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High Conservation Values in the Nipissing Forest

Assessment, management and monitoring
of forest conservation from a global,
national and local perspective based on
Forest Stewardship Council Principle 9

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Important information for reading this document– A High Conservation Value (HCV) assessment is primarily a communications document. It brings together all of the values information in one location to allow for a fair assessment of what is a true High Conservation Value (HCV). To accomplish this, there is a very heavy reliance on many other documents. Most of these are accessible through Internet links that are included in this report. ***If the reader wishes to fully access these, this report should be read on a computer with a high speed internet connection.*** Here is some guidance on accessing the supporting documents:

- **Important:** Depending on your computer, links may work with a single click, but some will require you to hold the control key and click on the link.

After viewing a hyperlink, return to previous page (PDF or WORD) by ALT  (ALT left arrow)

- The document is provided in either MS WORD format or PDF because these are the most widely available and functional formats
- A few web documents are large (> 20 or 30 megabytes, such as the Forest Management Plan documents and maps). They may take a minute or so to download.
- References are provided in several formats depending on the purpose: Web links are provided for key documents in the text (**blue fonts**) or footnotes, and have been verified as of the date of this report; a citation list is provided for general scientific papers not available on line, and other papers of general interest. Additional links are listed under “assessment methodology” within each element. There is some redundancy to allow for different means for users to access information.
- This document contains only a few maps and illustrations because the linked documents will provide better and normally more up to date graphical information.
- Common Names in this report are capitalized to improve readability for people unfamiliar with the breadth of species (despite the APA style guide).
- Comments are welcome on whether more maps and illustrations would help the readability of the document for the next version.

Please send comments to Mark Lockhart (mlockhart@nipissingforest.com)

Acknowledgements

The authors acknowledge the Nipissing Forest Local Citizen's Committee for their advice and patience in connecting HCVs with the values they carefully safeguard. The Aboriginal Working Group was just as helpful and provided a stimulating discussion of the values on the forest. MNR staff, who are charged with legally safeguarding values were helpful and professional. The work of the Planning Team in preparing the Nipissing Forest Management Plan is acknowledged as the primary basis for this report. Kira Dunham provided many helpful comments in the review of the report.

Acronyms

AOC	Area of Concern
CRO	Condition on Regular Operations
COSEWIC	Committee on the Status of Endangered Wildlife in Canada
COSSARO	Committee on the Status of Species at Risk in Ontario
EO	Element Occurrence
EMS	Environmental Management System
FMP	Forest Management Plan
FSC	Forest Stewardship Council
GLSL	Great Lakes St. Lawrence
HCVF	High Conservation Value Forest
HCV	High Conservation Value
IBA	Important Bird Area
LLF or LLLF	Landscape Level Forest or Large Landscape Level Forest
MNRF	Ministry of Natural Resources and Forestry
NF	Nipissing Forest
NFRM	Nipissing Forest Resource Management Inc.
NHIC	Natural Heritage Information Centre
SAR	Species at Risk
SFL	Sustainable Forest Licence

HCV or HCVF?

Terminology is important, and one of the confusing terms is the difference between HCV and HCVF (High Conservation Value Forest). Broadly speaking the former is the most common usage currently and refers to *specific* values. HCVF refers to an area that contains the value. When using the terms in practice, it is usually simplest and most accurate to refer to HCVs. The terms can be used interchangeably although this can confuse some people. This report almost always uses "HCV".

For further information on the HCV concept, The HCV Resource Network document called [Common Guidance for the Identification of High Conservation Values](#) provides an up to date explanation.

For a video overview of HCVs in international conservation

[CLICK HERE](#)

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ALT left arrow ← returns to original screen location

Executive Summary

This report is an assessment of 'High Conservation Values' (HCV) undertaken on behalf of [Nipissing Forest Resource Management Inc.](#) (NFRM), which manages the Nipissing Forest (NF) in accordance with Principle 9 of the FSC Principles and Criteria. [NFRM](#) manages the NF under the authority of a Sustainable Forest License (SFL) granted by the Government of Ontario. The Forest Management Plan ([FMP](#)) is the guiding document for the management of values and is regulated and approved by the Province of Ontario.

This assessment of HCV is guided by the "High Conservation Value Forest National Framework", which is Annex D of the [FSC National Forest Stewardship of Canada \(V1-0\)](#). This HCV assessment resulted in the following HCV designations:

Table 1. Identified High Conservation Values on the Nipissing Forest, with links to management and monitoring information.

HCV Element	Link to Document	Management	Monitoring	HCV Designation
1	NF Species at Risk Northern Bat or Northern Long-eared Bat , Blanding's Turtle ,	These Species at Risk, when they occur on the forest, are managed by specific prescriptions developed specifically for each species. This is mandated by the 2007 Endangered Species Act and put into operation in forestry through the Forest Management Plan. MNR is the lead agency. The Manager is required to follow government direction Table 13 .	All of the prescriptions in the FMP are monitored for their efficacy by a process governed by regulations of the Crown Forest Sustainably Act and Endangered Species Act. For clarity, the expert responsible for monitoring is listed in Table 13 , a summary of management and monitoring.	HCV Links to Management Prescriptions Northern Bat , Blanding's Turtle
	Peregrine Falcon , Bald Eagle , Short-eared Owl , Chimney Swift , Kirtland's Warbler , Whip-poor-will , Loggerhead shrike , Common Nighthawk , Yellow Rail , Black Tern , Cougar , Eastern Small-footed Myotis , Eastern Ribbonsnake , Wood Turtle , Musk Turtle , Northern Map Turtle , Spotted Turtle , Hog-nosed Snake , Common Five-lined Skink ,	May occur in the forest, but no element occurrences are recorded; for some species, prescriptions have been developed in the event the species is identified in the NF.	No effectiveness monitoring required of these prescriptions, as currently there are no occurrences of these species.	Possible HCV

HCV Element	Link to Document	Management	Monitoring	HCV Designation
	Butternut, American Ginseng, Silver Lamprey			
	Olive-sided Flycatcher, Least Bittern, King Rail, Bobolink, Eastern Meadowlark, Barn Swallow, Bank Swallow, Canada Warbler, Black Tern, Small-footed Bat, Lake Sturgeon, American Eel, Northern Brook Lamprey, Snapping Turtle, Eastern Wolf	Occurs, but species is addressed through Normal Operations; or there is no interaction with forestry operations; no special prescription required.	No effectiveness monitoring required, as there are no prescriptions because there is no direct interaction with forestry.	HCV no special prescription required
2	Endemic Species			None
3	Seasonal Concentration of Wildlife Loring Deer Wintering Area	Operators follow Conditions on Regular Operations for Critical Thermal Cover (DWH1) and Deer Wintering Habitat (DWH2)	Compliance monitoring by NFRM	HCV manage
	Un-accessed critical spawning areas for Lake & Brook Trout	Buffer in FMP	Compliance by MNR and NFRM	HCV manage
	Large Heronries (>25 nests)	Large heronries follow the prescription provided in the stand and site guide (MNR)	Monitoring is by MNR regional technology	Possible HCV
4	Regionally Featured Species			None
5	Edge of Range Species Red spruce	MNR sets prescription	NFRM trains operators for CRO & compliance	HCV manage
6	Conservation/Protected Areas Provincial Parks Conservation Reserves Forest Reserves	These areas are regulated and forestry activity is not allowed. Management focuses on Boundaries for these.	Compliance along the boundaries (no trespass) is the Manager's responsibility	HCV manage HCV manage HCV manage
7	Large Landscape Level Forest			None
8	Rare ecosystems			None
9	Significantly Decline Ecosystem Late seral White & red Pine	MNR developed the old growth strategy and is		HCV manage

HCV Element	Link to Document	Management	Monitoring	HCV Designation
	Late seral Tolerant hardwood All Hemlock stands	responsible for monitoring it.		
10	Fragmented landscapes Enhanced Management Areas w Access control	Created & Monitored through the Ont Living Legacy Land Use Plan	MNR is responsible for land use controls	HCV manage
11	Unique Ecosystems Earth Science -- Dana Township Ice Margin Complex; Friday Lake Moraine			HCV – no special prescription required
12	Water Source Trout Lake and the Sturgeon River Public Springs			HCV manage
13	Flood Protection Provincially Significant Wetland	An AOC prescription in the FMP excludes forestry operations from within 120 m buffer around wetland.	Compliance MNR and NFRM staff ensure prescription implemented.	Link: HCV PSW Management and Monitoring
14	Soil Erosion /slide Protection			None
15	Fire Barrier			None
16	Other industry			None
17	Communities & Livelihoods			
18	Cultural: Native & Non-native Native values Ottawa, Mattawa and French Rivers	Protection is determined based on the value. Normally buffers applied.	Compliance MNR and NFRM compliance staff routinely ensure prescription is implemented	HCV management is confidential
19	Overlapping values			None

Overview of HCVF Assessment on the Nipissing Forest

Nipissing Resource Management Inc. manages the Nipissing Forest (NF) under the authority of a Sustainable Forest License (SFL) granted by the Government of Ontario. The NF was certified by the Forest Stewardship Council (FSC) on May 16, 2003. Part of the certification process was completion of an assessment of High Conservation Values using the definition of the Forest Stewardship Council's Principle 9. According to the definition, High Conservation Value Forests are those that possess one or more of the following attributes:

- Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or
- Large landscape level forests, 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.
- Forest areas that are in or contain rare, threatened or endangered ecosystems.
- Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control).
- Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

This assessment of HCV on the NF is guided by Annex D of the FSC National Forest Stewardship of Canada (V1-0).

Understanding HCVs on public land in Ontario requires an understanding of Ontario's current approach to non-timber forest values. The NF is a large forest, publicly owned and, by Canadian standards, fairly intensively used by the forest residents (North Bay and surrounding) and the large urban populations a few hours to the south. The scale of the forest alone pushes the requirements for HCV analysis to a high level as described by the HCV National Framework (Section 4 - The issue of scale "...from large areas to single stands or ecosites...").

Current MNR forest policy addresses a wide range of values using policy documents, or resource guides for special values (Appendix 2 - List of Resource Management Guides for Ontario). The role of the FSC HCVF process in the NF is to ensure that the regulated provincial planning and forest management system meet a global standard. There is no intention of revising the current values lexicon, which is quite mature in Ontario. The public consultation process will be based on the use of local terminology rather than the FSC terminology. It is the responsibility of the managers to ensure that the full FSC meaning of HCV is conveyed to the forest management planning (FMP) process. Although this report will be public, it is not intended for wide distribution to the public simply because of its technical nature.

[NFRM](#) regards all of the NF forest to have conservation value. Environmental values are often prominent in conservation, and they figure prominently in this HCV analysis. But also, by definition, a forest has "high" conservation value when "local communities use the forest for their basic needs or livelihoods." This is no doubt the case for most of the NF. This forest has been the mainstay of loggers, trappers, tourism establishments, outfitters, resort owners for over a century. For some native communities, this has been so for much longer. The questions in the HCV Toolkit, focused at the international level, cautiously suggest that if indeed people do depend on the forest for livelihood, then some consultation may be required. This is never an issue in the NF –

extensive ongoing consultation is required, by law and common sense, even though compromise and difference of opinion are routine.

In assessing HCV for the Nipissing Forest, [NFRM](#) managers have been inclusive in their approach in keeping with the FSC P&Cs and the precautionary principle. Because of the sensitivity around HCVs, designation of HCVs was done with ample consultation. The managers are always open to reconsidering any of the approaches to HCVs.

Purpose & Method

This report is provided to meet the requirements of FSC certification and as communications document for the informed public and government staff.

Methodology -- Annex D of the FSC National Forest Stewardship of Canada (V1-0)

There are four criteria in Principle 9 relevant to forest managers. The four P9 criteria are:

- 9.1 requires an assessment
- 9.2 is guidance on consultation
- 9.3 requires a precautionary level of management
- 9.4 requires monitoring the effectiveness of the management

Management activities in HCVs must “maintain and enhance the attributes which define such forests”.

HCVs, Areas of Concern and Conditions on Regular Operations

“Area of Concern” is the term used to describe the locations of values in the forest that may need special prescriptions to ensure protection. There are many of these AOCs. Some are quite routine, such as shoreline areas. So not all AOCs are HCVs – HCVs are regionally or nationally 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. A “Condition of Regular Operations” is placed on the logging operation where there is routine considerations made for protecting values. One example is “wildlife trees” which are important at the stand level for wildlife. Through tree marking conditions (CROs) these provide either mast or cavities for a wide range of species, including some Species at Risk. Because this is done widely, it is not considered a special prescription. Wildlife trees are not considered HCVs. CROs for White Pine, an HCV, helps to meet the objective for old growth characteristics in the forest and are part of White Pine management strategy.

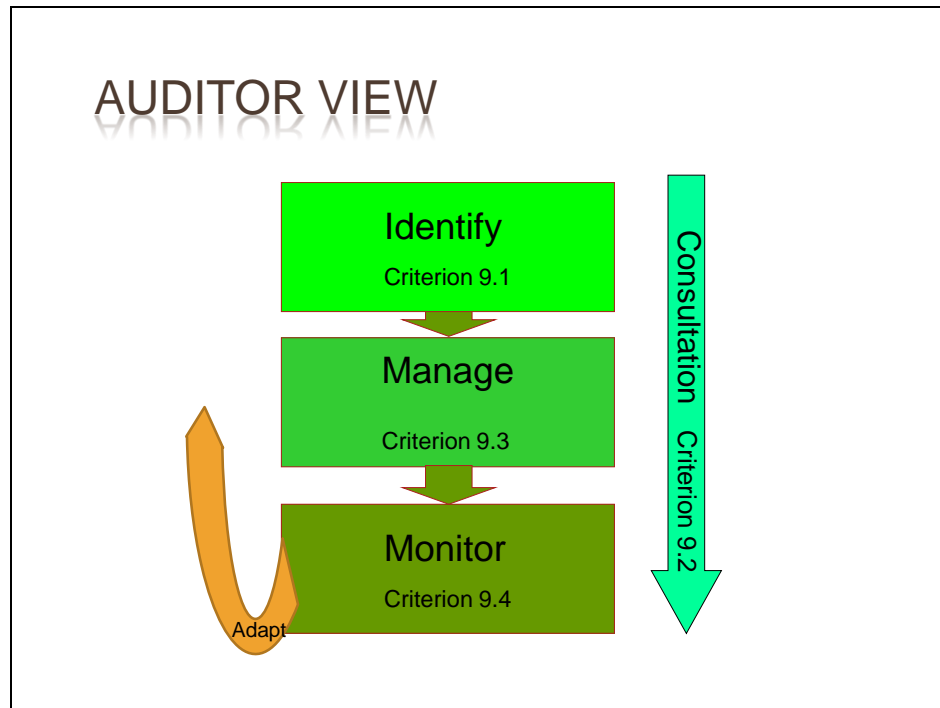


Figure 1. A simplified view of the FSC Principle 9 criteria.

Assessment for HCV Attributes

Annex D of the FSC National Forest Stewardship of Canada (V1-0) provides a list of 19 questions or elements that assist in determining whether individual attributes are HCVs. For each value the manager, with expert consultation, has defined thresholds for designating a High Conservation Value.

During assessment, values are designated as either: HCV, HCV no special prescription required' not HCV, or possible HCV:

- HCV – follow guidance of P9 in which management is guided by the precautionary principle and monitoring demonstrates that specific prescriptions are effective.
- Not HCV – follows guidance of P1 to P8 for management and monitoring.
- HCV no special prescription required – means that the value is significant at least at the regional level, but there is no interaction with forestry and consequently no special prescription is required, nor is monitoring. In other words, Normal good forestry practices avoid impact on the value.
- Possible HCV – occurrence is not confirmed, needs further information about distribution and abundance, and or consultation required; follows P9 and precautionary principle.

Our analysis of HCVs relies heavily on legislated forest management planning requirements which is guided by expert advice during plan preparation. See page vii of the forest management plan for a list of planning team advisors.

Consultation

There are four components to the HCV consultation consisting of:

- Broad review, based on the [FMP](#) process (see [FMP](#), Supplementary Documentation Tabs I and J), to determine forest values generally which will include as a minimum individuals, local stakeholder representatives including the Local Citizen's Committee (LCC)
- Consultation with technical experts about species, ecosystems or values that are HCVF
- Focused review by regional, provincial and national stakeholders of the values and the management approach
- Open door policy – new HCVs and new management approaches will be considered at any time

Values are open for review during frequent visits to the Local Citizen's Committee (LCC) and to the NF Aboriginal Working Group. The LCC is a knowledgeable group of local residents formed to advise on the production of the Forest Management Plan on a regular (often monthly) basis. The Aboriginal Working Group advises the manager on the appropriate means of protecting First Nation values. Both groups participate in [FMP](#) production. They also provided comments to the manager about what is appropriate to designate HCV.

As well, MNR's requirements for public consultation (bullet point 1), are documented in detail as part of the [FMP](#) process, and as part of the public record in the Appendices to the plan. This will serve as part of the HCV documentation process. The other three steps of the consultation process are documented in this report and in subsequent updates to this report.

[FMP](#) Supplementary Documentation (Part B, Section 6.1) contains details of the consultation process for the planning process:

- public consultation summary -- Supp. Doc I
- report of the local citizens committee -- Supp. Doc J
- issues addressed -- Supp. Doc K
- required alterations from draft plan review -- Supp. Doc K

Comments on this report will be considered at any time. Copies of the original HCV assessment were sent to organizations which have expressed interest in the past: Ontario Federation of Anglers and Hunters, Ontario Nature, Canadian Parks and Wilderness Society, World Wildlife Fund.

HCV Designation Decision by the Manager

Under the FSC system it is the manager who makes the final designation of HCVs. This decision must be transparent (as documented in this report) and based on expert and stakeholder consultation.

MNR expert opinion carries weight in these decisions. In Ontario's [FMP](#) system, as regulated following the Environmental Assessment decision of 1995, and subsequent reviews, the responsibility for non-timber values rests with the provincial government. To ensure that the management is effective, the government employs a range of experts including biologists, archaeologists, and native liaison officials. In P9, the standard refers specifically to the responsibility of "the applicant" towards HCVs. In the case of FSC, [NFRM](#) is responsible for the "special" values or HCVs. To carry out this responsibility, the manager must ensure that the government is meeting the spirit of the FSC standard. [NFRM](#) will ensure that HCVs are properly assessed and designated in the FSC context. This report is the responsibility of [NFRM](#) and meets the requirement of 9.1 in the assessment.

Keeping HCVs up to date – Process

Part of the HCV methodology must be a process for keeping records and prescriptions up to date. As described above, the primary driver for this is the [FMP](#) process, which is the open public record of forest management. It is a public record of forest management decision-making regulated by the Crown Forest Sustainability Act (Government of Ontario, 1994). The process for keeping that system up to date is part of the [FMP](#) system, which is mandated by law.

The contents of this HCV report will need to be reviewed periodically to ensure that it is up to date with the [FMP](#) and other changes in the forest. Of particular interest are the values designated “possible HCV” which need to be reviewed for changes to status should a new species appear. The Company will ensure, as part of the responsibilities of the designated staff member for certification (currently the General Manager), that HCV is reviewed at appropriate time intervals. This will normally be triggered by status updates to species or other values, amendments to the [FMP](#), or a two year time period. Annual maintenance audits by the certifier will also ensure that this is fulfilled. In short, a significant change to the management (such as a new FMP), new direction from the Province (such as changes to the Endangered Species Act) or a large natural disturbance would require an update. Small updates will be made annually, especially to comply with the ESA.

Good Neighbour Policy

The FSC Standard requires that adjacent landowners and forest managers be kept informed of important issues on the forest including HCV management. This is a list of some of the activities [NFRM](#) engages in to keep good relations with neighbours:

1. [NFRM](#) has signed numerous Resource Stewardship Agreements with Resource Based Tourism Operators on the Forest, and has recently renewed many of them where required during the development of the 2019 FMP.
2. [NFRM](#) has developed a policy to ensure efforts will be made to contact the adjacent land owner to notify them of planned activities before they occur. Within this policy, all planned activities on adjacent property requires the written consent (or verbal consent with documentation) of the land owner. Every effort will be made to ensure that planned activities do not occur on adjacent properties. Planned activities include: harvesting, road construction, renewal, tending and protection.
3. [NFRM](#) has an AOC prescription for the Algonquin Park Management Unit Boundary that states “When a value and AOC prescription exist on the Algonquin Forest, [NFRM](#) will apply appropriate AFA AOC prescriptions for values that lie within the park but have AOC protection extending beyond the park boundary onto the Nipissing Management Unit.”
4. [NFRM](#) marks boundaries adjacent to provincial parks, the SFL using boundary marking CROs and Park Boundary AOCs to ensure that supportive management is provided to retain protection of ecological and recreational features intended by the Park or Conservation Reserve boundary.
5. [NFRM](#) has identified First Nation Land Claim areas on the Forest and excluded operations from these proposed areas by the First Nations, in order to ensure forest management activities do not interfere with settlement processes.

Forest Description

The Nipissing Forest is a Forest of approximately 1.1 million ha located near the city of North Bay ([Figure 2](#)), Ontario. The Forest is located in two of Hill's site regions (4E and 5E) and encompasses 5 of Hill's site districts (4E-4, 4E-5, 5E-5, 5E-6, and 5E-8). It comprises a transitional forest type that straddles the Boreal forest to the north and the Great Lakes-St. Lawrence mixed-wood forests and agricultural areas to the south. According to the WWF Ecoregion Conservation Assessment, the Forest is located within the Eastern Forest-Boreal Transition zone. Wildlife habitat is diverse and rich; fisheries are a significant resource and wetlands contribute to both fish and wildlife habitat and to recreational activities such as birding, hunting and fishing.

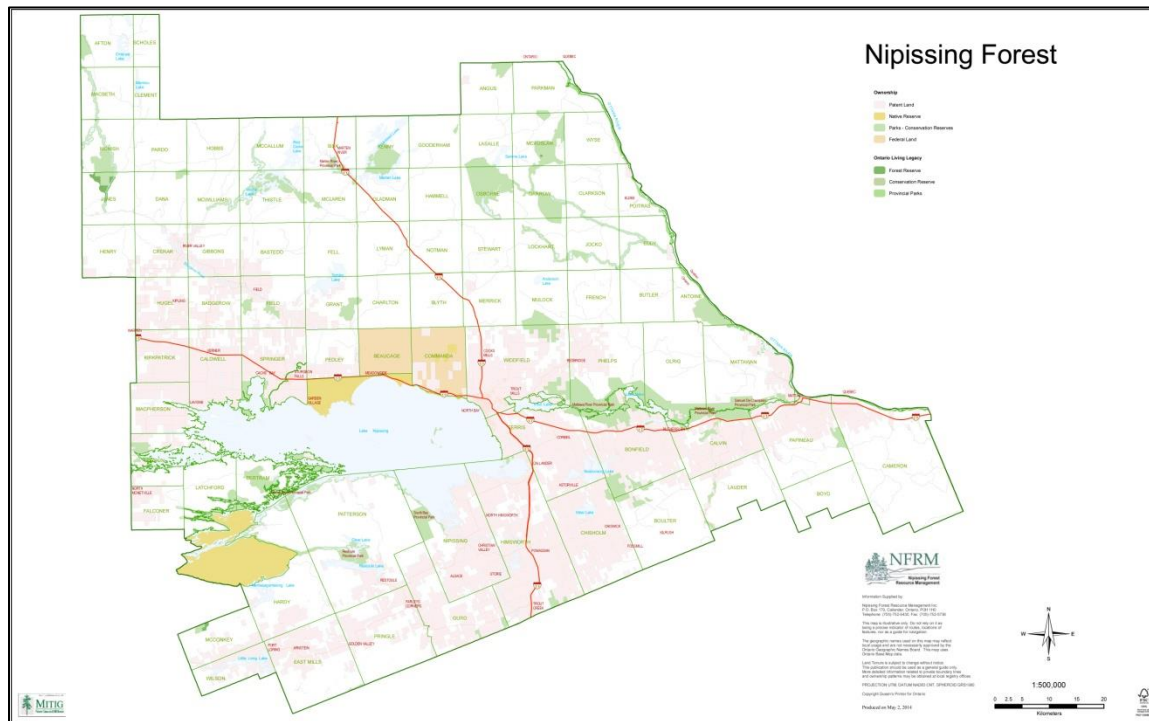
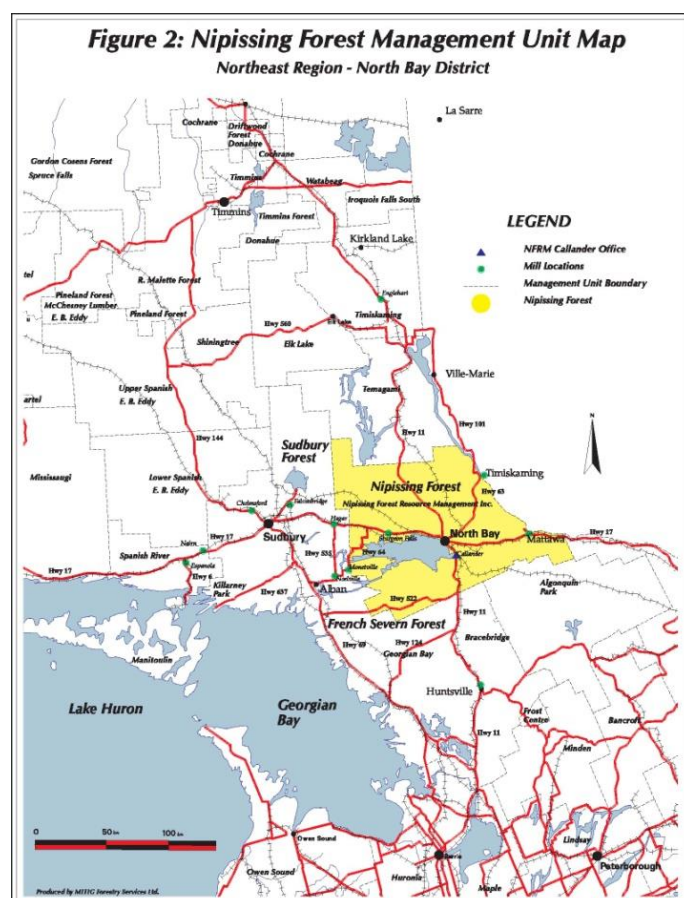


Figure 2. Overview of the Nipissing Forest.

