High Conservation Value Assessment for the Kenogami Forest

VERSION 2.0

Prepared for Ne-Daa-Kii-Me-Naan Inc

Revised – April 14, 2022

-revisions to address minor NCRs from March 2022 audit

Ne-Daa-Kii-Me-Naan Inc

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF TABLES

1. EXECUTIVE SUMMARY

This report contains an assessment of “High Conservation Values (HCVs) undertaken on behalf of Ne-Daa-Kii-Me-Naan Inc. (Nedaak), which manages the Kenogami Forest in accordance with Principle 9 of the National Forest Stewardship Standard (FSC-STD-CAN-01-2018 V 1-0 EN).). The Forest Stewardship Council® (FSC®) is an international non-profit organization that envisions healthy forests providing an equitable sharing of benefits from their use while respecting natural forest processes, biodiversity, and harmony among their inhabitants.

This assessment of HCV is guided by the “High Conservation Value Forest National Framework”, which is Annex D of the FSC National Forest Stewardship Standard. This report is provided to meet the requirements for an FSC certification assessment.

High Conservation Values (HCV)
One of the requirements of the FSC National Forest Stewardship Standard is the determination of High Conservation Value (HCVs) on the forest of the applicant. High Conservation Values (HCV) are defined as any of the following values:

HCV 1: Species Diversity. Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels.

HCV 2: Landscape-level ecosystems and mosaics. Intact Forest Landscapes, large landscape-level ecosystems and ecosystem mosaics that are significant at global, regional or national levels, and that contain viable populations of the great majority of the naturally occurring species in natural patterns of distribution and abundance.

HCV 3: Ecosystems and habitats. Rare, threatened, or endangered ecosystems, habitats or refugia.

HCV 4: Critical ecosystem services. Basic ecosystem services in critical situations, including protection of water catchments and control of erosion of vulnerable soils and slopes.

HCV 5: Community needs. Sites and resources fundamental for satisfying the basic necessities of local communities or Indigenous Peoples (for example for livelihoods, health, nutrition, water), identified through engagement with these communities or Indigenous Peoples.

HCV 6: Cultural values. Sites, resources, habitats and landscapes of global or national cultural, archaeological or historical significance, and/or of critical cultural, ecological, economic or religious/sacred importance for the traditional cultures of local communities or Indigenous Peoples, identified through engagement with these local communities or Indigenous Peoples.

2. INTRODUCTION

This report contains an assessment of "High Conservation Values (HCVs) undertaken on behalf of Ne-Daa-Kii-Me-Naan Inc. (Nedaak), which manages the Kenogami Forest in accordance with Principle 9 of the National Forest Stewardship Standard (FSC-STD-CAN-01-2018 V 1-0 EN).). The Forest Stewardship Council® (FSC®) is an international non-profit organization that envisions healthy forests providing an equitable sharing of benefits from their use while respecting natural forest processes, biodiversity, and harmony among their inhabitants.

This assessment of HCV is guided by the "High Conservation Value Forest National Framework", which is Annex D of the FSC National Forest Stewardship Standard. This report is provided to meet the requirements for an FSC certification assessment. Table 1, below describes the HCVs identified in this assessment.

There are four components to the HCV consultation regarding species, ecosystems, local community values, and any other values that are considered potential HCV including:
1) Broad review, based on the FMP process to determine forest values generally which will include as a minimum individuals, local stakeholder representatives including the Geraldton Area Resource Advisory Committee (GANRAC);
2) Consultation and engagement with local Indigenous communities and self-identified interested and affected stakeholders, consultation with technical experts;
3) Focused review by regional, provincial and national stakeholders of the values and the management approach
4) Open door policy – new HCVs and new management approaches will be considered at any time

HCV Designation Decision by the Manager - Under the FSC system the manager makes the final designation of HCVs. This decision must be transparent (as documented in this report) and based on expert, stakeholder and Indigenous community input and advice.

2.1. The Forest

The Kenogami Forest has a long logging history dating back to the turn of the century. The first known impact on the forest, attributable to human activity was the initial establishment of communities in the area following the progression of early fur trading. The arrival of Pulpwood Supply Co. in 1937 gave a major impetus to the economy. The company floated pulpwood through lakes and rivers south to Lake Superior. In 1942, the highway arrived from the direction of Geraldton. In 1947 the company, operating as Longlac Pulp and Paper Co. Ltd., began shipping wood to its new Terrace Bay mill.

The construction of Highways #11 and #17 in 1942 and 1960 respectively, contributed to further access into the area. In the 1970's, Kimberly-Clark of Canada Ltd. began permanent harvesting operations in the Nakina area, an event which somewhat offset the decline in railway employment. From 1972 to 1977 the population of Terrace Bay increased from 1,755 to 2,299 persons, directly attributed to Kimberly Clark's expansion program. The pulp mill was the lifeblood of the region, and the mill and the local forest industry continues to be a significant economic contributor to the local economy today.

Nedaak Inc. manages the Kenogami Forest as a forest management company under the authority the SFL holder. Ogwiidachiwaning Sustainable Forest Management Inc. recently acquired the SFL for the Kenogami Forest in August, 2021.
The Kenogami Forest is located approximately 300 kilometers northeast of Thunder Bay. The forest occupies an area of 1,977,684 ha, of which 8.8% is water. Of the total forested area,

less than 1% is patent land. The management of forests on Patent land is beyond the scope of the FMP, and as such, is excluded from the land base of the SFL for the Kenogami Forest.

This report presents background information and decisions relating to the assessment for the presence of and classification of HCVs on the Kenogami Forest. The Forest Management Plan (FMP) is the guiding document for the management of values and is regulated and approved by the Province of Ontario

During assessment of individual species, values are designated as:

- HCV
- No HCV
- Potential HCV or
- Potential HCV – no specific prescription required

This list covers all of the possibilities for any values on the forest. The use of designations "Potential HCV" or "Potential HCV – no specific prescription required" are provided to ensure that the forest managers are only asked to do things within their "sphere of influence". For example, in the case of SAR forest managers have limited responsibility for some grassland and aquatic species. In cases where there is no management prescription at all for a value, then the forest manager does not have a direct responsibility. Sphere of influence is a common term in FSC assessments to indicate that the standard must be met, but there are circumstances that are outside of the forest manager's control.

Additional information for the Kenogami Forest can be found on the following two websites containing information such as forest descriptions, land uses, socio/economic descriptions, management planning, and operations.

- Nedaak Inc. website: www.nedaak.ca
- MNRF website: https://nrip.mnr.gov.on.ca/s/fmp-online?language=en_US

Note: As per Minister's Order there is a 2-year temporary suspension of protection upon the listing of Black Ash under the Endangered Species Act posted January 2022 to develop an approach to protect black ash.

Table 1. Identified High Conservation Values on the Kenogami Forest.

HCV Category	HCV Element	Value	Area (ha)	Management	Monitoring	Designation
1. Concentrations of Biodiversity	**1)** Biodiversity/Species-at- Risk (SAR) **SAR list checked for updates in April, 2022 against COSSARO, COSEWIC, SARO, SARA.*	Eastern Whip-poor-will, Barn Swallow, Bank Swallow, Bald Eagle, Common Nighthawk, Woodland Caribou, Northern long-eared Myotis, Little Brown Bat	209,9611	Prescriptions are in place and on operational maps; harvest reserves are the primary approach as defined in MNRF's guides.	MNRF wildlife monitoring (surveys) and compliance monitoring; Sightings by MNRF, forest workers or public	HCV
		Horned Grebe, Olive-sided Flycatcher, Rusty Blackbird, Short-eared Owl, Cougar, Wolverine	NA	May occur on the forest, but no element occurrences are recorded; prescriptions <u>can</u> be been developed based on MNRF guidelines.	No specific monitoring program as no prescriptions, MNRF wildlife monitoring (surveys), Sightings by MNRF, forest workers or public	Potential HCV
		American White Pelican, Bobolink, Canada Warbler, Eastern Wood-pewee, Snapping Turtle Evening Grosbeak, Peregrine Falcon, Lake Sturgeon, Shortjaw Cisco, Monarch, Yellow-banded Bumble Bee Golden Eagle	NA	Species occurs but habitat protection is addressed through normal operations; prescriptions <u>cannot</u> be been developed based on MNRF guidelines. There is no interaction with forestry operations, so no special prescription required.	No specific monitoring program as no prescriptions, due to no direct impact from current forestry operation locations. MNRF wildlife monitoring (surveys) Sightings by MNRF, forest workers or public	Potential HCV- no specific prescription required

	2) Endemic Species	None	NA	None required	None required	No HCV
	3) Regionally Significant Seasonal Concentrations of Species	Lake sturgeon spawning areas	NA	Adhere to Stand and Site Guide riparian area prescriptions. No sites located.	MNRF wildlife monitoring (surveys)	Potential HCV
	4) Regionally Significant Species Declining	Woodland caribou calving areas	161,368	Adhere to Boreal Landscape Guide direction and calving AOC prescriptions.	MNRF wildlife monitoring (surveys) and compliance monitoring;	HCV (DCHS strategy, AOC prescriptions, road decommissioning)
	5) Edge Species or Outlier Populations	None	NA	None	None	No HCV
	6) Conservation Areas	Protected Areas - Parks and Conservation Reserves	69,799	These areas are within the MU boundaries but not part of the forest license for the Kenogami Forest.	MNRF monitor compliance with FMP to ensure no encroachment into Parks, and access is controlled.	HCV (AOC Prescription (part of tourism AOCs)
2. Landscape Level Ecosystems & Mosaics	**7)** Large Landscapes	Intact Forest Landscapes	1,044,327 (IFLs)	See *"Interim Guidance for the Delineation* Intact Forest Landscapes (IFL)"*, May 25, 2017, as per the following: Do not impact more than 20% of IFLs inside the Management Unit. Do not reduce any IFLs below the 50,000 ha threshold on the landscape.	Annual monitoring of disturbance of IFLs as part of the FSC certificate and preparations for audit process.	HCV

				See Table 4. Management and Monitoring Strategies for HCVs		
		Caribou Mosaic	1,420,217 (DCHS)	Landscape management as regulated through the DCHS (caribou mosaic) in the FMP is the primary driver of harvest/leave pattern on the forest.	MNRF wildlife monitoring (surveys) and compliance monitoring, objective achievement in 10-year ARs.	HCV
3. Rare, Threatened, Endangered Ecosystems	**8)** Rare Ecosystem Types	None	NA	None	None	No HCV
	9) Significantly Declined Ecosystem	None	NA	None	None	No HCV
	10) Large level Landscape Unfragmented Forests Are Absent	None	NA	None	None	No HCV
	11) Nationally Regionally Significant Diverse Unique Ecosystems	Areas of Natural and Scientific Interests (ANSI). adjacent to the Nakina Moraine Provincial Park	16,221	None	None	HCV
4. Critical Ecosystem Services	**12)** Significant Drinking Water Source	None	NA	None	None	No HCV
	13) Flooding, Drought Control, Stream Flow Control	None	NA	None	None	No HCV
	14) Erosion Control	None	NA	None	None	No HCV

	15) Barrier to Destructive Fires	None	NA	None	None	No HCV
	16) Landscapes Impacting Agriculture or Fisheries	None	NA	None	None	No HCV
5. Community Needs Inside or Adjacent to Forest	**17)** Local Communities	Seven Local Indigenous Communities Greenstone, Terrace Bay, Schreiber Local Municipalities	NA	For Indigenous communities, confidential specific values and areas have been identified and prescriptions are in place.	Community monitoring and compliance monitoring through FMP process.	HCV
6. Cultural Values	**18)** Traditional Cultural Identity	Indigenous Values Archaeological Sites	NA	For Indigenous communities, confidential specific values and areas have been identified and prescriptions are in place.	Community monitoring and compliance monitoring through FMP process.	HCV
	19) Other Overlapping Values That Constitute HCVs	None	NA	None	None	No HCV

3. PURPOSE AND METHODOLOGY

3.1. Purpose

Ne-Daa-Kii-Me-Naan Inc. (Nedaak) manages the Kenogami Forest under the authority of an enhanced Forest Resource License (FRL) granted by the Government of Ontario. Nedaak is seeking certification under the Forest Stewardship Council system. This report is provided to meet the requirements for FSC certification for the Kenogami Forest. This assessment of HCV is guided by the "High Conservation Value Forest National Framework", which is Annex D of the FSC National Forest Stewardship Standard of Canada (FSC-STD-CAN-01-2018 V 1-0). Part of the certification process is a requirement for the managers to complete an assessment of High Conservation Value Forest (HCV) using the definition of the Forest Stewardship Council's Principle 9.

3.2. Methodology

As with other Principles in the FSC standard, several indicators in Principle 9 require that best available information be used to provide a baseline for management activities or a basis for analysis in subsequent indicators. The definition of best available information provides general direction on the type of information to be gathered and the extent of effort required to gather the information. To place appropriate limits on what should be involved in gathering best available information, the definition notes that it should be constrained by reasonable effort and cost. The intent of the term reasonable is to emphasize that limits, such as cost and practicality, exist on the expectations of the effort required to gather information.

There are four criteria in Principle 9 relevant to forest managers. In short, these require: assessment of values, management prescriptions for values, and monitoring in order to ensure the prescriptions are effective. Management activities in HCVs must "maintain and enhance the attributes which define such forests". Generally, the four Principle 9 criteria require the Forest Manager to:

9.1 Assess and record the presence, status and likelihood of occurrence of HCVs based on scale, intensity and risk of impacts of management activities through engagement with affected stakeholders, interested stakeholders and other means.

9.2 To Develop effective strategies to maintain and/or enhance the HCVs through engagement with affected stakeholders, interested stakeholders, Indigenous peoples and experts.

9.3 To implement strategies and actions that maintain or enhance the identified HCV, while implementing the precautionary approach and be proportionate to the scale, intensity and risk of management activities.

9.4 To demonstrate periodic monitoring to assess changes in the status of the HCVs and adapt its management strategies to ensure their effective protection.

9.1.1 Identification of HCVs

For the assessment and decision-making process required in criterion 9.1, and the National FSC Standard of Canada HCV Principle 9 Checklist table (Annex D) was used to direct the assessment of HCVs on the Kenogami Forest. The framework provided in Annex D provides the basic approach and guidance for assessing HCVs. MNRF forest values were used as a source of information for the assessment as were the species at risk as identified in the 2021-2031 FMP currently under development.

Where the HCV Checklist questions focused on large scale regional, national, global scales, the broad significance of the value was considered, comparing values on the forest with those beyond the limits of the forest. In other instances, the rarity or importance of the value was generally considered within the forest area. For example, as discussed under Question 3, the Forest does not include Nationally Regionally Significant Diverse Unique Ecosystems. As per the HCV Checklist, it would not

be possible to identify any HCVs under this question, as no areas meet the standards outlined in the Checklist).

9.1.2 Consultation - Consultation with local Indigenous and non-Indigenous communities during 2021 has been more difficult than normal due to the Covid-19 pandemic. Local community staff are stretched thin with work focused on maintaining the health and safety of their community members and in-person meetings were not possible due to lock-downs. Nonetheless, information has been shared and community feedback has been provided via remote computer-based meetings using applications such as Zoom or Skype and where possible in-person meetings.

Community engagement has been done regarding this HCV Assessment Report and the designation of HCVs and the Conservation Area Gap Analysis Report. Community members expressed their concerns regarding the favoring of caribou habitat over moose habitat in both the FMP process and the FSC process.

Members were also concerned with the addition of any new protected areas as an additional infringement on their traditional rights such as subsistence harvesting and for the general use of their traditional land. Feedback from Indigenous communities has not identified any new values, however input on the identification of any new HVCs or new management approaches are ongoing and will be considered at any time.

There are several consultation opportunities afforded for the HCV consultation:
1) Geraldton Area Natural Resources Advisory Committee (GANRAC) members are a local citizen's committee comprised of local stakeholders on the Kenogami Forest. They represent tourism operators, cottagers, local municipalities, the forest industry and many others that work on and use the Kenogami Forest. Members conducted a general review of the HCV Assessment Report and provide advice into the forest management planning (FMP) process. Members have provided input to determine forest values and the classification of HCVs. The FSC concepts and an explanation of what of HCVs are were introduced at the January 13, 2021 meeting. Later HCV values were reviewed during a presentation to the GANRAC members on March 3, 2021. Additional meetings and /or information material was presented to the GANRAC members in December, 2021 and February, 2022. Additional follow up meetings are scheduled tentatively for the spring of 2022.

2) Consultation with Local Indigenous Communities of the Kenogami Forest.- Community representatives are members, the Kenogami Forest Planning Team and form the Board of Directors for Nedaak Inc. They have reviewed and provided initial feedback into the designation of the HCVs on the Kenogami Forest. Meetings occurred on January 25, 28, and February 11, 2021 and information was emailed to all the Indigenous communities to share with fellow members and provide feedback. Additional meetings were scheduled to occur in early 2022, however Omicron Covid outbreaks and deaths in the communities have made this difficult once again. Questionaries and information has been provided to local Indigenous communities in absence of remote or face-to-face meetings. .

There are seven (7) Indigenous communities that are part of the consultation process for the Kenogami Forest:

- Animbiigoo Zaagi'igan Ansihinaabek:
- Aroland First Nation
- Constance Lake First Nation
- Ginoogaming First Nation
- Long Lake #58 First Nation
- Pays Plats First Nation
- Red Rock Indian Band

Additionally, the forest management planning process has a significant impact on the protection of HCVs for those that are forest values and have area of concern prescriptions (AOCs) or conditions on regular operations (CROs) or the consideration of species at risk. The planning process contains a significant amount of public consultation, which has also been verified to meet FSC standards through the certification assessment process.

3) Nedaak reached out to Ontario Nature, and the Canadian Parks and Wilderness Society (CPAWS/Wildlands League) about caribou management and the conservation area networks as an initial contact. Input and comments will be considered at any time. Additional communication occurred via email and phone calls in August/September 2021 and remote meetings occurred in November and December 2021, with several additional follow-up meetings have occurred in January and February 2022. National and provincial ENGOs are also informed. This report is publicly available on the Nedaak website and new comments are welcome at any time.

Peer Review – An initial full Peer Review of this report as required by the FSC standard 9.15 was conducted in January, 2021 and is contained in Appendix 3. Additionally, a second independent full Peer Review was conducted in January 2022 as some changes were made to the HCV Report as a result of the initial audit conducted in March, 2021.

9.2 Development of HCV Strategies

In Ontario, the forest management planning process is extremely rigorous in terms of developing management strategies, objectives/indictors, monitoring, reporting and identifying long-term trends for the protection of both timber and non-timber values. Independent forest audits provide an additional feedback mechanism with a thorough review of the FMP management strategies, actions and outcomes during the FMP implementation process.

Management of HCV's on the Kenogami Forest adheres to the MNRF's Boreal Landscape Guide and Stand and Site Guide that are based on a coarse filter approach applied at a landscape level combined with a fine filter approach for specific species or habitats where necessary. These guides are based on years of development, collaboration, and volumes of science and research.

Designated HCVs are protected primarily through area of concern (AOC) prescriptions or conditions on regular operations (CROs) in the FMP process. Large landscape level HCVs are protected through the implementation of direction contained in the Forest Management Guide for Boreal Landscapes (BLG). This includes the maintenance of large landscape patches through the delineation of large caribou mosaic harvest scheduling/retention blocks and maintaining suitable caribou habitat both spatially and temporally over time (i.e. maintaining habitat linkages for caribou movement and over a 100-year period).

Additional information regarding management strategies of HCVs is presented in Section 4 and Table 3 and the end of this report.

Expert Opinion

In Ontario, the forest management planning process (FMP), maintains the responsibility for non-timber values is the provincial government, therefore MNRF are considered to have the expert opinion in making decisions regarding the protection of non-timber forest values. To ensure that this management and appropriate decisions are effective, the government employs a range of experts including biologists, archaeologists, and Indigenous liaison officials.

In Principle 9, the standard refers specifically to the responsibility of "the applicant" towards HCVs. In the case of FSC, Nedaak Inc. is responsible for the HCVs, but this responsibility requires that the manager ensures that the government is meeting the spirit of the FSC standard. Nedaak Inc. will

ensure that HCVs are properly assessed and designated in the FSC context. Nedaak Inc. holds the responsibility for the protection of these values in forestry operating areas. This HCV report is the responsibility of Nedaak Inc. and meets the requirement of Principle 9.1 in the assessment.

Threats

Threats to HCVs can come internally from forest operations encroachment for wildlife (e.g. woodland habitat, nests), road construction, improper harvesting practices, poor regeneration, spills/pollution, etc.). Threats to HCVs may also include the forest manager not having up-to-date information or inaccurate information representing the HCV. Threats can also come from external factors (e.g. natural disturbance (wildfire, blowdown), climate change, poaching, over hunting/fishing, or disregard for public access restrictions on Crown land), which are outside the control and scope of this HCV assessment.

Management strategies/prescriptions are proportionate to the threat depending on the HCV the specific values to be maintained. Threats monitoring is used to determine changes in internal and external threats identified during the assessment process and to assess whether new threats have developed. Monitoring of threats is key and includes systematic field survey programs; maintaining an up-to-date values data layer, pre-harvest survey information, updated forest resource inventory information and forest values updates, forest health monitoring; remote sensing and qualitative and expert assessments.

9.3 Implementation of HCV Management Strategies

Process for Keeping HCVs Up to Date - One aspect to the HCV methodology is to have a process for keeping records and prescriptions up-to-date. This HCV Report and its contents will need to be periodically reviewed to ensure that it is up to date with the FMP and other changes to the Kenogami Forest. More specifically, the values designated as “potential HCVs” will need to be reviewed for changes to the status. In Ontario, the FMP process governs the protection of forest values. Nedaak Inc. will ensure, as part of the responsibilities of the designated staff member for certification (currently the General Manager), that HCVs are reviewed at appropriate time intervals. Annual maintenance audits by the certifier will also ensure that this is fulfilled.

HCV Designation Decision by the Manager - Under the FSC system the manager makes the final designation of HCVs. The General Manager of Nedaak Inc.is considered to be the manager and designates the HCVs. This decision must be transparent (as documented in this report) and based on expert, stakeholder and Indigenous input and advice.

9.4 Monitoring of HCVs

Once HCVs are assessed and a designation as HCV has been made, then the managers have to provide management prescriptions. Each HCV must have a prescription which is demonstrated to be effective. This is in essence the precautionary principle. To show that a prescription is effective the managers must provide monitoring evidence, and monitor the application of the prescription. These are provided through Ontario’s forest management planning process through an area of concern (AOC) or a condition on regular operations (CROs).

Effectiveness monitoring and compliance monitoring are key components to protecting HCVs. In Ontario, effectiveness monitoring of AOC prescriptions and CROs are completed periodically by the MNRF as part of their standardized guides (e.g. Stand and Site Guide, Boreal Landscape Guide).

Compliance Monitoring is part of the FMP process and once the FMP approved prescription is applied to a forest operation, the compliance monitoring process as per the FMP or AWS is engaged with Compliance inspections and Forest Operations Inspections reports (FOIP) completed for compliance

reporting areas. If forestry operations are inconsistent with strategies developed in to protect HCVs, operations are to stop immediately and report the issue to their superior and measures are taken to restore and protect the HCV as per the annual Compliance Plan.

Additional information regarding management and monitoring of HCVs is presented in Section 4 and Table 3 and the end of this report.

2.3 Forest Description

The Kenogami Forest is located approximately 300 kilometres northeast of Thunder Bay. The Forest occupies an area of 1,977,684 hectares, of which 8.8% is water. Of the total forested area, less than 1% is patent land. The management of forests on Patent land is beyond the scope of the FMP, and as such, is excluded from the landbase of the Kenogami Forest.

The larger communities of Terrace Bay, Schreiber, and the Municipality of Greenstone (comprised of the towns of Longlac, Geraldton, and Nakina) are located within the boundaries of the Kenogami Forest, as are the Long Lake #58 First Nation, Ginoogaming First Nation, Aroland First Nation and Pays Plat First Nation. These communities have been and continue to be heavily dependent upon the woods industry for employment. Figure 1 illustrates the location of the Kenogami Forest in relation to the major communities and the MNRF Nipigon District and the Northwest Region.

2.3.1 History

The Kenogami Forest has a long logging history dating back to the turn of the century. The first known impact on the forest, attributable to human activity was the initial establishment of communities in the area following the progression of early fur trading. The completion of the Canadian Pacific and Canadian National Railroads in 1885 and 1914 respectively, increased settlement to the area.

The arrival of Pulpwood Supply Co. in 1937 gave a major impetus to the economy. The company floated pulpwood through lakes and rivers south to Lake Superior. In 1942, the highway arrived from the direction of Geraldton. In 1947 the company, operating as Longlac Pulp and Paper Co. Ltd., began shipping wood to its new Terrace Bay mill. In the 1940’s the Aguasabon Generating Station was created by the Ontario Hydro water division, to redirect the northward flowing Long Lake south through the Aguasabon River system to Lake Superior. On September 1, 1947, Terrace Bay was granted status as an Improvement District and the pulp mill was the lead developer with construction of the community's basic infrastructure.

The company also operated a local sawmill. In 1957, the company name changed to Kimberly-Clark Pulp and Paper Co. Ltd. The construction of Highways #11 and #17 in 1942 and 1960 respectively, contributed to further access into the area. In the 1970’s, Kimberly-Clark of Canada Ltd. began permanent harvesting operations in the Nakina area, an event which somewhat offset the decline in railway employment.

The pulp mill in Terrace Bay was the lifeblood of the region and in 2005 Kimberly-Clark sold the mill to Neenah Paper Inc, who then sold the mill to Buchanan Forest Products in 2006. The mill was renamed to Terrace Bay Pulp Inc. It operated until it ran into financial hardship and was shut down in 2009. After financial reorganization, it reopened in October 2010 to strong pulp markets, however, soon thereafter the mill ran into financial trouble again and had to declare bankruptcy. In July 2012, the Aditya Birla Group agreed to purchase the mill.

2.3.2 Licensing

The Kenogami Forest Sustainable Forest License (SFL) was originally issued to Kimberly Clark Forest Products Inc., by Order-in-Council No. 893/97 on April 24th, 1997 and signed by the Minister of Natural Resources on April 30th, 1997. Prior to 1997, Kimberly Clark Forest Products Inc. (KCFP) operated under approved Timber Management Plans for the Longlac and Nakina Forests, which were Forest Management Agreements (FMA) No.'s 502700 and 502600, respectively; and for the Geraldton Company Management Unit (CMU) License No. 327900, and the northern portion of the former Onaman Lake Crown Management Unit (No. 775).

In December 2004, the Kenogami Forest SFL was transferred Neenah Paper Company of Canada and in August 2006, the SFL (#542256) was transferred to Terrace Bay Pulp Inc (TBPI). TBPI went into bankruptcy protection in 2009, but an infusion of cash from MNRF allowed the mill to reopen in 2010 and it ran until it filed for bankruptcy in January 2012. The SFL was handed back to the Crown in April, 2012. The pulp mill in Terrace Bay was purchased by AV Birla. Pulp and harvest operations then commenced under AV Terrace Bay (AVTB).

The Kenogami Forest became a Crown unit administered by the Nipigon District of the Ontario Ministry of Northern Development, Mines and Natural Resources and Forestry (NDMNRF). Ne-Daa-Kii-Me-Naan Inc. (Nedaak), a local Indigenous community owned company, was issued an Enhanced Forest Resource License (eFRL) on November 9, 2012 to perform forest management activities on the forest. In August 2021, Ogwiidachiwaning Sustainable Forest Management Inc. (OSFMI) was granted the SFL for the Kenogami Forest, with Nedaak Inc. being maintained as the forest management company and maintaining the FSC certificate on behalf of OSFMI.

OSFMI is comprised of local Indigenous communities and consumer members mills. The purpose of the Company is to manage the Kenogami Forest and continue to build on the existing positive working relationships and promote economic opportunities. Also, the Company has legal authority under the eSFL to perform all required forest management activities as per the terms of the license. The day-to-day business of the Company will be carried out directly by the Company, and forest management services will be carried out by Nedaak under a forest management contract with the Company.

2.3.3 Decision Support Systems

Decision support systems used in forest management planning are information systems that utilize strategic models, analysis tools, and databases in an interactive, analytical process, to support decision making. The following decision support tools were used in the ongoing development of the 2021-2031 FMP.

Model and Inventory Support Tool (MIST) - This tool configures and classifies the modelling inventory to prepare various modelling inputs. MIST will be used to develop yield curves (based on empirical yields with coefficients built in specific for the Northwest Region) for both merchantable and non-merchantable volumes and create input datasets for the model.

Patchworks - Patchworks is a sustainable forest management optimization model that enables the incorporation of real-world operational considerations into the strategic planning framework. Patchworks is a spatially explicit GIS-based sustainable forest management planning model. Patchworks integrates operational-scale decision-making within strategic-analysis. It tracks polygon-level detail over long time horizons and details spatially explicit harvest allocations can be developed over multiple rotations. Patchworks has a fundamental capability to control and maintain the distribution of landscape structures, such as disturbance patches or core area retention.

Ontario Landscape Tool - The Ontario Landscape Tool (OLT) is an MNRF-developed stand-alone tool which allows the user to import a digital FRI and perform analyses and comparisons of planned landscapes with simulation results such as the simulated ranges of natural variation (SRNV). It also provides the science and information packages used to develop Ontario's Landscape Guides (e.g. Boreal Landscape Guide). These packages contain summaries of simulation results and decision support tools that can be used in FMP models for testing model inputs, assumptions and results. This tool will be used to develop targets and assessment of Boreal Landscape Guide (BLG) indicators.

The Heritage Assessment Tool (HAT) - The HAT is designed to identify high potential Cultural Heritage sites across the forest. Products from the HAT are reviewed by the MNRF provincial archaeologist, Plan Author and Planning Team. It is essential that this product is supplied to the Planning Team early in the planning process (well prior to Stage Two) in order to allow time for review and refinement of the results. The results of this tool will be used as the basis of the archaeological potential areas of concern.

Water Classification Tool (WCT) -The Water Classification Tool has been developed to assist FMP Planning Teams with the implementation of forest operations that aim to maintain ecological functions in aquatic ecosystems (including the protection of fish and fish habitat). The WCT assigns high, moderate or low level of potential sensitivity to forest operations for each water feature. Sensitivity levels are assigned based on either survey information (e.g. fish species presence) or physical attributes (e.g. catchment size).

Figure 1. Map of the Kenogami Forest

2.3.4 Forest Management Planning

The Kenogami Forest 2021-2031 FMP was prepared for the period of April 1st 2021, to March 31st, 2031, and it describes forest management activities, such as timber harvesting, road construction and silviculture that will take place during the plan period. 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.

Table 1 previously presented in this report includes species at risk that have been updated to reflect the Final 2021-2031 FMP for HCV Category 1 - Concentrations of Biodiversity and whenever new information was available it was included in this report.

Forest Units

Forest Units are “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”.

On the Kenogami Forest, the lowland forest units (SLow1 and SLow3) comprise over 490,000 ha or almost 29% of the forest. The relatively short winter season makes year-round harvest operations in lowland conifer challenging (and associated employment opportunities), and requires forest management operations to be carefully planned. These lowland dominated sites generally require less intensive silviculture practices as they have more naturally regenerating areas although the wetter ground can make access more challenging when artificial treatments are necessary.

The SbDom forest unit is over 317,000 ha which is approximately 24% of the forest and approximately 30% being in the 0-20 year age class. When combined with the SbLow1 and SbLow3 (29%) these forest units total approximately 50% of the entire forest which is a significant amount of spruce in comparison to other forests in the north-west region.

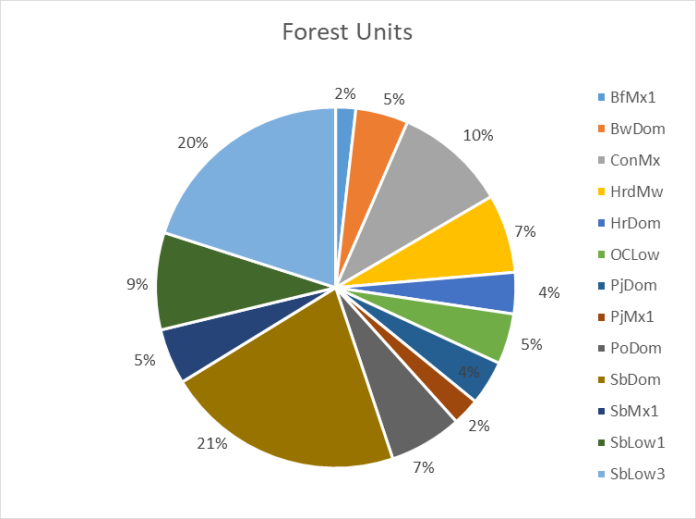
The ConMx and HrdMw forest units are heavily weighted to the 0-60 year age classes which comprise approximately 50% of the total available area. A similar situation occurs in the HrDom forest unit which is heavily weighted to the 0-60 year age classes which comprise approximately 62% of the total available are by forest unit. These weightings in the 0-60 year age classes are to be expected in these mixedwood and hardwood forest units.

The current forest composition and age class structure (maturity class structure) is the product of over half a century of timber harvesting, wildfire suppression and natural succession. As a result, there are a higher proportion of mixedwood forest types than what would be expected to exist with a natural fire regime.

Furthermore, the average age of the forest is likely older than what would be expected with the pre-fire suppression era. The general desired forest condition is one with a lower proportion of mixedwood forest types and with a higher proportion of purer forest condition comprised of a higher proportion of conifer- dominated forest types. This is based on the premise that wildfire does not normally result in mixed intolerant and tolerant tree species stands. Although Late (Old) forest would still exist in the “natural” forest, its proportion would likely be much lower than present day.

The following chart illustrates the relative proportion of the available forest area by forest unit. The two largest forest units are the SbDom and Slow3 forest units, which comprise the largest proportion of the Kenogami Forest available area totalling 41% of the forest. The BfMx1 forest unit comprises the smallest proportion at 1.8%.

