

***Conservation Area Network Gap Analysis
for the
Kenogami Forest***

**March 22, 2022 – Version 4
(Revised May 19, 2023)**

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1.0 Purpose

The FSC National Canadian Standard criteria and indicator 6.5 requires that the applicant complete an analysis to identify potential gaps in the completeness of the Conservation Areas Network in the Management Unit. Elements considered for inclusion in the gap analysis address enduring features, representation of native ecosystems, landscape connectivity, High Conservation Values and High Conservation Value areas as per the FSC National Forest Stewardship Standard of Canada (V-1-0).

The FSC goal is to add the Conservation Area Network in the Management Unit by filling gaps in the existing network with new designated conservation lands. The FSC standard states that the Conservation Area Network comprises a minimum of 10% of the area of the management unit. The role of the forest manager on public land is to lay the groundwork for working towards and achieving a vision for the Conservation Areas Network through a process undertaken with self-identified stakeholders with a history of FSC involvement and/or interest in conservation and who express an interest in participating when informed of the opportunity to be involved.

Designated conservation lands are to be managed through the exclusion of forest management activities (except in rare instances when necessary to achieve objectives associated with restoration or maintenance of natural conditions) in recognition of their ecological and/or cultural values. In other words, in the indefinite time between identification of designated conservation lands and their movement to official legally protected status, the lands are to be exempted from forest management activities, except in relatively rare circumstances. These features are only protected from forest harvest allocation unless harvest is needed to meet other landscape level objectives to move the area to a desired condition consistent with the feature being protected.

Consultation and Indigenous engagement have commenced with the seven (7) Indigenous communities that traditionally have used the Kenogami Forest. This report has been reviewed and presented to the seven (7) communities' local Indigenous peoples whose traditional territory overlaps with the Kenogami Forest and discussed with self-identified interested and effected stakeholders regarding the identification and management of designated conservation lands. Engagement with Indigenous peoples and self-identified interested and effected stakeholders is an ongoing process on the Kenogami Forest.

There are many ways to conduct an ecological gap analysis. These range from simply superimposing protected areas onto biodiversity maps to more complex analysis such as detailed mapping and using decision-support computer software to develop optimal protected area networks. The following report presents the results of the gap analysis as conducted by the Ontario Ministry of Natural Resources and Forestry for ecodistricts that overlap with the Kenogami Forest.

1.1 Ontario's Approach to Ecological Representation

The Ontario Ministry of Natural Resources and Forestry (OMNRF) uses a protected area planning system based on the Ecological Land Classification (ELC), which is a hierarchy of ecosystem classification ranking (Ecozone, Ecoregions and Ecodistricts).

Ecozones - At the highest level, ecosystems are divided into ecozones based on continental climate regimes and bedrock. There are three ecozones defined for Ontario (1-Hudson Bay Lowlands; 2-Ontario Shield; 3-Mixedwood Plains). The Ontario Shield ecozone encompasses most of the northwestern Ontario region and covers 98% of the Kenogami Forest, with a small portion in the Hudson Bay Lowlands ecozone. The climate in this ecozone is relatively cold and moist, with long, cold winters and

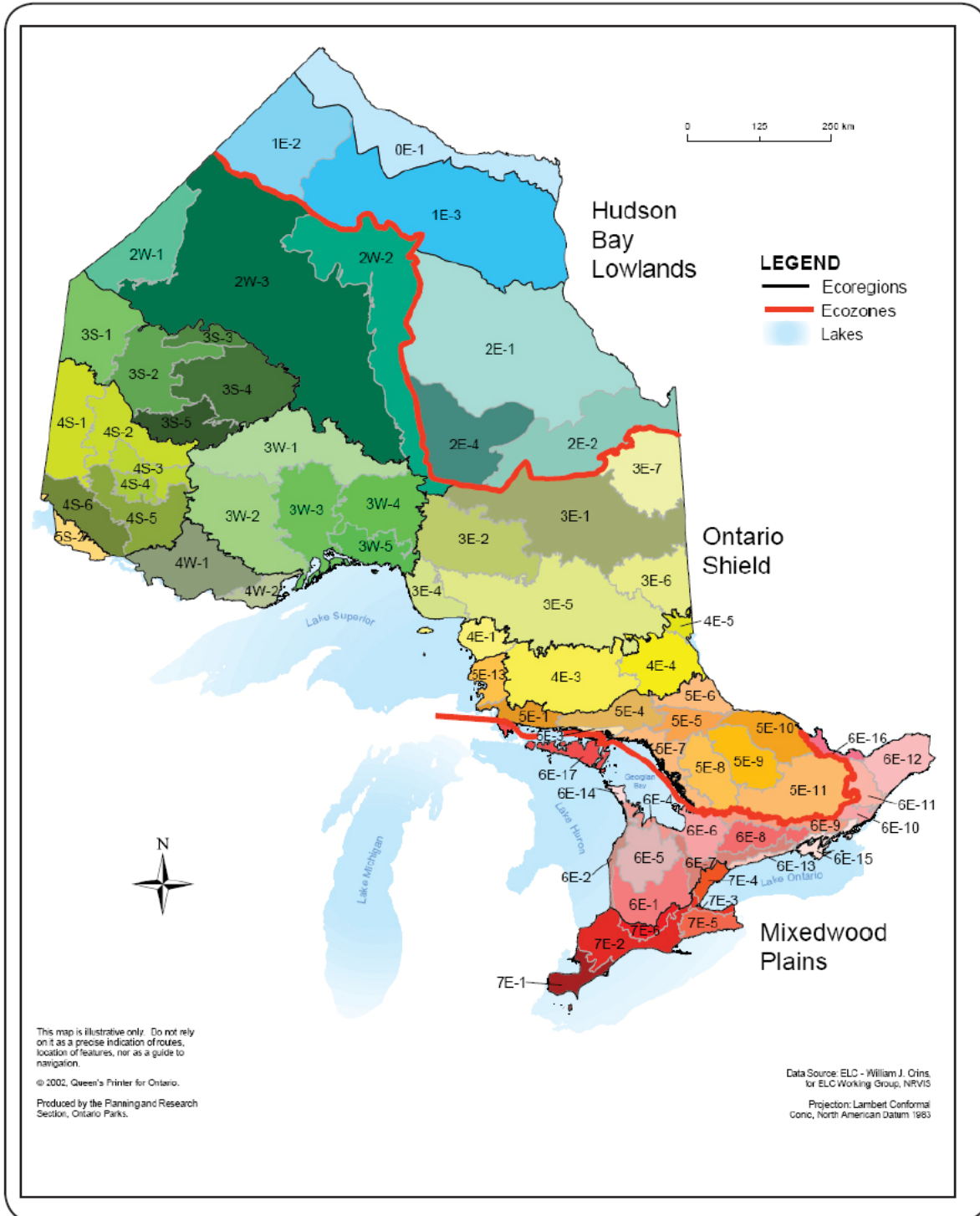
short, warm summers. However, there is a wide range of temperature, precipitation, and humidity patterns (*Crins et al. 2009*). The area contains most of the precambrian bedrock of the province. Ecozones are subdivided into ecoregions, which are identified primarily by sub-continental climatic regimes and bedrock geology. Ecoregions are subdivided into ecodistricts identified primarily by patterns of relief, geology, geomorphology, and substrate parent material.

Ecoregions and Ecodistricts – There are nine (9) ecoregions in the Ontario Shield ecozone. The Kenogami Forest is primarily comprised of ecozones 3W and 2W. Ecoregions are primarily characterized by climatic patterns, and Ecodistricts (e.g. 3W-1, 3W-5), distinguished by physiographic differences and by the successional trends exhibited by the predominant vegetation type on those physiographic features.

The major ecosystem organizers and boundary determinants at the two upper levels in the provincial ELC hierarchy (i.e. ecozones and ecoregions), include bedrock geology at the ecozone level and climatic variables at the ecoregion level. It is important to recognize that the biotic components of ecosystems such as communities of organisms as well as individual species, respond to these higher-order ecosystem drivers, as well as finer-scale features such as substrates and microclimate (*Crins et al. 2009*).

Ecoregions and ecodistricts are the ecosystem classes generally applied to protected areas planning in Ontario. Ecodistricts are also considered to be the appropriate units for forest license planning and inventory. Figure 1 presents the ecozones, ecoregions, and ecodistricts of Ontario. Figure 2 represents the ecozones that overlap with the Kenogami Forest. Protected areas are regulated under the Provincial Parks and Conservation Reserves Act.

Figure 1. Map of Ecozones, Ecoregions and Ecodistricts of Ontario.



Source: *The Ecosystems of Ontario, Part 1: Ecozones and Ecoregions*, 2009. William J. Crins, Paul A. Gray, Peter W.C. Uhlig, and Monique C. Wester.

1.2 Ontario's Ecological Representation Analysis

The concept of ecological representation has developed is a method to help conserve biological diversity. Ecological representation is based on the principle that the full range of Ontario's natural diversity should be systematically identified and protected. Fundamentally, protected area systems should include representative examples of the known biodiversity within ecologically defined regions. Gaps in representation may include examples of biodiversity that are not adequately represented within protected areas. Gap analyses identify features that are not sufficiently represented within protected areas. Gap analyses are used to evaluate the degree of protection already in place for aspects of biodiversity, so that conservation efforts can be focused on species or communities of highest need. Elements of biodiversity with lower levels of existing protection generally merit higher priority for conservation efforts (*Gap Tool User's Guide, 2006*).

MNRF has chosen to use naturally occurring landform/vegetation associations as surrogates to represent the range of biodiversity in terrestrial ecosystems. This concept incorporates coarse elements of the physical environment (surficial geology landforms) and local biotic elements (vegetation associations) as a more complete basis for assessing terrestrial diversity on the landscape (MNRF 1997). The theory behind the approach predicts that, through representation of naturally occurring landform/vegetation associations, a set of representatives, functional terrestrial ecosystems will be protected and maintained. MNRF's minimum requirements are to represent at least 1% or 50 hectares of each naturally occurring landform/vegetation association within each of Ontario's 71 ecodistricts. These are minimum requirements, and do not imply adequacy of representation. For further information on this approach, refer to Crins and Kor (2000) or Davis and McCalden (2004).

Although representation is the primary concept used to identify possible additions to Ontario's system of protected areas, it is not the only one. Other important considerations include: ecological functions, such as hydrological benefits; diversity of ecosystems, habitats, species, or other features; condition in terms of relative freedom from human disturbance; connectivity with other protected areas; and special features such as species at risk or localized geological features. Therefore, it is important to consider protected areas not only within the boundaries of the Kenogami Forest, but also consider areas adjacent to the forest when information is available. This is further discussed in Section 3.1 where areas inside and adjacent to the forest are discussed.

The OMNRF uses gap analysis to assess achievement of ecological representation (LV targets) and identify underrepresented features requiring additional protection within Ontario's system of protected areas. "*Gaptool*" is an ArcGIS-based gap analysis tool to assess the current representation of landform/vegetation types (LV types) within individual ecodistricts. The Ontario gap analysis methodology identifies the landform features and the vegetation features on each landform unit; assesses existing representation; and identifies the gaps. The results of a gap analysis conducted by the OMNRF for ecodistricts overlapping the Kenogami Forest is documented in this report.

This analysis is based on the LV FRI, which is a composite data set based on the best available information within each ecodistrict, primarily within the Ontario Shield Ecozone. Landforms are translated to a consistent legend. Vegetation is based on Forest Resource Inventory (FRI) data classified into a set of 44 vegetation classes based on tree species composition and non-forest attributes.

By default, *GapTool* is configured to include the following types of protected areas in its analyses:

- national parks
- provincial parks
- conservation reserves
- wilderness areas, and
- recommended provincial parks and conservation reserves.

The boundaries of protected areas change from time to time as sites are recommended, regulated, and revised. Ontario Parks maintains the most recent boundary information on provincial protected areas (*GapTool: An Analytical Tool for Ecological Monitoring and Conservation Planning, 2006*). Other protected areas can also be included in gap analyses, provided their boundaries are stored in appropriate GIS format including other types of protected areas, such as Areas of Natural and Scientific Interest (ANSIs) or privately owned conservation easements within a gap analysis.

2.0 Ecodistricts

The Kenogami Forest is associated with eight (8) ecodistricts contained within ecoregions 3W, 2W, 3E and 2E. The percent of area requirements achieved ranged between 54.6% (ecodistrict 2W-2) and 94.6% (ecodistrict 3W-1), with an average of 78.2%.

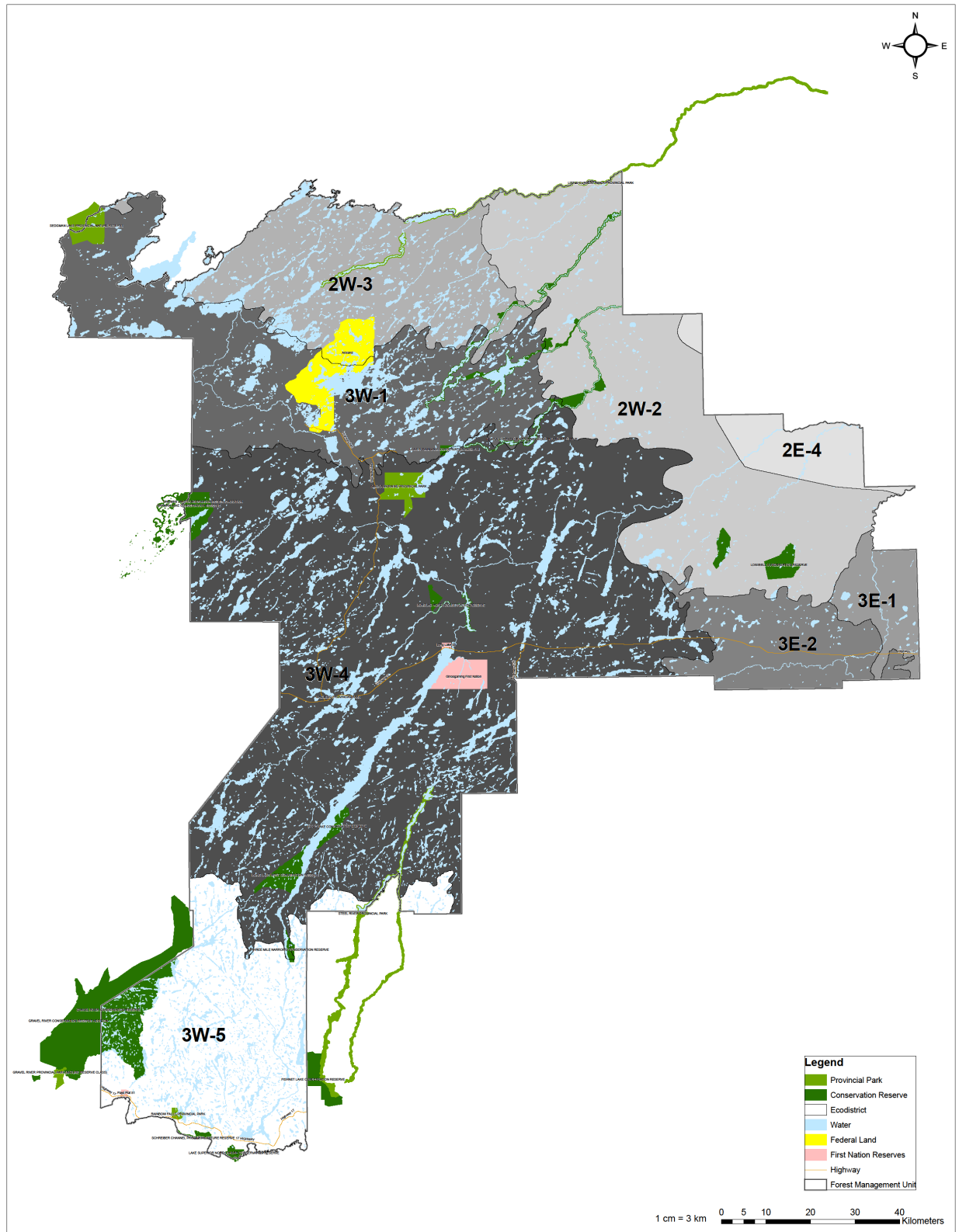
Table 1. Proportion of Ecodistricts & Area of All L/V Achieved