The Great Lakes-St. Lawrence forest region commonly includes such species as sugar maple (*Acer saccharum*), red maple (*Acer rubrum*), red oak (*Quercus rubra*), American beech (*Fagus grandifolia*), basswood (*Tilia americana*), white pine, (*Pinus strobus*) red pine (*Pinus resinosa*), hemlock (*Tsuga canadensis*) and mid-tolerant hardwoods such as yellow birch (*Betula alleghaniensis*), black cherry (*Prunus serotina*) and ash (*Fraxinus* spp.). Predominant species found in the Boreal forest include conifers such as black spruce (*Picea mariana*) and white spruce (*Picea glauca*), jack pine (*Pinus banksiana*), larch (*Larix laricina*), balsam fir (*Abies balsamea*) and eastern white cedar (*Thuja occidentalis*). The rest is comprised of shade-intolerant hardwoods, which include trembling aspen (*Populus tremuloides*) and white birch (*Betula papyrifera*). Because the Forest is transitional, many species are at the northern or southern limits of their range.

Provincial parks and Natural Heritage Areas provide a significant contribution to the protection of other forest resources. In those parts of the forest where timber operations are permitted, the effects of timber operations on non-timber resources are mitigated through planning for 'Areas of Concern' (AOC). AOCs are applied around sensitive values, providing a zone of protection for the value through a required set of operational restrictions including timing and modifications to the actual operations within the AOC. Operational restrictions can include no harvesting within the AOC.

Figure 3. Location of Nipissing Forest in Ontario.



Assessing HCV attributes

The following assessment for the presence of HCV attributes is based on the 19 questions posed by the National HCVF framework divided into six categories related to the definition of HCV.

Table 2. National Framework process for assessing the presence of HCV attributes.

Category 1: "...significant concentrations of biodiversity values."

1. Does the forest contain species at risk or potential habitat of species at risk as listed by international, national or territorial/provincial authorities?
2. Does the *forest** contain *endemic** species?
3. Does the forest include critical habitat containing globally, nationally or regionally significant seasonal concentrations 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)?
4. Does the forest contain critical habitat for regionally significant species (e.g. species representative of habitat types naturally occurring in the management unit, focal species, species declining regionally)?
5. Does the forest support concentrations of species at the edge of their natural ranges or

outlier populations?

6. Does the forest lie within, adjacent to, or contain a conservation area: a) designated by an international authority; b) legally designated or proposed by relevant federal/provincial legislation; or c) identified in regional land use or conservation plans?

Category 2. "...large landscape level forests..."

7. Does the forest constitute or form part of a globally, nationally or regionally significant forest landscape that includes populations of most native species and sufficient habitat such that there is a high likelihood of long-term species persistence?

Category 3 "...rare threatened or endangered ecosystems..."

8. Does the forest contain naturally rare ecosystem types?
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)?
10. Are large landscape level forests (i.e. large unfragmented forests) rare or absent in the forest or ecoregion?
11. Are there nationally /regionally *significant** diverse or unique forest *ecosystems** or *forests** associated with unique aquatic *ecosystems**?

Category 4 "...basic services... watershed protection"

12. Does the forest provide a significant source of drinking water?
13. Are there forests that provide a significant ecological service in mediating flooding and/or drought, controlling stream flow regulation, and water quality?
14. Are there forests critical to erosion control?
15. Are there forests that provide a critical barrier to destructive fire (in areas where fire is not a common natural agent of disturbance)?
16. Are there forest landscapes (or regional landscapes) that have a critical impact on agriculture or fisheries?

Category 5 "...meeting basic needs of local communities..."

17. Are there local communities? (This should include both people living inside the forest area and those living adjacent to it as well as any group which regularly visits the forest). Is anyone in the community making use of the forest? Is the use for their basic needs/livelihoods?

Category 6 "...communities' local cultural identity..."

18. Is the traditional cultural identity of the local community particularly tied to a specific forest area?
19. Is there a significant overlap of values (ecological and/or cultural) that individually did not meet HCV thresholds, but collectively constitute HCVs?

Assessment for HCV Attributes

Annex D of the FSC National Forest Stewardship of Canada (V1-0) provides a list of 19 questions or elements (Table 2) that assist in determining whether individual attributes are HCVs. For each value the managers, with expert consultation, have defined thresholds for designating a High Conservation Value.

During assessment, values are designated as either: HCV; not HCV; HCV - no special prescription required; or *possible* HCV.

- HCV – follow guidance of P9 in which management is guided by the precautionary principle and monitoring demonstrates that specific prescriptions are effective.
- Not HCV – follows guidance of P1 to P8 for management and monitoring.
- HCV no special prescription required – means that the value is significant at least at the regional level, but there is no interaction with forestry and consequently no special prescription is required, nor is monitoring. In other words, Normal good forestry practices avoid impact on the value.
- Possible HCV – occurrence is not confirmed, needs further information about distribution and abundance, and / or consultation required; follows P9 and precautionary principle.

Category 1) Forest areas containing globally, nationally or regionally significant concentrations of biodiversity values.

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 species diversity. This indicator allows for a single species or a concentration of species to meet HCV thresholds.

Assessment Methodology:

- [NHIC Conservation Data Centre](#)
- [Ontario Breeding Bird Atlas](#)
- [IUCN Red List](#)
- [Royal Ontario Museum](#)
- [COSEWIC](#) list of species at risk and COSEWIC status reports
- [Ontario Herpetofaunal Atlas maps](#)

Species at Risk designations are made by a committee of science experts ([COSSARO](#)) as described in the [Endangered Species Act \(RSO 2007\)](#). The forest management plan was prepared using the most current list of species, and MNR has not identified any new species which need to be considered at this time.

[International Union for the Conservation of Nature](#), IUCN is referenced in this section and elsewhere as a respected and balanced source of risk assessment. Most IUCN assessments here are ranked as “least concern” due to their global perspective on risk. The rankings are connected to local authorities such as the [Royal Ontario Museum](#).

Assessment Results:

[Table 3](#) below describes all of the rare and listed species with records of occurrence within the boundaries of the NF.

The table includes species that are considered to be “at risk”, i.e. listed (special concern, threatened, or endangered) nationally (COSEWIC) or provincially (COSSARO), as well as other species that are not “at risk” but are considered to be “rare” according to Ontario’s Natural Heritage Information Centre (NHIC).

For this assessment, the NHIC database, the Ontario Breeding Bird Atlas, the Ontario Herptile Atlas, and the Forest Management Plan were the primary sources of information. IUCN is used for illustration and further source of general information since it does not play a role in listing species nationally.

Any “rare” species that had actually been observed in the NF and recorded in a relevant database was considered to be a candidate for assessment. At a global scale, the presence of G1 (globally extremely rare) and G2 (globally very rare) occurrences were considered to be the relevant NHIC designations. At the provincial level, S1, S2, and S3 ranks were considered to be relevant. No G1/G2 species have been identified on the Forest.

FSC Manager’s list for Species at Risk

[Table 3](#) is the current assessment of SAR based on current understanding of these species on the NF.

Table 3. NF list and maps of Species at Risk and the "Manager's List" of SAR in FSC criterion 6.2.

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
Birds			
<i>Falco peregrinus</i> Peregrine Falcon	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/45354964/155500538	1) SC 2) <i>Least Concern</i>	1) Considered special concern in Ontario and Canada. Across North America, precipitous declines in populations were associated with widespread, intensive use of persistent pesticides, particularly DDT in the 1960s and 1970s. The Ontario Breeding Bird Atlas (OBBA) did not report any occurrences in the forest. Many occupied territories in Ontario as of 2012. 2) Preferred habitat is at low risk from forestry operations because typical nest sites are steep cliffs, and peregrines hunt over open areas. Known nest sites are protected within a 3 km Area of Concern and a nest site management plan is prepared by MNR. Forest staff and tree markers have been trained in the identification of birds of prey and their nests through the Provincial Tree Marking Certification Course, if a nest is found within 3 km of proposed forestry operations, Stand and Site guide applies. 3) Because SARA lists as threatened, the peregrine falcon is designated HCV. Possible HCV
<i>Ixobrychus exilis</i> Least Bittern	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/22697314/93607413	1) THR 2) Least Concern	1) Considered to be threatened in Ontario and Canada. There were confirmed records for OBBA squares within the Nipissing forest. 2) Unlikely to be a direct risk to the species from forestry due to its marsh habitat. Inadvertent impacts on marshes are very unlikely. The main cause of decline in Ontario is loss of habitat due to the drainage of wetlands in southern Ontario. 3) The FMP contains Area of Concern prescriptions for Provincially Significant Wetlands that would protect important breeding habitat for this bird. HCV no special prescription required
<i>Buteo lineatus</i> Red-shouldered Hawk	NHIC IUCN map	1) G5, S4B 2) NAR 3) NAR 4) Least Concern	1) An uncommon to rare breeding species throughout Central Ontario, preferring large forested areas with adequate wetlands nearby. 292 extant EOs in the NHIC database. Stable. Listed by both COSEWIC and MNRF as "not at risk". Formerly listed as special concern. 2) Prefers mature tolerant hardwood forests close to wetlands, streams, or ponds. In southern Ontario, forest fragmentation and urban expansion have been major causes of habitat loss. Forest harvesting that opens up the canopy too much is a factor throughout the range of this hawk in Ontario (see Naylor et al. 2003). Nests are located during the course of tree marking operations in tolerant hardwood stands. Nests and preferred habitat are at direct risk from forestry and the FMP contains an Area of Concern prescription to protect nests (RSAH). 3) No longer designated in Canada; species stable and common through international range. Not HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Haliaeetus leucocephalus</i> Bald Eagle	MNRF Legal Status MNRF map IUCN URL: https://dx.doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22695144A93492523.en	1) SC 2) Least Concern	1) Breeding population in southern Ontario small, but expanding. Non-breeding occurrences (winter aggregations) relatively few and small (5-20 occurrences). Recent OBBA maps show nest confirmed in some OBBA squares near the NF (on Ottawa R.). 2) Eagle populations in eastern North America declined as a result of widespread use of organochlorine pesticides such as DDT. Today Bald Eagles remain susceptible to illegal shooting, accidental trapping, poisoning and electrocution. Nests found during the course of forest management operations would be reported to MNR. 3) Eagle nests occur near the Forest. As a listed species in the south, this requires designation as possible. Considered by MNRF Special Concern and the FMP contains Area of Concern prescriptions for active and inactive nests. Possible HCV
<i>Asio flammeus</i> Short-eared Owl	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/22689531/93234548	1) Special Concern 2) Least Concern	1) An uncommon to rare and very local (irregular) breeding species in open habitats through Ontario, mostly in the agricultural south and along the Hudson and James Bay coasts. Current trends not known. This owl nests in marshes and grassy areas, and possibly also on clearcuts. No nests found in the last Atlas; there was in first. 2) Risk due to forestry is minimal due to its use of open areas. 3) If an occurrence is found the species will be designated as HCV and appropriate prescription and monitoring developed. Listed so requires HCV designation. The FMP contains an Area of Concern prescription for ground nests occupied by Short-eared owls. Possible HCV
<i>Chaetura pelagica</i> Chimney Swift	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/22686709/131792415	1) Thr 2) Vul	1) An uncommon to common breeding species throughout its Ontario range. Trends not known. 2) Forestry may affect some nest trees, but data is very scarce. Stand and Site Guide (MNR) contains a prescription in the rare event a nest site is found. 3) As a listed species it is designated HCV. A prescription has been included in the Stand and Site Guide. FMP contains an Area of Concern prescription (CNO) for the protection of nests. Possible HCV
<i>Dendroica kirtlandii</i> Kirtland's Warbler	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/22721722/132146817	1) End 2) Near Threatened	1) Not recorded in this Forest. Only one extant EO currently - previously no breeding records since 1985. 2) Potential interaction with forestry due to its dependence on Jack Pine. Control of forest fires has been a cause of decline due to Jack Pine fire dependency for colonization. 3) Listed as Threatened, so designated HCV. Considered Endangered by MNRF and a prescription will be developed in the event of an occurrence. Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
Caprimulgus vociferus Whip-poor-will	MNRF Legal Status MNRF map IUCN URL: http://maps.iucnredlist.org/map.html?id=22736393	1) Thr 2) Near Threatened	1) An uncommon to rare breeding species throughout much of its Ontario range, although common in some regions such as the Frontenac Axis north of Kingston. Current trends not known. 2) Interaction with forestry possible. Main threat to species is likely habitat loss and degradation with the natural change of open areas and thickets to forests in the north and conversions of agricultural in the south. 3) Listed as Threatened, so designated HCV. The FMP contains an Area of Concern prescription for the protection of nests (WW) Possible HCV
Rallus legans King Rail	MNRF Legal Status MNRF Map IUCN URL: http://maps.iucnredlist.org/map.html?id=22692471	1) End 2) Near Threatened	1) King Rail is rare breeding species with a restricted range in Ontario. There are only 29 EOs in the province. 2) Unlikely interaction with forestry unless wetlands are impacted. 3) Listed, so designated as HCV, should it be encountered. HCV no special prescription required
Lanius ludovicianus Loggerhead Shrike	MNRF Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/22705042/118908179	1) End 2) Near Threatened	1) Loggerhead shrike is endangered in both Ontario and Canada. There are two subspecies in Canada: the eastern subspecies is endangered, it was once common in southern Canada but now its range is only in Southern Ontario and south-eastern Manitoba; the western subspecies is threatened. The Loggerhead has been restricted to the southern edge of Canadian Shield due to habitat loss in Ontario. The three main breeding areas are Lindsay, Kingston and Ottawa. Breeding pairs were reduced from 52 pairs in 1992 to 18 pairs in 1997. 2) Habitat loss caused by intensive farming practices, natural succession, reforestation and development. 3) Listed species, so designated HCV but not directly at risk from forestry due to habitat difference. Possible HCV
Dolichonyx oryzivorus Bobolink	MNRF Legal Status MNR map IUCN URL: http://maps.iucnredlist.org/map.html?id=22724367	1) Thr 2) Least Concern	1) Bobolink is threatened both nationally and provincially. There is a widespread range in Ontario, south of the boreal forest. 2) Incidental mortality from agricultural operations, habitat loss and fragmentation, pesticide exposure bird control at wintering roosts are the main threats. 3) Listed species, so designated but not at risk from forestry. HCV no special prescription required

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Sturnella magna</i> Eastern Meadowlark	MNRF Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/22735434/155622113	1) Thr 2) Near Threatened	1) Eastern Meadowlark is listed as threatened in Ontario and Canada. It inhabits a prairie habitat. 2) The main cause of decline for this species is loss of grassland habitat. 3) Listed species, so designated but not at risk from forestry. HCV no special prescription required
<i>Hirundo rustica</i> Barn Swallow	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/22712252/137668645	1) Thr 2) Least Concern	1) Barn Swallow is threatened both nationally and provincially. Historical decline is a result from loss of artificial nesting sites, open barns, and agricultural practices. Cause of recent decline is unknown. 2) Associated with infrastructure, including possibly bridges. No forestry related occurrences have been reported. 3) Listed species, so designated HCV but low risk from forestry. HCV no special prescription required
<i>Riparia riparia</i> Bank Swallow	MNRF Legal Status MNRF Map IUCN URL: https://www.iucnredlist.org/species/22712252/137668645	1) Threat 2) Least Concern	1) It occurs in NF. 2) Bank Swallows nests on banks of rivers and lakes, but also in active sand and gravel pits or old ones where the banks remain suitable. Therefore aggregate pits in forest operations can have an impact. The birds breed in colonies ranging from several to a few thousand pairs, so there is potential for a significant impact. 3) As a threatened species located in the forest, it is designated possible HCV. Possible HCV
<i>Contopus virens</i> Eastern Wood- pewee	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/22699816/93749255	1) SC 2) Least concern	1) The eastern wood-pewee lives in the mid-canopy layer of forest clearings and edges of deciduous and mixed forests. 2) Decline due to it insectivorous diet during migration. 3) Does not occur near forestry operations in this forest, due to its restriction to the shore of L. Superior. Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below**</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Wilsonia Canadensis</i> Canada Warbler	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/22721882/94737489	1) SC 2) Least Concern	1) The Canadian Warbler is special concern in Ontario and threatened in Canada. 80% of its known breeding range is in Canada. The breeding range is deciduous and coniferous trees and nests near the ground. It breeds at low densities across its range. In Ontario it is most abundant along the Southern Shield. 2) Habitat loss due to reduced forests with well-developed shrub layer which impacts the breeding range. 3) There is impact from forestry operations. By maintaining natural amounts of deciduous and lowland conifer areas in a mature and old forest condition. Known nests, or those encountered during operations, will be protected using conditions on regular operations. HCV no special prescription required
<i>Hylocichla mustelina</i> Wood thrush	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/22708670/111170926	1) SC 2) Least Concern	1) Special concern in Ontario. Its range is extended across southern Ontario. They use a variety of habitats such as: farmland, open woodlands, clearcuts, burns, rock outcrops, bogs, fens, prairies, gravel pits and urban rooftops. It will use tall trees and snags as foraging perches. 2) Cause of population decline is multiple, but urbanization and cowbird parasitism are listed. 3) Listed as Threatened, so designated HCV. Possible HCV
<i>Chordeiles minor</i> Common Nighthawk	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/22689714/93244252	1) SC 2) Least Concern	1) Common Nighthawk is of special concern in Ontario and threatened in Canada. Its range is extended across Ontario. They use a variety of habitats such as: farmland, open woodlands, clearcuts, burns, rock outcrops, bogs, fens, prairies, gravel pits and urban rooftops. It will use tall trees and snags as foraging perches. 2) Cause of population decline is unknown. Suspected causes are pesticide use and suitable habitat loss. 3) Listed as Threatened, so designated HCV. Possible HCV
<i>Contopus cooperi</i> Olive-sided Flycatcher	MNRF Legal Status IUCN URL: http://maps.iucnredlist.org/map.html?id=22699787	1) SC 2) Near Threatened	1) Olive-sided Flycatcher is listed as Special Concern in Ontario. It is found in natural forests edges and openings. In Ontario they commonly nest in White and Black Spruce, Jack Pine and Balsam Fir. The cause of decline over the past 30 years is unclear. It was listed because of a 79% decline from 1968 to 2006, a 29% decline since 1996, and because there is no evidence that the decline has ceased. 2) Threats include habitat loss; another possible cause some evidence suggests is that there is lower nest success rates in managed forests compared to that of natural forests. Also a decline in prey could be a threat – currently happening with all flycatchers. 3) Listed, so designated HCV. HCV no special prescription required

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision 1) Status (from COSSARO report) (<i>Rankings defined below**</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Melanerpes erythrocephalus</i> Red-headed Woodpecker	MNR Legal Status (no mgmt. plan avail) MNR map IUCN NHIC/ROM	1) G5 S4B 2) Thr 3) SC 4) Near Threatened	1) Red-headed Woodpecker is of special concern in Ontario and threatened nationally. It lives in southern Ontario with a widespread range, but rare. In the last 20 years the population has declined in Ontario by over 60%. Habitat requirements include a high density of dead trees. It has not been found in NF. 2) Population decline caused by habitat loss due to forestry, agricultural practices, and removal of dead trees which are used for nesting. 3) HCV because SC designation and possible interaction with Forestry. It has not been found in NF and is relatively far removed (several hundred km). Not HCV
<i>Coturnicops noveboracensis</i> Yellow Rail	MNR Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/22692275/93345717	1) SC 2) Least Concern	1) Yellow Rail is listed as special concern in Ontario and Canada. In Ontario they are primarily found in the Hudson Bay Lowlands and localized marshes in southern Ontario. It is estimated there are 10,000 Yellow Rails today. The preferred habitat is shallow wetlands. 2) The main threat to Yellow Rails is the draining of wetlands for urban development. Also, expanding Snow goose populations in the Hudson Bay lowlands destroying habitat. 3) Listed species, so designated HCV but low risk from forestry. The FMP contains an Area of Concern prescription for the protection of nests (WB) Possible HCV
<i>Vermivora chrysoptera</i> Golden-winged Warbler	MNR Legal Status (no mgmt. plan avail) MNR map IUCN NHIC/ROM	1) G4 S4B 2) Thr 3) SC 4) Near Threatened	1) Golden-winged Warbler is of special concern in Ontario and threatened nationally. Their breeding range includes southern Ontario. But rarely central Ontario. 2) Habitat loss due to decline in early successional scrub habitat. Another cause of decline is hybridization with Blue-winged warbler. 3) Assessed because of proximity to NF and suspected by the North Bay District MNRF. Possible interaction with Forestry. Not HCV
<i>Chlidonias niger</i> Black Tern	MNR Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/22694787/155491450	1) SC 2) Least Concern	1) Black Tern is of special concern in Ontario and not at risk in Canada. Black Terns were once common in Ontario and the decline has been occurring since the 1980s. They are scattered throughout Ontario, mainly breeding in marshes along the edges of the Great Lakes. 2) Threats of habitat loss occur due to wetland drainage and alteration. 3) Listed species, so designated HCV but low risk from forestry. The FMP contains an Area of Concern prescription for the protection of nests (WB) Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))

Mammals

<i>Myotis lucifugus</i> Little Brown Bat	MNRF Legal Status No MNRF Map IUCN URL: https://www.iucnredlist.org/species/14176/22056344	1) End 2) Least concern	1) As with Northern Bat, this species is suffering losses from White Nose Syndrome and this is the reason for the COSSARO listing as endangered. Distribution is not clear on this forest. It is listed as least concern by IUCN. 2) A prescription exists in the Stand and Site Guide for Bat Hibernacula. There is no evidence that forestry has contributed to the endangered status for this species. 3) It is a listed species and so designated HCV. It received General Habitat Protection - January 24, 2013 under ESA. Possible HCV
<i>Myotis septentrionalis</i> Northern Long-eared Bat, or Northern Bat	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/14201/22064312	1) End 2) near threatened	1) This bat is considered to be common globally, but is becoming provincially rare. It has a wide range in eastern North America. Recent White nose syndrome has caused it to be listed in Ontario. 2) These bats choose maternity roosts in buildings, under loose bark, and in the cavities of trees. Forest habitat is provided through the retention of cavity trees as required by treemarking guide. 3) Listed as an Endangered species. It is uncommon and as such local occurrences would be protected if located, regardless of designation as HCV. The FMP contains an Area of Concern prescription for the protection of general bat hibernacula (BH) HCV
<i>Myotis leibii</i> Small-footed Myotis	MNRF Legal Status IUCN URL: http://www.iucnredlist.org/apps/redlist/details/14172/0	1) End 2) End	1) This bat is considered to have always been rare. It has a wide range in eastern North America. Susceptible to White nose syndrome. 2) This bat roosts mainly in caves, but possibly also alone or in nursery colonies under peeling bark. Forest habitat is provided through the retention of cavity trees as required by treemarking guide. 3) It is a listed species and so HCV. In the unlikely event of finding one, local occurrences would be protected. An AOC prescription is provided in the FMP for general bat hibernacula. Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below**</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Canis lupus lycaon</i> Eastern Wolf Or Algonquin Wolf	MNRF Legal Status	1) Thr 2) not listed	1) The Algonquin wolf is classified as special concern in Ontario. The eastern wolf, sometimes called the Algonquin Park wolf, is a small subspecies of the widely distributed grey wolf (<i>Canis lupus</i>). Its distribution and taxonomy are unclear. 2) The wolf is a habitat generalist, using almost every habitat type and showing little preference. Populations of wolves are dependent on adequate populations of prey. Habitat for this species is maintained by appropriate silviculture that will ensure that all habitat types representative of a natural forest occur in amounts reflective of the natural bounds of variation, and (ii) through the provision of habitat for deer and moose which are the major prey of wolves. 3) No eastern wolves have been confirmed in the forest and no den sites or other outstandingly important habitats have been identified. The FMP contains an Area of Concern prescription for the protection dens known or suspected to have been occupied within the last 5 years (WD) HCV no special prescription required
<i>Puma concolor</i> Cougar	MNRF Legal Status IUCN URL: http://maps.iucnredlist.org/map.html?id=18868	1) End 2) Least Concern	1) Cougars are endangered in Ontario however there is a data deficiency to determine their national status. Cougars inhabit large forested areas that are relatively undisturbed by humans. Over the years there have been hundreds of sightings in Ontario. In northern Ontario the cougars present are of unknown origins and cougars in southern Ontario are considered to be escaped pets. 2) The disappearance of cougars is caused by land clearing for settlement and agriculture. 3) Forest management considerations will be evaluated if the presence of cougars is verified. Possible HCV

Reptiles

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Emydoidea blandingii</i> Blanding's Turtle	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/7709/155088836	1) Thr 2) End	1. Threatened in Ontario. Widespread in southern and central Ontario but NHIC says populations appear to be rather small. 2. IUCN describes the turtle as highly mobile. They move extensively between wetlands and nest in open grasslands, often well away from water. As such it is susceptible to forest operations. The Stand and Site Guide provides a prescription. MNRF is currently refining the distribution information for the species. 3. Listed species. Prescriptions are in place and these are being monitored and tested for effectiveness by MNR in central Ontario. The FMP contains an Area of Concern prescription for the protection of terrestrial habitat (BT) HCV
<i>Sternotherus odoratus</i> Musk Turtle	MNRF Legal Status MNRF map IUCN URL: http://maps.iucnredlist.org/map.html?id=163450	1) SC 2) Least Concern	1) Musk Turtles are ranked as threatened in Ontario. Inhabits virtually any permanent body of freshwater having a slow current and soft bottom. Eggs are laid up to about 50 m from water. Occur near western edge of the forest. 2) They move extensively between wetlands and nest in open grasslands, often well away from water. As such it is susceptible to forest operations. The Stand and Site Guide provides a prescription. MNR is currently defining the distribution information for the species. 3) Listed species. It occurs near forest so listed as possible HCV. The FMP contains an Area of Concern prescription for the protection of mapped nesting sites (TN) Possible HCV
<i>Glyptemys insculpta</i> Wood Turtle	MNRF Legal Status Map confidential IUCN URL: http://maps.iucnredlist.org/map.html?id=4965	1) End 2) End	1. Endangered in Ontario and also ranked as endangered by IUCN. This is due to the relatively small range of the species in northeastern temperate NA. It has not been found on the forest but occurs to the south of the forest along the Ottawa River. 2. Habitat for these turtles consists of larger, slow-moving rivers and adjacent shrub and forest communities. Mortality on forest access roads can affect their slow-growing populations and there is some risk from forest harvest operations in some seasons. Where wood turtles occur, characteristics of the river and the immediately adjacent riparian zone may be more important habitat features than attributes of the forest cover. Wood turtles venture to and from upland forested areas to feed. The FMP contains an AOC prescription that protects known habitat used by these turtles (WT). 3. Listed species. MNR monitors and does surveys but has not located the species on the forest. Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Graptemys geographica</i> Northern Map Turtle	MNRF Legal Status MNRF map IUCN URL: https://www.iucnredlist.org/species/165598/97418743	1) SC 2) Least Concern	1) Northern Map Turtle is listed as special concern for both Ontario and Canada. It is found in southern Ontario, mainly along the shores of Georgian Bay, Lake St. Clair, Lake Erie and Lake Ontario, as well as along rivers such as the Thames, Grand and Ottawa. It also has been found just west of the forest. 2) The historic distribution of this species is not well known it is not well studied in Ontario; however it is a largely aquatic species. Declines in southwestern Ontario, particularly, may be explained with the increase in shoreline development, decline in habitat quality and increased human disturbance. The introduction of invasive species also results in a loss of prey species for these turtles. 3) Listed species, so designated but not at risk from forestry. The FMP contains an Area of Concern prescription for the protection of mapped nesting sites (TN) Possible HCV
<i>Clemmys guttata</i> Spotted Turtle	MNRF Legal Status Map confidential IUCN URL: http://maps.iucnredlist.org/map.html?id=4968	1) End 2) End	1) The spotted Turtle is endangered provincially and nationally. There are about 75 known locations in Ontario. Although they are widespread in Ontario they are localized to southern Ontario. 2) Spotted Turtles produce small clutches of eggs and they have low hatching success which will hinder the recovery of this species. Females lay eggs in soil and leaf litter in wooded areas close to wetlands. 3) Listed species, so designated but not at risk from forestry. The FMP contains an Area of Concern prescription for the protection of mapped nesting sites (TN) Possible HCV
<i>Chelydra serpentina</i> Snapping Turtle	MNRF Legal Status MNR map IUCN URL: http://maps.iucnredlist.org/map.html?id=163424	1) SC 2) Least Concern	1) Snapping Turtle is listed as special concern in Canada and Ontario. They are a freshwater species who prefer shallow waters. Prefer sandy or gravel areas to lay eggs and will often take advantage of man-made structures. Their range in Ontario is limited to southern Ontario and it is contracting. 2) The main threats to this species are amount of time it takes for them to reach maturity, often cross roads to find nesting sites resulting in mortality and egg predation in urban and agricultural areas. 3) As a SC species it is HCV. No special prescriptions are required. HCV no special prescription required.

