OPERATIONS

4.1 Introduction

This section of the plan includes a description of the planned operations for the 10-year period from 2024-2034, including harvest (regular, bridging, salvage), operational prescriptions, renewal and tending, renewal support, forest access and road use management, estimated renewal expenditures, and monitoring and assessment activities. Harvest volumes and wood utilization by mill, contingency harvest area and associated contingency harvest volumes are also discussed in this section.

The monitoring and assessment program that will be carried out during the plan term, including forest operation inspections, exceptions monitoring, assessment of regeneration, and monitoring of roads and water crossings is included in Section 4.7.

Finally, a comparison of the 2024-2034 planned operations to the Long-Term Management Direction (LTMD) is provided in Section 4.9.

Operational planning for the Whiskey Jack Forest was done with the involvement of interdisciplinary Planning Team. Members of the MNRF were instrumental in identifying and mapping values, and ensuring that people with known interests in areas or values were notified and asked to contribute. The MNRF set the broad direction as well as more specific direction such as managing the Whiskey Jack Forest for a natural landscape pattern, and managing for caribou habitat in the caribou zone. Miisun determined the harvest allocations and areas of concerns prescriptions with input and assistance from Planning Team members. The public was notified and had formal public review opportunities during the planning process. Where possible, individuals and interested parties suspected of having an interest in the allocations were specifically sought out and asked for their input during development of the plan.

4.2 Prescriptions for Operations

4.2.1 Operational Prescriptions and Conditions for Areas of Concern

An “area of concern” (AOC) is a defined geographic area, adjacent to or surrounding an identified value, within the areas selected for operations. 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 and air, regular and supplementary aerial photographs, contour and elevation maps, slope analysis, and local knowledge of trappers, First Nations and Métis groups, tourist operators and logging companies were used to identify area of concern prescriptions in order to consider and protect an identified value.

All operational prescriptions for areas of concern (AOC) prepared for the 10-year plan period are presented in Table FMP-11. Area of concern identifiers are cross-referenced and included in the digital spatial layer submitted as part of the electronic forest management plan. AOC operational prescriptions taken directly/implemented from an existing forest management guide do not require the preparation of additional supplemental documentation. AOC operational prescriptions developed on the basis of other direction, such as those developed by the Planning Team in the absence of existing guidelines, or that are not directly consistent with an existing forest management guide, are detailed in Supplementary Documentation J.

Some AOC identification codes have been revised from the codes used in the 2012-2024 FMP, and some codes are new for new AOC prescriptions for this 2024-2034 FMP. For reference of the forest managers and interested parties, the following table (Table 43) shows the old and new codes for the AOC prescriptions:

Table 43 2024 FMP AOC Codes and Corresponding 2012 FMP AOC Codes

Cultural & Heritage		2012 FMP Code
A01	Archaeological Potential Areas	Same
A02	Cultural or Heritage Value	CH01
C01	Trap cabin	New
Indigenous Values		
FN1	First Nation Reserve	FL01
I01	**Indigenous Values – Constructed Stone Features** (Indigenous-made formations and arrangements of stone)	New
I02	**Indigenous Values – Natural Stone Features** (significant glacial erratic or groups of erratics, unique natural arrangement of large stone, rock faces and outcrops)	New
I03	**Indigenous Values – Culturally Modified Trees** (e.g. historical modification due to usage as trail markers, historic evidence indicating canoe making on Birch and Cedar)	New
I04	**Indigenous Values – Historical Indigenous Camp** (cultural gatherings, historical traditional hunting, fishing, and gathering locations)	New
I05	**Indigenous Values – Material Gathering Sites** (traditional gathering sites of medicinal plants, edible plants and craft materials)	New
I06	**Indigenous Values – Indigenous Cultural Heritage Landscapes** (historic or in current use including sacred and ceremonial sites, pictographs, petroglyphs, and significant landscape topography (may overlap areas of A01 or A02).	New
I07	**Indigenous Value – Significant Indigenous Harvesting Area** (important wildlife habitat features, important areas for harvesting)	New
Mammal Values and Dens		
D01	**Occupied Black Bear Den (**Dens known or suspected to contain one or more hibernating black bears. Applies to occupied dens known before or found during operations)	Same
D02	**Occupied Gray Fox Den**	Same
D03	**Occupied Cougar Den**	Same

D04	Occupied Wolf or Coyote Den	Same
D05	**Wolverine dens** (natal and maternal dens)	Same
M01	**Mineral Lick** (Natural mineral licks known or encountered during operation. Salt accumulated along roadways excluded.)	Same
M02	Caribou Calving and Nursery Areas (CNA)	CC01
M03	Moose Thermal Summer Patches	New
M04	Moose Winter Cover Stands	New
M05	Bat Hibernacula	NO08
M06	Bat Roosting Site	NO09
M07	White-tailed Deer Critical Thermal Cover	New
Bird & Other Nests		
N01	Bald Eagle primary nest	Same
N02	Bald Eagle inactive nest	N03
N03	Osprey primary nest	ON01
N04	Osprey inactive nest	ON03
N05	Active Great Blue Heron Colonies	BH01
N06	Inactive Great Blue Heron colonies	BH02
N07	Active colonies of Bonaparte's Gull	BG01
N08	Active bank swallow nest or colony	BS01
N09	Primary nest of great gray owl, northern goshawk or red- shouldered hawk	HO01
N10	Alternate nest of great gray owl, northern goshawk or red- shouldered hawk	HO02
N11	Inactive nest of great gray owl, northern goshawk or red- shouldered hawk	HO03
N12	Stick nests occupied by barred owl, broad-winged hawk, common raven, Cooper's hawk, great horned owl, long-eared owl, merlin, red-tailed hawk, or sharp-shinned hawk	NO01
N13	Nests/ communal roosts in cavities occupied by American kestrel, barred owl, boreal owl, eastern screech-owl, great horned owl, northern hawk owl, northern saw-whet owl or chimney swift	NO02
N14	Ground nests occupied by northern harrier, short-eared owl, or turkey vulture	NO03
N15	Whip-poor-will Nesting Sites	NO04

1

N16	Common Nighthawk Nesting Habitat	NO05
N17	Barn Swallow Nesting Sites	BS02
N18	Trumpeter Swan Nesting Sites	NE9
N19	Snapping Turtle – Nesting Habitat	NE10
Protected Ownerships, Railroad & Transmission Corridors		
HL1	Hydro Line Right-of-Way	New
NG1	Natural Gas Transmission Pipeline	NG01
PL1	Patent Land and Land Use Permits	PL01
PP1	Provincial Park and Other Protected Areas	New
RR1	Railroad Right-of-Way	RR01
HC1	Highway Corridor Aesthetics	HB01
WM1	Waste Management Site	WM01
Research and Experimental Plots		
RP1	Research Trials and Tree Orchards	New
RP2	Permanent Growth Plots (PGP)	PGP01
RP3	Permanent Sample Plot (PSP)	New
RP4	Multi-species Inventory and Monitoring (MSIM) Plot	New
RP5	Temporary Sample Plots	New
Tourism, Timing & Recreation		
T01	Aesthetics Along High Volume Tourism Lakes and Roads	TV01
T02	Aesthetics Along High Volume Tourism Lakes and Roads	New
T03	Aesthetics Along High Volume Tourism Lakes	New
T04	Tourism – Road Aesthetics	New
T05	Tourism – Road Aesthetics	Partial TVgl
Tar	Tourism – High Volume Tourism Access Roads	New
Tat	Tourism – Access Trail	New
Tcs	Tourism – Identified Campsites	Updated TVc

Tgl	**Aesthetics – Gibi Lake**	**New**
Tpt	**Identified Portage Trail**	**New/Updated TVp**
Trd	**Tourism – Aesthetics Along Recreational Property Access Roads**	**New**
Tst	**Tourism – OFSC Trail**	**New**
Tt1	**Timing Restriction – Winter Harvest**	**TVw**
Tt2	**Timing Restriction – Fall Hunting**	**New**
Tt3	**No Herbicide and Timing Restriction – Fall Hunting**	**New**
NH1	**No Herbicide**	**New**
LS1	**Tourism – Lac Seul Shoreline**	**LS01**
Water & Fish Habitat & Wetlands		
W01	**Reserves** on Large lakes, medium lakes, small lakes, rivers, ponds and streams; HPS or MPS (high or moderate potential sensitivity to forest management operations)	**WL01/WS01**
W02	**Streams with low potential sensitivity to forest management operations (LPS streams)**	**WS02**
W03	**Ponds with low potential sensitivity to forest management operations (LPS Ponds)**	**WL02**
W04	**Modified cut to shore** on Large lakes, Medium lakes, Small lakes; Ponds – HPS or MPS (high or moderate potential sensitivity to forest management operations)	**New**
W05	**Modified cut to shore** on Rivers, HPS or MPS (high or moderate potential sensitivity to forest management operations) Stream segments	**New**
W06	**Wetlands** occupied by breeding black terns, least bitterns, golden-winged warblers, horned grebes, or yellow rails	**WW01**
W07	**Provincially Significant Wetlands**	**New**
W08	**Identified Fish Spawning Areas**	**New**
FMP-11.1	Potential Impact of Forest Management Activities	
FMP-11.2	Potential Impacts for Caribou Nursery Values	

1

AOC prescriptions for identified values are prepared based on the best information available, as provided by the MNRF, land use policy direction (such as the *Crown Land Use Policy Atlas,* (CLUPA)), and new information brought forward by First Nation and Métis groups, the public and other stakeholders. AOC prescriptions are developed, as required, where forest management operations (harvest, road development, renewal or tending) are anticipated to impact values. Any objections to AOC prescriptions, and the responses to those objections, are documented in Supplemental Documentation J.

The AOC prescriptions were applied to known values and common prescriptions from the previous FMP were carried forward where possible. New prescriptions were created based on new direction in the FMPM 2020, forest management guides, and new values found on the forest. Operational prescriptions can be one of the following or in combination:

- Reserve – An operational prescription for an area of concern where operations are prohibited (or specific operations are prohibited); and/or
- Modified – modified harvest, renewal and tending operations where prescriptions have been developed to protect or manage specific natural resource features, land uses or values. Modified AOCs may allow regular operations with conditions (e.g. timing, equipment), or unique prescriptions to protect or manage specific natural resource features, land uses or values.

For any unmapped or incorrectly mapped value that is encountered during pre-harvest inspections or during actual forest operations (e.g. intermittent or permanent stream, nesting site, etc.), Miisun will report these to the MNRF in accordance with the *Forest Information Manual* (FIM). Prompt response by company and MNRF in accordance to FIM will be required to ensure operations can continue appropriately as per new values. The value must be confirmed in consultation with the MNRF to ensure that the appropriate prescription is applied. An amendment may not be required, provided that the appropriate AOC prescription associated with the same value already exists, and any necessary conditions on the location and /or construction or the crossing are followed.

Shoreline reserves are taken from the high water mark (high watermark is defined as the beginning of woody vegetation; rock and un-treed bog does not necessarily define beginning of high water mark) based on slope and were derived by the company using slope based raster's generated from digital elevation models. When mapping cut-to-shore harvest ≥50% of the area of the water quality AOC (based on delineation of the AOC around the entire water feature, both inside and outside the harvest area) associated with small lakes, HPS ponds, and MPS ponds, ≥75% of the area of the AOC associated with medium lakes, and ≥90% of the area of the AOC associated with large lakes will be

retained. Shoreline reserves are then confirmed in the field during block layout. Company planners, in conjunction with interested tourist outfitters or the public, applied increased aesthetic reserves on some lakes. Tourism reserves applied to minimize the visual impact of a cut-over will not guarantee cut-overs will not be seen from all parts of the lake but will mitigate the impact. Although these tourism aesthetic reserve areas are known to not fully conceal the cutover in certain areas, there was agreement or understanding amongst the Planning Team and the stakeholder(s) during discussions/negotiations on its application despite its shortcomings.

Bird stick nests were identified from past LIO information and from air inspections or recent identification of nests. Where planned operations fall within the zone of concern for eagles, ospreys, herons and other stick nests, a prescription has been prepared for each species and other nests found in Table FMP-11. The MNRF conducts values flights or ground surveys on a regular basis to inspect areas to confirm or identify values associated with scheduled operations.

Any operational prescription or condition for an area of concern that differs from the specific direction or recommendation (standards or guidelines) in a forest management guide is identified in Table FMP-11 as an “exception”. The monitoring program for exceptions would be described in Section 4.7.2 and detailed in Supplementary Documentation F. A list of exceptions would also be referenced in the MNRF District Manager’s certification and the MNRF regional resource manager’s certification and recommendation of the forest management plan for approval (FMPM Figure B-2). However, there are no exceptions noted in this FMP.

4.2.1.1 Tourism Values and Resource Stewardship Agreements (RSAs)

The *Tourism and Forest Industry Memorandum of Understanding (MOU)* is an agreement between the government, the tourism industry and the forest industry on the development of Resource Stewardship Agreements (RSAs) and related matters. As per this MOU, this FMP has been prepared in accordance with the company’s commitment to maintain the viability of the tourism industry, by protecting tourism values in the forest management planning process through the application of the *Management Guidelines for Forestry and Resource-Based Tourism*, and the use of Resource Stewardship Agreements as one method of protecting and sustaining these values.

A Resource Stewardship Agreement (RSA) is an agreement negotiated between two legal entities: a Resource-Based Tourism Establishment (RBTE) as determined by the Ministry of Heritage, Sport, Tourism, and Culture Industries; and the Sustainable Forest Licensee. The Whiskey Jack Forest is a Crown management unit and not a Sustainable

Forest Licence, because of this there were no RSAs negotiated as the MNRF cannot enter into a business to business agreements. The Forest Manager and interested Resource Based Tourism Establishments (RBTE), negotiated forest management operational prescriptions to protect specific tourism values and roads planning and/or related conditions on new and existing roads that affect forest management that will be approved by the MNRF and included in the FMP under the *Crown Forest Sustainability Act*.

The Ministry of Heritage, Sport, Tourism, and Culture Industries identified Resource Based Tourism Establishments (RBTEs) associated with the Whiskey Jack Forest. During Stage 1 of the planning process all resource-based tourist outfitters were contacted by the MNRF to provide the opportunity to develop a tourism area of concern prescription. There were no operators that expressed interest in additional discussions at that time. The Forest Manager is open to meet with RBTE at any time throughout the planning process, to discuss concerns with noise, access and aesthetics to preserve the identified tourism values. Concerns identified in previous have been addressed through areas of concern (Table FMP-11) planning.

4.2.1.2 AOC Prescriptions for Cultural Heritage Values

Registered cultural heritage values receive protection during forest management planning. Cultural heritage planning is undertaken for areas selected for operations as a means of protecting both known values, and locations where values may reasonably be expected to occur. Archaeological Potential Areas (APAs) (Table FMP-11, AOC A01) were identified using a computer model (Heritage Assessment Tool), and were refined by the Planning Team. The proposed prescription is consistent with the *Forest Management Guide for Cultural Heritage Values* (MNRF, 2007). Generally, these areas are located in areas with other values, and are protected by a minimum 30-90 metre sloped-based water quality reserve, however, they are identified separately on the maps and modified harvest portions may extend beyond the water quality reserve as identified with the use of AOC A01.

This FMP contains AOC prescriptions for cultural heritage values identified in LIO (AOC A02) as well as AOC prescriptions for other values that may be associated with the same geographic area, such as riparian areas. When registered sites are located in harvest areas, they are often protected in areas with other values. Cultural heritage values are considered sensitive information and are not specifically identified on the map.

Efforts were made to determine if there were any known culture and heritage sites by asking each of the affected Indigenous communities. A total of 98 registered sites are

known on the Whiskey Jack Forest. Should discovery of a site occur, direction in the Culture Heritage Guide would be followed. Directions include: operations must immediately stop work and local district MNRF must be contacted as per the *Forest Information Manual*.

The value class of the discovery will determine who of the following will be contacted: Ministry of Heritage, Sport, Tourism, and Culture Industries staff, the local First Nation or Métis community, Registrar of Cemeteries, and/or the provincial cultural heritage specialist. When the class of cultural heritage value is established, where required, an appropriate AOC prescription will be incorporated into the FMP through an amendment.

As per the Culture Heritage guide, 2007, if human remains are discovered, operations at the site must stop and suspended immediately. Contact will be made with 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 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. MNRFs provincial cultural heritage specialist can provide a list of best practices described in the *Cemeteries Act* to help involved parties understand their responsibilities. 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 Ministry of Heritage, Sport, Tourism, and Culture Industries' current standards and guidelines for consultant archaeologists shall occur.

4.2.1.3 Operational Prescriptions and Conditions for Areas of Concern Information Products

The spatial locations of areas of concern are included in the forest management plan in the digital feature classes of electronic information to be viewed with the planned harvest layer of information. 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-11) identifies the operational prescriptions and conditions for harvest, renewal and tending to be applied to the specific AOC.

For bridging areas (harvest originally approved in the 2012-2024 FMP), the appropriate AOC prescription and conditions from this 2024-2034 FMP Table FMP-11 have been applied.

There is no second-pass harvest planned in this FMP.

4.2.2 Prescriptions for Harvest, Renewal and Tending Areas

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

Section 4.2.2.1 Silvicultural Ground Rules
Section 4.2.2.2 Conditions on Regular Operations

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 operational planning inventory (OPI) feature class and linked information for the planned harvest is in the PHR feature class.

4.2.2.1 Silvicultural Ground Rules

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 2020). The description and development of the SGRs are discussed in FMP text Section 3.3, and the SGRs are presented in Table FMP-4. The SGRs were prepared using a combination of silvicultural guides, technical information, scientific publications and local/field experience of company and MNRF staff, as well as advice from regional science advisors. The SGRs for the harvest, renewal, and tending operations will serve as the prescriptions for operations, including naturally depleted areas that are salvaged, for the 10-year period of the forest management plan.

An analysis of past silvicultural activities was conducted by a Registered Professional Forester and was considered in the development of Silvicultural Ground Rules (Table FMP-4). These Silvicultural Ground Rules were then used to reflect the appropriate silvicultural options in the strategic modelling (SFMM Base Model, see Supplementary Documentation B – Analysis Package).

For each forest unit and future silvicultural stratum (yield productivity), the most common silvicultural treatment package in Table FMP-4 is considered to be the package of treatments most likely to be conducted. 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 the 10-year plan period for an entire silvicultural treatment package to be implemented. The preliminary SGR represents the best estimate of the operations at the time of FMP preparation, and will not limit the selection of any of the acceptable alternative silvicultural treatments in the SGRs at the time of implementation of operations.

There are no treatments included in Silvicultural Ground Rules in Table FMP-4 that are not recommended in the applicable silvicultural guide.

The most common SGRs projected to be used are based on grouping plan forest unit areas with the reasonable expectation to produce the future forest unit and yield curve combination. The future forest unit and yield curve combination information in Table 44 reflects the most common SGRs based in the strategically modelled renewal transition frequency and the 2012-2024 FMP default renewal operations expected to be most commonly used when associated with the current originating (harvested) forest unit.

Table 44 Most Common SGR and Renewal Treatment by Forest Unit

Harvested Forest Unit	Most common SGR (FMP-4) and Description	
BFM	PJD-LOW	Mechanical site preparation, aerial seeding, tending
CMX	CMX-LOW	Natural seeding
HMX	POD-MED	Natural coppice or seed
HRD	POD-HIGH	Natural coppice or seed
PJD	PJD-LOW	Mechanical site preparation, aerial seeding, tending
PJM	PJD-LOW	Mechanical site preparation, aerial seeding, tending
POD	POD-HIGH	Natural coppice or seed
PRW	PRW-LOW	Mechanical site preparation, planting, tending
SBD	PJM-LOW	Mechanical site preparation, aerial seeding, tending
SBL	SBL-LOW	Natural seeding
SBM	PJD-MED	Mechanical site preparation, aerial seeding, tending

Note Forest Productivity Class (YIELD) Definitions and Codes:
LOW = Managed, low productivity stands
MED = Managed, moderate productivity stands
HIGH = Managed, higher productivity stands

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.

Occasionally, previously depleted areas require follow-up treatments to enhance regeneration stocking. Renewal treatments may also be applied to old road landings, areas containing slash piles that have been burned and require planting or seeding, or applied on sites that are generally successfully established, but have inadequately stocked patches.

As harvested areas are regenerated, operational roads within harvest blocks may also be regenerated in accordance to the appropriate block SGR(s), and the road use management strategy for the road or road network. See Section 4.5.2 for reference to road use management strategies, and Supp. Doc. H for specific conditions for road use management strategies. Where site preparation is part of the applied SGR to a block or portion of a block, it will cross ungravelled roads, or other low quality roads, where they are not needed for planting access. The site prepared areas will be planted or seeded within the remaining block. Those roads that cannot be site prepared will be planted tightly to the roads edge where possible or, if the applicable SGR includes natural regeneration, natural ingress or coppice regeneration will be promoted.

There are no silviculture trial areas planned for implementation in this FMP.

The information products (i.e. PHR & IMP layers) for harvest, renewal and tending operations will serve as the stand listing. Silviculture Ground Rules are found in the field “SGR” in the operational planning inventory (OPI) feature class.

The only prescribed burns planned for this 10-year period of the FMP are for the burning of slash piles on harvested areas that occur annually on the Whiskey Jack Forest. Select SGR’s permit the use of prescribed burns as part of the acceptable alternative treatments for site preparation and may be implemented as part of an applied SGR.

Occasionally forest stands degrade through natural succession or natural disturbances, such as jack pine budworm insect infestation. Where appropriate, these areas will be evaluated on a case-by-case basis to determine suitability and appropriateness for prescribed burning. These situations will be promoted where the treatment is expected to create an improved condition of future forest health. Any such case will be amended into the plan. If such areas are identified, they would be projected to be “Allow Fire” areas as per the Modified Fire Response Plan in Section 4.8.3 of this FMP or added as prescribed burn areas in Table FMP-17 (and associated text Section 4.4.1).

The application of herbicide as a tending operation is proposed in this plan, with the location of eligible areas identified on the digital spatial layers for renewal and tending.

While chemical tending will typically be conducted through ground application, aerial tending may also occur as identified in SGRs. The identification of areas for chemical tending will be identified yearly in the Annual Work Schedule. Approvals by the Ministry of the Environment, Conservation and Parks (MECP) will be required prior to the application of registered herbicides on the Whiskey Jack Forest. Areas previously harvested in past FMPs, as well as areas requiring supplemental or re-treatment may be identified through operational monitoring or through the monitoring program for success of silvicultural and are eligible for renewal treatment and tending. These areas may not have been identified at the time of writing the FMP and do not require an FMP amendment to receive renewal or tending treatments and may be treated as per the applied or applicable SGR.

In this 10-year period, some areas receiving establishment assessment (Section 4.7.3 and Table FMP-20) were harvested during the 2012-2024 FMP period (plan prior to this FMP). The 2012-2024 FMP included SGRs based on the harvested forest unit and the projected future forest unit, as well as intensity of renewal treatment applied. As described in Section 3.2.2, SGRs for this 2024-2034 FMP were changed in accordance with current forest management direction. Rather than the harvested forest unit being the basis of the SGR (2012-2024 FMP), the resulting future forest condition is the basis for 2024-2034 FMP SGRs (forest unit and forest productivity YIELD combination).

The projected future forest conditions for 2012-2024 SGRs were reviewed and correlated to the equivalent 2024-2034 SGR. This table of equivalent 2012 and 2024 SGR codes (Table 45) allows the forest manager to plan, monitor and/or assess all previously harvested areas against the SGRs in this FMP. All areas to be assessed for establishment will be measured against the regeneration standards using the survey methodology in this 2024-2034 FMP (Supp. Doc. G). If assessed as being successfully established, the established areas are updated in the forest resources inventory using the 2024-2034 FMP forest units and forest productivity (YIELD) classifications.

Conversion of 2012 FMP SGRs to 2024 FMP SGRs

In this 10-year period, some areas receiving establishment assessment (Section 4.7.3 and Table FMP-20) were harvested during the 2012-2024 FMP period (plan prior to this FMP). The 2012-2024 FMP included SGRs based on the harvested forest unit and the projected future forest unit, as well as intensity of renewal treatment applied. As described in Section 3.2.2, SGRs for this 2024-2034 FMP were changed in accordance with current forest management direction. Rather than the harvested forest unit being the basis of the SGR (2012-2024 FMP), the resulting future forest condition is the basis for 2024-2034 FMP SGRs (forest unit and forest productivity YIELD combination).

The projected future forest conditions for 2012-2024 SGRs were reviewed and correlated to the equivalent 2024-2034 SGR. This table of equivalent 2012 and 2024 SGR codes (Table 45) allows the forest manager to plan, monitor and/or assess all previously harvested areas against the SGRs in this FMP. All areas to be assessed for establishment will be measured against the regeneration standards using the survey methodology in this 2024-2034 FMP (Supp. Doc. G). If assessed as being successfully established, the established areas are updated in the forest resources inventory using the 2024-2034 FMP forest units and forest productivity (YIELD) classifications.

Table 45 2024 FMP SGR Codes and Corresponding 2012 FMP SGR Codes

Conversion of Past SGRs to Current Silvicultural Ground Rules:			
Previous 2012 FMP SGR	**Current 2024 FMP SGR**	**Previous 2012 FMP SGR**	**Current 2024 FMP SGR**
BFM-EXT-BFM	**BFM-MED**	BFM-EXT-POD CMX-EXT-POD	**POD-MED**
CMX-EXT-CMX PRW-EXT-CMX SPD-EXT-CMX BFM-EXT-CMX HMX-EXT-CMX PJM-EXT-CMX SPM-EXT-CMX	**CMX-LOW**	HMX-EXT-POD POD-EXT-POD	**POD-HIGH** **POD-HIGH**
		PRW-EXT-PRW CMX-BA1-PRW CMX-INT-PRW PRW-BA1-PRW	**PRW-MED**
CMX-BA1-CMX HMX-BA1-CMX	**CMX-MED**	PRW-INT-PRW	**PRW-HIGH**
		OCL-EXT-OCL SBL-EXT-SBL SBL-BA1-SBL	**SBL-LOW**
BFM-EXT-HMX CMX-EXT-HMX SPM-EXT-HMX	**HMX-MED**		
HMX-EXT-HMX OTH-EXT-HMX	**HRD-MED**		
PJD-INT-PJD PJM-INT-PJD SPM-INT-PJD	**PJD-HIGH**		
PJD-EXT-PJD PJM-EXT-PJD	**PJD-LOW**		
CMX-INT-PJD SPM-BA1-PJD CMX-BA1-PJD PJD-BA1-PJD PJM-BA1-PJD	**PJD-MED**		
PJD-EXT-PJM PJM-EXT-PJM CMX-EXT-PJM SPM-EXT-PJM	**PJM-LOW**		
CMX-BA1-PJM BFM-BA1-PJM CMX-INT-PJM HMX-BA1-PJM PJD-BA1-PJM PJM-BA1-PJM PJM-INT-PJM PRW-BA1-PJM SPD-BA1-PJM SPM-BA1-PJM	**PJM-MED**		
		BFM-BA1-SPD CMX-BA1-SPD CMX-INT-SBD PJD-INT-SPD PJM-INT-SPD SPD-BA1-SPD SPD-INT-SPD SPD-EXT-SPD SPM-BA1-SPD SPM-EXT-SPD SPM-INT-SPD	**SBD-MED**
		BFM-BA1-SPM CMX-BA1-SPM HMX-BA1-SPM PRW-BA1-SPM SPD-EXT-SPM SPM-BA1-SPM SPM-EXT-SPM	**SBM-MED**
		SPD-BA1-SPM CMX-INT-SBM PJM-INT-SPM SPD-INT-SPM SPM-INT-SPM	**SBM-HIGH**

4.2.2.2 Conditions on Regular Operations

This section of the plan documents conditions on regular operations (CROs) that apply to important ecological features. Important ecological features are a subset of natural resource attributes that are normally common and widespread, are often transitory, are rarely identified in advance of operations, and typically require minimal modifications to regular operations (e.g., Conditions on Regular Operations) to ensure they are maintained or protected.

These Conditions on Regular Operations have been developed through application of the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNRF, 2010), relating to species at risk or in accordance with existing agreements.

Conditions on regular operations (CROs) apply to all harvest, renewal and tending operations. Conditions on roads, landings and forestry aggregate pits are documented in Table FMP-11 parts B, C and D. Below, Table 46 Conditions on Regular Operations documents the conditions that have been developed mainly through the application of the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (MNRF, 2010) and conditions developed by the Planning Team.

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.

Known 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 were identified. A Condition on Regular Operations was developed for Incidental Bur Oak to direct the retention of bur oak encountered during regular operations (Table 46). If any additional S1, S2 or S3 Natural Heritage Information Centre vegetation communities or other uncommon vegetation communities are identified by MNRF (or S1 - S3 species observations/occurrences are reported) which are likely to occur in areas of planned operations in the future, the Forest Manager will consult with MNRF Regional Planning Biologists and/or district Management Biologists to develop CROs as required by the Stand and Site Guide.

There are no conditions on regular operations for an important ecological feature that differs from the specific direction or recommendation (standards or guidelines) in a forest management guide that are considered an exception.

Some minor variation in the planned harvest areas may result from operational block layout in the field. The Forest Manager plans to harvest to the intent of the boundary. Minor adjustments to harvest block boundaries may need to be implemented during block layout, providing that the change in boundary does not infringe on an area of concern. This allowance for minor variation during block layout will result in fewer amendments for minor deviations, better wood utilization and better protection of values. The intent of the practice is to allow harvest to occur in areas where it was intended to occur. Over time, the minor additions and subtractions to block boundaries are expected to overall balance out with no net difference in harvest allocations areas. Some examples where this harvest block layout variation may occur are: harvest boundaries moved to actual road location, mapped features such as swamp boundaries are observed to be different in the field than as mapped, harvest boundary moved to the edge of a past cutover so as to not leave a fringe strip, shifting between GPS projections, etc.

Adjustments that are less than 30 metres outside a block boundary or additional individual areas less than or equal to 0.5 hectares will be identified and tracked by the Forest Manager. Adjustments that exceed either of these parameters will require additional review by MNRF district prior to the start of harvest activities. The MNRF will assess if the proposed change remains consistent with the intent of the boundary and if it is still acceptable, or if it is considered a significant change. Significant changes to block boundaries will require submission of an amendment to MNRF for approval.