Ecodistrict	Ecoregion	Proportion of Kenogami Forest*	Area of All L/V Association Representation requirements achieved (%)**	Area of All L/V Association Representation requirements achieved (ha)**
3W-4	Lake Nipigon	46%	62.7%	10,644 of 16,981
2W-2	Big Trout Lake	16%	54.6%	21,220 of 38,873
3W-1	Lake Nipigon	14%	94.6%	23,258 of 24,594
3W-5	Lake Nipigon	11%	70.4%	8,685 of 12,332
2W-3	Big Trout Lake	5%	85.5%	78,788 of 92,150
3E-2	Lake Abitibi	4%	81.9%	19,536 of 23,849
2E-4	James Bay	2%	86.6%	20,978 of 24,217
3E-1	Lake Abitibi	2%	89.2%	37,173 of 41,689
Average %			78.2%	

*Source: *Kenogami Forest 2011-2021 FMP Analysis Package Section 2.2.3 (p. 40)*

**Source: *Landform/vegetation (L/V) associations datasets as per MNRF*

Figure 2. Map of Ecodistricts Overlapping with the Kenogami Forest.



3.0 Existing Protected Areas in or Adjacent to the Kenogami Forest Boundary

3.1 Provincial Parks and Conservation Reserves

Provincial Parks and Conservation Reserves are Crown lands that are not available for forest management activities. These lands are regulated under the *Provincial Parks Act* and Conservation Reserves designated under the *Provincial Parks and Conservation Reserves Act (2006)*. Some of these areas were set aside from forest management activities through Ontario’s Living Legacy.

Existing protected areas are located within the eight ecodistricts overlapping the Kenogami Forest. Current levels of protection include 20 protected areas which include two additional recommended areas, with sizes ranging from 12 hectares to 18,222 hectares, and total approximately 70,028 hectares. Table 2 lists the parks and protected areas that are in as well as the portions that are adjacent to the Kenogami Forest.

Table 2. Existing Parks & Protected Areas in the Kenogami Forest Boundaries

Name	CLUPA Reference ID	Classification (Category)	Area (ha)
Sedgman Lake	P2674	Provincial Park (nature reserve)	3,648
<i>Sedgman Lake Addition</i>	P2674	Provincial Park (nature reserve)	227
Little Current River	P2664	Provincial Park (waterway)	4,507
MacLeod	P2666	Provincial Park (recreation)	86
Nakina Moraine	P2667	Provincial Park (natural environment)	5,331
Rainbow Falls	P2671	Provincial Park (recreation)	580
Schreiber Channel	P2673	Provincial Park (nature reserve)	12
Steel River	P2678	Provincial Park (waterway)	3,087
Sub-total			17,478
Gravel River	C2225	Conservation Reserve	18,222
Lake Superior North Shore	C2222	Conservation Reserve	1,338
Lower Twin Lake	C2209	Conservation Reserve	378
Low/Bell	C2201	Conservation Reserve	5,576
Nakina Northeast Waterway	C2204	Conservation Reserve	13,909
Longlac North	C2207	Conservation Reserve	1,829
Long Lake	C2216	Conservation Reserve	1,720
Long Lake West	C2216	Conservation Reserve	4,580
Fishnet Lake	C2217	Conservation Reserve	4
Three Mile Narrows	C2219	Conservation Reserve	804
Onaman Lake	C2223	Conservation Reserve	2,937
<i>Onaman Lake (recommended)</i>	C2223	<i>Conservation Reserve</i>	<i>1,253</i>
Sub-total			52,550
Grand Total			70,028

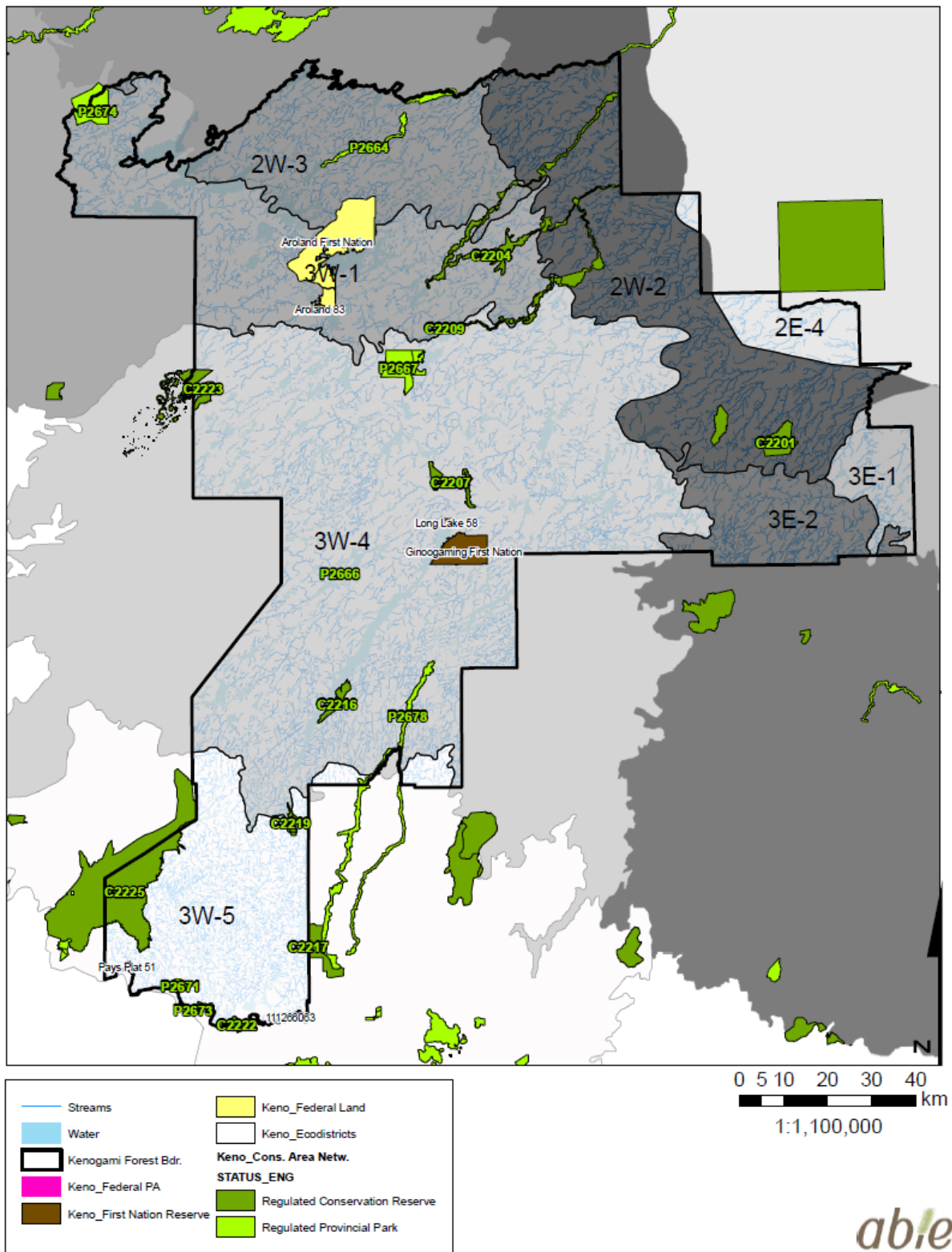
In addition to park and conservation reserve areas located entirely within the Kenogami Forest, there are some that are on the boundary of the forest that overlap onto other forests. Although these protected areas are outside the Kenogami Forest boundaries, when they are combined with the adjacent area inside the forest, they do provide significant additional core protected areas for flora and fauna and can provide travel corridors or refuge for some wildlife species, and should not be disregarded. Table 3 identifies the areas in addition to those presented in Table 2, which provide an additional 49,876 ha of protected areas outside the Kenogami Forest, but are part of those inside the forest boundaries.

Table 3. Existing Parks & Protected Areas Adjacent to the Kenogami Forest Boundaries

Name	CLUPA Reference ID	Classification (Category)	Area (ha)
Gravel River	P2660	Provincial Park (nature reserve)	733
Sedgman Lake	P2674	Provincial Park (nature reserve)	2,112
Little Current River	P2666	Provincial Park (recreation)	5,168
Steel River	P2678	Provincial Park (waterway)	7,936
subtotal			15,952
<u>Conservation Reserves</u>			
Gravel River	C2225	Conservation Reserve	28,410
Lake Superior North Shore	C2222	Conservation Reserve	163
Fishnet Lake	C2217	Conservation Reserve	3,500
Onaman Lake	C2223	Conservation Reserve	1,851
subtotal			33,924
Grand Total			49,876

Figure 3 represents the parks and conservation reserves that are contained within each ecodistrict on the Kenogami Forest. Sixty-seven (67%) of the forest is part of Ecoregion 3W Lake Nipigon comprised of ecodistricts 3W-1, 3W-4 and 3W-5.

Figure 3. Parks and Protected Areas within Ecodistricts Overlapping the Kenogami Forest.



Based on analysis of the LVFRI data, the achievement of area requirements ranged from a minimum of 40.7% (Low/Bell C2201 in ecodistrict 2W-2) to a maximum of 100% (Schreiber Channel P2673 in ecodistrict 3W-5 and McLeod P2666 ecodistrict 3W-4), with an average of 90% for the eight ecodistricts analyzed in total (Table 4).

Table 4. Parks & Protected Areas by Ecodistrict of Area of All L/V Achieved

Name	CLUPA Reference ID	Ecodistrict	Area of All L/V Association Representation requirements achieved (%)*	Area of All L/V Association Representation requirements achieved (ha)*
Gravel River	P2660	3W-5	84.2%	1,081 of 1,284
Sedgman Lake	P2674	3W-1	99.5%	19,612 of 19,708
Little Current River	P2664	2E-4	98.0%	19,969 of 20,367
		2W-2	88.5%	6,044 of 6,827
MacLeod	P2666	3W-4	100%	694 of 694
Nakina Moraine	P2667	3W-4	84.7%	6,661 of 7,864
Rainbow Falls	P2671	3W-5	98.2%	1,986 of 2,022
Schreiber Channel	P2673	3W-5	100%	579 of 579
Steel River	P2678	3W-4	86.1%	6,581 of 7,643
		3W-5	92.8%	7,149 of 7,703
Average %			93.2	
Gravel River	C2225	3W-5	94.3%	7,416 of 7,862
Lake Superior North Shore	C2222	3W-5	99.6%	2,261 of 2,284
Lower Twin Lake	C2209	3W-1	99.5%	9,030 of 9,078
		3W-4	98.7%	2,127 of 2,154
Low/Bell	C2201	2W-2	40.7%	4,594 of 11,287
Nakina Northeast Waterway	C2204	2W-2	86.2%	7,985 of 9,268
		2W-3	88.7%	30,918 of 34,865
		3W-1	99.9%	12,303 of 12,311
		3W-4	88.0%	4,504 of 5,119
Longlac North	C2207	3W-4	92.8%	5,058 of 5,452
Long Lake	C2216	3W-4	84.3%	4,827 of 5,728
Fishnet Lake	C2217	3W-5	98.9%	3,063 of 3,097
Three Mile Narrows	C2219	3W-4	89.8%	2,649 of 2,950
		3W-5	99.6%	3,966 of 3,980
Onaman Lake	C2223	3W-4	90.2%	5,564 of 6,170
Average %			90.0%	

*Source: Landform/vegetation (L/V) associations datasets as per MNRF

4.0 Gap Analysis

4.1 Area of Landform/Vegetation (L/V) Associations

The OMNRF assessed levels of landform/vegetation (LV) representation by area which were classified as the following:

- High those with target area representation achievement between 70% and 99%,
- Medium those between 35% and 70%, and
- Low those between 0% and 35%.

The representation maps for each ecodistrict highlight the under-represented L/Vs which are those that have a value of "N" in the "Min +" results of the analysis. White areas on the map signify L/V associations for which the minimum representation requirements have been achieved, and those that have been omitted from the analysis (e.g. agriculture, community/infrastructure, etc.) (*GapTool Users Guide, 2006*). Gaps are shaded in four colours on the maps. The colours signify the degree to which the minimum representation requirements (usually 1% or 50 hectares minimum) are met for that feature, as

follows:

- Red: <25% of requirements achieved
- Orange: 25-49.9% of requirements achieved
- Amber: 50-74.9% of requirements achieved
- Yellow: 75-99.9% of requirements achieved

Rarity classes were calculated as part of the GapTool output, with LVs partitioned into five different classes based on their frequency of occurrence within the ecodistrict. On the following maps you will also see the occurrence of LVs as the following:

- Rarest - least frequently occurring
- Rare - second most frequently occurring
- Middle - third most frequently occurring
- Common - fourth most frequently occurring
- Most Common - most frequently occurring

Table 5 identifies the total area included in the L/V associations and the area that is under-represented by ecodistrict. Note that these shortfalls are for the entire ecodistrict and not just the Kenogami Forest. Also note that all land area in the ecodistrict is included in an LV association (e.g. agriculture, community infrastructure, clear open water, etc).