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below**</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Lampropeltis triangulum</i> Milk Snake		1) Not listed 2) Not listed	1) The milk snake is globally very common and provincially common but is listed as "special concern" in Canada. It occurs on NF. 2) The Stand and Site prescription can be applied for the milk snake because there are no known hibernacula, and it is nocturnal and remains underground much of the time. However, milk snakes could occur in riparian zones (Harding 1997), and these are protected with riparian buffers (see notes under wood turtle). They also use farmlands, meadows, and forest edges (MNR 2000). 3) The FMP contains an Area of Concern prescription for the protection of mapped nesting sites (SNB). Given lack of a listing in Ontario and by IUCN not considered HCV. Not HCV
<i>Thamnophis sauritus</i> Eastern Ribbonsnake	MNR Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/63991/12727431	1) SC 2) Least Concern	1) The Eastern Ribbon snake is listed as special concern both provincially and nationally. Range includes southern Ontario and locally common in parts of the Bruce Peninsula, Georgian Bay and eastern Ontario. It occurs just west of the NF according to recent MNR maps. 2) Ontario is the northern limits of the range and historical data is unknown to determine abundance trends. However it is likely that the decline is the result of loss of wetland habitat in Ontario. 3) Listed and considered HCV. If there is an occurrence appropriate prescription and monitoring will be developed. Possible HCV
<i>Heterodon platirhinos</i> Hog-nosed Snake	MNR Legal Status IUCN URL: https://www.iucnredlist.org/species/63820/12718733	1) TH 2) Least Concern	1) Threatened Provincially and Nationally. The species is widespread south of the Great Lakes and east of the Rockies, but it is not common anywhere. In Ontario, it is found in southern and central Ontario as far north. It is at the northern limits of its range in Ontario 2) Main threat is from human interactions because of the snakes behaviour. Some interaction with forestry. 3) Occurs in NF. If an occurrence is found the species will be designated as HCV. The FMP contains an Area of Concern prescription for the protection of mapped nesting sites (SNB) Possible HCV

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Plestiodon fasciatus</i> Common Five-lined Skink	MNRF Legal Status MNRF map (in recovery strat) IUCN URL: https://www.iucnredlist.org/species/64227/12756007	1) SC (southern shield) 2) Least Concern	1) The common five-lined Skink is listed special concern on the southern shield in Ontario. It is Ontario's only lizard. There are two populations of this species. The Great Lakes/St. Lawrence populations which occurs mainly south of the Canadian Shield may come close to the NF. 2) The Great Lakes/St. Lawrence populations prefer rocky outcrops in mixed coniferous and deciduous forests with the biggest threat being is land development. 3) In general this has attributes of an HCV. If an occurrence is found the species will be designated as HCV and appropriate prescription and monitoring developed. Possible HCV

Fish

<i>Acipenser fulvescens</i> Lake Sturgeon	MNRF Legal Status IUCN URL: http://maps.iucnredlist.org/map.html?id=223	1) G3G4 2) End, Thr 3) SC 4) Least Concern	1) Known in the area in a number of water bodies (Sturgeon River). Spawning sites have not been identified. This species is sensitive to disturbance. 2) Although aquatic, this species is slow growing and sensitive to disturbance of its spawning areas, so any operations requiring roads must be careful not to introduce additional risk. 3) Sturgeon is an HCV due to their listing as special concern and their now uncommon occurrence in the area. There is minimal interaction with forest operations. HCV no special prescription required
<i>Anguilla rostrata</i> American Eel	MNRF Legal Status IUCN URL: https://www.iucnredlist.org/species/191108/121739077	1) End 2) End	1) American Eels are listed as special concern nationally but are endangered provincially. They can be found along the St. Lawrence River, the Ottawa River and Lake Ontario and their tributaries. Eels have been occasionally observed in the Great Lakes upstream of Lake Ontario since the construction of the Welland Canal. They are throughout the NF. 2) Threats to the American Eel occur through inhibiting upstream migration from hydro dams and mortality during downstream migration from hydroelectric turbines. 3) It is a listed species and so an HCV. Minimal interaction with forestry means there is no special prescription. HCV no special prescription required

Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Ichthyomyzon fossor</i> Northern Brook Lamprey	MNRF Legal Status MNR map IUCN URL: https://www.iucnredlist.org/species/202618/18236352	1) SC 2) Least Concern	1) Northern Brook Lamprey is of special concern in Ontario and throughout Canada. In Ontario, it is found in rivers draining into Lakes Superior, Huron and Erie, and in the Ottawa and St. Lawrence Rivers. 2) They tend to live in small rivers which may be affected by forestry practices such as road construction. 3) It is a listed species and so an HCV. Minimal interaction with forestry means there is no special prescription. HCV no special prescription required
<i>Ichthyomyzon unicuspis</i> Silver Lamprey	MNRF Legal Status IUCN URL: http://maps.iucnredlist.org/map.html?id=202621	1) SC 2) Least Concern	1. The silver lamprey is considered to be special concern in Ontario, and is known to inhabit Lake Nipissing (COSEWIC 2011), which falls within the boundaries of the NF. However, it remains to be confirmed whether the species inhabits the managed part of the NF. 2. Young silver lampreys live in burrows in soft substrate in streams and transform after several years into seeing, toothed adults. COSEWIC (2011) identifies lampricides used to destroy the sea lamprey in the Great Lakes and its tributaries, barriers that limit movement into streams for spawning, and pollution as threats to the species. Since the species spawns in riffle sections of rivers and streams, it could possibly be affected by forestry operations. 3. Since there is uncertainty about whether the species occupies the managed portion of the NF, it is considered to be a possible (not confirmed) HCV at this time. Possible HCV

Vascular Plants

<i>Juglans cinerea</i> Butternut	MNRF Legal Status	1) End 2) End	1) Butternut is endangered both provincially and nationally. It is found throughout southwestern Ontario north to the Bruce Peninsula and the edge of the Precambrian shield. Most known trees are found on private land. Some do exist in national and provincial parks. MNR lists occurrences above and below the NF. It is not currently known from any spots in the forest. 2) These trees are normally found scattered at low density in forests. The historical decline occurred as forests were cleared. 3) It is a listed species but not currently found in the forest and so a possible HCV. There are special prescriptions for this species should an occurrence be found. Possible HCV
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Scientific Name / Common Name or Group	Info Sources MAPs** IUCN URLs	Rank/ Status** 1) COSSARO 2) IUCN	HCV Assessment & Decision
			1) Status (from COSSARO report) (<i>Rankings defined below**</i>) 2) Risk assessment 3) Decision (Not HCV, HCV, possible HCV, HCV no prescription (No risk from forestry))
<i>Panax quinquefolius</i> American Ginseng	MNR Legal Status	1) End 2) End	1) American Ginseng is an herb which is endangered both nationally and provincially. It can be found in eastern and central Ontario. It has not been found on the NF, but occurs to the south. 2) Ginseng grows in rich, moist, mature deciduous forest. The decline has occurred over the past 150 years from harvesting, timber extraction and clearing of land for development. These threats continue in the present. 3) It is a listed species and so an HCV. The FMP contains an Area of Concern prescription for the protection of mapped patches of Ginseng (AGI) Possible HCV

Insects

<i>Danaus plexippus</i> Monarch Butterfly	MNR Legal Status NHIC/ROM COSEWIC COSSARO	1) G4 2) COSEWIC SC 3) COSSARO SC	1) Special concern in Canada. 2) Herbicides could affect several species of milkweed plants (<i>Asclepias</i> spp.) on which the larva depend, and the nectar-producing flowers that are important to adults. Road construction could provide habitat for monarchs by creating conditions suitable for common milkweed and nectar-producing flowers. Harvesting creates early successional habitat that provides conditions suitable for nectar-producing flowers. 3) This species is SC for its migratory risk, but not for impact from forest operations. It is widely distributed in Ontario. It is not an HCV in this area. Not HCV

* Maps for some SAR are not publicly available for confidentiality reasons.

** COSSARO rankings and definitions:

Endangered (Regulated): A species facing imminent extinction or extirpation in Ontario which has been regulated under Ontario's Endangered Species Act (ESA).

Endangered (Not Regulated): A species facing imminent extinction or extirpation in Ontario which is a candidate for regulation under Ontario's ESA.

Threatened: A species that is at risk of becoming endangered in Ontario if limiting factors are not reversed.

Special Concern: (formerly Vulnerable) A species with characteristics that make it sensitive to human activities or natural events.

Six species were also identified as possible occurrences, but very unlikely. They were mentioned by MNRF biologist during the consultation. These were not reviewed in depth on the HCV list but if they were found, prescriptions and appropriate action would be conducted. These were: American White Pelican, Golden-winged Warbler, Massasauga Rattlesnake, Red-headed Woodpecker, Shortjaw Cisco, Wolverine. Maps are available to support this assessment.

Since the last review, four species were added to the Table list of possible HCVs: Bank Swallow, Eastern Wood Pewee, Little Brown Myotis, and Wood Thrush.

HCV Designation Decision:

Based on a review of habitat requirements, current threats, range maps, known occurrences potential impacts from forest operations, the status of populations and a supplementary literature review, the HCV designations are as follows:

HCV

Northern Bat or [Northern Long-eared Bat](#), [Blanding's Turtle](#)

A number of possible HCVs were identified. These are species which might occur within the forest, but for which no habitat features are recorded and/or there are no records of recent observations. Pre-harvest assessments, which are used to guide forest management decisions, are also an important means of verifying the presence of non-timber values.

Also a number of HCV with no special prescription required are listed. These are species which occur on the forest but which are not affected by forest operations.

2) Does the forest contain endemic species ?

Rationale:

To ensure the maintenance of vulnerable and or irreplaceable elements of biodiversity.

[Endemic](#) refers to species that are unique to a defined geographic location, such as an island, nation or other defined zone, or [habitat](#) type.

Assessment Methodology:

- [Birdlife International](#)
- [IUCN](#); [NHIC](#); [Nature Serve](#); [Conservation International](#)
- Terrestrial Ecosystems of North America (Ricketts et al.1999)
- [COSEWIC](#)
- WWF Ecoregion Conservation Assessment

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

Assessment Results:

As with most northern temperate forests which have evolved with short-term disturbance (fire and wind) and long term disturbance (continental glaciers), endemism is rare. Moreover, the Crown forests of Ontario consist of a huge expanse of contiguous forest cover over landscape that does not inhibit genetic mixing. These conditions are likely to prevent speciation and endemism.

[Birdlife International](#) (June 2012) does not show any biodiversity "Endemic Bird Areas" in Ontario. Conservation International does not identify any "[Hotspots](#)" in Canada.

In their book "Terrestrial Ecoregions of North America", Ricketts et al. (1999) provided an analysis of the geographic patterns of species richness and endemism and a series of maps for illustration. According to Ricketts et al., the Eastern Forest-Boreal Transition ecoregion may contain some species of endemic terrestrial snails. Subsequent work by COSEWIC placed about 8 species on their list of "high priority candidates". All Ontario species were ranked either G5 or G4 by [NatureServe](#): *Mesodon clausen* (G5) *Mesodon zaletus* (G5) *Patera pennsylvanica* (G4) *Webbhelix multilineata* (G5). This means that endemism was not a factor, and all of these species were not immediately at risk due to their wide distribution. Ricketts et al. suggest that, except for possibly the endemic snails, there are no other endemic plants or animal species in this area.

HCVF Designation Decision:

There were no endemic species, and therefore no HCVs in this element.

3) Does the forest include critical habitat containing globally, nationally or regionally significant seasonal concentrations 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").

Assessment Methodology:

- [BirdLife International; Conservation International -- Important Bird Areas](#)
- [Bird Studies Canada](#)
- [Ducks Unlimited Canada](#)

For this assessment various databases, including the MNR NRVIS data, document wildlife concentration areas such as critical breeding or winter habitat for a single species or concentration areas for a diversity of species as they are identified in the field. Also important here is the information recorded in the [FMP](#) with regard to special wildlife management areas.

Some work by MNR has helped in the determination of regional "significance". The [Significant Wildlife Habitat Technical Guide \(SWHTG\)](#) is a technical manual that provides information on the identification, description and prioritization of significant wildlife habitat. It is advisory and intended to be used by ecologists, biologists, environmental planners and others involved in the protection of significant wildlife habitat in resource development. It was consulted as part of this HCV report as a source of guidance on the level of significance for this element concerning "regional hotspots".

The SWHTG has mainly been used to support municipal planning and for proposed renewable energy developments rather than forestry, which is already quite regulated. The SWHTG provides descriptions of wildlife habitats for the province of Ontario for determining significance of wildlife habitat. In 2012, Ontario made draft interpretations for each of the eco-regions in the province. These "schedules" provide significance criteria that are specific to the geographic area of each eco-region. The schedules are companion documents to present the significance criteria for identifying candidate significant wildlife habitat in an eco-region in a format that will be more efficient and effective. The schedule lists the best, most representative and rarest wildlife habitats. When SWHTG criteria are used in this report the source is cited.

Assessment Results:

Below is a discussion of the findings from a review of available data sets as indicated above.

Important Bird Areas

According to Bird Studies Canada, an [Important Bird Area](#) (IBA) is a site providing essential habitat for one or more species of breeding or non-breeding birds. These sites may contain threatened species, endemic species, species representative of a biome, or highly exceptional concentrations of birds. There were no [IBAs](#) identified on the forest.

White-tailed Deer Winter Yarding Areas

Deer wintering areas are generally not considered as HCVs. Recent mild winters and an abundance of deer in many areas has reduced the concern about this species. An exception is made in the case of the [Loring deer yard](#) which is famous throughout Ontario for its large size and the studies that have been conducted there. It is a significant contribution to the local and regional culture and economy for its importance to hunting. It has special restrictions on forest operations. It is designated HCV.

In the FMP, there were formerly two AOCs for deer wintering areas in general. Both of these have been changed to a Condition on Regular Operations (CRO), which means that the prescription to maintain winter cover for deer applies to the site level more broadly across the forest. The CRO contains specific direction for critical thermal cover requirements. Deer require at least 10 - 30% of their wintering areas to be critical thermal cover. Conifer stands or any stand where the composition includes >40% hemlock or cedar with canopy closures greater than 60% in trees >10m are preferred. Silviculture prescriptions must be consistent with the direction given for each of the deer yards discussed in the conditions on regular operations section. Each of the deer wintering areas have been identified on the Areas Selected for Operations Maps.

White tailed deer have an important role in the region because of their cultural and economic impact. It is the reason that the [FMP](#) contains specific measures for deer. Arguably, the biological role of deer in the area is important but does not meet the test of "wildlife habitat requirements critical to maintaining population viability" (NBS HCV Framework). At this time, CTC for White-tailed Deer was not considered HCV.

Moose Emphasis Areas (MEA):

The 2019 FMP has a Management Objective (#4) "To provide habitat for moose populations on the Nipissing Forest". This objective to provide wildlife habitat for locally featured species evolved from the 2009 FMP to focus specifically on the creation of moose emphasis areas. General wildlife habitat is assessed and tracked through the use of the Landscape Guide Indicators, with the associated milestones that provide direction for achievement through time. A specific indicator for this objective is the development of moose emphasis areas (MEAs) dispersed across the forest in areas with moderate to high moose carrying capacity potential. MEAs must cover a minimum of 10-15% of the forest area, and each MEA must be at least 2,000 ha in size. In selecting candidate MEAs, preference was given to areas 10,000 ha in size or greater.

As with deer wintering areas, the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010) gives operational direction for these areas. Conditions on Regular Operations (CROs), were developed for moose thermal cover (MTC) patches and specify how regular operations will be modified in spatially defined parts to manage for summer and winter cover. These conditions include:

- 5-10% of the area is comprised of wetlands, including moose aquatic feeding areas (MAFAs)
- productive, nutrient rich sites predominate
- modelling suggests a high probability of achieving at least moderately high moose densities.

MTC are not identified as HCVs because it is relatively common and not of critical value to the species in this area.

Critical Fish Spawning Areas

MNR identifies Brook and Lake Trout spawning areas during the course of their values collection. This is a seasonal concentration for these species and is important to the populations. The [FMP](#) includes an AOC prescription to protect these sites. Fisheries are an important value in the forest and MNR has prepared a [Brook Trout Strategy](#) (MNR 2007). In determination of HCV status, it was determined that the cold water fishery (including trout) is widespread through the area. According to the strategy "There are 4,326 known Brook Trout waters in Ontario. Approximately one-third of these waters contain populations of hatchery-reared fish. In addition to numerous wild brook trout populations found throughout the province, MNR bolsters the popular recreational fishery through an active stocking program." MNR regards the regular forest management measures as adequate for safeguarding Trout populations. The manager has taken this as indication that the value, while important locally, is not of regional significance in the HCV sense.

The exception is for self sustaining Lake Trout and Brook Trout Lakes with access restrictions. These values are referred to as AOC SST2 & SST3 "Access Restrictions to semi-remote self-sustaining lake trout lakes" and

"Access Restrictions to high-value, and remote self sustaining lake trout lakes". The prescriptions for coldwater fisheries and the self-sustaining lake trout and brook trout lakes AOC prescriptions are two mechanisms used in this plan to protect these. This important value is very sensitive to overfishing and open access could destroy the fishery. These lakes are very limited and as such they were designated as HCVs as discussed below in

Table 4.

Table 4. Areas of seasonal concentration of wildlife in the NF.

GENERAL DESCRIPTION/ SOURCE	VALUE	SUMMARY OF HCV ATTRIBUTES 1. Habitat Description 2. NF Occurrence 3. Status Information 4. Risk from Forest Operations 5. Current Management	HCV DECISION 1) Stable & Sustainable 2) Risk 3) Quantifiable Threshold
Featured Species/ MNR District	Moose <i>Aquatic Feeding Areas</i>	1. Aquatic feeding areas surrounded by woodlands 2. Very common; good distribution info 3. Moose are hunted; economically valuable 4. Logging impacts possible if cutting is too heavy adjacent to feeding area 5- Conditions on Regular Operations give consideration to moose aquatic feeding areas when operations are deciding to cut down to the shoreline.	1. Stable, distribution known 2. Appropriate harvest with selection protects value; Moose are an importance game species; 3. Benefit from a precautionary approach. HCV
Featured Species/ MNR District	White-tailed Deer <i>Wintering Areas</i>	1. High conifer component; He, Ce; (MNR guide 2000) 2. Very common species, good distribution info; wintering areas are widely distributed; large ones are uncommon and sensitive 3. Hunted; Economically valuable species; long social cultural involvement with the species 4. Logging impacts if conifer diminished significantly 5. Detailed prescription; monitoring for large yards	1. Deer are stable or increasing in area; wintering areas are key. 2. Inappropriate timber harvest could impair quality of yards. Deer are an importance game species. There value is more economic than for biodiversity. 3. High profile and commercial pressure mean that there is a precautionary element to deer management consistent with HCV designation. Not HCV
Featured Species/ MNR District	Loring Deer Wintering area	1. As above 2. Loring yard is regionally famous and of economic and biological importance. Scientific papers have been published. 3. Stable population. 4. Some risk from forestry although the habitat is resilient. 5- There are two Conditions on Regular Operations (DWH1 & DWH2) to protect critical thermal cover and access to cover.	1. Loring has long been an important winter area for the regional population. The heard in the area migrates to and from the yard for winter cover. 2. The habitat is resilient as long as attention is given to appropriate winter cover. 3. The area of quality winter cover is loosely estimated. Diminishing this area would be detrimental. HCV
Fisheries Values/ MNR District	Various cold- and warm-water fish species* <i>Fish Spawning Areas</i>	1. Cold- and warm-water fish critical spawning areas 2. Abundant on NF 3. Critical habitats considered sustainable under current provincial fisheries management guidelines; status of RTE fish species discussed in Questions 1 and 4 4. Potential impacts from water crossing construction and maintenance on NF and possible impacts from forest operations 5. Federal Fisheries Act prohibits harmful alteration of fish habitat; provincial fisheries guidelines provide management direction for operations adjacent to riparian areas; Area of Concern prescriptions for known fisheries values	1. Current fisheries management under provincial guidelines and monitoring by MNR (e.g. quota system for species of commercial interest) should ensure long-term sustainability of fisheries resources on NF. 2. Some level of risk from forest operations and access infrastructure when sites are not identified before operations. Most of the prominent sites are known and mapped by MNR, preventing impact. Commercial species monitored and level of exploitation adjusted by MNR – detailed fisheries information is lacking. Some sites may not be identified. Not HCV because of the attention it receives, and value is peripheral to forests. 3. The Stand and Site Guide addresses management in detail. The species are

HCV's in the NIPISSING FOREST

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GENERAL DESCRIPTION/ SOURCE	VALUE	SUMMARY OF HCV ATTRIBUTES 1. Habitat Description 2. NF Occurrence 3. Status Information 4. Risk from Forest Operations 5. Current Management	HCV DECISION 1) Stable & Sustainable 2) Risk 3) Quantifiable Threshold
			widespread. Note Sturgeon may be exception. Not HCV
Fisheries Values/ MNR District	Unaccessed critical spawning areas for Lake & Brook Trout	1. Cold- and warm-water fish critical spawning areas 2. Unaccessed spawning, that is self sustaining is rare on the forest and in the region. It has special prescription because of potential risk. 3. Status is likely stable but concerns have been raised. 4. Any road building would affect it. 5. Two AOCs (SST2 & SST3) has been prepared to protect these values	1. Current fisheries management under provincial guidelines and monitoring by MNR (e.g. quota system for species of commercial interest) should ensure long-term sustainability of fisheries resources on NF 2. Control of risk is through access management. 3. As a rare attribute and likely to deminish, is is considered regionally significant. HCV
Heronries/MNR District	Great Blue Heron > 25 <i>Nesting Sites</i>	1. Nest sites often riparian, sometimes upland 2. Common in NF 3. Locations quite well known 4. Disturbance from operations; 5. Prescription includes buffers (MNR guide)	1. Common, stable 2. Direct risk from operations 3. High profile, well know nest locations, public sympathetic HCV
Waterfowl/MNR District	Waterfowl <i>Staging Areas</i>	There are no significant waterfowl staging areas identified on the Nipissing Forest-closest Lake Ontario.	Not HCV
Mayflies	Spring population eruption	Mayflies or shadflies are insects belonging to the order Ephemeroptera. They are abundant and contribute to local food supply for many fish species.	1. Common, stable abundant 2. No direct risk from forestry. 3. High profile, important ecological function as food source. HCV no special prescription required

* Coldwater species include: brook trout, lake trout, rainbow trout, splake, Atlantic salmon, and lake whitefish. Warmwater species include: walleye, northern pike, smallmouth and largemouth bass, yellow perch and muskellunge.