Table 46 Conditions on Regular Operations (CROs)

Alphabetical List of CROs for Important Ecological Features:

- Balsam Fir – Unmerchantable
- Biofibre Harvest
- Canoe-Grade White Birch and Cedar Trees
- Dens of Furbearing Mammals – Transitory Features (see Table FMP-11 for AOCs for known dens)
- Dens of Furbearing Mammals – Enduring Features
- Downed Woody Material
- Erosion
- Hydrological Impacts
- Incidental Black Ash
- Incidental Bur Oak
- Incidental Red Pine and White Pine
- Large, Landscape Patches – Deer Emphasis Areas (DEAs)
- Large, Landscape Patches – Moose Emphasis Areas (MEAs)
- Loss of Productive Land
- Marten Boxes (Traps)
- Mining Claims and Leases
- Natural Heritage Information Centre - Vegetation Communities
- Nests – Songbirds
- Nests – Occupied Ground Nests
- Nests – Unoccupied nests/communal roosts in cavities previously used by American Kestrel, Barred Owl, Boreal Owl, Eastern Screech-Owl, Great Horned Owl, Northern Hawk Owl, Northern Saw-Whet Owl or Chimney Swift
- Nests – Unoccupied stick nests built or used by Barred Owl, Broad-Winged Hawk, Common Raven, Cooper's Hawk, Great Horned Owl, Long-Eared Owl, Merlin, Red-Tailed Hawk or Sharp-Shinned Hawk
- Nests – Inactive Nests of Great Gray Owl, Northern Goshawk or Red-Shouldered Hawk
- Nests – Unidentified (Unknown) Stick Nests
- Nutrient Loss – on Shallow Soil Sites
- Residual Forest – Mapped
- Residual Forest – Unmapped
- Rich Lowland Hardwood-Dominated Forest (Black Ash)
- Rutting & Compaction
- Salvage Harvest
- Wetlands – mapped permanent, non-forest
- Wildlife Trees – Clearcut Silvicultural System
- Woodland Pools

Description	Source
BALSAM FIR - UNMERCHANTABLE • Applies only in areas outside of Moose Emphasis Areas / Deer Emphasis Areas • Non-merchantable balsam fir encountered during harvest and site preparation operations that will impact regeneration	Planning Team
DIRECTION: Harvest operations and silviculture strategies should limit balsam fir regeneration. Where reasonable to do so the following strategies should be applied: • During harvest operations, operators should knock down, fell, and or trample non-merchantable balsam fir and balsam fir regeneration. • Trample balsam fir during site preparation in order to support renewal activities and desired future forest condition. • When using the CLAAG harvest system, avoid leaving advanced balsam fir regen. Fell or knock down advance balsam regeneration within the leave areas. • When stand tending with brush saws, select against balsam fir when possible.	
Description	**Source**
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 veneer and sawlog) product of a planned harvest operation.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 161
DIRECTION: The following conditions apply equally 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 (construction of roads, landings, and 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.	

Description	Source
CANOE-GRADE WHITE BIRCH and CEDAR TREES These suitable canoe-grade trees will be identified during operations as well as through Indigenous values collections. It is essential that the locations of these canoe-grade trees identified through operations be communicated to the closest Indigenous communities as soon as possible.	Planning Team

Direction:

Suitable white birch:

- Trees are to be identified with flagging tape to avoid any damage to the bark.
- Mature white birch trees with a minimum diameter at breast height of 22 inches (> 55 cm).
- Bark thickness of at least ¼ inch (0.6 cm).
- Straight, healthy bole approximately 14 to 18 feet (4.5 to 6 m) long.
- Free of limbs, and relatively few knots.

Suitable white cedar:

- Tree must be mature and healthy with a minimum diameter at breast height of 18 to 20 inches (45 – 50 cm).
- The bole must be as straight (no crook or sweep) and straight grained (no twist) as possible, and relatively free of any large limbs up to a height of 10 to 12 feet (3 to 4 m).

Note: Potentially, there are many trees meeting these criteria. Community members can review the Annual Work Schedule (AWS) each year prior to approval. Community members are encouraged to identify geographic areas of potential interest for cedar (including approved harvest blocks) at this time. The Forest Manager will also advise community members of suitable trees that meet these criteria when discovered.

Operational Considerations:

- Harvest and access operations will be conducted in a manner that will not damage the canoe-grade tree including the root system.

When an identified canoe-grade tree has been removed (harvested by a canoe builder with a community), this Condition on Regular Operations no longer applies to that area.

1

Description	Source
DENS OF FURBEARING MAMMALS – TRANSITORY FEATURES • Dens in tree cavities, hollow logs, brush piles, or other transitory features that are known to be occupied by furbearing mammals (other than grey foxes, skunks, wolves, and wolverines) and that are encountered during operations.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 98

DIRECTION:
• Known occupied dens encountered during operations will not be destroyed (complete or partial damage of the den structure or its contents i.e. adults or young)
• To minimize disturbance of furbearers occupying known dens no operations are permitted within 3 m of den entrance. This includes
  ○ Retaining trees within 3 m of dens known to be occupied (patch may be counted as a clump of wildlife trees.)
  ○ Avoid felling trees into the area within 3 m of dens known to be occupied.
  ○ Avoid heavy equipment travel within 3 m of dens known to be occupied.
• Notify District MNRF to provide updated wildlife values information.	

1

Description	Source
DENS OF FURBEARING MAMMALS – ENDURING FEATURES • Dens in caves, excavated burrows, under large piles of coarse woody material, or other enduring features that are known to have been occupied by furbearing mammals (other than grey foxes, skunks, wolves, and wolverines) at least once within the past 5 years.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 97
DIRECTION: • Direction applies to dens known before or found during operations. • Harvest, renewal, and tending operations are not permitted within 20m of den entrance. • New roads, landing and aggregate pits are not permitted within 20m of the den entrance. • Notify District MNRF to provide updated wildlife values information.	

2

Description	Source
DOWNED WOODY MATERIAL • Material that was traditionally referred to as downed woody debris. • Downed woody material (DWM) 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.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 24
DIRECTION: • 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. • Downed trees (or pieces of trees) present prior to harvest will be left on site. Moving such trees for silviculture purposes is permitted; o Where windstorms or other natural events have caused damage to stands, trees leaning and downed by the disturbance, which normally would have been available for harvest, may be harvested and utilized. • 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).	

1

Description	Source
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.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 152-153

DIRECTION:

- Skid trails on moderate to steep slopes should be avoided where erodible soil types are present.
- 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).
- Mitigate or rehabilitate areas of significant erosion that are transporting, or are likely to transport, sediment into a water feature.
- Forest operations will not be conducted on extremely steep slopes.
- Green wildlife trees, organic matter and surface vegetation will be preserved on steep slopes.
- Stable slopes will be maintained on ditch lines, road fills and cuts.
- Slopes and banks will be reinforced where there is potential for erosion (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 desirable 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. heavy drags or continuous disc trenching with down pressure) will not be used on shallow soil sites

1

Description	Source
HYDROLOGICAL IMPACTS • Hydrological impacts can be described as changes in the potential rates and/or patterns of surface and shallow groundwater flow through various parts of the forest ecosystem. **NOTE:** The natural "watering up" process associated with the removal of forest cover is **not** considered a hydrological disruption	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 157-158

DIRECTION:

- Based on local conditions, explore reasonable alternatives to crossing organic and saturated mineral soil during the frost-free period.
- Train field staff, especially equipment operators, in the recognition and significance of disruption of hydrological function.
- Where possible, locate roads and landings so skidding and forwarding does not have to cross natural drainage patterns.
- To maintain drainage patterns and minimize the potential for sediment-laden roadbed or ditch run-off to reach a water feature, use cross drainage culverts whenever a road crosses a gully or other natural drainage feature.
- 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.
- Minimize the potential for hydrological disruption when crossings during the frost-free period cannot be avoided (See conditions under Rutting and Compaction).
- On very dry sites, careful logging practices that retain juvenile trees, shrubs, advanced regeneration, and downed woody material can reduce overall ground temperature and reduce excess drying.
- Regenerate susceptible sites as quickly as possible to restore transpiration and moderate hydrological changes.
- 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 mitigative 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 best be determined during the spring when ponding is evident at unpredicted locations along a new road.

Description	Source
INCIDENTAL BLACK ASH Areas that contain black ash or as identified through discussions with Kenora District MNRF.	Planning Team
DIRECTION: • Areas identified for harvest which contain black ash, no harvest of the black ash will occur unless necessary for road, landing or aggregate pit construction.	

Description	Source
INCIDENTAL BUR OAK • Areas that contain bur oak (Natural Heritage Information Centre records) or as identified through discussions with Kenora District MNRF • Areas containing incidental bur oak (> 10 stems per hectare)	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 13.
DIRECTION: • Areas identified for harvest which contain bur oak in concentrations of at least 10 per hectare, no harvest of the bur oak will occur unless necessary for road, landing, or aggregate pit construction.	

Description	Source
INCIDENTAL RED PINE AND WHITE PINE Areas that contain red pine and/or white pine but are not classified as PRW Forest Unit area.	Planning Team
DIRECTION: • Areas identified for harvest which contain red pine and/or white pine but do not meet the PRW forest unit definition, no harvest of the red pine or white pine will occur unless necessary for road, landing or aggregate pit construction. • These areas will be managed to meet the silvicultural strategy to increase the area of the red pine and white pine on the forest.	

1
2

Description	Source
LARGE, LANDSCAPE PATCHES – Deer Emphasis Areas (DEAs) In this forest management plan, there is one Deer Emphasis Area in which this direction applies:	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 26-29

DIRECTION:

- 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 within the DEA Stratum 1 area are to be reviewed by an MNRF Biologist and direction will be provided on location of residual patches and patch preference, if required.

1

Description	Source
LARGE, LANDSCAPE PATCHES - Moose Emphasis Areas (MEAs) In this forest management plan, there are three Moose Emphasis Areas in which this direction applies:	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 29-33

DIRECTION:

- Renewal and tending practices will have regard for the availability and abundance of moose browse over the short and long term,
  - Application of herbicide will be limited within the MEA to areas required to meet specific landscape or MEA objectives.

All blocks within the MEA are to be reviewed by an MNRF Biologist and direction will be provided on location of residual patches and patch preference, where required.

2

Description	Source
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:	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale,* 2010. p 156-157

DIRECTION:

- Sites will normally be regenerated within three years of harvest and regenerated according to the tolerances of the appropriate SGR.
- Minimize the amount of area being converted to non-forest (e.g., roads and landings) to that which is required for efficient operations.
- Placement of landings should consider existing non-productive land and the creation of landings will be minimized.
- 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 productive 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 productive land base originally (e.g. rock outcrops).
- Operations will be conducted in a manner to prevent or minimize the creation of chip debris piles where chippers are used and full tree and/or tree-length logging is identified as an acceptable logging method in the SGRs.
- Unutilized woody material, which accumulates at roadside and is expected to remain unutilized, will be piled for burning, redistributed in the cutover, or otherwise treated to increase the area available for regeneration.
- Avoid piling unutilized fibre on productive non-forest cover types (e.g., brush and wet areas).
- Pile unutilized fibre on non-productive rock or use in the production and/or reclamation of roadways where possible.
- For any slash and/or chipper debris piles that are created the following will occur:
    - Operations will be conducted to reduce the impact of slash and chip debris and recover the productive land base from these areas (e.g. biofibre harvest, slash pile burning, spreading of chipper debris, site preparation, 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 will normally be treated and regenerated as noted above within three years of the completion of harvest operations.
- Older existing slash and chip piles will be reviewed and where practical treated and regenerated as noted above using the most applicable SGR unless a different rehabilitation strategy including regeneration standards have been documented in Section 4.2.2.1 Silvicultural Ground Rules.
- The AWS will identify the location of slash and chipper debris piles scheduled for treatment, the operations to be conducted, and the scheduled regeneration treatments.
- The AWS will identify the inspection of slash and chip debris pile treatments and subsequent regeneration as a compliance priority and will indicate how the inspections will be completed.

Logging debris will be managed, except in extraordinary circumstances, in less than 3 years, using one or more of the following methods to achieve the requirements:

Chipper Debris

- Suitable chipping pads and landings will be selected prior to the commencement of operations.
- Redistributing chipper debris across the cut over resulting in equal to or less than 20 cm to mineral soil.
- Mechanical site preparation through chipper pads will be done with the intent of exposing down to mineral soil for follow-up regeneration treatment.
- Use chipper debris as fill for road construction, landscape material for aggregate site rehabilitation, and road bank stabilization as appropriate.
- Use of chipper debris to prevent rutting and compaction.
- Pile chip debris for burning (approved prescribed burn application required prior to piling).
- Renew area following most appropriate SGR.

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 mats to prevent rutting or compaction when available.
- Incorporate slash into road operational road sub-grades during construction where possible.
- Use slash to create access restrictions, consistent with 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, proximity to heavy equipment, and other factors. Although completion within three years is expected, the ability to complete these procedures within this time frame may not always be feasible. Reasonable efforts will be made to meet the conditions above. 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.

Description	Source
MARTEN BOXES (TRAPS) Marten boxes (Traps) encountered during operations.	Planning Team

DIRECTION:

- When Marten boxes (traps) are encountered, they are not to be disturbed. When encountered:
  - Flag the tree hosting the Marten box with brightly colored ribbon (ribbon colour to be <u>different</u> than the colour used to designate harvest block boundaries or road right-of-way)
  - May stub the tree above the box.
  - Do not fall trees toward the marten box.

1

Description	Source
MINING CLAIMS AND LEASES • Mining activity or equipment is encountered on mapped or unmapped claims and leases. • Claim monuments encountered during operations.	*Mining Act., Surveyors Act.*

DIRECTION:

- When mining claim post or monuments are encountered, they are not to be disturbed.
    - Flag Mining Claim post with brightly colored ribbon (ribbon colour to be different than the colour used to designate harvest block boundaries or road right-of-way)
    - Do not fall trees toward the claim marker/post.
    - Avoid disturbing the soil within 5 m of the mining claim post.
    - Stub trees around claim post when encountered.
- Respect mining equipment and operations when encountered by;
    - When necessary, contact the mining claim operator to identify and hazards of values that may be encountered during operations. This information is held with the MNRF.
    - Do not fall trees toward identified values.
    - Equipment should remain a tree length away from the identified values.

Description	Source
NATURAL HERITAGE INFORMATION CENTRE - VEGETATION COMMUNITIES Species at risk or a rare species	*MNRF*

DIRECTION:

- If a species at risk or a rare species (e.g., on the S1, S2 and S3 species list) is identified within the forest, the MNRF will be informed of its location and description so that the value can be confirmed. Depending on the type of value, the occurrence will be addressed with either an appropriate AOC prescription developed in conjunction with the MNRF and amended into the FMP, or with documented approval obtained from the MNRF, an existing condition on regular operation outlined in this FMP will be utilized."

1

Description	Source
NESTS – SONGBIRDS Nests of songbirds or other small birds containing eggs or young encountered during operations.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 89-90

DIRECTION:

- Known nests of songbirds or other small birds containing eggs or young encountered during operations will not be destroyed (destruction means complete or partial damage of the nest structure or its content i.e. attendant birds, eggs or young).
- To minimize disturbance (incidental interference with breeding activities such as egg laying, incubation, brooding, or feeding of young) upon discovery of a nest belonging to a songbird or other small bird containing eggs, reasonable effort will be made to avoid harvest, renewal and tending operations within 20 m of known nests contain eggs. Specifically, effort will be made to:
  - Retain trees within 20 m of nest containing eggs (patch may be counted as a clump of wildlife trees)
  - Avoid felling trees into the area within 20 m of nests containing eggs.
  - Avoid heavy equipment travel within 20 m of nests containing eggs.
- Notify District MNRF to provide updated wildlife values information.

Description	Source
NESTS – OCCUPIED GROUND NESTS • Nests of waterfowl or grouse containing eggs encountered during operations	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 89

DIRECTION:

- Nests of waterfowl, grouse, wild turkey or bank swallow containing eggs encountered during operations will not be destroyed (destruction means complete or partial damage of the nest structure or its content i.e. attendant birds, eggs or young).
  To minimize disturbance (incidental interference with breeding activities such as egg laying, incubation, brooding, or feeding of young) harvest, renewal and tending operations should be avoided within 10 m of nests containing eggs. This will include the following:
  - retaining trees within 10m (patch may be counted as a clump of wildlife trees),
  - not felling trees into the area within 10m, and
  - heavy equipment will not travel within 10m.
- Notify District MNRF to provide updated wildlife values information.

Description	Source
NESTS - UNOCCUPIED NESTS/COMMUNAL ROOSTS IN CAVITIES PREVIOUSLY USED BY AMERICAN KESTREL, BARRED OWL, BOREAL OWL, EASTERN SCREECH- OWL, GREAT HORNED OWL, NORTHERN HAWK OWL, NORTHERN SAW-WHET OWL OR CHIMNEY SWIFT • Unoccupied nests/ communal roosts in cavities known or suspected to have been used by the American kestrel, barred owl, boreal owl, eastern screech- owl, great horned owl, northern hawk owl, northern saw-whet owl, or chimney swift	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 86-87

If the nest is occupied and the species is confirmed, the appropriate CRO, CORLAP, or AOC will be adhered to.

If the nest species cannot be confirmed, see NESTS – UNIDENTIFIED (UNKNOWN) STICK NESTS prescription further down this section.

When the nest species is confirmed to be used but is unoccupied, the following direction will be used.

DIRECTION:

- The tree used by the American kestrel, boreal owl, eastern screech-owl, northern hawk owl, or northern saw-whet owl will be retained as a wildlife tree if not a safety concern.
- The tree used by the barred owl, great horned owl or the chimney swift will retain the nest/communal roost tree in an unharvested residual patch (≥20 m radius) (may be counted as residual forest).
- No timing restrictions on harvest, renewal, or tending operations around nests/ roosts.
- Notify District MNRF to provide updated wildlife values information.

Description	Source
NESTS - UNOCCUPIED STICK NESTS BUILT OR USED BY BARRED OWL, BROAD-WINGED HAWK, COMMON RAVEN, COOPER'S HAWK, GREAT HORNED OWL, LONG-EARED OWL, MERLIN, RED-TAILED HAWK, OR SHARP-SHINNED HAWK • unoccupied nests known or suspected to have been built by barred owl, broad-winged hawk, common raven, Cooper's hawk, great horned owl, long-eared owl, merlin, red-tailed hawk, or sharp-shinned hawk	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. P 84

If the nest is occupied and the species is confirmed, the appropriate CRO, CORLAP, or AOC will be adhered to.

If the nest species cannot be confirmed, see NESTS – UNIDENTIFIED (UNKNOWN) STICK NESTS prescription further down this section.

When the nest species is confirmed to be used but is unoccupied, the following direction will be used.

DIRECTION:

- The nest tree used by the broad-winged hawk, merlin, sharp-shinned hawk, or an unknown nest <75 cm diameter will be retained as a wildlife tree if the nest is in good repair or the nest tree contains a fork.
- The nest tree of the Barred owl, Cooper's hawk, common raven, great horned owl, long-eared owl, red-tailed hawk or an unknown large stick nest (≥75 cm diameter) will be retained in an unharvested residual patch (≥20 m radius) if the nest is in good repair (may be counted as residual forest). Otherwise, the nest tree will be retained as a wildlife tree.
- No timing restrictions on harvest, renewal or tending operations around nests.
- Notify District MNRF to provide updated wildlife values information.

1

Description	Source

NESTS - INACTIVE NESTS OF GREAT GRAY OWL, NORTHERN GOSHAWK or RED-SHOULDERED HAWK
• Nests not known or suspected to have been occupied at least once within the past 5 years that are:
  ○ >400 m from a primary nest or;
  ○ <=400 m 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.
	Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale, 2010. P 81

If the nest is occupied and the species is confirmed, the appropriate CRO, CORLAP, or AOC will be adhered to.

If the nest species cannot be confirmed, see NESTS – UNIDENTIFIED (UNKNOWN) STICK NESTS prescription further down this section.

When the nest species is confirmed to be used but is unoccupied, the following direction will be used.

DIRECTION:

- If the nest is in good repair, harvest is not permitted within 20 m; the patch may be counted as residual forest. Otherwise, the nest tree only will be retained as a wildlife tree.
- No timing restriction on harvest, renewal or tending operations around inactive nests.
- Notify District MNRF to provide updated wildlife values information.

1

Description	Source
NESTS – UNIDENTIFIED (UNKNOWN) STICK NESTS Stick nest encountered during operations is unoccupied, unidentifiable, or unknown.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. P 84

DIRECTION:

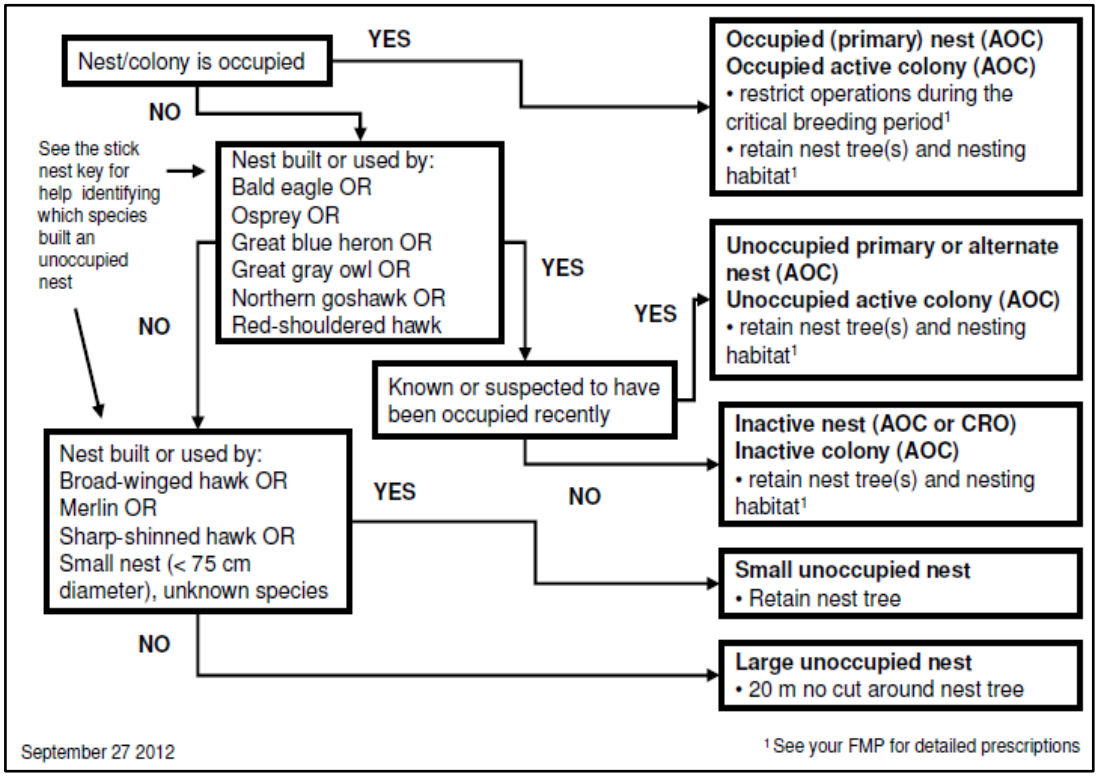
When an inactive **stick nest ≥ 75 cm in diameter** is located but the bird species is unknown, operations will move 400 m from the nest until the nest is identified, and a prescription applied.

When an inactive **stick nest < 75 cm in diameter** is located but the bird species is unknown, operations will move 300 m from the nest until the nest is identified, and a prescription applied.

Notify MNRF Management Biologist immediately.

When notifying MNRF; provide pictures, description, location, how identified using the key, are there birds flying around, and any other information to allow MNRF to identify as soon as possible. MNRF will work to identify the nest within 2 business days. If the nest can be identified, then the appropriate AOC or CRO will be applied.

The procedure for new values is to be followed, if necessary.



This key is only a guide.
The prescription found in the approved FMP has the specific details to be followed.

Description	Source
NUTRIENT LOSS – ON SHALLOW SOIL SITES • Nutrient loss can be described as the release and off-site transport of nutrients following forest management operations	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 155
DIRECTION: • Harvesting of shallow soil sites is preferred in the winter. • Refer to conditions on renewal operations for erosion. • All ecosites classified as shallow areas identified for operations greater than 8 hectares will be identified in the Annual Work Schedule. • Site disturbance associated with forest operations will be minimized on shallow sites. • Where possible natural regeneration will be retained during normal harvesting. • Mechanical site preparation will not be used if there is adequate disturbance of the site for renewal purposes. Minimize use of heavy mechanical site preparation (i.e. heavy drags or continuous disc trenching with down pressure) on these sites. Planting or aerial seeding without site preparation may be an alternative to mechanical site preparation. • 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.	
Description	**Source**
RESIDUAL FOREST – MAPPED • Direction to facilitate movement of mapped residual that is not serving any other specific purpose (AOC, specific habitat function, etc.), and would otherwise be available for harvest. • Condition does not apply where species-specific emphasis management is identified (e.g. caribou zone).	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 14-18
FOREST DEFINITION: • Residual forest is a forested patch that generally functions more as habitat for wildlife that inhabit older forest than as habitat for wildlife that inhabit younger forest. • Residual forest can also include some immature (i.e. neither young nor old) forest. **DIRECTION:**	

- Mapped residual that is not serving any other specific 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 in Section 8.3.1.1 of this FMP 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 by forest unit is not exceeded;
  - The mapped residual polygons eligible for movement are specifically identified in tables in FMP text Section 4.3.2.1 and Section 4.3.2.2.

1

Description	Source
RESIDUAL FOREST – UNMAPPED • Direction to facilitate the location of unmapped residual forest • Residual Forest – quantifiable definition – Crown productive forest that is established, >10 m tall or 35 years old, a minimum of 0.1 ha and of a pattern, composition and density similar to pre-harvest stands. • Condition does not apply where species-specific emphasis management is identified (e.g. caribou zone)	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 14-18
DIRECTION: • 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 forest within a 50 ha circle about that point • When locating unmapped residual forest, give preference to locations connected to habitat features encountered during operations such as bird nests, furbearer dens, woodland pools, 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. • See FMP Section 4.3.2 Stand Level Residual for unmapped areas requiring additional residual in this FMP. These residual areas may be located (moved) within the Area of Influence zone.	

Description	Source
RICH LOWLAND HARDWOOD-DOMINATED FOREST (black ash) – mapped and unmapped pockets greater than or equal to 0.5 ha. encountered during operations	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 58-59
DIRECTION: • Harvest of rich lowland hardwood-dominated forest (Analysis Unit: HRDA) will follow direction contained in FMP-4 Silvicultural Ground Rules HRD forest unit. • No harvest, renewal, or tending operations are permitted that exceed the rutting and compaction standards or disrupt hydrological function. • Reasonable efforts will be made to avoid crossing rich lowland hardwood-dominated forest with extraction trails during the frost-free period. During all seasons, crossings will be minimized and will follow the appropriate operating practices to minimize potential site damage and effects on hydrological function.	

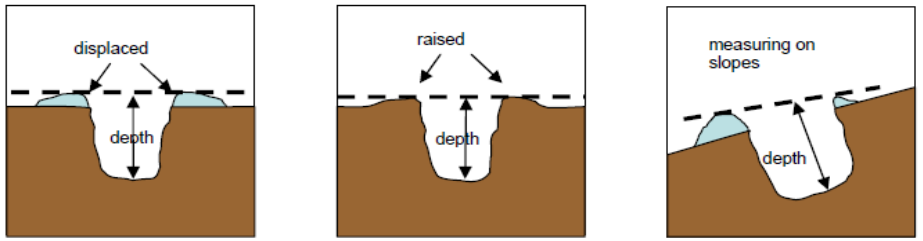
1

Description	Source
RUTTING & COMPACTION • Direction that prevents, mitigates, and/or rehabilitates rutting and compaction associated with forest management operations.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 148-150

DIRECTION:

- 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 (see Wetlands).
- Shallow soils (<30 cm): 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.
  - In clearcut operations, where advanced regeneration is a significant contributor to future forest development (e.g., CLAAG, HARP, white pine advanced regeneration, tolerant hardwood understory, etc.), the area in extraction trails will be minimized. On sites susceptible to rutting, achievement of this guideline will have to be balanced against the increased rutting that may occur when extraction is concentrated on fewer trails.
  - Operations within ecosites susceptible to rutting should consider the timing of operations to mitigate soil disturbance.
  - The area of rutting and compaction may be minimized, by;
    - Brush mats, slash, or corduroy may be placed on heavy traffic areas such as main skid trails and organic sites to reduce rutting.

Figure 1



Defining Terms

- Rut: Continuous trench or furrow created by machine traffic that is ≥4 m long and ≥30 cm deep (Figure 2). When operating on shallow soils the lesser of depth to bedrock/large boulders or 30 cm will be used.
  - When the depth varies across the width of the rut (i.e., perpendicular to the direction of travel), the deepest point is to be measured as the depth.
  - When a rut has been filled, or partially filled with soil, litter, water, or debris, the depth should be measured as if the rut had not been filled. This includes areas in organic soil where churning and mixing of surface and sub-surface organic layers have occurred.

- Depth is to be measured from the surface of the soil, including organic layers (LFH) if present (Figure 1).
- Ruts may be empty, filled with water, or filled with varying amounts of intermixed organic and mineral soil/debris. In cases of concentrated heavy rutting it may be difficult to distinguish individual ruts.
- Furrows, scalps, trenches, etc., created specifically for site preparation purposes are not considered ruts.
- When determining if a potential rut is at least 4 m long, the length is measured as the contiguous portion that is deeper than 30 cm (or depth to bedrock / large boulders), and is not to be an average depth measurement where some of the length is less than 30 cm.

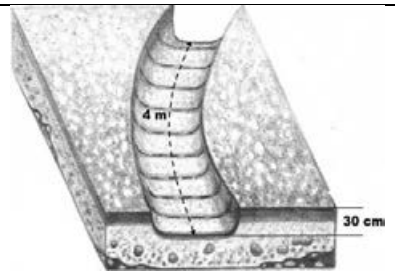


Figure 2

- Extraction trails:
  - Anywhere a machine being used for extraction (skidder, forwarder, etc.) has traveled within the block (excluding travel on roads, landings, and roadside work areas.)

- Roadside-work-area:
  - Extends 35 m from road edge where roadside processing is occurring; includes chipper pad
  - Does not contribute to ruts but does contribute to 20 ha area
- Roadside
  - Road side work area is defined as areas at the edge of the road where concentrated activity other than skidding (piling, delimbing, slashing, chipping, slash piling, etc.) is necessary to receive and process wood from the rest of the harvest area.
  - Road edges, outside of roadside work areas, are also exempt to a distance of 10 m from the road edge
  - Does not contribute to ruts but does contribute to 20 ha area.

- Disruption of hydrologic function:
  - Alteration of the physical characteristics of a site such that the natural flow of water, on or below the surface, is significantly impeded (e.g., by damming), accelerated (e.g., by channelization), or diverted (e.g., by ditching).
  - The natural “watering up” process associated with the removal of forest cover is **not** considered a hydrological disruption.

1

Description	Source
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.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 160-161

DIRECTION:

- 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.
- Salvage operations will consider strategic landscape objectives (e.g. may contribute to young forest amount or patch size frequency, provision of even-aged future forest in caribou management DCHS area).
- When finalizing boundaries of a salvage operation that results from wildfire, the area of undisturbed forest included in the salvage operation will be minimized.
- 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.

1

Description	Source
WETLANDS – mapped permanent, non-forested ○ Mapped, open wetlands (polygon types = OMS), treed wetlands (polygon types = TMS), and brush & alder wetlands (polygon type = BSH). Polygons identified as brush & alder that are not wetlands (e.g., old fields) are excluded. In the field, the boundary between non-forested wetlands and forest is defined where the canopy cover of trees ≥ 10cm dbh is ≥25% or the canopy cover of trees ≥1.5 m tall is ≥30%.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 59-60

DIRECTION:

- No contamination of wetlands by foreign materials is permitted. Specifically,
  - 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.
- 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 the high-water mark 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 leave ruts, a significant area of exposed mineral soil, or disrupt hydrological function (see Hydrological Impacts) 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.
- Reasonable efforts will be made to avoid crossing wetlands with extraction trails during the frost-free period. During all seasons, and where no reasonable alternative route exists due to rugged terrain/reserves in adjacent areas, crossings will be minimized and will follow the appropriate operating practices described in Rutting & Compaction and Erosion to minimize potential site damage and effects on hydrological function.