Figure 2. Forest Units



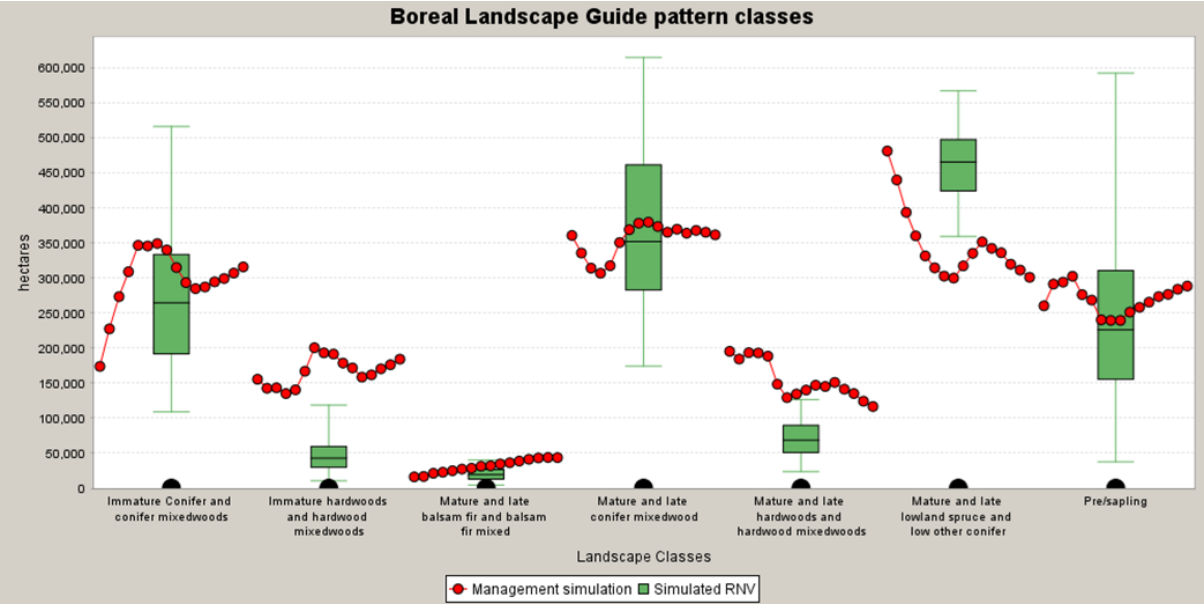
Forest Landscape Classes

The Forest Management Guide for Boreal Landscapes (BLG) provides direction with respect to the development of disturbance patterns and to direct forest management activities to maintain or enhance natural landscape structure, composition and patterns that provide for the long term health of forest ecosystems in an efficient and effective manner. The Boreal Landscape Guide places focus on (a) landscape classes (by age), (b) old growth, (c) red pine and white pine forest, (d) upland pine and spruce forest, and (e) young forest

A number of other criteria were used to classify the Kenogami Forest and to assist in the development of the management objectives and strategy for the 2021-2031 FMP. These include the classification of forest ecosites and the classification of the forest into maturity classes. As part of the Ontario Landscape Tool (OLT), NDMNRF has developed several forest classes which reflect varying age and/or hardwood/softwood forest composition. Each forest landscape classes has a simulated range of natural variation (SRNV) for non-spatial total area.

The seven forest landscape classes by age are defined as:
(a) Pre-Sapling/Sapling (young age classes usually between 1 to 10 years for hardwood and 1 to 30 years for conifer)
(b) Immature Hardwood (hardwood-dominated forest units (average ages from 10 to 59 years)
(c) Immature Conifer (conifer-dominated forest units (average ages from 30 to 69 years)
(d) Mature and Late balsam fir (average age 60+ years)
(e) Mature and Late lowland conifer (average age 70+ years)
(f) Mature and late upland conifer (and conifer-dominated mixedwoods) (average age 70+ years)
(g) Mature and late hardwoods (and hardwood-dominated mixedwoods) (average age 60+ years)

Figure 3. Landscape Classes by Maturity



Old Growth - As per the BLG old growth is defined using Old Growth Forest Definitions for Ontario (MNRF, 2003). The old growth development stage of all plan forest units, or appropriate groupings of plan forest units, are represented in the Patchworks model and the directional statement is to maintain within the IQR for the Kenogami Forest.

Note: Dotted green line is the upper quartile while the dotted blue is the lower quartile range. The dotted black is the median.

Figure 4. Old Growth - Upland Conifer

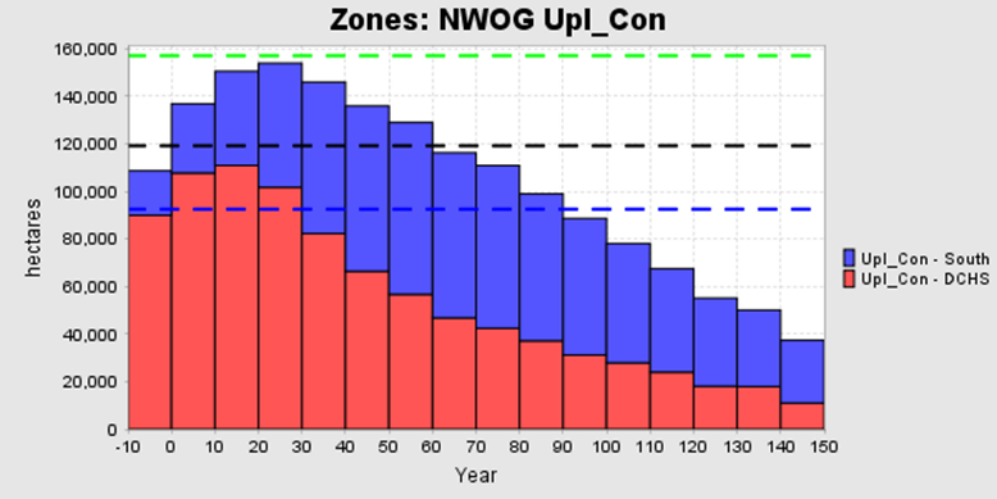


Figure 5. Old Growth - Lowland Conifer

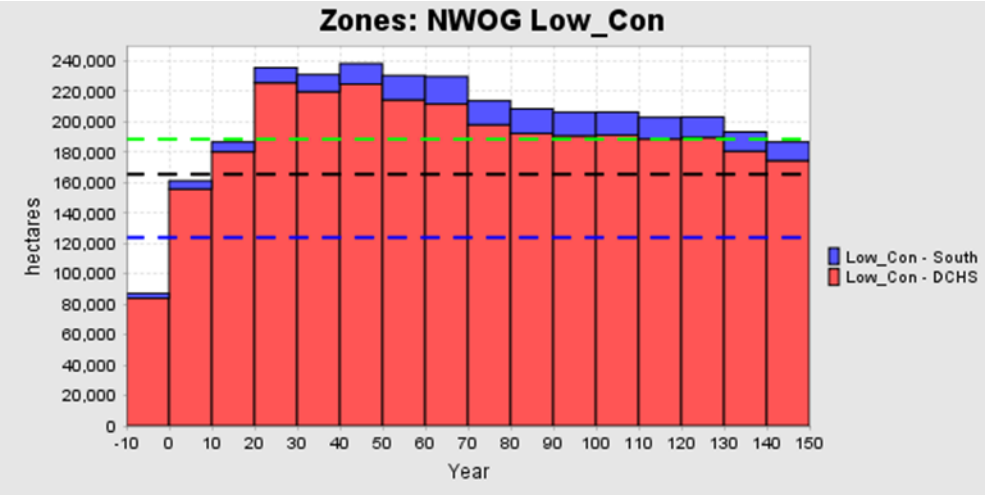
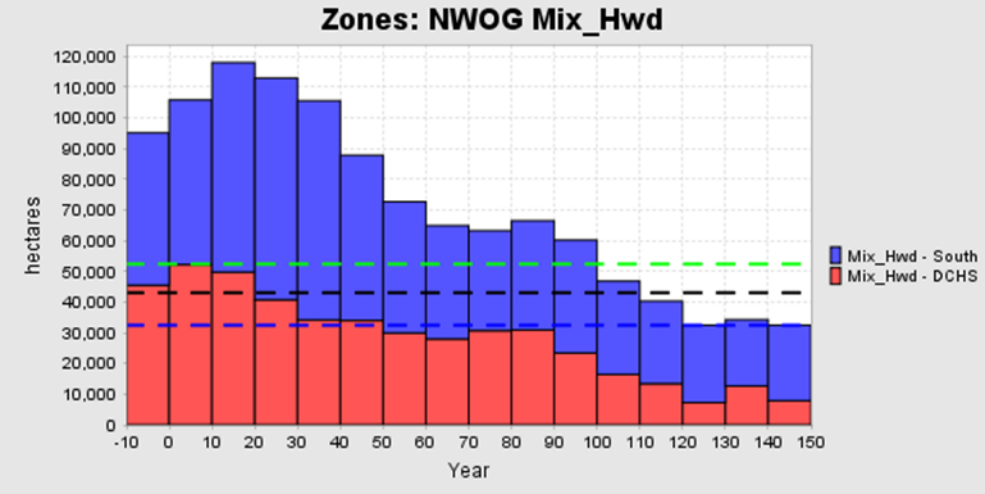


Figure 6. Old Growth - Mixed Conifer and Mixed and Pure Hardwood



Red Pine and White Pine forest - This indicator is used to direct the total amount of area in all development stages of red and white pine forest units on the landscape.

However, there are no red or white pine forest units or landscape classes on the Kenogami Forest.

Figure 7. Upland Pine and Spruce

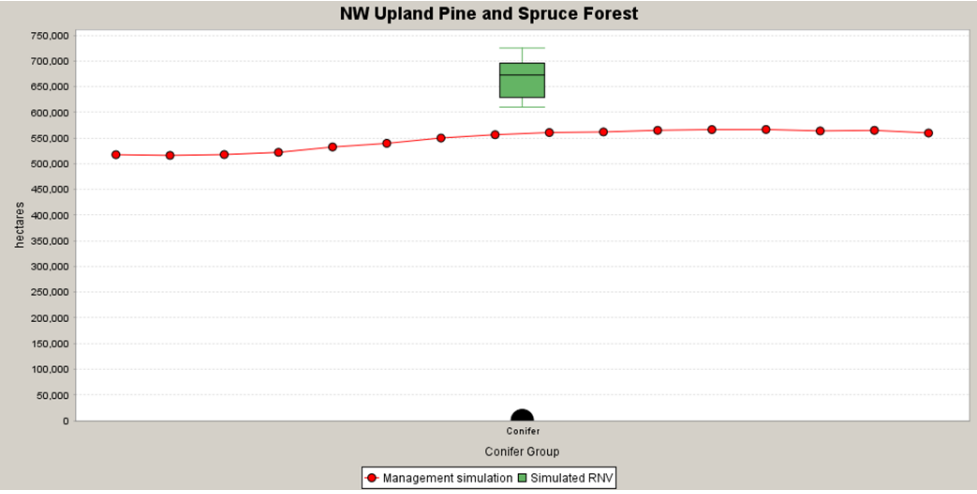
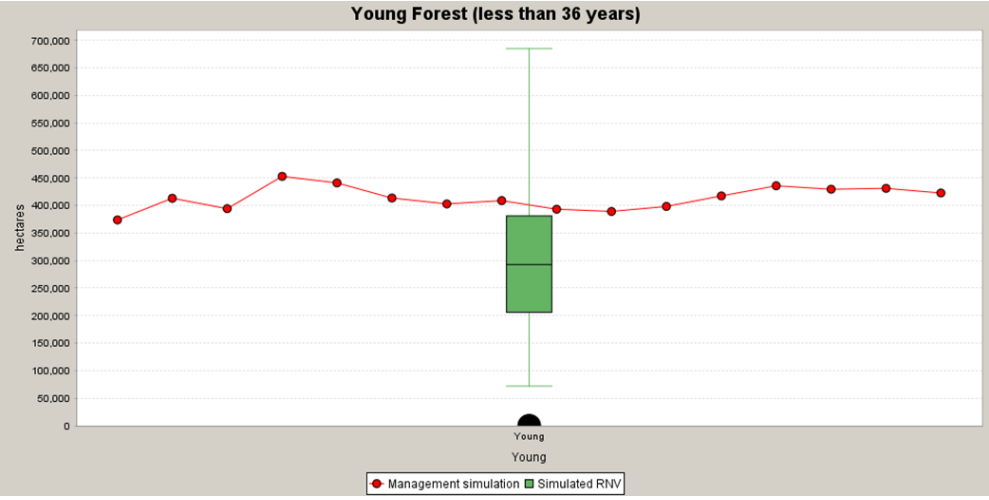


Figure 8. Young Forest



2.3.5 Social & Economic Description

Communities

Local communities that receive significant amounts of timber, chips and other products from the Kenogami Forest, and that have substantial employment related to the forest industry include the communities of Hearst, Schreiber, Terrace Bay and the municipality of Greenstone (an amalgamation of the former communities of Beardmore, Caramat, Geraldton, Jellicoe, Longlac, Nakina, and McDiarmid).

Indigenous communities located in or adjacent to the Kenogami Forest, whose interest or traditional uses are affected by forest management include: Animbiigoo Zaagi'igan Anishinaabek (AZA), Aroland First Nation, Biinjitiwaabik Zaaging Anishinaabek (BZA), Bingwi Neyaashi Anishinaabek (Sand Point First Nation), Constance Lake First Nation, Ginoogaming First Nation, Long Lake #58 First Nation, Red Rock Indian Band, Pays Plat First Nation and Biigtigong Nishnaabeg.

Land Uses

The Kenogami Forest is primarily designated as General Use Areas. 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. The land uses important to the Kenogami Forest include area related to: resource-based tourism, mineral, aggregate and quarry areas, Crown land recreation and cottages, trapping (commercial fur), and private land.

Resource-Based Tourism Areas - There is a well-established resource-based tourism industry on the Kenogami Forest providing remote and road based services. Hunting and fishing opportunities are available with remote, fly-in wilderness settings, as well as through road-based operations. These road-based services make use of the well-roaded forest for their customers. There are 42 fly-in/road-based tourism operations on the Kenogami Forest. This creates the potential to impact the tourism operators through access, noise and aesthetic concerns created from the harvesting process.

The 2021-2031 forest management plan was developed to maintain the viability of the tourism industry by protecting tourism values in through the application of the Management Guidelines for Forestry and Resource-Based Tourism and the use of AOC's as one method of protecting and sustaining these values.

Mineral, Aggregate & Quarry Areas - Historically, mining has always played an important social-economic role in the local area and as of late is becoming a significant driver once again. There were fourteen (14) past producing gold mines in the Greenstone region operating between 1934 and 1968. Today there is renewed interest in both the past producing gold mines and new potential mines in the region. Gold and other precious metals are the main mining interests.

The Beardmore-Geraldton Gold Camp is a historic gold producing area that was actively mined from the 1930's to the 1970's producing more than 4 million ounces of gold during its lifetime. Although there are no active mines on the Kenogami Forest there are over a dozen active companies associated with the Beardmore - Geraldton Camp with approximately 11 active drills conducting exploration work.

Exploration in the Ring of Fire in the James Bay Lowlands north of the Albany River has revealed significant deposits of copper, zinc, nickel, platinum, palladium, gold and other precious metals, but most importantly a massive deposit of chromite, which is critical to the production of stainless steel. Although the area of the Ring of Fire is not located within the limits of the Kenogami Forest, there is the potential that the mine will have a significant impact on the local economies of towns within the Kenogami Forest as they are the closest business centres. There is the potential for a transportation link to be constructed from Nakina to the mine site that may affect access, habitat and allocations on the Forest.

As more roads are developed for forestry purposes and market opportunities for minerals such as platinum and palladium, gold and other such precious metals increases, the opportunity for prospectors to explore the mineral potential of the Kenogami Forest will also increase. There are few implications of mining, aggregate and quarry operations on forest management activities currently. In the future there may be management implications if the "Ring of Fire" becomes a reality and a north-south transportation link comes to fruition.

Annually, mining claim holders must be notified of forest management activities scheduled on their respective mining claims. Generally, there are few implication of mining, aggregate and quarry operations on forest management activities. Harvest and silviculture activities must not damage or destroy claim posts. However, strategic management planning on this forest (e.g. caribou habitat, renewal, and road densities and decommissioning strategies) are not considered by mining

operations (not regulated) and may compromise strategies and operations planned for the Kenogami Forest.

Aggregate Pits - Both Category 9 and Forestry aggregate pits exist throughout the Forest and are maintained and rehabilitated as required. There are approximately 98 aggregate extraction areas and 32 forestry aggregate pits on the Kenogami Forest.

The SFL holder has the majority of sites classified as Forestry Aggregate pits, as aggregate sources for maintenance and construction on forest access roads. In addition to the NDMNRF permitted sites the Ontario Ministry of Transportation controls several sites within the forest as aggregate sources for provincial highway maintenance and construction. Obtaining sources of aggregate on Crown land in some areas of the Forest that is of appropriate quality and in sufficient volume is sometimes difficult resulting in long aggregate haul distances for road building, or the increased use of winter access roads for timber extraction.

Crown Land Recreation & Cottaging - Recreation and cottage use are common activities within the Kenogami Forest. Within the management unit boundary, there are eleven (11) recreation camps and forty-five (45) cottage residential areas. In the event that forest management may impact the cottage and recreational camp locations, an area of concern prescription is developed. Most non-commercial uses of the forest relate to personal recreational activities such as canoeing, hunting, fishing and Crown land camping.

Trails - Within the Kenogami Forest, there is approximately 180 kilometres (km) of portage trails, over 900 km of snowmobile trails and 88 km of hiking trails. These trails are also identified in the FMP Values Maps and are generally protected through the application of an area of concern prescriptions (AOC) and/or conditions on regular operations.

Trapping (Commercial Fur) - Wild fur harvesting is a very important part of the local economy of Ontario’s communities. It has traditionally provided a renewable source of food, clothing, and income. Trapping also has a broader social, cultural and recreational context that is vital to these communities. On the Kenogami Forest there are 72 traplines, many belonging to Indigenous people. 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.

4. ASSESSMENT FOR THE PRESENCE OF HIGH CONSERVATION VALUES

4.1. HCV 1 – Species diversity

HCV 1 covers significant concentrations of biological diversity including endemic species, and rare, threatened, or endangered species that are significant at global, national, or regional levels.

- In comparison with other areas (within the same province for example)
- Based on priority frameworks or through field assessment and consultations.

Any area that contains significant concentrations of HCV 1 (Rare, Threatened or Endangered (RTE[a]) or endemic), or which contains habitat critical to the survival of these species will be an HCV area. It does not mean that any sighting or recorded presence of an RTE species would qualify as HCV, only where the concentration of species is globally, regionally or nationally significant. Note that these non-HCV values can still be protected under other environmental management principles addressed through the forest management planning process such as AOCs or CROs or development of the long-term management direction in future FMPs. They may also be protected through other processes involving land use management decisions (e.g. Category 5 and 6) or through provincial or federal processes (e.g. Lands for Life).
As part of an initial data gathering exercise, and under the precautionary approach, the presence of protected areas recognised by the provincial government shall be considered as an HCV 1. In addition to legal protected areas, conservation priority sites such as key biodiversity areas are also strong indicators of the potential presence of HCV 1.

4.1.1. HCV 1 – Question 1 - Does the forest contain species at risk or potential habitat of species at risk as listed by international, national, or territorial/provincial authorities?

Rationale
Ensures the maintenance of vulnerable and/or irreplaceable elements of biodiversity. This Indicator allows for a single species or a concentration of species to meet HCV thresholds. The following criteria were used in determining the presence of HCV (Annex D):

- A single species with habitat in the forest is a HCV in the Canadian context. We determined the presence of habitat on the forest based on data;
- Are any rare, threatened, or endangered species in the forest*? (DEFINITIVE);
- The assessment of whether a species is an HCV is not dependent on whether there is a risk from forest operations. Once it is designated as a HCV, the specific management requirements are determined. In some cases, no management will be required because there is no risk from forestry. (DEFINITVE);
- Is there critical habitat for rare, threatened or endangered species in the forest? (DEFINITIVE); and
- Are there any ecological or taxonomic groups of rare species that would together constitute a HCV? (GUIDANCE)

Species at Risk (SAR) *are defined by FSC as all species or subspecies or designated populations formally listed in schedules referenced in federal or provincial endangered species/SAR legislation or provincial wildlife/biodiversity legislation that have been classified as Endangered, Threatened, Vulnerable, Special Concern or similar designations. For this Standard the term species at risk also includes all species that have been assessed as 'at risk' designation by bodies formally recognized in federal or provincial endangered species*

[a] RTE refers to species that are at risk of, undergoing or have undergone severe population decline. Although the HCV definition mentions threatened and endangered species, these are often, together with vulnerable, subsumed under the overarching term threatened and endangered in an IUCN Red List context.

legislation (e.g. the Committee on the Status of Endangered Wildlife in Canada – COSEWIC, plus equivalent provincial bodies).

Sources of information

- MNRF Biologist latest Species at Risk List for the Kenogami Forest (February, 2021)
- The Endangered Species Act (2007)
- Species at Risk List in Ontario (COSSARO) (annual confirmation updates)
- Species at Risk List (COSEWIC) (annual confirmation updates)
- Species at risk in Ontario (SARO) List
- the Federal Species at Risk Act (SARA)
- IUCN Red List
    - ** all IUCN info listed in *Status Justification*
- CITES (Appendix I and II and III)
    - The Kenogami Forest has two species recognized by CITES, the peregrine falcon and lake sturgeon. The peregrine falcon has been designated to receive CITES protection as a Level 1, appendix I species, and the lake sturgeon has been designated as an appendix II species.
- Conservation Data Centre G1 and G2 element occurrences.
    - Natural Heritage Information Centre
    - According to the NHIC and the NatureServe network, the northern long-eared bat is the only species at risk in the Kenogami Forest with a G1 element occurrence. There or no other species at risk with a G1 or G2 occurrence.

Assessment Results

Table 2 is a description of all of the species that are listed as special concern, threatened, or endangered that may possibly occur on the forest. Nationally (COSEWIC) or provincially (COSSARO) assesses the relative risk for all species and if necessary, places them on the official list which determines the regulatory requirements. Regulated (listed) species are considered to be HCVs. The list is provided by MNRF which holds the responsibility for their management as mandated by the Endangered Species Act (RSO 2007).

This list is reviewed each year for updated species at risk as part of the monitoring program for HVCs.

Areas of Concern and Conditions on Regular Operations

An area of concern (AOC) is a defined geographic area associated with an identified natural resource feature, land use or value that may be affected by forest management activities. An operational prescription for harvest, renewal and tending, and protection activities is developed for an area of concern to prevent, minimize or mitigate adverse effects of forest management operations on the natural resource feature, land use or value.

Operational prescriptions for AOCs may be reserves (i.e., prohibition of operations) or modified operations (i.e., specific conditions or restrictions on operations). Modified operations may be regular operations with conditions (e.g., timing, equipment), or unique prescriptions that are developed to protect or manage specific natural resource features, land uses or values.

Conditions on Regular Operations (CROs) applied in areas of harvest, renewal and tending operations maintain or protect important ecological features that are not addressed by operational prescriptions or conditions for areas of concern (e.g., grouse nests, wildlife trees) or to implement specific operational standards and guidelines (e.g., rutting). Conditions on regular operations are developed for important ecological features using the forest management guides identified by MNRF applicable to the management unit.

Not all AOCs are HCVs, since HCVs are regionally significant values. However, all HCVs have an AOC boundary of some kind and require an AOC prescription if there is a possible impact from forestry.

HCV Designation Decision:
The decision regarding each species at risk is identified in the following table (Table 2).

Table 2. Species at Risk in and Around the Kenogami Forest & Kenogami District.

Scientific Name / Common Name Status	Risk Assessment and Decision
BIRDS	
American White Pelican *Pelecanus erythrorhynchos*	Status Justification Ontario: THR SARA: NAR IUCN: Not Listed
	Habitat The American white pelican is one of the largest and most distinctive birds in North America, with a 3-meter wingspan, 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. 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. Map: American Pelican breeding evidence
	Threats to Species and Habitat They are vulnerable to threats from high water levels, disturbance of nesting sites by recreational boaters, and disease. Threats on their wintering grounds include human persecution and pollution.
	Current Management As this species does not occupy forested habitats, it is unlikely to be impacted by forest management operations and the reserves and residual areas already planned were sufficient, so no additional management implications were required. There are no confirmed pelican nests, but they nest on islands anyways
	Current Condition Increasing[a]
	Decision - *Potential HCV-no specific prescription required*

LOBAL.2.100925/Aquila_chrysaetos" https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100925/Aquila_chrysaetos
2020.

Scientific Name / Common Name Status	Risk Assessment and Decision
Bald Eagle *Haliaeetus leucocephalus*	Status Justification Ontario: SC SARA: NAR IUCN: Not listed
	Habitat It is difficult to accurately quantify the amount of preferred habitat for bald eagle. The aquatic habitat quality (primary food source), the terrain setting (points, bays, islands, elevation, etc), disturbance factors (boats, camps), and the maturity and structure of individual trees in the shoreline communities are all factors that are difficult to account for. Although there is no definitive measure, a significant amount of preferred habitat is thought to exist of the management unit. Map: Bald Eagle breeding evidence
	Threats to Species and Habitat As there is an abundance of preferred habitat on the Kenogami Forest, forest management operations will have little impact on this species. Habitat of bald eagles (nesting sites) could potentially be affected by forestry operations, but impact is mitigated through the development and implementation of an area of concern prescription in accordance with the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. The guideline requires a combination of reserves and timing restrictions on operations to be applied around all nests. Bald eagle sightings have been more regular in recent history.
	Current Management Refer to AOC R2, R2-A, R2-I
	Current Condition Stable[a]
	Decision - *HCV*

[a] Personal conversation with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020.

Scientific Name / Common Name Status	Risk Assessment and Decision
Golden Eagle *Aquila chrysaetos*	Status Justification SARO:THR SARA: NAR IUCN: near threatened
	Habitat Open and semi-open landscapes such as prairies, sagebrush, arctic and alpine tundra, savannah or sparse woodland, and barren areas, especially in hilly or mountainous regions, in areas with sufficient mammalian prey base and near suitable nesting sites. [a] Nests are typically found on cliff ledges and sometimes in large trees, such as the white pine. Other nesting areas include steep hillsides or on the ground. A pair may have multiple nests that they alternate in consecutive years. [a] Map: Golden Eagle breeding evidence
	Threats to Species and Habitat Common threats include electrocution from powerlines, ingestion of poison intended for coyotes; ingestion of toxic water from mining activities; occasional shootings; habitat loss to agriculture, suburban land uses, and energy development; loss of potential food resources as a result of habitat degradation or rodent/rabbit control; mortality in inappropriately designed stock tanks, and collisions with structures and with vehicles on roadways. Human disturbance or activity may cause nest abandonment, render a nest site less productive, or prevent a suitable nest site from being utilized, but direct disturbance of nests appears to be infrequent (see GBBO 2010). [a]
	Current Management In the Kenogami forest there have only been observations of the golden eagle feeding or perching. It is uncertain if they are nesting in the unit as nests are hard to distinguish in aerial surveys. [a] No Known values/occurrences on the forest. Refer to Conditions on Regular Operations (CROs) for Unmapped Nests Encountered.

a NatureServe Explorer. 2020. Aquila chrysaetos Golden Eagle https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100925/Aquila_chrysaetos
b Personal conversation with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020.

Scientific Name / Common Name Status	Risk Assessment and Decision
	If an occurrence is found the species will be designated as HCV and appropriate prescription and monitoring developed. Listed so requires HCV designation.
	Current Condition Unknown; difficult to distinguish nesting sites from other large raptors when using aerial surveying methods..[b]
	Decision - *Potential HCV*
Barn Swallow *Hirundo rustica*	Status Justification Ontario: SC (down-graded from THR in May, 2022) SARA: THR IUCN: Least Concern
	Habitat May be found on the underside of bridges. Map: Barn Swallow relative abundance
	Threats to Species and Habitat Loss of breading and foraging habitat.
	Current Management There no known values/occurrences within the Kenogami Forest. Refer to FMP-19 Road Crossing. Landing and Forestry Aggregate Pits in Areas of Concern AOC R13 – As a component of the required 3-year inspection on forestry bridges and prior to any major bridge maintenance activity (i.e. deck and/or bridge replacement), it will be required to examine the underside of bridges to determine if Barn Swallow nesting activities is present. If it is determined that Barn Swallow are nesting on a respective bridge, the inspector will notify the MNRF Species at Risk (SAR) Biologist as soon as it is identified. The Company will work with the MNRF SAR Biologist to address respective Barn Swallow nesting occurrences.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Condition Stable
	Decision - *HCV*
Bank swallow *Riparia riparia*	Status Justification Ontario: THR SARA: THR IUCN: Least Concern
	Habitat Bank swallows nest in burrows in natural and human-made settings where there are vertical faces in silt and sand deposits. Many nests are on banks of rivers and lakes, but they are also found in active sand and gravel pits or former ones where the banks remain suitable. The birds breed in colonies ranging from several to a few thousand pairs. The bank swallow migrates south for the winter, primarily to South America. Map: Bank Swallow breeding evidence
	Threats to Species and Habitat A number of factors taken together are believed to threaten the bank swallow. These include loss of breeding and foraging habitat, destruction of nesting habitat, widespread pesticide use (that has reduced the populations of insects they eat), impacts of climate change and collision with vehicles. Although activities at sand and gravel pits may contribute to the loss of some nests, the fact that a large number of bank swallow colonies in Ontario are located in sand and gravel pits suggests they also provide important nesting habitat.
	Current Management There no known values/occurrences within the Kenogami Forest. Refer to FMP-10, R10: 50 m radius AOC measured from peripheral nests. No new roads of landings within 50 m of active nests/colonies.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Operations associated with roads or landings are not permitted within 10-50 m of occupied nests during the critical breeding period (May 1 to July 31) based on potential impact unless required for safety reasons or environmental protection. Refer to FMp-19A to assess the potential impact of forest management operations on nesting birds.
	Current Condition Stable
	Decision - *HCV*
Bobolink *Dolichonyx oryzivorus*	Status Justification Ontario: THR SARA: - NA IUCN – Least Concern
	Habitat Primarily wet, mixed deciduous-coniferous forests with a well-developed shrub layer or riparian shrub forests on slopes, ravines, old-growth forests with canopy openings and a high density of shrubs, and stands regenerating after natural disturbances, such as forest fires or human disturbances, such as logging. This migrating bird typically overwinters in mature cloud rainforests located at an elevation of 1000 to 2500 m, as well as old-growth forests, forest edges, coffee plantations, agricultural field edges and semi-open areas.[a] MAP: Canada Warbler relative abundance
	Threats to Species and Habitat Threatened The primary threat to Bobolink populations is thought to be the trend towards earlier cutting of hay fields, especially by farmers with dairy operations. These farmers wish to cut hay when it has the highest protein content (generally as clover begins to flower). A second threat is loss of habitat due to conversion of pastures and hayfields to cereal crops (soybean and corn), an increase in the use of alfalfa as the principal forage plant, abandonment of farms, and afforestation of abandoned hay and pasture fields and pesticide use.

[a] [GOC] Government of Canada. 2019. Canada Warbler (Cardellina canadensis). https://species-registry.canada.ca/index-en.html#/species/1008-699#habitat

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Management There are no known habitat sites on the forest at this time, however if a habitat area is to be confirmed on the forest, a prescription or CRO will be developed in consultation with MNRF. Refer to Conditions on Regular Operations for Nests of Songbirds
	Current Condition Endangered North American Breeding Bird Survey data show significant declines in Ontario of 7.1%/yr from 1998-2008, or a loss of 52% of the population. The rate of decline in the past 10 yr has been more rapid than the overall decline from 1968-2008 (2.6%; loss of 65% of the population) (COSEWIC 2010).
	Decision - *Potential HCV-no specific prescription required*
Canada Warbler *Cardellina canadensis*	Status Justification Ontario: SC SARA: - THR IUCN – Least Concern
	Habitat Primarily wet, mixed deciduous-coniferous forests with a well-developed shrub layer or riparian shrub forests on slopes, ravines, old-growth forests with canopy openings and a high density of shrubs, and stands regenerating after natural disturbances, such as forest fires or human disturbances, such as logging. This migrating bird typically overwinters in mature cloud rainforests located at an elevation of 1000 to 2500 m, as well as old-growth forests, forest edges, coffee plantations, agricultural field edges and semi-open areas.[a] MAP: Canada Warbler relative abundance

[a] [GOC] Government of Canada. 2019. Canada Warbler (Cardellina canadensis). https://species-registry.canada.ca/index-en.html#/species/1008-699#habitat

Scientific Name / Common Name Status	Risk Assessment and Decision
	Threats to Species and Habitat Suspected factors posing a threat to species and habitat include: wintering habitat loss and degradation due to forestry and mining; habitat loss in Canada due to the conversion of swamp forests to agricultural activities or road development (particularly in Western Canada's boreal forest); and the decrease in spruce budworm outbreaks in eastern forests since 1970.[b]
	Current Management There are no known habitat sites on the forest at this time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF. Refer to Conditions on Regular Operations for Nests of Songbirds
	Current Condition significant long-term decline[a]
	Decision - *Potential HCV-no specific prescription required*
Common Nighthawk *Chordeiles minor*	Status Justification Ontario: SC SARA: SC IUCN: Least Concern
	Habitat Traditional habitat consists of open areas with little to no ground vegetation, such as logged or burned-over areas, forest clearings, rock barrens, peat bogs, lakeshores and mine tailings. Map: Common Nighthawk breeding evidence

[a] https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100725/Cardellina_canadensis

Scientific Name / Common Name Status	Risk Assessment and Decision
	Threats to Species and Habitat The large-scale use of insecticides may be partly responsible for the widespread decline in Common Nighthawk since insects are their main food source. Habitat degradation resulting from fire suppression, land use changes in the boreal forest and an increase in intensive agriculture are other contributing factors.
	Current Management Refer to AOC ID R12. No new roads or landing permitted within the 200 metre AOC from May 1 to August 31.
	Current Condition Increasing
	Decision - *HCV*
Eastern Wood-pewee *Contropus virens*	Status Justification Ontario: SC SARA: - NA
	Habitat The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. It is most abundant in intermediate-age mature forest stands with little understory vegetation. The eastern wood-pewee is found across most of southern and central Ontario, and in northern Ontario as far north as Red Lake, Lake Nipigon and Timmins.
	Threats to Species and Habitat Possible threats to the eastern wood-pewee are poorly known but may include: • loss and degrading of habitat due to urban development and/or changes in how forests are managed reductions in the availability of the flying insects they eat, the cause of which is not known • loss of eggs and fledgling birds from increasing numbers of predators such as blue jays and red squirrels • changes to the make-up of forests due to white-tailed deer over-browsing, which may reduce the number of insects available to eat These birds may also face other threats during their migration and in their wintering habitat in South America.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Management Known values/occurrences within the Kenogami Forest. Refer to Conditions on Regular Operations for Nests of Songbirds
	Current Condition Ontario Breeding Bird Atlas shows a more stable population that is shifting northward, and migration monitoring also indicates a stable population. Eastern Wood-Pewee is classified as Special Concern in Ontario. Although, it is still a common bird in the province, there are clear and significant long-term declines throughout its range and uncertainty regarding provincial population trends. Further research should be encouraged, particularly in regard to a northward shift in the Eastern Wood-Pewee's provincial range.
	Decision – *Potential HCV*
Eastern Whip-poor-will *Antromstomus vociferus*	Status Justification Ontario: THR SARA: - THR IUCN – Near Threatened
	Habitat The mount of forest cover, by providing more areas suitable for breeding, as well as the spatial configuration of forest habitats next to more open habitats are often reported as central to the species' presence. Distance to larger forest tracts may also be important, namely in more agricultural settings where the amount of nesting habitat is more limited[a].