Heronries

Heronries are colonial nesters, especially vulnerable to human disturbance during the nesting season when large numbers of birds are concentrated in a relatively confined area. There are numerous heronries on the forest, and MNR has an effective survey protocol to find them. Heron are an abundant species throughout central Ontario. The colonies are also widespread through the forest. On that basis, they are generally not regarded as regionally significant, and they were not designated as HCV. However, large individual heron colonies (25 or more nests) are considered to be Possible HCVs because they produce large numbers and have a significant benefit regionally. This is supported by the MNR Significant Wildlife Habitat Technical Guide, cited above.

Heronries are protected from disturbance during regular forest management activities through application of an effective AOC prescription described in the MNR [Stand and Site Guide](#). This prescription was tested extensively for effectiveness in a study of about 150 colonies by Agro and Naylor (1994), and 150 more colonies by Naylor et al. (2003). The effectiveness monitoring work showed that the prescription provides effective long term protection for colonies in all types of harvest cuts in both the Great Lakes-St. Lawrence and boreal forest regions.

Established heronries, which can consist of hundreds of nesting pairs, may be occupied for decades or even centuries. Disturbance can lead to relocation of colonies, with consequences that can include fragmentation of breeding populations, total reproductive failure in colonies that have relocated, or reduced numbers of nesting pairs and reduced reproductive output per pair in relocated colonies. Desertion of large colonies that are

responsible for the major portion of a population's reproductive output can affect the stability of the entire regional population of herons, even if the desertion is followed by relocation.

Waterfowl Staging Areas

Staging areas are generally shoreline/aquatic habitats where waterfowl are known to rest during migration. Large accumulations of waterfowl are typically identified as HCVs because they can be nationally or internationally significant. The source for national and international significance was [Birdlife International](#). None of the areas are close to NF. Lake Ontario is the closest.

Staging areas are generally shoreline/aquatic habitats where waterfowl is known to rest during migration. Ducks Unlimited Canada works closely with provincial government agencies to ensure that critical habitats for migrating and breeding waterfowl are conserved. In Ontario, the organization notes that areas of special importance for waterfowl are the Richelieu, Ottawa and St. Lawrence rivers. It is in these locations that the province's most important waterfowl staging areas coincide with the greatest population densities. According to the Pembroke Field Naturalists, the Ottawa River is used as a flyway in spring and fall migration. From Lake Timiskaming to the St. Lawrence River, there are a number of hydro-electric dams. The river water levels can vary, being usually lower in August, just in time for the southward passage of shorebirds and higher in the spring and fall, good for finding grebes, cormorants, ducks, gulls and terns¹. Part of the Ottawa River passes through the Nipissing Forest, but reports suggest that the most important areas are found south of the Forest boundaries; Westmeath Provincial Park (Bellows Bay) is a known staging location located near Pembroke, Ontario².

Local MNR reports that there are scattered staging areas throughout the forest.

A literature search of available Internet sources suggests that other critical staging areas for waterfowl in Ontario are generally located either to the south (around the southern Great Lakes) or to the north (into the Boreal and Taiga landscapes) of the Nipissing Forest. Staging areas are not considered HCVs in NF.

Bank Swallow Colonies

[Bank Swallows](#) are not considered at risk but their colonial nests are very visible and susceptible to disturbance especially in pits used for road building by the industry. The colonies are still common though the region. Destruction of these colonies when active is illegal. Forest managers are sympathetic and have placed rules about how to use pits. This is captured in the AOC Table (FMP-11 BKS) from the [FMP](#). They were not regarded as HCVs.

Mayflies (locally Shadflies)

Comment was made about the importance of Mayflies by some respondents. This is a spectacular and often annoying eruption of a population in the spring of the year.

"[Mayfly](#), or shadfly, is the common name for small, fragile, soft-bodied insects comprising the order Ephemeroptera [Greek for "living a day"]. About 2000 species are known worldwide, over 400 in Canada"

This meets the regionally significant test for an HCV by virtue of its [notoriety](#) and sheer volume of biomass. The importance of Mayflies to the fishery is reported anecdotally by MNR. As there is little effect by forestry on this value, it is called HCV with no special prescription required.

HCV Designation Decision:

In accordance with the rationale provided above, the following designation was made :

- Loring Deer Wintering area
- Unaccessed critical spawning areas for Lake & Brook Trout

Possible HCVs -- Large Heronries

¹ Pembroke Area Field Naturalists. URL: <http://www.renc.igs.net/~cmichener/pafn.index.html>

² Ontario Nature. URL: www.ontarionature.org

4) Does the forest contain critical habitat for regionally significant species (e.g. species representative of habitat types naturally occurring in the management unit, focal species, species declining regionally)?

Rationale:

Population persistence.

Assessment Methodology:

- NHIC G3, S1-S3 species and communities
- Results from Forest Management Plan habitat models
- Ontario Herpetofaunal Atlas
- Ontario Wetland Evaluation System
- Northern Ontario Plant Database (<http://www.northernontarioflora.ca>)

NOTE: Species identified in the NHIC database and ranked nationally or provincially are discussed in Element 1. Declines in ecosystem types, such as some old growth types, is covered in Element 9.

Assessment Results:

This question asks if any species found in the forest is a keystone or focal species that is especially significant. Focal species (Lambeck 1997) are a group of species whose requirements for persistence define the attributes that must be present if a landscape is to meet the requirements of the other species that occur there. Related to this, the keystone species concept was first defined by Paine (1966) as a species that plays a disproportionately large role in ecosystem function, relative to its numerical abundance or biomass. Practical definitions of keystone and focal species can be difficult to develop. In landscapes which are more stable over very long time periods, special relationships may develop between species. These relationships can be fragile. In temperate forest, with species that have been significantly disturbed and stressed for millennia, the ecology can be quite resilient to natural disturbance. Our assessment therefore identified focal species, and regional representative species, but also recognized their robust, resilient ecology in this part of the world means they are less of a candidate for HCV status.

Focal and Keystone Species

In central Ontario, there are several common species that might be considered keystone species because their activities create habitat for other species. In particular, these are the Beaver, Pileated Woodpecker, and Red-shouldered Hawk. Beaver ponds are used by numerous other furbearers, by waterfowl, herons, ospreys, and fish, and add greatly to the species richness of an area. Pileated woodpecker nesting and roosting cavities have significant value for other cavity-dependent wildlife (see Stand). Red-shouldered hawk nests are used by other hawks and also by owls.

Ontario officially uses two concepts that are similar to “focal” species - featured species and regionally representative species. Featured species (Thomas et al 1979) are species whose habitats, and sometimes populations, are managed for their importance to society, possibly as game species (e.g., moose or deer), keystone species (e.g., Pileated Woodpecker), important furbearers (e.g., marten), or for other reasons (e.g., at risk). The Moose, Bald Eagle, and Wood Turtle are species that would qualify under this category. These species are discussed previously in [Table 3](#).

The Eastern Wolf (*Canis lupus lycaon*), sometimes called the Algonquin Park wolf, is another species at risk (special concern in Canada and Ontario) that could qualify under this category. As a top predator, it performs a useful ecological role as a mortality source for deer and other herbivores. It is not considered to be a focal species for purposes of forest management because there are a number of mortality factors for herbivores and the role played by wolves is part of a much larger picture. It is a small subspecies of the widely distributed grey wolf (*Canis lupus*). The Forest is part of the expected range. The wolf is a habitat generalist, using almost every habitat type and showing little preference. Populations of wolves are dependent on adequate populations of prey (Moose, Deer, Beavers). In Ontario there are habitat guidelines for the prey of wolves but not for the wolves themselves. As a focal species, although they are iconic, they are part of a myriad of mortality factors affecting other populations. They were not regarded as HCV.

The eastern cougar is classified as endangered in Ontario. It does not qualify as an HCV under this category because it is not considered to be a focal species for purposes of forest management. As with wolves, they are one of a number of mortality factors affecting other populations. Should there be evidence of cougars, it would be considered as a possible HCV for its uniqueness, not for its overall impact on the ecosystem.

Regionally Representative Species

For the 2019 FMP, the objective to provide wildlife habitat for locally featured species evolved from the 2009 FMP to focus specifically on the creation of moose emphasis areas (MEAs). General wildlife habitat is assessed and tracked through the use of the Landscape Guide Indicators, with the associated milestones that provide direction for achievement through time. A specific indicator for this objective is the development of moose emphasis areas (MEAs) dispersed across the forest in areas with moderate to high moose carrying capacity potential. MEAs must cover a minimum of 10-15% of the forest area, and each MEA must be at least 2,000 ha in size. In selecting candidate MEAs, preference was given to areas 10,000 ha in size or greater. The following criteria must also be met, as directed by the Forest Management Guide for Conserving Biodiversity at the Stand and Site Scales (2010).

- Wetlands: 5 to 10% of each MEA
- Browse: 5-30% of each MEA
- Mature conifer: 15-35% of each MEA
- Hardwood / mixedwood: 20-55% of each MEA

The amount and distribution of moose habitat in the Nipissing Forest was assessed using a spatial model. The model used to conduct an initial screening for potential habitat deficiencies or opportunities is included in the Ontario's Landscape tool (OLT) (Elkie *et al.* 2014). The model is based on Standard Forest Units defined by Holloway *et al.* (2004). Moose habitat is a mosaic balancing a number of life history components of the habitat that they require such as open young (browsing and foraging), mature conifer (wintering areas), and wetlands for aquatic feeding. Although, moose aquatic feeding areas are generally not features that can be created through forest management activities. After careful analysis, 5 MEAs were selected and incorporated into the 2019 FMP.

HCV Designation Decision:

The five selected Moose Emphasis Areas are considered possible HCVs.

5) Does the forest support concentrations of species at the edge of their natural ranges or outlier populations?

Rationale:

Relevant conservation issues include vulnerability to range contraction and potential loss of genetic adaptation at the edge of the geographic range.

Assessment Methodology:

- Range and population estimates from national or local authorities and local experts for:
 - Red listed species
 - Focal species
 - Forest tree species
- Species identified as ecologically significant through consultation
- Major forest tree species
- List of selected species for the region identified by the MNR biologists compared to natural range maps to see if there are concentrations of species at edge of the natural ranges

Assessment Results:

Edge of Range Species

The NF straddles the transitional area between the Great Lakes-St. Lawrence and Boreal forest regions in Ontario. Tree cover reflects this shift in dominant species; it is even reflected in the different natural disturbance

patterns of the forests. The net result is that a number of species can be identified that are either at the northern or southern limit of their range. This is biologically interesting, but most of these species are secure according to national and provincial agencies (COSEWIC, NHIC). Most animal species that may be HCVs are already listed in .

The Nipissing Forest includes some tree species that are less common, at the edge of their range and not listed as threatened. These are of interest in this assessment because they are harvested or have declined regionally as a result of active fire suppression. These include:

- white oak
- red oak
- white ash
- yellow birch
- black cherry
- basswood.

The range of black cherry ends within the NF while the beech-white ash-hemlock and hard maple-yellow birch-red oak communities end north of Lake Nipissing. The forest also contains a well distributed but limited number of occurrences of Burr Oak and Silver Maple. All of these species are well represented in the forest, despite being near the edge of range and there was no risk from forestry. Prescriptions exist to address these species when they are found. They were not considered HCV.

Outlier Populations

In terms of outlier populations, the forest contains one natural red spruce stand. Red spruce is an Acadian species common to Eastern Quebec, Maine and the Atlantic Provinces. The occurrence of red spruce on the Nipissing Forest is unique and part of a regional population of the species that has larger concentrations on adjacent licenses to the southeast. Discussions with the MNR Regional Biologist also indicate that the species may have historically been more common. The species, while rare, also provides critical habitat for many species (winter shelter for deer, marten habitat, songbirds such as Blackburnian Warbler, etc).

The other species which are at the edge of their range were: hemlock, yellow birch, black cherry, red oak, beech, white ash, burr oak, silver maple, red spruce, green ash and basswood. The managers conserve these species as part of the forest plan which includes an objective to protect and maintain genetic diversity of rare tree species, and species at the northern end of their range. There are management practices for encouraging these species. These species occur on the neighbouring forests and are natural and stable components of the Great lakes Forest. As such they were not considered HCVs.

The forest also contains isolated occurrences of white elm, a species that been decimated since the introduction of Dutch Elm Disease in North America. Individual large trees have resisted the disease and are still found growing in rural and urban landscapes. These elms have trunks as large as 478 cm (15.7 ft) in circumference. Individuals of this size have been found as far-ranging as Hamilton to Sault St. Marie, Ontario. Elm as with the other species, is still an regularly occurring species throughout central Ontario. It was not considered HCV.

While there are numerous cold and warm water fish species known to occur on the Nipissing Forest, the only significant outlier known is the population of land-locked Atlantic Salmon (Ouananiche) in Trout Lake, introduced into the lake in 1935. These fish do not require management that is different from other fish populations. Their habitat is relatively well accessed already. The fish are introduced and do not constitute an HCV.

HCV Designation Decision:

The red spruce stand is a regional outlier population that is outside of its natural range – it is designated HCV.

6) Does the forest lie within, adjacent to, or contain a conservation area:

a) designated by an international authority;

b) legally designated or proposed by relevant federal/provincial legislative body;

c) identified in regional land use plans or conservation plans.

Rationale:

This question ensures compliance with the conservation intent of a conservation area, and ensures that regionally significant forests are evaluated for consistency with the conservation intent. (Note: Conservation areas that are withdrawn from industrial activity do not constitute HCV for management purposes, but forest management activities may need to be adjusted adjacent to park boundaries in some cases).

Assessment Methodology:

- Land Information Ontario (LIO) Ontario Government – Crown Land Atlas
- National Ecological Framework For Canada
- Canadian Heritage Rivers System
- [RAMSAR sites](#)
- International Biological Program sites
- [Canadian Conservation Areas Database](#)
- [Ecological Framework of Canada](#)
- [UNESCO World Heritage sites](#)

Assessment Results:

Conservation areas and any designations by Canadian or International organizations were examined. The following reports on international and provincial designations of various kinds. Specific information can be found by following the links to the particular organization.

There are no protected or candidate UNESCO World Heritage Sites, Biosphere Reserves or RAMSAR Wetland Sites on the Nipissing Forest.

International and National Designations

OLL-designated provincial parks and conservation reserves on the Nipissing Forest have already been withdrawn from the operable land base several years ago through the Living Legacy Land Use Strategy and are protected from logging and other resource extraction activities. Parks and Conservations reserves are HCVs. In practical terms the prescription must protect the park boundary.

Crown Land Atlas -- Overlay Area Policies

Regulated conservation areas are HCVs. See [Table 6](#) for details and policy document links. The land use classes that meet the requirement are:

- Conservation Reserve
- Provincial Park

Because Parks and Conservation Reserves are not in the License of the Company, the management concern is actually the Boundary.

Table 5. Provincial Conservation designations within the Forest.

Regulated Land Use Designations	These land use designations appear on the Crown Land Atlas and have a Provincial Policy document describing allowed land use activities.
Conservation Reserve	An area of public lands identified by the MNR and managed to permit natural ecosystems to operate with minimal human interference. Generally, commercial timber harvest, mining, and commercial hydro-electric power are excluded from Conservation Reserves.
Enhanced Management Area	An area identified by MNR intended to maintain the values indicated by e EMA category (fish & wildlife, intensive forestry, enhanced recreation, remote access, resource-based tourism, natural heritage).
Forest Reserve	An area of public land identified by the MNR where protection of natural heritage and special landscapes is a priority, but some resource use can take place with appropriate conditions. Commercial forest harvest, new hydroelectric power development, and peat extraction are not allowed; mining and most other resource and recreational uses are permitted, provided they are consistent with the values being protected.
Provincial Park	A provincially owned and managed park. The level of development and the type and intensity of use permitted within the park depends on its classification (e.g., waterway, wilderness, natural environment, recreation) .
General Use Area	A Crown land use designation into which the majority of Crown lands currently fall. A full range of resource and recreational uses can be permitted in General Use Areas. The specific policies for individual General Use Areas are established through local Crown land use planning and should reflect an area's identified land use attributes and context.
Not regulated	These classifications are made by government because the land has some interesting feature. In some cases these are significant enough to become HCVs. Crown Land Atlas does not record a specific policy regulating allowed activities.
Area of Natural and Scientific Interest (ANSI)	MNR identified areas having provincially or regionally significant representative ecological features. There are none of these on Forest that have not already been incorporated into other protected areas. Some are on private land and not part of the License area.
Life Science Site	Crown land recognized as having significant life science features by MNR based on a scientific report.
Conservation Area	A property owned and managed by a conservation authority.
Wetlands - Provincially Significant	Any wetland that has been evaluated by the MNR using the Ontario Wetland Evaluation System (OWES), and recognized as having special ecological significance.
International Biological Program	IBP sites contain some locally important natural feature. Normally these are not regionally significant. The International Biological Program (IBP) was an effort between 1964 and 1974 to coordinate large-scale ecological and environmental studies. These also still are noted in provincial records but are not regarded by Planning staff as significant in any way.
Significant Waterfowl Area	Crown Land Atlas -- None identified.

Table 6. Parks, forest reserves, conservation reserves, and enhanced management areas wholly or partly within the NF (data from MNR). Identification number as per the Crown Land Use Policy Atlas

Identification numbers in the table are from the Crown Land Use Policy Atlas. Readers can view policy information for each area but due to limited access at the government website, the following procedure needs to be followed: copy the AREA ID # in the column below; Click on the link; Paste the AREA ID# number into Search menu. This links to the MNR Crown Land Policy Report Search Tool at Land Information Ontario (LIO) website.

Maps of protected areas can be viewed in Google Earth by clicking on the following link:

http://www.ccea.org/KML/CARTS_v3_En.kmz . This will open Google Earth on your computer with the CARTS data available for viewing as points and polygons as you zoom in and out. An installed version of Google Earth version 4.2, or higher, is required to run this file. Once Google Earth has opened the *CARTS* layer will appear under the *Temporary Places* heading. Double click on *CARTS* heading to active layer on the map. There will then be a heading *Ontario Protected Areas*, which when double clicked will zoom map to Ontario with all the protected areas labelled. Selecting one of the areas will provide an informational pop-up box about that area.

NOTE: Grey highlighted sites are HCVs.

Name	Type	Area ID#	Area (ha)	Description
Parks				
Alexander Lake Forest	Provincial Park	P123	1934	The Alexander Lake Forest, located in the townships of Antone and Mattawa, offers significant shoreline protection along the Ottawa River. Located in the south eastern portion of the Site District 5E-6
Amable Du Fond River	Provincial Park	P128	731	This waterway, in Eco Districts 5E-10 and 5E-5 protects an ecological link to Algonquin Park. The area offers a variety of recreational opportunities including a popular canoe route linking Algonquin and Samuel de Champlain Provincial Parks.
Finlayson Point	Provincial Park	P1921	37	Finlayson Point Provincial Park is located one kilometre south of the Town of Temagami. Finlayson Point is on a small peninsula on the Northeast arm of Lake Temagami and is the gateway to explore the lake's many arms, bays, coves and inlets by canoe. A hiking trail links the park to nearby Caribou Mountain, which overlooks the Town of Temagami.
Jocko River	Provincial Park	P140	11299	Located within portions of Eddy, French, Socko, Clarkson, Lockhart, Garrow, McAuslan, LaSalle, Osborne and Steward townships, this waterway park in Site District 5E-6 has 4 components: 1) the rivers (Jocko and Little Jocko) have a combined length of 110km. This includes 70 kilometers west to east from Jocko Lake to the Jocko River mouth where it enters the Ottawa River and the tributary drainage of the Little Jocko which parallels the longer river for 40 kilometers west to east from Mitchell Lake headwaters to the confluence with the Jocko River. 2) Osborne Township Patterned Peatland and Dune Complex 3) Banana Lake White Birch 4) A waterway connection to the Blue Lake End Moraine Conservation Reserve along Pine Mountain Creek.
Kenny Forest	Provincial Park	P1922	2209	To be updated in CLUPA
Marten River	Provincial Park	P1923	400	Marten River Provincial Park is located 56 kilometres north of the City of North Bay. This recreation class park encompasses 400 hectares and is situated between Highway 64 and Highway 11 in the Township of Sisk in the District of Nipissing.
Mashkinonje	Provincial Park	P170e	942	Mashkinonje Provincial Park is located on the West Arm of Lake Nipissing, approximately 90 kilometres (by road) south-east of Sudbury and 85 kilometres west of North Bay. The park is accessed from Highway 64, which is accessible from either Highway 69 south or Highway 17 East. Mashkinonje

Name	Type	Area ID#	Area (ha)	Description
				Provincial Park remains undeveloped.
Mashkinonje Addition	Provincial Park	P170	1098	Park addition includes the Loudon Basin Peatland natural heritage area and the Muskrat Creek provincially significant wetland.
Mattawa River	Provincial Park	P148e	3258	Mattawa River Provincial Park is located between the City of North Bay and the Town of Mattawa, stretching approximately 37 kilometres. The Mattawa River was once an important route for voyageurs, trappers and loggers-- and before them for the aboriginal who began inhabiting the region more than 6,000 years ago.
Mattawa River Additions	Provincial Park	P148	10924	Located west of the town of Mattawa in the southeast part of the district, this waterway park addition enhances the ecological integrity of Mattawa River Provincial Park. Additions to the park include two categories: (A) natural heritage areas put forward for protection; and, (B) areas added to enhance recreational uses and provide ecological boundaries for the park.
Ottawa River	Provincial Park	P405	125	Ottawa River Provincial Park is located on the Ottawa River in Site District 5E-12. The park consists of 45 islands and one shoreline parcel. The islands in the park range from marble bedrock to low-lying alluvial sands and silts. The Bancroft Terrain of the Central Metasedimentary Belt underlies the area.
Restoule	Provincial Park	P153e	1203	Restoule Provincial Park is situated in the Great Lakes-St. Lawrence Mixed Forest zone in the southern portion of Site District 5E-5. The park is located in Central Ontario in the District municipality of Parry Sound. Vegetation in the park represents a variety of communities including upland, wetland and aquatic.
Restoule (additions)	Provincial Park	P153	1407	Located in Site District 5E-5, the Restoule Addition provides a natural link between the existing Restoule and French River Provincial Parks. The new addition also includes the stormy Lake area and a portion of Clear Lake, both located to the north of Restoule Park. The addition also includes the Restoule River, flowing from the west boundary of Restoule Park and Stormy Lake, west to French River Park.
Samuel de Champlain	Provincial Park	P1925	2550	Samuel de Champlain Provincial Park is located off Highway 17, 50 kilometres east of the City of North Bay. The park lies in the valley of the historic Mattawa River that is known as a historic travel route for aboriginal people, explorers and voyageurs.
South Bay	Provincial Park	P1928	1525	South Bay Provincial Park is situated on the south shore of Lake Nipissing in Site District 5E-5. The park sites within the Frontenac axis, a southward extension of the Canadian Shield, which passes through Kingston, the Thousand Islands tourist area of the St. Lawrence River and into New York State.
Sturgeon River	Provincial Park	P173e	3350	This waterway park is approximately 70 kilometres in length and encompasses a 200 metre setback from the river's edge along both shores. Forest access roads and several river crossings receive moderate use by snowmobiles, ATVs and four-wheel drive vehicles to access area north and east of the park. Following southeasterly in direction, this waterway includes representative bedrock formations such as cliffs south of Paul Lake and a number of waterfalls.
Sturgeon River Additions	Provincial Park	P173	7977	There are two additions to this waterway class park in Site Districts 4E-4 and 5E-4: 1) Sturgeon River 2) Floodwood Forest
Temagami River	Provincial Park	P139	3394	The Temagami River Park is located in the geographic townships of McWilliams, Thistle and McCallom (within the West Nipissing Planning Area and the area governed by the West Nipissing Planning Board). This waterway park begins below Surveyor Lake and follows the river south through Red Cedar and Thistle lakes to below Ragged Chute, just 8 kilometers northeast of River Valley. The park ends where the Temagami River flows under the Baie Jeanne Road. The park encompass only part of Red Cedar Lake including Campten