1

Description	Source
WILDLIFE TREES – CLEARCUT SILVICULTURE SYSTEM • Applies to all harvest areas in the management unit. • Trees retained during forest operations, with the intent to provide structure and features beneficial to wildlife in general, and for specific species, groups or communities, are collectively referred to as wildlife trees. • Wildlife trees must be ≥10 cm dbh and ≥ 3m in height unless: ○ The direction specifies that 'large' stems or stubs are to be retained. In this case, the minimum dbh is ≥25cm • The direction specifies that cavity trees, mast trees, scattered conifers, veteran trees, or supercanopy trees are to be retained. In this case, the minimum dbh is normally ≥25cm. Moreover, supercanopy trees will generally be ≥60cm in dbh.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 19-21

DIRECTION:

- The following is required in any given 20 ha within a block where harvest has occurred or for the entire block when the block is less than 20 ha
- Since 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 available.
  - Retain an average of ≥25 stems/ha in the rest of the Whiskey Jack Forest.
    - Retain an average of ≥ 10 large stems or large stubs/ha with a minimum of 5 large living trees on each hectare.
    - When large wildlife trees are specified, stems ≥38cm dbh are preferred or large stems as provided by the stand conditions
  - Large wildlife trees will be a mix of living cavity trees, stubs, supercanopy trees, veteran trees, mast trees, diversity trees, and safe dead trees. Wildlife trees that may function as potential nest, perch and roost sites will be preferentially retained based on the following order of priority:
    i. Super-canopy trees
    ii. Veteran trees,
    iii. Cavity trees and
    iv. Other live dominant/co-dominant trees that are windfirm.
      - White pine, red pine and poplar trees will be favoured when available.
  - Additional wildlife tree requirements may be met by retaining small safe standing dead trees, stubs, or any other living trees.
  - Wildlife trees will generally be well dispersed. Retain an average of at least 15 individual stems/ha; the remaining stems may occur in clumps.

- Wildlife trees that fall to the ground, or are purposely felled for worker safety reasons, become downed woody material (DWM) (see conditions under DWM).
- Reasonable efforts will be made to avoid knocking down standing wildlife trees during renewal and tending treatments.

- When safe and practical to do so some wildlife trees can be stubbed. The preferred species to be stubbed are jack pine and black spruce:
  i. To a height of ≥3 m (5 m is preferred),
  ii. Generally, do not stub existing cavity trees (however, it is acceptable to stub a tree with cavities below the stubbing height),
  iii. Do not stub trees being relied upon as a seed source, and
  iv. Do not stub wildlife trees if they are better suited for other wildlife tree functions (e.g., mast trees; fire resistant species like white pine, red pine are generally more appropriate to help achieve veteran and supercanopy direction).
  - When stubbing, try to have stubs scattered throughout the clearcut.
  - When ≥10 stems occur over an area <0.1 ha this will be considered a clump and the stems will count for no more than 10 wildlife trees, regardless of how many there actually are. In a clearcut harvest area, any uncut or partially cut area greater than or equal to 0.1 ha that meets the definition of residual forest will not contribute to individual wildlife tree requirements.

1

Description	Source
WOODLAND POOLS • Woodland pools encountered during operations • Recognizable temporary bodies of open water encountered during operations that have a surface area ≥500 m^2 (i.e., about 25 m in diameter if circular), are not ponds (i.e., <0.5 ha in size), and are not connected to a stream or associated with a mapped non-forested wetland.	*Forest Management Guide for Conserving Biodiversity at the Stand and Site Scale*, 2010. p 60-61

DIRECTION:

- No contamination of woodland pools by foreign materials is permitted. Specifically,
  - 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 high-water mark of pools.
- 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.
- Retention of residual forest within and adjacent to pools will be as follows:
  Unmapped residual patches required to meet the direction outlined above (Residual Forest – Unmapped) 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.

1

4.3 Harvest Operations

This section of the FMP describes the planned harvest operations for the 10-year period of the plan.

The available harvest area determined through strategic modelling was described in the Long-Term Management Direction (in Section 3.7.2). The 10-year planned harvest area, associated harvest volumes and projected utilization of volume are discussed in the following subsections:

Section 4.3.1 Harvest Areas
Section 4.3.2 Stand Level Residual in Harvest Areas
Section 4.3.3 Completion of On-going Harvest from Previous Plan
Section 4.3.4 Fuelwood Areas
Section 4.3.5 Harvest Volume
Section 4.3.6 Wood Utilization
Section 4.3.7 Salvage
Section 4.3.8 Contingency Area and Volume
Section 4.3.9 Harvest Area Information Products

4.3.1 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). The Company conducted its operational planning with the following considerations:

- Consideration for harvest eligibility and consideration for selection criteria (Section 3.7.2);
- Adherence to Dynamic Caribou Habitat Schedule block timing;
- Selection of harvest areas to be consistent with the 10-year 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, First Nation communities, the Northwest Ontario Métis Community (NWOMC) and other stakeholders;
- Consideration for residual forest pattern requirement (residual patches and wildlife trees); and,
- Identified operational considerations and conditions for specific harvest areas.

The available harvest area from the LTMD (Section 3.7.1) and the planned harvest area for the 10-year period of the plan are reported in Table FMP-12 by forest unit and age class. Detailed area of concern planning has been conducted for the planned harvest area.

The distribution of the planned harvest area by licensee grouping is reported in Table FMP-14 (see Section 4.3.6). It is projected that 100% of the planned harvest area will be harvested by OFRL licensees as harvesting is carried out by individual Forest Resource License holders and not by the Crown. The 2 OFRL licensees on the Whiskey Jack Forest are listed in Table 47:

Table 47 Whiskey Jack Forest Overlapping Forest Resource Licensees

Overlapping Forest Resource Licensees (OFRL)
Miitigoog Forest Management Co. (Miisun)
1358807 Ontario Limited

Typically, all OFRLs are reviewed annually. The approval of the FMP does not represent an agreement to make harvest area available to a particular licensee.

No areas were identified for harvest as a result of an insect pest management strategy, nor for implementation of a silvicultural trial.

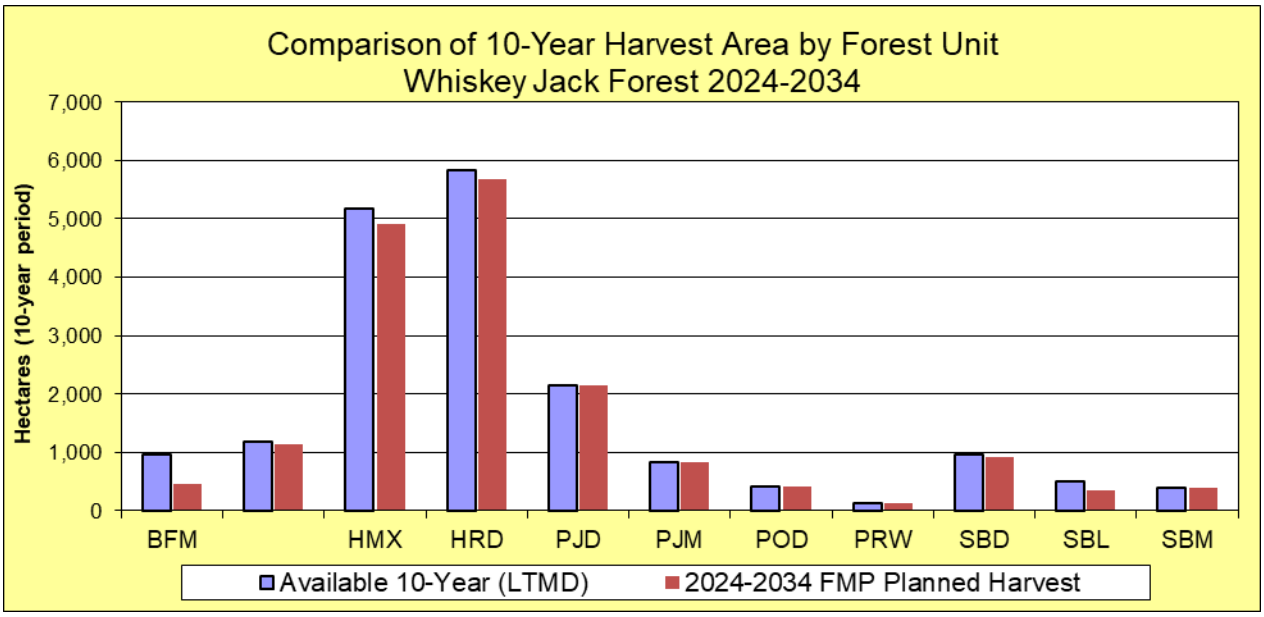
The total available harvest area (AHA) for the 10-year period projected by the Long-Term Management Direction is 18,513.3 hectares. The total planned harvest area for the 10-year plan period does not exceed the available harvest area (17,352.7 ha, Table FMP-12), nor does any forest unit area exceed the available harvest area for that forest unit (Figure 42).

All forest units' planned harvest areas are at or below projected LTMD harvest levels for this 10-year period. The majority of the planned harvest for this FMP is in the HRD forest unit (33%), followed by HMX (28%), and PJD (12%). CMX, PJM and SBD each comprise 7%, 5% and 5%% (respectively) of the planned harvest area. The remaining forest units, all combined, account for the remaining 10% of the planned harvest area (BFM 3%, POD 2%, SBL 2%, SBM 2% and PRW 1%).

During the selection of harvest areas, consideration was given to projected available harvest area from the Long-Term Management Direction, current forest conditions, desired forest and benefits, stakeholder comments, fish and wildlife habitat, water quality,

cultural heritage values, tourism values, retention of old growth forest area, caribou DCHS block timing and overall natural disturbance pattern.

Figure 42 Comparison of 10-Year Harvest Area by Forest Unit



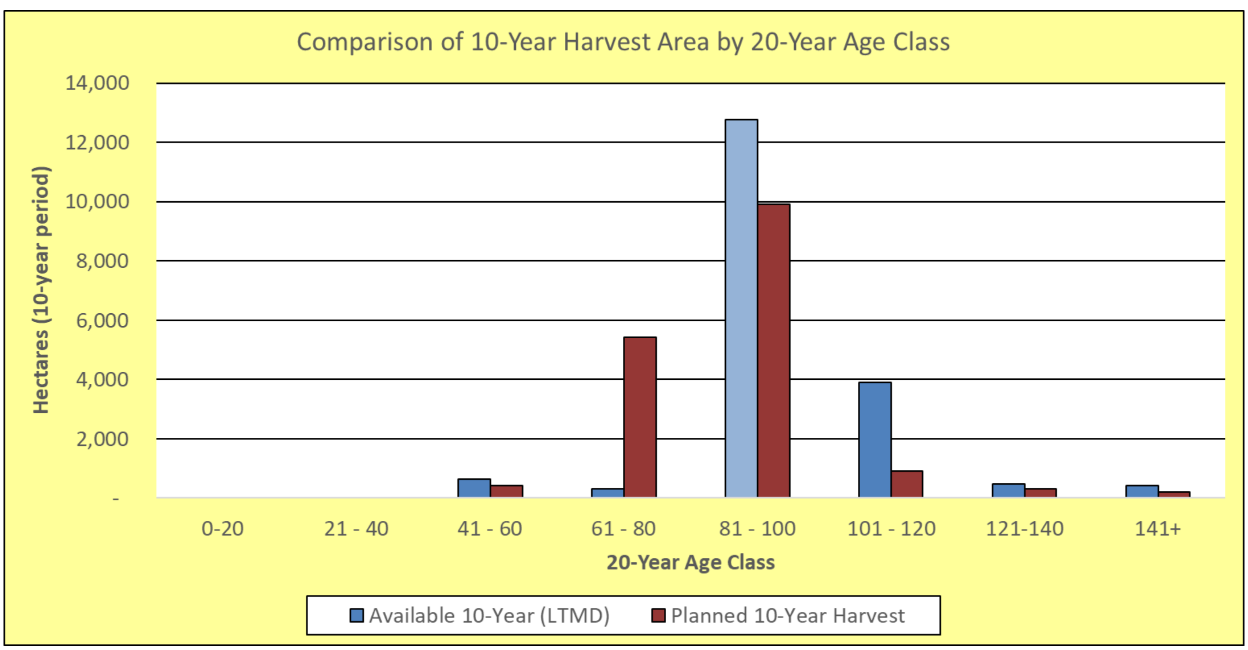
The comparison of the 10-year LTMD available harvest area and planned harvest area by 20-year age class is illustrated in Figure 43.

There is a slight variation in allocation by forest unit and age class (Figure 43 and Figure 44). The strategies implemented maintained consistency between the available area and the planned area. Differences between available area and planned area by age classes are attributed to fine scale operational review (i.e. mistyped FRI stocking or operational merchantability), grouping smaller stands to make economical harvest packages and adjustments from public consultation (i.e. AOC adjustments). Harvest was planned to adhere as closely as operationally possible to SFMM LTMD projections in order to contribute to achievement of Boreal Landscape Guide objectives and socio-economic objectives. Refinement of planned harvest operations resulted in very minors shifts from one age class to the next younger age class (mainly 81-100 and 101-120 years) for most forest units. No planned harvest area is assigned below the eligible age ranges for age of operability within the 10-year plan. Rationale for planned harvest areas is included in Section 4.3.1.1.

Figure 43 Comparison of 10-Year LTMD Available Harvest Area and Planned Harvest Area by 20-Year Age Class

Forest Unit	10-Year Available Harvest Area (ha)	Age Class	Planned Harvest Area (10-year period, ha)
BFM	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	102	61 - 80	-
	539	81 - 100	350
	284	101 - 120	103
	19	121-140	15
	9	141+	-
	952	Subtotal	467
CMX	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	-
	509	81 - 100	898
	641	101 - 120	154
	36	121-140	77
	2	141+	12
	1,188	Subtotal	1,141
HMX	-	0-20	-
	-	21 - 40	-
	-	41 - 60	169
	144	61 - 80	2,218
	4,500	81 - 100	2,244
	438	101 - 120	203
	97	121-140	72
	-	141+	5
	5,180	Subtotal	4,909
HRD	-	0-20	-
	-	21 - 40	-
	-	41 - 60	241
	22	61 - 80	2,635
	5,743	81 - 100	2,711
	77	101 - 120	82
	-	121-140	-
	-	141+	-
	5,841	Subtotal	5,669
PJD	-	0-20	-
	-	21 - 40	-
	645	41 - 60	-
	-	61 - 80	280
	537	81 - 100	1,834
	928	101 - 120	23
	28	121-140	-
	-	141+	-
	2,138	Subtotal	2,138
PJM	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	123
	61	81 - 100	600
	780	101 - 120	119
	-	121-140	-
	-	141+	-
	841	Subtotal	841
POD	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	35	61 - 80	31
	309	81 - 100	358
	65	101 - 120	19
	-	121-140	-
	-	141+	-
	409	Subtotal	409
PRW	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	-
	48	81 - 100	74
	52	101 - 120	46
	14	121-140	-
	10	141+	4
	125	Subtotal	125
SBD	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	80
	337	81 - 100	660
	459	101 - 120	175
	158	121-140	-
	-	141+	-
	954	Subtotal	916
SBL	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	-
	-	81 - 100	-
	86	101 - 120	-
	24	121-140	-
	389	141+	355
	500	Subtotal	355
SBM	-	0-20	-
	-	21 - 40	-
	-	41 - 60	-
	-	61 - 80	47
	177	81 - 100	311
	98	101 - 120	-
	108	121-140	24
	-	141+	-
	383	Subtotal	383
TOTAL	**18,513**		**17,353**

Figure 44 Comparison of 10-Year Harvest Area by 20-Year Age Class



All eligible stands for harvest in this plan were reviewed by Miisun operational staff using aerial imagery, helicopter flights and on the ground verification to determine operability, access concerns, seasonal wood flow, adjacency to maturing stands (younger wood coming online in near future), and stakeholder concerns and commitments. This resulted in a high level of confidence in the operational feasibility of allocated harvest areas, and provides a solid operational foundation for successful implementation of this plan.

Section 4.9.1 (comparison of the planned harvest area to the Long-term Management Direction strategic model projections) and Section 4.9.6 (effects of planned harvest on LTMD projected objective achievement) documents that the age class substitutions in the planned harvest area for this plan do not impact long-term forest sustainability, or the long-term harvest area and volume.

4.3.1.1 Operational Considerations for Specific Harvest Operating Areas

The following discussion explains the reasons for the selection of harvest allocations throughout various areas of the forest. The proposed allocations were geographically dispersed and rationale for each specific operating area was developed and prepared with MNRF district and regional staff, as part of the Operations Task Team.

Results from the SFMM LTMD strategic modelling was a primary consideration for the amount of area by forest unit allocated as planned harvest. Consideration was also given to targeting the appropriate age classes for harvest allocations, while developing operationally feasible harvest blocks. Refinements were made to address specific concerns related to stakeholder requests, AOC prescriptions or critical operational constraints (such as fine scale inoperable terrain).

The planned harvest areas within the active caribou subunit were selected to be focused in the Farewell Bay Road area. This was done because there is substantial previous harvest in the area and the decision was made to keep the area as even aged as possible.

During plan development from, Stage Three (Proposed Operations) to Stage Four (Draft Plan), several adjustments to planned harvest blocks were made in response to operational considerations. Operational changes included refinement of harvest block boundaries, adjustment of areas of concern prescriptions, and moving allocations from one area to another or between planned harvest and contingency harvest.

4.3.2 Stand Level Residual in Harvest Areas

MNRF Forest Policy Section 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.

Residual Forest Distribution Requirements for Caribou Zone - Since the Whiskey Jack Forest used caribou-specific habitat management emphasis in the caribou zone where the DCHS is applied, the stand-level residual to be retained in the caribou zone is the requirement for retention of wildlife trees in the harvest blocks. This is discussed in Section 4.2.2.2 Conditions on Regular Operations, in Table 46, Section: Wildlife Trees – Clearcut Silvicultural System. Insular and peninsular residual patches discussed in the Stand and Site Guide are not applied to forests in the caribou habitat management zone as it is a species-specific emphasis area, however individual wildlife trees are retained.

Residual Forest Distribution Requirements for Moose Emphasis Areas - The *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* identifies that residual requirements do not apply to areas within the Moose Emphasis Areas that are species-specific emphasis areas. All areas identified by the Evaluate Forest Residual Tool (EFRT) were compared against the planned harvest information. Where EFRT identified areas within MEAs, these areas are not reported as areas requiring additional residual.

Residual Forest Distribution Requirements for Non-DCHS and Non-MEA Areas - The *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* directs the amount and distribution of stand level residual. Regional MNRF advisors, aided by Miisun staff, analyzed the amount of stand level residual associated with the planned harvest for the 10-year plan period through the use of an MNRF-developed computer spatial analysis program.

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

- **"25 in 500 ha Analysis"** - Within each 25 ha of residual forest within any 500 ha circle (or hexagon), a minimum of one single patch will be greater than 5 ha (results discussed in Section 4.3.2.1).
- **"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 4.3.2.2).
- **"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 4.3.2.3). The conditions on residual, unmapped in Section 4.2.2.2 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 4.2.2.2 CROs table for conditions that apply to movement of Residual, mapped.

Mapped and unmapped residual patches are required for the planned harvest operations in all areas outside of the DCHS and MEAs. The results are described in the subsection below.

4.3.2.1 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:

The MNRF ran the Evaluate Forest Residual Tool (EFRT) on the planned allocations. Results confirmed that all harvest areas met this residual requirement.

4.3.2.2 5 of 25 ha (20%) Analysis Results

Requirement: *Within each 25 ha of residual forest within any 500 ha circle (or hexagon), a minimum of one single patch will be greater than 5 ha*

Results:

The MNRF ran EFRT on the planned allocations and there were no planned harvest areas identified as requiring additional residual to meet this requirement.

4.3.2.3 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:

The MNRF ran EFRT on the planned allocations and identified 14 locations within planned harvest areas and contingency harvest areas 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 **not** identified on 1:20,000 scale operations maps by a polygon. The exact location of the individual residual patches associated with the 0.5 ha patch will be determined at the time of harvest during the AWS.

The 0.5 hectare patches will **not** be in the Planned Residual Patches layer (MU490_22_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 4.2.2.2) for “residual, unmapped”, and “Large Landscape Patches – Moose Emphasis Areas (MEA)” in determining the location of unmapped residual within the designated boundary.

4.3.3 Completion of On-going Harvest Operations from Previous Plan

Areas of bridging operations may be identified to allow for the completion of harvest operations from the 2012-2024 FMP. Under the 2020 FMPM, the amount of bridging area and time for completion of bridging harvest is defined by the FMP Planning Team. The Planning Team discussed and agreed that select harvest areas that remain to be harvested or require completion of harvest from the 2012-2024 FMP may be scheduled and be eligible for harvest for the first six (6) years of this plan, and must be completed by March 31, 2030.

Bridging harvest areas are identified in the planned harvest layer and on maps for this FMP. Planned bridging harvest areas will be identified in the first six Annual Work Schedules for the 10-year FMP period. These bridging harvest areas, when harvested, will be reported in the Annual Report, and will be assessed against the available harvest area for the 2012-2024 FMP period.

The following areas have been identified as bridging harvest from the 2012-2024 FMP (Table 48). A total area of 2,459ha has been identified as bridging harvest; however it is expected that some of these areas will have been depleted prior to plan start (April 1, 2024). Ongoing operations in some of these areas will take place during the remaining months of the 2012-2024 FMP, after submission and approval of this 2024-2034 FMP.

Second pass harvesting is not carried out on the Whiskey Jack Forest.

Table 48 Bridging Harvest Areas

Past Plan Forest Unit	Bridging Area (ha)
CMX	394
HMX	632
PJD	355
PJM	316
POD	245
PRW	44
SBL	29
SPD	137
SPM	308
TOTAL	**2,459**

4.3.4 Fuelwood Areas

All harvest areas are identified as being available to the public for the collection of fuelwood. Areas are available following completion of harvest activities and once an appropriate fuelwood permit has been obtained from the MNRF.

The locations where fuelwood can be obtained will be identified in each Annual Work Schedule.

In order to provide for maximum utilization of unmerchantable timber, any unmerchantable timber left near roadside or in slash piles may be made available for fuelwood. Traditionally, the MNRF has dealt with the issuance of personal use fuelwood permits to general public and will continue to do so.

Where MNRF receives requests from individuals wishing to harvest small volumes of timber for personal use (e.g. fencing, green wood or tree parts, boughs, cones used for crafts) the requests will be reviewed to ensure consistency with the FMP and AWS. An OFRL for personal use will then be issued consistent with the overlapping agreement between the Forest Manager and individual.

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 standing residual trees shall be cut.

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.

4.3.5 Harvest Volume

The estimated LTMD available harvest volume and the estimated planned harvest volume for the planned harvest area for the 10-year period are recorded in Table FMP-13. Harvest volumes were calculated using MIST stand-level volume generation for allocated stands.

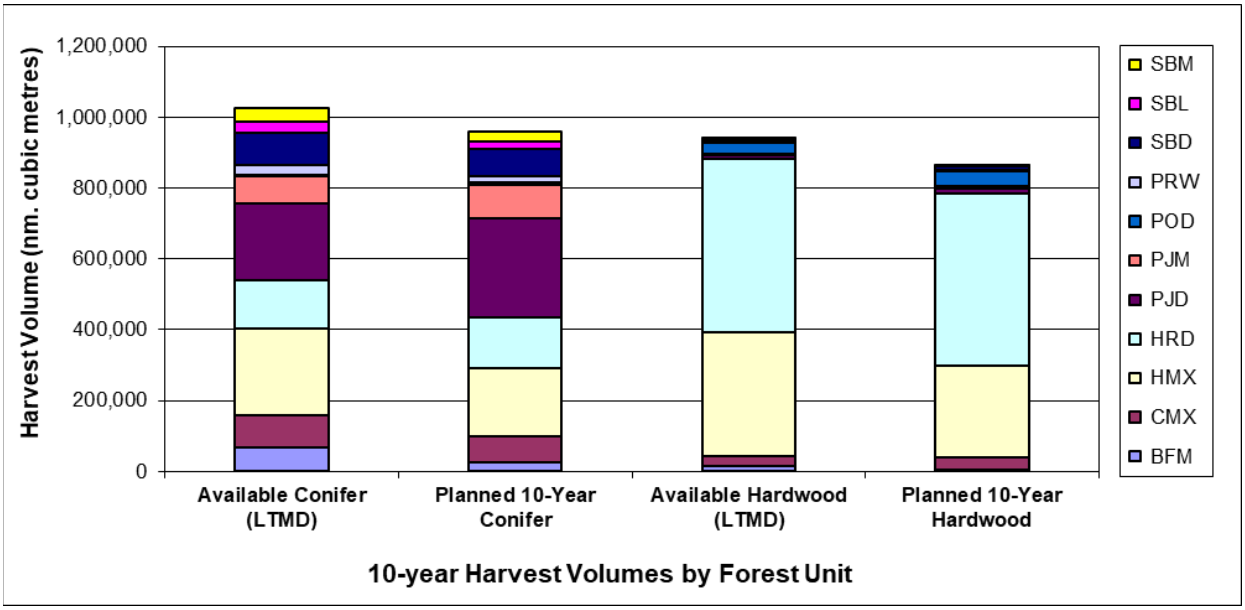
The LTMD projected an available net merchantable harvest volume of approximately 1.97 million cubic metres for the 10-year period of the plan (1.03 million cubic metres of conifer and 0.94 million cubic metres of hardwood). An estimated 1.01 million m3 of defect volume and 370,623 m3 of undersized volume per year are potentially available through harvest of the full available harvest area (LTMD) for this 10-year plan period. The total of net merchantable available harvest volume, defect and undersized volume is estimated to be 3,354,740 m3 for this 10-year plan period 2024-2034 (total 335,474 m3 per year for all three volumes types combined).

As reported in Table FMP-13, the total net merchantable planned harvest volume for the 10-year period of the plan is approximately 1.8 million net merchantable cubic metres (total conifer is 942,336 cubic metres, and total hardwood volume is 862,728 cubic metres). Approximately 893,227 cubic metres of additional undersized and defect biomass volume is estimated to be available in the 10-year FMP (664,321 cubic metres of defect and 228,906 cubic metres of undersized biomass). On an annual basis, the average volume, net merchantable plus undersize/defect biomass, will be a total of approximately 271,519 cubic metres per year. This volume was a result of managing mill demand, generally maintaining Spruce-Pine-Fir volumes between plan periods and managing the decrease in Poplar volumes over the next 50 years. LTMD available volume and planned harvest volume are portrayed in Figure 45 by forest unit.

The consistency between the estimated LTMD available harvest volume and the estimated planned harvest volume is a result of the strategies implemented during planning of harvest areas described in Section 4.3.1.

The planned harvest volume in this plan partially achieves the target for the Objective 5 Wood Supply, Indicator 5c for Long-term Harvest Volumes for all species groups. Short to long-term harvest volumes meet SPF commitments. However short- to long-term Poplar commitments are below current commitment. Overall volumes are acceptable with consideration for area able to be scheduled for harvest and overall balanced objective achievement. This achievement is a result of ensuring that planned harvest area was close to the available harvest area by forest unit (Section 4.3.1).

Figure 45 Available and Planned Harvest Volumes 2024-2034 by Forest Unit



The LTMD projects an average of 106 net merchantable cubic metres per hectare (181 cubic metres per hectare total volume of net merchantable and biomass volumes) and the actual allocations for the 10-year period are comparable with an average of 105 net merchantable cubic metres per hectare (156 cubic metres per hectare total volume).

The volume trade-offs through the operational refinement process did not result in a significant volume change in net merchantable volumes. Actual allocations may result in slightly higher or slightly lower volumes than strategically modelled, depending upon the stand-level volumes realized and the level of residual areas maintained through meeting applicable guidelines, or if strategic modelling yield curve projections by forest unit prove to be conservative.

Harvest volumes were calculated based on a combination of estimated yields (MIST LTMD yield curves by average stand parameters by forest unit and silvicultural intensity, and planned harvest volumes by MIST individual forested stand attributes). Both volume calculations included estimated volumes losses for volumes left unharvested. While MIST provides a good strategic estimate of volumes for LTMD, it bases all calculations on the average condition for each forest unit. By using MIST stand-level volumes for planned harvest volumes, the estimated operational volumes are significantly more relevant at the stand and operating block level.

4.3.6 Wood Utilization

The harvest volume for the 10-year period planned harvest area is recorded by volume type, product, and species in Table FMP-14.

The total utilized volume for the plan is estimated at 2.70 million cubic metres, which is comprised of 1.8 million cubic metres of net merchantable volume and 0.9 million cubic metres of biomass volume (undersized and defect). The net merchantable volume is made up of 0.96 million cubic metres conifer and 0.86 million cubic metres of hardwood.

Estimates of unutilized species or products, which are available from the 10-year planned harvest area, are also summarized in this table. Markets are available for all allocated volume, and all species are considered merchantable at this time. There are no unutilized merchantable volumes reported in Table FMP-14.

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.

Planned harvest volumes in Table FMP-14 are grouped by Overlapping Forest Resource Licensees (OFRLs) and Sustainable Forest Licensee (Forest Manager) contractor operations. OFRLs are projected to harvest 100% of the planned harvest volume, as the Forest Manager does not have company operators.

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 implementation of stand and site guidelines, timber volume is expected to be left on site to enhance wildlife habitat through wildlife tree retention. The company intends to utilize all merchantable, live trees from allocated stands. 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. The amounts to be left will be site specific, and acceptable limits will be determined through cut inspections between MNRF and Miisun staff.

The 10-year planned harvest volume for each mill that relies on wood supply from the Whiskey Jack Forest is recorded by species in Table FMP-15. Based on the planned harvest volume identified in Table FMP-14, the forest cannot supply sufficient wood fibre to satisfy all identified volume commitments.

Table FMP-15 summarizes the projected wood utilization by mill with volumes subdivided by species and product committed by year. Projected deliveries to specific mills were calculated based on wood supply commitments included in Appendix “E” of the Forest Manager agreement, regional wood supply calculations and consideration for mills that no longer exist. 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 675,471 cubic metres of poplar during the 10-year plan period, which does not satisfy the current Ministerial Conditional Commitment of 100,000 cubic metres per year. There is a shortfall of 324,529 cubic metres over the 10-year plan period. This was identified during LTMD and the model was run with a target level of 70,000 cubic metres of poplar annually. A shortfall of 24,529 cubic metres remains from the LTMD target volume when compared to the planned harvest volumes. This shortfall is expected to be made up from bridging harvest area that includes up to 245 ha of POD forest unit area (text Section 4.3.3)

Lumber Assets Holdings LP (LAH) (Kenora) - Kenora Forest Products mill shut down and was sold, therefore volumes associated with the Supply Agreement are included in “Open Market” volumes (1,560,000 cubic metres Spruce-Pine-Fir). The new sawmill owner, Lumber Assets Holdings LP (LAH), plans to operate the facility, and has requested a supply agreement. Kenora Forest Products volumes associated with their Business Agreement will be/have been transferred to the new Kenora Sawmill owners. As the facility is currently shut down, volumes associated with this Business Agreement are shown as "Open Market" (3,100 m3 Red Pine – White Pine, 107,000 m3 Spruce-Pine-Fir).

An estimated additional 1.15 million cubic metres net merchantable fibre and 0.9 million cubic metres of undersize and defect biomass volume are projected to be available on the Open Market during the plan’s 10-year period.

4.3.7 Salvage

Salvage operations in areas of natural depletion were not included in planned harvest area or volumes (Tables FMP-12 to FMP-15), nor are they counted against the available harvest area. The approved strategic modelling does not directly estimate losses on timber through natural depletions. Strategic modelling is an iterative process, that will be conducted for the next FMP (2034-2044) with an updated forest resources inventory that will account for any natural depletions that occur during this plan period.

There are two salvage operations that are being bridged on the Whiskey Jack Forest (approved in 2012 FMP Amendment #029. These 2 areas are identified on the maps and in the harvest layer. If any additional natural depletions occur during this term, that are accessible and suited to salvage harvest operations, appropriate planning and approval procedures will be followed to facilitate the salvage of the wood fibre. There is no volume report for salvage in Table FMP-14 as it will be reported with bridging area in the Annual Reports.