[a] [MECP] Ministry of the Environment, Conservation and Parks. 2019. Recovery Strategy for the Eastern Whip-poor-will (*Antrostomus vociferus*) in Ontario. Ontario Recovery Strategy Series. Prepared by the Ministry of the Environment, Conservation and Parks, Peterborough, Ontario. iv + 6 pp. + Appendix. Adoption of the Recovery Strategy for Eastern Whip-poor-will (*Antrostomus vociferus*) in Canada (Environment and Climate Change Canada 2018). https://files.ontario.ca/mecp-rs-easternwhip-poor-will-2019-12-05.pdf

Scientific Name / Common Name Status	Risk Assessment and Decision
	In Canada, the Whip-poor-will can be found from east-central Saskatchewan to central Nova Scotia and in Ontario, breeding as far north as the shore of Lake Superior[a]. MAP: Eastern Whip-poor-will breeding evidence
	Threats to Species and Habitat ECCC (2018)[b] identifies the reduced availability of insect prey as the principal threat to Eastern Whip-poor-will. Analysis conducted at multiple spatial scales suggests that food availability is an important predictor of Eastern Whip-poor-will abundance in Ontario (English et al. 2017a), such that the species' presence was significantly related to moth abundance at a regional scale, and at a local scale its abundance was found to be significantly related to beetle abundance. ECCC (2018) identifies deforestation on the wintering grounds of Eastern Whip-poor-will as the second greatest threat to the species. English et al. (2017b) also found evidence that migratory stopover areas on the north coast of the Gulf of Mexico are important for successful fall migration, where loss of forest cover may also be a concern.
	Current Management There are no known values/occurrences within the Kenogami Forest. Refer to FMP-10 Operational prescriptions for Areas of Concern. AOC R11 – 200 metre radius AOC centred on nesting sites.
	Current Condition Increasing – populations are suspected to be on the rise in response to climate change[c]

[a] Ontario. 2019. Eastern whip-poor-will. https://www.ontario.ca/page/eastern-whip-poor-will

[b] [ECCC] Environment and Climate Change Canada. 2018. Recovery Strategy for the Eastern Whip-poor-will (Antrostomus vociferus) in Canada. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. vi + 107 pp.

[c] Personal conversation with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020

Scientific Name / Common Name Status	Risk Assessment and Decision
	Long-term Breeding Bird Survey (BBS) data show an annual decline of 3.5% between 1968 and 2007, which amounts to a loss of 75% of the population over this period. However, short-term trends over the last three generations (i.e. 12 years)), suggest a loss of 35%[a].
	Decision - *HCV*
Evening Grosbeak *Coccothraustes vespertinus*	Status Justification Ontario: SC SARA: SC IUCN: Vulnerable
	Habitat Breed in mature and second-growth coniferous forests (spruce-fir, pine-oak, and aspen stands) as far south as Mexico at 5,000–10,000 feet of elevation in pine and pine-oak woodlands[b]. They nest high in trees or large shrubs (black spruce, white spruce, white pine, jack pine, balsam fir, white cedar, paper birch, and willow)[a,] and occasionally in deciduous woodlands, parks, and orchards.[c] They overwinter in coniferous forest, deciduous forest, and sometimes in urban or suburban areas[d]. Map: Evening Grosbeak relative abundance
	Threats to Species and Habitat Reduced availability of mature and old-growth mixed wood and conifer forests, collisions with windows and vehicles, and mortality associated with feeding on grit and salt along roads in winter.[c]
	Current Management There are no known habitat sites on the forest. However, if any nesting sites are found on this forest, they will be considered during operational planning to avoid them or plan for timing restrictions where feasible and an area of concern prescription will be developed and applied in accordance with the *Forest Management Guidelines for Conserving Biodiversity at the Stand and Site Scales* in order to protect the nesting site and associated habitat and mitigate any potential impacts of forest operations on this species.

[a] [GOC] Government of Canada. 2019. Whip-poor-will (Antrostomus vociferus). https://species-registry.canada.ca/index-en.html#/species/1047-719
[b] American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.
[c] Cornell University. 2020. https://www.allaboutbirds.org/guide/Evening_Grosbeak/lifehistory
[c] COSEWIC. 2016. COSEWIC assessment and status report on the Evening Grosbeak Coccothraustes vespertinus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.
[d] North American Bird Conservation Initiative Canada. 2019. The State of Canada's Birds, 2019. Environment and Climate Change Canada, Ottawa, Canada. 12 pages. www.stateofcanadasbirds.org

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Condition Declining [d]
	Decision - *Potential HCV-no specific prescription required*
Horned Grebe *Podiceps auritus*	Status Justification Ontario: SC SARA: - SC IUCN – Vulnerable
	Habitat Breeding generally occurs in marshes, ponds, lakes, and occasionally along sluggish streams. [a] Nesting most commonly occurs among tall vegetation in shallow water on small and large lakes and ponds < 0.1 ha, otherwise on calm mash waters or along rivers and streams. [b] Highest breeding densities occur in pothole marshes of aspen woodland.[c] During their non-breeding season they can be found in bays, estuaries and seacoasts; and in inland freshwater habitats, like lakes and rivers, during migration.[c] Map: Horned Grebe abundance map
	Threats to Species and Habitat Human disturbance, forestry operations around breeding lakes, fluctuating water levels, stocking of lakes with rainbow train, oil spills, acidification increased humus content of lakes, and getting caught and drowned in fishing nets.[d]
	Current Management There are no known values/occurrences within the Kenogami Forest. Refer to AOC WQ1 Variable width 30-90 m AOC and/or as mapped measured in the field from the edge of vegetation communities capable of providing an effective barrier to the movement of sediment. This will normally be those communities with greater than 25% canopy of trees, tall

[a] American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.
[b] NatureServe Explorer. 2020. Podiceps auratus Horned Grebe. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101899/Podiceps_auritus.
[c] American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.
[d] BirdLife International. (2013-2014). IUCN Red List for birds. Downloaded from http://www.birdlife.org on various dates in 2013 and 2014. http://www.birdlife.org/

Scientific Name / Common Name Status	Risk Assessment and Decision
	(greater than 1 m high) woody shrub such as alder or willow, or low (less than 1 m high) evergreen shrubs as Labrador Tea or Leatherleaf.
	Current Condition Overall trend is stable or decreasing, although some populations have unknown trends.[a]
	Decision - *Potential HCV*
Olive-sided Flycatcher *Contopus cooperi*	Status Justification Ontario: SC SARA: - SC IUCN – Near Threatened
	Habitat Breeding occurs in a variety of forest and woodland habitats (taiga, subalpine coniferous forest, mixed coniferous-deciduous forest, burned-over forest, spruce or tamarack bogs and other forested wetlands, and along the forested edges of lakes, ponds, and streams) but generally in areas with large openings; nesting on horizontal limbs 2-15 meters from the ground of conifers, and within areas containing dead standing trees used for perching; overwintering in South America in a variety of forest, woodland, and open areas with scattered trees and tall dead snags.[b] Maps: Olive-sided Flycatcher relative abundance
	Threats to Species and Habitat Not well known, though logged forests may not provide optimal breeding conditions; pesticide applications to control blackflies, mosquitoes, or injurious forest insects could have a severe local impact upon their food source; and overwintering habitats are subject to deforestation.[a]

[a] Wetlands International. 2014. Waterbird Population Estimates. Retrieved from wpe.wetlands.org on various dates in 2014.
[b] Gotthardt, T., J. McClory, G. Hammerson, and S. Cannings. 2008. Olive-sided Flycatcher. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102228/Contopus_cooperi.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Management There are no known values/occurrences within the Kenogami Forest. If any nesting sites are found on this forest, they will be considered during operational planning to avoid them or plan for timing restrictions where feasible and an area of concern prescription will be developed and applied in accordance with the *Forest Management Guidelines for Conserving Biodiversity at the Stand and Site Scales* in order to protect the nesting site and associated habitat and mitigate any potential impacts of forest operations on this species.
	Current Condition Fairly low risk of extirpation in Ontario. [a]
	Decision - *Potential HCV*
Peregrine Falcon *Falco peregrinus*	Status Justification Ontario: SC SARA: NAR IUCN: Least Concern CITES: Appendix I
	Habitat These birds of prey usually nest on tall, steep cliff ledges adjacent to larger waterbodies in the boreal forest. There is a documented sighting of a peregrine falcon flying on the south end of the Forest. Map: Peregrine Falcon breeding evidence
	Threats to Species and Habitat Forest management operations will likely have little impact on this species as they nest on cliff faces and there are no projected activities to take place in these locations.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Environmental contamination, human disturbance, collisions with inanimate objects including urban buildings and wind energy facilities, human persecution, capture for falconry in other jurisdictions, habitat change or loss, and erratic weather effects (Ontario Peregrine Falcon Recovery Team 2010).
	Current Management Document site to be considered during operational planning to avoid it and plan for a timing restriction through an area of concern prescription to be developed by the planning team a directed by the MNRF Species at Risk biologist(s) in order to protect the defined habitat and mitigate any potential impacts of forest operations on this species.
	Current Condition Stable. The Canadian population has increased in most areas with good survey coverage, with a "tremendous increase between 2000 and 2005 in some areas" (COSEWIC 2007). Population has experienced a continual population increase over past 10 years and 3 generations (generation time of 4-6 years [COSEWIC 2007]. Population recovery has been underway for 25 years, and it has been more than 45 years since the historical collapse of the population).
	Decision - *Potential HCV-no specific prescription required*
Rusty Blackbird *Euphagus carolinus*	Status Justification Ontario: SC SARA: - SC IUCN – Vulnerable
	Habitat “Breeding habitat includes moist woodland (primarily coniferous), bushy bogs and fens, and wooded edges of water courses and beaver ponds. Nests are in trees or shrubs, usually in or near water, frequently in a conifer to about 6 meters above ground. During migration and winter, habitat is primarily wooded wetlands and riparian areas but also includes various open woodlands, scrub, pastures, and cultivated lands (AOU 1983).” [a] Map: Rusty Blackbird relative abundance

[a] Jue, D. 2014. Euphagus carolinus Rusty Blackbird https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101597/Euphagus_carolinus

Scientific Name / Common Name Status	Risk Assessment and Decision
	Threats to Species and Habitat Destruction and conversion of boreal wetlands (predominantly in the southern boreal forests), strip-mining for tar sands, wetlands drying and chemically change resulting from global climate change, depletion of available calcium resulting from acid precipitation, increase in methyl mercury, loss of wooded wetlands in the south-east U.S. winter range, and mortality associated with past and ongoing blackbird control efforts.[a] [b]
	Current Management There are no known values/occurrences within the Kenogami Forest. Refer to AOC WQ1 Variable width 30-90 m AOC and/or as mapped measured in the field from the edge of vegetation communities capable of providing an effective barrier to the movement of sediment. This will normally be those communities with greater than 25% canopy of trees, tall (greater than 1 m high) woody shrub such as alder or willow, or low (less than 1 m high) evergreen shrubs as Labrador Tea or Leatherleaf.
	Current Condition Apparently secure in Ontario.[b]
	Decision - *Potential HCV*
Short-eared Owl *Asio flammeus*	Status Justification Ontario: TH (upgraded from SC in May, 2022) SARA: SC IUCN: Least Concern
	Habitat The short-eared owl is a medium-sized owl that inhabits open grassy areas, marshes and early successional stage disturbances (i.e. clearcuts and burns). Because the short-eared owl nests on the ground, they are susceptible to predation by foxes, wolves, skunks

[a] BirdLife International. (2013-2014). IUCN Red List for birds. Downloaded from http://www.birdlife.org on various dates in 2013 and 2014. http://www.birdlife.org
[b] Jue, D. 2016. Euphagus carolinus Rusty Blackbird https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.101597/Euphagus_carolinus

Scientific Name / Common Name Status	Risk Assessment and Decision
	and other mammals. During the breeding season they require enough ground cover to conceal nests. They nest in trees only when the ground is snow covered. Map: Short-eared Owl breeding evidence
	Threats to Species and Habitat This species could be minimally impacted from harvest operations/road construction if any unidentified nests (or nesting areas) are destroyed. Renewal and tending activities may also impact owls that have established nests in previously harvested areas. There are no documented nesting sites for this species on the Kenogami Forest at this time and had no impact on the development of the FMP.
	Current Management If any nesting sites are found on this forest, they will be considered during operational planning to avoid them or plan for timing restrictions where feasible and an area of concern prescription will be developed and applied in accordance with the *Forest Management Guidelines for Conserving Biodiversity at the Stand and Site Scales* in order to protect the nesting site and associated habitat and mitigate any potential impacts of forest operations on this species.
	Current Condition The short-eared owl is typically found along the North shore of Lake Superior and around the Thunder Bay area; rarely occurring in the Kenogami Forest. Therefore, their current condition is unknown
	Decision - *Potential HCV*
FISH Lake Sturgeon *Acipenser fulvescens* • Pop. 1; Northwestern Ontario	
	Status Justification Ontario: Northwestern Ontario - THR Southern Hudson Bay/James Bay - SC Great Lakes/Upper St. Lawrence River – END SARA: Northwestern Ontario - END Southern Hudson Bay/James Bay - SC

Scientific Name / Common Name Status	Risk Assessment and Decision
• Pop.2; Southern Hudson Bay/James Bay • Pop.3; Great Lakes/Upper St. Lawrence River	Great Lakes/Upper St. Lawrence River – THR IUCN: Least Concern CITES: Appendix II
	Habitat There are three lake sturgeon populations in Ontario. The Kenogami Forest contains waters with the Southern Hudson Bay/James Bay population and the Great Lakes/Upper St. Lawrence River population. Lake sturgeon 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. Internationally, the Lake Sturgeon is listed on Appendix II of the Convention for International Trade in endangered Species of Wild Fauna and Flora (CITES). Map: Lake Sturgeon Distribution
	Threats to Species and Habitat Forest management operations are likely to have little impact on this species unless there is activity within areas adjacent to streams that feed into waterbodies where they reside. The habitat for this species (and all fish species) is protected under to area of concern prescriptions for water quality/fisheries habitat protection and through Conditions of regular Operations which had a moderate effect on development of this forest management.
	Current Management In Canada, the Lake sturgeon and its habitats are managed by each province under regulations of the federal Fisheries Act. To protect the species from over-harvest, in 2008 the Ministry put into place a zero catch and possession limit on recreational fisheries for sturgeon in those zones where there was an open season and moved to a zero-harvest limit on commercial fisheries in 2009. Refer to AOC WQ1 Variable width 30-90 m AOC and/or as mapped measured in the field from the edge of vegetation communities capable of providing an effective barrier to the movement of sediment. This will normally be those communities with greater than 25% canopy of trees, tall (greater than 1 m high) woody shrub such as alder or willow, or low (less than 1 m high) evergreen shrubs as Labrador Tea or Leatherleaf.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Condition Declining, stable or increasing
	Decision - *Potential HCV*
FISH Shortjaw Cisco *Coregonus zenithicus*	Status Justification Ontario: THR SARA: THR IUCN: Vulnerable
	Habitat Occurs in deep water of large lakes; usually 55-144 meters; 10-60 meters in Lake Nipigon.[a] They may also be present in glacial inland lakes of 30-45 meters in depth. Spawning has been observed at depths of 18-73 meters over sand or clay bottoms.[b] Map: Shortjaw Cisco geographic range
	Threats to Species and Habitat Competition (food and habitat) and predation (on cisco eggs and young) by exotic species like rainbow smelt (*Osmerus mordax*), alewife (*Alosa pseudoharengus*), and in some cases, sea lamprey (*Petromyzon marinus*).[cde] Natural predators include lake trout and burbot, large, bottom-dwelling fish.[a]
	Current Management Refer to AOC WQ1 Variable width 30-90 m AOC and/or as mapped measured in the field from the edge of vegetation communities capable of providing an effective barrier to the movement of sediment. This will normally be those communities with greater than 25% canopy of trees, tall (greater than 1 m high) woody shrub such as alder or willow, or low (less than 1 m high) evergreen shrubs as Labrador Tea or Leatherleaf.

[a] Todd, T. N. 2003. Update COSEWIC status report on the shortjaw cisco Coregonus zenithicus in Canada in COSEWIC assessment and update status report on the shortjaw cisco Coregonus zenithicus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. 19 pp
[b] Whittaker, J., and G. Hammerson. 2011. Coregonus zenithicus, Shortjaw Cisco. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103226/Coregonus_zenithicus.
[c] Berst, A. H. and G. R. Spangler. 1972. Lake Heron: effects of exploitation, introductions, and eutrophication on the salmonid community. J. Fish. Res. BD. Canada 29:877-887.
[d] Christie, W. J. 1972. Lake Ontario: effects of exploitation, introductions and eutrophication on the salmonid community. Journal of the Fisheries Research Board of Canada 29(6):913-929.
[e] Wells, L. and A. L. McLain. 1973. Lake Michigan: man's effect on native fish stocks and other biota. Gr. Lks. Fish. Comm. Tech. Report No. 20. 55 pp.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Condition Declining
	Decision - *Potential HCV-no specific prescription required*
INSECTS Monarch *Danaus plexippus*	Status Justification Ontario: SC SARA: END IUCN: Not Listed for North America
	Habitat The monarch butterfly is typically found in areas where there are milkweed plants for its caterpillars and wildflowers for a nectar source. Maps: Monarch distribution
	Threats to Species and Habitat The main causes of decline are logging and disturbance of the overwintering sites in Mexico, and the widespread use of pesticides and herbicides in Ontario. Protection and maintenance of wetland areas can help maintain Monarch breeding in the area by sustaining milkweed populations. Forest management operations likely have little impact on this species unless there are operations within wetland areas where they are present.
	Current Management The habitat for this species is protected under area of concern prescriptions for water quality/fisheries habitat protection and through Conditions on Regular Operations. These moderately affected developments of this forest management plan and are sufficient that no additional management constraints were required. No known habitat sites on the forest at this time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Condition Stable[a]
	Decision - *Potential HCV-no specific prescription required*
INSECTS Yellow-banded Bumble Bee *Bombus Terricola*	Status Justification Ontario: SC SARA: NA IUCN: Not Listed for North America
	Habitat The Yellow-banded Bumble Bee ranges from the Mixedwood Plains of southern Ontario to the Hudson Bay Lowlands in the north. In southern 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 the northern portion of its range.
	Threats to Species and Habitat Causes of decline of this once common species are only partially understood. Suspected threats to the Yellow-banded Bumble Bee include a combination of factors such as the introduction of pathogens from managed bee colonies, pesticide use, climate change, and habitat loss.
	Current Management The habitat for this species is protected under area of concern prescriptions for water quality/fisheries habitat protection and through Conditions on Regular Operations. These moderately affected developments of this forest management plan and are sufficient that no additional management constraints were required.

[a] Personal conversation with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020

Scientific Name / Common Name Status	Risk Assessment and Decision
	No known habitat sites on the forest at this time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF.
	Current Condition Stable[a]
	Decision - *Potential HCV-no specific prescription required*
MAMMALS Woodland Caribou *Rangifer tarandus caribou*	
	Status Justification Ontario: THR SARA: THR IUCN: Vulnerable
	Habitat Woodland Caribou prefer large undisturbed patches of conifer-dominated forest. They require large areas comprised of continuous tracts of undisturbed habitat rich in mature to old-growth coniferous forest, lichens, muskegs, peat lands, and upland or hilly areas. Large areas with suitable quality habitat allow boreal caribou to disperse across the landscape when conditions are unfavorable (e.g. natural fire disturbance, anthropogenic disturbance) and to maintain low population densities to reduce their risk of predation.[b] Map: Caribou conservation plan map (ontario.ca)
	Threats to Species and Habitat Threats include habitat alteration (loss, degradation or fragmentation) as a result of human land-use activities, or as a result of fire. Natural processes such as predation also represent a threat to this species.

[a] Personal conversation with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020
[b] Environment Canada 2012. Recovery Strategy for the Woodland Caribou (Rangifer tarandus caribou), Boreal population, in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. xi + 138pp.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Current Management Management and provision of woodland caribou habitat is based on *Forest Management Guidelines for the Conservation of Woodland Caribou: A Landscape Approach*, *Ontario's Woodland Caribou Conservation Plan* and information from the *Ontario Landscape Tool*. The management of caribou habitat has become a primary factor objective in the FMP. This is primarily ensured through the application of a dynamic caribou habitat schedule (DCHS) which patterns the forest and is a tool used to schedule harvest and manage habitat levels. Refer to AOC CCA and CPA for caribou calving AOC.
	Current Condition Declining
	Decision - *HCV*
MAMMALS	
Wolverine *Gulo gulo*	Status Justification Ontario: THR SARA: SC IUCN: Least Concern
	Habitat Spans throughout alpine and arctic tundra; primarily coniferous boreal and mountain forests. Usually in areas that receive snow cover. Winter habitat may include riparian areas. Den in cave, rock crevice, under fallen tree, in thicket, or similar site when inactive. Young are born in a den among rocks or tree roots, in hollow log, under fallen tree, or in dense vegetation, including sites under snow.[a] Map: Wolverine distribution

[a] Hammerson, G., J. Griffin, and F. Dirrigl. 2011. Wolverine *Gulo gulo*. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.103092/Gulo_gulo

Scientific Name / Common Name Status	Risk Assessment and Decision
	Threats to Species and Habitat Hunting, trapping, and habitat loss, alienation and fragmentation for human land uses (e.g. urban and suburban developments, agriculture, major transportation routes, forest plantations, and hydroelectric reservoirs.)[a] "Clearcut logging does not result in permanent or even necessarily negative changes to habitats. Logging which mimics natural processes, such as fire, windthrow and insect outbreaks, and creates a landscape matrix of uneven aged forest stands, may actually diversify the prey base and maintain or improve wolverine habitat." [c]
	Current Management Wolverine AOC can be developed for a den site if encountered, but which there are no known occurrences on the Kenogami Forest.
	Current Condition Declining
	Decision – *Potential HCV*
Little Brown Bat *Myotis lucifugus*	Status Justification Ontario: END SARA: END IUCN: END
	Habitat Bats are nocturnal. During the day they roost in trees and buildings. Map: Little Brown Bat distribution
	Threats to Species and Habitat Little brown bats are threatened by disease known a white nose syndrome, caused by a fungus which is believed to have been inadvertently brought from Europe to North America. The fungus grows in humid cold environments, such as the caves and mines where little brown bats hibernate.

[a] COSEWIC. 2003. COSEWIC assessment and update status report on the wolverine Gulo gulo in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. vi + 41 pp.

Scientific Name / Common Name Status	Risk Assessment and Decision
	The syndrome affects bats by disrupting their hibernation cycle, so that they use up body fat supplies before the spring when they can once again find food sources. It is also thought that the fungus affects the wing membrane, which helps to maintain water balance in bats. Because of this, thirst may wake bats up from hibernation, which may be why those infected with white nose syndrome can be seen flying outside caves and mines during the winter.[a]
	Current Management There are no known habitat sites on the forest at this time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF.
	Current Condition Declining
	Decision – *HCV*
Northern Long-eared Myotis *Myotis septentrionalis*	Status Justification Ontario: END SARA: END IUCN: Near Threatened NHIC: G1
	Habitat "This bat generally is associated with old-growth forests composed of trees 100 years old or older. It relies on intact interior forest habitat, with low edge-to-interior ratios. Relevant late-successional forest features include a high percentage of old trees, uneven forest structure (resulting in multilayered vertical structure), single and multiple tree-fall gaps, standing snags, and woody debris. These late successional forest characteristics may be favored for several reasons, including the large number of partially dead or decaying trees that the species uses for breeding, summer day roosting, and foraging. [Source: USFWS 2011, which see for citations of further literature]"[b]

[a] https://www.ontario.ca/page/little-brown-myotis

[b] https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.102615/Myotis_septentrionalis

Scientific Name / Common Name Status	Risk Assessment and Decision
	Map: Northern long-eared myotis distribution
	Threats to Species and Habitat "The most serious threat is white-nose syndrome (WNS), an often (but not always) lethal condition caused by a fungal pathogen (Pseudogymnoascus destructans). Loss, degradation, and fragmentation of mature forest habitat (associated with various kinds of human activities, such as logging; oil, gas, and mineral development; and wind energy development) also may be a significant threat (Center for Biological Diversity 2010, USFWS 2011). However, the general lack of genetic structure at both watershed and regional scales indicates that forest disturbances such as prescribed fire or timber harvest at watershed scales do not appear to disrupt northern myotis gene flow across the landscape (Johnson et al. 2014)."[a]
	Current Management There are no known habitat sites on the forest at this point in time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF.
	Current Condition Declining
	Decision – *HCV*
Cougar *Puma concolor*	Status Justification Ontario: SC SARA: NA
	Habitat The species has a very wide range, encompassing large areas of North, Central and South America. In Ontario, Cougars are most likely believed to live in northern Ontario because of the remoteness of the habitat. However, there have been many reports from the southern part of the province.

Scientific Name / Common Name Status	Risk Assessment and Decision
	Cougars found in Ontario may be escaped or released pets, animals dispersing from western North America, native animals or a combination of those factors. The population size is unknown.
	Threats to Species and Habitat The main threat to the Cougar is human disturbance and forest clearing, which destroys habitat and can reduce the prey necessary for the survival of this species.
	Current Management There are no known habitat sites on the forest at this point in time, however if a habitat area is to be confirmed on the forest, a prescription will be developed in consultation with MNRF.
	Current Condition Declining
	Decision – *Potential HCV*

4.1.2. HCV 1 - Question 2 - Does the forest contain endemic species?

Rationale

Endemic species is defined in the FSC standard as '*A species or subspecies that is restricted to a defined geographical area'*. This requirement is to ensure the maintenance of vulnerable and/or irreplaceable elements of biodiversity.

Methodology

- [NABCIC] North American Bird Conservation Initiative Canada. 2019. The State of Canada's Birds, 2019. Environment and Climate Change Canada, Ottawa, Canada. 12 pages. www.stateofcanadasbirds.org
- Enns, A., D. Kraus and A. Hebb. 2020. Ours to save: the distribution, status and conservation needs of Canada's endemic species. NatureServe Canada and Nature Conservancy of Canada. https://www.natureserve.org/sites/default/files/articles/files/ours-to-save_ncc_nsc_4june2020_final.pdf

The presence of any endemic species identified by an appropriate agency (e.g. NHIC, COSEWIC) would meet the threshold of this criterion:

Assessment Results

Regional and district Ministry of Northern Development, Mines and Natural Resources and Forestry (NDMNRF) staff indicated that there are no species specifically endemic to the Kenogami Forest (i.e. exist only on the Kenogami Forest). Enns et al. (2020) reports that most of Canada's endemic species occurring in Ontario are generally found in northern areas and in neighboring provinces. They identify that of the nine species that are entirely endemic to Ontario, none of them occur in or near the Lake Nipigon Ecoregion (Enns et. al 2020).

HCV Designation Decision:

As of July 2020, there are no known species specifically endemic to the Kenogami Forest (i.e. existing only on the Kenogami Forest).

4.1.3. HCV 1 - Question 3 - Does the forest include critical habitat containing globally, nationally or regionally significant seasonal concentration of species (one or several species, e.g. concentrations of wildlife in breeding sites, wintering sites, migration sites, migration routes or corridors - latitudinal as well as altitudinal)?

Rationale:
Addresses wildlife habitat requirements critical to maintaining population viability (regional "hotspots").

Methodology:

For this assessment, various resources were used to identify critical habitat containing globally, nationally, or regionally significant seasonal concentration of one or several species within the Kenogami Forest. More specifically, databases were used to evaluate concentrations of wildlife in breeding sites, wintering sites, migration sites, migration routes or corridors - latitudinal as well as altitudinal.

Guidance on assessing HCV-

- Are there any landscape features or habitat characteristics that tend to correlate with significant temporal concentrations of a species or groups of species (e.g. where species occurrence data is limited)? (GUIDANCE)

- Is there an IBA (Important Bird Area) in the forest? (DEFINITIVE)

Important Bird Areas

- Using Bird Conservation Regions (BCRs) aided in identifying which bird communities reside within an ecologically distinct region of North America. The Kenogami Forest management unit resides within the Boreal Softwood Shield Bird Conservation Region 8 (BCR 8).
- Bird Studies Canada and NABCI. 2014. Bird Conservation Regions. Published by Bird Studies Canada on behalf of the North American Bird Conservation Initiative. https://www.birdscanada.org/bird-science/nabci-bird-conservation-regions \. 2020-07-28.
- Birdife International was used to determine if whether there were any Important Bird and Biodiversity Areas (IBA) in the Kenogami Forest. Birdlife International (2020) describes IBAs as:
    - Places of international significance for the conservation of birds and other biodiversity
    - Recognized world-wide as practical tools for conservation
    - Distinct areas amenable to practical conservation action
    - Identified using robust, standardized criteria
    - Sites that together form part of a wider integrated approach to the conservation and sustainable use of the natural environment
- [BLI] BirdLife International. 2020. Country profile: Canada. http://www.birdlife.org/datazone/country/canada. 2020-07-28

Kenogami Forest 2011-2021 and 2021-2031 Forest Management Plans

- FMPs were used to cross-reference which species were previously found in the Kenogami Forest management unit and to provide detailed information on various species.
- Hoffman, D. 2011 (P1). Kenogami Forest 2011-2021 Forest Management Plan. 2020-07-28

- Hoffman, D. 2015 (P2). Ten-year forest management plan, April 1, 2011 to Match 31, 2021 for the Kenogami Forest. 2020-07-28
- Hoffman, D. 2021. Kenogami Forest 2021-2031 Forest Management Plan. 2021-11-05

Additional habitat information:

- OMNR. 2010. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. Toronto: Queen's Printer for Ontario. 211 pp.
- OMNR. March 2014. Forest Management Guide for Boreal Landscapes. Toronto: Queen's Printer for Ontario. 104 pp.
- OMNRF. 2009. Cervid Ecological Framework, Toronto: Queen's Printer for Ontario. 18 pp.
- Gray, P., D. Paleczny, T. Beechey, B. King, M. Wester, R.Davidson, S. Janetos, S. Feilders, and R. Davis. 2009. Ontario's Natural Heritage Areas: Their Description and Relationship to the IUCN Protected Areas Classification System (A Provisional Assessment). Queen's Printer for Ontario, Peterborough, Ontario, Canada. 356 pp. https://collections.ola.org/mon/24003/296106.pdf)
- Soule, J, R. Jennings, G. Hammerson, D. Jue. 2014. Black Tern. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105682/Chlidonias_niger

Woodland Caribou Habitat

- Woodland Caribou are a protected species and cannot be hunted, except by Indigenous peoples. This species is classified nationally as a threatened species (COSEWIC). Woodland Caribou on the Kenogami Forest in the continuous zone and is managed under a caribou mosaic for harvest scheduling, sometimes termed a dynamic caribou habitat schedule (DCHS).

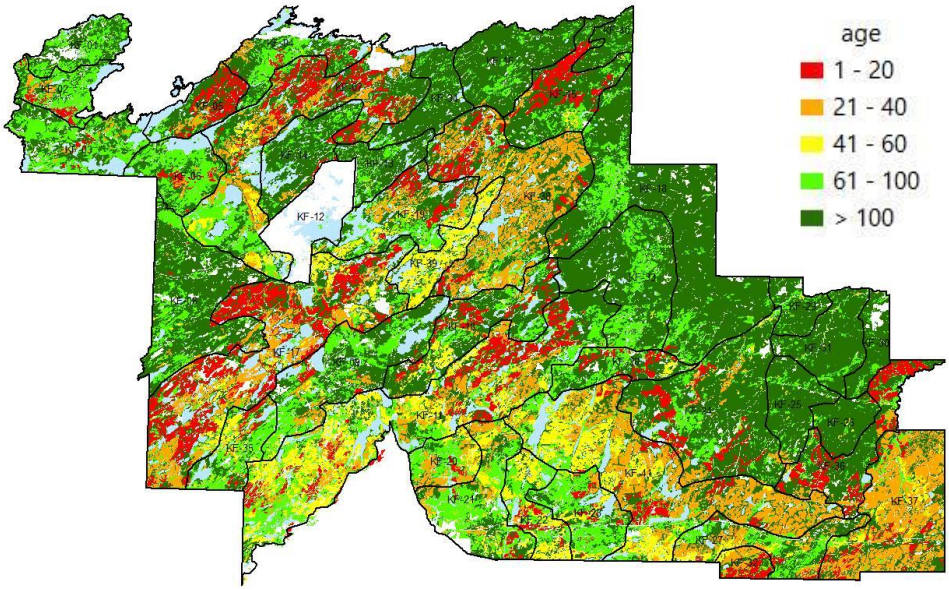
- The Species at Risk category of this report details specifically the HCV requirements for Woodland Caribou. It is designated HCV in Element 1 (Species at Risk category) of this report and is also designated as an HCV in Element 7 which designates Large Landscape Level Forests.

- Dynamic Caribou Habitat Schedule (DCHS) Continuous Zone is 1,503,254 hectares encompassing the northern approximate 2/3 of the Kenogami Forest. A total of 474,429 hectares of southern 1/3 of the Kenogami Forest is the Discontinuous zone of caribou management.

- Caribou calving areas are considered confidential, therefore maps cannot be presented in this report.

- Figure 9 presents the caribou habitat tracts in 20-year age classes used to develop the DCHS for the 2021-2031 FMP.

Figure 9. Caribou Habitat Tract Map



Moose Management Areas

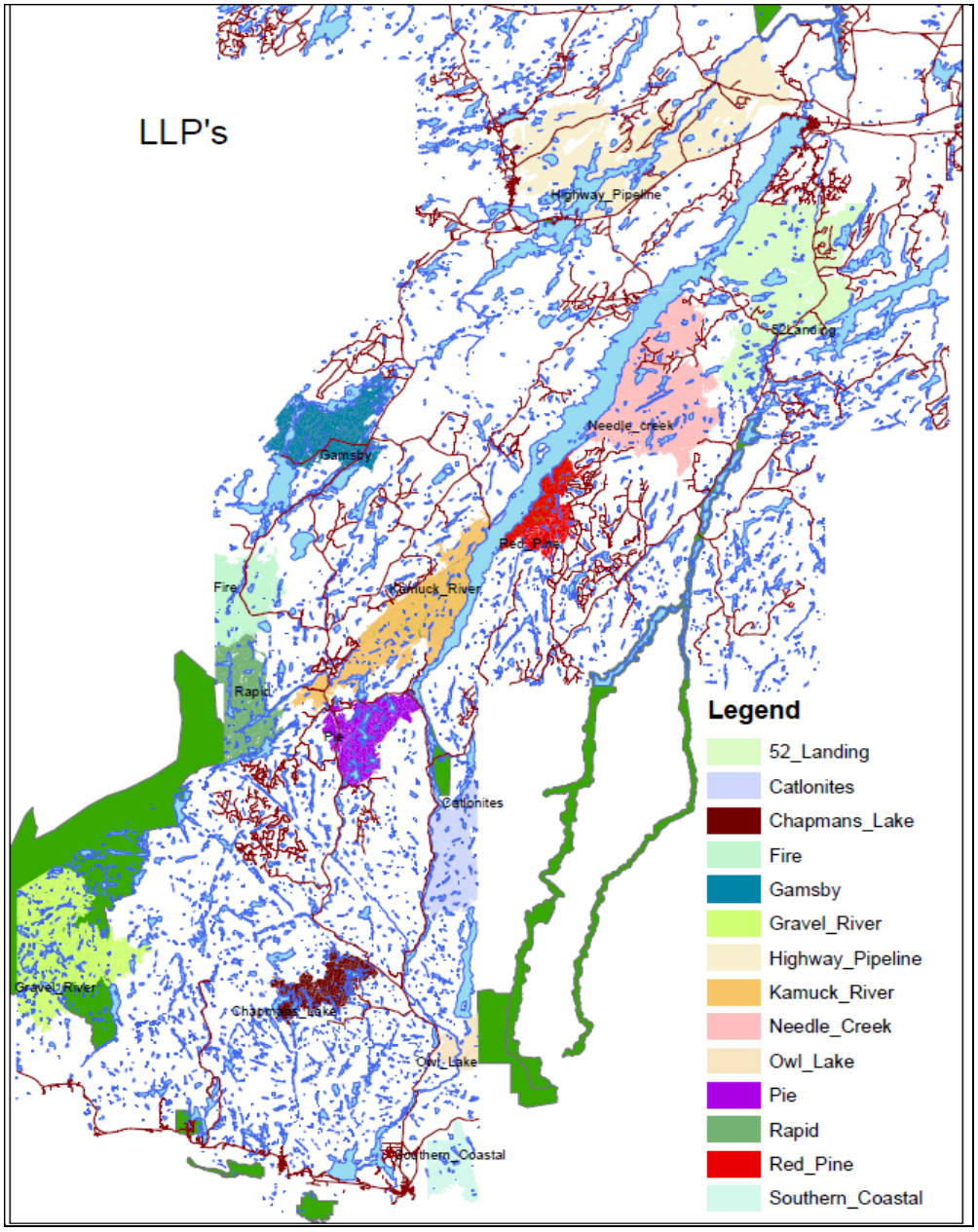
- The Cervid Ecological Framework provides the overall strategic policy advice to address cervid management at the broad landscape level. Through this framework, the OMNR is seeking to manage values for multiple members of the Cervid family simultaneously at a landscape scale that recognizes the various ecological factors that interact and impact Cervid species in Ontario. This approach is used on the Kenogami Forest to manage and enhance local Cervid populations of Moose and Woodland Caribou on the forest.