Name	Type	Area ID#	Area (ha)	Description
				Bay and several islands and incorporates all of Island (Thistle) Lake with its many islands. On Red Cedar Lake, the park links to the western limits of Holdridge Creek Conservation Reserve (C142).
Widdifield Forest	Provincial Park	P146	2170	Widdifield Forest, located within the northern portion of Widdifield Township, extends into the southern part of Mulch Township. The site is 20 kilometres northeast of North Bay, just west of the village of Redbridge. Part of the site falls within the municipality of North Bay.
Conservation Reserve				
Blue Lake End Moraine	Conservation Reserve	C138	1404	Blue Lake End Moraine Conservation Reserve is located in site district 5E-6 east of McConnell Lake. It consists of a moderately broken end moraine with several large shallow lakes and several kettle depressions. This conservation reserve is bordered to the north and east by the McConnell Lakes Road.
Boom Creek	Conservation Reserve	C124	590	Old growth forests are rare natural features in the Ottawa Valley. The Boom Creek site is a significant natural old growth stand of red and white pine in site district 5E-10. More than half of the site is made up of pine stands in the 150 to 160 year old range, while the remainder is 120 to 130 years of age.
Boulter-Depot Creek	Conservation Reserve	C150	2348	This conservation reserve, in site district 5E-5, has a number of core natural heritage areas identified to protect a significant combination of earth and life science features. The core areas include hilly end moraine landforms - deposits made when glacial movement halted - as well as ground moraine and esker landforms. Much of the variation on the landscape is caused by differing depths of sand and gravel deposits. The combinations of vegetation and landforms include wetlands and forests of maple, birch, fir, aspen and pine.
Bray Lake	Conservation Reserve	C72	265	The forests around Bray Lake grow on hilly uplands with sandy deposits left by glaciers. This glacial history has created thirteen distinct habitats (combinations of vegetation and landforms), including open wetlands, and forests of balsam fir and old sugar maple. This conservation reserve is in site district 5E-8. The Bray Lake Conservation Reserve is located 10 kilometres west of the village of Trout Creek.
Cache Bay Wetland	Conservation Reserve	C171	3926	This provincially significant wetland is very important to the health of Lake Nipissing. It is one of the largest wetlands on Lake Nipissing. In addition to containing important and representative life science values (Veuve River Mouth wetlands, Cache Bay Cranberry Bog) in site district 5E-5.
Callander Bay Wetland	Conservation Reserve	C149	319	This area which is a provincially significant wetland is located on north side of Callander Bay, Lake Nipissing. It contains significant life science values, important fisheries spawning and waterfowl habitat. This conservation reserve is in site district 5E-5. The Cranberry Bog is considered important for its life science representation.
Dana Township Jack Pine Forest	Conservation Reserve	C182	319	Located approximately 30 kilometres west of Marten River, this conservation reserve, in site district 5E-4 supports representative old jack pine and white pine forest. The landscape of rolling hills is broken by cliffs in some places. The conifer stands are late winter concentration areas for moose.
Field Township	Conservation Reserve	C167	399	This site is situated approximately 15 kilometres north of Cache Bay and is situated between Bain and Muskong lakes. It contains a combination of vegetation and landforms that include brush and alder thickets, fir and cedar forests and treed wetlands on hummocky ground moraine, and birch, poplar, cedar forests, thickets and treed wetlands on much flatter outwash deposits.
Fish Bay	Conservation Reserve	C152	145	Located on the south shore of Lake Nipissing in Nipissing Township, this provincially significant wetland is very important to the health of Lake Nipissing. In addition to containing important and representative life science values in site district 5E-5, this wetland is an important waterfowl

Name	Type	Area ID#	Area (ha)	Description
				staging area and provides excellent nursery habitat for northern pike.
God's Lake Old Growth White Pine Forest	Conservation Reserve	C134	354	God's Lake Old Growth White Pine Conservation Reserve in site district 5E-6 is located about 75 kilometres northeast of the city of North Bay and 40 kilometres east of Town of Marten River. This protected area encompasses Emerald and God's Lakes. Lying adjacent to the west side of McLaren Bay Road,
Gooderham Old Growth White Pine Forest	Conservation Reserve	C137	82	Located in Gooderham Township, this area contains old growth white pine growing on gently rolling bedrock topography with shallow soils in site district 5E-6. The site connects with the Nipissing Crown Game Preserve. Its proximity to Nipissing Game Preserve makes it a popular hunting area.
Holdridge Creek	Conservation Reserve	C142	1343	This conservation reserve located along Holdridge Creek, about 10 kilometres southwest of Marten River, is covered by a large and extensive network of wetland habitats, including marshes and swamps, bordered by rock outcroppings. The creek has a well-developed meandering pattern. This site has at least 13 different plant communities.
McLaren Forest	Conservation Reserve	C159	409	This site of old growth white pine is one of the most accessible and oldest old growth forest in site districts 4E-4 and 5E-6. Some trees are at least 220 years old. Here the pine grows on rolling hills with bedrock and pockets of flat sedimentary deposits. The portion east of Highway 11 is within the Nipissing Crown Game Preserve. The area is just southeast of Marten River Provincial Park.
Mudcat Lake Forest	Conservation Reserve	C160	396	Located on the Sturgeon River approximately 10 kilometres north of Sturgeon Falls, this conservation reserve, in site district 5E-5, protects forests of white birch, fir, spruce, maple and cedar on flat sedimentary deposits and fir, yellow birch and cedar on low rolling gravelly moraine deposits.
Ottertail Creek	Conservation Reserve	CR5	1650	Values/Uses: Representative old growth white and red pine forest, growing in combination with younger pine stands, bounded by Ottertail and Brute Creeks, on a broken till plain - the only old pine site found on this landform type in the Temagami Area Significant wetland Area of Natural or Scientific Interest (ANSI).
Sausage Lake Forest	Conservation Reserve	C70	664	Located approximately 10 kilometres east of the village of Trout Creek in the southern portion of site district 5E-5 (the Lake Nipissing-French River Basin). This area is made up of highlands and steep slopes covered with sugar maple, red maple, yellow birch, fir and spruce stands. There are also low lying moraine landforms and an esker landform supporting balsam fir. The area contains at least 15 different vegetation types and contains a number of sheltered creek valleys that provide conifer cover for a moose wintering area. The gravel deposits and the headwater source of the several coldwater streams maintain trout habitat.
Smoky River Headwaters	Conservation Reserve	C145	928	This area is just south of the Tomiko River about 20 kilometres northeast of the town of Sturgeon Falls. The terrain is dominated by flat wetland communities that are not common in site district 5E-6, such as an open fen. Among the 19 vegetation communities are diversity of marshes and a boreal type woodland of black spruce and lichen on an ancient beach ridge. The site is also a moose wintering area. It encompasses the main peatland which is the headwater detention area of several tributaries of the Smoky River.
Spring/Cut Lake Esker	Conservation Reserve	C136	691	Nested within the arms of the McConnell Lakes Road and Cut Lake Branch Road, the Spring/Cut Lake Esker Conservation Reserve is bordered to the east by the McAuslan/Wyse Township line. This conservation reserve is 782 hectares in size and is approximately 75 kilometres northeast of the city of North Bay. Almost all of this conservation reserve falls within the northern core area of a highly significant landform complex known as the McConnell Interlobate Moraine.
Swan Lake	Conservation	C114	256	This conservation reserve, in site district 5E-5 is dominated by

Name	Type	Area ID#	Area (ha)	Description
	Reserve			upland deciduous forests on shallow soils, which have been created by hilly deposits of ground moraines. There are also bedrock landforms supporting meadows, alder swales, treed wetlands and stands of hemlock, red maple and white cedar. The area includes part of the Portage Lake winter deer yard.
Forest Reserve				
Chiniguchi Forest Reserve	Forest Reserve	F174	136	This Forest Reserve comprises parcels of mining land within the recommended Chiniguchi Waterway Provincial Park.
Kukagami Lake	Forest Reserve	F181	3749	This forest reserve in site districts 5E-4 and 4E-4 contains the former Scadding/Davis natural heritage area (jack pine stands of all age classes over mildly rolling sand and gravel deposits) and a 200 metre boundary around Kukagami Lake. Kukagami is a lake trout lake.
Wolf Lake Old Growth Forest	Forest Reserve	F175	2386	This site contains the largest contiguous area of red pine "working group" stands older than 140 years in Site Region 4E. This may be the largest remaining contiguous old growth red pine dominated forest in Ontario. Wolf Lake has high recreational values, being situated along the Matagamasi to Chiniguchi Lake canoe route.
Enhanced Management Areas (HCVs here are designated under element				
Balsam Creek Ice Contact Delta	Enhanced Management Area	E144n	1712	Located at the junction of French, Butler and Phelps Townships this enhanced management area in site district 5E-6 is of earth science significance. It contains a provincially significant delta complex which includes a variety of features such as an esker and numerous kettles. A variety of forest and wetland habitats - the latter being in several undisturbed bogs - are also found in this area, including some mature sugar maple stands.
Boland Lake Recreation Area	Enhanced Management Area	E151r	4050	The area was formerly within the McConnell Lakes Recreation Area. The area supports high quality recreation use (backcountry recreation, fishing, camping, hunting, etc.), and contains high quality forest resources. It includes lakes such as Boland, Serene, Sucker, Susy, LaSalle and Reynolds.
Boutler Forest	Enhanced Management Area	E141n	3367	This area in site district 5E-5 is adjacent to the Boulter-Depot Creek Conservation Reserve. The provincially significant earth and life science features contained in the conservation reserve extend into this enhanced management area, however, the enhanced management area is interspersed with forest plantations.
Chiniguchi River North Area	Enhanced Management Area	E183r	52165	This is an important recreational, tourism and resource sector (forestry, mining) area. It contains interconnecting lakes and rivers and rugged scenic topography with good recreational capability, including the Matagamasi Lake to Chiniguchi Lake and the Matagamasi Lake to Laura Lake canoe routes and Maskinonge Lake to Washagami Lake to Chiniguchi and Sturgeon River canoe route. There are two tourism lakes in this area.
Donald Lake	Enhanced Management Area	E176a	11878	A high quality wilderness recreational area of rugged scenic topography and limited access. This remote area comprises a core area which complements the surrounding protected areas including Chiniguchi Waterway Provincial Park and portions of two forest reserves. The area is well used by a number of tourism establishments and recreationalists. Mining and forest resources are also important values.
East Mills	Enhanced Management Area—Remote Access	E74a	3264	This enhanced management area was managed as a limited access area. East Mills encompasses parts of the Loring Deer Yard, some recreational trails, hunt camps and tourist operations along its periphery. It is an important area for commercial tourism and recreational use in a remote setting. Forest operations are important and help to enhance wildlife habitat. The entire area is unorganized. West boundary of enhanced management area abuts up to Charter Lake, a cottaging lake.

Name	Type	Area ID#	Area (ha)	Description
Eighteen Mile Island	Enhanced Management Area—Remote Access	E168a	10707	Large scenic island located on the upper French River, containing a mature hardwood forest with sugar maple, hemlock and yellow birch. The southern shoreline is located along the French River Provincial Park, an area of high recreation and tourism values. Forest management activities are important in areas set back from the river.
Garrow and Osborne Township Recreation Area	Enhanced Management Area	E156r	1617	This area was formerly part of the McConnell Lakes Recreation Area. It is located in Garrow and Osborne Townships. The area supports high quality recreation use (backcountry recreation, fishing, camping, hunting, etc.), and contains high quality forest resources. The area abuts the Jocko Rivers Waterway Park located to the west and south. This area contains lake(s) designated for lake trout management.
Garrow Township Ice Contact Delta	Enhanced Management Area	E330n	1990	Located about 140 kilometres east of Marten River, this area of earth science significance in site district 5E-6 contains an abandoned delta fed by an esker complex. The delta formed in an ancient glacial lake and is now perched high in the hills. Kettles, large depressions in the gravelly deposits that once held massive blocks of ice that now hold boggy wetlands, are also found within this area.
Latchford	Enhanced Management Area	E163n	919	This area in site district 5E-5 has been identified to protect life science features. The site is dominated by a gently rolling bedrock landform forested by white birch, spruce, fir, red pine and black ash. Large black ash is an interesting feature, with slow growing small stands sometimes reaching over one hundred years of age. The entire Enhanced Management Area is in an organized township.
Little Jocko Ice Contact Delta	Enhanced Management Area	E143n	1577	Located in the east central part of site district 5E-6, this area which abuts Jocko River Waterway Park, contains an important significant earth science feature known as the Little Jocko Ice Contact Delta. This kettled esker delta provides a fairly undisturbed representation of glacial fluvial and/or lacustrine land forms, with a variety of deposits including sandy outwash, organic, alluvial and eolian.
Marten River	Enhanced Management Area	E154r	33889	Located just south of the Temagami Area, this large expanse is important to the tourism, recreational and resource sector. Extensive glacial deposits, a moraine, several glaciofluvial kames and a sand and gravel outwash extend southwesterly across the west and north central sections of Sisk and Thistle Townships. Here there are a number of tourism and cottaging lakes.
McCallum Peninsula/Thistle Township	Enhanced Management Area	E162a	5883	Made up of geographically separated areas managed as limited access areas. While not truly roadless areas, access within this enhanced management area is limited. This provides important benefits to tourist operations in the Marten River area and also allow extensive recreational experiences to be enjoyed in a limited access setting in most cases. Existing roads and trails have been left untended.
McConnell Interlobate Moraine (Green Lake Area)	Enhanced Management Area	E133n	454	The McConnell Moraine is a seemingly random jumble of sand and gravel deposits that lie under the forested hills of this area, is part of an interlobate moraine that extended south to Huntsville and northeast into Quebec. This spectacular collection of glacial features is part of the most extensive landscape of its kind in eastern Canada. This site of earth science significance is in site district 5E-6.
McConnell Lakes Intervening Area	Enhanced Management Area	E135n	2271	Located in McAuslan Township, this portion of the McConnell Lakes Moraine provides a linkage between the three recommended conservation reserves (God's Lake Old Growth White Pine Forest, Spring/Cut Lake Esker and Blue Lake End Moraine) that are part of a larger landform vegetation complex is known as the McConnell Lakes Moraine. This area represents a unique sandy outwash plain, a biopsiographic unit that is not represented elsewhere in site district 5E-6. This area includes McConnell, Jimmie, Shanty, Camp, and Orient Lakes.
McDougal Lake	Enhanced	E147r	1430	This area was formerly part of the McConnell Lakes Recreation Area. The area supports high quality/remote

Name	Type	Area ID#	Area (ha)	Description
Recreation Area	Management Area			recreation use (backcountry recreation, fishing, camping, hunting, etc.), surrounds core natural heritage features and contains high quality forest resources.
North Parry Sound Area - North Bay	Enhanced Management Area	E119r-2	82836	This area links a number of other Enhanced Management Areas, as well as conservation reserves and provincial parks. It is traversed by Highways 522 and 69, as well as a main CNR line. Values include recreational values, forest management and other resource management activities, First Nation values and important hunting (big and small game, and waterfowl) opportunities.
Ottertail Creek	Enhanced Management Area—Remote Access	E132a	8433	This relatively remote area contains high value forest resources and remote access resource tourist operations dependent upon the remote character of the area. The area abuts the existing Ottertail Creek Conservation Reserve and the area governed by the Temagami Land Use Plan. The entire area is unorganized.
Sturgeon River Sand Dunes	Enhanced Management Area	E185n	984	This area of earth science significance is in site district 4E-4. An undisturbed portion of this feature has been protected as an addition to Sturgeon River Provincial Park. The enhanced management area has a history of industrial use and includes a network of roads. Like the park addition it consists of a broad bedrock-walled valley with numerous terraces and channel scars.
Wilderness Area				
Blair Township	Wilderness Area	W13	63	The Blair Township Nature Reserve Wilderness Area protects an area of mixed red pine and white pine forests. It extends over an area of approximately 61 hectares.
Eighteen Mile Island	Wilderness Area	W1003	196	This wilderness area comprises a small parcel of land located on the west end of Eighteen Mile Island on the French River. It contains representative and special features of natural heritage significance.
General Land Use				
Amable du Fond River Area	General Use Area	G1949	73556	This area comprises several small watershed units draining northerly and easterly from the Algonquin Highlands into the Mattawa and Ottawa Rivers. Soil depths are relatively deep in the western portion of the unit, becoming shallower to the east. Terrain is moderately broken in the south, but slopes are less steep in the Ottawa River Valley and in sections of Lauder Township.
Emerald Lake Area	General Use Area	G1938	67187	This is generally an area of rugged high relief in the north, decreasing to moderately broken terrain in the south with a thin soil mantle. Along the Sturgeon and Temagami Rivers are some areas of wide alluvial plains and there is an extensive moraine outwash complex in Janes Township. The area contains a mixture of organized and unorganized areas.
Jocko River Area	General Use Area	G2010	116065	Located North of the lowlands, this is a group of watershed units, comprised of generally moderate to strongly broken uplands draining easterly into the Ottawa River. Many of the weakly broken valleys or plains included are overlain with water and ice-laid glacial deposits of sand, and gravel with pockets of silt and clay. The entire area is unorganized except for Mattawan Township area.
McConnell Lakes Area, The	General Use Area	G1934	23224	This area contains mixed stands of coniferous and deciduous trees. Topography is gently rolling in the southeast portion. This weakly broken plain gives way to moderately broken uplands in the central and northern portions. The dominant glacial feature is the McConnell Lake moraine. Drainage tends mainly eastward to the Ottawa River. Natural springs occur in the northwest corner of McAuslan Township.
Multiple Resource Management	General Use Area	G362	469396	This is the largest management area and occurs throughout the Bracebridge Area of Parry Sound District. This area contains lake(s) designated for lake trout management.
Nepewassi	General Use	G2045	167153	This area extends east of the Wanapitei River and is

Name	Type	Area ID#	Area (ha)	Description
Lake / Trout Lake	Area			predominantly held under Crown ownership. Crown land in the area is under sustainable forest licence (SFL) primarily to supply wood-using mills in the area. Commercial tourism and seasonal residential development have focused on the recreational opportunities afforded by Trout and Nepewassi Lakes and the waters locally referred to as the West Arm of Lake Nipissing. The east side of the area abuts Mashkinonje Provincial Park. This area is also part of an important migratory waterfowl nesting area.
Red Cedar Lake area	General Use Area	G1939	11542	This is an area of moderately broken relief overlain by shallow glacial till, interspersed with rock outcrops. Some rural residential uses occur. The area contains a mixture of organized and unorganized areas. There are very few private land holdings. Timber production from Crown land is an important industrial use.
South River-Veuve River Area	General Use Area	G1950	138161	This area occupies a lowland area to the northwest and south-east of Lake Nipissing. In the northern section an expanse of deep lake sediments consisting chiefly of varved clays (below the escarpment) interspersed with rock outcrops has provided a good agricultural area. Much of the area is cleared and there is evidence of widespread erosion along the many rivers and streams draining into Lake Nipissing. For the Veuve River Area, private land holdings are extensive.
Sturgeon River Area	General Use Area	G1937	57923	This area includes much of the lower Sturgeon River where it meanders through a wide floodplain. The deep soils of the alluvial plain along the river give way on either side to shallow glacial tills interspersed with bedrock outcrops. Much of Pedley Township is comprised of part of the Sturgeon River delta and glacial lake silt and sands. Agriculture is less evident than in the area immediately to the south. Resource production and cottage uses are present. The entire area is organized except for Henry Township. Timber production from Crown land is an important industrial use.
Tomika Lake Area	General Use Area	G1941	91055	This is an area of moderately broken rock knob terrain, with complex, sometimes steep slopes drained by the Tomiko River and a number of creeks southwesterly to the Sturgeon River. Soils are generally shallow with exposed bedrock, with the exception of some outwash plain areas. There are few aggregate resources.
Trout Lake Mattawa-River Area	General Use Area	G1947	102835	The area abuts 3 provincial parks; Amable Du Fond River, Mattawa River and Additions, and Widdifield as well as the Boom Creek Conservation Reserve. The area is comprised of portions of two groups of watershed units. Those in the western portion straddle the north-south height of land and drain west to Lake Nipissing or east to Trout Lake and the Mattawa River system. The eastern section consists of the lower portion of a group of watershed units draining north from the Algonquin Highlands into the Mattawa and Ottawa Rivers.
West Bay Area	General Use Area	G2064	22779	This is an area of shallow soils and extensive bedrock outcrops with some drainage north to Lake Nipissing, but most tends east to the French River. There are some private lands, and agriculture occurs in Loudon and Falconer Townships, but most of the land base is Crown. The entire area is organized. A traditional deer wintering area occurs in Bertram Township. Timber production from Crown land is a major industrial use.

HCV Designation Decision:

Parks and Conservation reserves are considered as HCVs. EMAs with access controls are HCVs but these are designated under Element 10 for the contribution to defragmenting the forest.

Category 2) Forest areas containing globally, regionally, or nationally significant large landscape level forests, 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.

7) Does the forest constitute or form part of a globally, nationally or regionally significant forest landscape that includes populations of most native species and sufficient habitat such that there is a high likelihood of long-term species persistence?

Rationale:

Under this question, the forest must not only be large enough to support potentially most or all native species, but long-term, large-scale natural disturbances should be able to take place to maintain the full range of ecosystem processes and functions (i.e., naturally functioning landscapes).

Assessment Methodology:

- World Wildlife Fund Canada [Ecoregion Conservation Assessment](#)
- [Global Forest Watch](#)
- [Ontario Living Legacy Land Use Strategy](#)
- MNR Lands for Life Assessment

Assessment Results:

Large forest landscapes driven primarily by natural forest disturbances are not part of this forest. This is a landscape that is largely inhabited, although sparsely in some areas. In the region encompassing the NFRM, some blow down and insect outbreaks in small patches are the principal natural disturbances. Forest harvesting is planned and conducted to emulate forest fires to the extent possible, as directed by the Crown Forest Sustainability Act.

As stated earlier, [NFRM](#) considers the entire forest to be of conservation value. The intent of management is to maintain all ecological values as fully functioning and sustained over the long term (species, ecosystems, and ecological processes). A complex suite of guidelines, manuals, models, Acts and regulations, followed by population monitoring, effectiveness monitoring, and independent forest audits ensures that the managed portion of the Forest ecologically “intact” (see [Ontario Forest Management Planning System](#)). This question could therefore define the entire Crown land portion of the forest. However, Appendix 5 of FSC Canada’s National Boreal 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:

- Globally significant threshold > 500,000 ha and free of permanent infrastructures/roads and <1% non-permanent human disturbance
- Nationally significant threshold 200,000 to 500,000 ha free of permanent infrastructures/roads and <5% of non-permanent human disturbance
- Regionally significant threshold 50,000 to 200,000 ha and free of permanent infrastructures and <5% non-permanent human disturbances.

As described by the WWF Ecoregion Conservation Assessment reports, the Nipissing Forest lies within the fragmented Eastern Forest-Boreal Transition ecoregion. It is estimated that only 10 percent of the ecoregion remains as intact habitat. Much of the area has been highly fragmented by forestry activities, settlements, summer homes and cottages, ski facilities and agriculture.

Near the Nipissing Forest, there are some areas that meet the size threshold values for significant unfragmented forests, including Lady Evelyn Smoothwater Wilderness Park to the north of the Nipissing Forest (72,400 ha) and Algonquin Park to the southeast (765,200 ha). However, even these areas fail to meet the standard for

unfragmented forests because they both host significant permanent road and/or commercial forestry or tourism infrastructure within their boundaries.

[Global Forest Watch](#) has mapped what they consider to be the remaining “intact” forests of Canada using their own criteria which are (1) “a contiguous mosaic of natural ecosystems in the forest landscape, essentially undisturbed by human influence”, and (2) at least 50,000 hectares in size. None of the GFW intact forest was identified in within the NF.

HCV Designation Decision:

Based on a review of available data and conservation assessments, there are no forest areas meeting the criteria for unfragmented forests on the Nipissing Forest. See also discussion Category 3

Category 3) Forest areas that are in or contain rare, threatened or endangered ecosystems.

8) Does the forest contain naturally rare ecosystem types?

Rationale:

Rare forest types may contain unique species and communities that are adapted only to the conditions found there. For this reason, they may qualify as “concentrations of biodiversity values”.

Assessment Methodology:

- NatureServe Database linked to [US National Vegetation Classification](#)
- [Crown Land Atlas](#) MNR
- [Conservation International](#)
- WWF Ecoregion Assessment

MNR collects studies on various natural areas in the forest and these are compiled in the “Natural areas” section of the NHIC website. These are special sites, that may qualify a HCVs when the values are of regional significance or greater.

In addition, an analysis was performed by the Company to identify uncommon forest types and in their own forest inventory, by selecting for very low occurrences of ecosystems as identified by their Ecosite identification Chambers et al. (1997).

Assessment Results:

NHIC lists a number of natural areas on the forest. The list has been a source of locations for sites being included in new protected areas, Parks and Conservation Reserves. As a result the remaining designations not already in formal protection are relatively less significant.

International Biological Program sites were also listed by NHIC. Discussions with MNR indicate that these sites, despite the name, are of more local interest and result from some early work in ecosystem classification that came from an international initiative. The more important of these sites were regulated into protected areas.

Conservation International does not identify any biodiversity hotspots within Canada.

The NHIC website directs enquires about rare ecosystems to the U S National Vegetation Classification. A search of this database keyed the general forest type to *Pinus strobus* - (*Pinus resinosa*) - *Quercus rubra* Forest. Commonly referred to as Eastern White Pine - (Red Pine) - Northern Red Oak Forest. The conservation status of this is G4, which is not at risk.

The available NHIC community data is limited to Site Regions 6E and 7E of Ontario, both of which are outside the boundaries of the Forest. A search of the database for North Bay District reveals one vegetation community that is ranked globally imperilled (G2?) and regionally rare to uncommon (S3) in Ontario (Table 7).

Table 7. Ranked vegetation communities identified in North Bay District (NHIC 2004).

Community	Provincial Rank	Global Rank	Description
Atlantic Coastal Plain Shallow Marsh Type	S3	G2?	Peatland forests of Larch, Black Spruce and White Cedar dominate organic deposits at the north and south of the lake, with deciduous and mixed early successional forest on higher, sandy soil on the eastern and western shores. The aquatic communities found in shallow water here and on the wide, peaty beaches which emerge in late summer and early fall, support an exceptionally rich assemblage of relict flora. These vascular plant species have strong affinities with the flora of the Atlantic Coastal Plain of North American and several of the species here are disjunct.

A review of the NatureServe database (results of query G1-G3³ rankings for Ontario) reveals that most of the highest ranked communities (G1 and G2) are generally found in association with: 1) alvar habitats; 2) the developed border region of the northern Great Lakes; or, 3) toward the southern part of the Great Lakes-St. Lawrence forest region where it transitions into Carolinian species assemblages. This would be consistent with the higher levels of urban development, wetland degradation and forest fragmentation in these areas of the province and across the border into the US.