Table 5. Area of Under-represented LV Types within Ecodistricts

Ecodistrict	Total Area of Entire Ecodistrict (ha)	Total Area Included in L/V Associations* (Ecodistrict) (ha)	Total Protected Area of L/V Associations (Ecodistrict) (ha)	Total Area of Under-represented L/V Associations (Ecodistrict) (ha)
3W-4	1,492,656	1,252,067	21,122	6,337
2W-2	4,003,604	3,628,237	98,188	17,652
3W-1	2,593,837	2,135,225	780,312	1,335
3W-5	1,295,895	655,049	67,177	3,646
2W-3	10,668,953	9,015,677	288,962	13,362
3E-2	2,143,883	1,874,060	78,220	4,313
2E-4	2,326,229	2,219,840	50,523	3,238
3E-1	4,128,733	3,667,224	136,271	4,516
Total	28,653,790	23,474,932	1,505,094	51,294

Eco-district 3W-4

Ecodistrict 3W-4 is comprised of 199 landform-vegetation types derived from Quaternary Landform / LVFN 25-metre grid and current protected area coverage (July 16, 2019). This Ecodistrict 3W-4 has a total area of 1,252,068 hectares, with the Kenogami Forest overlapping with only 46% of this ecoregion (Table 1. Figure 4).

Protected areas representing 21,122 hectares 1.7% of the total area of the LV types included, and protected areas targets have been achieved for 43 of 190 (22.6%) of the LV types. The area of all LV type representation requirements were achieved for 10,644 of 16,981 hectares (62.7%) of the targeted area (Table 1).

The portion of this ecodistrict that overlaps with the Kenogami Forest is the central portion where there is a significant amount of area that is Patent Land (Municipality of Longlac and First Nations Reserves), as well as confidential First Nations values areas.

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated in the western portion of this ecodistrict, which is outside the Kenogami Forest, and the eastern side of the ecodistrict of which only the north-eastern portion is inside the Kenogami Forest.

An area to the northeast of this ecodistrict that identifies some under-represented areas of the rarest type that overlap with the Nakina Northeast Waterway Conservation Reserve and several caribou calving reserves. The more north-eastern portion of this ecodistrict identifies some under-represented areas of the rarest type, but much of this area overlaps with the caribou mosaic blocks deferred for approximately 200 years (depending on the block) in the upcoming 2021-2031 FMP or caribou calving reserves.

There are generally several large caribou calving reserves along the northern portion of this ecodistrict. The southern portion of this ecodistrict also contains large parks such as the Long Lake Conservation Reserve and the Long Lake West Conservation Reserve.

Figure 5 shows a further analysis of the under-represented L/V types identified in Figure 4 (red areas). Figure 5 shows that of the under-represented areas in Figure 4, most of these areas are 75-99.9% achieved. Figure 5 also shows that most of the LV types that remain under-represented are located in a few scattered stands making it difficult to capture them in a large, protected area without including undesirable stands (i.e. recently harvested, wildfire). For example the more concentrated red areas on Figure 5 south of Chipman Lake and along the Club Road/Club Lake area are all younger stands scattered stands that were previously harvested and regenerated making them poor candidates.

Figure 4. Percent of Minimum Representation Requirements for Ecodistrict 3W-4.

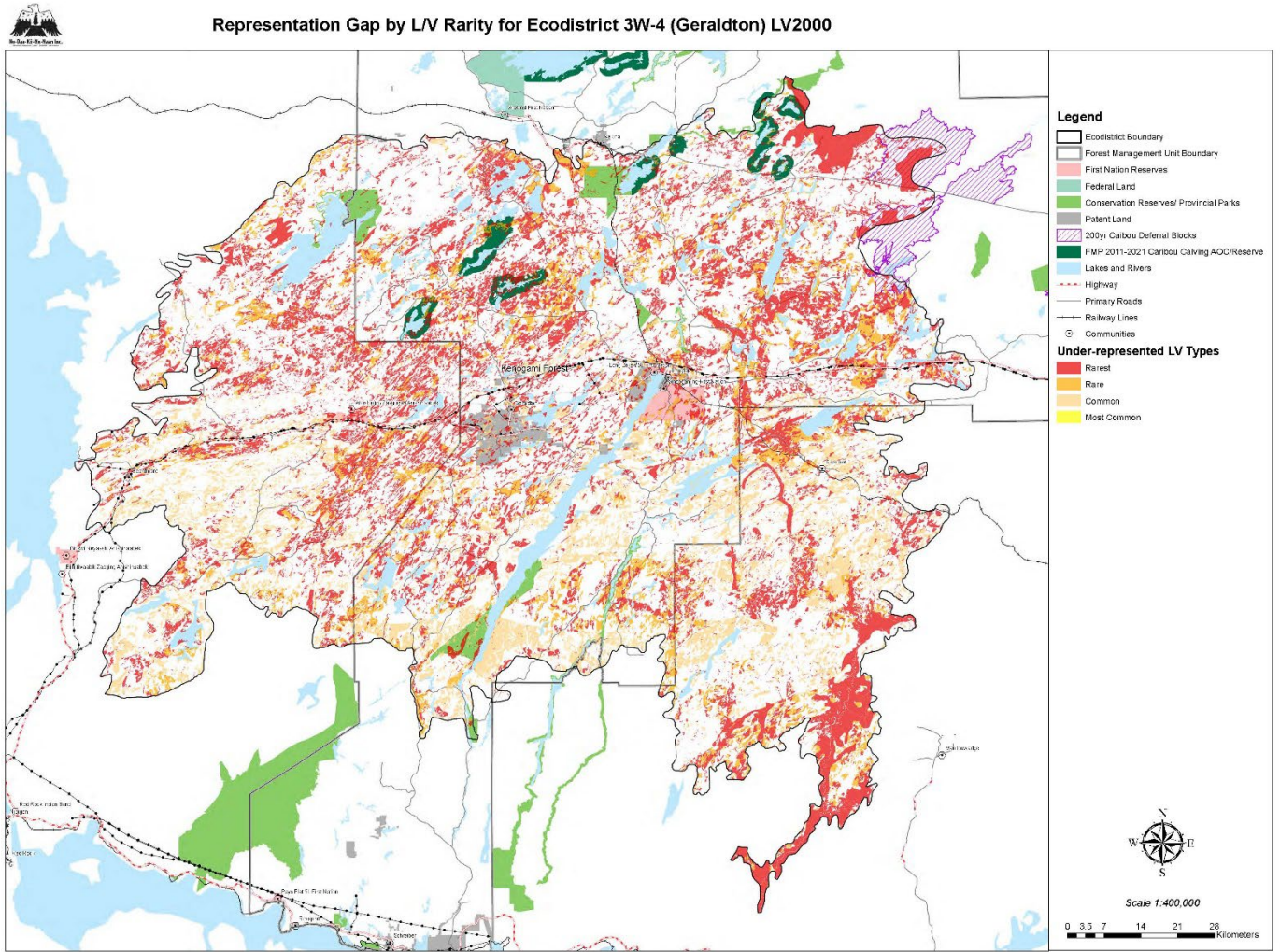
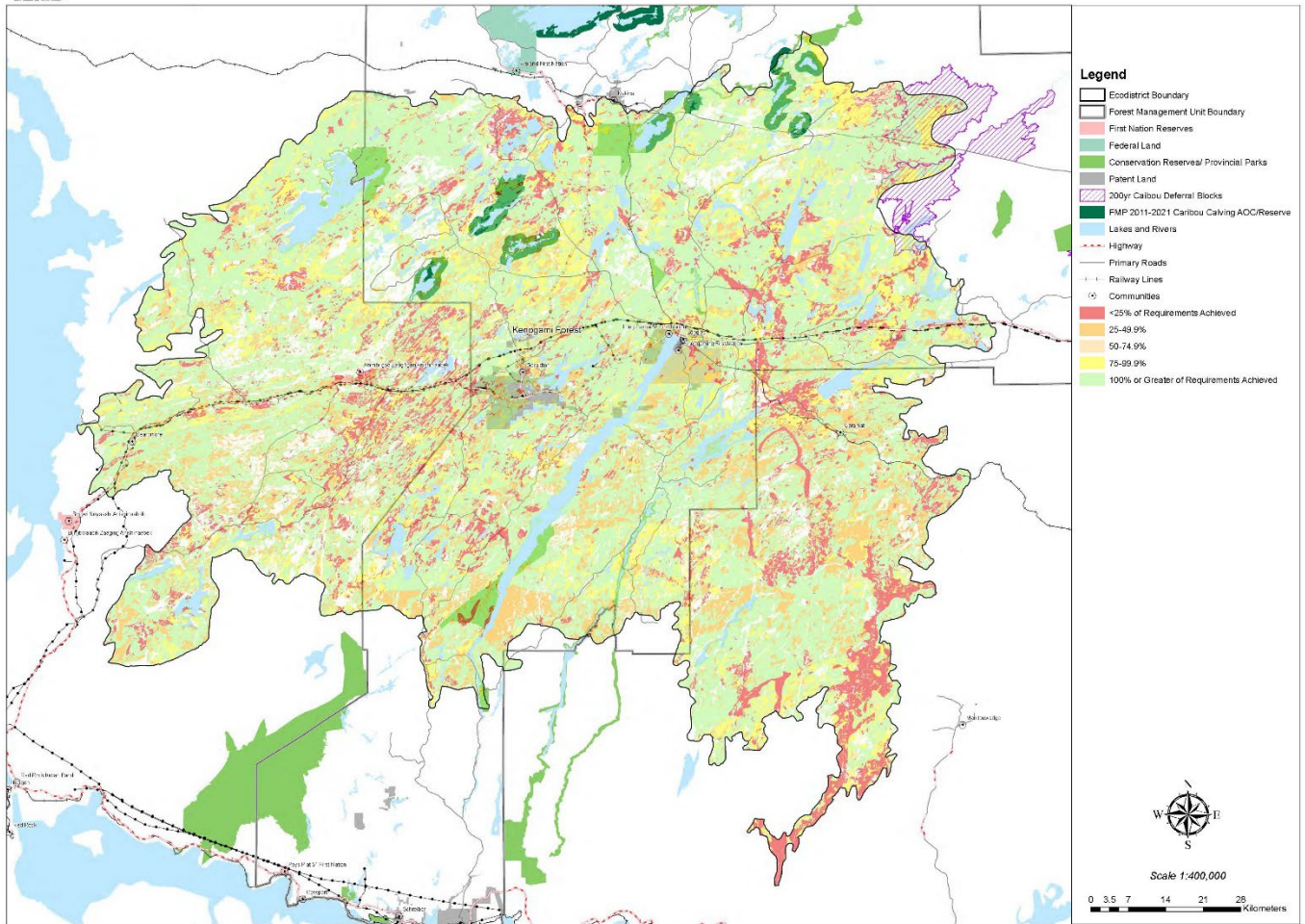


Figure 5. Percent of Under-Represented L/V Types Achieved



Percent of Minimum Representation Requirements Achieved in Ecodistrict 3W-4 (Geraldton) LV2000



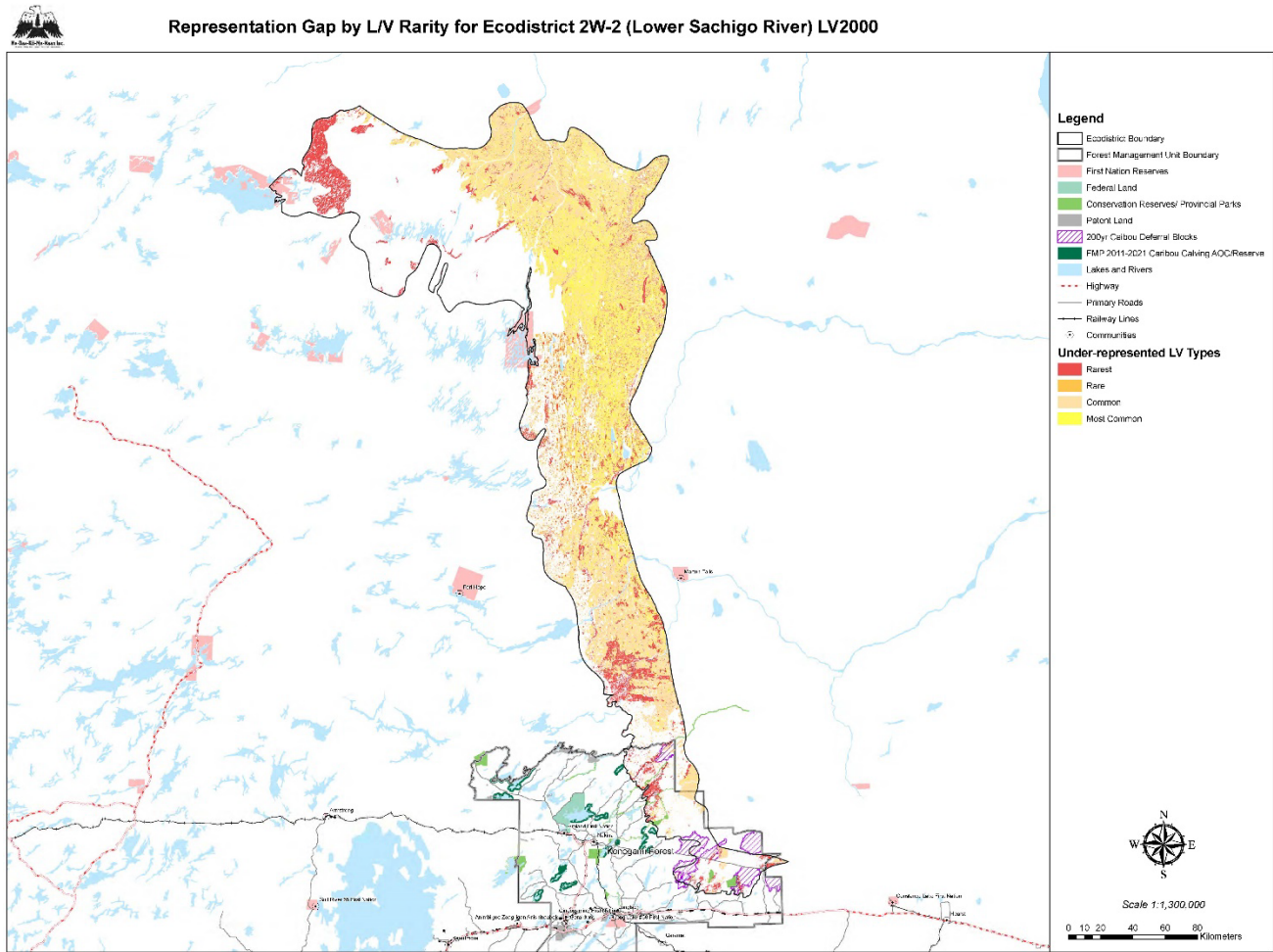
Eco-district 2W-2

Ecodistrict 2W-2 is comprised of 131 landform-vegetation types derived from Quaternary Landform / LVFN 30-metre grid and current protected area coverage (November 3, 2016). This Ecodistrict 2W-2 has a total area of 3,628,237 hectares, with the Kenogami Forest overlapping 16% of this ecoregion at the southern portion (Table 1 and Figure 6).

Protected areas representing 98,189 hectares 2.7% of the total area of the LV types included, and protected areas targets have been achieved for 48 of 131 (36.6%) of the LV types. The area of all LV type representation requirements were achieved for 21,220 of 38,873 hectares (54.6%) of the targeted area (Table 1).