4.3.8 Contingency Area and Volume

During the 10-year period of the forest management plan, unforeseen circumstances 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. Contingency area and its associated volume has been allocated to provide operational flexibility to accommodate newly identified values or operational constraints, fluctuations in mill demand by timber species, or small natural depletions in allocated harvest areas that justifies the substitution of additional contingency areas for previously approved harvest allocations by forest unit. This contingency area will serve as a replacement area for harvest, and will be used only if needed. Contingency area has already been subjected to full public consultation and area of concern planning processes.

Sufficient contingency area was selected from the optional harvest areas identified through the operational planning harvest associated with the 2024-2034 FMP period, to support up to 14 months of harvest operations. Most of the planned 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.

The area and volume of the contingency area is summarized in Table FMP-16. A total of 2,340.3 hectares of contingency area have been identified in the management plan, with

an associated total contingency volume of approx. 217,044 cubic metres (approximately 121,201.7 cubic metres of conifer, and 95,842.6 cubic metres of hardwood).

Reclassification of these areas from contingency to planned harvest area requires an administrative amendment to the forest management plan (FMPM 2020). As selection of these harvest areas are directly associated with the operationally planned harvest areas in the 2024-2034 period of the LTMD, should a need arise to amend in contingency blocks, these blocks are consistent with the LTMD of this plan. However, if there is an amendment request submitted, additional targeted engagement listed below in addition to the required consultation described in the Forest Management Planning Manual (FMPM) will occur:

- Direct written notifications will be sent to individuals and organizations known to be directly impacted by the proposed operational changes.
    - The written notification will include:
        - A request for those affected by the operations to provide feedback within a 15-day period (a specific due date will be provided);
        - A declaration that the amendment will receive approval from the Ministry of Natural Resources and Forestry (MNRF) by a specific date, provided no concerns are raised.

4.3.9 Harvest Area Information Products

Harvest area information products provided in this FMP include:

1. A planned harvest layer – MU490_24PHR00
2. A planned residual patch layer – MU490_24PRP00
3. An area of concern layer – MU490_24AOC00
4. A FMP index map – MU490_2024_FMP_MAP_Index_00
5. A series of FMP 1:20,000 operations maps – MU490_2024_FMP_MAP_OPS******_00

Information products associated with all areas scheduled for harvest identify:

(a) the harvest block identifier;
(b) the silvicultural system;
(c) the harvest category (e.g., regular, bridging, second-pass, salvage, contingency, surplus, redirected and accelerated);
(d) the operational prescriptions for areas of concern;
(e) the SGR; and
(f) if applicable, stand level residual requirements.

4.4 Renewal and Tending Operations

4.4.1 Renewal and Tending Areas

Areas for renewal and tending operations were identified and portrayed on the operations maps for the 10-year plan period. The renewal and tending areas include all of the areas selected for harvest, areas previously harvested during the term of the current and previous forest management plan that have not yet been renewed, areas of natural disturbance which require renewal, and areas which require tending.

The analysis of past silvicultural activities, conducted by a Registered Professional Forester, influenced the planned renewal and tending operations for this FMP. Silvicultural Ground Rules (SGRs) were developed to provide treatment options that would create similar future forest conditions. The analysis of past silviculture activities provided the basis for determining which treatment and forest unit combinations were most effective at producing similar future forest units. Specific stand conditions were considered as analysis units and some have unique SGRs to account for treatments that are considered most likely required to achieve the future forest condition. All treatment packages were determined based on the most likely treatment combinations needed to achieve the intended forest unit and yield curve combination. Alternatives were listed where similar results for future forest unit and yield curve could be achieved by simply choosing less common operational treatments but still considered recommended silviculture activities.

The types and levels of renewal and tending operations planned for the 10-year period are summarized by treatment in Table FMP-17. Areas of past depletions that will require a renewal or tending treatment during the plan period have also been factored into the planned renewal and tending operations in Table FMP-17.

The areas selected for renewal treatments include all areas that will be harvested during this 10-year plan period. As of April 1, 2024, there will be areas harvested from the 2012-2024 FMP that have not received renewal treatments. These additional areas, along with cutover areas that have received full or partial renewal treatments in the past, will be selected for renewal work as required. Areas requiring treatment, supplemental treatment, or re-treatment may be identified through the silvicultural success monitoring program that may not have been identified at the time of writing the FMP. These areas will not require an amendment and may be treated as per the applied or applicable SGR.

It was also assumed that tending treatments could potentially be conducted on areas harvested at any time in the last plan period. Tending levels were estimated as a proportion of the harvest area (based on historical levels and professional judgment). Tending treatments will be confirmed during the preparation of each Annual Work Schedule, based on conditions encountered in the field. It is the policy of the company to only apply aerial chemical herbicides where absolutely required to ensure regeneration success. In addition, no herbicide will be used in the Strategic Management Zones SMZ-A and CAR1. In the event that vegetation management is needed in an area, all other alternative options will be considered prior to the application of herbicide. If following consultation, the application of herbicide is decided to be an acceptable option in areas outside SMZ-A and CAR1, the application of herbicide will be done on the ground with appropriate protections for water features to ensure contamination does not occur.

Information products associated with all areas scheduled for renewal, tending and protection will be submitted with the Annual Work Schedule.

No two-pass harvesting is planned for this FMP.

No silvicultural trials are planned for the Whiskey Jack Forest for this 10-year plan period. Should silviculture trials that are not consistent with approved SGRs be necessary they will be reviewed with the MNRF and amended into the plan.

The identified silvicultural activities (Table FMP-17) represent a balanced silvicultural program, with renewal activities slightly lower in Years 1-3 of the plan, then increasing and stabilizing for Years 4 to 10 of the plan period. The lower initial level corresponds to renewal of the lower harvested area from the 2012-2024 FMP in the early years of this plan period, as compared to the higher planned harvest area in this 2024-2034 FMP requiring treatment in Years 4-10.

4.4.1.1 Regeneration

A total of 17,196 hectares of harvested area is planned for regeneration in this 10-year period based. Regeneration is comprised of 17,353 hectares of harvested area and 0 hectares of naturally disturbed area.

Natural Regeneration: Natural regeneration of harvested area is planned for 10,585 hectares during the 10-year period (61% of the renewal program of harvested area). The majority of the natural regeneration area is vegetative reproduction of hardwoods following conventional clearcut harvesting in the HMX, HRD and POD forest units and the SBL forest unit.

Artificial Regeneration: Artificial regeneration treatments will occur on 6,767 hectares during the 10-year period, all on harvested areas. The artificial regeneration program is composed of planting of 3,468 hectares during the period (20% of the renewal

Program on harvested area), and 3,299 hectares of aerial seeding of jack pine (19% of renewal program on harvested area). Site preparation to enhance natural regeneration was previously referred to as scarification however the *Forest Management Guide to Silviculture in the Great Lakes-St. Lawrence and Boreal Forests of Ontario* (2015) does not distinguish between site preparation and scarification. Site preparation to enhance natural regeneration is an acceptable treatment where it can be reasonably relied upon to enhance natural regeneration. These levels of planting and seeding are based on the projected area harvested and consistent with model results.

Supplemental and Re-treatment: No areas are identified as needing supplemental or re-treatment, however there may be unforeseen failures of either artificially or naturally regenerated areas to reach the desired standard. In the case of under stocking, seedlings will be planted to fill in the gaps and bring it to an acceptable level. Priority will be given to higher site classes. In a rare case the area may be retreated with site preparation and artificial regeneration to bring stocking to a desired level.

The proposed planting program consists of approximately 486,000 trees annually at an approximate density of 1,400 trees per hectare. The actual density will vary depending on site conditions. In addition to the planted trees, it is anticipated that there will be ingress of natural regeneration (particularly jack pine) in planted areas. The planting program is proposed to establish jack pine, black spruce, and white spruce with small amounts of red pine and white pine (as per FMP objective indicator to increase red pine – white pine PRW forest unit area).

4.4.1.2 Site Preparation

Mechanical site preparation is planned on 6,767 hectares during the 10-year period of the plan. The primary implement for mechanical site preparation will continue to be the power disc trencher for planting and aerial seeding. However, other methods such as anchor chains or barrels and chains might be used for assisted natural regeneration or prior to seeding. Those areas that have very little competition and duff may be planted without any site preparation at all.

Mechanical site preparation may be done on chipper debris pads to help prepare microsites planting stock to retain productive land base. No chemical site preparation is planned during this FMP period.

The prescribed burning program consists of slash pile burning on 17,353 hectares of harvested area during the 10-year plan period. The slash pile burning program is very important because it frees up land for silvicultural treatments and minimizes losses of productive forest land. Hand scalping prior to planting may also occur to assist renewal in the area recovered after the slash piles are burnt. Slash piles created in blocks harvested will be burned in accordance with the conditions on regular operations (Section 4.2.2.2). Once exact site locations and hectares are known, the AWS will be revised following the August submission and approval of the Prescribed Burn Plan for Slash Pile Burning. Approximately 85 hectares of slash piles are projected to be burnt each year.

In addition, the Forest Manager may conduct grinding of slash piles to provide hog fuel if there is a suitable market for the fibre. Grinding will be limited to areas within the Whiskey Jack Forest that are in this Forest Management Plan or shown on the Operations Maps as eligible for renewal and tending. Material available for grinding for use as hog fuel will be contained within slash piles at roadside that would normally be included for slash pile burning, or in bush chipper debris piles.

4.4.1.3 Tending

Areas that have been previously planted or seeded, and exhibit heavy grass, shrub or hardwood competition, will be selected for tending treatments during the plan period. Tending may be done by cleaning (manual, mechanical, chemical or prescribed burn) or spacing. Ground application of chemical tending is forecast to occur on 54 hectares during the 10-year period. Potential areas for tending treatments will be submitted in Annual Work Schedules.

No juvenile spacing or commercial thinning is proposed during the plan period.

At the end of this 10-year plan period (2024-2034) there will be approximately 3,500 hectares that will require silvicultural treatment in the first two years of the 2034-2044 plan. This area represents the areas harvested in the last two years of this plan.

4.4.1.4 Planned Treatments by Forest Unit

The Silvicultural Ground Rules for each forest unit are recorded in Table FMP-4. The most common treatment package and other acceptable treatments are documented. During the preparation of the Annual Work Schedules and Forest Operations Prescriptions, the company will review all identified values, and confirm that proposed renewal activities are planned so that all known values are protected.

4.4.2 Renewal Support

Renewal support includes activities such as tree improvement operations, tree seed collection and planting stock production that will be conducted during this plan period. These activities are discussed in the following sub-sections.

4.4.2.1 Tree Improvement

The Forest Manager is actively involved with other forest industry companies in the Superior-Woods Tree Improvement Association (SWTIA). Collectively, SWTIA manages the tree improvement program in Northwestern Ontario with the goal of providing improved tree seed for seedling production. Tree improvement can increase both the volume and value of future forest crops. The short-term objective of tree improvement is to replace 100% of seedling production general seed with improved seed from current orchards. The long-term objective is to achieve greater gains in growth and form of jack pine, black spruce and white spruce through breeding and field tests of superior families. Jack pine, black spruce, and white spruce programs are active for the Whiskey Jack Forest.

First generation seed orchards have been established on the Whiskey Jack Forest for black spruce (at Ulster Lake) and white spruce (at High Lake). The location of the seed orchards are shown on the operations maps. The orchards have not received any roguing of fertilization over the past fifteen (15) years as access to the orchards is extremely limited. In addition to the orchards there are four (4) tree improvement test sites on the Whiskey Jack Forest. The test sites are for black spruce (Colonna Lake) and jack pine (Dirty Water, Dryberry and Kishquabik).

Tree improvement activities during this planning period may include fertilization and roguing of the two (2) seed orchards if access is improved into the areas – to be determined at the Annual Work Schedule stage.

All seed orchards have been mapped on the operational 1:20,000 maps (electronic FMP operations maps) and are illustrated on the Values Map.

4.4.2.2 Seed Collection and Planting Stock Procurement

The Forest Manager is responsible for seed collection, planting stock planning, procurement and payment.

The cone collection program will include the collection of seed for the production of black spruce, white spruce, jack pine, red pine and white pine planting stock (Table 49). To

support future planting and seeding for this 10-year plan period, a total of approximately 89 million seeds are required. The jack pine seed is mainly used in the aerial seeding program, with a lesser portion used for planting stock production. Current inventories of seed are adequate. The Forest Manager may initiate a seed collection program for red pine, white pine or white spruce if seed crop conditions are favourable.

Table 49 Tree Seed Collection Forecast 2024-2034

Species	SEED REQUIREMENT FORECAST (thousands of seeds)										
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	TOTAL
PJ seed	8,684	8,736	8,736	8,736	8,736	8,736	8,736	8,736	8,736	8,736	**87,309**
Sb seed	83	82	82	82	82	82	82	82	82	82	**820**
Sw seed	21	20	20	20	20	20	20	20	20	20	**205**
Pr seed	40	38	38	38	38	38	38	38	38	38	**386**
Pw seed	2	2	2	2	2	2	2	2	2	2	**17**
TOTAL SEED	**8,830**	**8,878**	**8,878**	**8,878**	**8,878**	**8,878**	**8,878**	**8,878**	**8,878**	**8,878**	**88,736**

Planting stock will be procured from container nurseries under contract to the Forest Manager. The planting stock will consist entirely of container stock produced under contract with private growers. 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, a minimum 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 planned for harvest the following year. Approximately 463,000 seedlings are scheduled for annual production for the planting program, used for the planting of over 4.6 million trees during this 10-year plan period (Table 50). No planting stock procurement shortfalls are anticipated during this 10-year plan period.

Table 50 Planting Stock Forecast 2024-2034

Species	PLANTING STOCK REQUIREMENT FORECAST (thousands of seedlings)										
	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	TOTAL
PJ container	364	344	344	344	344	344	344	344	344	344	**3,465**
Sb container	69	68	68	68	68	68	68	68	68	68	**683**
Sw container	17	17	17	17	17	17	17	17	17	17	**171**
Pr container	33	32	32	32	32	32	32	32	32	32	**321**
Pw container	1	1	1	1	1	1	1	1	1	1	**14**
TOTAL SEED	**486**	**463**	**463**	**463**	**463**	**463**	**463**	**463**	**463**	**463**	**4,654**

4.5 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 10-year period of the forest management plan are described in Section 4.5.1 Primary and Branch Roads and Section 4.5.2 Operational Roads.

Documentation of the environmental analysis of the alternative corridors for each new primary road corridor, the rationale for the selected corridor, and associated use management strategy, are included in Supplementary Documentation H – Road Planning.

This text section also documents planning requirements for:

Section 4.5.3 - Areas of Concern Crossings by new primary and branch roads
Section 4.5.4 - Areas of Concern Crossings by new operational roads
Section 4.5.5 - Existing roads
Section 4.5.6 - Road Water Crossings
Section 4.5.7 - Forestry aggregate pits
Section 4.5.8 - Wood Storage Yards
Section 4.5.9 - Conditions on Roads, Landings, and Aggregate Pits

The planning of roads has been completed by the Plan Author and Miisun General Manager, both are Registered Professional Foresters, with direction and assistance from the Miitigoog Forest Operations Committee. Commitments and agreements made with stakeholders during the 2012-2024 FMP regarding roads are carried forward, where appropriate, into this 2024 FMP.

4.5.1 Primary and Branch Roads

The *Forest Management Planning Manual* (MNRF, 2020) defines a primary forest access road as a road that provides principal access for the management unit, and is 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.

Branch roads are roads, other than primary roads, that branch off an existing or new primary or branch road, providing access to, through or between areas of operations on a management unit.

The provision of access is a key strategy to meet the objectives of this plan. The road construction program has been designed to provide efficient access to the forest while minimizing conflicts with other users through the strategies outlined in the plan.

Each planned new primary road required for the twenty-year period (2024-2044) is identified in Table FMP-18 along with the use management strategy for the road. The length of road to be constructed during the 10-year period of the forest management plan is also recorded in FMP-18. The planned corridor for each primary road is portrayed on the associated operational maps and Planned Road Corridor layer. Mapped primary road corridors also identify the portion of the corridor within which a road is planned for construction during the 10-year period of the plan.

No roads are planned that traverse a provincial park or a conservation reserve.

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 were also finalized after public consultation. The rationale for the proposed corridor and the associated use management strategy are documented in Supplementary Documentation H – Road Planning.

The following is a list of Primary and Branch Roads that are planned to have construction within this FMP period.

PRIMARY ROAD CORRIDORS:

- Nanaandawe Kaana
- Betula Road
- Drewry Lake Road
- Emerson Road
- Lost Lake Road
- Warclub Road

BRANCH ROAD CORRIDORS:

- St. Clair Road
- Ord Lake Road Extension
- Little Smoke Road

Each of the roads identified above are planned for construction to access harvest areas in the current FMP or to access harvest areas associated with future allocations. Some of these roads, or portions of, are being carried over from the 2012-2024 Whiskey Jack Forest FMP. Some primary roads are extensions of existing roads or major upgrades to existing or retired roads and are documented in Supplementary Documentation H. The Forest Manager intends to maintain responsibility for all new roads constructed.

Primary and branch roads are generally open to public travel except where access may have negative effects on remote tourism or waterway parks or other stakeholder concerns. These roads are restricted via *Public Lands Act* signage. Roads must be constructed according to the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* that lists the standards and guidelines for planning, constructing and maintenance of roads to minimize negative effects on water quality.

When harvest and renewal operations are completed, identified primary and branch roads will be (a) decommissioned or access restricted as agreed to within FMP development, as prescribed by the MNRF, or as agreed to during our regular consultation process with interested and affected persons; or (b) considered for transfer of responsibility to the MNRF, or as part of the transfer process to a third party. Road decommissioning or temporary (winter) roads are preferred in order to limit the loss of productive land to roads (See Section 4.5.8 Conditions on Roads, Landings and Aggregate Pits – Loss of Productive Land). Primary and branch roads are vital to the success of the forest industry. The complete deconstruction or decommissioning of primary or branch roads will be used sparingly on the Whiskey Jack Forest as these roads are expected to have uses over many plan periods. A Transfer Plan will be created for each road network being transferred to the MNRF. All road networks transferred to the MNRF will be in a decommissioned state as defined by the decommissioning intent in the Roads Supp. Doc., unless otherwise defined in Table FMP-18 and the Road Use Management Strategy. The Forest Manager intends to maintain responsibility for the vast majority primary and branch roads it builds, and the application of decommissioning or access restriction conditions will be implemented in such a manner that will allow future use of the road for forestry purposes to occur with minimal costs to upgrade (i.e. berming or signage).

Rationale for Primary Roads:

Nanaandawe Kaana will provide the main access south of the Adams River and north of the Black River. The Nanaandawe Kaana will commence from the end of the existing Nanaandawe Kaana and continue in a southwest direction. There are no access restrictions on this road.

Betula Lake Road will provide the main access to the east side of MEA1 (Dryberry). The Betula Lake Road will be constructed off of the Warclub Road and access the east side of the MEA before turning north and providing future access to the northeast side of the MEA.

Drewry Lake Road will provide direct, all season access south of highway #658 and north of the CP Rail line. The road is planned to start on the Kenora Forest near Drewry Lake and continue east to the south side of Balne Lake. The road will then continue south of Base Lake and end between Low Lake and Crane Lake.

Emerson Lake Road is providing the main access to the area between highway #17E and the CP Rail line. This road will start along an old section of highway #17E and then continue northeast between East Emerson Lake and Scovil Lake. The road will end northwest of Trout Lake.

Lost Lake Road is an extension of the Lost Lake Road corridor that was approved in the 2012 FMP. This road will continue in a southern direction and provide the main access between Perrault Lake and the Dryden Fiber Canada, ULC Railbed Road.

Warclub Road is the primary access to MEA1 south of Dryberry Lake. This road will start from the Lobstick Road on the Kenora Forest. The Warclub Road will access the MEA on the south side of Warclub Lake and continue north along the east side of Dryberry Lake to provide access to the northwest portion of the MEA. The Warclub Road will also provide the starting point for the Betula Road, which will access the eastern portions of MEA1.

Rationale for Branch Roads:

Little Smoke Road is a reconstruction of existing operational road. This road will provide access from the Deer Lake Road to allocations west of Cliff Lake. It is anticipated that the entire area will be harvested during the 2024 FMP period, but operations may be continued over an extended period as this area will provide a suitable location for operations during half load restrictions and spring and fall transition periods.

Ord Lake Road Extension is a reconstruction of a retired roadbed and is required to access allocations to the southeast of Perrault Lake. The extension will start just west of Gerrard Lake and continue north to the south side of Perrault Lake. It is anticipated that the entire area will be harvested during the 2024 FMP period, but operations may be continued over an extended period as this area will provide a suitable location for operations during half load restrictions and spring and fall transition periods.

St. Claire Road is a reconstruction of a retired roadbed and is required to access harvest blocks to the west of St. Claire Lake and south of the Ord River. This road will start from kilometre 17 of the Ord Lake Road. This road will be utilized during spring break-up as there are no half-loading restrictions in the area.

During the 2024-2034 FMP period, no primary road nor branch roads are being considered for decommissioning or transfer to the MNRF.

Where a new primary road, branch road or landing does not intersect an area of concern for a value, any conditions on the primary road, branch road or landing as described in MNRF's guide(s) (e.g. guide relating to conserving biodiversity at the stand and site scales) will be followed as included in Section 4.5.8.

4.5.2 Operational Roads

Operational roads are roads, other than 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 or left to regenerate naturally.

Table FMP-18 lists the new and existing operational roads or road networks that will be required for the 10-year plan period. 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 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, and the associated use management strategy (RUS) 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 H. 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 forestry aggregate pits are shown in Section 4.5.9.

New road use strategies were developed for both existing and new roads. The use management strategy identifies: the type of road maintenance during the plan period; how monitoring activities will be carried out; and, any access provisions or restrictions. The eight (8) road use strategies are summarized and are listed below:

- **RUS-1** *Transfer Road to the MNRF* – Road open to the public, planned for transfer to MNRF;
- **RUS-2** *Decommission Road* – Roads to be decommissioned after use for forest management purposes;
- **RUS-3** *Access Restriction* – Public Lands Act or other access restriction (MTO Gate);
- **RUS-4** *Retain Road* – Roads are open to the public;
- **RUS-5** *MEA Access Restriction* – Moose Emphasis Area with Public Lands Act or other access restriction, operational roads will be subject to decommissioning following forestry operations;
- **RUS-6** *MEA No Access Restriction* – Moose Emphasis Area, operational roads will be subject to decommissioning following forestry operations;
- **RUS-7** *Caribou* – Operational roads within the caribou continuous distribution area will be subject to decommissioned following forestry operations;
- **RUS-8** *Limited Maintenance* – Existing roads will have minimal maintenance and monitoring.

Detailed information on each strategy can be found in Supplementary Documentation H. The operational road boundaries are delineated on the 1:20,000 Operational Maps.

4.5.3 Area of Concern Crossings – Primary and Branch Roads

This section documents the planning requirements that were applied to each crossing of an area of concern (AOC) by a proposed corridor for a new primary or branch road. These AOC crossings are planned for the portion of the road that will be constructed during the 10-year plan period.

The review and approval of the construction and decommissioning of water crossings will be in accordance with direction in the *Ministry of Natural Resources and Forestry/Fisheries and Oceans Canada Protocol for the Review and Approval of Forestry Water Crossings* (included as FMP Supp. Doc. O). For each new primary and branch road water crossing to be constructed, the location, crossing structure and conditions on construction will be finalized in the applicable AWS (Part D, Section 3.2.3, 2020 FMPM) in accordance with this protocol. The decision framework in Supp. Doc. O will be used to assist in determining crossings that require an MNRF, and if necessary, a Department of Fisheries and Oceans (DFO) review. Any approved water crossing standards from this protocol that will be used during forest operations are documented in Supplementary Documentation O. In addition to the applicable construction conditions, all applicable water crossing standards will be documented in Table AWS-1 by their water crossing standard identifier. In instances where a water crossing standard does not exist or an approved water crossing standard cannot be met in its entirety, an MNRF review is required. The water crossing standards represent additional measures to the specific conditions on the construction, use, and decommissioning of water crossings in Table FMP-11 as per the water crossing standards and guidelines in the Stand and Site Guide (Pages 136-141) and MNRF's *Crown Land Bridge Manual*.

Table FMP-11 includes a notation of whether any public comments were received concerning a crossing of an area of concern by a primary or branch road. Where primary or branch roads cross the above AOCs, the rationale for the crossing is documented in Supplementary Documentation I – Areas of Concern Planning. Supplementary Documentation I also includes references to any public comments received and how they were considered in the AOC prescription (Supplementary Documentation I - Part B, Section 3).

The following summarizes issues raised in public comments for primary and branch road crossings of AOC's:

> There were no comments received relating to primary and branch road crossings of AOC's.

All AOC crossings are identified on operational maps as a display of the overlap of the planned road corridor boundary and the overlapping AOC boundary. Where new water quality values are identified during plan implementation, a values update will be completed and submitted to the NRIP to document the value within the plan. No amendment is required for values updates.

4.5.4 Area of Concern Crossings – Operational Roads

For operational road crossings of areas of concern, the conditions on construction of the crossing(s) for individual areas of concern are documented in Table FMP-11, and where practical, portrayed on the operations maps. Any conditions on a landing within an area of concern are also documented in Table FMP-11.

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. The determination of the conditions involved consideration and documentation of:

(a) natural resource features, land uses and values, as identified on the values map for the management unit;
(b) the results of consultation with interested and affected persons and organizations; and
(c) potential preventive and mitigative measures.

Any public comments that were received concerning a crossing of an area of concern by an operational road are noted in Table FMP-11.

The following summarizes issues raised in public comments for operational road crossings of AOCs:

There were no comments received relating to primary and branch road crossings of AOC's.

All AOC crossings are identified on operational maps as a display of the overlap of the planned operational road boundary and the overlapping AOC boundary.

The review and approval of the construction and decommissioning of water crossings will follow the *Ministry of Natural Resources and Forestry/Fisheries and Oceans Canada*

Protocol for the Review and Approval of Forestry Water Crossings (included in Supp Doc. O).

The water crossing standards represent additional measures to the specific conditions on the construction, use, and decommissioning of water crossings in Table FMP-18 as per the water crossing standards and guidelines in the Stand and Site Guide and MNRF's Crown Land Bridge Manual.

For each new operational road water crossing to be constructed, the location, crossing structure and conditions on construction will be finalized in the applicable AWS (Part D, Section 3.2.3, 2020 FMPM) in accordance with the protocol. Where new water quality values are identified through plan implementation a values update will be completed and submitted to the NRIP in order to document the value within the plan. No amendment is required for values updates.

4.5.5 Existing Roads

There are approximately 525 kilometres of permanent roads existing on the Whiskey Jack Forest at the start of this plan (Forest Manager, MNRF, and private roads based on the RUS). Background information on existing roads on the Whiskey Jack Forest was compiled during the early stages of plan development and was available for public review at subsequent stages of public consultation. Existing roads include historical primary and branch roads in addition to historical tertiary roads, which are labelled as operational roads.

Each existing road or road network that is the responsibility of the sustainable forest licensee, and other existing roads that will be used for forest management purposes and which are under the jurisdiction and control of MNRF, are documented in Table FMP-18. The associated road use management strategy for each existing road or road network, including the transfer of road responsibility and decommissioning, is also documented in Table FMP-18.

Documentation of new or revised use management strategies, and the associated rationale, is included in the Supplementary Documentation H. All roads information for the FMP is included in a single GIS layer submitted electronically with the plan.

If an existing road and/or landing is planned to be used for forest management purposes during the period of the forest management plan, and the road and/or landing intersects an area of concern for a value, Table FMP-11 identifies if there are conditions on the road and/or landing.

If an existing road and/or landing is planned to be used for forest management purposes during the period of the forest management plan, 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* (MNRF, 2010) are documented in Section 4.5.9 (Conditions on Roads, Landings and Aggregate Pits).

If the sustainable forest licensee intends to transfer responsibility for an existing road to MNRF during the next 20 years, a preliminary indication of the management intent for the road or road network is documented in Table FMP-18. If the sustainable forest licensee plans to transfer the responsibility for a road during this 10-year period, the actions required prior to transfer, including potential removal of water crossings, are documented in Table FMP-18. These conditions and action are a "best estimate" at the time of planning. Through assessments of use, consultation with the public, and/or discussions

with the MNRF differing conditions may be met. If the applied actions and conditions are different than reported in FMP-18 no amendment will be required. If a RUS change is required, an amendment will be required. There are no roads planned for a transfer of responsibility during this 10-year plan period.

Many operational roads will be decommissioned the same year that they are built. In particular, winter operational roads that are not required for operations further beyond the block being harvested. In addition, many roads will be decommissioned through site preparation, prior to planting, within two years of harvest completion to minimize the loss of productive land. The use management strategies for these road networks are summarized in Supplementary Documentation H – Road Planning (Section D, RUS-2). Methods of inspections will include travel by ½ ton truck primarily by company staff, but could include contractors, MNRF and/or the public or occasionally by ATV, aircraft, aerial/satellite photography or drone flight if access restrictions prevent ½ ton truck access.

Road Responsibility Transfer Procedure

The following procedure is not required in all harvest blocks; however, forest managers may consider whether access roads should be transferred to MNRF (or another party). Items to consider include type, timing, and ability to conduct site preparation, regeneration, forest renewal monitoring or forest protection.

A road is defined in Section 48 of the *Public Lands Act (PLA) as "a road or part of a road on public lands and includes the bridges, shoulders, ditches and right-of-way thereof, but does not include the King's Highway or a secondary highway, or an industrial road designated under the Public Transportation and Highway Improvement Act, or a road under the jurisdiction of a statue labour board or a local roads board R.S.O. 1990, c. P.43 s.48; 2010, c. 16 Sched. 10, s.4(6,7)."* For the purpose of forest management, MNRF includes existing roads and water crossings as those that fall within this PLA, s.48 definition of a road and are reasonably capable of providing access for licensed highway vehicles.

When a road is proposed to be transferred back to the MNRF, the following procedure will be followed:

1. Roads proposed to be transferred are identified in Table FMP-18 or an AOC Prescription in the current Forest Management Plan.
2. When existing roads are to be transferred, they will be identified in an Annual Work Schedule (AWS).

3. MNRF and the Forest Manager will verify the preliminary road use management strategy (RUS) or an AOC prescription intent has been achieved.
4. MNRF and the Forest Manager will collaboratively assess the transfer requirements; as 1 per sections 5.1.1.3 and section 5.1.2.3 of the Stand and Site Guide (SSG) 2 regarding evaluation criteria.
5. Any water crossings to be removed will be revised to or identified in the subsequent AWS.
6. The appropriate AR will document when/what transfer requirement activities have 6 been carried out, in order to complete the transfer tracking documentation.
    a. **Transferred roads** are to reflect the change in responsibility to MNRF or to a Third-Party. A Transfer Plan will be created for each road network being transferred to the MNRF. All road networks transferred to the MNRF will be in a decommissioned state as defined by the decommissioning intent in the Roads Supp. Doc., unless otherwise defined in Table FMP-18 and the Road Use Management Strategies.
    b. **Decommissioned roads** have physical barriers limiting access by a 4x4 half-ton truck and promotes regeneration of forest cover are then classified as “decom” and will not be shown on future map products (existing roads data). The Forest Manager is deemed to have completed their decommissioning responsibility once the physical barrier has been installed. The Forest Manager is not responsible to maintain the physical barrier in perpetuity.
    c. **Natural Abandonment** roads will not be maintained and naturally degrades.
7. The approved AR signifies the roads transfer documentation meets MNRF requirements and is complete.