Forest Ecosystem Classification surveys have been completed for the Nipissing Forest. This classification system built on Hill's previous work, which delineated site regions and site districts for the area. The Nipissing Forest contains two of Hill's site regions – 4E and 5E and 5 of Hill's site districts: 4E-4, 4E-5, 5E-5, 5E-6, and 5E-8. Results of the Forest Ecosystem Classification surveys have been used, together with Forest Resource Inventory data, to assign an ecosite to each stand in the Nipissing Forest. "Ecosites are mapping units which represent a consistent set of vegetation and site conditions. They may range from several hectares to tens of hectares in size" (*Field Guide to Forest Ecosystems of Central Ontario*, 1997). Ecosites are an integral component of forest management planning - the silviculture guides used to develop stand-level prescriptions are based on ecosites.

The ELC reports there are 25 ecosites in the Nipissing Forest – ecosites # 11 through to # 35. The forest is dominated by the tolerant hardwood ecosites (# 23 to # 30) and the intolerant hardwood ecosites (# 17, 18, 19), both groupings being quite similar in size. The tolerant hardwood ecosites occur mainly in the southwest corner and stretch along the southern border of the forest. These ecosites are also found along the Ottawa River from Mattawa north and in a triangle formed by the Mattawa River, the Ottawa River and the city of North Bay on Lake Nipissing.

Uncommon Inventory Species

The ELC is used as a frame of reference for assessing uncommon forest types. [NFRM](#) performed a search of their inventory to identify forest stands on managed Crown land that contained unusual or uncommon species. For example, Butternut is a possible HCV under element 1 (as a Species at Risk) and it would be an indicator of a unique ecosystem if it occurred. However there have not been any occurrences reported to date. No other indicators turned up any unique ecosystems.

HCV Designation Decision:

The occurrences of the Atlantic Coastal Plain community is designated HCV.

³ G1 (critically imperilled); G2 (imperilled); G3 (vulnerable); G4 (apparently secure); G5 (secure); G? and GU (not yet ranked or considered unrankable); G2G3 (range rank, indicates even higher degree of uncertainty); Q (taxonomy of type in question, if resolved, may result in a less imperilled rank).

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)?*

Rationale:

Vulnerability and population viability are the key issues under this question. This indicator includes rare forest ecosystem types that may be rare due to historic harvest practices (e.g. late seral red and white pine in eastern Canada).

Assessment Methodology:

- [NatureServe](#)
- WWF Ecoregion Conservation Assessment
- [Conservation International](#)
- Nipissing Forest 2004-2024 FMP (Historic Forest Condition and Trends)

Assessment Results:

The NF is within the Eastern Forest-Boreal Transition Ecoregion⁴. This ecoregion includes most of the southern Canadian Shield in Ontario and Quebec. The shield, in fact, principally defines the southern boundaries of this ecoregion. The characteristic mixed forests of this ecoregion are distinct from the predominantly deciduous forests to the south and the cooler boreal forests to the north. In the northern reaches and in the Lac Temiscamingue area, the forests transition into a more predominantly boreal forest characteristic of ecoregions to the north, although on warmer, better-drained sites, deciduous species dominate.

In terms of its relationship to other classification schemes, this mixedwood forest region is composed of the Lake Temiskaming lowland, the southern Laurentians, and the Algonquin-Lake Nipissing area (TEC ecoregions 97, 98, and 99). Because this ecoregion is a transition zone, it is characterized by a variety of forest types, including the Laurentide-Onatchiway (1a), Chibougamau-Natashquan (1b), Gouin (3) and Missinaibi-Cabonga (7) within the Boreal forest region. In the Great Lakes-St. Lawrence forest region, sections include the Laurentian, Algonquin-Pontiac, Middle Ottawa, Georgian Bay, Sudbury-North Bay, Saguenay, Haileybury Clay, Temagami, and Algoma (4a, 4b, 4c, 4d, 4e, 7-10) (Rowe, 1972).

Forest species assemblages in this area are highly influenced by drainage characteristics and topography, which are diverse on the Nipissing Forest. Fire was an important disturbance regime in the ecoregion on spatial scales of up to 1,000 km², particularly in the northern parts of the ecoregion. Elsewhere, smaller fires were more common.

The most widespread old-growth red and white pine stands remaining in the world and are found in this ecoregion. A large percentage of the Great Lakes watershed headwaters remain as relatively intact (rare on a continental scale).

Changes in Forest Composition and Community Associations

Intervention by humans has caused a change in the species composition of and distribution on the Nipissing Forest. For example, before human intervention, it is estimated that there were natural fire intervals, for stand replacing fire, of about 75 years in most stands in the Great Lakes-St. Lawrence Forest Region. This interval has now grown to nearly 600 years due to the advent of modern fire suppression programs (Source: 1994-1999 North Bay FMP). Studies of Ontario Land Survey (OLS) data for the Nipissing Forest have provided information about the forest on this unit prior to widespread European settlement. In the late 1800's and early 1900's surveyors established township lines and other legal boundaries as part of the settlement process. Surveyors followed pre-determined bearings through the forest, marking township boundaries, road allowances and lot corners. When doing this, they recorded information on land type, landform, soil productivity, and forest cover. Detailed

⁴ World Wildlife Fund. 2001. Terrestrial ecoregions of North America: a conservation assessment. Island Press.

descriptions of forest cover included species (in order of abundance), relative ages, health and diameter at breast height of the trees they encountered. This 1890 (circa) forest condition is the basis of comparison to the present forest condition.

Leadbitter (2000) used OLS data from the boundary lines of 10 townships in the Nipissing Forest and compared it to the 1989 FRI data from these same 10 townships. Pinto (unpublished 2003) compared historic data to the 2004 FRI. He expanded the study and looked at data from all 63 townships for which data were available – only partial coverage was available for the remaining 21 Townships, so they were not used. Pinto also did an analysis to determine if FRI data along the township boundary was representative of the FRI of the entire township – he found that the FRI along the boundary line was representative for most species, but not for balsam fir or red pine at the 99% confidence level.

Table 8. Proportion of forest cover by working group in OLS data and in 2004 FRI

Working Group	OLS (1856-1958) % of representation	FRI (2004) % of representation	Change
Pine	17.66**	9.37	Decreased
White Birch	14.19*	16.90	Increased
Spruce	11.39	11.85	Increased
Balsam Fir	11.17**	5.31	Decreased
Poplar	8.88**	18.48	Increased
Maple	6.30**	21.15	Increased
Larch	5.92**	0.19	Decreased
Cedar	4.74	5.08	Increased
Yellow Birch	4.54	4.89	Increased
Hemlock	4.50	2.44	Decreased
Hardwoods ¹	4.34	N/A	
Jack Pine	2.41**	3.48	Increased
Alder	2.35	N/A	
OTHER	1.62	0.87	Decreased
Total	100.00	100.00	

Significant difference between 1856-1958 OLS data and 2004 FRI township lines at the 95% confidence interval.

** Significant difference between 1856-1958 OLS data and 2004 FRI township lines at the 99% confidence interval.

¹ Hardwoods: “hardwoods” were not well defined in the surveyors notes, so we cannot say if they were tolerant hardwoods, or a mix of hardwood species including poplar and white birch.

Leadbitter's sample was much smaller than Pinto's, and their results vary somewhat, but they are consistent for maple and white birch. Both analyses showed the most significant differences between the pre-settlement forest condition and the current forest condition occurs in maple. Pinto showed more than three times the amount of maple now than in the past and more than twice as much poplar now than in the past. Red pine and white pine have decreased by almost half, and there is about 50% less hemlock and balsam fir now. The decline of eastern hemlock from 15.6% occurrence in the late 19th Century to 4.4% in 1990 (Leadbitter 2000) supports the concern about this species. It is important to note that these comparisons are not based on the actual amount of area covered by each species, but on the proportional representation of the different species.

This historic information has been used to develop objectives for desired forest composition but it should be cautioned that not enough information is available to establish specific targets for each forest unit. For example, it is not known how much of the maple increase should be attributed to hard maple or soft maple. The large decrease in balsam fir may be due to a spruce budworm epidemic or a general overestimate of this species by the surveyors relative to the FRI. Balsam fir often exists as an understory species and would have been noted in a ground-based survey. The FRI is based on interpretations of the overstory from aerial photographs, which tends to hide a balsam fir understory. This will most likely result in an overestimate of the true change in balsam fir composition since historic times. No targets were established to increase the amount of these species, as they are addressed by normal forest planning.

Late Seral Stage Forests

With the historical focus on harvesting of mature stands across the region, old growth forests and associated ecosystems have certainly declined across the region. Six old growth sites have been identified in the Nipissing Forest. Five of these sites are old growth red and white pine. The sixth site, the Widdifield Forest, is a 2,200 hectare forest containing large yellow birch and hard maple and is within the city limits of North Bay. Table 9 provides a summary of these sites. As a result of the OLL decision, all of the above sites have been protected as either parks or conservation reserves.

The total area of late seral stage forests in these identified parks and conservation reserves represents approximately 2.5% of the Crown productive forest (549, 320 ha) or 1.4% of the entire Nipissing Forest landscape (all ownerships, approximately 1.1 million hectares).

All late seral stage white and red pine stands on the Nipissing Forest have been designated due to their significant declines from historical levels. Approximately 4000 hectares of area with white or red pine working group have been identified in the current forest inventory. For the same reason, undisturbed late seral stage tolerant hardwood forests are also designated HCV. All significant hemlock forest stands, those in late seral stage as well as others, have been designated HCV's due to the species declines from historical levels and to their high ecological values. Approximately 3500 hectares of area with hemlock working group have been identified in the current forest inventory. The parks and protected areas containing old growth stands are HCVs for the Nipissing Forest (Table 9).

Table 9. Ontario Living Legacy parks and conservation reserves containing late seral stage communities.

Updated to Phase 2 FMP, for more info see [Table 5](#).

Name	Area (ha)	Land Use	Forest type	CLUA ID #
Widdifield Forest Prov. Park	2170	Prov. Park	Yellow birch and hard maple	P146
Gooderham Old Growth White Pine Forest	82	Cons. Res.	White & Red Pine	C137
Mattawa River Addition -Talon Lake Old Growth Stand	10,687	Prov. Park	White & Red Pine	P148
McLaren Forest	410	Cons. Res.	White & Red Pine	C159
God's Lake OG White Pine Forest reserve	354	Cons. Res.	White & Red Pine	C134
Boom Creek Cons Res	590	Cons. Res.	White & Red Pine	C124
Ottertall Creek Cons Res	949	Cons. Res.	White & Red Pine	CR5
Alexander Lake Forest PP	1934	Prov. Park	White & Red Pine	
Total Area:	17176			

HCV Designation Decision:

- All late seral stage white and red pine stands
- Undisturbed late seral stage tolerant hardwood
- All significant hemlock forest stands, those in late seral stage as well as others

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

Rationale:

In regions where large functioning landscape level forests are rare or do not exist (highly fragmented forest), remnant forest patches may require consideration as potential HCVs (i.e. best of the rest). The question identifies remnant forest patches or blocks where landscapes that do not contain permanent infrastructure do not exceed size thresholds.

Assessment Methodology:

- WWF Ecoregional assessment
- [Global Forest Watch](#) Intactness mapping
- MNR Lands for Life assessment
- Roads layer for Nipissing Forest
- MNR Lands for Life assessment
- Landscape Ecology Analysis Program results for 2004-2024 Nipissing FMP

Assessment Results:

According to WWF's Terrestrial ecoregions of North America: a conservation assessment, the Eastern Forests – Boreal Transition ecoregion containing the Nipissing Forest is highly fragmented by public roads, logging roads, large scale logging, and settlement patterns. WWF estimates that only 10% of the broader ecoregion remains as intact habitat.

Global Forest Watch ([GFW](#)) Identified a number of intact areas on the Nipissing forest of various sizes. The GFW assessment provides an initial coarse level analysis of forest intactness at a global level. To regionalize the GFW assessment, more detailed roads information on the Nipissing Forest was added to the [GFW](#).

While the Nipissing Forest does contain areas that remain relatively intact, as seen from the roads information and according to the WWF representation, it is within an ecoregion that is considered highly fragmented. On a regional basis, as shown in both the MNR analysis and the GFW analysis, the Nipissing Forest has relatively less "intact" area compared to adjacent SFLs to the southeast, southwest, northeast and northwest.

The degree of landscape intactness or remoteness, however, was used as a major criterion in the identification and designation of parks, conservation reserves and enhanced management areas during Ontario Living Legacy land use planning exercise. Many of the areas on both the MNR map and the GFW map now contain or are encompassed by one of the OLL designations. Some of the GFW/MNR intact areas now include protected areas or conservation reserves in their cores and several more are designated Enhanced Management Areas that will be managed for remoteness. With respect to the latter, [NFRM](#) has already signed a number of Resource Stewardship Agreements (RSA) with Remote Tourism Operators on a number of these intact areas. The RSA lay out ways in which the critical remote features of importance to these businesses will be maintained.

Global Forest Watch assessment

Global Forest Watch has mapped what they consider to be the remaining "intact forest fragments" (see <http://www.globalforestwatch.ca>). These areas have been depicted by GFW according to the following criteria:

- At least 500 or 1,000 metres from anthropogenic features such as roads, settlements, clearcuts, pipelines, power lines, mines, etc.
- At least 5,000 hectares in size
- Visible on Landsat satellite imagery

The fragments identified by GFW in the vicinity of the forest do not meet their criterion. Some of the GFW "fragments" are already in parks and protected areas. As stated above, Bark Lake, E53a (Remote Access EMA - Bancroft, Pembroke Districts) has been identified by GFW but the area is already restricted access.

Enhanced management Areas

Due to its long history of use and relatively extensive road network, the Nipissing Forest cannot be classified as a forest that is little fragmented by human impact. Several of the most intact areas on the forest were included in or encompassed by either parks, conservation reserves or enhanced management areas during the [OLL Land Use Plan](#). Parks and CRs are designated HCV in element 7 above. The latter, EMAs, are not considered protected areas and are designated above.

There are five EMAs with access control.

Table 10. Enhanced Management Areas with access controls that contribute to defragmentation of the NF.

For more details see Table 5.

Name	Type	Area ID#	Area (ha)
Donald Lake	Enhanced Management Area	E176a	11878
East Mills	Enhanced Management Area—Remote Access	E74a	3264
Eighteen Mile Island	Enhanced Management Area—Remote Access	E168a	10707
McCallum Peninsula/ Thistle Township	Enhanced Management Area	E162a	5883
Ottertail Creek	Enhanced Management Area—Remote Access	E132a	8433

HCV Designation Decision:

There are five EMAs designated under Question 10.

11) Are there nationally /regionally significant* diverse or unique forest ecosystems* or forests* associated with unique aquatic ecosystems*?

Rationale:

Vulnerability; species diversity; significant ecological processes.

Assessment Methodology:

- Ontario Areas of Natural and Scientific Interest
- WWF/MNR L4L Conservation Assessment (protected areas “gap analysis”)
- WWF Ecoregion Conservation Assessment

In the assessment the managers went through the extended list of 169 NHIC sites that were considered “natural areas”. This also contributed to the assessment of Conservation Areas in Element 6.

Assessment Results:

NHIC identifies a number of Earth Science features in the North Bay District, two of which are identified as provincially significant (Table 11).

Table 11. Earth Science Areas in North Bay District (NHIC 2004).

Area Name	Size	Description
Dana Township Ice Margin Complex (ES)	1131.0	<u>Provincial significance</u> ; represent ice margin features - end moraine, outwash plain, eskers; formed about 10,000 years B.P. Provides representation of a series of related surficial deposits and features identified in the earth science framework for representation: the moraine, eskers, kettle features, and outwash plain. The surficial deposits are undisturbed under the forest canopy.
Friday Lake Moraine (ES)	240.0	Compact fissile non-calcareous till plastered on southwest side of northwest-southeast fault controlled valley in which Friday Lake has formed. <u>Provincial significance</u> representing an undisturbed stoss moraine in a fault valley, associated regional ablation till, vegetated boulder talus, dissected tills. Northern stand of mature tolerant

		hardwoods. [Kershaw 1989]
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A number of other earth science sites have been examined: Antoine Esker And Alexander Forest, Banana Lake White Birch, Colton Narrows, Commanda Patterned Peatland, Holdridge Creek/Red Cedar Lake Marsh, Kenny Forest, Little Jocko River Wetland, Mcconnell Lake Moraine, Mcconnell Lake Moraine - Osborne Patterned Peatland, Mosquito Creek Wetland, Pinetree Point, Rice Bay Delta - Blue Mountain Complex, Samuel De Champlain And Mattawa River Provincial Parks, Sturgeon River Floodplain, Tomiko River Rapids, Widdifield Forest.

HCV Designation Decision

All of the earth science features are classified under special land use designations (Earth Science feature in NHIC and Enhanced Management Area in the OLL LUS) and there are provisions to manage these areas accordingly. The two areas identified as “provincially significant” are designated as HCV – no special prescription required.

Category 4) Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).

12) Does the forest provide a significant source of drinking water?

Rationale

The potential impact to human communities is so significant as to be ‘catastrophic’ leading to significant loss of productivity, or sickness and death, and there are no alternative sources of drinking water.

Assessment Methodology

- Conservation Authority Mandate & Watershed Plans (North Bay-Mattawa CA)
- Municipal Websites (North Bay, Mattawa, Sturgeon Falls, Powassan)
- Known usage of water by local communities

Assessment Results

Three specific water values were considered for HCV designation:

1. The AOC for Groundwater recharge areas (GWS) are associated with known brook trout spawning sites identified by MNR prior to, or during operations. The groundwater provides support for the fishery but is not a direct water source for humans.
2. The Municipal Water Supply AOC (MWS) is for water sources adjacent to planned operations. This includes.
3. Public Springs (AOC PS) is for water sources accessible to the general public.

The main source of drinking water for the city of North Bay (home to much of the population in the NF) is Trout Lake, the headwater of the Mattawa River. Trout Lake has a depth of up to 60 meters, supports a coldwater fishery and has the distinction of supplying some of the best quality drinking water in the province of Ontario. The town of Sturgeon Falls sources its drinking water from the nearby Sturgeon River. Other communities within the Forest rely on ground- or surface-water as a source of drinking water for residents. There are a number of agencies (see above) that have input to the protection of safe drinking water quality for local communities. Other factors (e.g. hydro dams) also affect water flow, regulation and quality in the watershed area.



The Forest Management Planning process has a number of provisions for the protection of water quality that is a [source for drinking](#). In accordance with provincial regulations, forest managers must establish reserves, whose widths correspond with ground slope adjacent to the aquatic feature (e.g. stream, lake, wetland). Prescriptions for reserves also vary according to the ecology of a given body of water e.g. coldwater trout streams and lakes, critical fish habitat and headwaters will have more significant and continuous treed reserves than a warm water lake or stream.

Public Springs, although not high profile, are a feature of the area and considered of importance. The forest industry treats these sources with a precautionary principle. As such they are considered HCVs.

Trout Lake and the Sturgeon River are designated HCV as critical sources of drinking water supplies to communities on the Nipissing Forest. Other dispersed public access natural water sources (springs) will also be designated as HCV.

An area of concern (AOC) prescription in the [FMP](#) excludes forestry operations from within a 120 metre buffer **around** a provincially significant wetland. 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. See also the discussion on wetlands under Question 13 below.

The [FMP](#) states that operations within or adjacent to all wetlands within the boundaries of the forest will be conducted in such a way as to result in no loss of wetland form or function. An AOC prescription has been included in the [FMP](#) for this purpose. Many wetlands receive additional protection through prescriptions designed to protect other values such as fish habitat, osprey and heron nest sites, and moose aquatic feeding areas

Rationale:

Forest areas play a critical role in maintaining water quantity and quality, and a service breakdown could have catastrophic impacts or could be irreplaceable.

Assessment Methodology:

- Conservation Authority Mandate & Watershed Plans (North Bay-Mattawa CA)⁵
- Provincially Significant Wetlands

Assessment Results:

It can be said that the entire NF provides significant ecological services in mediating flooding, controlling stream flow regulation and water quality. As a whole, the Forest contributes positively to these natural processes as a result of the fact that continuous forest cover is maintained across a significant proportion of the managed landscape.

Historically, periods of dry weather and low water levels or drought have been relatively uncommon in Ontario (about every 10-15 years). However, recent studies on changing weather patterns indicate low water levels may become more common, potentially compounded by the province's steadily increasing demands for water⁶.

Research shows that forest cover changes must meet or exceed a 20–25% threshold to detect a measurable response in flow (i.e. annual runoff) to forest disturbance (Bosch and Hewlett 1982⁷; Hornbeck et al. 1993)⁸. Paterson et al. (1998) further suggest that hydrological changes induced by climatic variations in the boreal forest may override those due to forest disturbance such as harvesting or fire for small basins. However, this should be examined in future work at larger spatial scales.

Provincially Significant Wetlands

There are also a number of wetlands on the forest that provide critical ecosystem service functions such as: ground water recharge and discharge; flood damage reduction; shoreline stabilization; sediment trapping; and nutrient retention and removal.

These wetlands also provide critical habitat for many bird, amphibian, reptile and mammal species, including many of the furbearers. Wetland areas of various sizes and types are scattered throughout the Nipissing Forest, and are often associated with lake, river and stream systems. These aquatic systems often serve as important travel corridors and feeding areas for many wildlife species. Wetlands are also important for fisheries habitat. Some species of fish, such as northern pike and muskellunge rely on wetlands as spawning areas. For other species, wetlands can be valuable feeding or food-producing areas, providing frogs, insects, bait fish and other food.

Area of Concern prescriptions on the Nipissing Forest that are used to protect wetlands are consistent with the Provincial Policy Statement. According to prescriptions, an approved Environmental Impact Statement is required

⁵ North Bay-Mattawa Conservation Authority. URL: <http://www.nbmca.on.ca/>

⁶ MNR, Lands and Waters. Low Water Response. URL: <http://www.mnr.gov.on.ca/MNR/water/p774.html>

⁷ Bosch, J. N. & Hewlett, J. D. 1982. A review of catchment experiments to determine the effect of vegetation changes on water yield and evapotranspiration. *J. Hydrol.* **55**, 3–23.

⁸ Hornbeck, J. W., M. B. Adams, et al. 1993. Longterm impacts of forest treatments on water yield: a summary for northeastern USA. *J. Hydrol.* **150**: 323-344.

prior to any operations within 120 metres of Provincially Significant Wetlands (see AOC Supplementary Documentation, 2019-2029 FMP). An approved protocol for evaluating wetlands as to their level of provincial significance exists but, in fact, very few wetlands have been evaluated. It is certain that more provincially significant wetlands could be found, if they were evaluated. Provincially significant wetlands identified to date are listed in Table 12.

Table 12. Known provincially significant wetlands in the Nipissing Forest.

Wetland Name	Township(s)
Cache Bay	Caldwell, Springer
Callander Bay	North Himsforth, West Ferris
Chippewa Creek	Widdifield
Duchessay Creek	Merrick, Widdifield
Fish Bay	Nipissing
Gauthier Creek	West Ferris
Jessup's Creek	West Ferris
LaVase River/Dreany	East Ferris, West Ferris
Loudon Basin Peatland	Loudon
Parks Creek	Widdifield
Rice Bay	Bonfield, Phelps
Upper Wasi River	Chisholm

Public Works and Government Services Canada (PWGSC) is the federal department responsible for managing water levels for Lake Nipissing and the French River. They have a water management plan for these rivers. The most significant fluctuations in water levels and stream flow on the forest occur as a result of climate effects as well as use levels and flow regulation required for hydro generation. Forest managers have no direct control over water level fluctuations and flow regulation associated with the hydroelectric industry, climate effects or other water users but must ensure that forest operations have no significant negative impacts.

HCV Designation Decision:

[NFRM](#) considers Provincially Significant Wetlands as an HCV.

14) Are there forests critical to erosion control?

Rationale:

This question seeks to identify forests that contribute to the stability of soil, terrain or snow, including control of erosion, sedimentation, landslides, or avalanches.

Assessment Methodology:

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

Assessment Results:

There is little extremely steep topography or highly unstable terrain that would indicate obvious candidates for designating HCV under this question on the Nipissing Forest. The primary concerns for erosion would be associated with forest clearing on steep terrain and/or areas comprising fine-textured soils prone to erosion through mechanized harvest operations. Operational guidelines⁹ direct how operations on sensitive sites should occur.

HCV Designation Decision:

There is no evidence of high risk areas for compromised soil stability, sedimentation or erosion through forest operations on the Nipissing Forest. Existing risk is managed through provincial guidelines to protect the physical environment from negative impact – therefore there is no HCV designation under this category.

⁹ MNR. 1997. Forest Management Guidelines for the Protection of the Physical Environment.

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 Appendix 5 in FSC Canada National Boreal Standard, Version 3.0).

16) Are there forest landscapes (or regional landscapes) that have a critical impact on agriculture or fisheries?

Rationale:

Mediating wind and microclimate at the scale of ecoregions affecting agriculture 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 (e.g. adjacency of forests to agriculture and fisheries production) may be more relevant in the HCV component regarding meeting basic needs of local communities.

Assessment Methodology:

- Review Literature
- Search Ontario Ministry of Agriculture and Food
- Search Ontario Ministry of Northern Development and Mines
- Review 2019-2029 FMP AOC Prescriptions
- Discussions with local MNR fisheries managers

Assessment Results:

This assessment is more significant, in the HCV sense, in other parts of the world where forestry and agriculture are more closely tied together. Although agriculture and fisheries are of course significant, the assessment below applies to HCVs in the forest itself.

Agriculture

The Nipissing Forest is in the transitional area between the boreal forests to the north and the hardwood forests and agricultural lands to the south. The local topography in the North Bay District is influenced by underlying Precambrian bedrock of the Canadian Shield, making much of the area unsuitable for intensive agricultural activity.