The portion that overlaps with the Kenogami Forest is the southern portion of this ecodistrict where there is relatively little area that is under-represented. Several conservation reserves are present where the Kenogami Forest overlaps with this ecodistrict such as the Little Current River Provincial Park, Low/Bell Conservation Reserve and Nakina Northeast Waterway Conservation Reserve. Additionally, several caribou mosaic blocks are deferred for approximately 200 years (depending on the block) in the upcoming 2021-2031 FMP.

Figure 6. Percent of Minimum Representation Requirements Achieved in Ecodistrict 2W-2.



Eco-district 3W-1

Ecodistrict 3W-1 is comprised of 164 landform-vegetation types derived from Quaternary Landform / LVFN 25-metre grid and current protected area coverage (February 20, 2018). This ecodistrict has a total area of 2,135,225 hectares, with the Kenogami Forest overlapping with only 14% of this ecoregion (Table 1 and Figure 7).

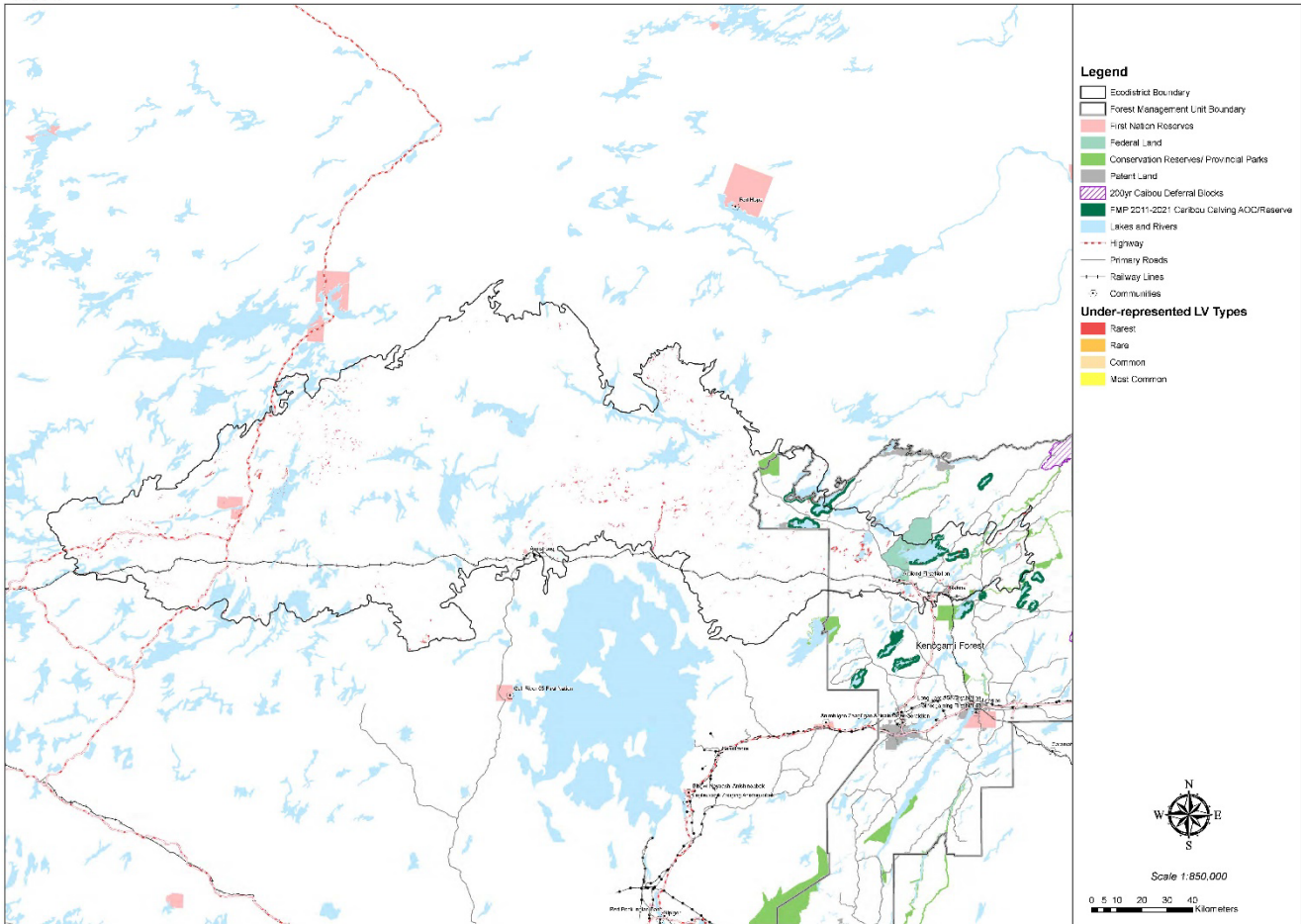
Protected areas representing 780,313 hectares 36.5% of the total area of the LV types included, and protected areas targets have been achieved for 93 of 165 (56.4%) of the LV types. The area of all LV type representation requirements were achieved for 23,258 of 24,594 hectares (94.6%) of the targeted area (Table 1).

From a spatial perspective, the under-represented LV types (<25% achieved) are almost non-existent with only very small areas displayed on Figure 7 that overlap with the Kenogami Forest.

Figure 7. Percent of Minimum Representation Requirements Achieved in Ecodistrict 3W-1.



Representation Gap by L/V Rarity for Ecodistrict 3W-1 (Whitewater Lake) LV2000



Eco-district 3W-5

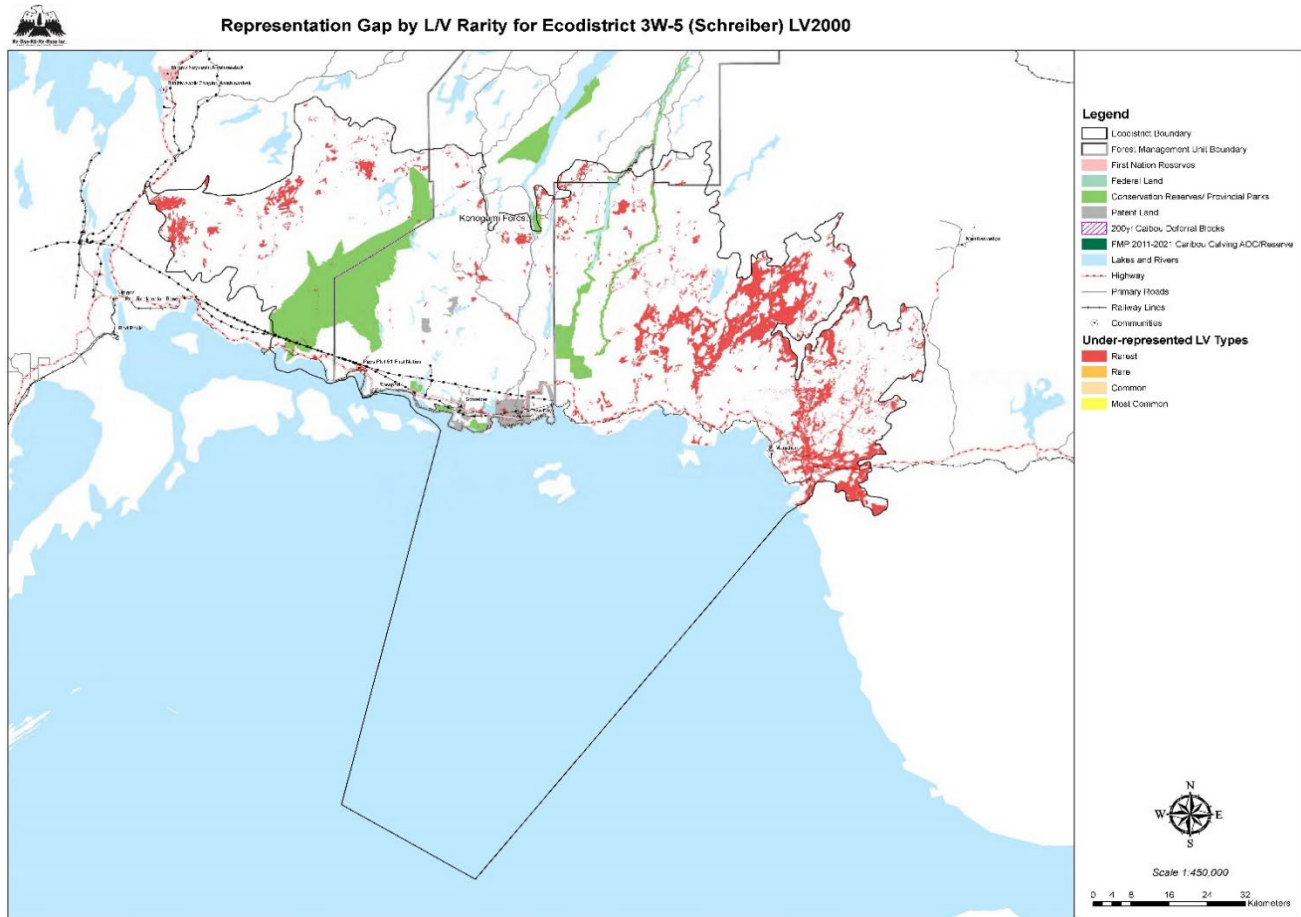
Ecodistrict 3W-5 is comprised of 185 landform-vegetation types derived from Quaternary Landform / LVFN 25-metre grid and current protected area coverage (February 12, 2019). This ecodistrict has a total area of 655,050 hectares, with the Kenogami Forest overlapping with 11% of this ecoregion (Table 1 and Figure 8).

Protected areas representing 67,178 hectares 10.3% of the total area of the LV types included, and protected areas targets have been achieved for 67 of 186 (36.0%) of the LV types. The area of all LV type representation requirements were achieved for 8,685 of 12,332 hectares (70.4%) of the targeted area (Table 1).

The Kenogami Forest is bound by the Gravel River Conservation Reserve to the west and the Steel River Provincial Park to the east, just east of the forest boundary. Three Mile Narrows Conservation Reserve is located within the Kenogami Forest in this ecoregion.

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated in the eastern portion of this ecodistrict which is outside the Kenogami Forest boundary. The portion of this ecodistrict that overlaps with the Kenogami Forest is the southern-central portion of this ecodistrict, where there is relatively little area that is under-represented.

Figure 8. Percent of Minimum Representation Requirements Achieved in Ecodistrict 3W-5.



Eco-district 2W-3

Ecodistrict 2W-3 is comprised of 161 landform-vegetation types derived from Quaternary Landform / LVFN 30-metre grid and current protected area coverage November 3, 2016). This ecodistrict has a total area of 9,015,677 hectares, with the Kenogami Forest overlapping with ~~16~~ 5% of this ecoregion (Table 1 and Figure 9).

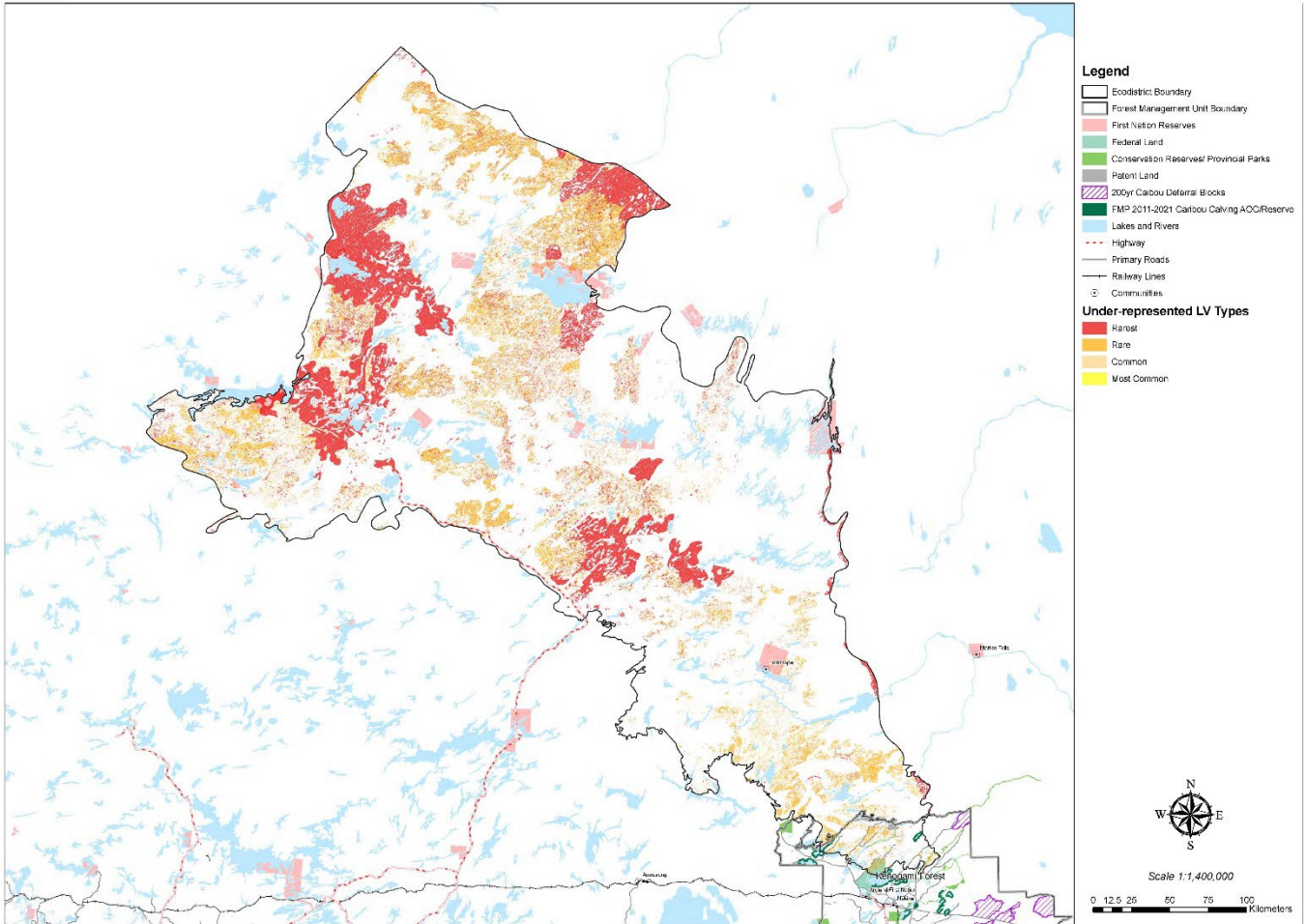
Protected areas representing 288,962 hectares 3.2% of the total area of the LV types included, and protected areas targets have been achieved for 80 of 162 (49.4%) of the LV types. The area of all LV type representation requirements were achieved for 78,788 of 92,150 hectares (85.5%) of the targeted area (Table 1).

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated in the north and north-western portion of this ecodistrict. However, the Kenogami Forest only overlaps with the most southern portion of this ecodistrict where there is relatively little area that is under-represented.

Figure 9. Percent of Minimum Representation Requirements Achieved in Ecodistrict 2W-3.