Where a silvicultural prescription can be determined prior to harvesting operations leaving the block, and where future access may not be required (i.e. natural regeneration), access roads may be restricted to half-ton traffic before equipment leaves the area. This allows the Forest Manager to look for opportunities and efficiencies where operational roads can be decommissioned promptly, benefitting from having equipment on site.

4.5.5.1 Road Information Products

For each existing road or road network that is the responsibility of the sustainable forest licensee, and other existing roads that will be used for forest management purposes and which are under the jurisdiction and control of MNRF, information products associated with road construction, maintenance, monitoring, access controls and decommissioning are provided that identify:

(a) the corridors for primary roads (20 years);
(b) the corridors for primary and branch roads planned for construction (10 years);
(c) the operational road boundaries (10 years);
(d) the areas of concern within the corridors for primary and branch roads, operational road boundaries, and the areas of concern that intersect existing roads;
(e) the roads that will be maintained;
(f) the roads and associated water crossings that will be monitored;
(g) the segments of roads that currently have access controls and the segments of roads where new access controls are scheduled, and the type of access control activities; and
(h) the segments of roads that will be decommissioned, and the type of decommissioning activities.

Information products associated with all areas scheduled for road construction, maintenance, monitoring, access controls and decommissioning portray:

(a) the corridors for primary roads (20 years)
(b) the corridors for primary and branch roads (10 years);
(c) the operational road boundaries (10 years);
(d) the areas of concern within the corridors for primary and branch roads, operational road boundaries, and the areas of concern that intersect existing roads;
(e) the segments of roads that currently have access controls and the segments of roads where new access controls are scheduled; and
(f) the segments of roads that will be decommissioned.

Relevant maps are included in the FMP as MU490_2024_FMP_MAP_Index_00 and a series of FMP 1:20,000 operations maps MU490_2024_FMP_MAP_OPS******_00 maps.

4.5.6 Roads Water Crossings

The water crossings standards to be implemented will be in accordance with direction in the *Ministry of Natural Resources and Forestry/Fisheries and Oceans Canada Protocol for the Review and Approval of Forestry Water Crossings* (included as Supp. Doc. O). Any approved water crossing standards from this protocol that will be used during forest operations are documented in Supplementary Documentation O.

4.5.7 Forestry Aggregate Pits

Forestry Aggregate Pits are exempt from the requirement for an aggregate permit under the *Aggregate Resources Act* (ARA) if they meet the exemption criteria for a Forestry Aggregate Pit as per Part A, Section 1.3.6.6 of the *Forest Management Planning Manual* (2020). 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:

Exemption Criteria

Under Section 8 of Ontario Regulation 244/97 made under the Aggregate Resources Act, a person who operates a pit while conducting forest operations on Crown land on behalf of the Crown or under the authority of a forest resource license and in accordance with a FMP approved under the CFSA is exempt from subsection 34(1) of that Act, as amended from time to time (i.e., the requirement for an aggregate permit to operate a pit). The following criteria will apply to a forestry aggregate pit:

- 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 coldwater stream;
            - 1,000 metres of a water well, whether dug or drilled; and
            - 5,000 metres of a receptor (e.g., residence or facilities where people sleep {nursing homes, hospitals, trailer parks, camping grounds}; schools; day-care centres);

- The pit is established within:
    a. An approved new primary or branch road corridor in the FMP, and identified the Annual Work Schedule;
    b. An approved area of operations in the FMP and identified in the Annual Work Schedule;
    c. An approved operational road boundary in the FMP, and identified in the Annual Work Schedule; or
    d. An approved aggregate extraction area in the FMP and identified in the Annual Work Schedule located within 500 metres of an existing forest access road.

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

Aggregate Extraction Areas

Aggregate extraction areas are areas where a Forestry Aggregate Pit may be established. They must be within 500 metres of: an existing forest access road, approved operation areas, operational roads boundaries, primary road corridor, or a branch road corridor. Conditions on aggregate pit within AOCs are identified in Table FMP-11. Conditions on Roads, Landings and Forestry Aggregate Pits (CORLAPs) for conditions outside of AOCs are identified in Section 4.5.8. The criteria for a Forestry Aggregate Pit apply as per Part A, Section 1.3.6.6 of the FMPM (2020).

Conditions on Forestry Aggregate Pits

All existing Forestry Aggregate Pits will be identified in each AWS. If a Forestry Aggregate Pit is within an AOC, Table FMP-11 identifies if there are conditions on the development or use. Table FMP-11 documents the conditions on operations beyond the Operational Standards outlined below. The operational standards described below apply to the extraction of aggregate resources for Forestry Aggregate Pits:

It is recognized that these planned aggregate extraction areas (AEAs) may be large, however this is needed as the detailed, surficial geological inventories which specify areas containing suitable gravel across the Whiskey Jack Forest are not always accurate (coarse scale) or available, therefore specific areas are not always known. If the mapped areas were reduced, and sources of gravel were identified outside of approved AEAs, then an FMP amendment would be required prior to accessing the gravel for road construction or road maintenance if not located within an ORB, harvest or planned road corridor. The identification of larger AEAs strategically avoids any unnecessary additional

workload in preparing and processing any FMP amendment resulting. This may considerably reduce the workload for the company and MNRF district staff.

If the active area of a Forestry Aggregate Pit becomes larger than 3 hectares, the Forestry Aggregate Pit would need to become a permitted Category 9 aggregate pit (as per Operational Standards below).

Operational Standards for Forestry Aggregate Pits

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 (from FMPM 2020 Appendix IV: Operational Standards for Forestry Aggregate Pits). The following operational standards apply to the extraction of aggregate resources for Forestry Aggregate Pits:

1. Topsoil and overburden, where present, must be stripped and stored on site.

2. Aggregate material may be removed only within areas where access, harvest, or aggregate extraction has been planned and approved, with no removal occurring within 15 metres of the boundary of any planned area.

3. Aggregate material must not be removed from an area of concern or within 15 metres of the boundary of an area of concern, except:

    a. for a cultural heritage landscape or historic Aboriginal value, as defined in the *Forest Management Guide for Cultural Heritage Values*, if,
        i. FMP-11 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
        ii. the aggregate material is removed in accordance with such conditions; and
    b. for all other values, if,
        i. FMP-11 of the forest management plan documents conditions on location, construction or use of the forestry aggregate pit, and
        ii. the aggregate material is removed in accordance with such conditions.

4. 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*:

a. archaeology site;
b. cemetery; or
c. archaeological potential area.

5. 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.

6. During extraction, no undercutting of the working face is permitted and:
   a. the working face must be sloped at the angle of repose; or
   b. the vertical height of the working face must not be more than 1.5 metres above the maximum reach of the equipment.

7. All trees within 5 metres of the excavation face must be removed. [*note: operationally applies to only those trees over 1.5 metres (5 feet) tall*]

8. The maximum pit area must not exceed 3 ha. When a pit or a portion of a pit is rehabilitated, it is no longer part of the pit.

9. When the site is inactive, all pit faces must be sloped at the angle of repose.

10. Within the excavation area, no ponding is allowed and offsite drainage must be designed to prevent sediment from entering any water feature.

11. MNRF may direct that a forestry aggregate pit be rehabilitated where the responsibility for the road and associated forestry aggregate pit is being transferred back to MNRF.

12. Final rehabilitation must include:
    a. sloping of all pit faces to a minimum of 3:1 (horizontal:vertical);
    b. re-spreading of any topsoil and overburden that was stripped from the site; and
    c. mitigative measures, to the satisfaction of MNRF, to prevent erosion (e.g. establishment of vegetation).

13. 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 (see Section 4.5.8).

14. Progressive rehabilitation of the site must be ongoing during the 10-year period, starting from the commencement of the Forestry Aggregate Pit.

15. If a forestry aggregate pit has not been active for a period of five years and the sustainable forest licensee confirms that future use of the pit is not required, final rehabilitation must be completed in accordance with standard 12 above within 12 months of the sustainable forest licensee's confirmation.

16. Despite standard 15, if MNRF agrees that access to the pit that requires rehabilitation is not feasible within the 12-month period specified, MNRF and the sustainable forest licensee may agree, in writing, to a longer period.

4.5.7.1 Aggregate Extraction Area Information Products

Information products associated with aggregate extraction areas identify and portray:

(a) the aggregate extraction area identifier; and
(b) the areas of concern.

Aggregate extraction areas will be included as the following information products within the FMP:

1. Planned Aggregate Extraction Area layer – MU490_24PAG
2. A series of FMP 1:20,000 operations maps:
   MU490_2024_FMP_MAP_OPS******_00

4.5.8 Wood Storage Yards

Wood storage yards are sites that are geographically separated from the harvest location that may be used for slashing, sorting, storage and other wood measurement activities of forest resources prior to the movement to final processing destination(s) (e.g., previous harvest blocks, forestry aggregate pits, existing or new wood storage yards). Wood storage yards do not inhibit public access within the management unit.

There are currently no wood storage yards included in this FMP.

If a wood storage yard is added to the FMP it will be portrayed on the Wood Storage Yard layer of the Operational Planning Inventory (OPI) in accordance with FIM.

Any changes to the type or period of use for a wood storage will require an amendment to the FMP in accordance with FMPM 2020, Part C, Section 2.0.

Operational Standards for Wood Storage Yards

The following operating standards apply to identified wood storage yards (FMPM 2020, Appendix V):

1. Wood shall not be stockpiled on the corner of a road.
2. Wood shall not be stockpiled within the travelled portion of a road corridor.
3. If forestry aggregate pits are to be used for storage, they must be confirmed to be a forestry pit, not one granted to another licence holder or permittee under the Aggregate Resources Act.
4. The wood shall not be stockpiled within 30 metres of a waterbody or watercourse.
5. After use, the wood storage yard must be revegetated to a condition of its former state to the extent reasonably possible;
6. Debris will be managed as per the slash management section of the FMP and debris (e.g. brush, slash, topsoil) shall not be deposited in ditches or on the shoulders of any road or below the high-water mark of any waterbody or watercourse;
7. Damage caused by the licence holder's use of existing roads, water crossings or ditches (for access to the wood storage yards) may be subject to repair and/or rehabilitation at the expense of the licence holder;
8. For identified values and important ecological features within or adjacent to existing or proposed wood storage yards, operational prescriptions and conditions as

described in MNRF's forest management guide(s) relating to conserving biodiversity at the stand and site scales, must be applied in accordance with the FMP. This includes any restrictions on the construction of new wood storage yards, and the timing, use, revegetation or other associated operations in existing wood storage yards as included in Table FMP-11, Part C: (Conditions on Location, Construction or Use of) Operational Roads and Landings;

9. Conditions for wood movement and measurement for wood storage yards must be approved in writing by the Ministry's Regional Supervisor, Wood Measurement Section, prior to use. Failure to comply with any conditions set out in this written approval is considered a failure to comply with the conditions set out in the approved FMP. The start date and end date of the use of the wood storage yard must be supplied to the Ministry so that these dates are included in the written approval.

4.5.9 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* (MNRF, 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* (MNRF, 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-11 identifies if there are conditions on operations. Any operational conditions related to forestry aggregate pits intersecting with area or concerns are stated in Table FMP-11.

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 (Table) applies to conditions on new (primary, branch, operational, existing) roads and landings (outside of AOCs).

Table 51 Conditions on Roads, Landings and Aggregate Pits (CORLAPs)

Alphabetical List of CORLAPs: *(CTRL+ENTER on name to go to table section)*

BIOFIBRE HARVEST

- 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, landings and skid trails are 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 purposes is permitted.

DENS OF FURBEARING MAMMALS – ENDURING FEATURES

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

DENS OF FURBEARING MAMMALS – TRANSITORY FEATURES

- Occupied dens encountered during operations will not be destroyed (complete or partial damage of the den structure or its contents i.e. adults or young).
- No roads, landings or forestry aggregate pits to be constructed within 3 m of a den known to be occupied.

1

LARGE, LANDSCAPE PATCHES - MOOSE EMPHASIS AREAS (MEAs)

- No new primary or branch loop roads are permitted within MEAs.
- Operational road networks will be constructed on a temporary basis
- Primary or Branch roads or road networks may have temporary access restrictions applied between periods of operations where road use is not required for forestry purposes.
- Temporary access restriction may include options such as PLA sign prohibiting certain activities, or where necessary physical obstructions (such as berms, ditches, water crossing removals, slash piles or gates).

The process for transfer of road responsibility is found in Section 4.5.5.

LOSS OF PRODUCTIVE LAND

- Minimize the amount of area being converted to non-forest (e.g. roads, landings and forestry aggregate pits) to that required for efficient operations (refer to Reclamation of Landings below).
- Generally, strive to keep the area of roads and landings to less than 4% on a per block basis (it is recognized that operational constraints may require more road in some circumstances and that less road may be possible, and therefore desirable in others).
- The loss of productive land may be reduced by:
    - Decommissioning and regeneration of roads to be transferred to the Crown in accordance with Road Use Management Strategies.
    - Decommissioning and regeneration of roads not identified for transfer.
    - Reclamation or rehabilitation of forestry aggregate pits.

MARTEN BOXES (TRAPS)

- When Marten boxes (traps) are encountered, they are not to be disturbed. When encountered;
    - Flag the tree hosting the Marten box with brightly colored ribbon (not orange) (ribbon colour to be different than the colour used to designate harvest block boundaries or road right-of-way)
    - May stub the tree above the box.
    - Do not fell trees toward the marten box.

MINING CLAIMS AND LEASES

- Mining Claims – Forestry Aggregate Pits allowed.
- Mining Leases - No Forestry Aggregate Pits, unless permitted with authorization of the lease holder.
- When mining claim posts are encountered, they are not to be disturbed.
    - Flag Mining Claim post with brightly colored ribbon (ribbon colour to be different than the colour used to designate harvest block boundaries or road right-of-way)
    - Do not fell trees toward the claim marker/post.
    - Avoid disturbing the soil within 5 m of the mining claim post
    - Stub trees around claim post when encountered.
- Respect mining equipment and operations when encountered;
    - When necessary contact the mining claim operator to identify and hazards of values that may be encountered during operations. This information is held with the MNRF.
    - Do not fell trees toward identified values.
    - Equipment should remain a tree length away from the identified values.

NESTS – SONG BIRDS

- Nests of songbirds or other small birds containing eggs or young will not be destroyed (destruction means complete or partial damage of the nest structure or its content i.e. attendant birds, eggs or young).
- Reasonable effort will be made to minimize disturbance (incidental interference with breeding activities such as egg laying, incubation, brooding, or feeding of young) of nests of songbirds or other small birds containing eggs or young encountered during operations. Avoid heavy equipment travel within 20 m of nests containing eggs.
    - Should an occupied nest be found during operations, it will be reported to the site supervisor and operations will relocate, within the block, until the 20m area around the nest can be delineated.
- No restrictions on operations associated with existing roads, landings and forestry aggregate pits.
- New roads, landings and forestry aggregate pits should not be constructed within 20 m of nests containing eggs or young.

1

NESTS – OCCUPIED GROUND NESTS

- Nests of waterfowl or grouse containing eggs encountered during operations will not be destroyed (destruction means complete or partial damage of the nest structure or its content i.e. attendant birds, eggs or young).
- To minimize disturbance of nests of waterfowl or grouse, containing eggs or young encountered during operations, no road construction or maintenance activities will take place within 10 m of the nest while eggs or young are present
- New roads, landings and forestry aggregate pits should not be constructed within 10 m of nest.

NESTS – UNOCCUPIED NESTS/COMMUNAL ROOSTS IN CAVITIES PREVIOUSLY USED BY AMERICAN KESTREL, BARRED OWL, BOREAL OWL, EASTERN SCREECH- OWL, GREAT HORNED OWL, NORTHERN HAWK OWL, NORTHERN SAW-WHET OWL OR CHIMNEY SWIFT

- New roads, landings, and forestry aggregate pits will not be constructed within 20 m of nests/communal roosts of the barred owl, or great horned owl.
- Avoid constructing new roads, landings and forestry aggregate pits within 20 m of nests/communal roosts (unless there is no other feasible or practical alternative due to inoperable/rough terrain or safety) of the American kestrel, boreal owl, eastern screech- owl, northern hawk owl, or northern saw-whet owl.
- No timing restriction on operations associated with roads, landings and forestry aggregate pits

NESTS – UNOCCUPIED STICK NESTS BUILT OR USED BY BARRED OWL, BROAD-WINGED HAWK, COMMON RAVEN, COOPER'S HAWK, GREAT HORNED OWL, LONG-EARED OWL, MERLIN, RED-TAILED HAWK, OR SHARP-SHINNED HAWK

- New roads, landings, and forestry aggregate pits will not be constructed within 20 m of nests of the barred owl, Cooper's hawk, common raven, great horned owl, long-eared owl, red-tailed hawk, or unknown large stick nests.
- Avoid constructing new roads, landings and forestry aggregate pits within 20 m of nests (unless there is no other feasible or practical alternative due to excessive terrain or safety) of the broad-winged hawk, merlin, sharp-shinned hawk, or unknown small stick nests.
- No timing restriction on operations associated with roads, landings and forestry aggregate pits.

NESTS - INACTIVE NESTS OF GREAT GRAY OWL, NORTHERN GOSHAWK OR RED-SHOULDERED HAWK

- Avoid constructing new roads, landings and forestry aggregate pits within 20 m of nests (unless there is no other feasible or practical alternative due to excessive terrain or safety).
- No timing restriction on operations associated with roads, landings and forestry aggregate pits.

RECLAMATION OF LANDINGS

- The productive land base will be recovered from landings and these areas will be renewed except where they were not part of the productive land base originally (e.g. rock outcrops).
- Operations will be conducted in a manner to minimize the establishment of landings.
- For any landings that are created the following will occur:
    - Operations will be conducted to recover the productive land base from landings (e.g. return debris to cutover, site preparation, planting/seeding).
    - Redistributing chipper debris across the cut-over resulting in ≤ 20 cm to mineral soil.
    - Landing treatment operations will normally 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 unless a different rehabilitation strategy including regeneration standards is documented in this section of the plan. Operations are to be completed no later than the decommissioning timelines outlined in the adjacent roads' use management strategy (RUMS).
- The AWS Compliance Plan will identify the inspection of landing treatments and subsequent regeneration as a compliance priority and will indicate how the inspections will be completed.

Note: It is understood some of the above listed methods are dependent on weather, proximity to heavy equipment, and other factors. Although completion within three years is expected, the ability to complete these procedures within this time frame may not always be feasible. Reasonable efforts will be made to meet the conditions as above.

RED PINE AND WHITE PINE MANAGEMENT

- For PRW forest unit areas:
  - Forestry aggregate pits will be avoided within PRW forest unit areas.
  - Reasonable efforts will be made to avoid constructing new roads within unallocated PRW forest. When necessary, road construction will follow the design principles in 'General Conditions on Road Planning, Construction and Maintenance' to minimize disruption of hydrological function.
  - ROW going through unallocated PRW forest unit areas should be designed to make the least impact possible on the stand by limiting the ROW to less than 20m and laying out the road where it would have the least impact on the stand (distance through the stand).
  - Reasonable efforts will be made to minimize construction of landings within PRW stands.
- For non-PRW forest unit areas:
  - Reasonable efforts will be made to avoid or minimize construction of landings and forestry aggregate pits where identified concentrations of red pine and white pine exist that are outside of PRW stands.
  - ROW going through concentrations of red pine and white pine should be avoided but when required will be designed to make the least impact possible on the stand by limiting the ROW to less than 20m and laying out the road where it would have the least impact on the stand (distance through the stand).

RESIDUAL FOREST - MAPPED

- Before harvest operations begin, the operators will be given a map showing the identified area of influence (AOI) where a residual patch will be required to be placed during operations. Mapped residual represent the preferred location and size of the residual patch.
- Operators may move and adjust the dimensions of the residual patch when locating roads (primary, branch or operational), landings and forestry aggregate pits, and provided that the residual patch still meets the minimum required residual patch size and are within the AOI designated area.

1

RESIDUAL FOREST - UNMAPPED

- Before harvest operations begin, the operators will be given a map showing the identified area of influence (AOI) where a residual patch will be required to be placed during operations.
- Operators should recognize zones where unmapped residual is required and when locating roads (primary, branch or operational), landings and/or forestry aggregate pits, ensure that the required ½ ha residual patch can still be placed within the AOI. If the ½ ha residual patch cannot be placed in the AOI if the road, landing or forestry aggregate pit is constructed, the road, landing or forestry aggregate pit must be constructed outside the designated AOI area.

RICH LOWLAND HARDWOOD DOMINATED FOREST (Black Ash)

- Landings and forestry aggregate pits are not permitted within the rich lowland hardwood-dominated forest.
- Reasonable efforts will be made to avoid constructing new roads within rich lowland hardwood-dominated forest. When necessary, road construction will follow the design principles in 'General Conditions on Road Planning, Construction and Maintenance' (below) to minimize disruption of hydrological function.

ROADS CROSSING RECREATIONAL PORTAGE ROUTES, TRAILS USED FOR WORKING AND ACCESSING TRAPLINES THAT ARE NOT AOCS

- Ensure that recreational portage routes and trails used for accessing and working traplines are passable and protected following forest management operations.
- Harvest operations will cut trees right to trail or portage trail and will leave the trail or portage trail passable and in a condition as good or better than pre-harvest.
- Operations will avoid skidding wood across trails. Where this is not possible, skid trails will be limited to one crossing every 200m and will cross the trail at right angles when possible.
- Operations will not fell trees across trail or portage nor leave slash on the trail or portage.
- Site preparation operations will not cross trail/portage or operate adjacent to trail or portage that will disturb the integrity of it.

SNAPPING TURTLE NEST SITE in non-natural habitat (i.e., road embankment)

- Critical nesting period – date of discovery to September 30th.
- Minimize disturbance of known nests of snapping turtle during breeding activities such as nest construction, egg laying, incubation, or emergence of young. Specifically,
    - Heavy equipment will not travel within 1 m of the identified nest located on road embankments within the critical nesting period.
    - Maintenance operations on existing roads that disturb the roadbed are not permitted within 1 m of the identified nest site during the critical nesting period (except when required for safety reasons or environmental protection). Grading machinery should make an arc around known active nest. The arc should be initiated 5 m before the nest; the top of the arc will be one metre from the nest and return to regular grading activities within 5 m after the nest.
    - Location of nest will be marked by a single pylon on each side to mark the location for oncoming traffic to slow and change their approach.
    - If identified nest is located on the road travel surface reasonable care will be taken to avoid nest by 1m to each side (placement of pylons not required).
- No restrictions on use or normal road maintenance operations if identified nest is located on the road travel surface, or if nest has been predated or if young have left the nest.

WETLANDS – MAPPED PERMANENT NON-FOREST

- Forestry aggregate pits are not permitted within 15m of non-forested wetlands.
- 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.
- Reasonable efforts will be made to avoid construction of new all-weather roads within wetlands or portions of wetlands characterized by open water or non-woody vegetation. When construction of all-weather roads in wetlands is necessary, it will follow appropriate design principals outlined below under 'General Conditions on Road Planning, Construction and Maintenance; Landings; Forestry Aggregate Pits – Outside AOCs' to minimize risk of sediment entering the wetland and disruption of hydrological function.
- No contamination of wetlands by foreign materials is permitted. Specifically,

- 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.

WOODLAND POOLS

- New roads are not permitted within 15 m of the high-water mark of pools, unless there is no practical or feasible alternative due to excessive terrain or safety, and appropriate mitigative measures are taken to minimize the risk of sediment entering pools and disruption of hydrological function (see 'General Conditions on Road Planning, Construction and Maintenance; Landings; Forestry Aggregate Pits – Outside AOCs' below).
- Landings and forestry aggregate pits are not permitted within 15 m of the high-water mark of pools.
- No contamination of pools by foreign materials is permitted. Specifically,
  - 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.

GENERAL CONDITIONS ON ROAD PLANNING, CONSTRUCTION AND MAINTENANCE; LANDINGS; FORESTRY AGGREGATE PITS – OUTSIDE AOCS

The following conditions apply to existing and new primary, branch and operational roads and landings that are not located within an area of concern.

Road Construction:

- 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 100m 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.

- MNRF will ensure that the signs used to identify the use management strategies for roads (e.g., travel restrictions) are maintained.
- The planning, construction and maintenance of primary and branch road corridors and operational road boundaries, and their applicable use management strategies, will consider:
    - The strategic direction associated with other resource plans, policies and directives (e.g., *Crown Land Use Policy Atlas*);
    - The management objectives, and emphasis for specific areas (e.g., management objectives for caribou habitat, direction provided by the *Crown Land Use Policy Atlas*);
    - The potential impact (including benefits) to other natural resource features, land uses, and values (e.g. lakes and streams, cottage sites, boat caches);
    - New Primary and Branch road right-of-way (ROW) may be harvested to a maximum width of 60 metres;
    - New Primary and Branch ROW cleared to 60 m width should be limited and only applied in circumstances where a greater ROW width is needed to extract wood from the ROW or for safety purposes. In other circumstances ROW should be cleared to a maximum of 40 m:
    - Operational road right-of-way (ROW) may be harvested to a maximum width of 40 metres:
    - Operational ROW cleared to 40 m width should be limited and only applied in circumstances where a greater ROW width is needed to extract wood from the ROW or for safety purposes. In other circumstances ROW should be cleared to a maximum of 30 m
- Ensure engineering safety considerations will be incorporated into road planning.
- Monitoring program (Section 4.7.1) for roads and road networks and use appropriate mitigation to prevent or stop erosion in ditches, on steep slopes, etc.
- When all-weather roads must cross wetlands (see conditions on Wetlands section above), provide frequent cross drainage culverts to ensure that surface water is equalized on both sides of the road and impacts to hydrologic flow and wetland function are minimized.
- When 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 and 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 best 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, use techniques 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 existing roads require right-of-way (ROW) maintenance involving the harvesting of merchantable size timber:
    - Chip pads, landings and skidding areas will be established to facilitate the utilization of the fibre.
    - Chip pads will be limited to a single chip pad that is 30m wide X 45m deep off the road running surface for approximately every 1 km of road on an existing road.
- When explosives and blasting are required ensure that a plan exists to contain the rock or earth material inside the right-of-way.
- When constructing roads during the bird nesting season, and occupied nests are encountered, follow direction in Section 4.2.2.
- When planning primary and branch road corridors, avoid high value wildlife habitats such as ungulate wintering areas where possible.
- Do not place windrows or grubbing materials across known migration paths of wildlife in a manner that could impede their travel.

Road Decommissioning: (SSG 5.1.1.3 pg. 134):

- For each road or road network scheduled to be decommissioned, stabilize slopes and areas of the road with known or identifiable hazards (e.g., slopes susceptible to washouts) to prevent erosion and protect public safety.

- Plan and construct roads to minimize costs associated with decommissioning (e.g., use temporary bridges).
- Ensure the schedules for road or road network and water crossing decommissioning is coordinated. When decommissioning a road or road system, assess all water crossings on that road or road system.
- For temporary roads (with "Road Use Strategy 2 – Decommission" as per Table FMP-18 – Roads), as appropriate, may be decommissioned, allowed to deteriorate, or have access restrictions applied to provide the highest level of protection for silviculture treatments applied to areas or to address safety and/or environmental concerns (i.e. a removed water crossing, ditching, or berming).
- When temporary roads and networks (with RUS-2 Decommission) are not required for forest management activities, roads will receive sufficient monitoring and maintenance as required minimizing risks to public safety and/or environmental damage. Situations may arise where it is determined that a damaged/deteriorating infrastructure poses a safety and/or environmental hazard and continued use must be temporarily prohibited until a permanent solution is implemented. Notification will be provided to the other party as appropriate.

1

4.6 Expenditures

This section of the plan identifies projected expenditures required for renewal and maintenance operations for the 10-year period of the plan, 2024-2034.

The planned expenditures by activity and funding source is summarized for the 10-year period in Table FMP-19. The following text provides the rationale and methodology for calculation of expenditures associated with the implementation of renewal and tending operations.

The revenue generated for the Forest Renewal Trust Fund (FRTF) is projected to be approx. $6.544 million for the 10-year period. The renewal fund contribution rate per cubic metre of harvested wood of $8.50 for red pine and white pine, $3.00 for cedar, $6.00 for other conifer, $1.50 for lowland hardwood, and $1.05 for upland hardwoods was used. FRTF contributions will be adequate to maintain the fund above the minimum balance for the account while funding the projected silvicultural program. In the SFMM Model scenarios including LTMD, the same contribution rate per cubic metre harvested by species was used. Contributions to the fund at the maximum contribution level may not be required during for the duration of the plan period if adequate funds are available in the Forest Renewal Trust Fund to complete the scheduled renewal activities.

The forecast expenditures required to complete the forecast silvicultural activities and regeneration assessments for the 10-year period of this plan (as reported in Tables FMP-17 and FMP-20) are $5.828 million. Road construction and maintenance costs are not included in the forecast expenditure total.

Considerations of general silvicultural expenditures included:

- Projected cost of mechanical site preparation,
- 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 tree seedling production (includes planting of site with and without previous mechanical site preparation),
- Average projected tree planting or aerial seeding densities,
- Projected cost of tending by herbicide application, including the cost of the herbicide,
- Projected cost of renewal support,
- Projected cost of regeneration and free-to-grow (establishment) surveys, and
- Administrative costs for silviculture.

The Analysis Package (Supplementary Documentation B) presents the clearcut forest renewal cost assumptions in Section 6.2.3.3. The average estimated renewal cost per hectare, by forest unit harvested and the silvicultural intensity of treatment applied to achieve the future forest unit is documented.

The company evaluated the silvicultural requirements for areas treated prior to 2024, 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 forecast to be harvested in the 2012-2024 FMP, preliminary silvicultural ground rules were assigned to each area. The regeneration treatments and expenditures were forecast based on average annual harvest by forest unit and an estimate of area to be treated with specific activities during the 10-year period. The forecast revenues generated for the Forest Renewal Trust Fund (FRTF) will be projected annually to ensure the balance is maintained above the minimum balance for the account while funding the projected silvicultural program. Renewal rates may be changed annually if the costs of renewal increase or the fund is significantly above the minimum balance with adequate funds to treat all outstanding areas.

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).

4.7 Monitoring and Assessment

This section of the plan text documents the monitoring and assessment program for forest operations inspections, exceptions monitoring, assessment of regeneration success, and the 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. The MNRF conducts surveys of forest values to support forest management planning. No monitoring of exceptions to silvicultural guides and other guidelines is planned as no exceptions are planned at this time.

All Forest Resource Licence (FRL) holders and contractors are required to report all new values or changes to values encountered during operations, as per the direction in the 2020 FMPM (Section D 3.5.3). The general public will be encouraged to report new values in the Whiskey Jack Forest, and will be provided with opportunities to review the annual work schedules at any time of the year.

This section also outlines the MNRF district program for auditing forest operations and conducting forest operations inspections. Compliance performance will be communicated to the Local Citizens' Committee for their review as outlined in Section 4.7.1.10.

4.7.1 Forest Operations Inspections

This section includes the Forest Managers 10-year compliance strategy that was developed in accordance with the requirements of the *Forest Compliance Handbook* (MNRF, 2014), as directed by the FMPM 2020 and the Forest Information Manual (MNRF, 2020). The compliance handbook describes the forest operations inspection process, the requirement for the sustainable forest licensee to produce inspection reports, and the processes for managing operational issues that may be identified through compliance inspections. This section describes the methods, intensity and frequency of forest operations inspections, particular circumstances for which the sustainable forest licensee will conduct forest operations inspections (e.g., forest operations in, and adjacent to, areas of concern), and the submission of inspection reports to MNRF.