- Moose are extremely important to the local Indigenous peoples of the Kenogami Forest. The Forest Management Guide for Boreal Landscapes, 2014 (BLG) provides landscape level direction in order to provide habitat for these cervids. The BLG directs forest management activities to maintain or enhance natural landscape structure, composition and patterns that provide for the long-term health of forest ecosystems in an efficient and effective manner.

- Moose are not emphasized in the northern portion of the forest in the caribou zone DCHS, although the 2021-2031 FMP has incorporated strategies to encourage moose populations within the caribou zone and in the southern portion of the forest. Large landscape patches were created in the southern portion of the forest to encourage moose. Large landscape patches (LLPs) were also identified and developed for the southern portion of the Kenogami Forest. LLPs are areas that are used to meet biodiversity objectives and their targets associated with Boreal Landscape Guide indicators. The strategic landscape map informs the strategic management model about how the pattern indicators of the Landscape Guide will affect the Long-Term Management Direction of the forest.

- A total of 474,429 hectares of southern 1/3 of the Kenogami Forest is the Discontinuous zone of caribou management, where moose habitat may be emphasized.

Figure 10. LLPS on the Kenogami Forest Southern Zone



The following map show the areas of other non-caribou HCV-1 areas such as bald eagle nests, bank swallow, barn swallow, bats, etc as identified in Table 1 of this report.

Figure 11. Map of HCV-1 Wildlife Habitat-West

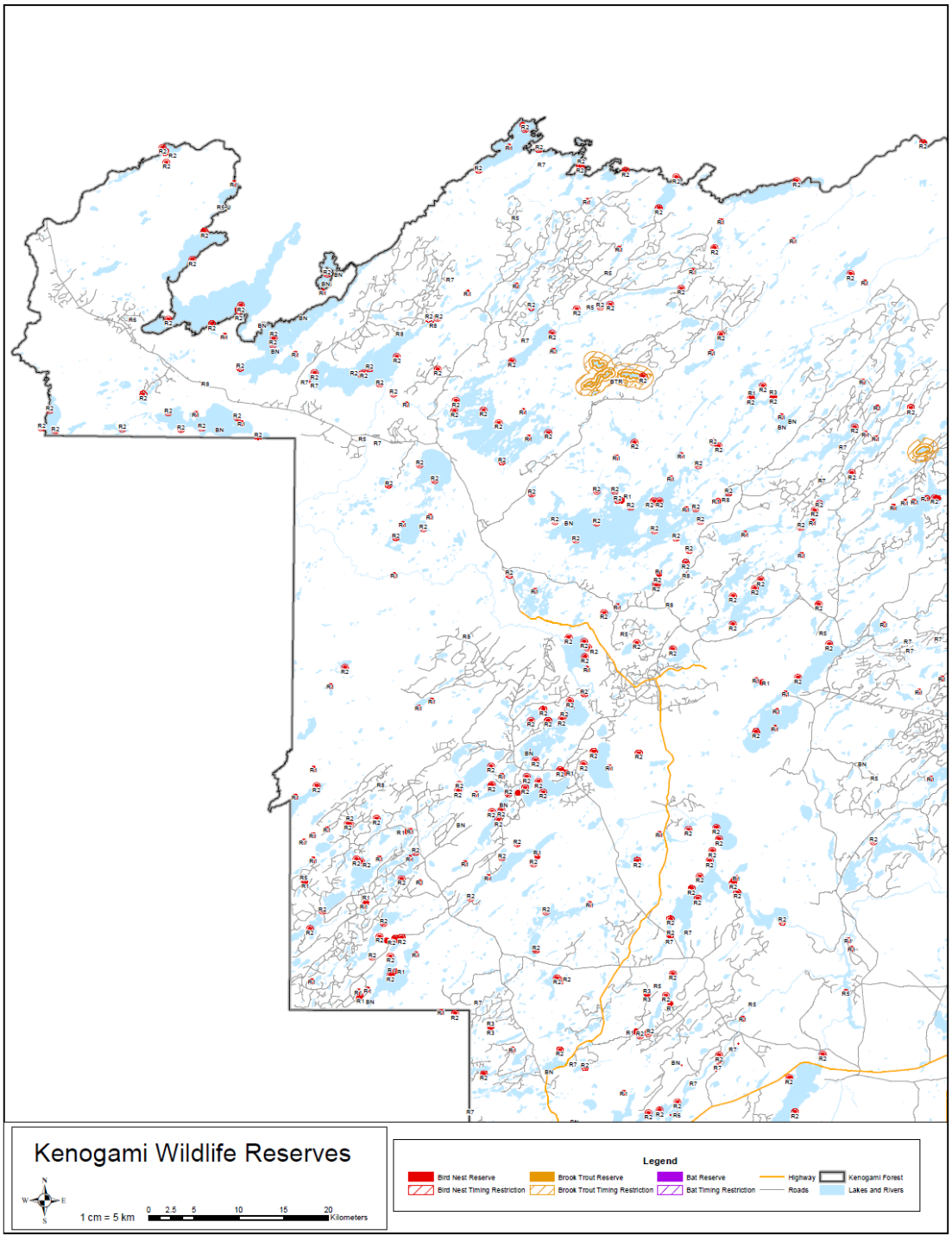


Figure 12. Map of HCV-1 Wildlife Habitat Reserves - East

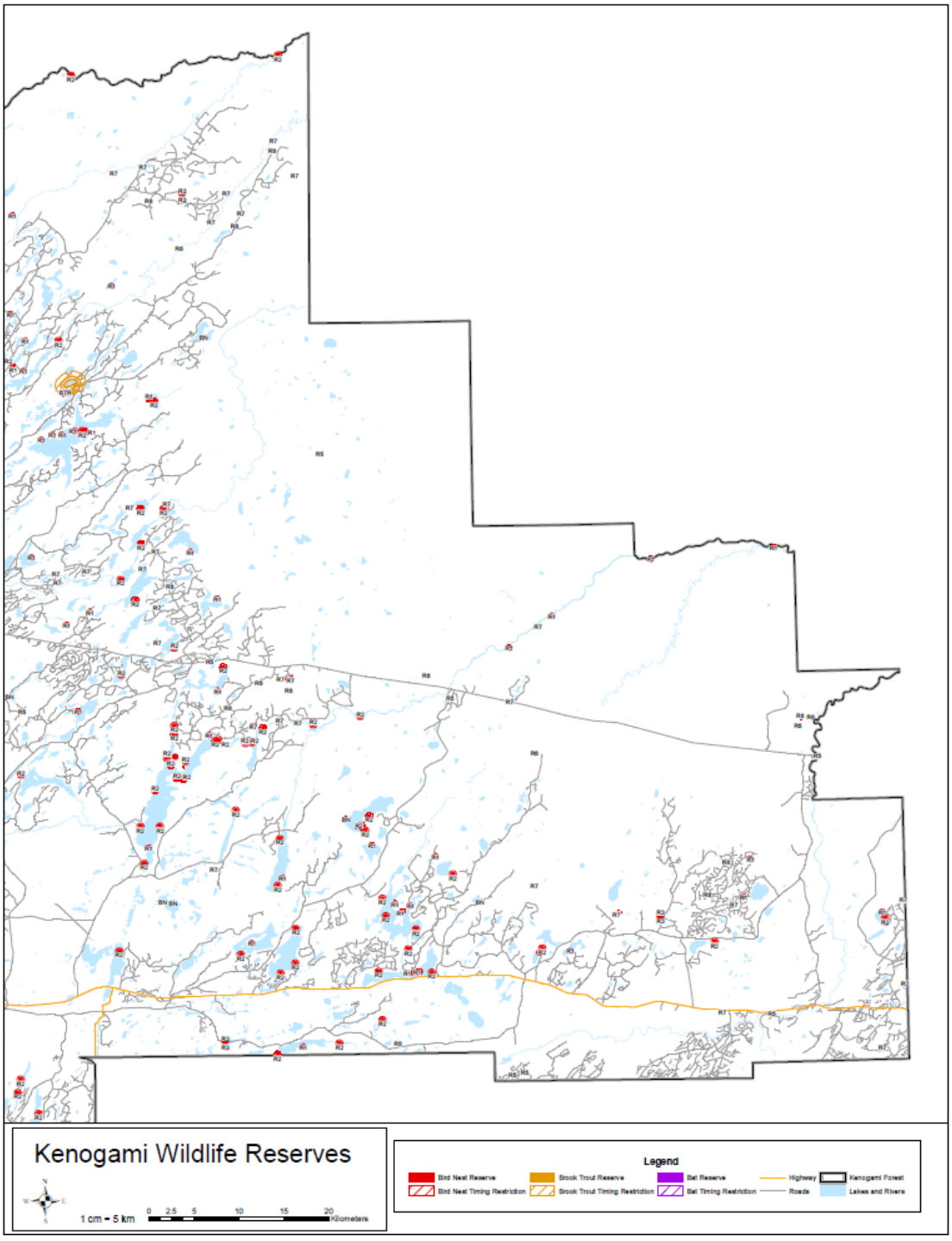
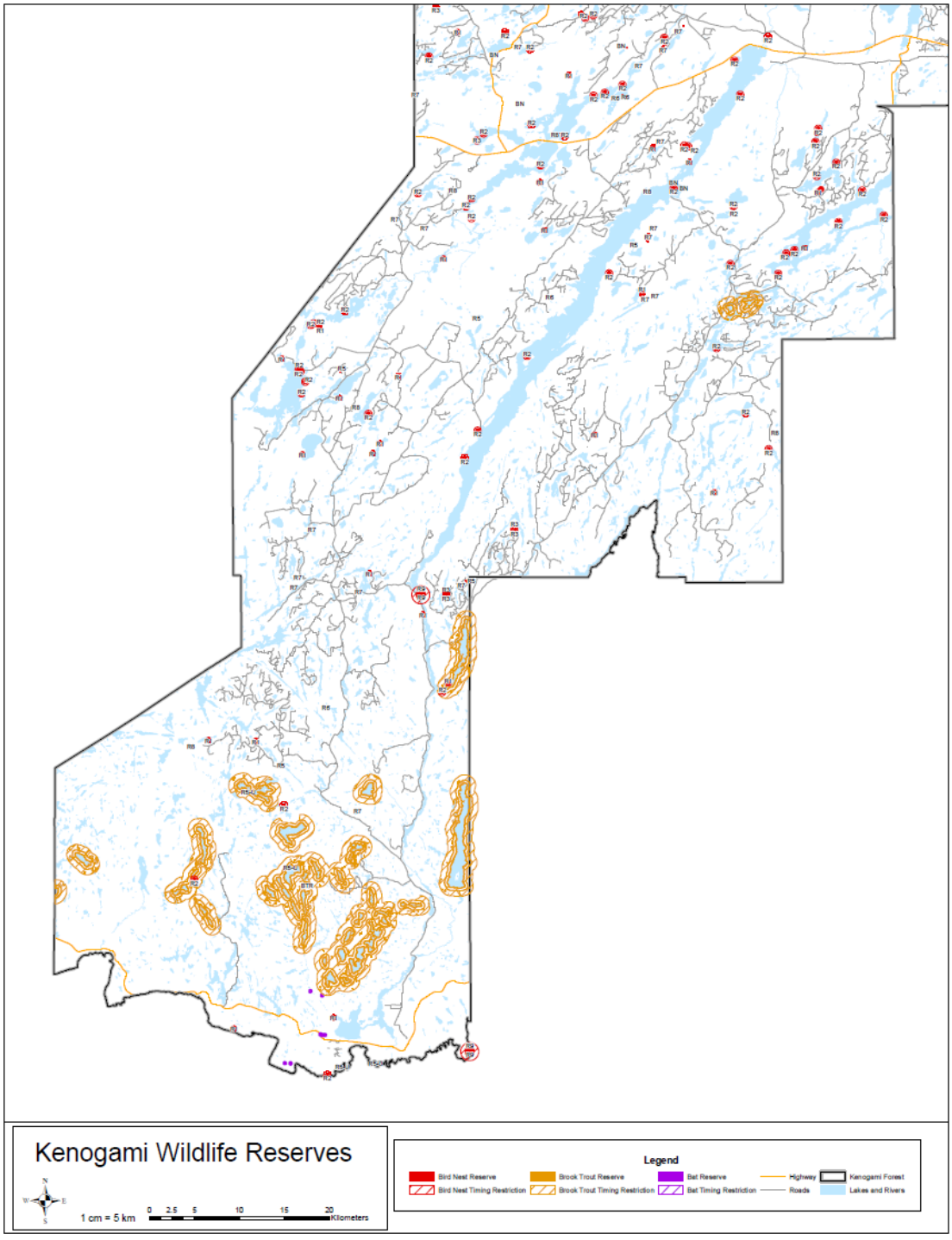


Figure 13. Map of HCV1- Wildlife Habitat - South



Assessment Results:

Important Bird Areas

A prominent feature in BCR 8 is the abundance of lakes, an important feature to 24% of the priority species (BLI 2020). Other important features of BCR 8 include its' forest cover; coniferous, mixed, and deciduous forests, which are used extensively by 31%, 32%, and 11% of priority species, respectively; and wetlands, which are used by 31% of priority species (BLI 2020). Although the Kenogami Forest is characterized under Region 8, according to BirdLife International (2020), there are no Important Bird Areas (IBA) identified in or near the Kenogami Forest Management Unit as of July 28th, 2020. The closest IBAs were located along the shorelines of the Hudson Bay and Lake Huron's North Channel.

- Bat Hibernacula: Big Brown Bat (G5; S4), Tri-coloured bat (G2; S3)
    - There are no known Bat Hibernacula values on the Kenogami Forest. If a bat hibernaculum is identified during forest any operations, an AOC based on the *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (SSG)*, will established around the hibernacula.
- Colonially nesting bird breeding habitats: cliff swallow (G5; S4)
    - Cliff swallows tend to nest in areas with open canyons, escarpments, and river valleys where vertical cliff faces are present (MNRF 2014). There are no known colonially nesting on the Kenogami Forest.
- Colonially-nesting bird breeding habitat (tree/shrub): great blue heron (G5; S5)
    - Great blue heron colonies have been documented on the Kenogami Forest. According to the 2011-2021 and 2021-2031 FMP these sites tend fall into disuse or are destroyed and new sites are established. These sites are generally surveyed by the MNRF or location information is provided by the public and forest company personnel and subsequently field verified by the MNRF. Management for this species is based on guidelines within the SSG
- Colonially-nesting bird breeding habitat (ground): herring gull (G5; S5), common tern (G5; S4)
    - Herring gull and common tern colonies prefer to nest on rocky islands or in areas with limited vegetation (MNRF 2014). Given their nesting preferences, forestry operations are unlikely to disturb such colonies. Neither of these species have not been identified on the Kenogami Forest.
- Shorebird migratory stopover areas: Greater Yellowlegs (G5; S4), Lesser Yellowlegs (G5; S4), Solitary Sandpiper (G5; S4)
    - There are no known stopover areas on the Kenogami Forest used by the greater yellowlegs, lesser yellow legs, and the solitary sandpiper. These three species are not a species of concern and therefore are not a globally, nationally, or regionally significant species on the Kenogami Forest.
- Bat maternity Colonies: big brown bat, sliver-haired bat (G3; S4)
    - There are no known bat maternities on the Kenogami Forest. If a maternity roost is discovered, an AOC, based on XXX, will be implemented to minimize disturbance related to forestry operations
- Reptile hibernacula: Eastern Gartersnake, (not a concern)
    - The eastern gartersnake is not a globally, nationally, or regionally significant species on the Kenogami Forest.
- Marsh bird breeding habitat: Black Tern (G4; S3) – Special Concern
    - The black tern is a water bird that nests in colonies in wetland marshes typically >20ha among cattails and bulrushes (FMP 2011; MNRF 2014). They migrate to northeastern North America during the first half of May from Central America, where their post-breeding migration stretches from July through early November (Soule et al. 2014). At this point in time, there are no known colonies on the Kenogami forest, though if any nesting sites are

identified, an Area of Concern, based on the SSG requirement, will be established.

HCV Designation Decision:
Based on the results, the Kenogami FMU does not contain critical seasonal concentrations of globally, nationally, or regionally important species. Therefore, no HCVs were identified other than those previously determined in HCV 1 – Question 1.

4.1.4. HCV 1 - Question 4 - Does the forest contain critical habitat for regionally significant species (e.g. species declining regionally)?

Rational:
Meta-population viability - a regional group of connected populations of a species (Thompson 1998).
Methodology:

- Significant Wildlife Habitat Criteria Schedules for Ecoregion 3W (Draft) 2017
    - The 2017 draft for Significant Wildlife Habitat Criteria Schedules for Ecoregion 3W provides a baseline list of all the species that may be found within Ecoregion 3W, the ecoregion that the Kenogami FMU resides in.
    - MNRF. 2017. Significant Wildlife Habitat Criteria Schedules for Ecoregion 3W Draft.
- Kenogami Forest Management Plans
    - Within 2011-2021 phase I and phase II Kenogami FMPs, and 2021-2031 FMP critical habitat for regionally specific species can be identified.
    - Hoffman, D. 2015. Phase II planned operations for the Kenogami Forest 2011-2021 Forest Management Plan. 2020-07-28
    - Results from Forest Management Plan habitat models

- Species representative of naturally-occurring habitat types or focal species
- NHIC G3, S1-S3 species and communities

Assessment Results:
Species identified in question 1 as SAR will not be further addressed. This includes the woodland caribou which is already designated as an HCV.

While the province does not specify regionally significant species, there is a comprehensive approach to identifying regionally significant wildlife habitat. Regionally significant wildlife habitat is divided into 4 broad categories (MNRF 2000):

- Seasonal concentration areas (addressed in element 3)
- Rare vegetation communities or specialized habitats for wildlife
- Habitats of species of conservation concern, excluding the habitats of endangered and threatened species
- Animal movement corridors

In the 2011-2021 FMP, MNRF directs the wood supply model to track and report managed habitat for the 7 following species:

- Black-backed woodpecker
- Caribou
- Marten
- Moose
- Pileated woodpecker
- Black bear
- Lynx
- Beaver; (trapper species)

MANAGEMENT UNIT NAME: Kenogami Forest
PLAN PERIOD: April 1st, 2011 to March 31st, 2021

FMP-6: Projected Habitat for Species at Risk & Selected Wildlife Species

Selected Wildlife Species	Area (hectares)					
	Year 2011 (T1)	Year 2031 (T3)	Year 2051 (T5)	Year 2071 (T7)	Year 2091 (T9)	Year 2111 (T11)
Black-backed woodpecker (BBWO)	375,282	306,436	295,296	334,805	385,055	334,856
Caribou - refuge (CARI)	973,520	994,327	1,074,210	1,098,213	1,110,720	1,074,046
Caribou - winter (CARIw)	323,453	299,800	303,004	295,496	262,713	260,781
Marten (MART)	452,722	381,017	365,354	398,520	445,685	394,902
Moose - foraging (MOOS)	407,953	390,095	348,938	321,427	304,340	292,138
Moose - winter (MOOSw)	509,636	530,186	608,762	631,224	641,922	603,455
Pileated woodpecker (PIWO)	70,903	84,064	59,294	46,848	38,547	30,964
Black bear - foraging (BLBEf)	420,541	381,851	338,509	357,143	402,128	343,897
Lynx - denning (CALYd)	381,676	337,921	327,035	361,370	411,552	357,414

The desirable levels and targets for the non-spatial preferred habitat area for selected wildlife species are projected to be achieved. The preferred wildlife habitat areas were maintained at or above the minimum levels established by the planning team over the long-term (Kenogami Forest 2011-2021 p. 321). The desirable level and target to increase the percentage of suitable marten habitat arranged in core areas outside of the caribou mosaic is projected to be achieved. Suitable marten habitat in core areas has been represented by older forest patches 2,000 to 7,000 hectares in size. The density of suitable marten habitat arranged in deferred cores outside of the caribou mosaic is projected to increase from 47% to 60% over the next 20 years and then to 69% over 60 years. (p325)

In the 2021-2031 FMP, MNRF directs the wood supply model to track and report managed habitat for only woodland caribou – refuge and woodland caribou – winter combined habitat.

MANAGEMENT UNIT NAME: Kenogami Forest
PLAN PERIOD: April 1st, 2021 to March 31st, 2031

FMP-7: Projected Habitat for Selected Wildlife Species

Selected Wildlife Species	Area (ha)									
	2021	2031	2041	2051	2061	2071	2081	2091	2101	2111	2121
Woodland Caribou - Refuge	827,887	809,664	818,249	822,474	835,086	831,624	837,013	827,643	815,217	806,996	799,211
Woodland Caribou - Winter Combined	629,611	634,244	579,257	541,475	545,339	546,919	586,663	587,353	583,427	579,101	573,993

The following is a list of the species at risk as per Table 7 in the 2021-2031 FMP main text. For those species listed on the Species at Risk in Ontario (SARO) List or under the Federal Species at Risk Act (SARA) as extirpated, endangered, threatened, or special concern that are known to occur, or have a high likelihood of occurring on the Kenogami Forest are listed in the table below. Specific area of concern prescriptions and conditions on regular operations, which protect these species potentially impacted by forest operations are identified in Table FMP-11 Operational Prescriptions for Areas of Concern and Section 4.2.2.2 Condition for Important Ecological Features in the 2021-2031 FMP.

Common Name
American White Pelican
*Bald Eagle
Golden Eagle
*Barn Swallow
*Bank Swallow
Canada Warbler
Eastern Wood-pewee
Bobolink
*Common Nighthawk
*Eastern Whip-poor-will
Evening Grosbeak
Horned Grebe
Peregrine Falcon
Olive-sided Flycatcher
Rusty Blackbird
Short-eared Owl
Lake Sturgeon -Northwestern Ontario -Southern Hudson Bay/James Bay -Great Lakes Upper St. Lawrence River
Shortjaw Cisco
Monarch
Yellow-banded Bumble Bee
*Woodland Caribou
Wolverine
*Little Brown Myotis
*Northern Myotis
Cougar
Snapping Turtle

These species have been previously considered under Question 1 (Table 2).
*denotes HCV designation in Table 2. Other species are potential HCV should they be encountered on the forest.

HCV Designation Decision:
Woodland caribou calving areas have been previously identified as an HCV in Question1 and is also considered an HCV for this Question 4.

Lake sturgeon has also been previously identified as an HCV in Question 1 and is also considered a Potential HCV for this Question 4 if locations become identified.

4.1.5. HCV 1 - Question 5 - Does the forest support concentrations of species at the edge of their natural ranges or outlier populations?

Rational:
Relevant conservation issues include vulnerability against range contraction and potential genetic variation at range edge. Outlier and edge of range populations may also play a critical role in genetic/population adaptation to global warming.

Methodology:
Range and population estimate from national or local authorities and local experts for:*
a) red listed species (see sources above);
b) major forest (tree species) types; and*
c) species identified as ecologically significant through engagement*.*

The list of species representative of habitat types naturally occurring in the Management Unit* is determined or reviewed by qualified ecologist experts*.*

Guidance on assessing HCV:

- Are any of the range edge or outlier species representative of *habitat* types naturally occurring in the *Management Unit*? (DEFINITIVE)
- Are there any ecological or taxonomic groups of range edge and/or outlier species/sub-species that would together constitute a globally, nationally, or regionally *significant** concentration? (GUIDANCE)
- Are there naturally occurring outlier populations of commercial tree species? (DEFINITIVE)
- Commercial species are highlighted here because of their combined importance, biologically and economically.

Assessment Results:
As the Kenogami Forest resides within the Boreal forest region, the largest forest region in Ontario and Canada (MNRF 2014), concerns regarding species at the edge of their natural range within the FMU are few if any because of the broad ranging nature of the forest region. The following species that are at their range limit have already been assessed in HCV question 1:

- Woodland Caribou
    - The southern border of the caribou mosaic resides within the Kenogami FMU, caribou have already been deemed and HCV in element 1.

Our naturally occurring commercial tree species include the following:

- White birch, *Betula papirifera*
- Black spruce, *Picea mariana*
- Balsam fir *Abies balsamea*
- Tamarak, *Larix laricina*
- White spruce, *Picea glauca*
- Jack pine, *Pinus banksiana*
- Poplar, *Populus spp. (balsam/trembling)*
- White cedar, *Thuja occidentalis*

These species are broad-ranging and are abundant throughout the Kenogami FMU. They compose the 10 forest types found on the Kenogami. These forest types include:

- White birch pure
- Conifer mixedwood
- Hardwood mixedwood

- Other conifer (white cedar or larch)
- Jack pine pure
- Jack pine-spruce mixedwood
- Poplar pure
- Black Spruce lowland 1 and 3
- Spruce Pure

There are no identified red or white pine communities in the forest, therefore there are no naturally occurring outlier populations of tree species.
Additionally, there are no uncommon or notable natural resource features (significant wetlands) that occur on the Kenogami FMU.

HCV Designation Decision:
There are no HCVs identified on the Kenogami FMU that matches this criterion other than those HCVs previously identified (i.e. woodland caribou).

4.1.6. HCV 1 - Question 6 - Does the forest lie within, adjacent to, or contain a conservation area?

Rational:
Ensures compliance with the conservation intent of a designated protected area.
Methodology:

- Crown Land Use Atlas Policy (CLUPA)
- UNESCO World Heritage Sites http://en.unesco.org/
    - http://whc.unesco.org/en/statesparties/CA
- RAMSAR https://www.ramsar.org/wetland/canada
    - Ramsar Sites Information Service identifies any wetland sites designated as internationally important can be identified.
- Legally designated sites in Canada: CCAD (available from GeoGratis) WWF Designated Areas Data Base
- Areas under deferral pending completion of land use planning and-or completion of protected areas* system.
- Local government land use plans.
- Other conservation* planning exercises (e.g., Previous WWFCanada conservation suitability analysis).
- Where there is conflicting information regarding the location and/or conservation* status of a conservation area designated by an international authority, then the forest manager should assume that the forest* contains HCVs*.

Assessment Results:
(a) Conservation area designated by an international authority

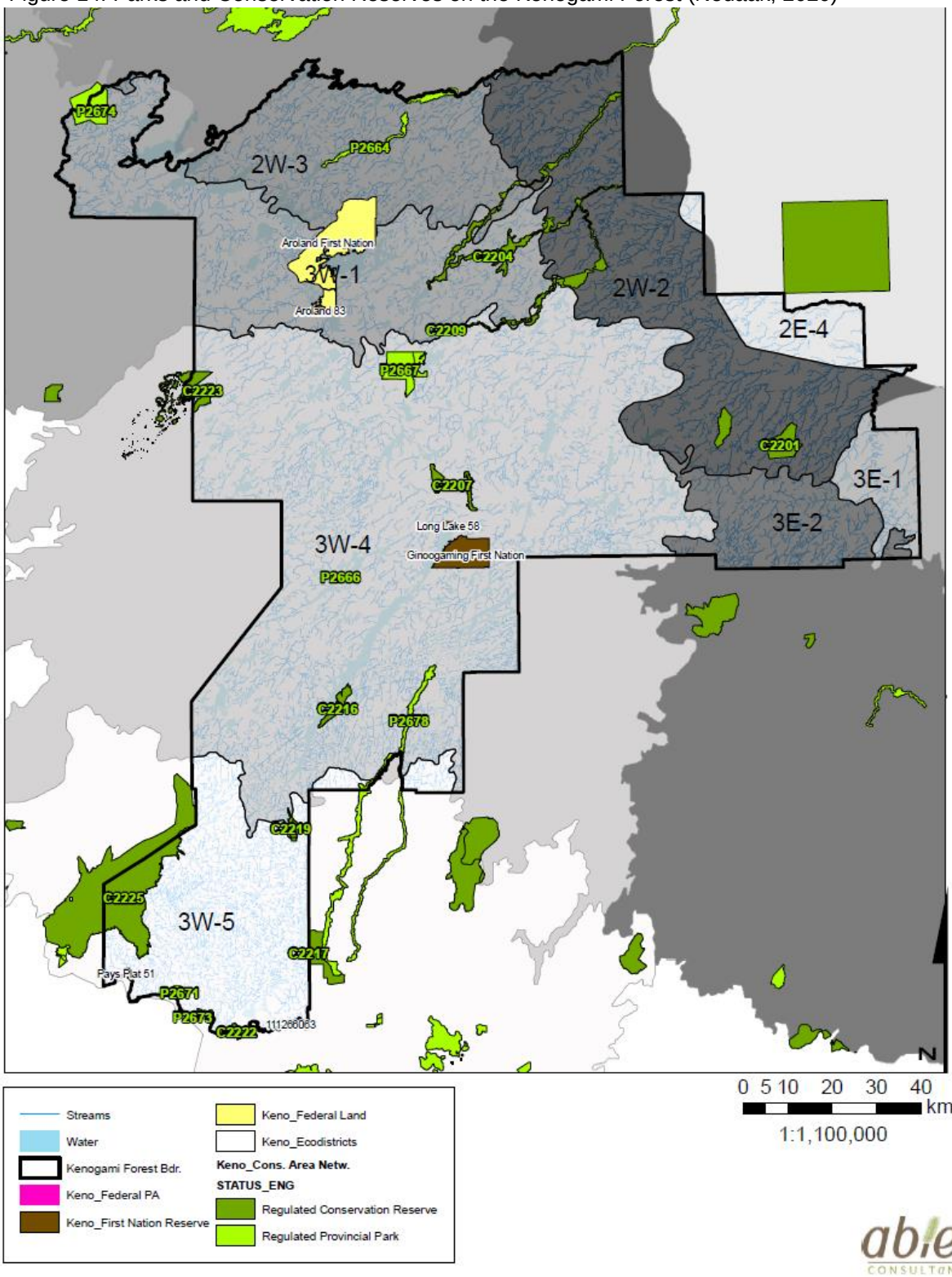
- UNESCO World Heritage Sites
    - The United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified World Heritage Sites in Ontario. These include the cultural heritage site, the Rideau Canal and the mixed heritage site Pimachiowin Aki. Neither of these UNESCO World Heritage Sites are adjacent to the Kenogami FMU.
- RAMSAR sites
    - Canada currently has 37 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 13,086,767 hectares. Ontario has 8 sites designated as Wetlands of International Importance, however, none of these sites reside adjacent to the Kenogami FMU. The closest Ramsar Sites, Polar Bear Provincial Park and Southern James Bay, have both indicated that threats to integrity posed by adjacent areas are related to hydro development (CWS 2001a, 2001b) Therefore, there are no Ramsar Sites to be consider in this assessment.
- IUCN Wilderness Areas
    - There are 260 hectares if IUCN Wilderness Areas in Ontario, however 0% of the land resides in the Kenogami FMU

(b) Conservation area legally designated or proposed by relevant federal/provincial/territorial legislative body

- Federal
    - In the Kenogami, there are no conservation areas legally designated or proposed by the federal government.
- Provincial
    - Kenogami Forest Management Plan 2011-2021 and 2021-2031:
    - Provincial Parks and Conservation Reserves within the boundaries and/or 5djacent to the Kenogami Forest total approximately 70,000 hectares (see Figure 14).

Name	CLUPA Reference ID	Classification (Category)
Sedgman Lake	P2674	Provincial Park (nature reserve)
Sedgman Lake Addition	P2674	Provincial Park (nature reserve)
Little Current River	P2664	Provincial Park (waterway)
MacLeod	P2666	Provincial Park (recreation)
Nakina Moraine	P2667	Provincial Park (natural environment)
Rainbow Falls	P2671	Provincial Park (recreation)
Schreiber Channel	P2673	Provincial Park (nature reserve)
Steel River	P2678	Provincial Park (waterway)
Sub-total		
Gravel River	C2225	Conservation Reserve
Lake Superior North Shore	C2222	Conservation Reserve
Lower Twin Lake	C2209	Conservation Reserve
Low/Bell	C2201	Conservation Reserve
Nakina Northeast Waterway	C2204	Conservation Reserve
Longlac North	C2207	Conservation Reserve
Long Lake	C2216	Conservation Reserve
Long Lake West	C2216	Conservation Reserve
Fishnet Lake	C2217	Conservation Reserve
Three Mile Narrows	C2219	Conservation Reserve
Onaman Lake	C2223	Conservation Reserve
Onaman Lake (recommended)	C2223	*Conservation Reserve*

Figure 14. Parks and Conservation Reserves on the Kenogami Forest (Nedaak, 2020)



These areas have been set aside from harvest and regulated under the *Provincial Parks and Conservation Act, 2006*.

- Territorial
    - There are no legally proposed or designated conservation areas relevant to a territorial legislative body.

(c) Conservation area identified in regional land use plans or conservation plans

Ontario's Living Legacy

Some areas within the Kenogami FMU have been set aside from forest management activities through Ontario's Living Legacy Planning Strategy[1]. These areas include: Little Current River Provincial Park, Rainbow Falls Provincial Park, and Lake Superior North Shore Conservation Reserve. These have already been included in part B, and all of which are regulated under the *Provincial Parks and Conservation Act, 2006*.

Community Based Land Use Plans

The northern portion of the Kenogami FMU borders the Far North, a region of Northern Ontario that does not contain comprehensive land use planning. The Far North is currently protected under the Far North Act, 2010 (FNA), though the current provincial government has made a motion to repeal the legislation to enable development. At this point in time, the Ontario legislature is planning to resume in October 2020 and the original Act remains in place. The FNA requires a completed community-based land use plan, unless there is an approved exemption, before any natural resources are developed within the designated area. There are two Indigenous communities, Martin Falls[2] and Constance Lake[3], that have completed a Terms of Reference to plan for lands that border/overlap the northern portion of the Kenogami. If the communities move forward with the planning process then there is a chance that they could designate Dedicated Protected Areas (DPAs) or Enhanced Management Areas (EMAs), where certain land uses, development, and activities are limited[4]. Whether or not these communities intend to complete a land use plan and designate any DPAs or EMAs in areas bordering or overlapping the Kenogami Forest is uncertain.