Representation Gap by L/V Rarity for Ecodistrict 2W-3 (Wunnummin Lake) LV2000



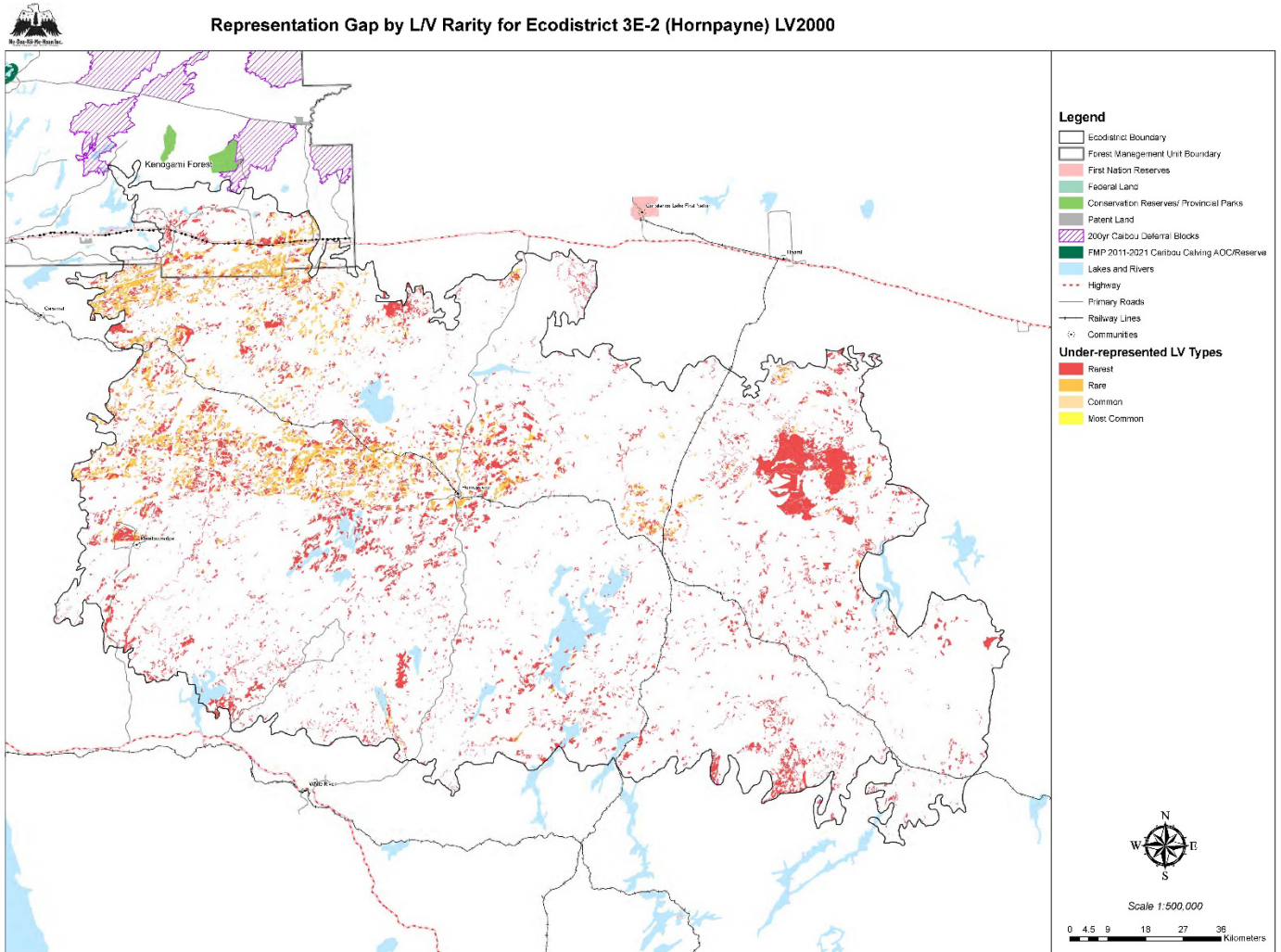
Eco-district 3E-2

Ecodistrict 3E-2 is comprised of 228 landform-vegetation types derived from Quaternary Landform / LVFN 25-metre grid and current protected area coverage July 17, 2019). This ecodistrict has a total area of 1,874,061 hectares, with the Kenogami Forest overlapping with only 4% of this ecoregion (Table 1 and Figure 10).

Protected areas representing 78,220 hectares 4.2% of the total area of the LV types included, and protected areas targets have been achieved for 99 of 229 (43.2%) of the LV types. The area of all LV type representation requirements were achieved for 19,536 of 23,849 hectares (81.9%) of the targeted area (Table 1).

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated outside the Kenogami Forest boundaries. The Kenogami Forest is located in the north-west corner of this ecodistrict where relatively few L/V areas are under-represented.

Figure 10. Percent of Minimum Representation Requirements Achieved in Ecodistrict 3E-2.



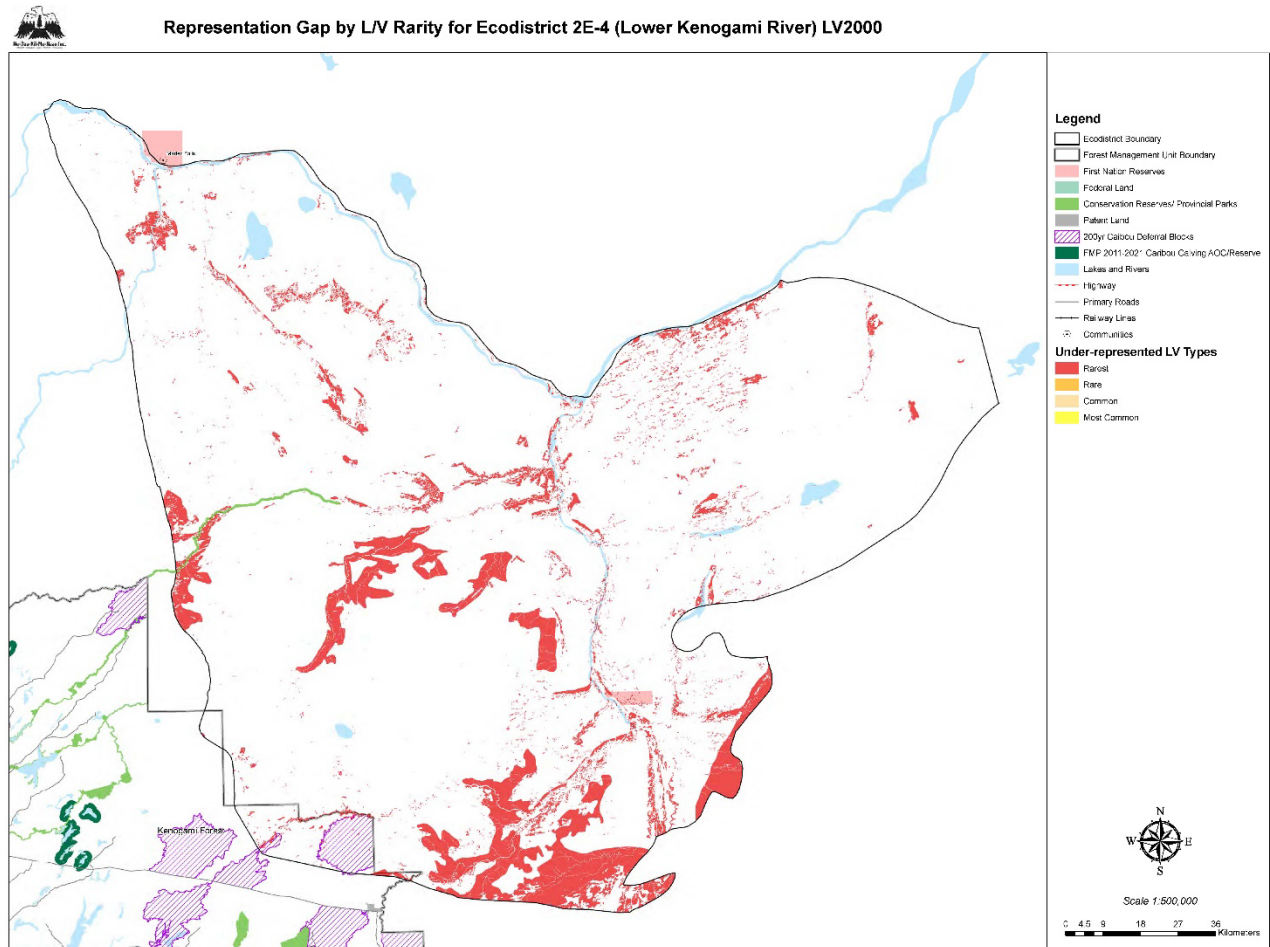
Eco-district 2E-4

Ecodistrict 2E-4 is comprised of 92 landform-vegetation types derived from Quaternary Landform / LVFN 30-metre grid and current protected area coverage (November 3, 2016). This Ecodistrict 2E-4 is a total area of 2,219,840 hectares, however the Kenogami Forest overlaps with only 2% of this ecoregion (Table 1 and Figure 11).

Protected areas representing 50,523 hectares 2.3% of the total area of the LV types included, and protected areas targets have been achieved for 21 of 92 (22.8%) of the LV types. The area of all LV type representation requirements were achieved for 20,978 of 24,217 hectares (86.6%) of the targeted area (Table 1).

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated outside the Kenogami Forest boundaries. The Kenogami Forest is located in the south-west corner of this ecodistrict where relatively few L/V areas are under-represented.

Figure 11. Percent of Minimum Representation Requirements Achieved in Ecodistrict 2E-4.



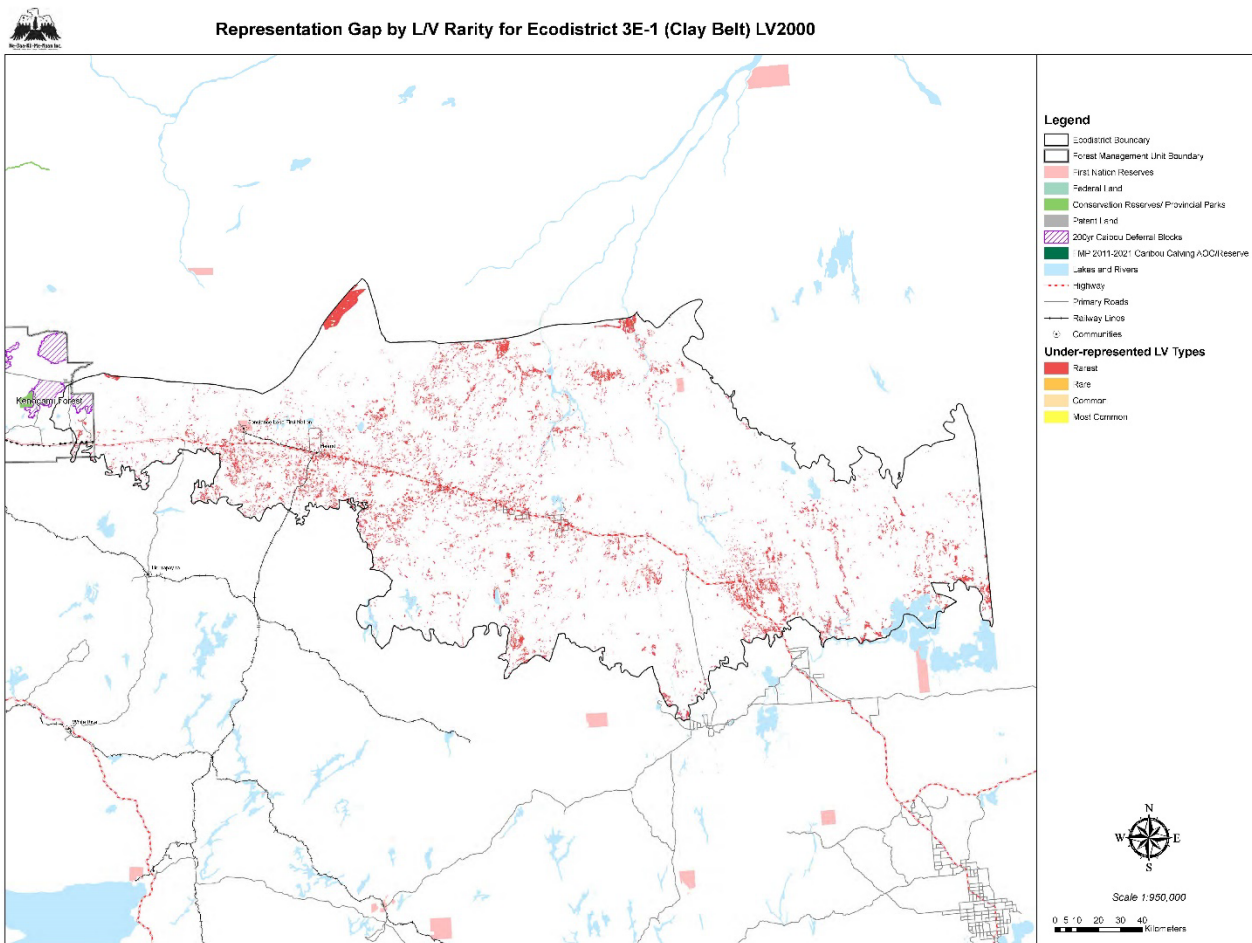
Eco-district 3E-1

Ecodistrict 3E-1 is comprised of 228 landform-vegetation types derived from Quaternary Landform / LVFN 25-metre grid and current protected area coverage February 12, 2019). This ecodistrict has a total area of 3,667,224 hectares, with the Kenogami Forest overlapping with 2% of this ecoregion (Table 1 and Figure 12).

Protected areas representing 136,272 hectares 3.7% of the total area of the LV types included, and protected areas targets have been achieved for 96 of 229 (41.9%) of the LV types. The area of all LV type representation requirements were achieved for 37,173 of 41,689 hectares (89.2%) of the targeted area (Table 1).

From a spatial perspective, the under-represented LV types (<25% achieved) are concentrated outside the Kenogami Forest boundaries. The Kenogami Forest is located in the western corner of this ecodistrict where relatively few L/V areas are under-represented.

Figure 12. Percent of Minimum Representation Requirements Achieved for Ecodistrict 3E-1.



4.2 World Wildlife Fund (WWF) Enduring Features

4.2.1 Methods

Enduring features, also referred to as physical habitats, are areas of similar soils, geology, landforms and climate. Enduring features are known to influence biodiversity and persist through time. Enduring features are similar to natural regions but are much more specific. These features account for regional geology, terrain, and topography.

WWF-Canada developed a method to identify enduring features using the Soil Landscapes of Canada described in *Terrestrial Analysis of Ecological Representation WWF-Canada*, Arabian, Currie, Snider, 2019. Each soil landscape was differentiated by its landform, using a combination of topography, texture, and surficial deposits. With this database and using the framework by Geomatics International Inc (1994), an enduring feature map was created for all of Canada. The enduring features (physical habitats) are the spatial units to which the assessment is completed.