4.7.1.1 Compliance Goal

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*, MNRF).

To help meet this goal, the MNRF has prepared a Forest Compliance Strategy, which has as its goal: "To encourage and ensure adherence to rules and requirements which contribute to the sustainable management of Ontario's Forest." (Source: *A Forest Compliance Strategy*, 2007, MNRF).

The goal of the Forest Manager is to continuously improve all aspects of forest operations by evaluating past compliance issues and using appropriate monitoring and reporting techniques to meet or exceed all applicable provincial standards and guidelines:

4.7.1.2 Background

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

The purpose of this 10-year forest compliance strategy is to develop a simple, efficient and effective means of ensuring forest operations are conducted in compliance with the Crown Forest Sustainability Act and associated applicable manuals, regulations and guidelines affecting operations. It has been written according to direction from the *Forest Compliance Handbook* (MNRF, 2014), as directed by the Forest Management Planning Manual (MNRF, 2020) and Forest Information Manual (MNRF, 2020).

Company employees and overlapping licensees are responsible for compliance to all guidelines and the management plan and the AWS. Provisions will be made in Overlapping Forest Resource Licence Agreements for Overlapping Licensees to follow the Compliance Plan measures outlined in this section. If the Overlapping Licensee fails to abide by the requirements of the Compliance Plan, they will be ordered by the Forest Manager to stop activities, and the MNRF will be notified.

The MNRF district program for auditing forest operations and conducting forest operations inspections includes receiving and reviewing Forest Operations Inspection

Reports, conducting spots checks on in-progress operations and completed reports, and following up on non-compliance issues identified by the Forest Manager, MNRF or the public. MNRF will continue to develop an annual compliance plan at the district level and focus on priority areas identified in that plan as appropriate.

Compliance performance on the forest will be communicated to the local citizens committee for their review during monthly meetings if there are specific issues, and annually in the fall associated with the review of the Annual Report.

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 2024-2034 period.

Miitigoog LP is the Forest Manager and is solely responsible for all obligations and responsibilities under the FRL/FA agreement. All operational management responsibilities are conducted through a service agreement with Miisun Integrated Resource Management Inc. (Miisun).

The compliance strategy outlined within the FMP will assist in improving operating practices. It will guide and direct all forest management activities. In support of this, the Forest Manager will be responsible for:

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

Through the annual compliance plan, compliance priorities are selected to prioritize by the Forest Manager, and MNRF within that current AWS year. Changes to provincial legislations, policies and procedures affecting forest operations are discussed regularly. Additionally, any changes in protocol based on root cause of infractions are discussed between MNRF and the Forest Manager, and then are implemented to help improve compliance actions.

4.7.1.3 Objectives, Strategies and Actions

The following are objectives for the Forest Managers compliance program on the Whiskey Jack Forest. Strategies and action plans will be employed to achieve each objective.

Objective #1 - Resource Protection

To ensure that the sustainability of the forest resource is maintained, and all known forest values are protected during forest management activities through area of concern planning and following standard operating procedures.

To encourage the identification of new values, and conduct any necessary Forest Management Plan amendments, to continuously improve resource protection.

To assist in the protecting the forest against the threat of fire, insects and disease.

Strategy:

To apply prescriptions designed to protect and enhance known or unmapped forest values.

Actions:

- Conduct a risk analysis of forest operations by assessing environmental and operational characteristics of sites and operational systems for those sites to guide the assignment of compliance monitoring resources and establish a level of non-compliance risk.
- Forest Management Plans will be prepared according to the MNRFs Forest Management Planning Manual (FMPM).
- Full Area of Concern (AOC) planning will be completed for all known values during FMP preparation.
- The nature and location of all known values and the prescriptions for their protection will be communicated to all forest operators.
- All forest operators will be watchful for new values and will immediately report any new values discovered to the company and the MNRF for evaluation.
- AOC planning will be done in a timely manner for any new values applied, reported or amended to the FMP.
- The public will be encouraged to report values information at any time.
- The Fire Prevention and Preparedness Plan contained within the Forest Management Plan (FMP Section 4.8) will be fully implemented. Representatives and contact information for industry and government will be updated annually in the Annual Work Schedule (AWS) and provided to the MNRF Fire Management.
- The Forest Manager will co-operate fully with MNRF in fire prevention, mitigation

and suppression activities through annual meetings, daily conversation during elevated fire indices and joint field inspections, as needed.

- Forest Operations Prescriptions (FOP) will be implemented to meet the intent of FIM.
- The Forest Manager will take note of and report insect or disease outbreaks on the forest.
- Silvicultural strategies will be developed and implemented to reduce the likelihood of insect and disease occurrence.

Objective #2 - Staff Educational Training, Knowledge, Skills, and Communication

To ensure that all staff, contractors, overlapping licensees and forest workers are trained and educated regarding work practices and techniques that maximize compliance with the FMP through the applicable legislation, regulations and guidelines prior to work commencement.

Strategy:

To ensure that all staff and contractors, overlapping licensees and forest workers have access to training or updates as changes to legislation, regulations or guidelines occur.

Actions:

- The Forest Manager staff responsible for the preparation of FMPs will attend the MNRF training sessions
- The Forest Manager staff, contractors, and overlapping licensees will attend training and refresher awareness, at which time changes are identified and communicated. If changes arise that are immediately pertinent, bulletins are distributed to staff and contractor operations at that time.
- The Forest Manager staff will attend refresher Forest Management Plan training when offered.
- The Forest Manager staff will actively promote environmental awareness and expect compliance to all standard operating procedures throughout the operations. These operating standards will meet or exceed all applicable legislation, regulations and guidelines.
- Operating standards and compliance are reviewed every 3 years with contractors and contractor employees, or as needed.
- The Forest Manager staff will coach contractors and overlapping licensees in the interpretation and application of operating standards.
- The Forest Manager staff will receive forest fire suppression training and re-certification as per the OFIA and MNRF agreement (SP-102 industry standard).
- Environmental incident hazard reports outlining non-conformance and non-compliance issues are reviewed by The Forest Manager staff and used to identify

key learning's for future annual training.
- The Forest Manager employs a certified Forest Operations Compliance Inspector.

Objective #3 - Maximizing Efficiency of Compliance Activities

To conduct compliance activities in a manner that makes the most efficient use of resources, staff and time, and to concentrate on identified opportunities for improvement.

Strategy:

To ensure that forest operations receive the proper compliance monitoring intensity as determined through a risk analysis developed by the company and the MNRF.

Actions:

- Conduct a risk analysis of forest operations and apply risk management decisions to ensure the best allocation of contractor supervisors and staff.
- Day to day monitoring of activities is the responsibility of the front line supervisor who is directing activities on the work site (in the case of most operations, the front line supervisor may be the contractor or overlapping licensee himself)
- Using company and contractor supervisors, monitoring compliance is performed as part of their daily routine.
- The annual compliance plan will be based on an analysis of the previous year's compliance reports to identify areas which need to be concentrated on for improvement. Joint inspections by the Forest Manager and MNRF staff are encouraged to ensure a common understanding of standards, effective communication and efficient use of time and transportation.
- Compliance monitoring activities will be reported to MNRF using the FOIP program.

Objective #4 - Continuous Improvement

To track progress of compliance and take actions to continually improve upon past performance.

Strategy:

To provide guidance to ensure compliance with future forest operations through analyzing past performance.

Actions:

- Corrective action will be initiated to remedy any issues and non-compliance identified during inspections and the Forest Manager will follow up to see that it is completed.
- An investigation will be conducted of all issues and non-compliance/non-

conformance incidents to determine causes and prescribe effective preventive measures.

- Each contractor's performance relative to the operating standards is reviewed with them regularly.
- Compliance performance will be summarised and evaluated on an on-going basis and action taken to address problems and identify issues. Compliance priorities as compiled annually within the AWS will be reviewed with each contractor or OFRL to ensure full understanding of remedial actions developed to prevent future occurrences.
- The Forest Manager is committed to provide notifications of the status of operations to MNRF within the required timelines.
- Completed compliance reports are entered into FOIP.

4.7.1.4 Risk Analysis and Management

With all forestry operations there are inherent risks that could cause environmental, social or operational concerns. The focus for forest compliance planning is achieving the best risk management decision in the planning and allocation of forest compliance monitoring resources given all the other mitigating measures that may have been put in place so that an appropriate balance is struck among:

- minimizing of the likelihood of non-compliant occurrences;
- minimizing the probability of the failure of monitoring systems to detect a non-compliance; and
- minimizing the amount of or adequately mitigating any loss or damage resulting from a non-compliance.

A risk analysis has been undertaken on forest operations to determine the level of operational and environmental risk. To maintain consistency in assessing risk, a score is assigned based on the likelihood of an impact to a value that is to be protected and the capability of the people applying the protection. Each operation is tallied for a total risk score, which ranks the operation's risk from low to high. High rankings have a greater chance of having a compliance issue, therefore requiring a higher level of monitoring, while low rankings will require less monitoring. It is believed that this method of ranking impacts meets the requirements of the MNRF Compliance Handbook on risk analysis.

<u>Harvesting Risk</u>

All forest operations are evaluated and ranked as to whether they pose a significant impact on the environment or to society (Risk Assessment Impact) (RAI). Where AOC

prescriptions, CROs, Conditions on Roads, Landings and Aggregate Pits (CORLAP) and operating procedures within the FMP are based on the sensitivity of the value to forestry activities, compliance risk is based on the likelihood an impact will occur.

To maintain consistency in assessing risk, a score is assigned based on likelihood of an impact on a value to be protected (i.e. historical compliance, complexity of prescriptions, etc.) and the capability of the people applying the protection (i.e. knowledge, personal compliance history). It is believed that this method of ranking impacts meets the requirements of the MNRF Compliance Handbook on risk analysis.

Risk based on **Likelihood** of Impact is ranked for the following AOC prescriptions:

LOW RISK = A01, C01, M01, M03, M04, M07, N02, N04, N05, N06, N11, HL1, NG1, PL1, RR1, HC1, WM1, W01, W02, W03

MODERATE RISK = FN1**,** N01, N03, N10, N13, N19, PP1

HIGH RISK = A02, I01, I02, I03, I04, I05, I06, I07, D01, D02, D03, D04, D05, M02, M05, M06, N07, N08, N09, N12, N14, N15, N16, N17, N18, RP1, RP2, RP3, RP4, RP5, T01, T02, T03, T04, T05, Tar, Tat, Tcs, Tpt, Trd, Tst, Tt1, Tt2, Tt3, NH1, LS1, W04, W05, W06, W07, W08

Risk based on **Capability** is ranked by the following factors:

LOW RISK = Loggers trained to FMP/compliance procedures with no more than three (≤3) operational issues and zero (0) non-compliances in the past 3 fiscal years

MODERATE RISK = Loggers trained to FMP/compliance procedures but have had more than three (>3) operational issues and zero (0) non-compliances in the past 3 fiscal years

HIGH RISK = Loggers newly trained to FMP/compliance procedures or have not logged on the Whiskey Jack Forest in the past 3 years or have had at least one (≥1) non-compliance inspection in the past 3 fiscal years.

NOTE: Loggers refer to operators on ground, not the Licensee or Contractor Approved to Commence Harvesting Operations.

Table 52 Compliance Risk Ranking Table

Capability Rating	Likelihood Rating		
	Low	Moderate	High
Low	LOW RISK	LOW RISK	HIGH RISK
Moderate	LOW RISK	HIGH RISK	HIGH RISK
High	HIGH RISK	HIGH RISK	HIGH RISK

From the table above, when an operation falls within “LOW RISK”, it is considered a low risk activity and a notice of completion of the harvest will be submitted to the MNRF. Harvest blocks within “HIGH RISK” are deemed to be a higher risk activity and will require FOIP reporting.

Forest Renewal/Maintenance Risk

Tree planting, aerial seeding, pre-commercial thinning and mechanical site preparation are deemed to be low risk activities. A notice of completion of the renewal activity will be submitted to the MNRF.

Herbicide application is deemed to be a high risk activity. One FOIP inspection report will be completed on these operations annually.

Road Construction Risk

All primary and branch road construction will have one FOIP inspection report submitted when the road has been completed. Where road construction may take multiple years, the road will be left in a stable state after each stage of construction.

Road Maintenance Risk

Ditching or right-of-way cleaning within an AOC or 100m (or height of land) of a water crossing will be inspected. A notice of completion of these road maintenance activities will be submitted to MNRF.

Road maintenance on other roads (grading, gravelling, dust-control) activities are low risk and do not require notice to MNRF.

Herbicide application on right-of-way is deemed to be a high risk activity. One FOIP inspection report will be completed on these operations annually.

Water Crossing Risk

A FOIP inspection report will be completed for all bridge installation or removals, all culvert installations crossing moderate or high potential sensitivity water (as described in the Stand and Site Guide section 4.1). Water crossing installations or removals on low potential sensitivity watersheds (as described in the Stand and Site Guide section 4.1) will only require a notice of completion submitted to MNRF. One FOIP report will be submitted annually for all winter crossing removals. Details for each water crossing are to be itemized within the FOIP report. Other water crossing activities will provide a notice of completion submitted to MNRF.

Mitigating Risk through Training and Communication

The Forst Manager strives to ensure that contractors receive training on the FMP/AWS and the compliance program. Prior to harvesting activity starting a pre-work document is given to contractors to review with their staff. The pre-work includes an approved AWS block map which highlights AOCs, potential sensitive sites and block boundaries. There are also work instructions included such as common compliance information on retention trees, descriptions of AOCs found inside the block, any timing restrictions or special operating conditions. Also, further controls and mitigation measures to ensure compliance success are implemented as described in the actions pertaining to the strategies stated above.

4.7.1.5 Roles and Responsibilities

There are a number of specific functions to the preparation and implementation of the Compliance Plan. All company staff, contractors, overlapping licensees and forest workers have responsibility for compliance and play a role in ensuring activities are in compliance. Table 53 lists a few specific responsibilities associated with compliance and identification of who has responsibility for them.

Table 53 Summary of Compliance Responsibilities

Roles	Position Responsible
Forest Management Program	• Management Forester
Identification of Certified Inspectors	• General Manager
Forest Operations	• Forestry Technician • General Manager • Management Forester • Operations Forester
Compliance Inspections	• Forestry Technician • Operations Forester • Management Forester
Review and Approval of FOIP	• General Manager
Company Representation	• General Manager • Management Forester • Miitigoog President • Miitigoog Vice President
Roles	Position Responsible
Preventative, Mitigative Actions	• Forestry Technician • General Manager • Management Forester • Operations Forester • Overlapping Licensees & Employees and sub-contractors • Contractors & Employees and sub-contractors
Prevention, Monitoring, Reporting	• Forestry Technician • General Manager • Management Forester • Operations Forester • Overlapping Licensees & Employees and sub-contractors • Contractors & Employees and sub-contractors
Training	• Forestry Technician • General Manager • Management Forester • Operations Forester

Contractors & Overlapping Forest Resource Licensees:

Miitigoog, as the Forest Manager has overall accountability for the compliance program on the forest. All overlapping licensees and contractors are responsible for prevention, monitoring, inspecting and reporting on the area of operations. The harvest and silviculture contractors along with the Overlapping Forest Resource Licence Agreement holders require a contract for work and the overlapping licensee to adhere to Forest Managers compliance plan, government legislation and regulations, the FMP and AWS.

Overlapping licensees are responsible for ensuring compliance on all operations over which they have control, and that these operations adhere to legislation and any special conditions addressed in the FMP (e.g.: AOC prescriptions, CROs). Although licensees are responsible for their own compliance, Miisun staff, on behalf of the Forest Manager, will continue to monitor their compliance and work with them and MNRF when necessary.

When compliance issues arise, the OFRL will be required to contact Miisun immediately, and Miisun will notify the MNRF. Miisun and the OFRL will work with MNRF directly to correct or mitigate compliance issues. In the event of a non-compliance penalty situation, caused by the OFRL, the licensee will be responsible for remedial actions and the costs of remediation and the penalty.

Miisun will complete inspections and reporting required for all OFRLs on the Whiskey Jack Forest.

MNRF's Role:

MNRF contributes to the compliance system in a number of ways. They review and approve strategic compliance plans and annual compliance schedules. New legislation, regulations and guidelines are communicated to the company by MNRF. MNRF may provide coaching and training assistance to the company. By joining in field inspections with Miisun staff, MNRF ensures consistent understanding, interpretation and application of regulations and guidelines.

MNRF will review the company reports for accuracy and completeness as per the *Forest Information Manual*, compliance plan, and compliance handbook. If the company reports do not meet the requirements, the reports will be returned to the company for corrections.

MNRF is required to verify all company operational issues. Once the MNRF is made aware of a situation, a site inspection will occur (where applicable) to verify and collect information on the circumstances of the issue. Based on information collected, and communications with the company, a resolution will be determined. MNRF will add this "Verification data" to the company report using the FOIP program.

The MNRF will report all operational issues within 5 working days of discovery to the company. A FOIP report will be submitted within 10 working days of detection.

MNRF will assist with monitoring the compliance of small commercial and personal use Forest Resource Licence holders, for products such as fence posts and building logs, “personal use” and commercial fuel wood, the activities of utility companies such as Trans Canada Pipelines and Ontario Hydro, and harvest by mining, prospecting and other non-forest industry companies.

MNRF and Miisun will conduct joint quarterly meetings to ensure compliance reporting and required actions are being addressed in a timely manner. At this time, joint field visits, shared training, current and upcoming issues are discussed along with the preparation of Actions Plans to address these items.

4.7.1.6 Notification of Status

The Forest Compliance Handbook, section FOR 07 03 05 outlines the specific requirements regarding notification of operational status, as outlined below in Table 54.

Table 54 Inspection Reporting Times

Activity Status	MNRF Reporting Requirement	Timeline	Responsibility
Start Up Notification			
New harvest, road construction/maintenance, water crossing installation, renewal, and maintenance silviculture operations	Notify the MNRF of the commencement of new operations through email	Within 5 working days of operations start up	Forest Manager
Suspended Operations Notification			
Harvest, road construction/maintenance, renewal, and maintenance silviculture operations	Notify MNRF by email of suspended operation. - Document is to provide details of suspension, wood remaining, and intended date of return. - Operations may not be suspended for more than the balance of the period of the current AWS and one further AWS period.	Within 20 working days prior to suspension of operations	Forest Manager
Water crossings	The installation or repair of water crossing cannot be suspended. Once the activity has begun, it must be completed to a stable state.		

Activity Status	MNRF Reporting Requirement	Timeline	Responsibility
Renewal and maintenance activities on suspended harvest blocks	Notify MNRF by email identifying which harvest areas they want to have released for renewal activities to occur.	No less than 10 working days prior to start-up.	Forest Manager
Completion of Operations Notification			
Harvest, road construction/maintenance, water crossing, renewal and maintenance silviculture operations	For operations considered **LOW RISK**[a], notify MNRF by email. For operations considered **HIGH RISK**[b], submit FOIP report.	Within 20 working days of completion of operations.	Forest Manager
Discovery of an Operational Issue.			
Issue results in environmental loss or damage	Notify verbally and in writing	Verbal within 24 hours and written within 5 working days.	Forest Manager or MNRF
Other issues	Notify by email	Within 5 working days	Forest Manager or MNRF
	Submit FOIP report	Within 10 working days	Forst Manager or MNRF

[a] LOW RISK = harvest areas as Risk Rating Table above, tree planting, aerial seeding, mechanical site preparation, pre-commercial thinning, road grading, gravelling, dust suppressant, and water crossing <=1200mm.

[b] HIGH RISK = harvest areas as Risk Rating Table above, herbicide applications, road construction within 100m of water, water crossings of MPS/HPS, bridge install/removal, and winter water crossings.

Compliance Reporting to MNRF

Miisun, on behalf of the Forest Manager, will report the results of its compliance monitoring activities to the MNRF on a regular basis through day to day communications and using the MNRF FOIP reporting system.

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

When an operation has been assessed as low risk and completed operations are without operational issues, a FOIP Completed compliance report does not need to be submitted. Instead, a written notice of completion will be sent to the district MNRF, providing the location, following the same timelines as outlined in the above table. The notification table will be used as the written notice between the company and the MNRF.

Where the operations spans more than one AWS period and a Completed Notice was not filed within two years of the Start-Up notice or the date of approval of the AWS, a Completed compliance inspection will be done and submitted in FOIP.

Completed notifications are not applicable to an Access operation CRA that contains multiple water crossings, and therefore requires a Completed compliance inspection to be submitted in FOIP within 10 days of completion of the final water crossing.

Reporting of Operational Issues

All operational issues are to be reported immediately by forest workers to their supervisor. If an operational issue can easily be corrected it must be done so immediately. On-going operational issues or non-correctable operational issues are to be verbally reported immediately by the supervisor to Miisun, who in turn will notify MNRF. Where an investigation is deemed necessary, Miisun staff will investigate as per the monitoring procedure.

All identified instances resulting in environmental loss or damage will be reported to MNRF verbally (within 24 hours) and must be followed up with a written notification within 5 working days. The Inspector is to submit all other inspection reports that contain operational issues to FOIP within 10 working days of discovery of the operational issue.

It is the responsibility of the MNRF to verify all reported operational issues within 10 working days of notification. For situations where notification was required within 24 hours, the operational issue will be verified within 24 hours of that notification.

4.7.1.7 Prevention, Avoidance and Mitigation

During operations, emphasis is placed on the prevention and avoidance of undesirable activities through training and communication of proper resource stewardship. However, should such an undesirable activity occur, it is the responsibility of the Forest Manager holder to take action to prevent and avoid potential operational issues in a decisive, timely and appropriate manner.

It is the responsibility of the contractor and OFRL holder to take every reasonable effort and action to prevent and avoid potential non-compliance or operational issues in a decisive, timely and appropriate manner. Where any 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. Operators will immediately report any situation to their supervisor who will contact Miisun for clarification. Miisun staff and contractor supervisors will review the concern or issue and if deemed a violation to the approved plan they will put measures in place to mitigate further issues.
3. If the situation cannot be immediately corrected, the MNRF will be notified and a certified inspector will submit a report in FOIP that documents their findings and an operational issue.
4. If the activity is not in violation of the approved plan or an immediate threat to the environment, necessary steps will be taken to review the issue to prevent future occurrence.

4.7.1.8 Compliance Reporting Areas

A Compliance Reporting Area is the area of land described for the purposes of planning and implementing a forest Compliance Inspections. It also forms the geographic basis for which a forest operations Compliance Inspection report will be submitted to the Forest Operations Information Program (FOIP) or a written Completion Notice will be filed with the MNRF. How forest operations are aggregated or subdivided and how they are identified (e.g. named or numbered) for the purposes of Compliance Reporting Areas are further described in the Annual Work Schedule.

For the purpose of compliance reporting areas on the Whiskey Jack Forest, compliance reporting areas (CRA) will either be comprised of multiple sites (aggregated) or will be retained as a single site (maximum 500 ha). The type of compliance reporting area will be dependent on the type of operation that is being reported. Reporting, as described above, can take the form of email notification or formal FOIP reporting.

The CRA will indicate the appropriate number or identifier for the block, road or water crossing as it is referred to in the AWS. The risk-based approach to planning for compliance reporting areas is discussed in 4.7.1.4 Risk Analysis and Management.

Multiple crossings on a forest access road may be grouped within an Access report. Water crossings may only be aggregated when they are a part of a single access operation. Any aggregated water crossings will be identified in the AWS and will share a CRA. A start-up notice will be required for each water crossing but only one FOIP report will be necessary for the CRA. Where all water crossings within the shared CRA are not installed within the first AWS year a FOIP would be required for those completed within that year and a second FOIP will be submitted for the remaining crossings when installed

in the future. If an Operational Issue arises at one of the crossings, a separate FOIP report will be required for that crossing and particular issue.

CRAs for renewal, tending, or road maintenance operations will be reported by aggregation of blocks/roads and will be identified at time of reporting. The report will include information on the block numbers/roads and total hectares/km represented in the report.

4.7.1.9 Monitoring Compliance of Forest Operations

This section will provide a description of monitoring compliance of forest operations on the Whiskey Jack Forest. A full description of procedures and timelines associated with compliance monitoring is available from the *Forest Compliance Handbook* (MNRF, 2014); directive FOR 07 03 04 and procedure FOR 07 03 05.

Forest Operations to be Monitored for Compliance

Forest operations compliance inspections and reports are related to the four operations and their corresponding activities identified below. Activities have been associated with the operations to which the area most closely is related to or are most likely to occur. Also, there will be activities that are associated with all four operations (i.e. Fire Prevention and General Activities).

<u>Access Operations</u>

- Aggregates
- Area of Concern
- Fire Prevention
- Road Construction (new and maintenance)
- Water Crossing (new and maintenance)
- General activities

<u>Harvest Operations</u>

- Area of Concern
- Cutting
- Fire Prevention
- Wood Measurement/Movement (e.g. Wood Storage Areas)
- Utilization
- Road Construction
- General Activities

Renewal Operations

- Pesticide Application
- Renewal
- Site Preparation
- General Activities

Maintenance Operations

- Pesticide Application
- Tending
- General Activities

Compliance inspection report procedures on the Whiskey Jack Forest will follow direction from the *Forest Compliance Handbook* (MNRF, 2014) procedure FOR 07 03 05. The procedure provides a flow chart outlining the process that will be used when confronted with issue management.

In response to direction from Northwest Region MNRF (June 2011) and the acknowledgement by Miisun, the reclamation of landings, roadsides and slash/chipper debris will continue to be a priority for consideration when assessing planned and active harvest areas, compliance inspecting and renewal areas. This topic of priority has been discussed at training sessions with forestry supervisors, and field sessions with operators. A heightened awareness to reclaim productive land back is established and will continue. The following has been in place since 2011 and elevated awareness and implementation is done at the contractor level:

Reclamation of Slash Piles:

- Compliance Inspector will indicate and record in Harvest FOIP report if slash areas require piling or if piling is completed.
- Compliance inspection results will be reported in the Annual Report.

Reclamation of Chip Piles:

- Compliance Inspector will record in Harvest FOIP report if chipper debris has been dealt with or not; as per 4.2.2.2 Conditions on Regular Operations – Loss of Productive Land.
- Compliance inspection results will be reported in the Annual Report.

Site Preparation Operations:

- Areas will be recorded in the Renewal FOIP report where pads have been treated and/or renewed.

Reclamation of Landings:

- Landing assessment will be done at time of renewal assessment for areas.

Renewal Operations:

- Sites will be evaluated for appropriate renewal treatments (consistent with most applicable SGR – likely same treatment as applied to adjacent block).

To determine compliance of rutting

- Randomly traverse (minimum 300m) through the harvested area
- Simultaneously, count how many times you cross a disturbance that meets the definition of a rut.

Rut = Continuous trench or furrow created by machine traffic that is >=4m long and >=30cm deep (or to bedrock)

- Calculate % of ruts (i.e. #ruts ÷ metres traversed)

Acceptable Rutting Standard

- <=5% on shallow soils (i.e. 5 ruts for every 100 metres)
- <=10% on other soils (i.e. 10 ruts for every 100 metres)

To determine compliance of site disturbance

- Within the “worst” area of rutting identified above, measure a 0.1 hectare circle (17.85m radius)
- Estimate percentage of circle disturbed by ruts

Acceptable Site Disturbance Standard

- <50% of the 0.1 hectare circle has been disturbed

4.7.1.10 Opportunities for LCC Involvement

The Terms of Reference for the Whiskey Jack Forest Local Citizens’ Committee does not contain specific commitments with regard to the involvement of the LCC in the forest operations inspection program and the MNRF’s monitoring of forest operations. However, committee members are provided with an annual overview of the forest operations compliance activities during the presentation of the Annual Reports, Annual Work Schedule and from time-to-time updates of issues and trends. LCC members are also encouraged to participate in the Independent Forest Audit process.

Significant non-compliance issues and recent activities will be brought to the LCC's attention at regular scheduled meetings in order to provide a sense of awareness as well as educating the LCC members through reporting on the activities in progress on the forest. 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.

4.7.1.11 MNRF District Auditing and Inspection Program

The MNRF District auditing and inspection program is generally planned and coordinated through priorities, targets and schedules identified in the MNRF District Annual Compliance Operating Plan (ACOP). The District ACOP covers the time period of April 1st to March 31st.

The preparation of the (ACOP) including the forestry portion is coordinated by the Planning and Information Sections Sr. IRM Technician with input from the staff in the Kenora District.

Planned Compliance Actions are developed based on local compliance issues, MNRF's Regional compliance priorities and/or MNRF's required business practices. Targets are developed based on risk assessment (See section 4.7.1.4) as well as availability of staff.

Risk is defined as the degree of certainty of an outcome. Operationally, risk factors such as operator experience, compliance history, and season of harvest are weighed. Operators with a good history and extensive experience may receive less monitoring. Maintaining respectable relationships and frequent communications will contribute to increasing the degree of certainty a positive outcome will be achieved. MNRF's risk analysis will be carried out annually based on the above stated priorities, but also include random spot checks of activities deemed to be low priority to ensure a continuation of compliance.

The MNRF Area Staff participate in the review and development of the Forest Managers annual compliance plan. The identified issues, targets and actions contained in the Forest Managers compliance plan are considered when developing the district ACOP.

4.7.2 Exceptions

Exceptions are defined as: “All silvicultural treatments in the silvicultural ground rules (Table FMP-4) that are exceptions to the recommendations in the silvicultural guides, and all operational prescriptions and conditions for areas of concern that are exceptions to the specific direction or recommendations (standards and guidelines) in the applicable forest management guides”.

This section of the FMP summarizes the exceptions monitoring programs to be conducted on the management unit, with the detailed monitoring program included in Supplementary Documentation F.

There are no forest management activities classified as “exceptions” in this FMP, therefore Supplementary Documentation F – Monitoring Program for Exceptions is not required.

4.7.3 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. Table FMP-20 identifies approximately 6,878 ha for formal regeneration assessments to be done in 2024-2034 plan period (remaining area from 2012 FMP and 40% of 2024 FMP). There are a variety of methods and procedures that can be employed as part of an overall monitoring program including direct methods such as field inspections and observations, as well as indirect methods such as the use of aerial photography or aerial reconnaissance. Both formal and informal procedures contribute to an effective monitoring program. The monitoring program is comprised of several components: Pre-establishment regeneration assessment, plantation/seeding survival assessments, regeneration condition assessments, assessment of roads/landings/debris pile areas, and regeneration establishment assessment.

Natural regeneration surveys are conducted on all harvest areas with a ‘natural regeneration’ treatment ((contained in silvicultural treatment packages in Table FMP-4 Silvicultural Ground Rules (SGR)), to verify the suitability of the renewal prescription and determine if supplemental treatments are required in order to become successfully established.

For artificially regenerated areas, during plantation assessments areas that have been planted are assessed two to three (2-3) years after planting to determine the success of

the treatment and assess whether or not a re-treatment (i.e. crop failure due to drought conditions) may be required. These are generally ground field checks without formal plots. If, for some reason, the planted sites have had high mortality there may be a good opportunity to replant sites immediately. The next reconnaissance, regeneration condition assessment, is carried out 3-5 years post-treatment, depending on the renewal treatments. These assessments are semi-formal, utilizing a standard methodology with random plots to collect information regarding the status of the regeneration, and to assess the necessity for any retreatments or supplemental treatments and future tending treatments. Those areas requiring tending or supplemental treatment are then scheduled for treatment. Regenerating roads, landings, and debris areas are assessed at this time as well to determine success and re-treatment or supplemental treatment needs.