The North's agricultural sector is small compared to other parts of Ontario; dairy and beef farming account for 80% of commercial activity. Presently, only about 1/3 of the North's agricultural land (Class 1 through 4) is in production. Forestry, tourism and mining still comprise the main economic sectors in the region.

Within the Nipissing Forest, the communities of Verner (54 km west of North Bay) and Powassan (33 km south of North Bay) are identified as agriculturally significant areas by the Ministry of Northern Development and Mines¹⁰.

A 2003 report by The Corporation of the Municipality of West Nipissing (West Nipissing)¹¹ suggests that established sectors of the regional economy are largely anchored in the exploitation of the region's natural resources through mining and forestry. Over the last decades, trends also show increased consolidation of the area's farms and a significant reduction in the overall acreage being exploited in West Nipissing.

Most agricultural activities are carried out on patent (private) lands interspersed amongst the Crown land portion of the Nipissing Forest. Given the relatively low sensitivity of the type of farming activities in the region (e.g. beef and dairy production) and the high degree of forest cover maintained on the Nipissing Forest, no significant impacts to the primary agricultural production areas are anticipated.

¹⁰ Ministry of Northern Development and Mines. URL:

http://www.mndm.gov.on.ca/mndm/nordev/redb/sector_profiles/agriculture_e.pdf

¹¹ The Corporation of the Municipality of West Nipissing. URL:

http://www.westnipissingouest.ca/images/es_june18.pdf

Fisheries

There are 1453 lakes located within the Nipissing Forest (FMP 2009). Lake Nipissing accounts for 65 percent of the surface area of unit's waters, with an area of 85,470 ha, while the remaining lakes cover 44,873 ha for a total of 130,343 ha (this figure does not include area of other small water bodies).

Approximately 12.8 percent of the surface area of water in the management unit is made up of coldwater lakes, rivers, and streams. A large percentage of these water bodies occur in the easternmost portion of the unit, including McConnell, Timber, and Guilmette Lakes, while the majority of the remaining coldwater sites are located in the north-west corner (Emerald, Manitou and Red Cedar Lakes). Trout Lake's land-locked Atlantic salmon (ouananiche) population is a unique resource since the species exists here outside of its normal range. Coldwater fish species tend to be quite sensitive to disturbances to water quality and to shoreline habitat. The prescription for brook trout areas of concern is one mechanism used in this plan to further enhance or protect existing coldwater fisheries (see Table FMP 11 in the 2019-2029 Nipissing Forest Management Plan).

Located centrally, Lake Nipissing is the largest body of water in the Nipissing Forest. It accounts for two-thirds of the fishing pressure and 81 percent of the total harvest, by weight, in the management unit. Other heavily fished warm water lakes in the district include Lake Nosbonsing, Wasi Lake, and Commanda Lake. These lakes, located in the southern portion of the management unit, draw both tourists and locals in search of walleye and other game fish.

Forest management activities in riparian areas on the NF are implemented in a way to minimize harmful alteration or disruption of fish habitat. On the Nipissing Forest as in many areas of the province, collection of fisheries data by MNR is limited. A 2001 Independent Forest Audit Report recommends that the MNR undertake fish surveys in support of improved forest management.

Because the HCVF approach operates under the paradigm of the precautionary principle, a lack of information on HCV must result in a conservative approach. To this end, those waters for which data is lacking are classified as cold water fisheries. A more restrictive prescription is used in light of the known sensitivity of coldwater fish habitat.

While the current lack of fisheries data for the Nipissing forest limits the identification of critical production areas, an ongoing research project titled "The Forest Fish: Linking Topographic Models of Forested Sub-watersheds to the Conservation of Brook Trout"¹² funded by the Ontario Living Legacy Fund may in future assist managers in identifying ecologically sensitive areas and developing appropriate site-specific prescriptions.

There are 1453 lakes within the Nipissing Forest. Lake Nipissing accounts for 65 percent of the surface area of the unit's waters, with an area of 85,470 ha. Approximately 230 tourist operators in the district rely on sport fish, from both the cold water and warm water groups, for all or part of their businesses.

Walleye are the most sought after warm water species while trout are the most sought after cold water fish. Only 12.8 percent of the surface area of water in the management unit is made up of cold water lakes, rivers, and streams.

As indicated previously, protection of fisheries resources in forest management planning relies primarily upon Area of Concern planning which deals with erosion potential and watercourse disruption protection measures along with access restrictions on self-sustaining lake trout and brook trout lakes (FMP-11, SST2 & SST3).

HCV Designation Decision:

Agriculture: Although agriculture is of localized importance in some areas within the Nipissing Forest, it is unlikely that the beef and dairy industries that comprise a majority of the agricultural sector face any significant impact or risk from forest management on Crown lands (e.g. changes in wind and microclimate/microhabitat) - not HCV.

Fisheries: A conservative approach to the protection of fish habitat on the Nipissing Forest is taken – at this time, there are no identified important production areas that warrant increased protection from forest operations that are not already addressed in the current planning approach - not HCV.

¹² Trent University Watershed Science Centre, Centre for Northern Forest Ecosystem Research.

Category 5) Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).

17) Are there local communities? (This should include both people living inside the forest area and those living adjacent to it as well as any group which regularly visits the forest).

Question 17 further asks:

- Is anyone within the community making use of the forest? (Look at members or subgroups rather than treating the community as homogenous.).
- Is the use for their basic needs/ livelihoods? (Consider food, medicine, fodder, fuel, building and craft materials, water, and income)
- If it is not possible to say that it is NOT fundamentally important, then assume that it is.

Rationale:

This attribute looks at level of dependence of local communities on the forest to meet their basic needs.

Assessment Methodology:

- NRVIS data
- Socio economic Description in [FMP](#)
- Discussions and correspondence with First Nations during forest management planning consultation sessions
- Discussions and correspondence with non-native communities and stakeholders during forest management planning consultation process

Assessment Results:

The NF encompasses a number of communities in this part of the Province. The local managers have established a working relationship and an understanding for the needs of the communities.

Communities within the Forest include:

- North Bay
- Restoule
- Verner
- Powassan

Subsistence/Health

The Nipissing Forest and surrounding areas are used extensively by local native and non-native communities alike. Access to Crown lands for recreational and non-commercial consumptive use is generally unrestricted. Areas such as hunting grounds, berry-picking areas, medicinal plant areas etc have been identified and are subject to prescriptions developed during the forest management planning process. For both native and non-native communities, the use of the forest for food and materials is generally supplementary and not the primary source. Important sources of drinking water are discussed previously in Question 12.

Timber Values

Wood from the Nipissing Forest goes to almost 30 different communities in the region to be processed. These include the following communities and MNR Districts:

- Cochrane District: Cochrane,
- Hearst District: Hearst
- Kirkland Lake District: James Township, Englehart, Larder Lake, Kirkland Lake, and Timiskaming.
- North Bay District: Calvin Township, Mattawa, North Bay, Powassan, Sturgeon Falls.
- Parry Sound District: Huntsville

- Pembroke District: Killaloe, Pembroke, Petawawa, and Raglan.
- Sault Ste. Marie District: Sault Ste. Marie and Thessalon.
- Sudbury District: Blind River, Cosby/Mason/Martland Townships, Espanola, Hagar, Naim Center, and Rayside-Balfour.
- Timmins District: Timmins
- Wawa District: Michipicoten

Locally, North Bay, Sault Ste Marie and Pembroke Districts have less than 4% of their labour force dependent of the forest industry; however, the above list illustrates the importance of forestry to many other northern communities.

Other Forest Values

Other commercially and culturally important values such as bear management areas, traplines, cottage lakes, recreation trails and tourism areas are comprehensively documented through the public consultation and values mapping portion of the forest management planning process. Ontario has many policies in place to ensure that multiple uses on the forest are recognized and accommodated, both within and in parallel processes to forest management planning.

Recreation and Tourism

Thirty- two Resource Stewardship Agreements prescriptions have been developed between resource-based tourism operators and [NFRM](#) and their relevant provisions have been incorporated into the Plan.

The tourism sector provides a range of services based on Lake Nipissing, and semi-remote and remote access.

Tourism

There is a diverse range of businesses within the Nipissing Forest. The hospitality sector is fuelled by the wide variety of tourism opportunities that the Nipissing forest provides for, including remote access and urban settings. There are over 175 tourism establishments in the area; approximately 120 operate on a year round basis. All establishments for which the number of accommodation units was available are listed in Figure 2.5.3.5. The information provided in the figure was drawn from the most current resource (Ontario Near North Inventory 2000). There are numerous tourist establishments that are not necessarily within the Nipissing management unit however many of their clients partake in activities in the Nipissing forest. This includes eco-tourism and wilderness expedition companies that may operate outside of the management unit boundaries, but utilize the Nipissing forest and local tourism businesses.

Recreation

The Nipissing management unit has numerous recreational facilities that provide for cross country skiing, dog sledding, hiking, mountain biking, snowmobiling, camping, and ice fishing. There are also a number of recreation activities that occur on Crown land in the Nipissing forest. Some land use permits in Nipissing include trail systems that identify ecology, geology, and historic values, cross country ski facilities, canoe routes, and snowmobile trail systems. Organizations that are associated with and promote trail use on Crown land are: Voyageur Multi-Use Trail System, Discovery Routes Trails and Near North Trail Association.

Trapping Activities

The unit is divided into 130 trapping zones that are comprised of both Crown and private lands. The main species trapped are beaver, otter, muskrat, and fisher. Trapping activity has been part of the subsistence of the people of central Ontario since pioneer times and long before with the native people. It was not regarded as an HCV because the subsistence element of trapping has declines significantly, and few people are completely dependent on it.

Recreational Lakes

Lakes that are surrounded by cottages or resorts are important economic opportunities for nearby communities. Impact from forestry activities on this experience would be detrimental to the communities. Recreational lakes are widespread through this forest and through central Ontario. This lifestyle business is part of the forest. It is safeguarded though prescriptions that are set in the [FMP](#). These prescriptions apply to all lakes. Recreational Lakes were not designated as an HCV. Cottage Lakes are also relatively low risk due to the active participation of cottagers in the forest planning exercise. Finally, the managers also have a strong [Good Neighbour Policy](#), which means there is an active contact program for adjacent owners near operations.

HCV Designation Decision:

There are no HCV designations under Category 5.

Category 6) Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).

18) Is the traditional cultural identity of the local community particularly tied to a specific forest area?

Rationale:

In the context of this standard, 'local' is defined as in the national Boreal Standard. People are considered local when they permanently reside within commuting distance by car or boat from the management unit, or where they are part of the First Nation whose lands and territories contain or are contained within the management unit.

Assessment Methodology:

- FMP Background Native Information Report
- [Canadian Heritage River Program](#)

Assessment Results:***Native Values***

Two First Nations, Dokis and Nipissing, are located in the western and central parts of the forest respectively. Another Aboriginal community the Temagami First Nation, although located outside the Forest boundaries identifies the northern portion of the Forest as part of its traditional territory. The Antoine First Nation and the Mattawa North Bay Algonquins of Golden Lake, have been granted community status and are in Land Claim Negotiations with the Federal and Provincial Governments. Some "Settlement Lands" have been removed from the managed forest and will be transferred to these two Communities when the Land Claim is finalized.

At present, there are a total of 101 known archaeological sites identified on the Nipissing Forest. Given the extensive history of aboriginal land use in this area and the geographic extent of the Forest, this number is low. This is in contrast to the Temagami area to the north of the Forest, which has been subject to more extensive study and has a much higher proportion of known sites (over 400).

[NFRM](#) uses a predictive tool to identify areas of high archaeological potential. While it is a coarse filter approach, it does serve to flag those areas that have a high probability of having some archaeological significance. [NFRM](#) has made a commitment to the local First Nations to use the services of an archaeologist before entering or crossing any of the high potential areas identified by the model. One of the Corrective Actions Requests identified during the FSC assessment for the Nipissing Forest requires managers to develop improved processes for identifying areas of high cultural or spiritual value as follows:

At present, four of the five Aboriginal Communities have "relatively" up-to-date Native Value collection exercises which are used during the development of forest management plans to identify areas for protection or modified harvest. Recognizing that the Forest contains many values that are not just of an archaeological nature, Native Values as identified in the FMP can include:

- cemeteries
- old villages and spiritual sites
- pictographs, archeological sites
- fur trading post
- traditional gathering sites of medicinal plants and berries
- traditional fishing areas
- traditional habitation sites

- hunting camps
- old mines
- logging camps and sawmills
- winter trails
- old wagon roads
- winter horse trails
- portages

Due to the confidential nature of Native Values, the FMP process will be used as a surrogate for the protection of important cultural and spiritual sites. Sites identified through further research will be protected through Area of Concern prescriptions documented in the Nipissing Forest Management Plan. We acknowledge that these values are possible HCVF, if the FNs determine that special prescriptions are required, and a monitoring system will be implemented.

Heritage Rivers and Lakes

There are a number of rivers that either originate in or flow through the Nipissing Forest that are recognized locally, provincially and nationally as having significant cultural and historical significance. In particular, the Ottawa, Mattawa and French Rivers have been used for centuries as travel corridors and trade routes by First Nations and the early European explorers and voyageurs. The West end of Lake Nipissing has also been extensively used. While exhaustive archaeological surveys of these water bodies have never been conducted, without a doubt they contain a large number of significant archaeological sites. In recognition of this, the French and Ottawa Rivers have been designated Canadian Heritage Rivers by Parks Canada. The objective of the [Canadian Heritage River System \(CHRS\)](#) is to give national recognition to Canada's outstanding rivers and to ensure long-term management and conservation of their natural, cultural historical and recreational values.

While not a designated under the CHRS, the Mattawa River also has high local/regional cultural and historical significance and is considered HCV.

Logging Heritage Sites

Past harvest and management exerts a strong influence on current forest composition, and the physical evidence of activities is present within the forest to this day in the form of derelict buildings from camp sites, old foundations, mill sites, and monuments to those lost. Many of the families which are a part of this history continue in the business today. When they are located they are identified on the ground. Care is taken to not disturb the site, and often small reserves are established to ensure roads and trails avoid the feature, and that trees are not felled into them. Natural forces will eventually overtake them. They are not considered HCVs unless they are a designated site by an archeologist.

HCV Designation Decision:

Due to their high cultural and historical significance to both native and non-native communities, the Ottawa, French and Mattawa Rivers and the West end of Lake Nipissing are designated HCVs.

FN values as identified by the communities are given an HCV designation. In respect of their current confidential approach to their own values often the attributes of the site are not disclosed. If the values are designated by the FNs, they will receive HCV status.

19) Is there a significant overlap of values (ecological and/or cultural) that individually did not meet HCV thresholds but collectively constitute HCVs?

Rationale:

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

Assessment Methodology:

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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. Review by the management team and the LCC did not identify any new areas appropriate for HCV status that were not already covered in the first 18 elements.

HCV Designation Decision:

There are no overlapping HCVs designated in this question that have not been previously described.

Managing and Monitoring HCV attributes

The overall goal of managing HCV in keeping with the FSC criterion 9.3 is to safeguard the value. Several points from the standard have guided approach to managing HCVs:

- 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 written for the values 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.

It is worth repeating that the plan and the planning exercise drive the approach to HCVs. The planning process contains a significant amount of public consultation, which has also been verified to meet FSC standards through the certification assessment process.

[NFRM](#) is responsible for implementation of the detailed management prescription. A variety of audits and compliance monitoring programs is in place to ensure prescriptions are implemented as intended and as described in the FMP. MNR leads the testing of effectiveness of management direction in their approved forest management guides, and [NFRM](#) contributes whenever possible. Rempel et al. (2011) explain how some of MNR's approved direction is being tested, and MNR (2010b) outlines all the evidence available on effects and effectiveness during development of their new Stand and Site Guide.

Monitoring for HCV attributes are also described in Table 13. 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. As this document is refined more precise description of the location of monitoring procedures will be referenced.

[Table 13](#) provides an overview of the HCV values that were identified in Phase 1 of this study. It also describes the responsibility of MNR for inventory and monitoring. [NFRM](#) is responsible for implementation of the detailed management prescription. There is a shared responsibility between MNR and [NFRM](#) for evaluating the effectiveness of management prescriptions. These prescriptions must be shown to be effective.

Maps

For reasons of space and efficiency most maps are provided using linkages to websites rather than inclusion in this report. This ensures that they are always up to date within reason. Please note the extensive maps for species at risk in [Table 3](#).

Species at risk maps are located in the hyperlinks that are inserted directly in [Table 3. NF list and maps of Species at Risk and the “Manager’s List” of SAR in FSC criterion 6.2.](#)

Detailed maps of other forest values are available at <http://nipissingforest.com/products.html>.

Table 13. Overview of HCVs identified, responsibilities for inventory and monitoring, detailed management prescriptions and procedures for evaluating the effectiveness of management prescriptions.

Note this Table draws heavily from the [Stand and Site Guide](#) as used in the [FMP](#). This document contains much of the following direction for management. It also references the Background information (<http://www.mnr.gov.on.ca/en/Business/Forests/Publication/272847.html>) which is the scientific support for the effectiveness of the prescriptions.

HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
<i>Myotis septentrionalis</i> Northern Long-eared Bat, or Northern Bat	Bat hibernacula, foraging or roosting sites	MNR is responsible for the inventory and monitoring of wildlife, and for updating their values database (NRVIS). Status is determined by COSSARO, and this determines the recovery planning process. MNR maintains values database (NRVIS).	<p>Northern Bat is covered by two prescriptions that address all bats:</p> <p>Bat Hibernacula: Hibernacula known to be suitable and to have been used at least once within the past 20 years by ≥50 little brown bats, ≥30 big brown bats, ≥20 eastern pipistrelles, ≥20 northern long-eared bats, or ≥1 small-footed bat(s), or as otherwise identified as significant by MNRF</p> <p>200 m centred on the entrance to the hibernaculum, foraging area, or roosting site Reserve: 100 m; Modified Harvest, Renewal and Tending: MMZ - 1: 200 m; 200 m Hibernation and associated entrance and emergence period: Sept. 1 to May 30.</p> <p>Bat Maternity Roosting Sites: The AOC shall encompass all identified roost sites known to be suitable and to have been used at least once within the past 20 years by one little brown myotis (<i>Myotis lucifugus</i>), northern long-eared bat/northern myotis (<i>Myotis septentrionalis</i>), big brown bats (<i>Eptesicus fuscus</i>), eastern pipistrelle (<i>Pipistrellus subflavus</i>), eastern small footed myotis (<i>Myotis leibii</i>) or as otherwise identified as significant by MNRF.</p> <p>Same prescription as above</p>	<p>Compliance MNR and Company compliance staff routinely ensure prescription is implemented. Compliance is the responsibility of the Ric Hansel: 705-752-5430 ext 29 rhansel@nipissingforest.com</p> <p>Effectiveness monitoring is the responsibility of MNR. For specific expertise contact the local biologist: Shamus Snell, Phone: 705-475-5530 shamus.snell@ontario.ca</p>

HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
<i>Emydoidea blandingii</i> Blanding's Turtle	Winter and Summer aquatic habitat	MNR is responsible for the inventory and monitoring of wildlife, and for updating their values database (NRVIS). Status is determined by COSSARO, and this determines the recovery planning process. MNR maintains values database (NRVIS).	<p>AOC ID BTS and BTH</p> <p>Blandings Turtle Habitat: Suitable summer aquatic and associated habitats occupied by Blanding's turtle within the past 20 years as identified by MNRF; delineated habitats known to be occupied by a local population of turtles, as delineated through field survey, and terrestrial habitats within 300 m of these aquatic habitats; delineated habitats with a high likelihood of being occupied by a local population of turtles based on proximity (≤ 1000 m) to individual reliable sightings, and terrestrial habitats within 300 m of these aquatic habitats.</p> <ul style="list-style-type: none"> • MMZ-1: Suitable summer habitat up to 30 m from suitable summer habitat • MMZ-2: 30-150 m from suitable summer habitat • MMZ-3: 150-300 m from suitable summer habitat <p>BTW Suitable winter aquatic habitats and terrestrial habitats within 300m of these aquatic habitats.</p> <ul style="list-style-type: none"> • MMZ-1: Suitable winter aquatic habitat • MMZ-2: 300 m from suitable water aquatic habitat. <p>For details of prescription see FMP tables.</p>	<p>Compliance MNR and Company compliance staff routinely ensure prescription is implemented. NFRM Compliance is the responsibility of the Ric Hansel: 705-752-5430 ext 29 rhansel@nipissingforest.com</p> <p>Effectiveness monitoring is the responsibility of MNR. For specific expertise contact the local biologist: Shamus Snell, Phone: 705-475-5530 shamus.snell@ontario.ca</p>

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Great Blue Herons (possible HCV only)	Great Blue Heron Colonies > 25 nests	MNR responsible for inventory MNR biologists are required to determine presence of nests and whether inactive or active. Tree markers, other technical staff, and loggers report observed nest sites. MNR has responsibility for monitoring effectiveness of prescription, and protection measures.	Based on field assessment. The appropriate prescription is selected based on whether the nesting colony is active or inactive. The AOC distances are measured from the peripheral nests. Maximum total AOC radius = 300 m. MMZ1: 0-75 m • No harvest is permitted. • No renewal or tending operations are permitted from March 15 to July 31 if nests are occupied* MMZ2: 75-150 m • No high or moderate impact activities are permitted from March 15 to July 31 if nests are occupied* • Harvest, renewal or tending operations that retain mature forest with > 60% (canopy openings not to exceed individual tree crowns) are permitted.** MMZ3: 150-300 m • No high impact activities are permitted from March 15 to July 31	Compliance MNR and NFRM compliance staff routinely ensure prescription is implemented. Effectiveness monitoring is the responsibility of MNR. For specific expertise contact the local biologist: Shamus Snell, Phone: 705-475-5530 shamus.snell@ontario.ca
Loring Deer Wintering Area	Habitat characteristics of deer wintering areas in the Loring Deer Wintering area.	MNR identifies and determines the prescription, as well as monitors populations.	There are two Conditions on Regular Operations to protect Critical Thermal Cover (DWH1) and Deer Wintering Habitat – Access to Cover (DWH2)	NFRM ensures compliance in practices. The RSA is MOA between the Company and the tourism business. Company compliance staff follow up on the agreements ensuring compliance AND effectiveness: Compliance is the responsibility of NFRM Ric Hansel: 705-752-5430 ext 29 rhansel@nipissingforest.com

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Moose Emphasis Areas (possible HCV only)	Productive, nutrient-rich areas most likely to achieve a moderate to high density of Moose.	MNR monitors populations. NFRM promotes habitat by protecting areas that will provide thermal cover and protecting shorelines adjacent to moose aquatic feeding areas. Some roads will also be decommissioned to reduce hunting pressure.	Five (5) Moose Emphasis Areas have been identified in the 2019 FMP. Where Moose habitat management will be emphasized here will be targets for a range of young forest patch sizes for browse and a relatively high proportion managed as mixedwoods/hardwoods and mature conifer for cover.	Compliance with the prescription is determined by NFRM with oversight from MNR. Effectiveness monitoring is the responsibility of MNR. For specific expertise contact the local biologist: Shamus Snell, Phone: 705-475-5530 shamus.snell@ontario.ca
Un-accessed Self-Sustaining Trout Lakes	Self sustaining population	MNR identifies and determines the prescription, as well as monitors populations.	AOC id SST3 -- Unaccessed Self-Sustaining Trout Lakes (includes Lake Trout and Brook Trout Fisheries) Prescription -- 1 km (measured from treed edge) Reserve: 120 m Modified Harvest, Renewal and Tending: MMZ-1: 400 m MMZ-2: 1000 m Road Restriction: MMZ-1 and MMZ-2	Compliance with the prescription is determined by NFRM with oversight from MNR. Effectiveness Monitoring is the responsibility of MNR. For additional information: Guylaine Thauvette -- Management Forester 705-475-5539 guylaine.thauvette@ontario.ca
Red Spruce	Red Spruce outlier population	MNR identifies and determines the prescription, as well as monitors populations.	From the FMP: Natural hybridization with black spruce does occur. It is recommended that these isolated populations of red spruce with fewer than 100 individuals not be harvested unless: the area is already regenerated or seed from the appropriate seed zone is available to regenerate an equivalent site within the seed zone.	Effectiveness Monitoring is the responsibility of MNR. For additional information: Guylaine Thauvette -- Management Forester 705-475-5539 guylaine.thauvette@ontario.ca

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Regulated Conservation Areas: Parks and Conservation Reserves	Provincial Park Boundaries Conservation Reserve Boundaries	Land use designation is the responsibility of MNR.	<p>The FMP includes an Area of Concern for park boundaries consisting of a 30 metre buffer (15 m reserve and 15 m modified area). This AOC prescription applies to all existing and new parks whose ecological boundaries have not been established.</p> <p>The intention is to protect the integrity of the park boundary itself.</p> <p>In addition, if a value (e.g., an eagle nest) has been identified within a park, the portion of the AOC prescription that would fall outside the park boundary is applied to ensure the value receives an appropriate level of protection.</p>	<p>Compliance with the prescription is determined by NFRM NFRM Compliance is the responsibility of the Ric Hansel: 705-752-5430 ext 29 rhansel@nipissingforest.com</p> <p>Effectiveness Monitoring is the responsibility of MNR. For additional information: Guylaine Thauvette -- Mgmt Forester 705-475-5539 guylaine.thauvette@ontario.ca</p>