HCV Designation Decision:

Within the Kenogami FMU there are 18 provincial parks and conservation areas legally designated by provincial legislative bodies. Regarding HCV-1, Question 4, the provincial parks and conservation reserves are designated as HCVs.

[1] Ontario's living legacy. https://collections.ola.org/mon/2000/10281337.pdf

[2] Martin Falls – land use plan draft TOR completed. Area of interest borders/overlaps with the north west portion of FMU https://www.ontario.ca/page/marten-falls-community-based-land-use-plan-terms-reference

[3] Constance Lake – Far North TOR completed. Planning area overlaps with north east portion of the Kenogami FMU https://www.ontario.ca/page/constance-lake-terms-reference

[4] [MNRF] Ministry of Natural Resources and Forestry. 2015. Far North Land Use Strategy: A Draft. Far North Branch, South Porcupine, ON. https://www.ossga.com/multimedia/0/draft_far_north_strategy_2015_09_29.pdf

4.2.1. Question 7 - Does the forest constitute or form part of a globally, nationally, or regionally significant forest landscape that includes populations of most native species?

Rational:
Under this questions an assessment of large, intact ecosystems are genetic and population reservoirs for the surrounding lands and provide areas of sufficient size for landscape-scale natural processes to occur is completed.
Methodology
Data sources:

- Global Forest Watch (*globalforestwatch.org*)
- Current FRI with latest depletions
- Caribou Mosaic Maps (2011-2021 FMP) and (2021-2031 FMP)
- Planned Harvest Depletions (2011-2021 and 2021-2031 FMPs)

The HCV framework (Annex D of FSC Standard) focuses on forested landscapes that are thought to be “unfragmented” because they contain few roads and other infrastructure. Accordingly, applicable thresholds for qualifying areas are as follows:

- Are there contiguous forest landscape that have the following characteristics:
    - At least 50,000 ha in size;
    - Minimal width of 10 km;
    - Free of permanent infrastructure and less than 5% non-permanent anthropogenic disturbance;
    - Free of large-scale industrial resource extraction activities;
    - Dominated by forest, but inclusion of other ecosystems to a reasonable extent permissible;
    - Dominated by native plants and communities;
    - Not necessarily dominated by old forest communities.
- For intact landscapes:
    - refer to Advice note 20-007-018 V1-0
    - See also May 2017 FSC Document ‘Questions and Answers Pertaining to the Motion 65 Advice Note’
    - Refer to FSC Canada’s *Interim Guidance for the Delineation of Intact Forest Landscapes (IFL) May 25, 2017* for guidance on IFL delineation
- Global Forest Watch (GFW)
    - Defines an intact forest landscape as a contiguous mosaic of natural ecosystems in a forest ecozone, essentially undisturbed by human influence, including both treed and naturally treeless areas (Lee et al, 2010). An intact forest landscape must be large enough to contain and support natural biodiversity and ecological processes, and to provide a buffer against human disturbance from surrounding areas.

Large natural disturbance events such as wildfire, blowdown, and insect outbreaks are typical of the Boreal Forest and result in large landscape patches. Wildfires are generally suppressed by the MNRF and although some are left to burn naturally, their frequency and size class distribution are different than the pre-settlement distribution of massive wildfire events that occurred previously.

In Ontario, forest management planning and subsequent timber harvesting is planned and conducted in a manner to emulate these large natural to the extent possible, as directed by the Crown Forest Sustainability Act. The approved 2021-2031 FMP provides the direction for

land use, including forestry, for the Kenogami Forest. The caribou mosaic (Dynamic Caribou Habitat Schedule - DCHS) as described in the Caribou Conservation Plan, is a significant driver in the northern portion of the Kenogami Forest which is in the Continuous Caribou Zone.

The caribou mosaic approach of large landscape patches is closely linked to Large landscape Level Forest (LLLF) concepts of FSC. The designation of a LLLF as an HCV does not entirely eliminate some level of timber harvesting, but does limit these amounts to maintain the ecological integrity and naturally functioning of the forest.

Assessment Results
The following map identifies the intact forest landscapes (IFLS) as per Global Forest Watch which shows as light green on the map. The FMPs estimated planned harvest depletions for the 2011-2021 FMP and 2021-2031 FMP are also shown. There are four IFLs that are large enough (>50,000 ha) with a minimal width of 10 km.

Table 3 demonstrates that the consideration has been provided for the Motion 65 Advice Note contained in the Interim Guidance for the Delineation of Intact Forest Landscapes (IFL) of not impacting more than 20% of an IFL within the management unit. The planned harvest areas are considered an over estimated due to operational constraints such as bypass, unmerchantable stands encountered, and residual patches left once forest operations commence in the field. Nonetheless it does provide an assessment of the disturbance levels anticipated to impact each of the IFLs on the Kenogami Forest which are reported in Table 3.

Figure 15. Intact Forest Landscape Map as per Global Forest Watch

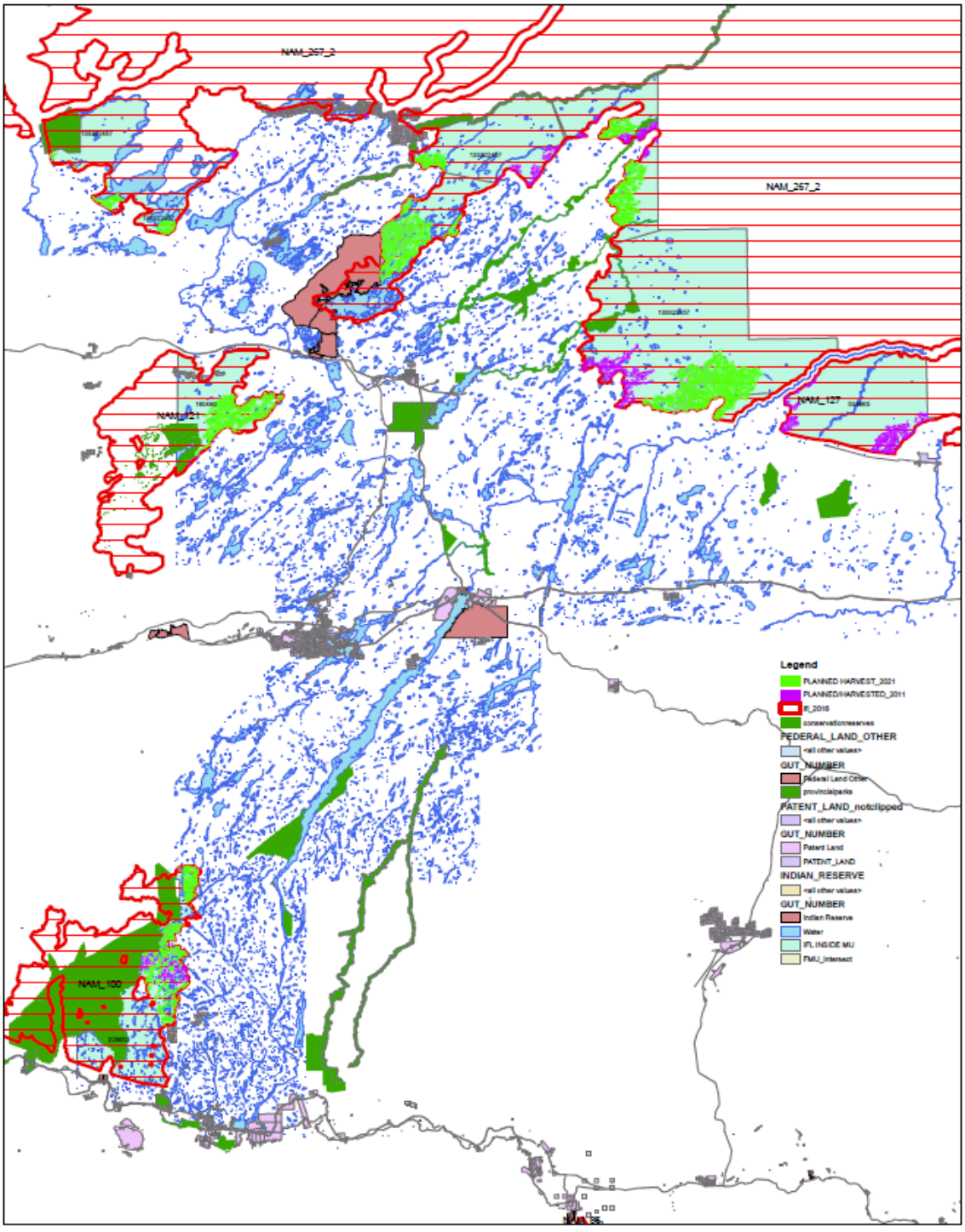


Table 3. Intact Forest Landscapes

IFL Name	FMP	Harvest Area (ha)	IFL MU Area (ha/%)	Total IFL (ha/%)
NAM_100	2021	5,271	51,572	225,651
	2011	2,027	14.15%	3%
	total	7,298		
NAM_121	2021	5,652	27,843	180,489
	2011	21	20.4%	3%
	total	5,673		
NAM_127	2021	0	45,608	504,865
	2011	3,467	7.6%	0.7%
	total	3,467		
NAM_267_2	2021	26,388	256,691	133,322,457
	2011	11,363	14.7%	0.0%
	total	37,751		

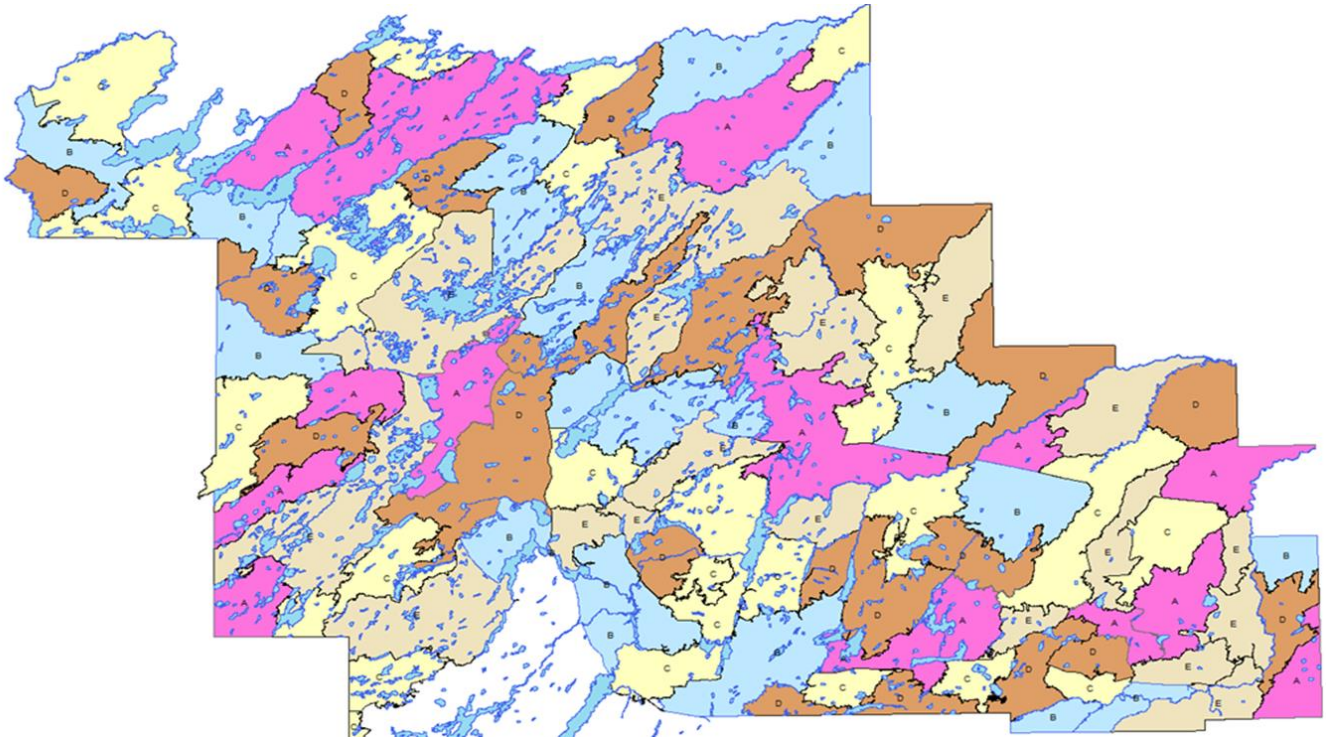
Caribou Mosaic Large Landscape Patches

All the intact forest landscapes displayed in Figure 15 reside within the Caribou Mosaic management area (Figure 16), where the key objective is to manage the area for caribou while enabling harvesting that emulates the natural disturbance patterns at the landscape level. Large landscape patches are part of the caribou habitat strategy for the Kenogami Forest. The FMP is the implementation of many Ontario policy concepts aimed at landscape management. The dynamic caribou habitat schedule (DCHS) is the primary driver of pattern on the forest. The area of the caribou mosaic continuous and discontinuous zones have been previously presented under Question 3.

Throughout the Kenogami Forest Range (intact or not), there are past and future plans to harvest timber. Again, in the northern portion, these harvesting plans follow a dynamic caribou habitat schedule[1] which is based on *Ontario's Woodland Caribou Conservation Plan (CPP).* The Kenogami forest does form part of a globally/nationally significant forest landscape that includes populations of mostly native species.

[1] Belleau, S. 2020. IFL for Kenogami 2020. https://databasin.org/maps/79d24718ba104b9bbb6578fc5daf6589/active

Figure 16. Kenogami Forest 2021-2031 Caribou Mosaic



A 1995-2016
B 2016-2031
C 2031-2051
D 2051-2071
E 2071-2091

HCV Designation Decision:
At the time of this HCV assessment, the Kenogami Forest does contain large, intact forest ecosystems (IFLS) as per Global Forest Watch that will be considered the LLLF HCVs for this Question 7.

4.3.1. Question 8 - Does the forest contain naturally rare ecosystem types?

Rational:

These forests contain many unique species and communities that are adapted only to the conditions found in these rare forest types.

Methodology:
Data sources:

Forest Management Plan 2011-2021 and 2021-2031

If there are any naturally rare ecosystem types with in the Kenogami FMU, the FMP description of the forest will provide a description of it. MNRF Values Maps did not identify significant ecological areas or any old growth red and white pine areas. The FMP text describes any occurrence of other uncommon or notable natural resource features (e.g. significant old growth stands, large wetland complexes) that occur on the management unit, however, none were found.

The 2021-2031 FMP Section 2.1.4.3.3. Values Maps states:

> *There are no identified red or white pine communities on the forest, either classified as old growth or regular forest. Similarly, there are no uncommon or notable natural resource features (such as significant wetlands) or rare tree species such as black ash or yellow birch communities on the management unit.*

IUCN Red List of Ecosystems

Provides assessments on whether ecosystems (locally, national, regionally, or globally) “are threatened at Critically Endangered, Endangered or Vulnerable levels, or if they are not currently facing significant risk of collapse (Least Concern)”[1].

World Wildlife Fund (WWF)

The World Wildlife Fund (WWF) provides assessments on Global Ecoregions. Ecoregions, as defined by WWF, are "large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions”. The WWF methodology for defining ecoregions is based on the following parameters: species richness, endemism, higher taxonomic richness, extraordinary ecological or evolutionary phenomena and global rarity of the major habitat type. Each ecoregion is given one of three status designations, Relatively Stable/Intact, Vulnerable, and Critical/Endangered[2], based on the criteria previously mentioned.

Nature Serve Explorer

Nature Serve provides access to global ecosystem records. Nature Serve Explorer provides a search engine where the user may look up species, ecosystems, or both. The user may also refine the search criteria. For the purposes of this HCV assessment, the following search criteria will be applied to determine whether there are naturally rare ecosystem types:

[1] [IUCN] International Union for Conservation of Nature. 2020. Red list of ecosystems. https://iucnrle.org/about-rle/rle/
[2] Olson D. and E. Dinerstein. 1998. The Global 200: A representation approach to conserving the Earth’s most biologically valuable ecoregions. Conservation Biology 12: 502–515.

Figure 17. Criteria used in the Nature Serve database to determine whether the Kenogami Forest has rare ecosystem types[1].

These ecosystems were based on an alliance classification, a lower-level hierarchy for natural vegetation classification based on diagnostic and/or dominant species and compositional relations that are inherent to local to regional environmental factors[2]

The Kenogami Forest is a typical northern Boreal Forest, which contains a significant amount of lowland spruce and larch in the north eastern portion of the forest and mixtures of poplar and pine with small amounts of white birch throughout. It does not contain any no rare ecosystem types in the forest resource inventory.

Assessment Results:
The Kenogami Forest Management Plan 2011-2021 and 2021-2031 does not identify any naturally occurring ecosystem types.

At this point in time, the IUCN Red List of Ecosystems has not categorized any portion of or adjacent to the Kenogami FMU as critically endangered, endangered, or vulnerable.
The WWF ecoregion for which the Kenogami Forest resides in is called the Central Canadian Shield forests[3]. WWF has identified that this ecoregion's status is vulnerable. WWF also makes suggestions for areas that should be protected/expand their protection. This includes Lake Nipigon-Nipigon River corridor and an expansion to Pukaskwa National Park, both of which reside outside of the Kenogami FMU.

Using the above-mentioned criteria for the NatureServe Explorer search, only four ecosystems populated: Pinus resinosa - Pinus strobus Subboreal Forest Alliance, Dasiphora fruticosa / Oligoneuron riddellii - Andropogon gerardii Graminoid Fen Alliance, Betula pumila / Carex lasiocarpa Alkaline Fen Alliance, and Eastern Boreal & Subboreal Acidic Talus Alliance. Of these ecosystems, none of them were located within the Kenogami FMU. Pinus resinosa - Pinus strobus Subboreal Forest Alliance is dominated by red and white pine stands, which we determined not present in the Kenogami. Dasiphora fruticosa / Oligoneuron riddellii - Andropogon gerardii Graminoid Fen Alliance has not been identified in Ontario[4]. Betula pumila / Carex lasiocarpa Alkaline Fen Alliance is found predominantly on peaty soils, in areas of calcareous discharge[5], which is an environment that has not been identified within the Kenogami Forest[6]. Finally, the Eastern Boreal & Subboreal Acidic Talus Alliance ecosystem has only been identified in Ouimet Canyon and Cavern Lake, neither of which are located within the Kenogami Forest.

[1] NatureServe. 2020. Search engine. https://explorer.natureserve.org/Search
[2] [USNVC] The U.S. National Vegetation Classification. N.D. Natural vegetation classification. http://usnvc.org/data-standard/natural-vegetation-classification/
[3] Meades, B., A. Perera, L. Gratton, N. Zinger, T. Gray, K. Kavanagh, M. Sims, and G. Mann. N.D. Central Canadian Shield forests. https://www.worldwildlife.org/ecoregions/na0602
[4] Fabe-Langendoen, D. and J. Drake. 2013. Betula pumila - Salix candida / Carex lasiocarpa - Symphyotrichum boreale Prairie Fen https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.686868/Betula_pumila_-_Salix_candida_-_Carex_lasiocarpa_-_Symphyotrichum_boreale_Prairie_Fen
[5] Faber-Langendoen, D. 2001. Carex lasiocarpa - Trichophorum cespitosum - Rhynchospora capillacea / Andromeda polifolia Fen. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.689882/Carex_lasiocarpa_-_Trichophorum_cespitosum_-_Rhynchospora_capillacea_-_Andromeda_polifolia_Fen
[6] Hoffman, D. 2015. Ten-year forest management plan, April 1, 2011 to Match 31, 2021 for the Kenogami Forest. 2020-07-28

HCV Designation Decision:
The Kenogami Forest does contain any naturally rare ecosystem types, therefore no HCV designation required.

4.3.2. Question 9 - Are there ecosystem types within the forest or ecoregion that have significantly declined or under sufficient present and/or future development pressures that they will likely become rare in the future (e.g., old seral stages)?

Rational:
Vulnerability and meta-population viability. This Indicator includes anthropogenically rare forest ecosystem types (e.g. old growth, late seral red and white pine in eastern Canada).

Methodology:

- Old Growth Policy for Ontario's Crown Forests
- Boreal Landscape Guide
- Forest Management Plan 2021-2031

Assessment Results

Old Growth Policy for Ontario's Crown Forests
The Kenogami Forest is a northern Boreal Forest and wildfire is the dominant stand replacing mechanism for the old growth on the forest. The Kenogami Forest has been assessed using a landscape approach and the Natural Range of Variation analysis as directed by the Boreal Landscape Guide (BLG). Old growth is monitored through the FMP and is modelled at the start of each planning process.

The Boreal Landscape Guide requires that old growth be defined using the Old Growth Forest Definitions for Ontario (OMNR 2003). The old growth development stage of all plan forest units, or appropriate groupings of plan forest units are represented in the LTMD and modelling for the FMP.

Forest Management Plan 2011-2021 states:
As discussed in Section 2.1.2.2, of the Kenogami Forest 2011-2021 FMP main text, forest unit area by maturity class and old growth was evaluated, and part of this evaluation included that of a Late (Old) forest by forest unit classification to address the requirements of Old Growth Policy for Ontario's Crown Forests.

In addition, a review of values information to ensure the protection of rare, threatened, endangered flora and fauna and other Species at Risk has been conducted as part of the Kenogami Forest FMP development process. The Statement of Environmental Values Briefing Note under the Environmental Bill of Rights describes this FMP's intent for managing for plant life, animal life, water, soil, air, and social and economic values, including recreational and heritage values (Section 5.4).

Section 2.1.2.4.3. states that: "The plan has objectives developed around the amount of Late (Old) forest on the landscape. There is the desire to maintain the area of Late (Old) forest by forest unit at or above the lower Bound of Natural Variation, (BNV) which was established based on observations of the natural benchmark scenario. One management implication is that it is possible that more Late forest area by forest unit could be maintained on the forest if it is needed to maintain preferred wildlife habitat area above desired levels. In addition, the maintenance of Old forest may be of higher preference because Mature aged forest may have higher volume yields.

Forest Management Plan 2021-2031 FMP
2.1.3.5 Old Growth Forest Classification

The FMPM (2020) describes old growth as "a functional condition (e.g. stand productivity, nutrient cycling, and wildlife habitat) of a forest ecosystem, in a dynamic state, that embodies a set of physical features and characteristics that typically include:

1. a complex forest stand structure (e.g. old trees for the ecosite, large tree size and wide spacing, multiple canopy layers and gaps, and rates of change in species composition):

2. large dead standing trees (snags), accumulations of downed woody material, up-turned stumps, root and soil mounds, and accelerating tree mortality.

Therefore, old growth forest is generally defined as over-mature or late-successional forest that is at or past the estimated age-of-onset of old growth for each forest unit. The old growth onset ages were established based on: a review of the forest unit/ecosite/dominant species relationship on the Kenogami Forest, onset age of natural succession, yield curves, and direction provided by the Old Growth Policy for Ontario's Crown Forests (2003) and the Old Growth Forest Definitions for Ontario (2003).

The Old Growth Policy for Ontario's Crown Forests requires that old growth habitat for selected species is considered as part of the sustainability assessment in forest management plans. The policy recognizes that although no wildlife species is strictly dependent on old forest to meet its needs, the following species prefer the Boreal forest in Northwestern Ontario: black bear (foraging), lynx (denning), black-backed woodpecker, caribou (winter and refuge) marten, moose (foraging and winter) and pileated woodpecker. The plan has objectives developed around the amount of Late (Old) forest on the landscape.

The Boreal Landscape Guide (BLG) sets direction for old growth indicators where targets are to be managed by forest units or appropriate Old Growth grouping. For the Kenogami Forest, the NDMNRF regional Old Growth groupings were adopted to quantify the forest condition at Plan 2021 Start (Upland Conifer, Lowland Conifer, Mixed Conifer and Mixed and Pure Hardwood). Objective 2.2 and table FMP-10 in Section 3.6.2 and 3.7.3 later discuss the amount and distribution of old growth forest represented as Indicator 2.2 Amount and Distribution of Old Growth Forest: Total Area of Old Growth Crown Forest by Forest Unit Group (ha). Section 3.6.2 of the FMP has a description of the objective and indicator while Section 3.7.3 presents the general achievement of the objective.

Forest Management Plan 2021-2031
The Analysis Package in the FMP states the following:

> *5.1.7 Amount and distribution of old growth forest*
> *Three indicators comprise this section which are Upland conifer, Lowland conifer and Mixed conifer and mixed and pure hardwoods. The targets are all achieved with the upland conifer being maintained within the IQR in the short term, the Lowland conifer moves towards to the IQR and the Mixed conifer and mixed and pure hardwood area above the limit at plan start, increase slightly over the first 2 terms then decreases over time into the desirable level after Term 10.*
>
> *The desired level of old growth is difficult to obtain over the entire forest as the DCHS timing prevented any accumulation in the DCHS. The model saved upland conifer in the south to attempt to achieve the overall FMU target. The target was split and set on the south SRNV where the appropriate amount of old growth was maintained for the southern zone.*

Figure 112. LTMD Old growth indicators for FMU

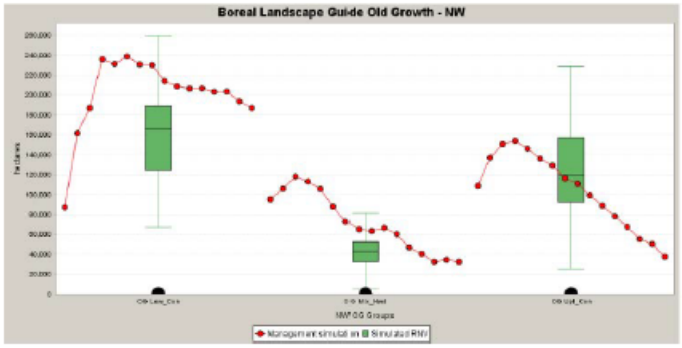


Table 75. LTMD Old growth indicators for FMU

PERIOD	YEAR	OG Low_Con	OG Mix_Hwd	OG Upl_Con
0	0	87,094	95,044	108,629
1	10	161,286	105,754	136,823
2	20	186,736	117,938	150,481
3	30	235,640	112,922	153,883
4	40	231,087	105,509	145,949
5	50	238,375	87,785	135,876
6	60	230,540	72,631	128,946
7	70	229,807	64,864	116,208
8	80	213,834	63,214	110,859
9	90	208,608	66,453	98,929
10	100	206,293	60,129	88,641
11	110	206,423	46,768	78,079
12	120	202,964	40,254	67,453
13	130	203,237	32,429	55,122
14	140	193,388	34,214	50,077
15	150	186,734	32,424	37,370

The following is explained in the main text of the FMP in Section 3.0:

Indicator 2.2 Amount and Distribution of Old Growth Forest: Total Area of Old Growth Crown Forest by Forest Unit Group (ha)

- *Upland Conifer (SbDom, PjDom, PjMx1, SbMx1)*
- *Lowland Conifer (OCLow, SbLow1, SbLow3)*
- *Mixed Conifer and Mixed and Pure Hardwoods (ConMx, BfMx1, PoDom, BwDom, HrDom, HrdMx)*

Desirable Level: Maintain within the IQR.

Target: Same as desirable level.

Timing of Assessment: Timing of assessment of achievement will be measured during development of proposed Long-Term Management Direction and upon completion of operational planning.

	Indicator	Plan Start Level (2021)	Desirable Level(s)
2.2 Amount and Distribution of Old Growth Forest: Total Area of Old Growth Crown Forest by Forest Unit Group (ha)	Upland Conifer (SbDom, PjDom, PjMx1, SbMx1)	108,648	92,472.8 - 157,020.5
	Lowland Conifer (OCLow, SbLow1, SbLow3)	87,099	123,947.0 - 188,689.0
	Mixed Conifer and Mixed and Pure Hardwoods (ConMx, BfMx1, PoDom, BwDom, HrDom, HrdMx)	95,093	32,432.0 - 52,334.8

HCV Designation Decision:

There are no ecosystem types within the Kenogami FMU that have been designated HCV because of a decline.

4.4. Question 10 - Are large landscape level forests (i.e., large unfragmented forests) rare or absent in the forest or ecoregion?

Rational:
In regions or forests where large functioning landscape* level forests are rare or do not exist, as in highly fragmented forests, many of the remnant forest patches require consideration as potential HCVs.* Identifies remnant forest patches/blocks where unfragmented (by permanent infrastructure*) landscapes* do not exceed size thresholds.

Methodology:

Forest Management Plan 2011-2021 and 2021-2031
There are no large landscape level forests (i.e., large unfragmented forests) rare or absent in the forest or ecoregions within the Kenogami Forest or ecoregion, mentioned in FMP. However, there are tracts of mature forested stands that have regenerated since historical logging.

Assessment Results:
With the implementation of the caribou mosaic harvest block scheduling patterns on the northern half of the forest, there are many large unfragmented portions that exist on the Kenogami Forest and forest fragmentation is not a concern.

The assessment for this element of the frame work is combined with element 7. For a detailed discussion please refer to Question 7. In that element LLF is designated as HCV. Large landscape level forests are not rare on the Kenogami Forest, as much of the area is free of permanent human disturbances

HCV Designation Decision:
There are no large landscape level forests that are rare or absent in the forest or ecoregion. No HCVs are designated under this element.

4.4.1. Question 11 - Are there nationally /regionally significant diverse or unique forest ecosystems or forests associated with unique aquatic ecosystems?

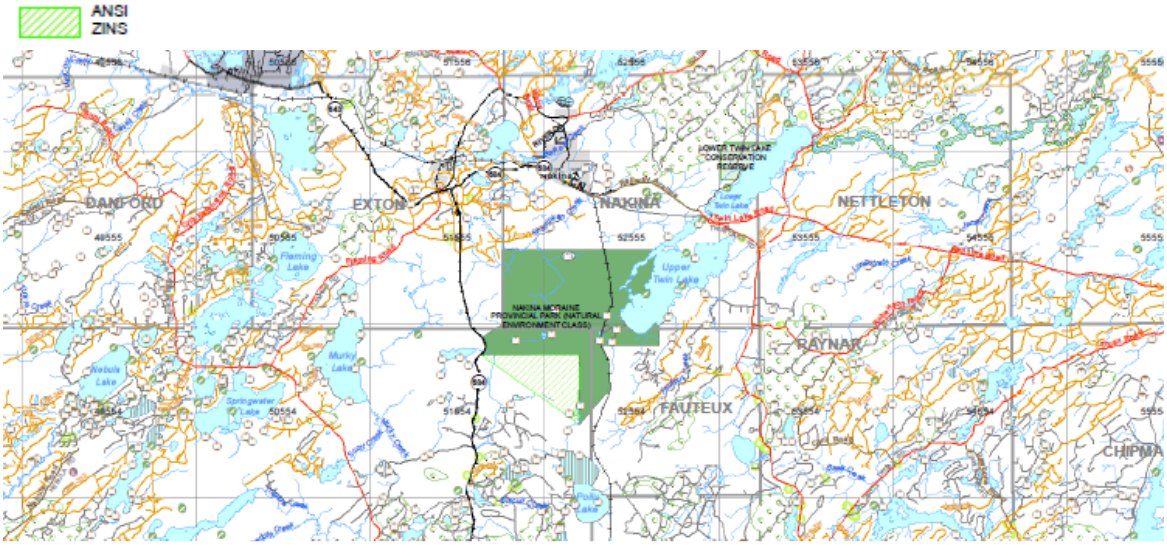
Rational:
Vulnerability; species diversity; significant ecological processes.
Methodology:

- As in element 8.
- Nature Serve Explorer
- World Wildlife Fund (WWF
- Forest Management Plan 2021-2031 (Values Map as per Kenogami Forest FMP provided by MNRF)

Assessment Results:
Areas of Natural and Scientific Interest (ANSI)
MNRF identifies areas having provincially or regionally significant ecological features. There is one Area of Natural and Scientific Interest (ANSI) on the Kenogami Forest. It is located adjacent to the south-west corner of the Nakina Moraine Provincial Park as identified on the Wildlife and Forestry Values Map in the Kenogami Forest 2021-2031 FMP. This ANSI is part of a larger long term harvest deferral area for caribou and is not available for harvest until 2051-2071. At that point in time an AOC prescription will be developed to protect the ANSI.

ANSIs are areas of land and water that represent significant geological (earth science) and biological (life science) features. Specific descriptions of each type of ANSI on a forest are on file at MNRF. Earth science ANSIs include areas that contain examples of rock, fossil and landform features in Ontario. These features are the result of billions of years of geological processes and landscape evolution. Life science ANSIs are areas that contain examples of the many natural landscapes, communities, plants and animals found in the 14 natural regions of the province (*The Ecosystems of Ontario, Part 2: Ecodistricts, MNRF, 2018*). ANSIs are identified on the basis of having a value that is by definition “provincially significant”. Most are located on private land, but in the case of WRF, there are four that are designated.

Figure 18. Areas of Natural and Scientific Interest



Nature Serve

As reviewed in Element 8, on naturally rare ecosystems, NatureServe Classification databases did not identify any additional unique ecosystem types for consideration as HCV.

World Wildlife Fund (WWF)

The World Wildlife Fund (WWF) provides assessments on Global Ecoregions. Ecoregions, as defined by WWF, are "large unit of land or water containing a geographically distinct assemblage of species, natural communities, and environmental conditions". The WWF methodology for defining ecoregions is based on the following parameters: species richness, endemism, higher taxonomic richness, extraordinary ecological or evolutionary phenomena and global rarity of the major habitat type. Each ecoregion is given one of three status designations, Relatively Stable/Intact, Vulnerable, and Critical/Endangered[1], based on the criteria previously mentioned.

This element is similar in many ways to the rare ecosystem assessment done in element 8. The primary difference is the requirement for species diversity. In this northern boreal forest (Kenogami Forest), the amount of diversity is limited. There were no ecosystems identified as being particularly high in diversity.

Given the extent of review that has already occurred during the Ontario Living Legacy land use process, it is not likely there will be a significant recognition of new unique ecosystems warranting protection. Similar to element 8, the Kenogami Forest does not contain any nationally /regionally significant diverse or unique forest ecosystems or forests associated with unique aquatic ecosystems.

Although there is no harvesting planned anywhere near the ANSI adjacent to the Nakina Moraine over the next 2021-2031 FMP, and none is available for harvest until 2051-2071, it will be considered as an HCV at this point in time.

HCV Designation Decision:

HCV designation required for this element for ANSI adjacent to the south-west corner of the Nakina Moraine Provincial Park.

[1] Olson D. and E. Dinerstein. 1998. The Global 200: A representation approach to conserving the Earth's most biologically valuable ecoregions. Conservation Biology 12: 502–515.

4.5.1. Question 12 - Does the forest provide a significant source of drinking water?

Rational

The potential impact to human communities is so significant as to be catastrophic, leading to significant loss of productivity, or sickness and death. Forest areas play a critical role in maintaining water quantity and quality, and a service breakdown could have catastrophic impacts or could be irreplaceable.

Methodology

Data sources:

- OBM base maps showing topography, local terrain mapping
- Known usage of water by local communities
- Local terrain mapping
- Ontario Ministry of the Environment and Climate Change
- Known usage of water by local communities

Assessment Results

Clean potable water has traditionally been a significant concern for Indigenous Communities across Canada. The Forest Management Planning process has a number of provisions for the protection of water quality from forest management activities such as harvesting and road construction. The Stand and Site Guide provides protection measures (reserves, standards, guidelines and best management practices) to ensure riparian areas such as lakes, rivers, streams are not negatively impacted. These protection measures become part of the FMP through area of concern prescriptions or conditions on operations and vary in protection depending on the sensitivity of the water body to potential impacts.