The World Wildlife Fund's Assessment of Ecological Representation (AOR) is another gap analysis approach. The WWF AOR uses environmental metrics as surrogates for biodiversity to assess levels of ecological representation within spatial planning units (Iacobelli et al. 2006). The WWF spatial planning units enduring features (EFs) represent spatial variation in climate, geology, landform, and soils.

Ecological representation in each EF is assessed using an automated decision-support tool that uses several metrics including the minimum area for ecological sustainability, total protected area, elevational gradients, shoreline habitat, connectivity, and intactness. In addition, the most recent version of the AOR tool allows incorporation of data on species at risk, climate refugia, forest biomass, and carbon storage to assist in identifying priority conservation areas (Arabian et al. 2019).

It is important to note that these are not necessarily gaps specific to the Kenogami Forest but demonstrate how the Kenogami Forest can be used to fill gaps at the eco-regional scale.

Ecological representation is measured using several metrics including:

- 1) size requirements to maintain viable populations of native species and sustain ecological processes,
- 2) environmental gradients (elevation)
- 3) important habitat types (shoreline), and
- 4) habitat quality (fragmentation due to transportation networks).

In addition, values for at-risk species, soil carbon, and forest biomass were classified to identify priority areas for conservation. Analysis of these values used five quantiles ranging from very low to very high, while enduring features were classified as being climate refuges if more than 5% of their area overlapped with potential climate refugia (Arabian et al. 2019).

The potential conservation value of each EF was assessed by mapping of scores calculated by WWF for priority (key) considerations to identify priority areas for conservation including:

- number of at-risk species with overlapping ranges
- soil carbon content
- forest biomass
- and climate refugia.

At a national level the AOR was recently completed for Canadian provinces and territories by WWF in 2020. The following presents the results of the WWF AOR at the local scale pertaining to the extent of the Kenogami Forest, Ontario to facilitate identification of gaps and priority areas for conservation.

4.2.2 Priority Conservation Areas

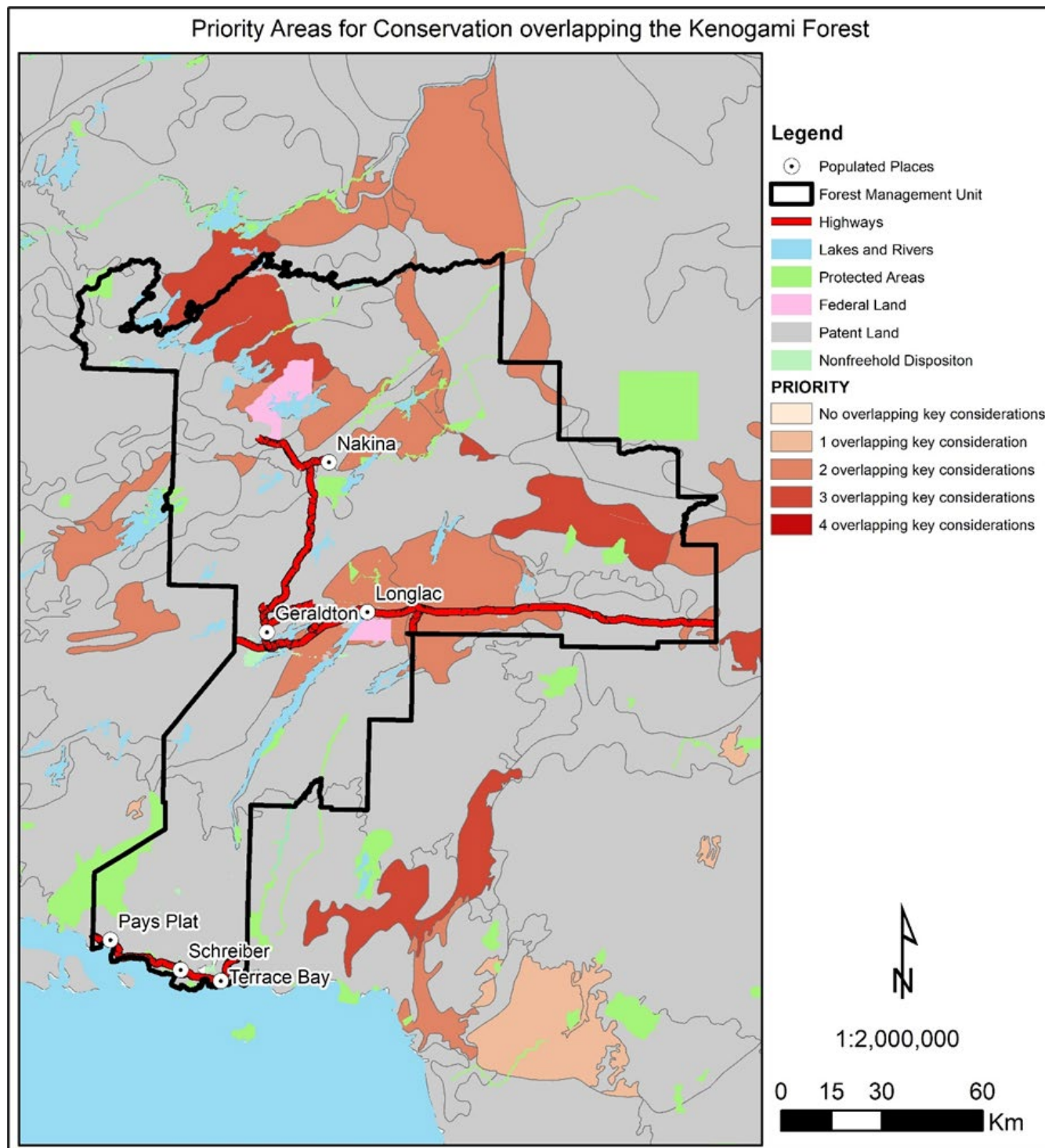
Enduring features with no protection or very poor protection are large gaps in the network. Additionally, areas with high or very high key considerations are areas to prioritize. For example, areas with four (4) overlapping key considerations means that the area is has a high number of at-risk species, is high in soil carbon and in forest biomass, and has the potential to be climate refugia based on the number of overlapping key considerations within a physical habitat.

In total 459,194 ha of enduring feature area within the Kenogami Forest was identified as priority for conservation (Table 6). Approximately 69% of this priority conservation area overlapped with two key considerations, while 32% of the priority area overlapped with three key considerations and no priority area overlapped with four key considerations. Priority conservation areas were located mostly in the central and northern portion of the forest in the vicinity of the towns of Longlac and Nakina (Figure 13).

Table 6. Number of overlapping key considerations for enduring features on the Kenogami Forest.

Number of overlapping key considerations	Total Area (ha)	Total Area (%)
0	0.0	0%
1	0.0	0%
2	310,076.2	68%
3	149,117.9	32%
Total	459,194.1	100%

Figure 13. Priority conservation areas identified based on overall ecological representation score and overlap of key considerations.



4.2.3 Conclusions

The WWF AOR was designed to assess ecological representation over large areas (i.e. at the provincial or national scale). Many enduring features are very large and composed of multi-part polygons that have numerous areas outside of the Kenogami Forest. The practical implication of this is that achievement of representation for enduring features overlapping the Kenogami is affected by the distribution of parks and protected areas outside of the forest.

For large enduring features to meet protected areas targets, they will need to be represented by large protected areas, which could be located either inside or outside the Kenogami Forest (as long as the enduring features are represented in the conservation network somewhere within the province). As such, working towards achievement of representation targets for currently under-represented enduring features is not a task that can be accomplished by one forest management unit in isolation.

While the results of the enduring features analysis for the WWF AOR or the LV provincial analysis are useful in helping to identify potential priority areas for conservation, filling gaps in the conservation network will require input from stakeholders and cooperation with other forest license holders across the province. In addition, collaboration with government agencies such as the Ontario Ministry of the Environment, Conservation and Parks and the Ontario Ministry of Northern Development, Mines, Natural Resources, and Forestry will be required as these agencies have jurisdiction over designated protected areas planning and implementation in Ontario.

4.4 Identified HCVs and HCV Areas

Designated high conservation values (HCVs) and HCV areas for the Kenogami Forest are included in Table 1 of the HCV Report and include nesting/denning habitat for: Eastern Whip-poor-will, Barn Swallow, Bank Swallow, Bald Eagle, Common Nighthawk, Woodland Caribou, Northern long-eared Myotis and Little Brown Bat.

These HCVs are listed as species at risk in Ontario and tend to be widespread across the forest as opposed to concentrated areas. They are protected through FMP implementation with specific prescriptions for protection and are mapped in the FMP as well as the HCV report.