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Late Seral Forest	1 Late seral White & red Pine 2 Late seral Tolerant hardwood 3 All Hemlock stands	The old growth policy and strategy are the responsibility of MNR.	<p>Old growth management is product of the completed FMP.</p> <p>The new forest inventory shows a significant amount of variation in the amount of old growth forest on the landscape at the start of the 2019 FMP. Old growth is described using the Landscape Guide definitions and SRNVs for each of the Standard Forest Units (SFUs). This provides a higher level of resolution than Plan Forest Units (PLANFU), which are aggregations of SFU, e.g., mixedwoods. The approach for the proposed management strategy was to maintain old growth levels where they occur above the lower SRNV levels, and increase levels where they are below the lower SRNVs. For some SFUs, starting levels described in the inventory are very low relative to SRNVs and therefore do not reach the SRNV within the modelling timeframe. In part, this is a function of uneven-aged forests, which may be very old in terms of the time since a stand-replacing disturbance, being described by the average age of dominant and co-dominant trees, e.g., cedar, hemlock, and tolerant hardwood forests that are uneven-aged have stand ages lower than the old growth age of onset even though there is no evidence of disturbance.</p> <p>Section 5.1 of the 2019 FMP, which is an “Assessment of Objective Achievement” identified that “The amount of old-growth increases over the 10-year period in both protected areas and regular production forest areas. An increase is seen in old-growth area for all forest units, with the exception of hemlock, which is essentially unchanged. Hemlock, however, is rarely harvested due to a low market demand, therefore, it is probable that the amount of old-growth hemlock will also increase.</p>	Effectiveness Monitoring is the responsibility of MNR. For additional information: Guylaine Thauvette -- Mgmt Forester 705-475-5539 guylaine.thauvette@ontario.ca

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Enhanced Management Areas w Access control	Areas with reduced road density	Land use designation is the responsibility of MNR.	<p>Remote EMAs (EMAa) are typically relatively large areas which provide the public and tourism operators with high-quality remote recreational experiences. Roads for industrial and commercial use are permitted in these areas, however, their standards should be lower than those governing primary access roads.</p> <p>The following is suggested to maintain the remote feature of the area:</p> <ul style="list-style-type: none"> • Roads should be constructed to the lowest standard possible; • Existing access will be used as much as possible ; • Layout should consider aesthetics; • Design and construction should facilitate access controls and closure rehabilitation; • New roads will be restricted from public use and existing authorized access will continue; • Specific road use strategies will be developed for new primary and secondary roads and procedures identified for managing tertiary roads within remote areas 	<p>Land use designations are MNR responsibility. For more detailed information about planning and monitoring contact:</p> <p>Julie Robinson -- Phone: 705-475-5569 Email: julie.robinson@ontario.ca</p>
Source Water protection	Trout Lake and the Sturgeon River Public Springs	MNR ensures the AOC prescription is complied with. Value is identified through Ministry of Environment program of source water protection.	<p>30 - 90 m (Slope dependant)</p> <p>Reserve: 15 - 45 m</p> <p>Reserve/Modified: Measured from the high water mark or the well or the spring:</p> <p>0 - 8 degree slope = 15m reserve and 15m modified area 9 - 17 degree slope = 25m reserve and 25m modified area 18 - 24 degree slope = 35m reserve and 35m modified area 24 degree slope = 45m reserve and 45m modified area</p> <p>Public springs receive a buffer of 20 m.</p>	<p>NFRM staff ensure compliance. Ric Hansel 705-752-5430 ext 29 rhansel@nipissingforest.com</p> <p>MOE would address problems if reported by well owners.</p>

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Provincially Significant Wetlands	PSW identified through evaluation system by a Biologist trained by MNR in Wetlands	MNR is responsible for identification and classification as provincially significant.	<p>An MNR approved Environmental Impact Statement (supporting position that operations will not be detrimental to wetland values) is required prior to any operations within 120 metres of Provincially Significant Wetlands</p> <p>A Buffer of 120m is applied.</p> <p>An area of concern (AOC) prescription in the FMP excludes forestry operations from within a 120 metre buffer around the wetland.</p> <p>AOC PSW Wetlands or wetland complexes identified as provincially significant based on the Ontario Wetland Evaluation System.</p> <ul style="list-style-type: none"> The AOC consists of the delineated Provincially Significant Wetland (PSW) and a Modified Management Zone (MMZ1) measured from the edge of the wetland; total AOC = PSW + 120 m. 	<p>Monitoring for compliance occurs if any activities are scheduled near the wetland.</p> <p>Provincially significant wetlands are controlled through the Public Lands Act.</p> <p>They are guided by the Provincial Policy Statement on wetlands. Effectiveness Monitoring is the responsibility of MNR. For more detailed information about planning and monitoring contact: Julie Robinson -- Phone: 705-475-5569 Email: julie.robinson@ontario.ca</p>
Native values			Protection is determined based on the value. Normally buffers applied.	MNR leads consultation with Native communities. Compliance is MNR and NFRM : Norm Dokis Phone: 705-475-5594 Email: norman.dokis@ontario.ca

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HCV	Attribute	Responsibility	Prescription (detailed management – abridged see FMP for detail requirements and Stand and Site Guide)	Current Monitoring for compliance, effects, effectiveness and contact for responsible expert
Major water bodies with cultural and historic significance	Ottawa River, French River Mattawa River West end Lake Nipissing,	1) MNR responsible for waterway protection. 2) Cross NF. 3) Biological significance; aesthetic importance. 4) Marginal timber impact since normally excluded from operations. 5) Reserve designation.	West end Lake Nipissing: RSA prescription for the protection of aesthetics along the west end of Lake Nipissing (RSA z\29 in the 2019 FMP Table FMP-11). Up to 1 km modified - partial cutting only. Ottawa, French and Mattawa Rivers are protected by means of parks and conservation reserves. See FMP for further information on details and locations of prescription.	Compliance: already significant protection around the Mattawa, French and Ottawa River. In event of operations, normal compliance monitoring will occur. NFRM Ric Hansel:705-752-5430 ext 29 rhansel@nipissingforest.com Effects/Effectiveness: Prescription follows precautionary approach; approach does not need effectiveness monitoring because there does not appear to be a likelihood of a problem. Status: No extraordinary risk to the values is expected due to the extensive reserves.

Just as the commitment to the FSC principles and criteria is long term, understanding and fulfilling the requirements of assessing, managing and monitoring High Conservation Value Forest is an ongoing effort. This report is the third update to the report. We encourage comments, reviews, new element occurrences or general interest. This report is publicly available, and can be requested from [NFRM](#). We will provide electronic copies free of charge.

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Go to [FMP Link](#), then select Nipissing Forest, then follow instructions for Phase 1 or Phase 2. All FMP documentation is available at this location including **values maps**.

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As well as the companion document with the scientific rationale:

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Appendix 1. Review by Kira Dunham in compliance with 9.1 and 9.2 of the FSC standard.

Review of HCV Assessment for the licence area of Nipissing Forest

I have attached an electronic copy of this review and my CV. The HCV Resource Network Guidance for Peer Review of HCV Assessment Reports (Version 2.1 September 2010)¹³ was used as a guide in preparing this review. This review was conducted independently and the opinions are solely mine.

The HCV Resource Network document is described as a means:

- To provide HCV practitioners with a checklist of the key elements which should be covered in an HCV report
- To support reviewers in assessing the key elements of an HCV report,
- To facilitate the discussion of key findings of an HCV report, and
- To ensure that reviews of HCV reports are consistent and comparable across different applications of the HCV approach.

The review follows Checklist C of that document, (parts 6.3 and 8.1 are not applicable, as they are related to land conversion) and are for a process that is following a credible natural resource certification scheme, FSC in this case.

For reference purposes for your auditors, my level of effort in preparing this review approximately 8 hours. I have examined the process carefully. My assessment of the management plans and monitoring plans is only to ensure that the plan is in place, as I did not go beyond the information provided to me for this review.

Kira Dunham

Note from the authors about the reviewer:

Kira Dunham is an accomplished forest ecologist and natural resource liaison officer, with diverse experience in analysis and evaluation, negotiations and project management involving industry, government and First Nation stakeholders.

Some examples include her work with Taykwa Tagamou Nation where she assisted in building their traditional ecological knowledge, including development of MOUs for the use of the information. She also is working on documentation of the hydro developments that impacted the First Nations in the Lower Mattagami River, and the Moose River Basin. She also worked with TTN in development of forest management plans and assisted in discussions with Detour Mine. She was formerly the TTN representative on the Water Management Planning Standing Advisory Committee

¹³ <http://www.hcvnetwork.org/resources/hcv-network-governance/Guidance%20on%20HCV%20assessment%20reviews%20-%20Version%202.1-%20updated%20September%202010.pdf>

1. Executive summary of the document

In this section the review evaluates:

- a) Are the key findings clearly presented and summarized?
- b) Does the summary accurately reflect the findings and recommendations of the main document?

Findings:

Table 1 summarizes the key findings. The table is a useful tool to gain insight and an overview

- Regarding the category “Peregrine Falcon, Least Bittern, etc...” The Management category states that “for some species, prescriptions have been developed.” However, in the Monitoring category “... that no prescriptions are being used currently”. It would benefit the reader to expand on why there are none being used, and what would trigger the use of existing prescriptions.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

Minor edits and verifying consistency will improve Table 1

NFRM reply -- The text was clarified to explain the prescriptions situation.

2. Scope of the assessment

In this section the review evaluates:

- a) Is the assessment area and surrounding landscape clearly defined?
- b) Is there a basic summary of the company and its operations in the area?
- c) Are the impact and scale of proposed operations adequately described?

Findings:

This section of the report is divided into three sections:

- Overview of HCVF Assessment of the Nipissing Forest
- Purpose and Method
- Forest Description

The Overview is well written and sets the background for what attributes are needed to define HCV's. It is interesting to note that NFRM regards all of the NF forests have conservation value.

In the Purpose and Method section

- Regarding consultation
 - o It would be beneficial to include reference to the First Nations and the Aboriginal Working Group.
 - o “Comments on this report will be considered at any time. Copies were sent to...” Include a date to show when copies were sent.
- Regarding Keeping HCVs up to date it is stated “...that HCV is reviewed at appropriate time intervals. Annual maintenance audits... ensure that this is fulfilled.” Speaks vaguely to the term “appropriate time”, but rephrasing this and addressing the trigger of management changes might strengthen the review timing.
- Regarding Forest Description
 - o Though AOC's are the most common operational restriction – restrictions can also be seasonal.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

NFRM reply – AWG missing reference was an oversight. HCVs updating comment – changes made. “This will normally be triggered by status updates to species or other values, amendments to the [FMP](#), or a two year time period.”

3. Wider landscape context and significance of the assessed area

In this section the review evaluates:

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

Findings:

The Nipissing Forest is described in the Forest Description, with references to Hills site regions, as well as key features of this being a transitional forest.

The inclusion of the map is a good feature.

Issues: None ☒ Minor ☐ Major ☐ N/A ☐

4. HCV assessment process including consultation processes

4.1 Composition and qualifications of the assessment team

In this section the review evaluates:

- a) Was there adequate access to relevant expertise to assess biological and social values?

Findings:

The report makes reference to four components of consultation as well as referring to several Provincially-approved and mandated guides, manuals and legislation that guide the forest management planning process and define the standards for values protection.

It is also highlighted that the entire FMP process goes through a public review and consultation, as well as specialized consultation with First Nations.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

The hyperlink to the website doesn't actually have a listing for: Phase 1 and Phase 2 (2014 update) as mentioned in the references. This might be ambiguous for some as to where to look, especially if they are not familiar with the FMP process.

NFRM reply -- The difficulty with the MNR website not allowing direct links to documents is a problem. We added some text to clarify what has to be done.

4.2. Data sources and data collection methodologies

In this section the review evaluates:

- 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, proportionate to the impact and scale of the operations?

Findings:

The data sources and collection methodologies are referenced for each Element. In many instances there are several sources available to link together to create a detailed picture for each element. The information from these sources has been incorporated to establish the FMP as a major stand alone data source and reference.

It appears that the data sources are adequate enough to identify HCVs and that a high level of effort was made to review and explore data sources. Since numerous sources have been used the existence of gaps is minimal, and not likely to have an impact on the scale of operations.

There are always going to be gaps in an environmental setting where changes are ongoing. Perhaps vision statements could be included to address how more dramatic changes might be addressed, both in terms of data collection methods and timing (as related to i.e. climate change, wind storms, large fires)

Issues: None ☒ Minor ☐ Major ☐ N/A ☐

4.3. Consultation processes

In this section the review evaluates consultation for identification, management and monitoring:

- Were relevant stakeholders appropriately consulted?
- Is this documented in a verifiable manner?
- Were their views or the information they provided incorporated into the relevant process?

Findings:

The report clearly makes reference to four components of consultation as well as making reference to the FMP process, and the role of stakeholder representation and the LCC.

It would be equally beneficial to list First Nations, in this case the Aboriginal Working Group since this is a valuable tool to have to bring First nations to the table, as well under these four components. Though the involvement is available by hyperlink to FMP Supplementary Document C

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

The hyperlink to the website doesn't actually have a listing for: Phase 1 and Phase 2 (2014 update) as mentioned in the references. This might be ambiguous for some as to where to look

NFRM reply -- The difficulty with the MNR website not allowing direct links to documents is a problem. We added some text to clarify what has to be done.

5. Identification, location and status of each HCV

5.1. Addressing all six HCVs

In this section the review evaluates how the report assesses the individual 19 elements

Findings:

Cat 1 (A) Element 1:

Table 3 addresses the assessment of all SAR potential habitat as HCV. Comments include:

- Red-shoulder Hawk: Point 1. "Formerly listed as special concern." Can a brief explanation to this criteria be added for background information? **Done**
- Bald Eagle: Point 1. "...OBBA squares near the NF (on Ottawa R.)" Is the actual distance known, and can it be included? **No info available**
 - o Point 3. Add: with "possible HCV".

- Short-eared Owl: Point 1. "... very local breeding.." how is this defined? Local means it has irregular range. Text fixed
- Henslow's Sparrow: Point 3. *add HCV* after designated. done
- Loggerhead Shrike: Point 1 do the two subspecies ever overlap and are their declining breeding pair numbers comparable? Beyond scope
- Cerulean warbler: Point 2. "Predation from Brown-headed cowbird is also a threat, this species increases...." Use of *this* is ambiguous as to which species on is referring to, please clarify. done
- Canadian Warbler: Point 3. "There is interaction with forestry operations." Suggest: There are interactions with forestry operations. Done
- Red-headed Woodpecker: Point3. "it has not been found in NF and is relatively far removed."
 - o How is relatively defined? If it has not been found is proximity relevant? Hundreds of km – text added
- Yellow Rail: Point 3. add HCV* after designated. Done
- Golden-winged Warbler: Point 3. How recent are the MNR *change to OMNR* maps? 2013
- Louisiana Waterthrush: Point 3. How recent are the MNR *change to OMNR* maps? 2013 added
- Black Tern: Point 3. *add HCV* after designated.
- Rusty Blackbird: Point 1. Use of the description "wet boreal forest" is unclear, if possible define as related to the water table and surface exposure. The term is informal but used in forestry to indicate poor drainage – difficult to change.
- Southern Flying Squirrel: ?
- Northern Long-eared Bat, or Northern Bat: Point 1. "... possibly provincially rare..." this is ambiguous wording. Since it is listed as Endangered, then observe that "... it is provincially rare". Changed to is becoming provincially rare
 - o As related to the statement "... local occurrences would be protected if located...." -- Nests and such are easily identified and visible what sort of visual cues do operators know to look for? Location is frankly difficult – there are no cues unless one is significantly trained.
- Small Footed Bat: Good to see and AOC developed but as above -- Nests and such are easily identified and visible what sort of visual cues do operators know to look for? Could not find this text referred to.
- Eastern Wolf: Point 2. "Thus habitat for this species is maintained appropriate silviculture that will ensure...." Awkward phrasing, something is missing after appropriate. Fixed text
- Cougar: Point 2. "... land clearance..." vs ".... Land clearing..." done
- Wood Turtle: Point 1. How close is "close along the Ottawa River"? fixed
- Hog-nosed Snake: Point 3. "Occurrences in NF." Should this be "occurs in NF"? Done
- Lake Sturgeon: Information: mention DFO? Not sure of the intent of this.

In general these tables are a good tool. However, they need to be double checked for consistency of formatting and terminologies. The table was reviewed again independently

NFRM reply -- All changes made are marked above in grey.

Element 2:

No endemic species identified. Appropriate background and assessment given. Double check paragraph duplication in this section. **Fixed**

Element 3:

Page 39. Regarding habitat for Endangered and Threatened species as identified within the Endangered Species Act, what is the rationale in not including the information in SWH? **The sentence was confusing and not necessary. Eliminated.**

Critical Fish Spawning Areas.

Page 40. Regarding hatchery-reared fish and stocking. What volumes of stocking have been used, and is OMNR monitoring these populations at a genetic level? **MNR has rules about genetics of stocked trout. The intent of this comment was to show the species is widespread throughout. The emphasis on access restricted and self sustaining trout**

Table

Page 41.

Regarding critical spawning, water temperature alone is not a driving factor, but temperature and thermal accumulation. **Not clear the change required?**

Water Fowl Staging Areas

None of the areas are close to NF. – How far away are they? **Lake Ontario is closest. Text added.**

Element 4:

No Comment.

Appropriate.

Element 5:

Page 48

“The Nipissing Forest includes some tree species that are less common, at the edge of their range and not listed. These are of *some concern*.” I would suggest they are either of concern or not, and in this case of concern. **Fixed**

“The forest... also contains a very limited number of occurrences... All of the species are well represented...”

This reads contradictory. **Fixed text – “a well distributed but limited number of occurrences**

Element 6:

Page 47

Regarding OLL areas that have been withdrawn – what is the area and are there any species of concern or outliers that are at the boundary of the OLL? **Text added regarding the [Living Legacy Land Use Strategy](#)**

Table 6

Page 53 – Heading missing element reference number **??**

Cat 2 (B) - Element 7

Page 58

“None of the intact forest was identified in the Forest.” This is phrased awkwardly. Perhaps: None of Global Forest Watch’s identified intact forest areas occur in the NF. **None of the GFW intact forest was identified in within the NF.**

Cat 3 (C) - Element 8:

No Comment.

Appropriate.

Element 9:

No Comment.
Appropriate.

Element 10:
No Comment.
Appropriate.

Element 11:
No Comment.
Appropriate.

Cat 4 (D) - Element 12:
No Comment.
Appropriate.

Element 13:
Page 67

"If new provincially significant wetlands are identified..." what triggers them being identified or existing wetland areas being classified or evaluated and who is responsible? MNR is responsible but limited because of funding. Most large ones are now classified.

PWGSC is listed as being responsible for managing water levels on the French River. It might be worth mentioning that a Water Management Plan exists for levels and flows on the French River.
Added

Element 14:
No Comment.
Appropriate.

Element 15:
No Comment.
Appropriate.

Element 16:
No Comment.
Appropriate.

Cat 5 (E) Element 17:
Socio-economic Analysis seems to contradict Other Forest Values, Recreation and Tourism and Tourism Sections with respect to information regarding tourism. The same hold true for trapping. In the Socio-economic section it states that "there is very little current information on non-industrial uses of the forest (ie. tourism and trapping).. etc."
NRFM Some semblance or explanation should be given. This statement was erroneously left from a previous version of the report. The paragraph was removed.
Page 73
130 trapping zones are identified.
Are these OMNR designated trap-lines, or does it include traditional family trap areas? This would include both. This area has been regulated for a long time.

Cat 6 (F) Element 18:
Native Values:
Any rationale to explain why the number of known archaeological sites is so low. NRFM hires archeologists if there is any possibility of an archeological value as a commitment to the communities. There is no reason why the number should be lower.

Logging Heritage Site:
Does finding such a site trigger an archaeological assessment? NRFM Specifications for assessment are in. NRFM follows "OMNR. 2007. Forest Management Guide for Cultural

Element 19:
. No Comment.
Appropriate.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐
Suggestions have been made to clarify points, and add information.

NFRM responses above

5.2. Data quality

In this section the review evaluates:

- a. Whether data is detailed, recent and complete enough to make informed decisions on HCVs.
- b. Is the precautionary principle appropriately invoked in the use of data?

Findings:

The data and its sources as presented, document that the FMP provides additional information and was used to make informed decisions on HCVs, in addition to consulting other sources. Places where more information and/or discussion would clarify HCV designation decisions are highlighted in 5.1 above.

Both Federal and Provincial scientists and specialists define the standards and guidelines and carry out effectiveness monitoring and use said information to update and create new guidelines as needed. Monitoring also occurs at a local level by the applicant and MNR staff

Issues: None ☒ Minor ☐ Major ☐ N/A ☐
Data is complete and well incorporated to determine HCVs.

5.3. Reference to HCV toolkits

Findings:

The National Boreal Standard is referenced and the hyperlink leads to FSCs website. The Proforest HCV toolkit is references, though the link didn't download. The National Framework process for assessing the presence of HCV attributes is also clearly presented. There are many working links throughout the document.

Issues: None ☒ Minor ☐ Major ☐ N/A ☐

5.4. Decision on HCV status

In this section the review evaluates whether the HCV decisions are clear

Findings:

Yes the HCV decisions are clear, there are a few instances where more information would present a more detailed picture, and a few points need to be clarified.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

NFRM – an additional review was performed based on the comments provided in this document and a separate document with editorial suggestions.

5.5. Mapping decisions

In this section the review evaluates how the report provides maps of HCVs, including the protection of maps for values that are confidential.

Findings:

There are hyperlinks for maps listed throughout the document, be it for species distributions or watershed information. There are maps for almost every species listed. Not all of these have links, but where the links exist they are useful in assessing species distributions.

A disclaimer is given for non-available maps:

Maps for some SAR are not publicly available for confidentiality reasons.

Issues: None ☒ Minor ☐ Major ☐ N/A ☐
Maps and links are a great tool to have in this report.

6. Management of HCVs

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

In this section the review evaluates how the report assesses threats or risks from current or planned management activities to each HCV within the assessment area identified.

Findings:

There is a risk assessment evaluation provided for each HCV. The presented assessments aptly describe whether or not forest management activities pose a threat to the values discussed.

Issues: None ☒ Minor ☐ Major ☐ N/A ☐

6.2. Do proposed management plans adequately maintain or enhance HCVs?

Issues: None ☐ Minor ☐ Major ☐ N/A ☒

6.3. Protection of HCVs from land use conversion

Issues: None ☐ Minor ☐ Major ☐ N/A ☒

7. Monitoring of HCVs

7.1. Are monitoring plans clearly described?

In this section the review evaluates whether methodologies are clearly described and appropriate to meet stated objectives?

Findings:

The Management methodologies are clearly outlined to meet the objectives and as such Table 13 is a clear tool.

However, there are a few instances where additional information, though not needed, would enhance clarity.

NFRM: The methodology is brief to keep the total length shorter. The many links to additional information usually provide some description of the methods.

Page 67

When referring to the amount of public consultation that was carried out, a foot note with the details of how many hours or such would speak to the evaluation that “a significant amount of public consultation” was carried out.

NFRM That would be hard to estimate. The authors are depending on people being familiar with the extensive consultation required in Ontario by the FMP Manual. Added footnote link to the manual and a short explanation.

Refer to the monitoring Table by number, not just “this Table.”

Page 77

Re: Olive-sided Flycatcher: “Habitat is delineated by MNR *change to OMNR* prior to, or found during, operations” A short comment on this process may be beneficial, though not needed for clarity.

NFRM – this is a rare occurrence. The AOC is provided for completeness but operationally it would be exceptional.

Page 81

Re: enhanced Management Areas w access control

It is stated that new roads will be restricted from public use...

How will this be achieved?

Also are there conflicts and collaborations with other road users (ie. Ont. Hydro, or OPG)

NFRM Road use restrictions re very problematic. There are some gates but most areas are built to a lower standard of road. This discourages many people. Primary enforcement is by sign and enforcement officer.

Page 82

Re Native Values:

Some values might benefit from variances in harvest patterns or timing. Agreed NFRM discusses application with the communities or AWG when possible.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

Improve clarity of prescription/management direction as described above.

7.2. Are monitoring plans adequate?

In this section the review evaluates whether monitoring plan adequately deal with significant changes arising from management operations or likely external threats/risks to HCVs

Findings:

See above 7.1 for points to clarify.

The monitoring plans seem to be adequate. Table 13 would however benefit from formatting consistency in always using AOC ID, especially as the AOCs are clearly given to support information linked to in the FMP.

The inclusion of contact information and responsibilities enhances Table 13.

NFRM Some values are not managed by AOC, but by other means (CROs, land use restriction etc) . Otherwise the AOC was added.

Issues: None ☐ Minor ☒ Major ☐ N/A ☐

7.3. Are plans for a regular review of data built in to the management and monitoring plan

In this section the review evaluates how the report will be updated in future.

Findings:

The section “Keeping HCVs up to date – Process” describes how the report will be reviewed in the future.

Issues: None ☒ Minor ☐ Major ☐ N/A ☐

8. Responsible management of other conservation values

8.1. Conversion of non-HCV ecosystems

Issues: None ☐ Minor ☐ Major ☐ N/A ☒

8.2. Responsible management of other conservation Values

Issues: None ☐ Minor ☐ Major ☐ N/A ☒

Suggestions and Notes

Page	Suggestion
	The document should be checked for consistency Eg: OMNR vs MNR DONE
	Use of caps, for “Forestry”
	Table 13 – using the term “email” not needed.. just add email as done in many instances in next line Adjusted
	If possible have a link to the Aboriginal Advisory Group working process when referring to First Nation consultation. Having such a group available shows collaboration and communication. Done
	Verify inclusion of Figure 3. Done

Disclaimer:

“This review was conducted by Kira M.M. Dunham in good faith on the basis of information provided by NFRM and CMC Consulting. Ms. Dunham can take no responsibility for the accuracy of information provided by NFRM (the reviewee) and cannot be held liable in any way for any damage or loss resulting from the use or interpretation of this review by NFRM or any third party. “