Clean drinking water is also important to local municipalities. At this time there is no draft source water protection plan for any of the municipalities in the Kenogami Forest. Normally, primary threats to drinking water are infrastructure water treatment malfunctions or are related to sewage and septic beds, agricultural waste and others. No situations have been identified for any of the Indigenous or non-Indigenous communities in any of the watersheds within the forest.

HCV Designation Decision:

No HVC was identified for Question 12.

4.5.2. Question 13 - Are there forests that provide a significant ecological service in mediating flooding and/or drought, controlling stream flow regulation, and water quality?

Rational

Forest areas play a critical role in maintaining water quantity and quality and the service breakdown has catastrophic impacts or is irreplaceable.

Methodology

The *Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales* (SSG) provides an AOC prescription for some permanent wetlands or wetland complexes identified as Provincially Significant Wetlands (PSWs). This FMP prescription entails an area of concern (AOC) that excludes forestry operations from within a 120 metre buffer around the wetland.

At this point in time there are no PSWs identified on the Kenogami Forest, but should one be identified, it will be afforded the necessary protection as per the SSG. Any planned operations within 120 m of a provincially significant wetland are only permitted subject to submission and approval of an Environmental Impact Statement (EIS). If new provincially significant wetlands

are identified, amendments will be made to the FMP to ensure consistency with Ontario's Wetlands Policy Statement.
Assessment Results

It is by preserving water quality that forests contribute most significantly to improving the hydrological characteristics of watershed ecosystems. They achieve this by minimizing soil erosion, by reducing the sedimentation of water bodies (wetlands, ponds, lakes, streams, rivers) and by trapping or filtering other water pollutants in forest litter. Water quality can be altered, not only by sediment, but also by various types of pollutants including excessive concentrations of organic matter, hydrocarbons and agricultural or industrial chemicals. Forest is undoubtedly an appropriate plant cover for drinking water supply basins, since silvicultural activities (except for intensively managed plantations) do not require fertilizers or pesticides and avoid pollution by household waste or industrial processes. In addition, the pollution coming from sources like domestic, industrial and agricultural uses can be significantly reduced or eliminated by maintaining adequate buffers of riparian forest along streams. (Calder 2007)

Moreover, all of the water that is precipitated over an area covered with vegetation does not go to swell the underground drainage which feeds the springs and the regular flow of streams. A part is intercepted by the branches of trees, or leaves of vegetation, and is evaporated from them, back into the air; another part evaporates from the soil; a third part runs off from the surface of slopes into the valleys below; another portion is absorbed by vegetation and used by it for the building up of tissue and transpiration; finally, the surplus filters through into the ground and goes to supply the streams. (Newman 1939)

HCV Designation Decision:
No Provincially Significant Wetlands are located in the Kenogami Forest, and therefore there are no HCVs identified.

4.5.3. Question 14 - Are there forests critical to erosion control?

Rational

There is risk of erosion through harvesting and road construction across any forested landscape. Soil, terrain or snow stability, including control of erosion, sedimentation, landslides, or avalanches. This question seeks to identify forests that contribute to the stability of soil, terrain or snow, including control of erosion, sedimentation, landslides, or avalanches.

Methodology

- Review of base maps showing topography
- Review of local terrain mapping

Assessment Results

On sloping land, due to the force of gravity and the beating of raindrops, there is a risk of soil creep. Natural forest cover provides excellent protection against soil erosion, thanks mainly to the leaves of the lower canopy and the soil litter that dampens the flow of raindrops. The removal of forests and their replacement by other land-use systems usually leads to an increase and an acceleration of erosion unless great care is taken to conserve soils. Erosion is generally associated with a higher concentration of sediment in runoff and silting of streams. Good forest cover is more effective than any other type of vegetation in preventing sediment from entering the water. Soil cover, debris and tree roots trap sediments and prevent them from moving along slopes. In addition, the deep roots of trees stabilize slopes and help prevent slippage of the upper soil layer.

The intent of this FSC element is to assess whether forestry is impacting forests and thus causing erosion. Erosion is part of the slow geological process of the low-lying wet forests in this part of the Boreal Forest, but it happens at a very slow rate. Brown, silt-laden rivers are evidence of slow soil erosion. This natural background level of erosion is many times higher than the effect of any forestry activity, especially given the flat landscape.

On sloping land, due to the force of gravity and the beating of raindrops, there is a risk of soil creep. Natural forest cover provides excellent protection against soil erosion, thanks mainly to the leaves of the lower canopy and the soil litter that dampens the flow of raindrops. The removal of forests and their replacement by other land-use systems usually leads to an increase and an acceleration of erosion unless great care is taken to conserve soils, however natural ingress of herbs, grasses, shrubs, trees and prompt artificial regeneration minimizes this on recently disturbed areas.

Erosion is generally associated with a higher concentration of sediment in runoff and silting of streams. Good forest cover is more effective than any other type of vegetation in preventing sediment from entering the water. Soil cover, debris and tree roots trap sediments and prevent them from moving along slopes. In addition, the deep roots of trees stabilize slopes and help prevent slippage of the upper soil layer. Operations that occur along shorelines and in riparian zones are considered a higher risk for erosion and other negative impacts on water.

During the planning stage for harvest operations adjacent to water bodies, the forest operations assess all lakes, rivers and streams for potential impacts related to shoreline activities. In addition to the MNRF's Water Classification Tool (2009) (used to assign the risk rank to all water bodies), professional knowledge from local managers was also applied to further refine decisions around shoreline activities including adhering to all DFO regulations

and MNRF water crossing guidelines and forest operations monitoring. Existing risk is managed through provincial guidelines to protect the physical environment from negative impact.

HCV Designation Decision:
There is no evidence of high-risk areas for compromised soil stability, sedimentation or erosion through forest operations on the Kenogami Forest. There is no HCV designation under this category.

4.5.4. Question 15 - Are there forests that provide a critical barrier to destructive fire (in areas where fire is not a common natural agent of disturbance)?

This question is deemed not relevant to forest ecosystems in Canada (see Annex D in FSC Standard, Version 1-0. Even with recent fire disasters in western Canada, there are no specifically designated areas for fire resistance management in forests around communities in Ontario. No HCV is designated.

4.5.5. Question 16 - Are there forest landscapes, or regional landscapes, that have a critical impact on agriculture or fisheries?

Rational
Mediating wind and microclimate at an ecoregional scale affecting agricultural or fisheries production. Riparian forests play a critical role in maintaining fisheries by providing bank stability, sediment control, nutrient inputs, and microhabitats. More local effects of forest* areas adjacent to agriculture and fisheries production may be more relevant in the HCV* component regarding meeting basic needs of local communities*.
Methodology

- Ontario Ministry of Agriculture and Food
- Ontario Ministry of Northern Development, Mines and Natural Resources and Forestry
- Review Kenogami Forest 2011-2021 and 2021-2031 FMP main text and AOC Prescriptions
- Fisheries Management Plan, Zones 2 and 7

Assessment Results
Agriculture does not comprise a significant part of the regional economy or land base within and around the Kenogami Forest. There is little commercial or subsistence activity based on biological production due to the cold climate and limiting soils in the area. Table FMP-1 (Management Unit Land Summary) in the FMP does not show any classified agricultural land on the Kenogami Forest.

Berry picking has been identified as a recreational activity within the forest, however there are no commercial scale berry picking operations located on the Kenogami Forest. In some communities, this may have subsistence value. Further investigation with local aboriginal and non-aboriginal communities is required to assess the importance of berries to the local food supply and non- timber forest products economy.

Fisheries for species such as walleye and northern pike are commonly found throughout the shallower stretches of most rivers and lakes in a wide range of sizes located across the unit. The Kenogami Forest contains a predominance of cool-water lakes and streams providing habitat for other species as well, including yellow perch and whitefish. There are also a significant number of cold-water lakes, rivers and streams conducive to lake and brook trout. It is recognized that unregulated forest management activities can have a detrimental effect on fisheries resources. As part of area of concern planning, prescriptions a developed to ensure protection of fisheries habitat and water quality. Some of the prescriptions include the

establishment of no operations reserves adjacent to water features. These prescriptions are also conditions of regular operations and for the construction of roads, landings and aggregate pits were developed based on the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. These conditions are to be adhered to for water crossings and harvest block layout in close proximity of lakes and streams to mitigate any potential negative impact on the fisheries resource.

At the present time there is only one active commercial fishing licenses on the Kenogami Forest. The main species harvested are lake whitefish, walleye and northern pike. Markets are found primarily in the United States. Harvest information cannot be reported due to FIPPA constraints associated with the single operator on the forest.
Fisheries resource management on the Kenogami Forest is directed almost entirely by the Geraldton District Fisheries Management Plan. Only a very small section of the land base in the vicinity of Terrace Bay is guided by the Terrace Bay Fisheries Management Plan.

HCV Designation Decision:
Neither agriculture, berry-picking, subsistence or commercial fisheries are of a significant scale to require an HCV designation.

4.6.1. Question 17 - Are there local communities? This should include both people living inside the forest area and those living adjacent to it.

Rational
There is a distinction being made between the use by individuals and where use of the forest is fundamental for local communities. There are local communities on and surrounding the Kenogami Forest rely on it for many aspects of daily life. The recreation opportunities afforded by the forest contribute greatly to the quality of life in Northern Ontario, while many others rely on the forest for cultural identity, subsistence, medicinal plants and as a source of income. The entire Kenogami Forest is highly valued by the community, although it is not appropriate to call a whole forest an HCV. The community's relationship with the Kenogami Forest is underscored by the communities and SFL holder's efforts to increase local influence over MNRF policy, forest management, and wood flows.

Methodology
This attribute looks at level of dependence of local communities on the forest to meet their basic needs such as:

- NRVIS data
- Socio-economic Description in 2011-2021 and 2021-2031 Kenogami Forest FMPs
- Discussions with Indigenous communities during FSC consultation and engagement
- Discussions and correspondence with Indigenous communities during forest management planning consultation sessions
- Discussions and correspondence with the general public from local municipalities and stakeholders during forest management planning consultation process through the Geraldton Area Natural Resources Advisory Committee (GANRAC)

Assessment Results
<u>Local Municipalities and Indigenous Communities</u>
The larger communities of Terrace Bay, Schreiber, and the Municipality of Greenstone (comprised of Longlac, Geraldton, and Nakina) are located within the boundaries of the Kenogami Forest, as are the Indigenous communities of Long Lake #58, Ginoogaming, Aroland, and Pays Plat. Indigenous communities adjacent to the Kenogami Forest are: Animbiigoo Zaagi igan Anishinaabek, Red Rock Indian Band, Constance Lake and Pays Plat.

These communities have been and continue to be heavily dependent upon the forest industry for employment, but also a variety of traditional uses of the forest

The local Indigenous communities of the Kenogami Forest have traditionally used the landscape and today continue to use it extensively. Many individuals use it on a daily basis for a variety of activities during all seasons. This has been identified through the forest management planning process and also during community engagement meetings and discussions with representative of their local communities. This dialogue is ongoing and an important part of the FSC process and in particular since Ne-Daa-Kii-Me-Naan Inc. (Nedaak) is the forest manger owned company owned by the seven Indigenous communities in or adjacent to the Kenogami Forest. Local Indigenous people use the Kenogami Forest for all the activities listed below to some extent, including those that would be considered non-traditional activities.

Hunting

There are four Wildlife Management Units (WMUs) that overlap with the Kenogami Forest. two thirds of WMU 18A, half of WMU 18B, two thirds of WMU 19, and half of WMU 21A are within the Kenogami Forest boundaries. Hunting on the Kenogami is primarily confined to small and upland game, migratory birds, moose and black bear. Whitetail deer do not occur in any significant numbers on the Kenogami and therefore are not hunted. Hunting is an important activity for many local residents and visitors to north-western Ontario.

Of particular significance is the fall moose hunt, which is important to the local economy. Moose hunting opportunities are important to both individuals and tourism-based facilities and these activities contribute to the local economy. Many hunters that utilize the forest use existing roads and recent harvest areas in search of moose. Therefore, it is important for long term road use management strategies to consider hunting opportunities and access for hunting activities.

In some cases, hunting remains an important method of food gathering. Hunting is also a recreational activity that provides an opportunity to further friendships and family ties. For most hunters it is also a chance to experience nature and relax in the outdoors while making an important contribution to conservation. Hunters contribute a great deal of time, money, and effort to wildlife management. Hunters are involved in a variety of volunteer programs that help maintain and enhance wildlife and their habitat.

Fishing

The fisheries on the Kenogami Forest provide fishing opportunities for casual anglers as well as those who fish through the many tourism establishments that exist within the boundaries of the forest. The fisheries also provide baitfish harvesting opportunities and important subsistence and commercial fishing opportunities for local Indigenous people. There are many baitfish harvesters obtaining minnows and leeches from the waters of the forest from more their baitfish blocks providing for an important source of revenue.
The exact number of active anglers on the Kenogami Forest is unknown. License fees are collected provincially and revenue generated from within the forest is unavailable. The MNRF continues to annually stock numerous lakes within the Kenogami Forest, selecting from a roster of twenty-five lakes which have had environmental assessments completed on them. This stocking program has been ongoing since 1984 and the fish stocked are classified as “put-and-take”. The accumulated social and economic benefits associated with the stocking program are unquantifiable but they are generally recognized as being significant at the local level.

Trapping

Wild fur harvesting is a very important part of the local economy. It has traditionally provided a renewable source of food, clothing, and income for Indigenous communities as well as a broader social, cultural and recreational context that is vital to all of the local communities. On the Kenogami Forest there are two traplines administered out of Wawa, one out of Hearst, two out of Nipigon, and 72 administered out of Geraldton for a total of 77. Out of the 77 traplines (see FMP Values Maps) many belong to local Indigenous people. Trapping normally generates approximately $180,000.00 annually from traplines on or adjacent to the Kenogami Forest.

Mining & Mineral Exploration

Historically, mining and mineral exploration have been an important activity in this management unit. Gold, zinc, copper, and silver were the predominant commodities mined. Currently there is no metallic mineral production occurring within the management unit. Historic metal production occurred mainly in the Geraldton and Winston Lake areas from 1898 to 1998 and totaled approximately 3.0 million ounces of gold, 1.7 million ounces of silver, 976 million pounds of zinc and 56 million pounds of copper valued at approximately $5.2 billion CDN at current commodity prices (July 6, 2010).

In addition to historic production, there are significant concentrations of gold, copper, silver, zinc, nickel and iron contained within documented mineral deposits throughout the management unit. The total estimated value of metals contained within these deposits at current commodity prices is in excess of $10 billion CDN.

There is an estimated 7419 active mining claim units recorded throughout this management unit, as indicated on MNDM's CLAIMaps website (MNDM, 2010). These claims represent an investment in the management unit of approximately $1.9 million CDN for claim staking, which directly relates to its mineral potential. In addition, there is an estimated dollar expenditure of nearly $3.0 million CDN per year related to mineral exploration work required to keep the claims in good standing. Current claim staking, target areas with potential for gold, copper, zinc, nickel, molybdenum, and platinum group metals. Historically, the greenstone belts within the management unit have seen a high level of exploration and mining activity, and this work is expected to continue indefinitely. The Geraldton-Jellicoe-Beardmore gold camp, which produced some 4.2 million ounces of gold overall, is currently seeing a strong resurgence in exploration activity nearly forty years after production ended.

As more roads are developed for forestry purposes, the opportunity for prospectors to explore the mineral potential of the Kenogami Forest will increase. As market opportunities for minerals such as platinum and palladium, gold and other such precious metals increase, the prospecting activity on the forest also increases. The forest is well roaded which lends itself to this type of operation.

Aggregates

There are approximately 105 MNRF-permitted aggregate sites on the Kenogami Forest. Of those 105 sites, private entrepreneurs manage 64 sites as commercial aggregate sources. The forest industry maintains 41 aggregate permits. Over the three-year period from 2007-2009, an average volume of 251,200 tons were extracted annually.
AVTB Inc. also occupies 110 sites as Forestry Aggregate Pits for maintenance and construction on forest access roads. In addition to the MNRF permitted sites the Ontario Ministry of Transportation controls approximately 16 sites within the forest unit as aggregate sources for provincial highway maintenance and construction.

Hydro Generation

There is one power generating facility and four water control structures within the Kenogami Forest. The generating station and three of the four control structures are owned and operated by Ontario Power Generation (OPG). The Aguasabon generating station, constructed in 1948 is a peaking generating station.

That is to say, the station operates at full capacity under high water level conditions and produces a maximum of 52 MW (Aguasabon River System, Water Management Plan, March 2005). The three water control structures are: Hays Lake Dam (approx. 4 km from the mouth of the Aguasabon River), Long Lake Control Dam (approx. 26 km upstream from Hays Lake), and the Kenogami Diversion Dam (north end of Long Lake). All of these facilities are unmanned. OPG employees commute from their Thunder Bay office as required.

The MNRF owns and operates the fourth control structure – the Kenogamisis Dam. The primary purpose of this dam is to control water levels on Kenogamisis Lake for recreational purposes at MacLeod Provincial Park, various cottage lot subdivisions, summer camps and patent mining claim parcels. Also, to control water levels to reduce aquatic vegetation, supply adequate water levels for water travel routes and aid in aircraft operations (Kenogamisis Lake Dam Operating Plan). Staff from the Geraldton area office operate the dam but the structure is unmanned.

Hydro One employs six full time personnel stationed in Geraldton. They are responsible for maintaining and upgrades to the local power transmission system as well as responding to emergencies.

Bait Fisheries

The bait fish industry is directly related to recreational interests, and the remote and road-based tourism businesses. Some local remote tourist operators trap and supply their own bait fish for their clientele, but most employ the services of local businesses to provide this service, as do the road-based customers. The forest is well-roaded which lends itself to this type of operation. The administration of baitfish licensing is carried out by the MNRF and the Kenogami Forest supports the operations of 28 baitfish licenses for the purposes of harvesting, dealing or both.

Commercial Fisheries

At the present time there is one active commercial fishing licenses on the Kenogami Forest. The main species harvested are lake whitefish, walleye and northern pike. Markets are found primarily in the United States. Harvest information cannot be reported due to FIPPA constraints associated with the single operator on the forest.

Resource-Based Tourism

There are several resource-based tourism establishments that use various areas of the Kenogami Forest. The resource-based tourism designation covers a range of activities from remote destinations to road-based tourism including moose hunting, bear hunting, fishing, canoe trip outfitting, and camping.

Other Non-Commercial Uses

Non-commercial uses of the forest are numerous. They are enjoyed by those who live in the communities within the boundaries of the Kenogami and by many visitors to the area. They definitely have a social and economic impact on the area but these benefits are very subjective and difficult to quantify. A great many transactions and benefits are realized with little or no record or link to a non-commercial activity supplied by the forest being left behind. Information regarding the number of visitors, user days, expenditures and travel distances to

quantify the social and economic impacts of these activities are not available but include such activities as:

- Rock climbing
- Cross country skiing (60+ km of trails on the Kenogami)
- Canoeing & kayaking
- Wildlife viewing and bird watching
- Geo-caching
- Hiking & camping
- Fishing
- Off-roading
- Snowmobiling
- Berry picking

HCV Designation Decision:
HCV for FN Confidential Values designation under Category 5.

4.7.1. Question 18 - Is the traditional cultural identity of the local community particularly tied to a specific forest area?

Rational

In this context of this standard “local community” is defined as: (Human) communities that are in or adjacent to the Management Unit, and those that are close enough to have a significant impact on the economy or the environmental values of the Management Unit or to have their economies, collective rights, or environments values significantly affected by the forest management activities on the Management Unit.

Methodology

- Discussions with Nedaak Board members
- Discussions and correspondence with Indigenous communities during forest management planning
- Discussions and correspondence with non-Indigenous communities and stakeholders
- during forest management planning consultation process
- Kenogami Forest 2011-2021 FMP- Aboriginal Profiles
- Kenogami Forest 2021-2031 FMP Supp Doc 6.3 First Nation and Métis Background Information Reports and Supp Doc 6.4 Summary of First Nation and Métis Involvement

Assessment Results

Yes, there are traditional cultural identities of local communities tied to specific areas of the Kenogami Forest area. There are seven (7) First Nation communities within the Kenogami, Animbiigoo Zaagi’igan First Nation, Aroland First Nation, Constance Lake First Nation, Ginoogaming First Nation, Long Lake #58 First Nation, Pays Plats First Nation, and Red Rock Indian Band.

Consultation with local Indigenous communities has been greatly impacted by the Covid-19 pandemic. However, preliminary engagement has been done regarding this HCV Assessment Report and the designation of HCVs and the Conservation Area Gap Analysis Report. Community members expressed their concerns regarding the favoring of caribou habitat over moose habitat in both the FMP process and the FSC process. Members were also concerned with the addition of any new protected areas as an additional infringement on their traditional rights such as subsistence harvesting and for the general use of their traditional land.
For forest planning purposes “First Nation and Métis Background Reports are referenced to ensure Indigenous values are taken into consideration. The First Nation and Métis background Reports are referenced in the 2021-2031 Kenogami FMP Supplemental Documentation 6.3, although permission to include the report in the FMP has not been provided by Indigenous communities to date. The Nipigon District Ministry of Northern Development, Mines and Natural Resources and Forestry (NDMNRF) keeps these report on file to ensure confidentiality.

For forest operation purposes, Cultural Heritage Values, Archaeological Potential Areas, trappers' cabins, and trapping lines have been given extra protections under the designation of “Area of Concern”. Each of the above-mentioned values has specific protection procedures outlined in the AOC prescriptions. Cultural heritage values such as historically used areas and burial sites are located across the landscape as Indigenous people used the land extensively. Additionally confidential cultural heritage values that may be used for berry picking, medicinal plant gathering or spiritual reasons are protected through forest management planning process. There are 42,584 hectares of FN Confidential values and Pays Plat and Long Lake 58 proposed reserve extensions.

Aroland First Nation (2016 Population 366) is an Ojibwa and Oji-Cree First Nation within the Nishnawbe Aski Nation Territory and a signatory to Treaty 9, located in the Thunder Bay District approximately 20 kilometres west of Nakina. Aroland First Nation, has Indian reserve status, though the settlement itself is not a reserve. The Aroland First Nation is also a member of the Matawa First Nations Tribal Council.

Located along the Canadian National Railway line, the community was originally named after the Arrow Land and Logging Company, which operated in the area from 1933 to 1941. Aroland First Nation's members are former members of the Long Lake 58 First Nation, Long Lac 77 First Nation (now Ginoogaming First Nation), Fort Hope First Nation (now Eabametoong First Nation), Marten Falls First Nation, and Fort William First Nation. In 1972, the settlement briefly was recorded as Aroland 83 Indian Reserve.

The following is taken from the Aroland website (https://www.arolandfirstnation.ca/): Aroland has a strong connection to the land and has been a steward of the land since time immemorial. Prior to European contact, the ancestors of Aroland First Nation hunted and fished, as well as both cultivated and gathered vegetation from the land. The settlement of Aroland First Nation occurred circa 1900 by community members engaged in the fur trade with the Hudson's Bay Company.

Aroland First Nation gained reserve status under the Canadian Indian Act on April 15, 1985. Reserve lands have recently been dedicated to the First Nation by both Provincial and Federal governments. Aroland First Nation is a member of the Matawa First Nations Management and the Nishnawbe Aski Nation. Currently, Aroland has approximately 700 band members, and approximately 400 live in the community. Within the extended community, most people live in Thunder Bay; while other people live in Geraldton, Longlac, Alberta, Timmins, Toronto, Ottawa, Guelph and Nakina.

Long Lake 58 First Nation is an Anishinaabe (Ojibway) First Nation band government located in Northern Ontario, located approximately 40 km east of Geraldton, Ontario, Canada, on the northern shore of Long Lake, immediately north of Ginoogaming First Nation and west of the community of Longlac, Ontario. As of January, 2008, their total registered population was 1,248 people, of which their on-Reserve population was 427.

Ginoogaming First Nation (formerly the Long Lake 77 First Nation) is a small Anishinaabe (Ojibway) First Nation reserve located in Northern Ontario, located approximately 40 km east of Geraldton, Ontario, Canada, on the northern shore of Long Lake, immediately south of Long Lake 58 First Nation and the community of Longlac, Ontario. As of September, 2006, their total registered population was 773 people, of which their on-Reserve population was 168.

Animbiigoo Zaagi'igan Anishinaabek First Nation is an Ojibwe First Nation in northwestern Ontario. It has a reserve on Partridge Lake called Lake Nipigon Indian Reserve within the town of Greenstone. It is a member of Waaskiinaysay Ziibi Inc. The following information is taken from the AZA website http://www.aza.ca/article/our-community), but paraphrased for this report:

The First Nation members had been without a home for generations. The Gull Bay Reserve (west side of Lake Nipigon) was created for the "Lake Nipigon Band of Indians" following the signing of the Robinson-Superior Treaty in 1850. It was not until 1921 that the community was recognized by the government of Canada as "Lake Nipigon Various Places". The AZA people lived primarily in the Ombabika and Auden area on the north-east side of Lake Nipigon At that time, the people were engaged by Indian agents who changed their names and sent

their children to residential schools. The community was employed primarily in forestry until the companies relocated, and families were forced to leave in order to find work.
In 1985, our community elected its first Chief. Chief Joe Thompson's first priority after being elected was to reorganize the dispersed membership in an effort to begin discussing the creation of a reserve. Their first office was located in Joe's house in Rocky Bay and it was at this time that our name was changed from "Lake Nipigon Various Places" to "Lake Nipigon Ojibway First Nation".

In 1989, their administration established an office in Beardmore, ON. Newly elected Chief Bryon Brisard was joined throughout his term by councillors Maurice Fournier, Raymond Sasines, Aileen Malcolm, Debbie Kakagamic and Yvette Metansinine to begin what would be the first significant negotiation process for a reserve land base. Community members began to meet regularly and in 1991 they entered into the land and larger land base (LLB) process. Their leadership focused negotiations on establishing a reserve in Auden. Canada and Ontario disagreed with the establishment of a new reserve in that area due to its remote location and negotiations stalled as a result.

In 1997 their community elected Chief Yvette Metansinine. They requested to resume the LLLB process and began seeking alternative locations to create a new reserve. A forestry joint venture agreement was signed in 2001 and logging operations commenced. In 2001, their name was changed from Lake Nipigon Ojibway First Nation to Animbiigoo Zaagi'igan Anishinaabek (Anishinaabek name) and a new logo was created. An elders committee was established and the A.E.D.T. (economic trust) was formed. The new office complex was built in Beardmore, ON and opened in October 2001. The Agreement in Principle for reserve lands located at Partridge Lake was signed in 2002.

Constance Lake First Nation is an Oji-Cree First Nations band government located on the shores of Constance Lake near Hearst,[2] Cochrane District in northeastern Ontario, Canada.[3] It is directly north of the community of Calstock along a continuation of Ontario Highway 663.[4] Constance Lake First Nation is home to close to 1605 members of Cree and Ojibway ancestry with approximately 820 living on reserve. It may also be known as "Home of Sonny Sutherland".[2] The reserves, Constance Lake 92 and English River 66, total 7,686 acres (3,110 ha) in size.

Cree, Oji-Cree and Ojibway descent. Our ancestors inhabited the Kenogami, Kabinakagami, Nagagamisis, Nagagami, Pagwachuan, Fushimi, Pledger Lake, Little Current, Drowning, Ridge, Albany, Kabinakagami, Nagagami and Shekak River systems since in time of memorial in the eighteen hundreds and early nineteen hundreds.

The following is taken from the Constance Lake website (http://clfn.on.ca):
Constance Lake First Nation is primarily the successor of the English River First Nation, which was considered an offshoot of the Albany Band by the commissioners at the time of signing and conclusion of Treaty 9. In 1901, a Canadian census recorded that 85 people were living at English River.

Shortly after Treaty 9 was concluded, the commissioners arrived at English River on July 27, 1905. They decided that the Indians at English River were really a branch of the band residing at Albany, and as such, it was not necessary to have them sign the Treaty separately – they were already Treaty beneficiaries. However, the people living there were given their own reserve at English River, described as follows:

> "On the Kenogami or English River in the Province of Ontario, beginning at a point three miles below Hudson Bay Post on the North side of the River known as English

> River then north a portage of 3 miles and of sufficient depth to provide 1 square mile for each family of five upon the ascertained population of the band."

The area to be set aside at the time was to be 12 square miles. This 12 square-mile reserve was included in the schedule of reserves attached to Treaty 9. Its selection was approved by Ontario in 1907 through an Order in Council, but it was not surveyed or set aside as a reserve until 1912. The people at English River did not elect their first Chief until 1921. Between 1925-1940, many families from English River re-located to Pagwa (nearby the present-day Constance Lake reserve) to follow employment opportunities. People from Fort Albany and Moose Factory also moved to Pagwa around that time.

The historical report cites correspondence between a reverend and Indian Affairs. Reverend Clarke requested funding for a school at Pagwa but received the response that Indian Affairs did not fund schools off reserve. As such, Clarke began to lobby for a reserve to be established at Pagwa, rather than forcing the Indians to return to the reserve at English River "which was uninhabitable". A report in May 1940 documented that the majority of the English River Band resided at Pagwa, but it was not until 1943 that Indian Affairs began to contemplate creating a new Band of Indians for those living at Pagwa.

Inspector Arneil surveyed the area to find a suitable area for a reserve and chose Calstock. He also recommended that those members of Albany and Moose Factory (Attawapiskat) Bands who resided atPagwa should be transferred to the new Band. So, the new Band absorbed essentially the whole of the English River Band and also members of the Albany and Moose Factory Bands who lived nearby. As such, the request was made to Ontario for land to accommodate "a future population where there would be home sites, garden lands, sufficient pasturage for a cow or a couple of goats for each family."

The province tentatively agreed to provide land and include the water body of Constance Lake. There was also mention of returning the English River Reserve to the province. However, this never took place because the province did not feel that the land had any value. On February 11, 1944, an Order in Council was passed regarding the purchase of this land for the new Constance Lake Band.

A survey of the Calstock Reserve, now named Constance Lake, was completed on September 21, 1944, and it was vested in Canada on January 9, 1945. On March 16, 1945, an Order in Council was passed setting aside the land as an Indian Reserve for the use and benefits of Constance Lake First Nation. Today, Constance Lake First Nation is located in the District of Cochrane, 32 km. west of Hearst, Ontario. Its population is 1470 members. The reserve is 7686 acres in size and includes Constance Lake itself.

The Red Rock Indian Band (also known as Lake Helen Reserve) is an Ojibwe First Nation band government in Northwestern Ontario, Canada. Members of the Red Rock Indian Band once lived in different locations on and around Lake Nipigon. Historically, members were known to have lived at Jackfish Island, Gull Bay, and McIntyre Bay (English Mission Church) also called Grand Bay.

On February 2nd 1885 the Crown surveyed 640 acres of land along the Nipigon River for the purpose of establishing a reserve land base. On March 20th 1885 INAC approved the First Chief of the Red Rock Indian Band, Chief Peter Deschamp. On March 26th 1886 the Band received 480 acres for their land base. It became an Indian Reserve under the Indian Act in 1914. There were 166 Band Members as of April 15th 1886. As of November 2020, the band population consists of 2,089 members located across Canada, North America, and the world.

The Indian reserves are approximately 100 km northeast of the city of Thunder Bay and 2 km east of Nipigon. Red Rock Indian Band is on the Lake Helen Reserve #53A approximately ¼ mile from the junction of Highway 11/17 and approximately 100 kilometers east of Thunder Bay. It consists of two sections, Parmachene Reserve 53 and Lake Helen Reserve 53A. The total area covered by these two reserves is approximately 950 acres. The total area covered by the two reserves is approximately 950 acres (3.8 km^2).

This site is also the location of Saint Sylvesters Church. St. Sylvester's Church was built in 1877, which was a Jesuit Mission. The first recorded burial was on October 3, 1880. The graveyard is adjacent to the church and people are still buried there regularly. Although a historical landmark, the Church is no longer used as the building structure is unsafe. The Red Rock Indian Band is located within the 1850 Robinson Superior Treaty area.

Band members use the Parmachene area regularly, for fishing, berry picking, hunting, trapping, gathering medicinal plants, camping, and participate in traditional ceremonies. Blueberry picking in particular is enjoyed by many Red Rock Indian Band members. The Lake Helen Reserve 53A is the main community located on the shores of Lake Helen. Band members also use the Kenogami Forest for all of these activities although perhaps not as extensively for trapping which is conducted closer to Red Rock Indian Band community.
The Nation is led by Chief Marcus Hardy. The council is an independent member of Anishnabek Nation, a First Nations political organization. The First Nation is also a member of Waaskiinaysay Ziibi Inc., an economic development corporation made up of five Lake Nipigon First Nations.

Pays Plat First Nation is a small First Nation reserve community located near Rossport, Ontario, Canada, about 175 kilometres (109 mi) northeast of Thunder Bay. The Pays Plat 51 Reserve is in the boundaries of the territory described in the Robinson-Superior Treaty of 1850. The community is located along Highway 17.

The Ojibway people living on the North Shore of Lake Superior (ancestors of Pays Plat First Nations people) survived by hunting, trapping, fishing, and gathering food. The area was heavily involved in the fur trade, and the ancestors living near what is now called Pays Plat were key in trapping for furs. Pays Plat was named by French traders and means *flat land*, named after the fact that it is flat land between two mountains. In Anishinaabemowin the community is known as *Baagwaashiing* which means "Where the water is shallow."

HCV Designation Decision:
HCV from consultation with Indigenous communities for AOC ID: CH - Cultural Heritage Value and AOC ID: CH-3 - Community to Nedaak Shared Cultural Heritage Value

4.7.2. Question 19 - Is there a significant overlap of values, such as ecological and/or cultural values, that individually did not meet HCV thresholds, but collectively constitute HCVs?

Rational
This question can be used for items of special value that may not be captured within the first 18 questions in this report. In essence it is a fine filter question for special values that may not tightly fit the concept of HCV.

Methodology
The managers and report authors reviewed the list of values assessed through each of the elements of the framework and looked for areas of overlap. Typically, these follow large natural features such as significant lakes and waterways. Cultural features overlying good

resource areas can lead to overlap warranting HCV designation. For example, significant hunting areas near communities can generate both commercial value and local sympathy. In this forest we judged these values to be important and widespread.

Assessment Results
There has already been a significant effort at regulating use and recognizing conservation values. This is largely represented in the first 18 Elements of this report.

Review by the management team did not identify any new areas appropriate for HCV status.

HCV Designation Decision:
There are no overlapping HCVs designated in this question that have not been previously Described, therefore no HCV.

5. MANAGEMENT AND MONITORING STRATEGIES FOR HCVS AND HCVS

Phase 2: Managing and Monitoring HCV Attributes

Background

Once HCVs are assessed and a designation as HCV has been made in Phase 1, then the managers have to provide management prescriptions, Phase 2. Each HCV must have a prescription which is not only effective, but can be shown to be effective. This is in essence the precautionary principle. To show that a prescription is effective the managers must provide monitoring evidence, and monitor the application of the prescription. These are referred to as effectiveness monitoring and compliance monitoring, respectively.