The final formal assessment is the regeneration establishment assessment that is a formal survey generally conducted 4-12 years after harvest depending on the forest unit and the SGR applied. The timeframe is stated in the silviculture ground rule in Table FMP-4. The effectiveness of silviculture treatments is related to the achievement of forest management plan renewal objectives in the forest management plan which the stand was harvested and treated. The assessment includes determination of compliance with the minimum regeneration establishment standards stated in Table FMP-4.

Acquisition of high resolution digital colour imagery of regenerating forest stands is used to aid in determining renewal features such as species, height, site occupancy, density as well as other features such as ecosite, road conditions, etc. The digital imagery provides a standardized, scalable, rectified, auditable, permanent record of the assessment.

Monitoring activities of a regenerating site are considered complete once the area has been declared as successfully “established”. Stands are successfully “established” when assessment results show the average conditions of the stand meet the regeneration standards for establishment within the silviculture ground rule. If an area is identified as not meeting the establishment standard for the SGR, it will be either (a) assessed as successfully meeting the regeneration standard of establishment for a different SGR, or (b) it will be assessed for future treatments and recorded and tracked in the database for future re-assessment. For areas that have underperformed as compared to the establishment standards, a forester for the Forest Manager may (at their discretion), determine if additional time is required for improved regeneration standard achievement; or based on a minimum polygon size of two to eight (2 to 8) hectares and depending upon the total assessment area, delineate out the portions that meet establishment standards or barely meet the standards. Target the portions with poorer success for retreatment or supplemental treatment and re-assess at a future date, then

declare the remaining area as established; or accept the achievement of the broader future FU definition allowing underperforming areas to be balanced by better performing areas when they are reported and included together as part of the same stand.

Monitoring stands at establishment will allow the stand to be entered into the inventory for future planning and used in future wood supply models. The new stand description used to update the forest resources inventory must have basic parameters measured such as height, species composition and stocking. In the case of intensively managed forest unit strata, a density maximum may also be measured but is not a basic attribute.

The survey information is stored electronically. The results of the establishment surveys will be reported each year in the Annual Reports submitted for the forest. The MNRF will validate the survey results using the same survey methodology as the Forest Manager within one year of receiving the data. If there is a discrepancy between MNRF validation results and the Forest Managers assessment results, MNRF will contact the Forest Manager to discuss and resolve.

Should the Local Citizens' Committee express interest in the regeneration assessment program, they are welcome to accompany field surveys and examine captured digital imagery.

The full monitoring program is contained in Supplementary Documentation G – Monitoring Program for Success of Silvicultural Activities.

4.7.4 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 safety to public concerns arise. Table FMP-18 summarizes planned and existing road construction and use management for all primary, branch, and operational roads or operational road networks, as well as planned monitoring for each road or road network, for the 10-year period of the FMP.

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. Where bridges are used for 'heavy truck hauls, a certified inspector will inspect the bridge condition and site at least once a year. Otherwise, bridges identified as the responsibility of the Forest Manager will be inspected on a 3-year rotation or upon receipt of a complaint/concern (as per the *Crown Land Bridge Guidelines*, Feb. 2008).

The yearly schedule for roads and water crossings to be monitored will be included in the Annual Work Schedule (AWS). This yearly schedule will be based upon a risk assessment approach with emphasis on the potential values which could be impacted (fish habitat) and the potential for public safety concerns. The intent will be to inspect roads and water crossings in areas of active operations. All roads, which are not being maintained throughout the year, will be inspected at least once every three years as per the FMP and more frequently where circumstances, such as abnormal rainfall, warrant.

Roads and associated water crossings on the forest are monitored:

- to ensure safety, functionality, and efficiency of roads and water crossings which are actively used by forest operations;
- to ensure that there are no safety issues associated with any roads or water crossings;
- to ensure that there are no negative environmental impacts associated with any road or water crossing.

Monitoring will be carried out throughout the year as per the FMP road use strategies and as specified below to determine if there are environmental or public safety concerns:

- Staff and contractor personnel, as part of their normal field duties, will physically observe, on a continual basis, the condition of water crossings on maintained roads, particularly with respect to the potential for washouts or blockages of culverts, and condition of the physical structure. Problems will be reported to the party responsible for the road.
- Roads that are Forest Manager responsibility, but not regularly maintained, will be inspected at least once every three years by Miisun or contractor personnel.

The methods used for monitoring will be primarily vehicular travel but may include aerial observation during other activities such as compliance, renewal or establishment surveys. It is important to point out that all crossings may not be observed each year as operations may not occur at the critical time of potential washout conditions or when water is flowing at its' heaviest. All roads, which are not being maintained throughout the year, will be inspected at least once every three years and more frequently where circumstances, such as abnormal rainfall, warrant. 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 where activities apply. Roads and associated water crossings and bridge inspections will be reported in the annual report as per the FMPM.

4.8 Fire Prevention and Preparedness

This section describes the wildland fire prevention (Section 4.8.1) and preparedness measures (Section 4.8.2) to be implemented during the 10-year period of the forest management plan, as well as the Modified Fire Response Plan (Section 4.8.3).

Wildland fire prevention and preparedness measures to be implemented during the 10-year period of the forest management plan (Section 4.8.1) apply to the entire management unit. These measures address how MNRF, Licensees and Contractors will prevent the start of wildland fires, 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, mitigation, preparedness and suppression purpose.

MNRF, Licensees and Contractors shall adhere to the *Forest Fires Prevention Act* (F.F.P.A.), MNRFs *Modifying Industrial Operations Protocol* (MIOPS), Forest Fire Operations By Forest Industry – Business Practices - Procedure # AFFES:FM:2:15, the *Crown Forest Sustainability Act* and the Company Annual Fire Plan. 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 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.

4.8.1 Fire Prevention

It is the responsibility of MNRF, the Forest Manager, Overlapping 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, the Forest Manager, Overlapping Licensees and Contractors during the fire season; so that industrial activities are modified as fire danger increases; to reduce the risk of igniting a wildland fire.

To enhance the compliance and understanding of these items the following measures are implemented:

- Daily communication (e.g. phone message or website) will occur with the MNRF Fire Management Headquarters by all working in the Whiskey Jack Forest during the Fire Season to determine the Fire Intensity Codes on a daily basis.
- Daily communication with the Forest Manager, Overlapping Licensees and

Contractors detailing fire activity and fire hazard is carried out with all contractors (e.g. email, tailgate meetings, phone, two-way FM radios, etc.).

- Fire Prevention messages will be broadcast on local radio stations by MNRF (e.g. wildland fire hazard, exercising caution in the forest, etc.).
- The Forest Manager field personnel or contractors conduct periodic fire inspections on mechanical equipment and forest fire suppression equipment at each operation to assure compliance with the *Forest Fires Prevention Act* and company standards. When high to very high risk operations are occurring, inspections will be completed prior to the start and during early stages of these activities. As well, 1 hour after the end of shift ground patrols of harvest areas will be conducted when high to very high risk operations occur.
- Frequency of equipment inspections will be dependent on the fire hazard. Inspections will include confirmation that equipment adheres to MIOPs standards.

In the Event of a FIRE:

1. Always ensure that serviceable fire suppression equipment is available including pack pumps during the entire fire season;
2. Assess the fire and if controllable, take the appropriate actions to safely extinguish it and seek help from supervisor and crew;
3. Immediately report the fire to the MNRF **310-FIRE (3473)** and Miisun, and provide the following information:
    a. Location *(general description, access to area, nearest lake)*
    b. Size
    c. Spread potential *(fresh cutover, standing timber, natural boundaries, wind direction and speed)*
    d. Values *(equipment, processed wood, tourist camps)*
    e. Actions being taken;
4. Stay in radio contact until all vital information has been relayed and confirmed;
5. Take all precautions to remove people from danger;
6. Continue to action the fire until it is out, or you are relieved by the MNRF or it becomes too dangerous; and
7. If equipment needs protecting from potential fire spread, move equipment away from fire front to an area of large mineral soil. (i.e. gravel pits, roads). Consider travel speeds of machines (grapple vs. tracked buncher). Equipment may need to be floated out. Consider availability of transportation vehicles and have them in a state of readiness.

4.8.2 Fire Preparedness

MNRF and the Forest Manager recognize that any forest operation undertaken in Ontario must be done with careful consideration to the prevention of wildland fires. Accidental wildland fire can have a large impact on annual operations or timber supply. Operators must also be prepared to safely take initial action to prevent fire spread, should a fire occur. Under the authority of the *Forest Management Planning Manual* and the *Crown Forest Sustainability Act*, conditions are placed on forest operations through the Annual Work Schedule to provide forest fire prevention and preparedness.

Contractors are to take all necessary precautions to prevent forest fires during the course of its operations; to detect, report, and where possible take immediate initial suppression action to minimize any loss resulting from forest fires. Every reasonable attempt will be made to take action on fires on or near operating areas, to remain on site until the fire is considered to be out or until relieved by the MNRF or the situation becomes too dangerous to handle with the available level of skill and/or training.

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

Additionally, an annual fire plan will be issued to all contractors and the Forest Manager staff as part of the AWS that will include forest fire reporting procedures, Whiskey Jack Forest Contacts and emergency numbers and prevention and preparedness guidelines.

Trained and Capable, and Limited Operators - As per the *Forest Fires 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 Red Lake area.

* **Immediately** - means two-way radio or telephone capabilities from the site to the MNRF office.

4) **Training:** A minimum 25% of all staff (or at least one person, if there are less than four staff) involved in forest operations on a particular site must be trained to the MNRF SP-102 standard.

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

Training for personnel in harvesting and site preparation operations will be trained to the SP-102 Industry certification with refresher training required every four years. Training will be completed prior to the fire season to ensure a minimum 25% of individuals on site will be certified to the SP-102 standard otherwise operations will be treated as limited. Planting and Manual Tending operations will be trained by their respective Contractors to a competent level of fire knowledge based on the fire equipment in their operations. At minimum these companies crew bosses will be trained to SP102 Industry certification standards.

Fire Suppression Equipment - As part of the Compliance Plan, all Licensees and Contractors will inspect their operations and equipment to ensure that they are compliant as per *Modifying Industrial Operations Protocol*, and that equipment is in good working order.

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 mechanical thinning, hand tending and tree planting do require some suppression tools (minimum of 2 shovels and a soft back pack pump).

4.8.3 Modified Fire Response

Modified Fire Response section speaks immediately to not allowing fire on the landscape and seeks immediate suppression. There may be opportunities on the landscape for the use of wildland fire to support desired objectives such as forest renewal, habitat restoration, ecosystem renewal, etc., under desirable weather conditions.

Forests are fire dependent ecosystems that rely on periodic wildland fire as a renewal agent. Wildland fire can be used as tool where safe and appropriate, to support land and resource management objectives. The Planning Team through dialogue with MNRF fire management representatives, are required to determine that areas for modified fire response be identified as a candidate modified fire response areas.

The Whiskey Jack Forest is a fire dependent forest that was shaped by historic wildland fire. The Whiskey Jack Forest has frequent wildland fire disturbances, and requires wildland fire disturbance in certain areas. Analyzing the landscape and identifying areas that can reduce wildland fire risk and support sustainable forest management are part of making an appropriate wildland fire response decision. Under this approach, wildland fires that are an immediate threat to high values such as wood supply will be responded to quickly to minimize damages and disruption. Wildland fires that are not threatening to values can be managed effectively to limit negative impacts and enable the beneficial ecological role of fire.

Managed Fire

The *Wildland Fire Management Strategy for Ontario* (MNRF, 2014) calls on fire and resource managers, communities and individuals to identify landscape scale or site-specific values-at-risk, opportunities for beneficial fire, and general management objectives on the landscape. This requires a balanced approach to fire management that ranges from prompt and complete suppression, to monitoring fires that renew and sustain the forest without threat to human values. This balanced approach when responding to fires is essential to the concept of Appropriate Response on which the Fire Strategy is based. An appropriate response to a wildland fire is the set of actions over the life of the fire, intended to produce the best outcome given the competing desires to:

1. Realize the benefits of fire (contribute to ecological function, improve resource values, reduce hazardous fuels)
2. Manage the detrimental impacts of fire (loss of property, infrastructure and resource values, and economic and social disruptions); and
3. Manage the costs of wildland fire (monitoring, alternative suppression tactics, divisional support).

There are opportunities for resource managers to take advantage of the appropriate response concept by identifying opportunities for beneficial fire, that may help achieve ecological or hazard reduction objectives as long as this is documented in an approved resource management plans (e.g. FMP). This forest management plan authorizes the application of a managed fire response to be used in designated areas in this Sustainable Forest License area to help to achieve both an ecological and fire hazard reduction.

The entire Whiskey Jack Forest has been identified as “Limit Fire”.

Limit Fire locations are where there is a high risk of adverse impacts from a wildland fire. These are areas that are in or adjacent to important harvest areas, wildlife values, and/or social and public values.

“Limit Fire” Candidate Sites: The Whiskey Jack Forest operates on a caribou habitat management DCHS in the northern portion of the management unit. The DCHS divides the forest into a mosaic of current and future large, landscape patches. These areas are of high strategic (objective achievement) and economic importance. As such, these areas are defined as candidates for *High Priority Protection* and fire response. These areas contribute to the short and mid-term objectives including landscape class objectives, harvest volume objectives, and caribou habitat objectives.

In addition, the entire Whiskey Jack Forest DCHS is strategically important to contribute caribou habitat functions and sustain the caribou population for adjacent Woodland Caribou Provincial Park, Red Lake Forest, Kenora Forest and Trout Forest, all of which have experienced significant disturbance in the past and are currently recovering large patches of habitat. The Whiskey Jack Forest is expected to sustain a caribou population which will contribute re-occupancy of caribou to these surrounding recovering landscapes. The Whiskey Jack Forest also shares a caribou population with neighboring Manitoba and is the connecting middle section of the Sydney Caribou Range. The entire Caribou zone is a candidate for “Limit Fire” modified response.

4.9 Comparison of Planned Operations to the Long-Term Management Direction

This section of the plan text documents the assessment of the expected effect of planned types and levels of harvest, renewal and tending operations on the progress towards meeting the objectives in the long-term management direction (Section 3.7).
The assessment includes:

- Section 4.9.1 Comparison of the planned harvest, renewal and tending operations to the projections in the LTMD;
- Section 4.9.2 Comparison of the distribution of harvest to the projections in the LTMD;
- Section 4.9.3 Comparison of the stand conditions (e.g., species composition, site class) of the planned harvest areas to the eligible harvest areas;
- Section 4.9.4 Examination of the effect of the age class distribution and the projected harvest volume of the planned harvest area, on the achievement of the LTMD;
- Section 4.9.5 Examination of the effect of the amount of projected unutilized harvest volume on the achievement of the LTMD;
- Section 4.9.6 A discussion of the effects on objective achievement and sustainability of implementation of planned operations.
- Section 4.9.7 Conclusion of the Comparison of Planned Operations to the LTMD

4.9.1 Comparison of the planned harvest, renewal and tending operations to the projections in the LTMD

The planned harvest operations are 5% lower than Stage Two LTMD preferred harvest (approx. 980 ha lower). The planned harvest allocations are like the LTMD by forest unit, and the planned allocations were also close by 20-year age class. Minor adjustments were needed after LTMD, during planning for operations (Draft Plan and Final Plan), to refine area of concern prescriptions and to accommodate consideration for some specific stakeholder concerns. All FMP tables were updated to reflect the results of the refined Planned Operations.

The LTMD Available Harvest Area by forest unit is documented Table FMP-8 (projected available harvest area over a 100-year planning horizon) and the planned harvest area is reported in Table FMP-12. The total LTMD available harvest area (AHA) for the 10-year period projected is 18,513 hectares. The total planned harvest area for the 10-year plan period is 17,353 ha, and it does not exceed the available harvest area for any individual forest unit (Table 55). A comparison of projected AHA to planned harvest area by forest unit is portrayed graphically in Figure 46. The planned harvest area was shown to be very comparable to LTMD AHA by 20-year age class in Section 4.3.1, and Figure 44 when age at time of projected LTMD harvest was compared to planned harvest stand age from OPI at Plan Start 2024.

Figure 46 Comparison of Available Harvest Area and Planned Harvest Area by Forest Unit 2024-2034

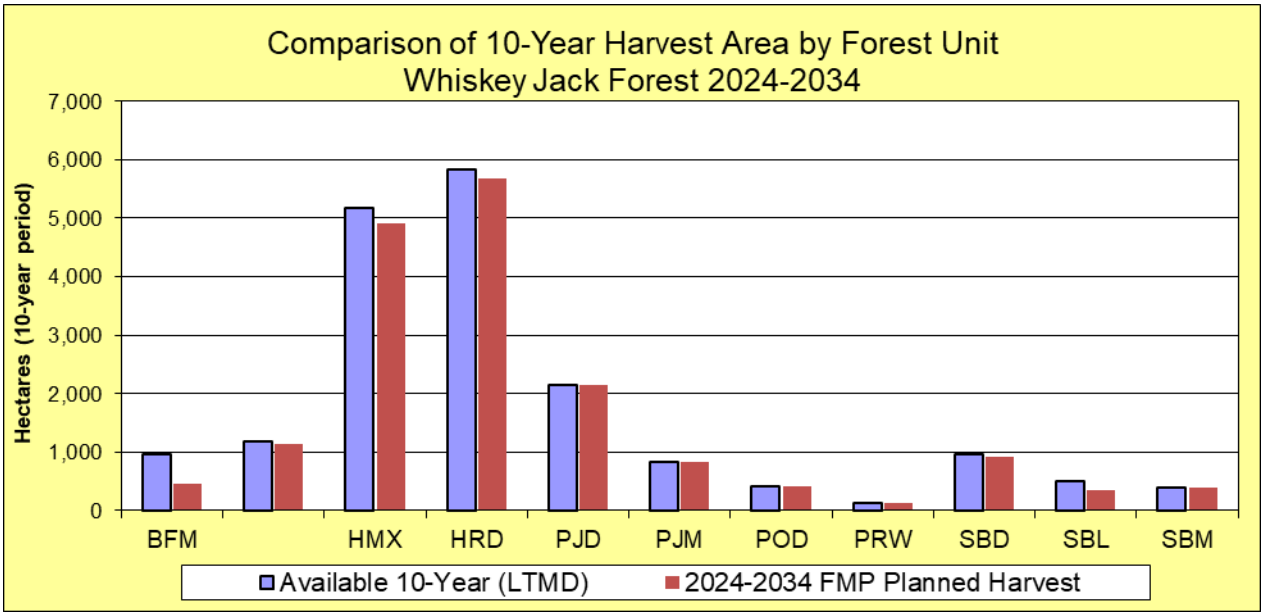


Table 55 Comparison of LTMD and Planned Harvest by Forest Unit 2024-2034

Planned Harvest Operations (in hectares)				
	Harvest Area (ha)			
Forest Unit	10-Year LTMD Harvest	10-Year Planned Harvest	Difference in ha	Percentage of LTMD AHA Planned
BFM	952	467	-485	49%
CMX	1,188	1,141	-47	96%
HMX	5,180	4,909	-271	95%
HRD	5,841	5,669	-172	97%
PJD	2,138	2,138	-1	100%
PJM	841	841	0	100%
POD	409	409	0	100%
PRW	125	125	0	100%
SBD	954	916	-38	96%
SBL	500	355	-145	71%
SBM	383	383	0	100%
TOTAL	**18,513**	**17,353**		
Source Table:	FMP-8	FMP-12		

Planned harvest by forest unit varies from 49% –100% of the LTMD available harvest area by forest unit. The lower allocation of the balsam fir forest unit (BFM 49% of projected) resulted from the scattered location of stands not being operationally feasible in some areas, as well as the associated with spruce forest units which had relatively low AHA areas (less area to allocate). The under allocation of SBL (71% of projected) resulted from a balancing of winter access of lowland areas with the amount of area feasible to harvest over the winter period. All other forest units are allocated at approx. 95-100% of their LTMD AHA.

The planned regeneration area is comparable to the planned harvest area and is comparable to the projected regeneration in the LTMD. A comparison of the renewal by broad treatment type was conducted to confirm the planned renewal of harvested area was consistent with the projected LTMD renewal by treatment type in this plan period (Table 56). Broad treatment types include Natural regeneration, Plant and Seed, all which may include projected tending activities. Tending is planned to occur on 54 ha (Table FMP-17, all ground tending), however a direct comparison of tending area to LTMD is not possible as tending activities were combined within broad treatment types for strategic LTMD modelling inputs.

Natural regeneration, planting and seeding are forecast for 1,100 ha less area combined than in the LTMD due to the lower harvest area (Table 56). Of harvested area, 61% is projected for natural regeneration, 19% for planting and 19% for seeding, all comparable to LTMD projected treatment proportions.

Table FMP-17 was forecast based on knowledge of areas harvested in the latter years of the 2012-2024 FMP, as well as areas to be harvested in the first 8-9 years of this 2024-2034 FMP. The planned level of renewal is expected to result in successful establishment of harvested areas, in accordance with Table FMP-4 Silvicultural Ground Rules establishment regeneration standards. Silvicultural Ground Rules and/or planned renewal treatments may be changed during plan implementation by a Registered Professional Forester, based on actual site conditions encountered and professional judgment.

Table 56 Comparison of LTMD and Planned Renewal Treatments 2024-2034

10-Year Planned Renewal Operations (ha)			
Treatment Type	**LTMD Renewal**	**Planned Renewal**	**Difference ***
Natural Regeneration	11,194	10,558	- 636
Artificial Regeneration - Plant	3,744	3,308	- 436
Artificial Regeneration - Seed	3,391	3,329	- 62
Total Regeneration	**18,328**	**17,196**	- 1,132
Supplemental/Retreatment	n/a	0	
Tending (ground)	n/a	54	
Source:	LTMD-01	FMP-17	

4.9.2 Comparison of the Distribution of Harvest to the Projections in the LTMD

Two comparisons were conducted between LTMD projected distribution of harvest and planned harvest areas:

a) Comparison of 2024-2034 harvest area by operational management unit (subunit), and
b) Comparison of Boreal Landscape Guide objective indicator achievement for Plan End 2034 using OLT with projected LTMD harvest versus Final Plan planned harvest depletions.

A. Comparison of 2024-2034 harvest area by operational management unit (subunit)

Harvest of allocated LTMD Available Harvest Area is not regulated by subunit, however subunits were considered when forest operations were planned to ensure operations were feasible and well-distributed on the management unit (in areas where forest operations were permitted to be planned). Annual harvest planned by Operational Management Zone (OMZ) (subunit) is provided in Table 57. The planned harvest by subunit is similar to LTMD with some variation to account for operational realities, stakeholder concerns, and fully harvesting all feasible area in the subunits with timing limitations (e.g., commitment to harvest east portion of CAR2 block fully in this 10-year period). During operational planning, less forested area was considered operationally feasible in subunit LLP3 than was projected in the LTMD, therefore less area was allocated for harvest in that subunit. The Final Plan planned harvest area by subunit was changed only very slightly from projections for Stage 3 Proposed Operations and Stage 4 Draft Plan.

Table 57 Comparison of LTMD and Planned Harvest by Subunit 2024-2034

TERM 1 ANNUAL HARVEST AREA by SUBUNIT (ha)					
	LTMD:				T1 2024-2034 FP
SU	T1 AHA	T2 AHA	T3 AHA	T4 AHA	Planned Harvest
CAR2	112	543			195
DEA1	301	186	248	198	238
H105	664	528	794	661	650
LLP1			25	26	
LLP2			59	21	
LLP3	170				48
LOTW	362	474	551	678	395
MEA1	77	39	131	88	53
MEA2	122	94	104	85	125
MEA3	43	38	68	33	32
CAR1					
SMZA					
TOTAL	1,851	1,902	1,980	1,791	1,735

B. Comparison of spatial landscape pattern objective indicators for Plan End 2034 using OLT with projected LTMD harvest versus planned harvest.

Planned 10-year FMP harvest areas were mapped and spatially analyzed in Ontario's Landscape Tool (OLT) prior to Stage 5: Final Plan. These analyses were used to assess

Plan End 2034 spatial pattern assuming all planned harvest areas are harvested in this 10-year plan period. The OLT analysis was completed to confirm that the planned operations would result in similar landscape pattern and spatial management objective achievement as was projected in the LTMD (numeric results documented in Section 4.9.6).

Spatial objective achievement at Plan End 2034 with the Final Plan distribution of harvest is expected to be essentially the same as was projected for the LTMD and Draft Plan. These similar results are largely due to the initial landscape pattern decisions incorporated into LTMD that were carried forward into operational planning, such as allowed harvest timing in Large, Landscape Patches (e.g., emphasis areas for caribou, moose, deer and current/future Mature-Old Forest). Fundamental operational considerations were also consistently applied in both LTMD and planned harvest such as harvest eligibility and minimum operability ages. Overall minimal harvest revisions occurred between LTMD and Final Plan. These changes were not significant enough to impact strategic landscape pattern.

4.9.3 Comparison of Stand Conditions of the Planned Harvest Areas and Eligible Harvest Areas

The same operational management zone and harvest age eligibility criteria were included in the SFMM LTMD model and were used for Planned Harvest eligibility. There is minimal variation in allocation by forest unit and age class between LTMD and the FMP Planned Harvest Section 4.3.1). These changes resulted from the refinement of operational blocks for merchantability, area of concern planning for operational areas, and consideration for some specific stakeholder concerns. Most of the proposed operations were the same as the operations projected for the LTMD, therefore the average stand conditions are similar for planned harvest areas and eligible harvest area. As discussed in Section 4.3.1, typically age class differences were within the next age class older or younger. Refinement of planned harvest operations after LTMD resulted in minimal shifts in planned harvest age class areas. The average age of all planned harvest stands is 88 years old, with hardwood-dominated stands averaging 82-92 years old, and conifer-dominated stands averaging 91-145 years of age. The area weighted average stand conditions for all eligible harvest area, preferred harvest Stage 2: LTMD (LTMD-01 harvest areas) and Stage 5: Final Plan planned harvest allocations were compared, resulting in very similar average stand conditions (Table 58). The comparison confirms that in the refinement of FMP planned harvest, the intent of the LTMD projected harvest was maintained.

Table 58 Comparison of Eligible, LTMD and Planned Harvest Average Stand Conditions

2024-2034 FMP: Eligible Area - Area Weighted Averages Data																
PLANFU	Age	Height (m)	Stocking	Site Class	PW	PR	PJ	SB	SW	BF	CE	LA	PO	BW	UH	LH
BFM	96	16	0.58	1.7	0	1	7	35	8	27	2	0	6	14	0	0
CMX	99	17	0.62	1.7	1	1	17	35	3	6	6	0	15	16	0	1
HMX	84	20	0.62	2.2	0	0	7	22	6	7	1	0	30	25	0	1
HRD	83	22	0.66	2.2	1	0	2	13	5	3	1	0	39	34	0	2
PJD	89	19	0.73	2.2	0	0	77	15	0	1	0	0	5	3	0	0
PJM	95	18	0.65	2.3	0	1	53	31	1	2	0	0	6	6	0	0
POD	80	24	0.70	2.1	0	0	2	10	3	2	0	0	75	9	0	0
PRW	105	21	0.68	2.1	21	34	4	10	0	5	2	0	9	14	0	0
SBD	94	15	0.63	1.4	0	0	8	79	1	2	0	0	3	6	0	0
SBL	144	14	0.64	2.5	0	0	0	61	0	0	19	11	0	2	0	6
SBM	94	15	0.59	1.5	0	1	23	53	4	3	1	0	5	9	0	0

Stage 2: LTMD Preferred Harvest - Area Weighted Average Data																
Forest Unit	Age	Height (m)	Stocking	Site Class	PW	PR	PJ	SB	SW	BF	CE	LA	PO	BW	UH	LH
BFM	99	16	0.54	1.8	0	1	8	35	8	25	3	0	6	15	0	0
CMX	98	17	0.65	1.5	0	0	17	39	1	5	4	0	17	16	0	0
HMX	83	20	0.62	2.2	0	0	6	24	6	7	1	0	34	21	0	1
HRD	82	23	0.67	2.2	0	0	3	14	4	3	1	0	47	26	0	1
PJD	91	19	0.80	2.2	0	0	78	14	0	0	0	0	5	2	0	0
PJM	92	19	0.75	2.1	1	1	53	31	1	1	0	0	7	5	0	0
POD	94	25	0.67	2.4	0	0	1	12	2	3	0	0	72	8	0	1
PRW	98	21	0.80	2.7	22	26	2	10	0	1	0	0	24	14	0	0
SBD	94	14	0.67	1.6	0	0	6	78	1	3	1	1	1	8	0	0
SBL	142	14	0.63	2.6	0	0	0	64	0	0	17	10	0	3	0	5
SBM	94	14	0.68	1.9	0	0	26	55	3	2	1	0	5	8	0	0

Stage 5: Final Plan Regular Harvest - Area Weighted Average Data																
Forest Unit	Age	Height (m)	Stocking	Site Class	PW	PR	PJ	SB	SW	BF	CE	LA	PO	BW	UH	LH
BFM	97	15	0.54	1.8	0	0	6	37	9	25	4	0	5	15	0	0
CMX	99	17	0.64	1.5	0	0	16	43	2	4	2	0	18	14	0	0
HMX	83	20	0.62	2.2	0	0	7	24	6	6	1	0	33	22	0	1
HRD	82	23	0.66	2.2	0	0	3	14	4	3	0	0	47	26	0	1
PJD	91	19	0.80	2.2	0	0	79	13	0	1	0	0	5	2	0	0
PJM	92	19	0.74	2.2	1	0	54	31	1	2	0	0	6	6	0	0
POD	92	25	0.64	2.4	0	0	3	12	2	3	0	0	73	7	0	1
PRW	102	22	0.78	2.4	23	30	2	11	0	3	0	0	18	13	0	0
SBD	94	15	0.66	1.5	0	0	7	78	1	3	1	0	2	9	0	0
SBL	145	14	0.63	2.7	0	0	1	68	0	0	16	10	0	1	0	4
SBM	93	15	0.66	1.7	1	0	26	54	3	2	1	0	4	9	0	0

4.9.4 Effect of the Age Class Distribution and the Projected Harvest Volume on the Achievement of the LTMD

A comparison of LTMD and planned harvest by 20-year age class was included in Section 4.3.1. There is minimal variation in harvest allocation by forest unit and age class between LTMD and planned harvest areas (Table FMP-12 and Table 59).

During the selection of harvest areas, consideration was given to projected available harvest area by forest unit from the Long-Term Management Direction, current forest conditions, desired forest and benefits, stakeholder comments, forest access, fish and wildlife habitat, water quality, tourism values, and overall landscape pattern. These considerations resulted in minor age class distribution changes as compared to the LTMD. A comparison of planned harvest to the projected LTMD harvest areas by forest unit and age class are included in Table 59.