Figure 14. HCV-1 – Wildlife Habitat- Kenogami Forest West

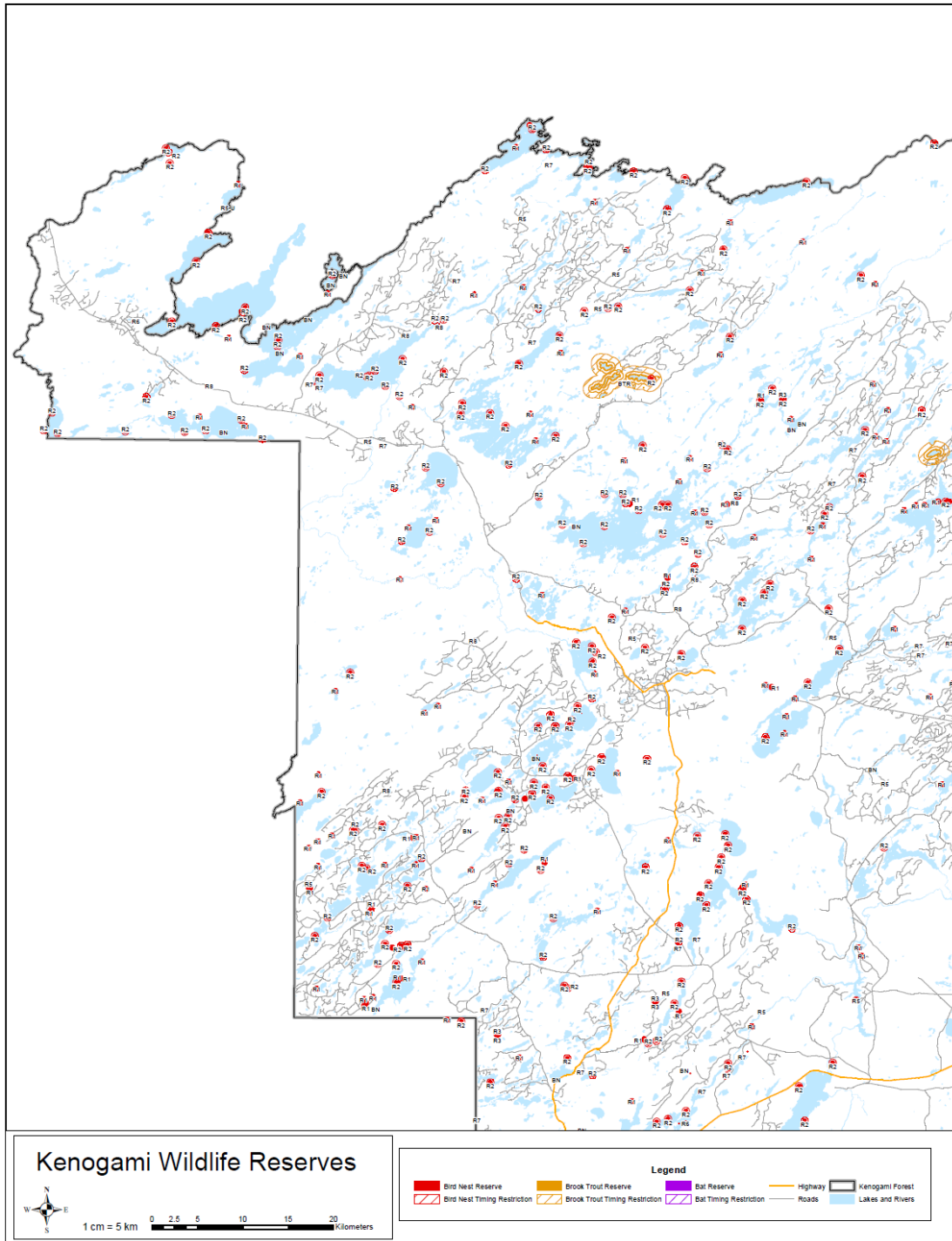


Figure 15. HCV-1 Wildlife Habitat -Kenogami East

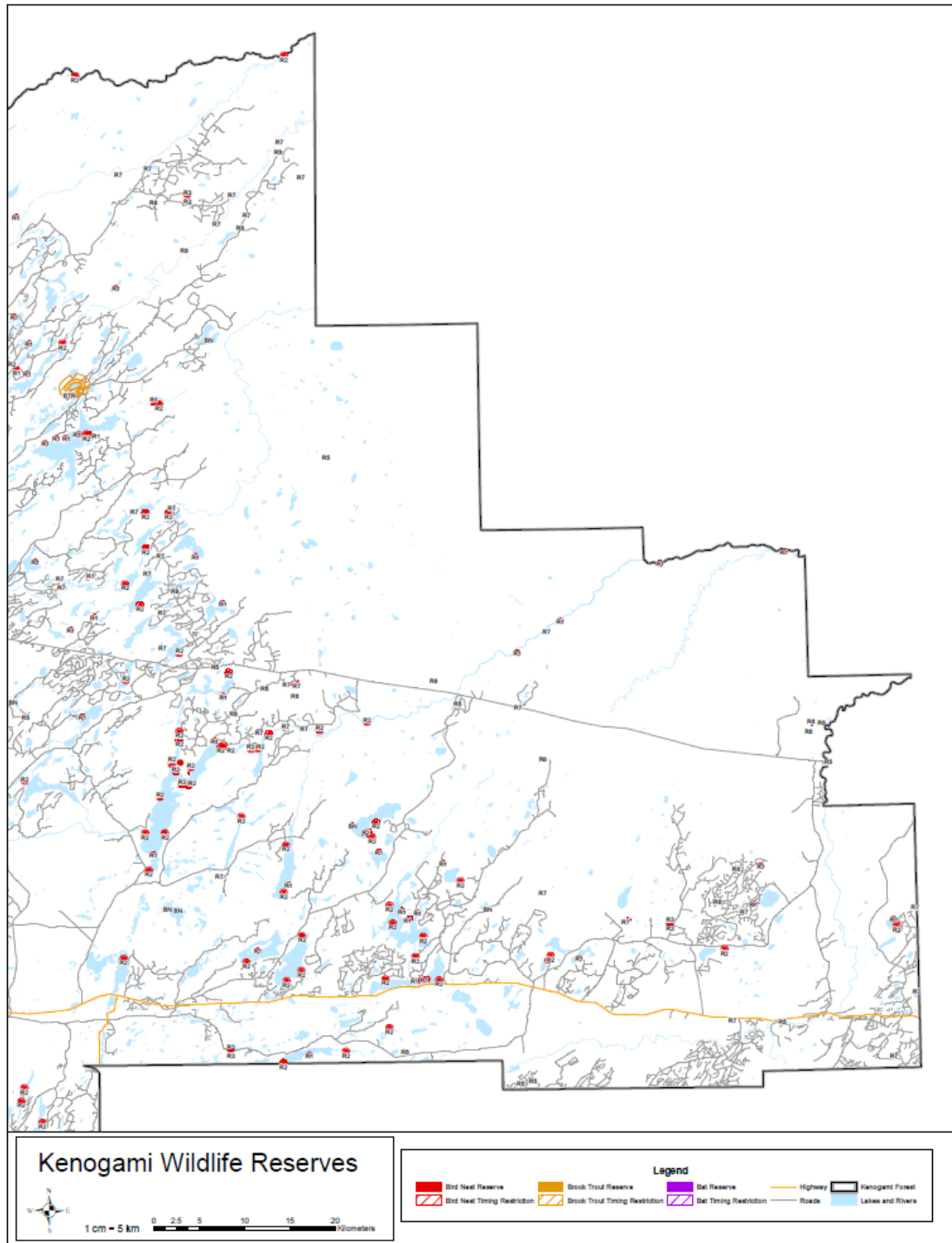
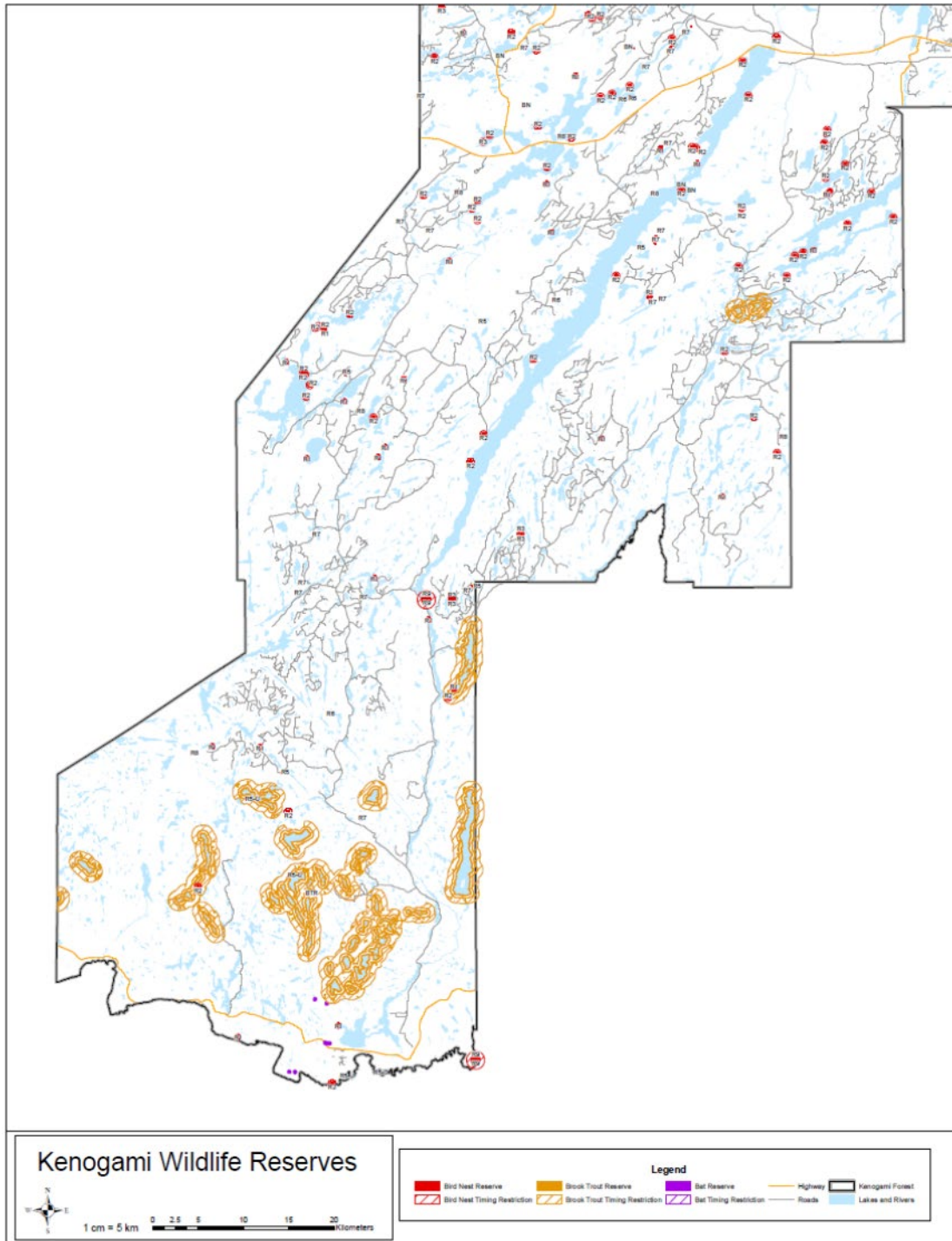


Figure 16. HCVs- Wildlife Habitat - Kenogami South



4.5 Other Protected Areas – Caribou Habitat Deferrals

HCV-2 Landscape Level Ecosystems and Mosaics are also designated high conservation values (HCVs) and HCV areas included in Table 1 of the HCV Report. This includes Intact Forest Landscapes and large landscape-level ecosystems and ecosystem mosaics.

These large undisturbed areas are set aside on the Kenogami Forest and include the long-term caribou deferrals and Intact Forest Landscapes, which are further discussed in the following sections. These areas may represent a good opportunity if they overlap with enduring features or landscape/vegetation types that are underrepresented.

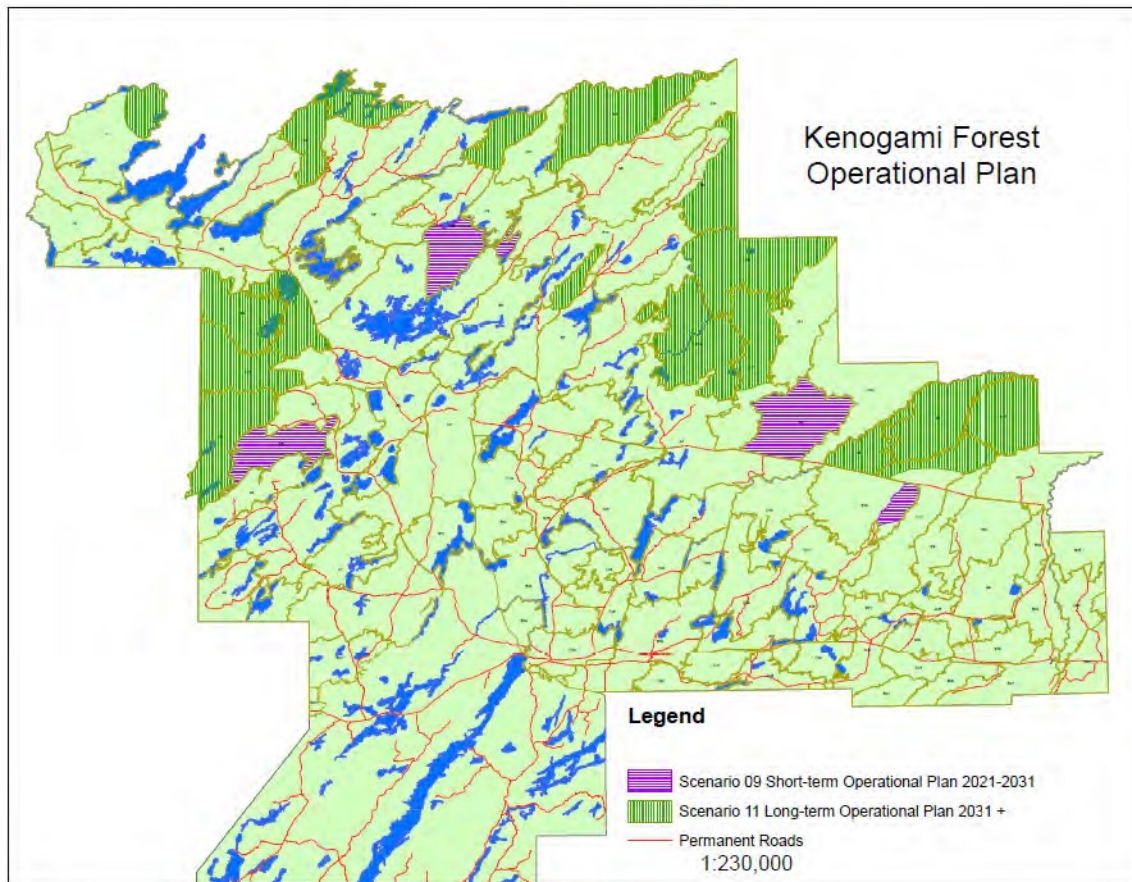
In addition to the protected areas identified in the previous tables and maps, it should be acknowledged that the northern portion of the Kenogami Forest is managed under a caribou mosaic (harvest scheduling pattern) sometimes termed a Dynamic Caribou Habitat Scheduling (DCHS) that identifies which blocks may/may not be operated in in a 20-year time period over 100 years. The caribou mosaic harvest scheduling pattern is designed so that after a mosaic block is harvested, it is left undisturbed for 100 years until the next harvest.

Although the caribou mosaic deferral blocks are not permanently protected areas on the forest since they will eventually be harvested, it is important to note that the blocks are deferred from harvest over a significant period of time and this does indeed provide some protection/preservation of ecological processes in comparison to a forest that allows harvesting to take place at any time and location pending operability and other harvesting logistics. It is important to consider these long-term caribou habitat deferral areas when considering filling any gaps with conservation area networks.

Deferral blocks provide refuge habitat for wildlife and allow for other biological/ecological processes to occur as they would in a park or conservation reserve-type of protected area, until they are harvested in the future time period. Other mature deferral blocks would always remain on the landscape over time as the per the mosaic block cycling schedule.

Furthermore, it is worth noting that through an efficient collaboration process with self-identified interested and affected parties and Indigenous Communities, a caribou conservation approach consistent with the Range Plan Guidance for Woodland Caribou (ECCC 2016) has been implemented. Overall, a short-term and a long-term scenario were developed, and the scenarios run to determine if the outcomes were desirable based on the ECCC range plan guidance and FSC caribou guidance. Habitat areas for these scenarios were selected due to their intactness and to their connectivity with greater intact forest landscapes outside of the Kenogami management unit. Through the remainder of the 2021-31 FMP, the disturbance footprint will be minimized. The final scenario incorporates both a short and long-term operational plan. The short-term plan is between 2023-2031 with the long-term operational plan considering from 2031 + and will be further defined during development of the 2031-2041 FMP, continuing the progress to date.

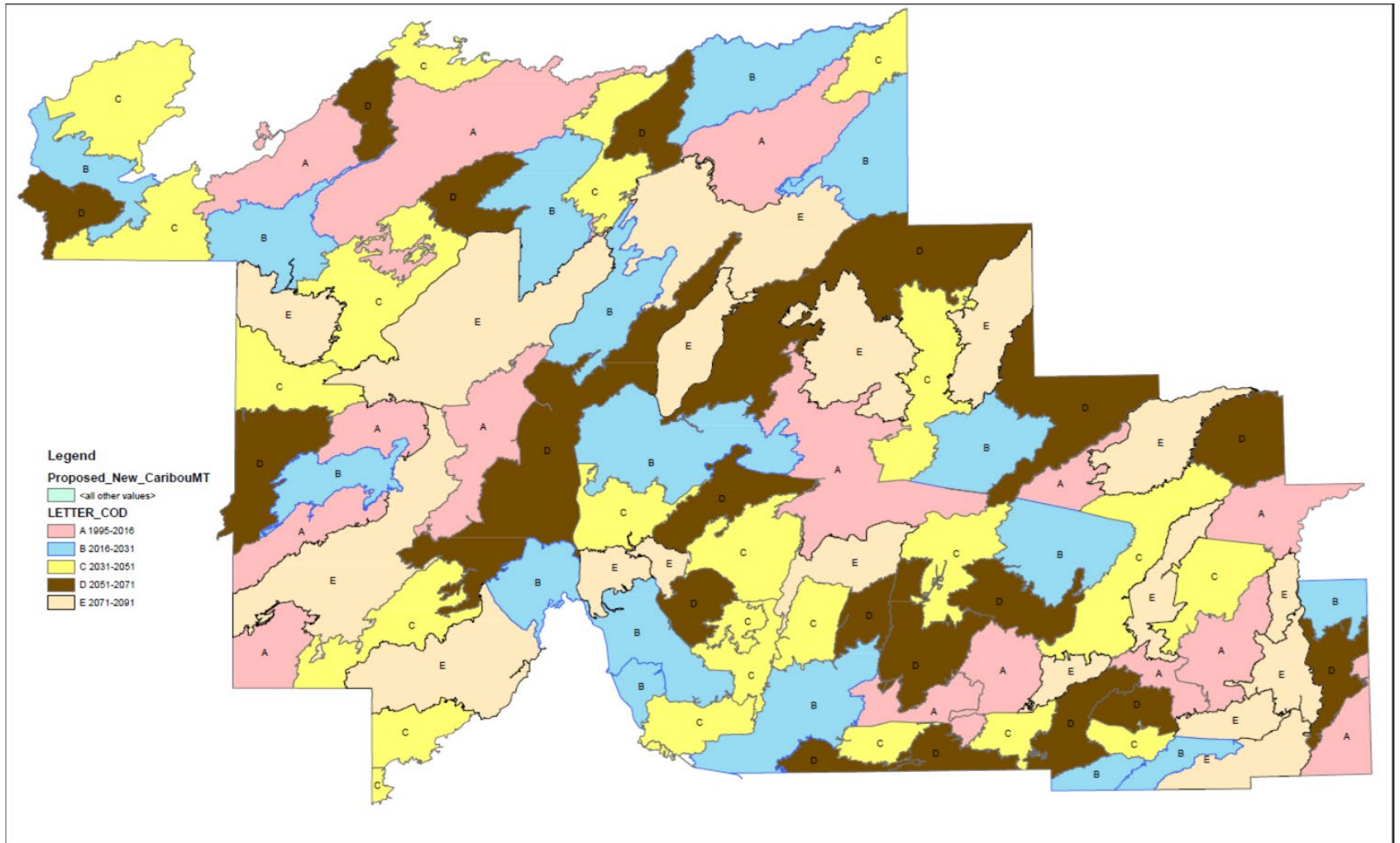
The final scenario is presented in the figure below:



Short-term operational plans have reduced the disturbance level for immediate results. The areas identified for long-term planning were selected due to their intactness and connectivity within the Kenogami, as well as connectivity to critical caribou habitat and Intact Forest Landscapes outside of the Kenogami Forest.