The HCV assessment report is updated every five years as required by the FSC Standard. Portions of the assessment will be updated more frequently in response to changes in the status of species at risk or when there are significant changes in the state of other HCVs or HCV areas as an effect of monitoring results.

The overall goal of managing HCV in keeping with the FSC criterion 9.3 is to safeguard the value. Note the following:

- The Forest Management Plan provides the direction for HCV management; there is no separate list of prescriptions or objectives for HCVs.
- "Specific and implemented measures" – detailed prescriptions are developed for forest values during the forest management development and implemented during the planning process.
- "Maintenance or enhancement" – based on the concept of no net loss, managers must aim at ensuring the value is sustained.
- Precautionary approach" – the precautionary approach sets a high standard for management because it requires a demonstration that no impact is occurring.

Ministry of Natural Resources

Much of the HCV management and monitoring approach is influenced by the provincial forest management planning process, regulations and guidelines. The MNRF leads this role in management and monitoring of non-timber values, including wildlife populations, recreational use, cultural values as well as effectiveness monitoring in a regular process of updating/ developing forest management guidelines. Compliance Monitoring is conducted through the FMP process and through Annual Compliance Plans which identify how compliance reporting will be conducted to ensure forest operations are in compliance with the FMP and its associated guides and prescriptions to protect forest values.

Ontario's requirements for the development of forest management plans and the extensive planning process contribute substantially to the management company's approach to the identification, management and monitoring of HCVs. The planning process contains a significant amount of public consultation which meet the spirit and intent of FSC criterion 9.2 *("…engagement with affected stakeholders, interested stakeholders and experts*.") , as well as the consultative requirements of criterion 9.3. This is particularly true given that much of the HCV management and monitoring approach is influenced by the provincial forest management planning process, regulations and guidelines.

The responsibility for wildlife inventory, monitoring, and assessment activities within MNRF is shared across many organizational units. This includes the Biodiversity Branch; Natural Heritage, Lands and Protected Spaces Branch; Species at Risk Branch; Forests Branch; Ontario Parks; Fish and Wildlife Services Branch; the Applied Research and Development Branch; and the Science and Information Branch which includes the Natural Heritage Information Centre.

Wildlife habitat values are generally provided from public/MNRF/industry reports and from standardized inventories conducted by MNRF according to the Selected Wildlife and Habitat Features: Inventory Manual (MNR, 1998). Specific survey designs included the identification and ranking of moose & deer aquatic feeding areas, calving sites and mineral licks, combined with locating bald eagle, osprey and great blue heron nests; identification of early and late winter moose habitat; and locating other provincially and locally featured species habitats.

Locations of significant communities of flora and fauna, in particular rare vascular plants, are obtained through field inspections by District MNRF staff and from site specific investigations by contractors or consultants. Fisheries habitat values (spawning, nursery and migration areas) were often obtained in conjunction with aerial surveys of wildlife habitat; field inspections or aerial observations of proposed road corridors and water crossings; Aquatic Habitat Inventories or lake surveys; and public reports. The locations of recreational, commercial and resource user boat caches are derived from formal MNRF boat cache authorization agreements and control maps. Additional infrastructure, such as commercial outpost camps, land use permits and resource user (trapper, baitfish) cabins are identified in LUPS, lands control maps and actual survey plans on file at the MNRF District offices.

The Certificate Holder

Additionally, a significant amount of monitoring is carried out by the certificate holder as a matter of course through the application of guidelines and regulations (compliance monitoring, silvicultural effectiveness monitoring, free-to-grow surveys) as well as by MNRF as part of their mandate as the provincial agency responsible for the sustainability of Crown forests.

Annual reports and in particular 5-year and 10-year enhanced annual reports identify trends and any significant events (e.g., natural disturbances) that might have an impact on the FMP and any effected HCVs. The Compliance monitoring process is identified in the FMP and annually through the annual work schedule (AWS). Operations staff and compliance inspections ensure that the appropriate implementation protection measures for any of the HCV prescriptions are met. Forest Operations Inspections Reports (FOIP) identify errors during implementation result in “non-conformances” with the Environmental Management System (EMS).

The MNRF completes effectiveness monitoring of renewal areas as part of their mandate as the provincial agency responsible for the sustainability of Crown forests. Wildlife inventory, monitoring, and assessment activities and responsibilities within MNRF are shared across many organizational units. This includes the Biodiversity Branch; Natural Heritage, Lands and Protected Spaces Branch; Species at Risk Branch; Forests Branch; Ontario Parks; Fish and Wildlife Services Branch; the Applied Research and Development Branch; and the Science and Information Branch which includes the Natural Heritage Information Centre.

Table 3 provides an overview of the HCV values that were identified in Part 1 of this report and also describes the MNRF responsibility for monitoring. Only monitoring for designated HCV attributes are listed in this table. The information provided covers only who is responsible and basic information reviewing the monitoring process. It is beyond the scope of this report to review all of the monitoring procedures. Effectiveness monitoring is the practical link to the precautionary principle, an important component to HCVs in the FSC standard. The Company is responsible for implementation of the detailed management prescription and it is monitored through compliance monitoring as per the FMP and AWS. There is a shared responsibility between MNRF and the company for evaluating the effectiveness of management prescriptions as prescriptions must be shown to be effective in maintaining the values.

Table 4. Management and Monitoring Strategies for HCVs and HCVs on the Kenogami Forest.

HCV	**Attribute/ Management Objective**	**Prescription or Management Strategy**	**HCV & HCV Area Status (declining, stable or increasing)**	**Monitoring**
Barn Swallow *Hirundo rustica*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	AOC ID: R-13 (Roads Only) As a component of the required 3-year inspection on forestry bridges and prior to any major bridge maintenance activity (i.e. deck and/or bridge replacement), it will be required to examine the underside of bridges to determine if Barn Swallow nesting activity is present. If it is determined that Barn Swallow are nesting on a respective bridge, the inspector will notify the MNRF Species at Risk (SAR) Biologist as soon as it is identified. The Company will work with the MNRF SAR Biologist to address respective Barn Swallow nesting occurrences. • This AOC will be amended prior to the commencement of maintenance activities on the bridge(s) to include specific conditions related to the timing and type of operations. • The critical breeding period for barn swallows is May 1 to August 31.	Stable	Compliance Monitoring: MNRF and Company compliance staff routinely ensures prescription is correctly implemented in forestry operations. Effectiveness monitoring of AOC prescriptions and CROs are completed periodically by the MNRF as part of their standardized guides (e.g. Stand and Site Guide, Boreal Landscape Guide).
Bank swallow *Riparia*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	AOC ID: R-10 Operational Prescription: 50 m radius AOC measured from peripheral nests. 0-50 m from peripheral nests: If nest is occupied during the critical breeding period (May 1 to July 31): 0-10 m from peripheral nests: Low potential impact operations are not permitted. (See FMP-10A for potential impact list and see Entire AOC conditions below). 11-25 m from peripheral nests: Moderate potential impact operations are not permitted. (See FMP-10A for potential impact list and see Entire AOC conditions below).	Stable	As above.

		26-50 m from peripheral nests: High potential operations are not permitted. If nest is not occupied during the critical breeding period (May 1 to July 31); or it is outside of the critical breeding period: Regular harvest, renewal and tending operations are permitted within the AOC.		
Eastern Whip-poor-will *Antromstomus vociferus*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	AOC ID: R-11 Operational Prescription: • 200 metre radius AOC centered on nesting sites 0-200 metre from nest: If nest is occupied during the critical breeding period (May 1 to August 15): No forest harvest operations permitted If nest is not occupied during the critical breeding period (May 1 to August 15): Site preparation, renewal and tending operations of previously harvested areas within the AOC are permitted outside the critical breeding period.		As above.
Bald Eagle *Haliaeetus leucocephalus*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	AOC ID: R2, R2-A, R2-I <u>R2-Primary Nest</u> 400 m radius AOC centered on primary nest. If a previously unknown nest is discovered during operations, they are to stop immediately. When the nest has been classified as primary, alternate or inactive after further investigation, the appropriate AOC operational prescription will be applied. <u>0-200 m from nest:</u> No harvest, renewal or tending is permitted. If harvest occurs within 200 m of a primary nest prior to its discovery, an additional patch of unharvested forest equivalent to the area harvested is to be retained, preferably attached to the remaining unharvested forest surrounding the nest to provide a supply of potential nest and roost trees.	Stable	As above.

		201-400 m from nest: If nest is occupied during the critical breeding period (March 1 - August 31): High potential impact operations are not permitted. Low or moderate potential impact operations are permitted. If nest is not occupied during the critical breeding period (March 1 - August 31) or outside the critical breeding period: Harvest, renewal and tending operations are permitted (see Entire AOC conditions below). R2-A – Alternate Nest 200 m radius AOC centered on alternate nest. If a previously unknown nest is discovered during operations, they are to stop immediately. When the nest has been classified as primary, alternate or inactive after further investigation, the appropriate AOC operational prescription will be applied. 0-200 m from nest: No harvest, renewal or tending is permitted. If harvest occurs within 200 m of an alternate nest prior to its discovery, an additional patch of unharvested forest equivalent to the area harvested is to be retained, preferably attached to the remaining unharvested forest surrounding the nest to provide a supply of potential nest and roost trees. Where nest is established after harvest operations have occurred or harvest occurred prior to nest discovery: 0-200 m from nest: No further harvest is permitted. If harvest occurs within 200 m of an alternate nest prior to its discovery, an additional patch of unharvested forest equivalent to the area harvested is to be retained, preferably attached to the remaining unharvested forest surrounding the nest to provide a supply of potential nest and roost trees. R2-I – Inactive Nest A. Operational Prescription:		

		100 m radius AOC centered on inactive nest. If a previously unknown nest is discovered during operations, they are to stop immediately. When the nest has been classified as primary, alternate or inactive after further investigation, the appropriate AOC operational prescription will be applied. <u>0-100 m from nest:</u> No harvest, renewal or tending is permitted. Where nest is established after harvest operations have occurred or harvest occurred prior to nest discovery: 0-100 m from nest: No further harvest is permitted.		
Common Nighthawk *Chordeiles minor*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	AOC ID: R-12 A. Operational Prescription: The dimensions of the AOC are as mapped. Occupied habitat can be defined by observing nesting individuals, or by observing males calling overhead on a regular basis. Determining nest locations will be difficult, and the direction below is intended to be applied to entire open areas (e.g. entire block, forest stand, or pit) unless a nest site is known. Common Nighthawk may nest in open habitats (previous cut blocks; bogs; rock barrens; or in rare cases low stocked stands) or modified open habitats (gravel roads; pits). If blocks are large and there is enough information to support a general nesting location, the block may be split and the AOC applied to the occupied portion of the block, based on review by MNRF. The AOC is comprised solely of a Modified Operations Area. No harvest, renewal, or tending that utilizes machinery during June and July* (e.g. mechanical site prep).	Stable	As above.

		Where activities including renewal, and tending involves foot effort (tree plant, backpack chemical tending), staff will receive training in the identification of Common Nighthawk and will be able to avoid areas (around 15-20m radius) where a bird is observed (flushed). Where feasible, aerial chemical tending will be completed as late in the season as possible. * In cases with a particularly early or late spring, these dates may be modified to accommodate the most likely nesting period.		
Eastern Whip-poor will *Antrostomus vociferus*	Protection of Nest Sites During Active Operations and/or the Critical Breeding Period	When the habitat description under the ESA becomes available these conditions may be updated prior to plan approval if this is necessary to address the habitat description. If the habitat description becomes available after final plan approval, a plan amendment for this AOC may be submitted if necessary to address the habitat description. - 200 metre radius AOC centered on occupied breeding territory/nesting site as evidenced by location of singing males. Should an actual nest be encountered, the local MNRF biologist will be notified so that the location and species can be confirmed and the AOC applied to the specific nest location. Please note that nest searches are not encouraged due to the high risk of jeopardizing the eggs and/or offspring. - The critical breeding period for Whip-poor-will is May 1st to August 14th.- The following operational prescription will be followed: No forest harvest operations permitted within 200 m from the nesting site. Site preparation, renewal and tending operations of previously harvested areas within the AOC are only permitted outside of the critical breeding period (August 15 to April 30th).	Stable	As above.
Woodland Caribou *Rangifer tarandus caribou*	Protection of Calving and Nursery Areas During Active Operations and/or Critical Breeding Period	AOC ID: CCA & CPA <u>CCA – Woodland Caribou Calving & Nursery Area</u> Variable width, up to 1,000 m AOC with no forest operations within the AOC between May 1 and August 15.	Stable	As above.

		A variable-width no harvest area of concern a minimum of 120 metres up to a maximum of 1,000 metres or as mapped and developed in consultation with MNRF biologist(s) and as measured from in the field from the edge of vegetation communities capable of providing an effective barrier to the movement of sediment. This will normally be 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. For mapping purposes the AOC may be measured from the edge of polygons identified as FOR, TMS or BSH. No harvest activities are permitted within this AOC. There are no timing restrictions on regeneration and tending activities, but these operations will be of low/moderate impact in order to minimize noise/human disturbance. Aerial application of pesticides for renewal, tending or protection is permitted within the AOC but will follow spray buffer zones for significant areas or sensitive areas (as appropriate) as prescribed in the Ontario Ministry of Environment/Ontario Ministry of Natural Resources and Forestry Buffer Zone Guidelines for Aerial Application of Pesticides in Crown Forests (1992). Machine-based ground application of herbicides (e.g. air-blast mounted on skidders is permitted within the AOC; spray buffer zones will be 30m for significant areas and 60m for sensitive areas. Hand-based ground application of herbicides (e.g. back-pack sprayers) is permitted within the AOC; spray buffers will be 3m. All spray buffers will be measured from the inner boundary of the AOC. <u>CPA – Woodland Caribou Protection Area</u> A. Operational Prescription No harvest area of concern as mapped. No harvest activities are permitted within this AOC. Harvest in areas adjacent to the AOC to be completed during winter season prior to March 31. Mechanical site preparation is restricted to the period between July 1 and November 30 in areas adjacent to the AOC. There are no timing restrictions on tree planting or aerial tending activities in adjacent areas.	Stable	

		Aerial application of pesticides for renewal, tending or protection is permitted adjacent to the AOC but will follow spray buffer zones for significant areas or sensitive areas (as appropriate) as prescribed in the Ontario Ministry of Environment/Ontario Ministry of Natural Resources and Forestry Buffer Zone Guidelines for Aerial Application of Pesticides in Crown Forests (1992). <u>Landscape Management for Woodland Caribou</u> *The Forest Management Guide for Boreal Landscapes* (BLG) Section 3. Woodland Caribou. This includes "Maintaining high quality and real habitat now and in the future important for caribou conservation. The planning team for the 2021-2031 FMP identified large landscape patches), which were refined from the 2011-2021 FMP. These were used to meet targets created for Landscape Guide pattern or habitat indicators (e.g. texture of the mature and old forest matrix, young forest patch size, woodland caribou habitat), and allow for the efficient implementation of other guides (e.g. Stand and Site Guide). The result was a refined dynamic caribou habitat schedule (DCHS) for the 2021-2031 FMP.		
Little Brown Bat *Myotis lucifugus* Northern Long-eared Myotis *Myotis septentrionalis*	Protection of Bat Hibernacula Sites During Active Operations and/or the Critical Breeding Period	AOC ID: BAT A. Operational Prescription: 200 m radius AOC centered on the entrance of the hibernaculum. 0–100 m from hibernaculum entrance - Harvest, renewal and tending operations are not permitted. 101-200 m from hibernaculum entrance, August 15 to May 30 (During Hibernation and Associated Entrance/Emergence Periods): -Harvest, renewal, and tending operations involving heavy equipment are not permitted.	Stable	As above.

		101-200 m from hibernaculum entrance, May 31 – August 14 (Outside Hibernation and Associated Entrance/Emergence Periods): -Harvest, renewal and tending operation that retain residual forest are permitted.		
Parks and Conservation Reserves	Protected areas as identified in the Crown Land Use Policy Atlas (Parks and Conservation Reserves) Areas legally are outside of the Kenogami Forest, but immediately adjacent.	AOC ID: T-20 Little Current River Provincial Park, Steel River Provincial Park A: Operational Prescription: 200 m modified operations zone or as mapped 0-200 m modified operations zone or as mapped, measured from Steel River Provincial Park and Little Current River Provincial Park boundaries. Mechanical site preparation will be parallel to the park boundary (where possible) with subsequent direct seeding and/or tree planting (dependent on actual ground conditions and applicable SGR) will occur. If operational roads are required, silviculture and rehabilitation of operational roads will be carried out as soon as possible following harvest.	Stable	Compliance: MNRF and Company compliance staff routinely ensures prescription is implemented in forestry operations. Planning team, Ontario Parks and MNRF district staff monitor access and minimize impacts from scheduled operations adjacent to Parks and Conservation Reserves. The FMP outlines in detail the compliance requirements.
Large Landscape Level Forest (LLLF)	Protection of Portions of the DCHS Online for caribou habitat blocks through harvest deferral for 20 year periods	This coincides with Caribou management as described in the FMP. The landscape approach to management in the Boreal Forest dominates the objectives contained in the FMP. Since this approach impacts all aspects of silviculture and wildlife management, it is not possible to write an accurate summary of the management direction, as it encompasses the entire FMP. It is the strategic long-term direction that forms the dynamic caribou habitat schedule (DCHS) that determines management of large tracts of land (approximately 15,000-30,000 hectares in size) with the objective of maintaining suitable caribou habitat both spatially (i.e. maintaining habitat linkages for caribou movement) and through time (over a 100 year period). The blocks in the DCHS which are considered “online” as currently preferred Caribou Habitat is the designated LLLF. These are in general the older conifer areas that provide mature conifer and winter suitable habitat for Caribou. This tends to increase the age of the	Stable	Compliance: MNRF and Company compliance staff routinely ensures prescriptions areas implemented in forestry operations. Effectiveness monitoring of the caribou mosaic approach is done by MNRF through caribou population and habitat use monitoring. Effectiveness monitoring is part of the Boreal Landscape Guide and is periodically conducted by the MNRF.

		forest over the duration of the management plan. Additionally, the plan puts in place a number of objectives related to maintaining a natural pattern on the forest.		
	Intact Forest Landscapes	Forest management activities including harvesting and road construction may proceed in IFLs as per Advice in *"Interim Guidance for the Delineation* Intact Forest Landscapes (IFL)*", May 25, 2017, as per the following: 1) Do not impact more than 20% of IFLs inside the Management Unit. 2) Do not reduce any IFLs below the 50,000 ha threshold on the landscape. 3) Global Forest Watch IFL maps www.globalforestwatch.org or a more recently IFL inventory using the same methodology, such as Global Forest Watch Canada, shall be used as a baseline. Additionally, management strategies shall: • Uphold the legal and customary rights of local Indigenous communities. • Contain habitat for rare, threatened and endangered species and other wildlife that depend on large, contiguous areas of intact forest. • Maintain or restore connectivity between core areas both in or adjacent to the Management Unit. (see "*Intact Forest Landscapes Guidance for Forest Managers*"FSC-GUI-30-010 V1-0 EN)	Stable	Annual monitoring of disturbance of IFLs as part of the FSC certificate and preparations for audit process.
Naturally rare ecosystem types	Protection of Areas of Natural and Scientific Interests (ANSI). adjacent to the Nakina Moraine Provincial Park During Active Operations	There is no harvesting planned within two kilometres of the ANSI adjacent to the Nakina Moraine over the next 2021-2031 FMP, and none is available for harvest until 2051-2071. This area will be protected though AOC planning when harvesting scheduled adjacent to the ANSI.	Stable	Compliance: MNRF and Company compliance staff routinely ensures prescription is implemented in forestry operations. Planning team, Ontario Parks and MNRF district staff monitor access and minimize impacts from scheduled operations adjacent to ANSIs, Parks and Conservation Reserves. The FMP outlines in detail the compliance requirements.

Local Communities Indigenous Values	Protection of Community Values During Active Operations	For Indigenous communities, confidential specific values and areas have been identified and prescriptions are in place. AOC ID: CH - Cultural Heritage Value A. Operational Prescription: 200 m radius AOC measured from site centre or as mapped -No harvest, renewal or tending activities permitted within the AOC. Marking of the reserve boundaries must not draw attention to the value. AOC ID: CH-3 - Community to Nedaak Shared Cultural Heritage Value A. Operational Prescription: -300 m radius AOC measured from site centre or as mapped -No harvest, renewal or tending activities permitted within the AOC. Marking of the reserve boundaries must not draw attention to the value. Non-AOC (due to high confidentiality) Protection Afforded through: 1) Areas removed from landbase and no operations 2) Specific Trapline areas where operations dropped	Stable or increasing	Compliance: MNRF and Company compliance staff routinely ensures prescription is implemented in forestry operations. Community monitoring and compliance monitoring through FMP process. Regular communications with Indigenous communities through Nedaak as forest manager.

Appendix 1 - Assessment Team

Daniel Martin, Abies Consultants Inc.

Abies Consultants Inc. is a consulting firm offering specialized services in sustainable forest management, chain of custody, biomass and environmental management system certification. Daniels has provided support to companies throughout both Canada and the United States with their certification needs.

Daniel Martin is a registered professional forester in New Brunswick as well a Forest Engineer in the Province of Quebec and is an ISO 14001, FSC®, SFI® CSA sustainable forest management lead auditor. Daniel is also a lead auditor for the FSC, SFI and PEFC™ chain of custody standards. Daniel has also obtained lead auditor status for the Sustainable Biomass Program®(SBP®) standards. He has lead audits in the Maritimes, Boreal and Great Lakes/St-Lawrence forest types in Canada, as well as in northern Brazil. In the spring of 2017, Daniel participated as an auditor for the field testing of the new FSC National Forest Management Standard for Canada.

Daniel is a file reviewer for a leading certification body, and thus has certification authority for all the above mentioned forest management and chain of custody standards, as well as ISO 14001.

Isabel Gannon: Gannon Forestry Consulting Inc.

Isabel has over 30 years experience in forestry, in forest management planning, forest certification (CSA, SFI®,, FCS®,), independent forest auditing, EMS development and working with many local Indigenous communities across northwestern Ontario.

Isabel graduated from Lakehead University in 1995 with Honours Bachelor of Science in Forestry degree and previously graduated from British Columba Institute of Technology as a Forest Technician in 1989. Isabel has led the planning of dozens of forest management plans, contingency plans and plan extensions for both large industrial users and more recently eSFL companies made of Indigenous community/forest industry partnerships.

Sydney Belleau

Sydney has an Honours Bachelor of Science in Forestry at Lakehead University (LU) and is currently working on a M.Sc. in Forestry. While her experience in natural resources management is broad-ranging, from crew-leading an Ontario forest fire ranger crew, instructing for the water project in remote Far North communities, silviculture work in the Kenogami Forest, and graduate assistant for the LU Natural Resource Management Program, her interests are in working within the realm of Indigenous forestry. Her current focus is on her master's project which considers what Indigenous moose management is and how Ontario can improve the application of Indigenous knowledge in moose management.

Appendix 2 - References

[AOU] American Ornithologists' Union. 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.

[BLI] BirdLife International. 2020. Country profile: Canada. http://www.birdlife.org/datazone/country/canada. 2020-07-28

Bird Studies Canada and [NABCI] North American Bird Conservation Initiative. 2014. Bird Conservation Regions. Bird Studies Canada. https://www.birdscanada.org/bird-science/nabci-bird-conservation-regions \. 2020-07-28.

[CWS] Canadian Wildlife Service. 2001a. Canada 18: Polar Bear Provincial Park, Ontario. https://rsis.ramsar.org/RISapp/files/RISrep/CA360RIS.pdf.

[CWS] Canadian Wildlife Service. 2001b. Canada 25: Southern James Bay migratory bird sanctuaries, Ontario and Nunavut. https://rsis.ramsar.org/RISapp/files/RISrep/CA367RIS.pdf

[CITES] Convention on International Trade in Endangered Species. 2020. Appendices I, II and III. https://cites.org/eng/app/appendices.php.

[CLFN]Constance Lake First Nation & [MNRF] Ontario Ministry of Natural Resources. 2014. Constance Lake terms of reference. https://www.ontario.ca/page/constance-lake-terms-reference#section-11.

Cornell University. 2019. Evening Grosbeak. https://www.allaboutbirds.org/guide/Evening_Grosbeak/lifehistory#.

[COSEWIC] Committee on the Status of Endangered wildlife in Canada. 2016. COSEWIC assessment and status report on the Evening Grosbeak Coccothraustes vespertinus in Canada. Committee on the Status of Endangered Wildlife in Canada. Ottawa. xi + 64 pp.

[COSSARO] Committee on the Status of Species at Risk Ontario. 2020. Species. http://cossaroagency.ca/species/.

Endangered Species Act, 2007, SO 2007, c. 6.

[ECCC] Environment and Climate Change Canada. 2018. Recovery Strategy for the Eastern Whip-poor-will (Antrostomus vociferus) in Canada. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. vi + 107 pp.

Far North Act, 2010, SO 2010, c. 18.

[FNA] Flora of North America. N.D. Distribution Map: *Pinus strobus*. http://www.efloras.org/object_page.aspx?object_id=5250&flora_id=1.

[FSC] Forest Stewardship Council. 2017. Interim guidance for the delineation intact forest landscapes (IFL).

[GOC] Government of Canada. 2019a. Canada Warbler (Cardellina canadensis). https://species-registry.canada.ca/index-en.html#/species/1008-699#habitat

[GOC] Government of Canada. 2019b. Species List. https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry/species-list.html.

[GOC] Government of Canada. 2019c. Whip-poor-will (Antrostomus vociferus). https://species-registry.canada.ca/index-en.html#/species/1047-719

Gray, P., D. Paleczny, T. Beechey, B. King, M. Wester, R.Davidson, S. Janetos, S. Feilders, and R. Davis. 2009. Ontario's Natural Heritage Areas: Their Description and

Relationship to the IUCN Protected Areas Classification System (A Provisional Assessment). Queen's Printer for Ontario, Peterborough, Ontario, Canada. 356 pp.

Hammerson, G. D., C. Catlin, M. Koenen, and D. Mehlman. 2014. *Cardellina canadensis*. NatureServe Explorer. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100725/Cardellina_canadensis.

Hoffman, D. 2011. Kenogami Forest 2011-2021 forest management plan for the period April 1st, 2011 to March 31st, 2021. Phase I FMP. https://nrip.mnr.gov.on.ca/s/permit2/a0z3g000000CdV8AAK/subfm3502011fmp2089?language=en_US.

Hoffman, D. 2021. Kenogami Forest 2021-2031 forest management plan for the period April 1st, 2021

https://nrip.mnr.gov.on.ca/s/published-submission?language=en_US&recordId=a0z3g000000ykMxAAIto March 31st, 2031.

Hoffman, D. 2015. Ten-year forest management plan, April 1, 2011 to Match 31, 2021 for the Kenogami Forest. 2020-07-28

Hoffman, D. 2016. Phase II planned operations for the Kenogami Forest 2011-2021 forest management plan for the period April1, 2016 to March 31, 2021. https://nrip.mnr.gov.on.ca/s/permit2/a0z3g000000CdV8AAK/subfm3502011fmp2089?language=en_US

[IUCN] International Union for Conservation of Nature. 2020. The IUCN red list of threatened species. https://www.iucnredlist.org/.

[MFFN] Martin Falls First Nation and [MNRF]. 2013. Marten Falls community based land use plan terms of reference. https://www.ontario.ca/page/marten-falls-community-based-land-use-plan-terms-reference#section-0.

[MECP] Ministry of the Environment, Conservation and Parks. 2019. Recovery Strategy for the Eastern Whip-poor-will (Antrostomus vociferus) in Ontario. Ontario Recovery Strategy Series. Prepared by the Ministry of the Environment, Conservation and Parks, Peterborough, Ontario. iv + 6 pp. + Appendix. Adoption of the Recovery Strategy for Eastern Whip-poor-will (Antrostomus vociferus) in Canada (Environment and Climate Change Canada 2018). https://files.ontario.ca/mecp-rs-easternwhip-poor-will-2019-12-05.pdf

https://collections.ola.org/mon/2000/10281337.pdf

[MNRF] Ontario Ministry of Natural Resources. 2000. Significant wildlife habitat technical guide. 151p.

[MNRF] Ontario Ministry of Natural Resources. 2010. Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales. Toronto: Queen's Printer for Ontario. 211 pp.

[MNRF] Ontario Ministry of Natural Resources and Forestry. 2014a. Forest Regions. https://www.ontario.ca/page/forest-regions#:~:text=of%20sea%20ducks-,Boreal%20forest%20region,to%20the%20Hudson%20Bay%20Lowlands. August 17th,

[MNRF] Ontario Ministry of Natural Resources. 2015. Far North Land Use Strategy: A Draft. https://www.ossga.com/multimedia/0/draft_far_north_strategy_2015_09_29.pdf

[MNRF] Ontario Ministry of Natural Resources. 2017. Significant Wildlife Habitat Criteria Schedules for Ecoregion 3W Draft.

NatureServe Explorer. 2020. Aquila chrysaetos Golden Eagle https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.100925/Aquila_chrysaetos

[NHIC] Natural Heritage Information Centre. 2020. https://www.ontario.ca/page/natural-heritage-information-centre.

North American Bird Conservation Initiative Canada. 2019. The State of Canada's Birds, 2019. www.stateofcanadasbirds.org. Environment and Climate Change Canada, Ottawa, Canada. 12 pages.

Ontario. 2019. Eastern whip-poor-will. https://www.ontario.ca/page/eastern-whip-poor-will

Ontario. 2020. Species at risk Ontario. https://www.ontario.ca/page/species-risk-ontario.

[OLL] Ontario's Living Legacy. 2001. Ontario's living legacy: approved land use strategy.

Ontario Nature. 2017. Species at risk in northern Ontario. https://ontarionature.org/wp-content/uploads/2017/10/Ontario_Nature_Species_At_Risk_in_Northern_Ontario_official_guide.pdf.

Phone call with the Nipigon District Ministry of Natural Resources Biologist, Philip Wilson. July 13th, 2020.

Ramsar Convention. 2020. Ramsar Sites Information Service. https://rsis.ramsar.org/ris-search/?f[0]=regionCountry_en_ss%3ACanada.

Soule, J, R. Jennings, G. Hammerson, D. Jue. 2014. Black Tern. https://explorer.natureserve.org/Taxon/ELEMENT_GLOBAL.2.105682/Chlidonias_niger

Species at Risk Act, SC 2002, c. 29

Thompson, J. 1998. Metapopulations. https://www.britannica.com/science/metapopulation

[UNESCO] United Nations Educational, Scientific and Cultural Organization. 2020. UNESCO World Heritage Sites. http://whc.unesco.org/en/statesparties/CA.

Appendix 3 – Peer Review Report

6. PEER REVIEW OF THE ASSESSMENT OF HIGH CONSERVATION VALUES IN THE KENOGAMI FOREST REPORT-VERSION 1

Reviewed by Sarah J. Bros, R.P.F.

Merin Forest Management was contracted to undertake a peer review of the report of the Assessment of High Conservation Values in the Kenogami Forest – version 1. Below are the results of that review. All comments in this report are intended to; 1) ensure the report meets the requirements of Principle 9 in the FSC® National Forest Standard of Canada (FSC-STD-CAN-01-2018-V1-0), referred to as the FSC Standard, and 2) improve the assessment information in the report.

6.1. Scope of Review

In reviewing this report, I considered relevant background information (see literature cited below) including the FSC Standard, and *Abies Consultants* Assessment of High Conservation Values (HCV) in the Kenogami Forest (V1).

These three key questions framed the scope of my review:

1. Does the HCV assessment meet the requirements of Principle 9 of the FSC Standard?
2. Are the HCV's identified within the Kenogami Forest appropriate and proportionate to the scale, intensity, and risk of their operation?
3. Did the HCV assessment include appropriate stakeholder and Indigenous engagement and, were the results of that engagement included in the assessment?

The FSC Standard requires forest managers to complete an outside peer review of the report of the assessment of the significant and critical environmental, social and/or cultural values and their management in the certified forest. Criterion 9.1 defines Intent under Principle 9 such that an HCV assessment is completed, using the best science available, and includes one or more of the following six HCV categories:

- Forest areas containing globally, regionally, nationally significant:
    - Concentrations of biodiversity values including endemic species and rare, threatened, or endangered species.
    - Large landscape-level ecosystems and mosaics contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.
    - Culturally, archeologically, or historically significant sites, resources, habitats, and landscapes
- Forest areas that are in or contain rare, threatened, or endangered ecosystems, habitats or refugia.
- Forest areas that provide basic services of nature in critical situations, including water catchment and erosion of slopes and/or vulnerable soils; and
- Forest areas fundamental to meeting basic needs of local communities and/or critical to local communities' or Indigenous Peoples traditional cultural, ecological, or religious/sacred identity as determined through engagement with these local communities or Indigenous Peoples.

6.2. Q 1: Does the Kenogami Forest HCV assessment meet the requirements of Principle 9 of the FSC Standard?

The intent of an HCV assessment (Principle 9) is to develop a framework to manage the Kenogami Forest in a precautionary manner that will maintain and/or enhance the identified HCVs, within the forest manager's sphere of influence, and proportionate to the scale, intensity, and risk of their operation. The HCV assessment also guides the development of a monitoring program that may influence future actions or HCV designations.

This HCV report was developed as a requirement of FSC certification of the Kenogami Forest. This report is the subject of this peer review. This review meets Criterion 9.1.5, FSC Standard. In conducting this review, it is important to note the Assessment Report was prepared following the National Framework (Annex D of the FSC Standard). The Assessment Report generally meets Criterion 9.1 of the FSC Standard and provides some detail on the monitoring program (Criterion 9.4). However, the report is missing some key discussion to fully address Criterion 9.

General Comments

Generally, the report is very well written and provides a complete and thorough analysis in identifying High Conservation Values in the Kenogami Forest. The report answers many of the key questions that should be considered in the assessment including:

- What are the known values on the management unit?
- Where are they found?
- What are the threats to these values?
- How will the values be managed? and,
- How will the value be monitored?

However, this review identified some gaps in the report. This report could be improved by exploring answers to the following questions:

- Were any of these values exploited prior to HCV identification.
- How much forest area is needed to maintain the value(s) (e.g. caribou).
- What should be monitored, specific to the HCV identified (i.e. habitat, protection, presence).
- What are the measurable parameters and thresholds?
- How will the management of the HCV values be adapted to the results of monitoring?
- Who is responsible for specific aspects of the monitoring, and.
- Was there consultation with stakeholders, Indigenous Peoples and experts and was this knowledge used (e.g. were stakeholders/IP asked if they knew of the presence of any values (not cultural) not identified or identified on the KF)?

Required Revisions to meet Principle 9

A. Source Documents
   The HCV report has been prepared utilizing relevant information produced by the Ministry of Natural Resources & Forestry(MNRF) specifically, the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (Stand and Site Guide). Current scientific literature, in support of the analysis in this report, has also been incorporated. Some of the sources of information used in this assessment are not applicable to Crown land management in Ontario. Examples of this information is highlighted below. Also, there are some information sources missing; those are discussed below.