Table 59 Comparison of Harvest Allocations to the LTMD by 20-year Age Class

Forest Unit	10-Year Available Harvest Area (ha)	Age Class	Planned Harvest Area (10-year period, ha)	Forest Unit	10-Year Available Harvest Area (ha)	Age Class	Planned Harvest Area (10-year period, ha)	Forest Unit	10-Year Available Harvest Area (ha)	Age Class	Planned Harvest Area (10-year period, ha)
BFM	-	0-20	-	**PJD**	-	0-20	-	**SBD**	-	0-20	-
	-	21 - 40	-		-	21 - 40	-		-	21 - 40	-
	-	41 - 60	-		645	41 - 60	-		-	41 - 60	-
	102	61 - 80	-		-	61 - 80	280		-	61 - 80	80
	539	81 - 100	350		537	81 - 100	1,834		337	81 - 100	660
	284	101 - 120	103		928	101 - 120	23		459	101 - 120	175
	19	121-140	15		28	121-140	-		158	121-140	-
	9	141+	-		-	141+	-		-	141+	-
	952	Subtotal	467		**2,138**	Subtotal	2,138		**954**	Subtotal	916
CMX	-	0-20	-	**PJM**	-	0-20	-	**SBL**	-	0-20	-
	-	21 - 40	-		-	21 - 40	-		-	21 - 40	-
	-	41 - 60	-		-	41 - 60	-		-	41 - 60	-
	-	61 - 80	-		-	61 - 80	123		-	61 - 80	-
	509	81 - 100	898		61	81 - 100	600		-	81 - 100	-
	641	101 - 120	154		780	101 - 120	119		86	101 - 120	-
	36	121-140	77		-	121-140	-		24	121-140	-
	2	141+	12		-	141+	-		389	141+	355
	1,188	Subtotal	1,141		**841**	Subtotal	841		**500**	Subtotal	355
HMX	-	0-20	-	**POD**	-	0-20	-	**SBM**	-	0-20	-
	-	21 - 40	-		-	21 - 40	-		-	21 - 40	-
	-	41 - 60	169		-	41 - 60	-		-	41 - 60	-
	144	61 - 80	2,218		35	61 - 80	31		-	61 - 80	47
	4,500	81 - 100	2,244		309	81 - 100	358		177	81 - 100	311
	438	101 - 120	203		65	101 - 120	19		98	101 - 120	-
	97	121-140	72		-	121-140	-		108	121-140	24
	-	141+	5		-	141+	-		-	141+	-
	5,180	Subtotal	4,909		**409**	Subtotal	409		**383**	Subtotal	383
HRD	-	0-20	-	**PRW**	-	0-20	-				
	-	21 - 40	-		-	21 - 40	-				
	-	41 - 60	241		-	41 - 60	-				
	22	61 - 80	2,635		-	61 - 80	-				
	5,743	81 - 100	2,711		48	81 - 100	74				
	77	101 - 120	82		52	101 - 120	46				
	-	121-140	-		14	121-140	-				
	-	141+	-		10	141+	4				
	5,841	Subtotal	5,669		**125**	Subtotal	125				
								TOTAL	**18,513**		**17,353**

Planned harvest operations are 6% lower than Stage Two LTMD preferred harvest (approx. 1,160 ha lower). The comparison of the planned harvest area to the available

harvest area shows good correlation with range of 20-year age classes and projected in LTMD. The allocated harvest area shows a minor trend to younger forested stands. There is 4% of planned harvest area in the 20-year age class younger than the age range of LTMD projections, and only 0.1% of the planned harvest in the older 20-year age class. All other planned harvest areas are in the 20-year age classes with projected LTMD harvest. With planned harvest by forest unit closely matching or slightly less area than projected LTMD harvest, forest composition and age structure of the forest at Plan End 2034 is expected to be similar. Amounts of Mature and Older Forest and Old Growth Forest at 2034 are comparable between LTMD projections and those after planned harvest. Results for these two indicators at Plan End 2034 with Final Plan harvest depleted is recorded in Section 4.9.6.

Next, the effect of planned harvest, including age class distribution, was compared to projected LTMD harvest volumes. The LTMD projected a total available harvest volume of 1,969,091 net merchantable cubic metres during the 10-year period of the FMP. The Final Plan planned harvest area is expected to provide 1,821,964 net merchantable cubic metres of wood. The planned volume is comparable (93%) to LTMD volume when considering that planned harvest area is 94% of the LTMD available harvest area. Planned harvest volumes for Table FMP-13 were estimated based on specific stand level volumes at Plan Start 2024 whereas LTMD utilized average forest unit yield curves. The accuracy of estimated volumes associated with planned harvest stands are considered the best estimate.

LTMD and planned harvest volumes of Poplar are less than current wood supply commitments. The reduction in Poplar was primarily a result of the decision on the portion of the Whiskey Jack Forest on which forest operations could be planned in this FMP. All other species harvested in this FMP period will be made available on an Open Market basis (See Section 4.3.6).

4.9.5 Effect of the Amount of Projected Unutilized Harvest Volume on the Achievement of the LTMD

All planned harvest volume (net merchantable and undersize and defect) is projected to be utilized in both the LTMD and Planned Operations. This projection is considered reasonable since utilization of wood fibre from the Whiskey Jack Forest is expected to be available for all harvested volumes. While past plan periods experienced underutilization, current harvesting on the Whiskey Jack Forest has increased and more closely approximates planned levels.

4.9.6 Effect on Objective Achievement and Sustainability of Implementation of Planned Operations

This section provides a summary of projected objective achievement with planned operations as compared to achievement projected in the LTMD. The following table (Table 60) compares Boreal Landscape objective indicator achievement by indicator at LTMD and Final Plan stages (Objectives 1-3). Only minor changes occurred in planned operations between Draft and Final Plans.

Of the 35 indicators in the FMP, 23 of the indicators can be assessed in the FMP and 12 will be assessed only after implementation of the plan.

Of the 35 plan indicators:

18	indicators **Achieved** desirable levels or movement towards desirable level through meeting the target level within the plan period;
2	indicators are **Partially Achieved** with achievement of or movement towards target levels;
3	indicators do **Not Achieve** desirable or target levels (Young Forest Area, Young Forest Patch Size Frequency and Métis Engagement (discussion in Section 3.7.3.10); and
12	indicators are measured in the **Future**, after plan implementation.
35	

Table 60 Comparison of Projected Boreal Landscape Guide Objective Indicator Achievement between LTMD and Final Plan

Indicator	Plan Start Level	Desirable Level	Timing of Assessment	Target (by Plan End)	LTMD Short (10 years) 2034	Planned Harvest Short (10 years) 2034	Comparison to LTMD Achievement	LTMD Assessment (Table FMP-10)
Management Objective 1: Caribou Habitat	To maintain forest function for caribou habitat in the Whiskey Jack Forest (within the area of continuous caribou distribution).			CFSA Obj. Category: Forest Diversity – habitat for animal life				
(1a) Caribou Winter - Combined Habitat Area:	84,575	63,721 to 115,622	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation	maintain	102,123	102,114	**SIMILAR to LTMD**: (Achieved) Winter combined habitat is projected to remain within desirable levels, at same level as LTMD projection.	**ACHIEVED**: Caribou Winter habitat is in desirable range at Plan Start and maintains desirable and target levels (or more) through the long-term.
(1b) Caribou Refuge Habitat Area (ha)	132,184	147,605 to 161,804		increase	145,158	145,010	**SIMILAR to LTMD**: (Achieved) Refuge habitat is projected to move towards desirable levels, at same level as LTMD projection.	**ACHIEVED**: Caribou Refuge habitat is below the desirable range at Plan Start and increases into and maintains desirable and target levels (or more) within 20 years and through the long-term.
(1c) Landscape Pattern (texture) of Caribou Winter Combined Habitat (hexagon frequency distribution by mean proportion):	(%)	Move towards mean, focusing on >60% proportion classes. Mean:	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Achieved) Caribou zone harvest results in >60% concentration classes at both analysis scales projecting movement towards desirable level.	**ACHIEVED**: Desirable level is achieved with movement towards the mean proportion of 61-100% concentrations at both assessment scales. Limited harvest in the caribou zone in this 2024-2034 plan period results in forest aging into higher concentrations of coarse texture caribou winter habitat. Target level is achieved.
60 km2 Hexagon Scale:								
1 - 20% concentration	9%	17%		Same as desirable level.	5%	5%		
21 - 40% concentration	51%	17%			26%	26%		
41 - 60% concentration	24%	22%			48%	48%		
61 - 80% concentration	12%	30%			17%	17%		
81 - 100% concentration	4%	15%			4%	4%		
300 km2 Hexagon Scale:								
1 - 20% concentration	1%	8%			0%	0%		
21 - 40% concentration	54%	22%			17%	17%		
41 - 60% concentration	38%	32%			69%	69%		
61 - 80% concentration	8%	34%			15%	14%		
81 - 100% concentration	0%	6%			0%	0%		
(1d) Landscape Pattern (texture) of Caribou Refuge Habitat (hexagon frequency distribution by mean proportion):	(%)	Move towards mean, focusing on >60% proportion classes. Mean:	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Achieved) Caribou zone harvest results in >60% concentration classes at both analysis scales projecting movementto close to desirable level.	**ACHIEVED**: Caribou refuge texture is projected to increase close to the desirable levels (both scales) during this plan period. Target level is achieved with increase coarse texture for caribou refuge habitat (very good for caribou).
60 km2 Hexagon Scale:								
1 - 20% concentration	0%	0%		Same as desirable level.	0%	0%		
21 - 40% concentration	8%	2%			4%	4%		
41 - 60% concentration	35%	12%			16%	16%		
61 - 80% concentration	43%	34%			59%	59%		
81 - 100% concentration	13%	53%			21%	21%		
300 km2 Hexagon Scale:								
1 - 20% concentration	0%	0%			0%	0%		
21 - 40% concentration	0%	0%			0%	0%		
41 - 60% concentration	40%	8%			11%	11%		
61 - 80% concentration	55%	43%			76%	77%		
81 - 100% concentration	5%	49%			13%	12%		

Indicator	Plan Start Level	Desirable Level	Timing of Assessment	Target (by Plan End)	LTMD Short (10 years) 2034	Planned Harvest Short (10 years) 2034	Comparison to LTMD Achievement	LTMD Assessment (Table FMP-10)
Management Objective 2: Forest Composition	To emulate natural forest composition and age classes which includes old growth forest.			**CFSA Obj. Category:** Forest Diversity – forest structure, composition and abundance				
(2a) Landscape Class Area (ha):	(ha)	(ha)	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Achieved) All Landscape Class areas are within or above desirable levels at same levels as projected LTMD.	**ACHIEVED:** All Landscape Class areas are within or above desirable levels at Plan Start, and through the long-term (desirable and target levels achieved)
Mature and late balsam fir	14,784	8,706 to 16,237		maintain	16,229	16,290		
Mature and late lowland conifer	46,556	12,845 to 16,276		maintain	48,066	47,681		
Mature and late upland conifer	244,859	178,461 to 269,185		maintain	255,566	252,042		
Mature and late hardwood	144,335	43,021 to 65,739		decrease	148,627	144,125		
(2b) Old Growth Forest:	(ha)	(ha)	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Achieved) All old growth groupings are increasing from below desirable levels at Plan Start, towards/to/above desirable levels in 10-year period (same as LTMD). PRW OG estimated same as LTMD, as planned harvest is less in ages contributing to OG.	**ACHIEVED:** All Old Growth group areas are below desirable levels at Plan Start. All OG groups increase to within or above desirable and target levels through the short- to long-term (OG upland conifer achieves in 10 yrs, OG low conifer 30 yrs, OG hardwood 10 yrs, OG Red / White Pine 50 yrs).
Lowland Conifer	1,111	4,282 to 6,477		increase	1,861	1,761		
Upland Conifer	24,617	51,310 to 82,642		increase	67,678	67,139		
Mixedwood and Hardwood	23,010	35,996 to 58,909		increase	73,832	71,450		
White Pine and Red Pine	30	increase (while not falling below the 1995 level of 195 ha.)		increase	125	125		
(2c) Red pine and white pine forest unit area (PRW) (ha)	3,587	increase towards 46,940 ha, while not falling below the 1995 level of 2,491 ha.	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation	increase	3,687	3,687	**SIMILAR** to LTMD: (Achieved) Planned harvest matches LTMD, resulting in same PRW forest unit area projected for Plan End 2034 with planned PRW regeneration.	**ACHIEVED:** PRW area increases through time (desirable and target levels achieved). Amount of increase possible is limited by areas of WJ Forest on which renewal activities (including conversion to PRW) can be planned.
(2d) Upland Jack Pine and Spruce Area: (ha) PJD+PJM+SBD+SBM	349,953	475,260 to 497,902	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation	increase	352,241	350,078	**SIMILAR** to LTMD: (Partially Achieved) Conifer movement towards desirable level. Planned harvest projected level does not included increased upland conifer area as a result of planned conifer renewal during FMP period (actual expected to be greater than estimate).	**PARTIALLY ACHIEVED:** Upland Conifer increases steadily though time (target achieved) however desirable level is not achieved. Amount of increase possible is limited by areas of WJ Forest on which renewal activities (including conversion to conifer) can be planned (desirable level not achieved).
(2e) Young Forest Area: (ha) All Plan Forest Units <36 years	136,870	196,754 to 342,348	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation	move towards or maintain within desirable level	79,528	78,928	**SIMILAR** to LTMD: (Not Achieved) Desirable and target levels not achieved. Amount of increase in Young Forest possible is limited by areas of WJ Forest on which harvest activities can be planned. Planned harvest level is insufficient to meet desirable level.	**NOT ACHIEVED:** Young forest decreases for 40 years, then increases back to Plan Start levels (desirable and target levels not achieved). Amount of increase possible is limited by areas of WJ Forest on which harvest activities can be planned (LTMD projections do meet min. desirable Young Forest proportion for Harvest Zone).

1

Indicator	Plan Start Level	Desirable Level	Timing of Assessment	Target (by Plan End)	LTMD Short (10 years) 2034	Planned Harvest Short (10 years) 2034	Comparison to LTMD Achievement	LTMD Assessment (Table FMP-10)
Management Objective 3: Landscape Pattern	To emulate natural disturbance and landscape patterns characteristic of the Whiskey Jack Forest.			**CFSA Obj. Category:** Forest Diversity – natural landscape patterns				
(3a) Landscape Pattern (texture) of Mature and Old Forest (hexagon frequency distribution by mean proportion):		Move towards mean, with a focus on the two concentration classes > 60%. Mean:	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Achieved) Mature-Older texture is projected to continue to increase further above the desirable level. Harvest limited to only portion of WJF.	**ACHIEVED:** Mature and Old Forest amount and texture is above the desirable level at Plan Start, and is projected to remain stable during this plan period. Target level is achieved as more dense Mature and Old Forest is positive. Strategies are being implemented to defragment certain areas and also to plan harvest areas in patches of currently mature/old forest. Aging of the forest contributes to dense patches of Mature and Old Forest in zone not planned for harvest, with concentrations expected to increase in future plans.
500 ha Hexagon Scale:								
1 - 20% concentration	11%	44%		Same as desirable level.	10%	10%		
21 - 40% concentration	16%	12%			15%	16%		
41 - 60% concentration	23%	9%			23%	23%		
61 - 80% concentration	22%	10%			23%	23%		
81 - 100% concentration	28%	25%			29%	28%		
5,000 ha Hexagon Scale:								
1 - 20% concentration	7%	27%			5%	5%		
21 - 40% concentration	12%	23%			10%	10%		
41 - 60% concentration	30%	21%			31%	32%		
61 - 80% concentration	36%	18%			38%	37%		
81 - 100% concentration	15%	10%			15%	15%		
(3b) Young Forest Patch Size: (frequency by size class, ha)		Move towards mean. Mean:	(1) Proposed LTMD (2) Completion of operational planning (4) Annual Reports for Year 5 and final year of plan implementation				**SIMILAR** to LTMD: (Not Achieved) Desirable and target levels are not expected to be achieved until the long-term with implementation of harvest to defragment the forest and create more, larger young forest over many planning periods in the zone planned for harvest.	**NOT ACHIEVED**: Frequency of all sized patches of young forest are projected to move slightly away from the mean on the Whiskey Jack Forest during the 10-year period. Desirable and target levels are not expected to be achieved until the long-term with implementation of harvest to defragment the forest and create more, larger young forest over many planning periods in the zone planned for harvest.
< 100	61%	52%		Same as desirable level.	62%	63%		
101-250	23%	15%			27%	27%		
251-500	9%	10%			8%	7%		
501-1,000	4%	8%			2%	3%		
1,001-2,500	3%	8%			1%	1%		
2,501-5,000	1%	4%			0%	0%		
5001-10,000	0%	3%			0%	0%		
10,001-20,000	0%	2%			0%	0%		
>20,000	0%	1%			0%	0%		

4.9.7 Conclusion of the Comparison of Planned Operations to the LTMD

The comparison of projected results of planned operations to the LTMD projections indicate no significant negative impacts on the desired future forest condition (forest composition, landscape class area, age class structure, old forest) are expected to result from the implementation of planned operations during the 2024-2034 period.

At the management unit level, there is no appreciable difference in projected forest sustainability between the results of planned allocations in this plan and those projected in the Long-term Management Direction (LTMD-01). Strategically, the planned allocations are projected to contribute to objective achievement, future forest conditions, and the long-term sustainability of the Whiskey Jack Forest at similar achievement and levels as projected by the LTMD. Implementation of the planned harvest allocations are expected to positively impact the spatial landscape pattern of the Whiskey Jack Forest in the long-term in those strategic management zones where forest management activities may be planned.

5.0 DETERMINATION OF SUSTAINABILITY

The overall determination of sustainability is based on the collective assessment of objective achievement, the spatial assessment, the social and economic assessment and the risk assessment. A favourable determination of sustainability allows for the conclusion of forest sustainability and documents how the forest management plan has regard for plant life, animal life, water, soil, air, and social and economic values, including recreational values and heritage values. A summary of the components considered during the determination of sustainability are described in the following subsections.

5.1 Assessment of Management Objective Achievement

The FMP objectives, indicators, desirable levels and targets were established to address the *Crown Forest Sustainability Act* objective categories. The Assessment of Objective Achievement is documented in Table FMP-10 for each indicator that can be assessed in the FMP through strategic modelling or operational planning (during spatial component of strategic planning). The assessment of objective achievement was based on the extent to which the established desirable levels for each indicator were satisfied within the 10-year plan period (detailed assessment in Section 3.7.3).

Of the 35 indicators of objective achievement included in Table FMP-10, 23 of the indicators can be assessed up to approval of the Forest Management Plan. The remaining 12 indicators (and reassessment of some of the original 23 indicators) will be assessed in the future after plan implementation as appropriate (specific indicator timing of assessment is noted in Table FMP-10 and in plan text Section 3.6, and details of the assessment are contained in Section 3.7.3).

Of the 35 plan indicators:

18	indicators **Achieved** desirable levels or movement towards desirable level through meeting the target level within the plan period;
2	indicators are **Partially Achieved** with achievement of or movement towards target levels;
3	indicators do **Not Achieve** desirable or target levels (Young Forest Area, Young Forest Patch Size Frequency and Métis Engagement; and
12	indicators are measured in the **Future**, after plan implementation.
35	

All plan objective indicators measured during FMP development are achieving or progressing towards desirable levels during this plan period (Table FMP-10), except three (3) indicators:

Objective 2: Forest Composition - Indicator 2e - Young Forest Area
Objective 3: Landscape Pattern - Indicator 3b - Young Forest Patch Size
Objective 6: First Nation and Métis Engagement - Indicator 6c - Métis Engagement:

See text sections 3.7.3.2 (Objective 2), 3.7.3.3 (Objective 3) and 3.7.3.6 (Objective 6) for the discussion of assessment of objective achievement for these indicators.

5.2 Spatial Assessment

A number of preliminary spatial assessments were conducted to analyze achievement of management objectives that are influenced by the location of planned harvest areas. Documentation of these spatial analyses is included in FMP Supplementary Documentation B – Analysis Package. Brief summaries for each analysis follow:

Management Zones – Strategic management zones were developed to reflect the decisions for areas of the WJF that allowed (or did not allow) the planning of forest management activities in this FMP, and for the zone where caribou habitat management guidelines are implemented. This resulted in four (4) SMZs being classified for this 2024-2034 FMP (Section 1). Strategic zones were further subdivided into operational management zones for the emphasis of wildlife habitat management on the WJF. Zones were identified for caribou (Dynamic Caribou Habitat Schedule), moose, deer and large landscape patches (for current or future mature and older forest). The Caribou Dynamic Habitat Schedule block timing was determined for the caribou zone, resulting in "B" blocks in CAR2 strategic zone being available for operations 2024-2044. Operational management zones were identified for areas not already classified as strategic management zones. These operational zones, some with specific harvest timing constraints, were used in strategic modelling to provide spatial control to planned operations.

Harvest Areas - Planned harvest areas for the 2024-2034 plan period adhere to the operational timing for management zones, including the Dynamic Caribou Habitat Schedule timing for current and future caribou habitat management, consistent with inputs for SFMM strategic modelling. The spatial distribution of harvest over the first four FMP periods (i.e. for 40 years from 2024-2064) was projected in the Proposed LTMD. The 40-year projection of harvest was considered by the Planning Team to be generally operationally feasible and economically feasible. The projected harvest areas provided a mixture of closer and further harvest areas to aid in the balancing of socio-economic benefits and costs through the four 10-year periods. A general consideration for the amount of summer (non-frozen conditions) and winter harvest areas was also considered to ensure the balance of harvest areas would be operationally feasible. Additional strategic and operational planning for the Whiskey Jack Forest will be conducted prior to forest management plan approvals for the future FMP periods 2034-2064.

Landscape Pattern - Landscape pattern objectives were built on the 2012-2024 FMP objectives and have been refined for this FMP in accordance with the *Forest Management Planning Manual (2020)* and the *Forest Management Guide for Boreal Landscapes*

(2014). Landscape pattern objectives include indicators for amount and arrangement of caribou habitat, and maintaining or enhancing natural landscape structure, composition and patterns that provide for the long-term health of forest ecosystems in an efficient and effective manner. Landscape pattern objectives were assessed in the Proposed LTMD (including the arrangement of caribou habitat, young forest patches, and mature and old forest). The Planning Team used Ontario's Landscape Tool to measure the texture of caribou habitat, texture of mature and old forest and young forest patch size and compared this to the mean of the SRNV.

Stand Level Residual – The *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* directs the amount and distribution of stand level residual. Regional MNRF advisors aided by Miisun analyzed the amount of stand level residual associated with the planned harvest for the 10-year plan period through the use of an MNRF-developed computer spatial analysis program, Evaluate Forest Residual Tool (eFRT). Wildlife trees will be left in all harvest areas as per the SSG. Residual patches will be left only in harvest areas outside of the caribou zone and Moose Emphasis Areas.

Spatial Analyses Conclusion – The overall spatial distribution of landscape pattern (measured by Ontario's Landscape Tool) is improved in the medium to long-term through implementation of the LTMD through planned harvest in this plan period. The spatial distribution of projected harvest area for 40 years (2024-2064) was assessed and considered to be spatially and economically feasible.

5.3 Social and Economic Assessment

The *Forest Management Planning Manual* (2020) requires that a Social and Economic Assessment (SEA) be prepared to identify the expected social and economic impacts of implementing the management strategy proposed in the Long-Term Management Direction (LTMD) for the development of this FMP. The assessment examines how the quantity of timber supplied in the wood processing facilities, and the silvicultural investment requirements for the proposed management strategy may affect the communities identified in the Social & Economic Description (Supplementary Documentation E).

A social and economic assessment was completed for the proposed long-term management direction. This assessment outlines the expected social and economic impacts associated with the current direction.

The Social and Economic Assessment of timber volumes and silvicultural expenditures was completed and is based on the qualitative comparison of the annual planned harvest volume levels for the 2012-2024 FMP and the levels shown in the Proposed LTMD for this 2024-2034 FMP. The proposed LTMD endorsed by the Planning Team, projected a 66% decrease in total net merchantable harvest volume during this plan period as compared to the 2012-2024 FMP. The 2012-2024 FMP included 574,595 m3 per year (TOTAL all species), 340,000 m3 Spruce-Pine-Fir and 190,000 m3 Poplar per year. The 2024-2034 LTMD includes 196,909 m3 per year (TOTAL all species), 100,000 Spruce-Pine-Fir and 70,000 m3 Poplar per year. This projected significant reduction in harvest volumes in this FMP is a direct result of the MNRF decision on the reduction of the area within the Whiskey Jack Forest that is eligible for forest operations (24% of the forest), as compared to the 2012-2024 FMP.

The comparative assessment projects the following social and economic impacts:

Negative Impacts: The socio-economic impacts from wood utilization by the forest industry supplied by the Whiskey Jack Forest is expected to be significantly reduced with implementation of the 2024-2034 FMP (based on harvest of significantly lower LTMD harvest volumes). The projected decrease in volume is expected to decrease direct and indirect socio-economic effects to the Province of Ontario as provided in the 2012 FMP. Decreased harvest volumes generally result in lower industry output, person years of employment and gross domestic product. Decrease in the harvest volumes and associated forest access road construction and maintenance may also negatively impact other commercial activities that rely on forest access, such as baitfish operations, mining access, and road-based tourism.

Positive or Negative Impacts: Reduced harvest and renewal may be positive or negative based on location of activity or forest values. The first consideration is where the activity occurs or where the value is located. Impacts will be different between activities in the zone where harvest and renewal are planned versus the strategic zone where forest operations are not planned. The impacts of forest management and operations on recreation and tourism are not dependent on the harvest level but rather how the specific value has been addressed. Forest operations will directly affect certain traplines and not others depending on where harvest allocations are planned (may either be positive or negative impact). Bear management area (BMA) operators may also be affected by both the harvest operations and road access. Potential negative impacts are mitigated through stakeholder involvement during plan development.

Positive Impacts: Lower harvest and less forest access roads, particularly in the strategic zone where forest operations are not planned, may positively impact remote tourism.

All values and comments identified were considered during operational planning (harvest block allocation, road planning and Area of Concern Prescriptions) to mitigate or minimize impacts of planned forest operations.

Overall, the social and economic assessment for the plan suggests the social and/or economic benefits for the 2024-2034 FMP will be lower than those of the 2012-2024 plan, however certain specific social or economic benefits that do not rely on timber harvesting or forest access roads may be positively impacted.

5.4 Risk Assessment

This section of the FMP summarizes the risk to plan implementation, if certain decisions made during development of the Long-Term Management Direction do not come to pass. The following bullet points describe certain assumptions and associated potential barriers to successful implementation of the FMP Long-Term Management Direction:

Lack of markets or mill labour disputes could reduce the demand for wood from the Whiskey Jack Forest. **Low Risk:** While market fluctuations may occur, this is not influenced by the FMP Planning Team.

Failure of approval or construction of proposed new primary roads is a risk to accessing certain planned harvest blocks during 2024-2034 and 2034-2044. **Low Risk**: Primary roads are approved in this FMP and planned for construction. Any delay in primary road construction would be mitigated through the reselection of approved harvest areas, accessible by existing roads or other branch roads.

Risk Assessment Conclusion – The above risks to implementation of the LTMD as planned are all **Low Risk**.

While not a risk to implementation of the LTMD, the decision to not permit forest management activities in a large area of the Whiskey Jack Forest will result in some negative impacts:

- Future forest composition, structure and pattern (specifically Young forest amount and pattern);
- Potential increased fire risk through accumulating fuel loading of older forest stands;
- Limited forest road access in the zone where operations are not planned; and
- Unrealized social and economic benefits where timber harvesting or forest access roads could be used, but forest operations are not planned and roads are not built or maintained.

5.5 Conclusion on the Sustainability of the FMP

The overall determination of sustainability is based on the collective assessment of objective achievement, the spatial assessment, the social and economic assessment, risk assessment, and prescriptions for the protection of values.

Overall, based on the quantitative and qualitative assessment of objective achievement (Table FMP-10) that can be assessed during preparation of the forest management plan, there has been achievement in meeting or exceeding the desirable levels and associated targets for most indicators (forest condition, and goods and services). The assessment of objective achievement in the LTMD includes three management objective indicators assessed as Not Achieved:

- Young Forest area, and Young Forest Pattern indicators are primarily constrained by the limited area of the Whiskey Jack Forest on which forest operations (harvest, renewal) may be planned in the FMP. The Proposed LTMD was planned to produce a good balance of objective achievement, while not over-harvesting area in the zone eligible for forest operations.
- Métis engagement during plan development was conducted, however since no NWOMC evaluation was received for assessment of this indicator, the indicator was assessed as Not Achieved.

The spatial assessment indicates that the distribution of landscape pattern (measured by Ontario's Landscape Tool) is improved in the medium to long-term through implementation of the planned harvest allocations in the zone of the Whiskey Jack Forest in which forest management activities may be planned in the FMP.

The social and economic assessment for this FMP indicates that current levels of social or economic benefits are projected to significantly decrease for the 2024-2034 plan period, in comparison with the 2012-2024 FMP.

The risk assessment indicated the risk of using improper assumptions for strategic planning or risks to implementation of the LTMD as planned are all Low risk.

Overall, objective achievement, social and economic assessment and planned forest operations according to the Proposed LTMD have all demonstrated that the 2024-2034 Forest Management Plan for the Whiskey Jack Forest has regard for plant life, animal life, water, soil, air, social and economic values, including recreational and heritage values. This forest management plan provides for the sustainability of Ontario's Crown forest.

6.0 DOCUMENTATION

6.1 Supplementary Documentation

Supplementary documentation is in FMP submission file MU490_2024_FMP_ TXT_SuppDoc.PDF)

A - Historic Forest Condition
B - Analysis Package (contained in file MU490_2024_FMP_ TXT_AnPack.PDF)
C - First Nation and Métis Background Information Reports
D - Summary of First Nation and Métis Involvement
E - Social and Economic Description
F - Monitoring Program for Exceptions
G - Monitoring Program for Success of Silvicultural Activities
H - Primary Road Planning
I - Area of Concern Planning
J - Summary of Public Consultation
K - Local Citizens' Committee Report
L - Final List of Required Alterations
M - Planning Team's Terms of Reference
N - Statement of Environmental Values
O - DFO – MNRF Water Crossing Standards Protocol
P – In-water Work Timing Window Guidelines

6.2 Other Documentation

The public correspondence related to the development of the FMP is retained on file at the MNRF Kenora District office. The *Report on the Protection of Identified First Nation and Métis Values* is retained on file at the MNRF Kenora District office.

7.0 FOREST MANAGEMENT PLAN SUMMARY

A Forest Management Plan Summary has been prepared in and is located in FMP Summary Submission files:

MU490_2024_FMP_TXT_Sum.PDF	FMP Summary Text (English)
MU490_2024_FMP_TXT_SumFR.PDF	FMP Summary Text (French)
MU490_2024_FMP_MAP_Sum_00.PDF	FMP Summary Map (English)
MU490_2024_FMP_MAP_SumFR_00.PDF	FMP Summary Map (French)

The FMP Summary is also available at https://nrip.mnr.gov.on.ca or by contacting the MNRF Kenora District office.

8.0 FOREST MANAGEMENT PLAN TABLES

The following is a listing of the tables required by the *Forest Management Planning Manual* (2020) included in this section:

FMP Tables are located in FMP submission file MU490_2024_FMP_ TBL_Tables.PDF:

FMP-1: Management Unit Crown Land Summary
FMP-2: Description of Forest Units
FMP-3: Summary of Managed Crown Productive Forest by Forest Unit
FMP-4: Silvicultural Ground Rules
FMP-5: Post-harvest Renewal Transition Rules
FMP-6: Projected Forest Condition for the Crown Productive Forest
FMP-7: Projected Habitat for Selected Wildlife Species
FMP-8: Projected Available Harvest Area by Forest Unit
FMP-9: Projected Available Harvest Volume by Species Group and Broad Size Group
FMP-10: Assessment of Objective Achievement
FMP-11: Operational Prescriptions for Areas of Concern and Conditions on Roads, Landings, and Forestry Aggregate Pits
FMP-12: Planned Harvest Area
FMP-13: Planned Harvest Volume by Species
FMP-14: Planned Harvest Volume and Wood Utilization
FMP-15: Projected Wood Utilization by Mill
FMP-16: Contingency Harvest Area and Volume
FMP-17: Planned Renewal and Tending Operations
FMP-18: Road Construction and Use Management
FMP-19: Planned Expenditures
FMP-20: Planned Assessment of Establishment