Throughout the document, the 2011-2021 Forest Management Plan is referenced as supporting science. In consideration of using best available science, this forest management plan will expire March 31,2021, it would be prudent to reference, where appropriate, the new plan or at least include a section discussing tools used in the development of the new FMP. Additionally, the government no longer manages for "featured species" (since approval of the Boreal Landscape Guide, 2014) but instead uses the landscape approach to species management. Also, some of the science tools referenced in this report may not be appropriate (email SBros-IGannon, Feb2.21) or have been replaced with other tools (e.g. Ontario Landscape Tool, B-Folds). This assessment should carefully review all of the source documentation for the current government guides, resources, tools and/or methods in determining HCV designation.

Issues: outdated or incorrect source documentation
Issue category: major
Comment: replace source documents with most recent science and information as appropriate
Company response: *Complete.* *New section discussing late development of new FMP added (Forest Management Planning section). New list of Decision Support Systems (tools) added as well. All references to 2011-2021 FMP replaced with Final 2021-2031 FMP.* *No reference to "featured species" & "B-Folds". BLG reference added to Table 3.Reference to "SWHMIST" removed as per email on Feb 2'21 S. Bros to I. Gannon.*

B. Stakeholder Engagement

The FSC National Standard requires engagement with stakeholders and Indigenous Peoples throughout the HCV assessment process. To fully meet Principle 9 this engagement must be completed and discussed in the report, including how the results of those discussions were incorporated into the assessment.

Issues: no stakeholder or Indigenous engagement
Issue category: major
Comment: requirement to meet P9
Company response: *Complete* *New section "Consultation" added.*

C. Expert Opinion

Expert opinion is a key component of the HCV assessment. Discussions with experts should be highlighted in the report, including the results of those discussions, and not recorded as a footnote.

Issues: expert opinion not highlighted or discussed
Issue category: minor
Comment: expert opinion appears in report as a footnote
Company response: : *Complete* *New section "Expert Opinion" added.*

D. Intact Forest Landscape determination
Although not a requirement, the report uses the Data Basin mapping program (not sure what that is) to identify intact forest landscapes (IFL). Using the precautionary principle, the report should, at the very least, draw on a comparison between this methodology and FSC recommended (pg 94,Annex D) and preview.delineating-intact-forest-landscapesdocument.a-1483.pdf (fsc.org)) Global Forest Watch (GFW) IFL map.

Issues: method used for IFL determination does not follow FSC
Issue category: minor
Comment: recommend using GFW website (IFL map) and FSC guidance document
Company response: *Complete - New IFL map as per Global Forest Watch used. Also added planned depletions for 2011-2021 and upcoming 2021-2031 FMP to assess disturbance levels to IFLS. Added new Table 3 that reflects new IFL Map. Also added updated 2021-2031 Caribou Mosaic map.*

E. Monitoring
The discussion and associated table should clearly state roles, responsibilities and at what level (i.e. management unit, provincial or national). The report states Table 3 *describes the responsibility of MNRF for inventory and monitoring.* The table does not contain this detail. It is recommended that a fuller discussion be included detailing the responsibilities for the company and government and how the results of the monitoring are incorporated into HCV updates. Also, this section is missing discussion on how results of monitoring are incorporated into updates to the HCV assessment.

Issues: incomplete description of monitoring and discussion on how new information or results of monitoring are incorporated into updates to HCV assessments
Issue category: major
Comment: more detail is needed in this section to define specific roles for monitoring and scale of monitoring (i.e. monitoring for values, monitoring for compliance with AOC)
Company response: : *Complete* *New section added "Phase 2: Managing and Monitoring HCV Attributes" with significant text added as preamble to Table 3. Additional details added to table regarding compliance monitoring and effectiveness monitoring added.*

In consideration of revisions to this report prior to the certification audit, and future updates of the HCV report, the following comments and suggestions are made in addition to the comments above:

Phase 1: HCV Assessment and Designation

1. Category 1(HCV1):

    1. Some of the information sources used to determine HCV status are not applicable on Crown land and should be removed and the correct information sources reviewed for any impact on HCV designation and included. All

questions and elements in the report for Category 1 should be carefully reviewed as to appropriate and relevant sources of information (e.g. Q.3 Significant Wildlife Habitat Mitigation Support Tool is not use on Crown Land; Q.6 CLUPA is missing as a source). *Complete - Reference to "SWHMIST" removed; CLUPA reference added.*

- Table 2 should identify G1,G2 or G3 species in Category 1, Question 1, and in Category 3, . *Complete – According to the NHIC and the NatureServe network, the northern long-eared bat is the only species at risk in the Kenogami Forest with a G1 element occurrence. There or no other species at risk with a G1, G2 or G3 occurrence. Added to Table 1 for bat.*

2. This HCV assessment report includes references to expert sources (e.g. Table 2 pg. 17 footnote) but as a footnote in several places. As expert sources are important in determining an HCV, they should be listed as a source of information and discussed. *Complete –Expert Sources section added.*

3. Under Question 1, the information sources list is missing the KF SAR list that is provided by MNRF annually. *Complete –reference added.*

4. Under Question 3, there is no mention of moose management areas: Enhanced management areas for moose habitat. Review of this value to determine whether an HCV is appropriate. *Complete –new section added discussing moose and large landscape patches created in 2021-2031 FMP.*

2. Category 2 (HCV2): The report identifies "the Kenogami FMU forms <20% of the intact boreal forest that is >50,000 ha" but does specify how much area in the KF that meets the criteria for an IFL. Also, it is not clear if the map included in the report, is presenting the amount of IFL or what is being presented? Some additional discussion would add to the clarity in this section.

    1. Under Question 7, consider presenting the amount of area within the management unit that meets the definition of an IFL. Although not a requirement, the report would benefit from clarification that the methodology used for identifying IFLs is consistent with IFLs identified by Global Forest Watch (GFW)(suggested by FSC Canada). It is strongly recommended the assessment under this question make use of the GFW identified IFLs for the Kenogami Forest, as well as the FSC Guidance document on determining IFLs preview.delineating-intact-forest-landscapesdocument.a-1483.pdf (fsc.org). *Complete - New IFL map as per Global Forest Watch used. Also added planned depletions for 2011-2021 and upcoming 2021-2031 FMP to assess disturbance levels to IFLS. Added new Table 3 that reflects new IFL Map. Also added updated 2021-2031 Caribou Mosaic map.*

3. Category 3 (HCV3):
    1. Question 8: This question and assessment would benefit from using more current information or at least consideration of information approved or endorsed by MNRF in the FMP planning process for the 2021-2031 FMP. Also, the data sources 1st paragraph in italics description reads like a result of the assessment not data sources? This should be corrected or removed. *Complete* -text updated

    2. Question 9: The information in unnamed table of late forest age of onset is out of date. Refer to the MNRF *Forest Management Guide for Boreal Landscapes* (BLG) for relevance. Also, the table on northwestern regional

ecosites have been replaced with provincial ecosites. Below is a document to convert current regional ecosites into provincial ecosites (new eFRI already has them)
ELC info sheet -- north west -- January 2012.pdf (forestresearch.ca)

Complete - Note that the new 2021-2031 FMP was in early development stages at the time this report was prepared, therefore the 2011-2021 FMP had to be used for most information. New old growth analysis has been added to this revised report which was just completed a few weeks ago requested. Text updated to reflect new 2021-2031 FMP throughout now that approved FMP.

4. Category 4 (HCV4):

    1. Under Question 12, the data sources listed are vague and appear incomplete. It should be clear what information was used in the assessment. As an example, LIO contains soils maps, as does Natural Resources Canada. Although the assessment comes to the right conclusion, it could be argued that Indigenous communities and small towns within or adjacent to the KF rely on water found in the Kenogami Forest. Suggest rewording decision text. *Complete – Data sources updated to ones that are more relevant and rationale for decision updated to reflect this decision.*

    2. Under Question 16, the report is missing a key source of information: MNRF fisheries management zones. This question should be revisited in the context of this information. *Complete – Reference to fisheries management zones and additional fisheries information for the Kenogami Forest added.*

5. Category 6 (HCV6): This is an important category to engage the 7 communities that have traditional territory in the KF. The methodology is vague, and more discussion would add to how the HCV designation is reached. *Complete –Additional text updated information regarding consultation with local Indigenous communities that just occurred since this report added.*

Phase 2, Managing and Monitoring

The assessment should include the area associated with each of the designated HCVs, where determination of area is possible (e.g. riparian reserves, caribou calving and nursery areas, Living Legacy areas, parks, IFLs). This is key for managing and monitoring to ensure no net loss (Phase 2, pg. 69). Some of the questions listed above have not been fully answered in this Section, specifically as to responsibility for monitoring and at what level (e.g. management unit level – SFL compliance monitoring/new values, District SFL – annual monitoring/values updating/new values/annual SAR lists; provincial level – MNRF) and:

- How much forest area is needed to maintain the value(s) (e.g. caribou).
- What should be monitored, specific to the HCV identified (i.e. habitat, protection, presence).
- What are the measurable parameters and thresholds?
- How will the management of the HCV values be adapted to the results of monitoring?

Complete –Additional area information added for HCVFs and where available. Additional text added to Section 4.0 Phase 2: Managing and Monitoring HCV and Table 4. Also additional text added at 9.3 Implementation of HCV Management Strategies and 9.4 Management and Monitoring earlier in the report.

6.3. Q 2: Are the HCV's identified within the Kenogami Forest (uncertified forest) appropriate and proportionate to the scale, intensity, and risk of their operation?

The KF *encompasses a total area of 1,977,684 hectares of which 1,873,988 hectares (95 %) is Crown managed forested land and 18,740 hectares (10 %) is classified as non-forested (e.g. water, grass and meadow, unclassified and agricultural land).* Forest management occurs on the Crown managed production forest portion of the landbase, a total of 1,480,450 hectares. The KF Crown Management Unit is managed under a Forest Resource License (FRL) and Management Agreement issued by the Ministry of Natural Resources & Forestry. Forest management and the rights to harvest timber, on Crown land in Ontario is designated to the FRL holder, while the responsibility for all forest management planning and activities under the Crown Forest Sustainability Act (1994), are delegated in the Agreement. As a Crown Management Unit, the KF is ultimately the responsibility of the Crown.

The KF lies within Ontario's Boreal Forest Region and within ecoregions 2W, 2E, 3W and 3E. The primary disturbance on the KF, other than forest harvesting is fire. The KF is approximately 63% conifer or conifer mixedwood, and 37% hardwood or hardwood mixedwood.

Management of HCV's on the KF follow the MNRF's BLG and Stand and Site Guide that are based on a coarse filter approach applied at a landscape level combined with a fine filter approach for specific species or habitats where necessary. It would be useful to note, these guides are based on years of development, collaboration, and volumes of science. *Complete – additional text added to Section 9.2 and Section 4.0 Management and Monitoring.*

The KF also lies within the Pagwachan caribou range and forest management includes a Dynamic Caribou Habitat Schedule that encapsulates large landscape patches. The report correctly identifies caribou as an HCV and its habitat as delineated in the DCHS.

Based on the information used to identify critical species, collectively the assessment correctly concludes HCV designations that are appropriate for the scale, intensity, and scope of forest operations on the Kenogami Forest with the exceptions noted under question 1 above.

6.4. Q 3: Did the HCV assessment include appropriate stakeholder and Indigenous engagement and, were the results of that engagement included in the assessment?

The requirements to meet the 2018 FSC Standard became effective January 1st, 2020. It is recognized that the new FSC Standard and the HCV Assessment includes more opportunities for Indigenous People's engagement, and that those engagements take time. It is important to note the management of the Kenogami Forest is currently licensed to Ne-Daa-Kii-Me-Naan Inc. (Nedaak). Nedaak is an Indigenous-owned company representing 7 Indigenous communities within or adjacent to the management unit. The report briefly references Indigenous information required to meet FSC Indicator 9.1.2. The report does not include discussion as to stakeholder interviews that were conducted to meet this Indicator. If those have not yet been undertaken, the report should state this. Also, the report should speak to when and how this requirement will be addressed. *Complete –Additional updated information regarding consultation/engagement with local Indigenous communities that just occurred since this report added at Section 9.1.2 and HCV6.*

It is worthwhile to point out that identification of Indigenous cultural values should not automatically suggest the requirement in the FSC Standard has been met. Both Indigenous communities and other stakeholders could have valuable information on values assessed in

this report. It is important that those values be considered in the assessment. *Complete – Additional updated information regarding consultation/engagement with local Indigenous communities that just occurred since this report added at Section 9.1.2 and HCV6.*

6.5. Other Minor Comments (Editorial, typographical, or suggested improvements)

- There are a several editorials and typographical errors in the report that require correction. *- Complete*
- Suggest using the FSC term "Indigenous" rather than First Nations. *- Complete*
- HCV is the more common term used as it refers to *specific* values. HCVF refers to an area that contains the value. Suggest using HCV as opposed to HCVF. *Complete*
- It is also worth noting that the use of additional figures, tables, and maps to support scientific information referenced throughout this report, would add to the report (e.g. bird ranges). *Complete*
- Suggest presenting Table 2 HCV conclusion similar to example below (Pic Forest). As an auditor, this format is easier to follow. *– The suggested table below is the format used in this report presented as Table 1. Table 2 in this report answers Question 1 and is specifically for species at risk only.*

Table 1. Identified High Conservation Values on the management unit

HCV Cat.	HCV Element (with links)	Link HCV Designation Decision	Management	Monitoring	DESIGNATION Decision & Link to Management & Monitoring[2]
Category 1 Concentrations of Biodiversity	1 -- Biodiversity / Species-at-Risk (SAR)	Bald Eagle; Bank Swallow; Northern Myotis; Little Brown Bat; Woodland Caribou	Prescriptions are in place and on operational maps; most cases harvest buffers are the primary approach as defined in OMNRFs Stand and Site Guide	OMNRF experts monitor current best management prescriptions; detailed prescriptions in FMP. Based on OMNRF Wildlife Monitoring.	HCV Bald Eagle; Northern Myotis; Little Brown Bat; Woodland Caribou;
		Peregrine Falcon; Short-eared Owl; Whip-poor-will; Common Nighthawk; Barn Swallow; Black Tern; Yellow Rail; Cougar; Yellow-banded Bumble Bee; Gypsy Cuckoo bumble Bee	May occur in the forest, but no element occurrences are recorded; for some species, prescriptions have been developed; others there is no forestry impact	No effectiveness monitoring required, as there are no prescriptions being used currently.	Possible HCV
		Olive-sided Flycatcher; Canada Warbler; Lake Sturgeon; Northern Brook Lamprey; Silver Lamprey; Monarch	Spp occurs in the PF but habitat needs are addressed by landscape management or riparian	Landscape monitoring for implementation of landscape or riparian prescriptions; or verification there is	HCV Landscape prescription or Riparian prescription

			management. Breeding sites protected when located.	no interaction with forestry.	
	2 -- Endemic Species	False Northwestern Moonwort	Landscape management. Element Occurrences reported	Landscape monitoring	HCV Landscape prescription
	3 -- Regionally significant critical habitat for seasonal concentrations of species	Heronries (>25 nests)	Follows MNRF Stand and Site Guide prescription. No occurrences of Heronries of this size currently.	MNRF monitors Heronry prescriptions Northeast Science and Technology	Possible HCV
		Sturgeon Spawning areas	Follows MNRF Stand and Site Guide prescription. No sites were located.	Monitored by MNRF through Northeast Science and Technology	Possible HCV
	4 -- Significant regional & focal species	Focal Species	None required	None required	No HCV identified
	5 -- Edge species or outlier populations	Edge of Range Tree Species White Pine; Red Maple	No harvest	Compliance monitored by Company & OMNRF	HCV Silviculture Prescription
		Edge of Range Tree Species (Red Pine, Black Ash, Yellow Birch, Soft (red) Maple)	If located prescription is no harvest	If required, compliance by Company & MNRF	Possible HCV
	6 -- Conservation Areas	Land use designations within the boundaries of PF Protected Areas Parks & Conservation Reserves	These are outside of the NFMC license area although on adjacent lands	MNRF monitor compliance with FMP to ensure encroachment & access control.	HCV FMP AOC prescription

- Page 10, reference to FSC Boreal Standard is incorrect. It is the National FSC Standard of Canada v1-0. *Complete- all references changed*
- Information referenced should include dates of the document where possible. *Complete-*
- Some HCV reports have included an Appendix in the report with information from the FMP on caribou management and the development of the DCHS, time slice analysis, etc. That information is used for Q3,4 and 7 related to IFLs. *Not required – Development information is contained in the FMP Supplementary Documentation Analysis Package.*
- The format of the report is somewhat inconsistent throughout. As an example HCV 1, Q1 uses headings Rationale, Sources of Information, Assessment Results; Q2 uses headings Rationale, Methodology, Assessment Results, HCVF Designation Decision; Q3 uses Rationale, Methodology, Guidance on Assessing HCV, Assessment Results, Decision *Complete- all format reviewed and changed where required*
- Pg. 53, under FMP 2011-2021 “ought to have a description of it” assumes a lot. Suggest removing commentary. *Complete-*

- Question 19, under Rationale – second paragraph reads more like a methodology and the last sentence reads like Assessment Results. *Complete-*
- From one report, below is a table that provides HCV area (ha) *– Complete -areas for HCVs added.*

HCVF Assessment Category	Item Number (Item text is paraphrased. See Individual Item descriptions below for full text)	HCVF Present?	HCVF Area in the MU (ha)	Risk Result	Rationale[1]
	11. Are large landscape level forests (i.e., large unfragmented forests) rare or absent in the forest or ecoregion?	Yes	34,340	Not Significant	- Existing Protected Areas - LUO – Forest Reserves, cultural, wildlife, riparian & biodiversity requirements - LUO – Old Forest/ ecological representation
	12. Are there nationally /regionally significant diverse or unique forest ecosystems, forests associated with unique aquatic ecosystems?	Yes	344,706	Not Significant	- Existing Protected Areas - LUO requirements for Type I & II Fish Habitat and Active Fluvial Units
4) Forest areas that provide basic services of nature in critical situations	13. Does the forest contribute to maintaining the quality, quantity and seasonal timing for water flows?	Yes	<7,869	Not Significant	- FRPA & LUO requirements for Community Watersheds, Type I Fish Habitat, Active Fluvial Units and Sensitive Watersheds
	14. Are there forests that provide a significant ecological service in mediating flooding and/or drought, controlling stream flow, and water quality?	Yes	344,706	Not Significant	
	15. Are there forests critical to erosion control?	Yes	344,706	Not Significant	- FRPA requirements for Class IV and V terrain - FRPA & LUO requirements for Type I Fish Habitat, Active Fluvial Units and Upland Streams
	16. Are there "interface" forests that play a significant role determining the potential spread of wildfires into developed areas?	No	N/A	N/A	-

NB: this report was produced in 2011

- this table is useful for an auditor.

FSC Indicator	Description	Location of Related Information in HCV Report
6.1.1	Best available information is used to identify the state and condition of: • % protected area by ecosystem classification unit • Rare ecosystems	Table 8

FSC Indicator	Description	Location of Related Information in HCV Report
	• Species at the edge of their natural ranges and outliers • Habitat for species at risk	Section 5.1 Section 3.5 Section 3.1
6.1.2	Best available information is used to identify the state and condition of: • Wildlife and wildlife habitat values for species at risk • Sensitive sites due to slopes, soil types, wetlands.	Sections 3.1, 3.4 and 8.1 Section 6.2
6.2.2	Impacts on HCVs that occur at a local level are assessed prior to implementing management activities	Section 8
6.3.1 & 6.3.2	Means to protect soils from physical damage (rutting, compaction, erosion) and prevent negative impacts are identified and implemented	Section 6.2.4 to 6.2.6; Section 8
6.3.3 & 6.3.4	Means to protect soils from nutrient loss and prevent negative impacts are identified and implemented	Section 6.2.4 to 6.2.6; Section 8
6.4 6.4.1	Concerned with protection of rare and threatened species and their habitats: • Develop a list of species	Section 3.1; Table 2
6.4.2	• Develop plans with qualified specialists	Section 3.1 and 8.2
6.4.5	• Implement management of boreal woodland caribou habitat	Section 3.1 and 8.2
6.4.6	• Concerned with training forestry workers regarding species at risk	Section 8
6.4.7	• Protection measures are implemented when a SAR or sign of SAR is identified during field operations	Section 8
6.5	Concerned with protection of representative sample areas of native ecosystems	Section 3.6 (Parks & Conservation Areas), Section 4.1 (Intact Forest Landscapes), Section 5.3 (Large Unfragmented Forests, Gap Analysis)
6.7.1	Best management practices that identify measures to protect water bodies, riparian zones, and water quality	Sections 6.1, 6.2, and 6.4
6.8.4	Concerned with maintaining contiguous blocks of forest that are of natural disturbance origin, and minimize the	Section 3.6 (Parks & Conservation Areas), Section 4.1 (Intact Forest Landscapes),

FSC Indicator	Description	Location of Related Information in HCV Report
	amount of roads and other linear disturbances within these blocks	Section 5.3 (Large Unfragmented Forests, Gap Analysis)
8.1.1	Concerned with development of a monitoring plan - includes related monitoring strategies and approaches for HCVs.	Section 8.1

High Conservation Value Forest Assessment

Peer Review Summary Report

Prepared for: Kenogami Forest

Reviewed by: Silva Consulting

Reviewer: Andrea Doucette, MES

Date submitted: February 10, 2022

1. Introduction

The peer review of the High Conservation Values Assessment Report (version 2-0) prepared by Kenogami Forest was completed by Silva Consulting. The review process was based on the peer review procedure and checklist developed by the High Conservation Value Resource Network (Home - HCV (hcvnetwork.org). Any questions about this peer review report can be directed to Andrea Doucette at adoucette.silva@gmail.com.

Findings during the peer review were identified as either major, minor, recommendations, or none/not applicable. These categories are defined as:

- Major – the absence or failure to meet a fundamental requirement of the HCV assessment process
- Minor – an observed lapse that affects the clarity of the assessment process or report
- Recommendations – suggested improvements to the report
- None – no identified finding observed

Findings are provided by the peer reviewer to help improve the quality of the HCVF assessment report. It is expected that the findings will be addressed by Kenogami Forest as part of the peer review process. The amount of work thus far in the HCVF assessment is significant. Since an HCVF assessment can be quite large and daunting, it is always helpful to have as many summary tables and maps as possible to refer to when looking for specific information

2. Summary Findings

HCV Identification, Management and Monitoring
Project name: HCVF Assessment Report, Kenogami Forest **Reviewer: Andrea Doucette, Silva Consulting** **Dates of review: February 9-10, 2022**
DESCRIPTION OF DOCUMENT CONTENT
1. Executive summary of the document
This section is evaluated by the below guiding questions: - Are the key findings clearly presented and summarized? - Does the summary accurately reflect the findings and recommendations of the main document? - If no summary exists, is it still possible to use the document easily?
Reviewer comments: **Finding – None with recommendation** Although there is not a formal executive summary (which could be added to give the reader a snapshot of the findings), Table 1 starting on page 6 of the report provides a summary of identified HCV's with brief management and monitoring descriptions provided. *Response – Complete -Executive Summary added.* It is recommended that the total hectares of each HCV be provided in the summary table if feasible. *Response – Complete -Areas added – as per maps and areas.* It is also recommended that the line spacing be increased to 1.5 throughout report for ease of reading. *Response – Complete -Spacing increased.*
2. Scope of the Assessment
This section is evaluated by the below guiding questions: - Is the assessment area and surrounding landscape clearly defined? - Is there a basic summary of the company and its operations in the area? - Are the impact and scale of proposed operations adequately described? - Is the purpose of the HCV assessment clear?

Reviewer comments: Finding – None with recommendation

The website for Nedaak (Ne-Daa-Kii-Me-Naan Inc. - Sustainable Forest Management (nedaak.ca)) has a lot of good background information with links to other reports. The Forest Description section in HCVF report with sub-sections History, Licensing, and Forest Management Planning provide valuable background information in understanding the scope of the assessment. The purpose of the HCV assessment is made clear with supporting information from the FSC standard.

Recommend adding the company website to the report that can direct the reader to additional reports and maps. Lots of good background information on forest description, land uses, socio/economic descriptions, management planning, and operations.

Response –Complete - Nedaak website link added as well as MNRF repository for FMPs (NRIP).

3. Wider landscape context and significance of the assessed area

This section is evaluated by the below guiding questions:

- Is the wider landscape convincingly and adequately described?
- Are the key social and biological features of the wider landscape clearly described?

Reviewer comments: Finding – Minor

The descriptions provided on decision support systems and tools may be more than what's needed in the HCVF report. Alternatively, it could be kept with an explanation of how this is relevant to HCVF assessment.

Recommend pulling from the 2021-2031 FMP some of the broader descriptions of social and biological features on the landscape into the HCVF report. A discussion on the broader landscape, the surrounding area, and ecological features is missing from the report.

Response –Complete – Significant text and charts added from FMP to Section 2.3 in the HCV Report and throughout.

4. HCV assessment process including consultation process

For *each* of the sub- topics, was the process or effort proportionate and adequate relative to the likely impact and scale of operations?

4.1 Composition and qualifications of the assessment team

a) Did the team include or have adequate access to relevant expertise to assess biological and social values?

Reviewer comments: Finding – Minor

The HCVF report does not identify the names and affiliations of the assessment team (technical and/or scientific) but does have a section called Expert Opinion. If possible, provide an appendix or expand on Expert Opinion what relevant expertise was sought to assess biological and social values (e.g. if it is just government, specific departments should be listed with names and job title). If there was an assessment team it should be listed in report.

Response –Complete – Assessment Team added to Appendix 1.

4.2 Data sources and data collection methodologies

a) Are data sources and data collection methodologies clearly described or referenced and summarized (and presented in annexes if appropriate), and are they adequate to identify HCVs?

b) Were reasonable efforts made to fill gaps in the data proportion to the impact and scale of the operations?

Reviewer comments – Finding – Minor

Secondary data sources such as reports, policies, and regulations were used for the HCVF assessment. However, primary data sources such as provincial GIS data layers and other GIS data sources should be used to fill in gaps as needed. These primary data sources are also important in the develop of maps for identified HCVs. Some data sources are perhaps outdated, so expanding the search on more recent data sources and through stakeholder consultation will help strengthen HCV decisions. Some decisions are made based on no known occurrences, however, if primary data sources and maps exist, these decisions would be better supported.

As per indicator requirement 9.1.3 of the FSC national standard (*All HCVs* and HCV areas*, except those considered sensitive for ecological or cultural reasons, which are definable based on location are delineated on maps consistent with the scale* of the designation (e.g., global, national, regional, large home range, isolated occurrence, etc*.)) maps should be added to the report where possible to show where values are on the landscape.

Response –Complete – Additional maps and charts added to report.

4.3 Consultation Process

a) Was there an appropriate consultation process for:

- Identification of HCVs
- Management of HCVs
- Monitoring of HCVs

b) Were appropriate existing initiatives engaged wherever possible (including existing local or international social, ecological or biological conservation initiatives)?

Reviewer comments – Finding – None with recommendation

The section 'Consultation' provides a brief overview of the consultation efforts that have occurred. Indigenous, interested and affected stakeholders, and technical experts are all mentioned as groups that have been consulted with. Recommend adding an appendix that lists the communities, stakeholder/stakeholder groups, technical experts and others that were consulted with.

Complete - A detailed Consultation section is provided at Section 9.1.2. Additional text has been added. This section has significant details regarding the organizations and Indigenous communities that were consulted with and who we will continue to consult with. The GANRC (LCC) members, list of Indigenous communities and ENGO that were consulted with are listed here.

5. Identification, location and status of each HCV

For all HCVs, are the following points addressed, and was the process or effort proportionate and adequate relative to the likely impact and scale of operations?

5.1 Addressing all six HCV categories

a) Are all six HCVs addressed in the report?

b) If one or more HCVs are not addressed, is there adequate justification for not doing so (eg. the HCV is absent beyond reasonable doubt?)

Reviewer comments – Finding – None

HCV categories 1 through 6 have been assessed complete with management and monitoring strategies. A complete HCVF assessment for FSC certification has been fulfilled and follows Appendix D of the FSC Canada National Standard.

5.2 Data Quality

a) Are data detailed, recent and complete enough to make informed decisions on presence/status/location of the HCV?

b) Is the precautionary principle appropriately invoked in the use of data?

c) Were maps, reports and other previously existing data up to date and adequate?

d) Is there an understanding of the spatial accuracy of the data used?

e) Should further data be collected before decisions are made?

Reviewer comments – Finding – Minor

Secondary data sources such as reports, policies, and regulations were used for the HCVF assessment. However, primary data sources such as provincial GIS data layers and other GIS data sources should be used to fill in gaps as

needed. These primary data sources are also important in the develop of maps for identified HCVs. Some data sources are perhaps outdated, so expanding the search on more recent data sources and through stakeholder consultation will help strengthen HCV decisions. Some decisions are made based on no known occurrences, however, if primary data sources and maps exist, these decisions would be better supported.

Response –Complete – Additional maps and charts added to report.

5.3 Reference to HCV toolkits

a) Has a national interpretation of HCVs been used, or in absence of a national interpretation, have the generic HCVF toolkit guidelines been appropriately interpreted?

Reviewer comments – Finding – None

The framework used to conduct the HCVF assessment follows the 19 questions provided in Appendix D of the FSC National Forest Stewardship Standard of Canada.

5.4 Decision on HCV status

a) Is the HCV present, potentially present or absent in the assessed area?
b) Has the presence of the HCV in the wider landscape and nationally, regionally or globally been addressed?
c) Is the HCV (and its components) clearly defined and described?
d) Is the description sufficient for responsible parties reliably to identify the HCV?
e) Was the precautionary principle appropriately invoked in making the decision on HCV status?

Reviewer comments – Finding – None

The report provides a summary table of identified HCV's, which is very helpful. Similar to the previous section on data quality, the use of primary data sources if available would help further verify whether an HCV is present, potentially present or absent in the assessed area. The precautionary approach or principle is mentioned throughout the report.

5.5 Mapping Decisions

a) Are maps of HCV occurrence clear, accurate and useful?
b) Are maps of HCV occurrence presented at an adequate level of resolution and sufficient completeness for management decisions?

Reviewer comments – Finding – Minor

Detailed maps showing HCV occurrence on the landscape is missing throughout the report. Although there are some maps, the lack of maps throughout the report is noticeable. Where possible, high-resolution maps

need to be completed for HCVs with the HCVF area clearly displayed.
Response –Complete – Additional maps added for HCVs (caribou calving areas, LLPs in southern zone, ANSIs, AOCs). External threats are identified under Section 9.2 but additional reference to caribou and other HCVs added.

6. Management of HCVs

For each HCV, either individually or collectively, were the following points addressed appropriately, relative to the likely impact and scale of operations?

6.1 Assessment of threats or risks to each HCV within the landscape context

a) Are threats or risks from current or planned management activities to each HCV within the assessment area identified?
b) Have HCV management areas and management prescriptions been defined for each HCV, wherever those HCVs occur?
c) Are threats from external factors to each HCV within the assessment area identified?
d) Are aspects which might help to preserve the HCVs outside the assessment area identified (e.g. protected areas, inaccessible areas, favourable land use, active conservation programmes etc)?
e) Are aspects which would tend to threaten the HCVs outside the assessment area
identified (e.g. unfavourable land use, hunting pressures etc.)

Reviewer comments – Finding - Minor

Threats to species and their habitat, along with current management by either the company or the government are provided. Specific management or operational prescriptions for identified HCVs have been clearly stated to ensure that the value is either maintained or enhanced. Management areas for HCVs have not been defined for most since maps are often absent. External threats have not been provided but could be provided (e.g. woodland caribou external threats).
Maps, as feasible, of all HCV management areas (HCVFs) are needed to help support management prescriptions.
Response –Complete – Additional maps added for HCVs (caribou calving areas, LLPs in southern zone, ANSIs, AOCs). Also, external threats are identified under Section 9.2, but additional text referencing to caribou and other HCVs added.

6.2 Are HCV management plans adequate?

a) Are management objectives clearly described and appropriate?

b) Are management prescriptions clearly described and appropriate to meet stated objectives?

Reviewer comments – Finding – None with recommendation

The 'Attribute' column in Table 4 could be the stated management objective. Recommend expanding on the attribute (e.g. instead of 'Nest Sites' change to 'Protection of Nest Sites During Active Operations and/or the Critical Breeding Period').

Complete - Text added as requested to Table 4 column.

6.3 Protection of HCVs from land use conversion

a) Has each HCV been appropriately identified and mapped, within the wider context, prior to any land use conversion activity?
b) Have appropriately scaled maps of HCV management areas been presented, prior to any land use conversion activity?
c) For each HCV management area, are appropriate management prescriptions clearly described?
d) Will HCV management areas adequately maintain or enhance HCVs at the site and landscape level, given known plans for surrounding areas?

Reviewer comments – Finding - None

There are no identified land use conversion activities stated for HCV areas.

7. Monitoring of HCVs

For each HCV, either individually or collectively, were the following points addressed appropriately, relative to the likely impact and scale of operations?

7.1 Monitoring plans clearly described

a) Are monitoring objectives clearly described and appropriate?
b) Are methodologies clearly described and appropriate to meet stated objectives?

Reviewer comments – Finding - None

Current monitoring for compliance and effectiveness are summarized for each HCV in Table 4.

7.2 Monitoring plans adequate

a) Does the monitoring plan adequately deal with significant changes arising from proposed management operations, or known or likely external threats to HCVs?

Reviewer comments – Finding - None

See comments under 7.1

7.3 Plans for a regular review of data in the management and monitoring plan

a) Is there a clear line of responsibility?
b) Is the monitoring system review process adequate for capturing effects of likely threats/risks to HCVs?

Reviewer comments – Finding - Minor

A clear line of responsibility for an on-going review process has not been identified in the assessment report. An overview of how the monitoring system review process will be conducted is needed. It is advisable to describe how the results of monitoring will be reviewed and acted upon as needed, especially if HCVs are being negatively impacted from forest management activities.

Complete – Additional text added to 5. Management and Monitoring Strategies, in particular the responsibilities of the MNRF and the Certificate holder and how Compliance Monitoring occurs to address " how the results of monitoring will be reviewed and acted upon as needed…"

6.6. Literature Cited

2011-2021 and 2021-2031 Forest Management Plan for the Kenogami Forest
https://nrip.mnr.gov.on.ca/s/fmp-online?language=en_US

High Conservation Value Assessment for the Kenogami Forest, Abies Consultants (V1.0)

The FSC® National Forest Stewardship Standard of Canada FSC-STD-CAN-01-2018 V 1-0

https://ca.fsc.org/en-ca/standards/forest-management-standards

Common Guidance for the Management & Monitoring of High Conservation Values, 2014

https://my.fsc.org/preview.common-guidance-for-hcv-management-and-monitoring.a-245.pdf

Common Guidance for the Identification of High Conservation Values, 2013
https://fsc.org/sites/fsc.org/files/2019-04/Common%20Guidance%20for%20the%20management%20and%20monitoring%20of%20High%20Conservation%20Values%20English.pdf

FSC® Free, Prior, and Informed Consent Guidance, V1,2019

https://ca.fsc.org/preview.free-prior-and-informed-consent-guidance.a-2502.pdf

Wester, M.C., B.L. Henson, W.J. Crins, P.W.C. Uhlig and P.A. Gray. 2018. The Ecosystems of Ontario, Part 2: Ecodistricts. Ontario Ministry of Natural Resources and Forestry, Science and Research Branch, Peterborough, ON. Science and Research Technical Report TR-26. 474 p. + appendices