Figure 17 identifies the Caribou Mosaic for the upcoming 2021-2031 FMP. The harvest scheduling for these blocks is identified on the maps. In order to provide further protection for long-term caribou habitat, some caribou mosaic blocks in the northeast portion of the Kenogami Forest were deferred from harvest for an additional 170-230 years above and beyond the normal 20-100 years further. See Section 4.1 for additional details.

Figure 17. Caribou Mosaic (2021-2031 FMP)



4.6 Intact Forest Landscapes

IFLs are based on the premise that the entire forest must not only be large enough to support most or all native species, but also 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 are maintained and landscape natural processes can occur).

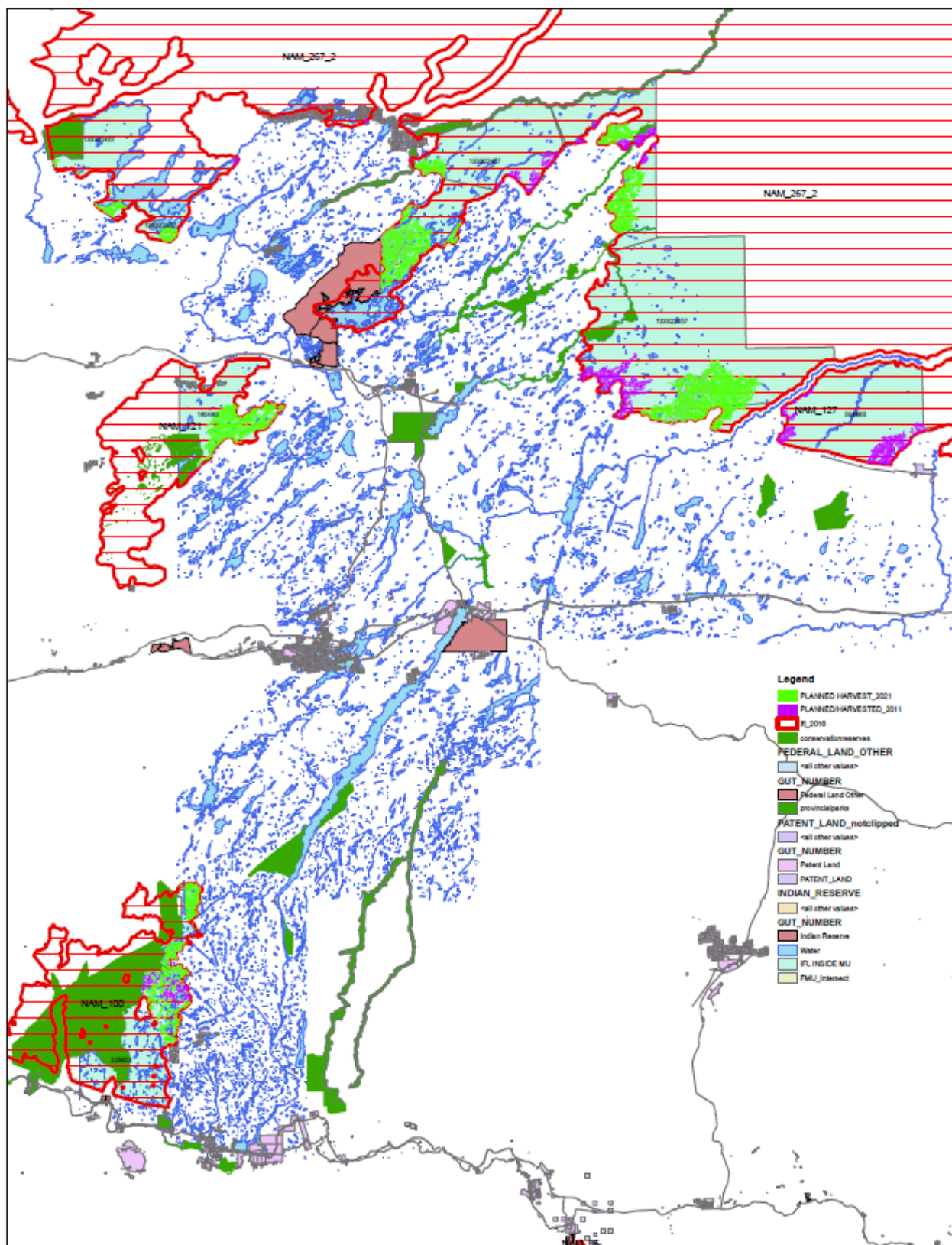
Although IFLs are part of Principle 9 High Conservation Values (HCV) framework in the FSC Standard, and are not technically part of a Conservation Area Network gap analysis, they remain important considerations when planning areas. These IFLs are part of the High Conservation Value Forests containing HCVs. Other HCVs may also ultimately contribute to the Conservation Area Networks such as cultural heritage values and other Indigenous (FN confidential) areas as identified in Table 7.

When considering the location and extend of additional conservation area networks, the concept of Intact Forest Landscape (IFLs) must also be carefully assessed. The concept of IFLs is defined as large continuous expanses of natural ecosystems in the zone of current forest landscapes extent without signs of significant human activity requiring:

- (1) minimum area of 50,000 hectares;
- (2) minimum IFL patch width of 10 km; and
- (3) minimum corridor/appendage width of 2 km to insure that IFL patch core areas are large enough to provide refuge for wide-ranging animal species.

All anthropogenic disturbances are buffered by 500 m including roads and harvest areas. IFLs are further detailed in the HCV Assessment Report, however the following map of Intact Forest Landscapes is provided for context in this report when considering new potential conservation area networks. The IFLs are identified by the red stripe with light green inside the management unit on the following map.

Figure 18. Intact Forest Landscapes on the Kenogami Forest.



4.7 Cultural Landscapes

FN Confidential areas are important to those Indigenous communities that identify the Kenogami Forest as their traditional territory and that have requested these areas be protected. These values are held confidentially by most Indigenous peoples and this must be respected. These areas are important to the Indigenous communities for variety of reasons (spiritual, cultural, gathering, etc.).

Engagement is ongoing and dialogue with the Indigenous communities will be considered in the final decisions to establish designated conservation lands through meetings with the Geraldton Area Natural Resources Advisory Committee (GANRAC) and other interested and effected stakeholders. These areas are contained in the Kenogami Forest 2021-2031 FMP and are protected as cultural heritage value AOCs (see Table 7).

4.8 Additional Areas

Meetings with the Geraldton Area Natural Resources Advisory Committee (GANRAC) occurred in May, 2022. At the meeting, the group reviewed the latest Conservation Area Gap Analysis Report V-2, including all areas that are currently set aside as protected, while also examining additional potential protected area categories and locations that could be added as per Section 4.1 through 4.7 of this report. In addition, the same was reviewed with the Ne-daa-kii-me-naan Board of Directors who identified similar areas to those areas identified by GANARC. The results of those discussions are reflected in the tables and maps summarized in Section 5.0 Potential Designated Conservation Lands later in this report.

5.0 Potential Designated Conservation Lands

5.1 Existing Protected Areas

The FSC criterion 6.5.7 requires that: “The Conservation Areas Network comprises a minimum of 10% of the area of the Management Unit. The extent of the Conservation Areas Network on the Management Unit is identified by considering:

1. Relative extent of the Conservation Areas Network in the area of ecological influence;
2. Contribution of the Conservation Areas Network to the attainment of regional provincial, national and international (e.g. Aichi biodiversity targets) conservation and protected area targets;
3. Best available scientific information and research regarding appropriate conservation targets;
4. Previous contributions of The Organization to Conservation Areas Network on lands that were formerly within the Management Unit; and
5. Socio-economic considerations (e.g. implications for wood availability and harvest levels).

Table 7 identifies the parks and conservation reserves within the boundaries of the Kenogami Forest along with several other protected areas. The percent (%) area used the denominator **(1,923,816 ha)** which has been calculated using the 2021-2031 FMP table FMP-1 Total Managed area including all ownership types Non-Forested (e.g. water) and Forested (Non-Productive + Productive + Production) plus Crown Other (Parks, Conservation Reserves). This includes Non-Prod areas consisting of muskeg, brush, alder and rock consistent with the Living Legacy L/V data analysis.

5.2 Additional Areas for Consideration

Meetings with the Geraldton Area Natural Resources Advisory Committee (GANRAC) occurred in May, 2022. At the meetings, the group reviewed the latest Conservation Area Gap Analysis Report V-2, including all areas that are currently set aside as protected, while also examining additional potential protected area categories and locations that could be added as per Section 4.1 through 4.7 of this report.

Table 7. Conservation Area Networks

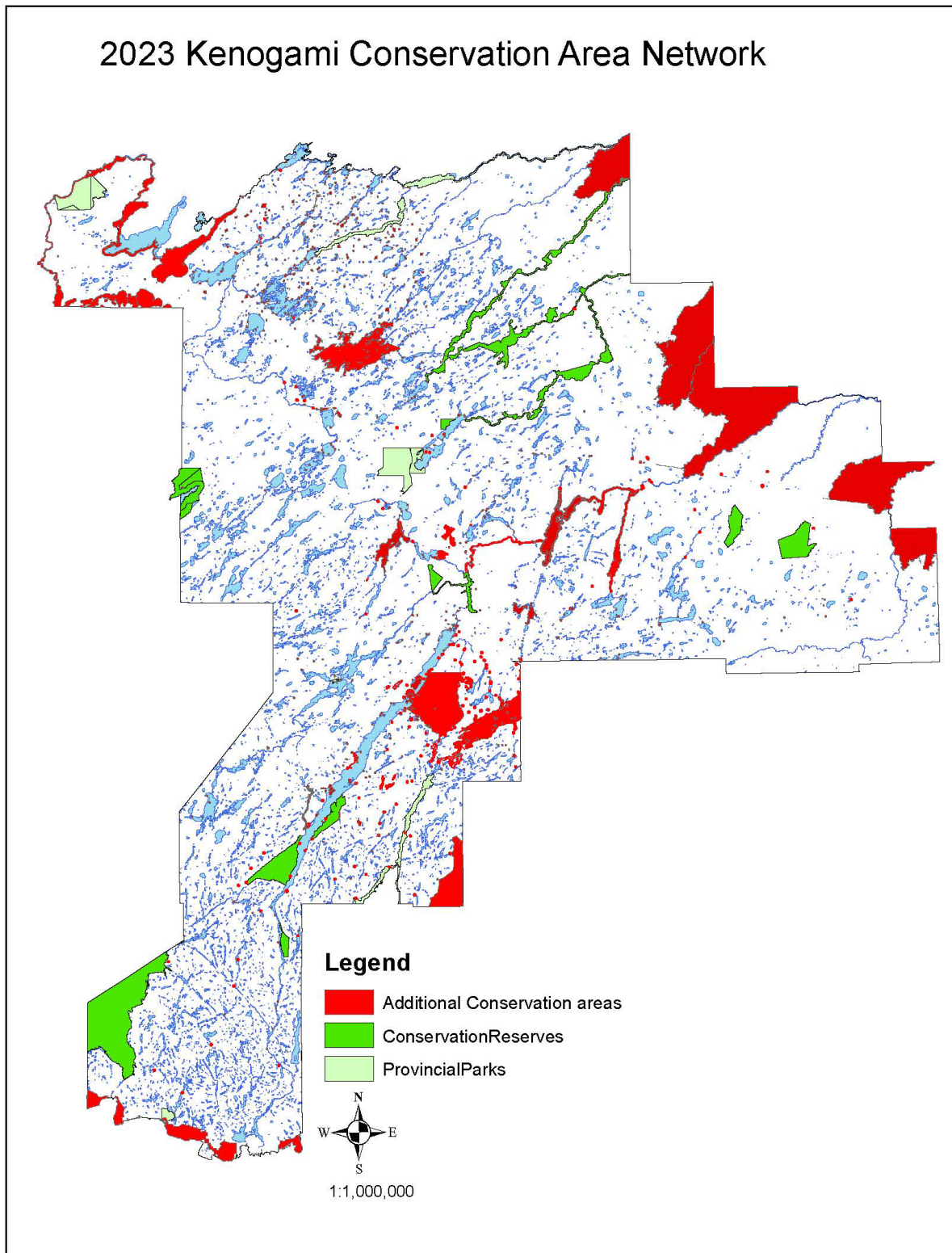
Additional Protection Area	Area (ha)	Percent
Parks	18,604	
Conservation Reserves	52,601	
Cultural Values	41,753	
Additional Areas – 200 Year Deferrals	41,306	
Additional Areas - Other	53,602	
Totals	207,867	10.8%

Denominator

Total Crown Managed (Non-Forested -water, other land-Non-forested) & Forested (Muskeg, B&A, Rock, SC4, Islands, Prod Forest) - plus Crown Other (Parks, CRs)

1,923,816 ha

Figure 19. Additional Protected Areas on the Kenogami Forest (2021-2031 FMP)



5.3 Engagement

The FSC standard requires certificate holders to have undergone an efficient process to engage Indigenous Peoples and self-identified and affected stakeholders in a consensus-based process to identify areas to complete the Conservation Areas Network.

The Geraldton Area Natural Resources Committee (GANRAC) were given several presentations on Conservation Areas Network in the winter of 2021 and 2022 and additional working group sessions in the spring/summer 2022 to review and finalize the potential candidate areas. Interested and effected stakeholders were invited to these meetings.

Nedaak has also conducted additional community engagement and consulted with our local Indigenous communities over the past two years (2022 and 2023) to provide additional input and review of the potential areas and seek their opinions/agreement. It is expected that interested and effected stakeholders and Indigenous communities will continue to provide feedback. Information has been supplied to interested groups to discuss the gap analysis for recommendations.

5.4 Conclusions

Table 7 and Figure 20 show that the Kenogami Forest contains the designated conservation lands and secondary conservation lands of sufficient size to ensure the values they are intended to address are effectively protected based on a precautionary approach as required by the FSC Standard (V 1-0) indicator 6.5.7. Additionally, Table 7 shows over 10% of the required Conservation Area Networks are available in order to meet FSC standard indicators 6.5.2 and 6.5.7.

Based on this gap analysis of areas protected vs. areas not adequately protected or represented as per FSC 6.5, **207,867** ha of forest have been proposed as candidates for permanent protection across the Kenogami Forest which is approximately 10.8% of the forest.

Further Indigenous consultation with our local communities and local stakeholders is needed before transitioning the identified designated conservation lands in this gap analysis to legal protected status. The FSC National Forest Stewardship Standard of Canada recognizes that Free, Prior, and Informed Consent of Indigenous Peoples is necessary before attempts should be made to move designated conservation lands on traditional territories to legally protected status.

Appendix 1 – Peer Review

Peer Review of the Kenogami Forest Conservation Area Gap Analysis (Feb. 4, 2021-draft)

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

Merin Forest Management was contracted to undertake a peer review of the draft report of the Kenogami Forest Conservation Area Gap Analysis (Feb. 4, 2021) consistent with the requirements under 6.5.3 in the FSC® National Forest Standard of Canada (FSC-STD-CAN-01-2018-V1-0), referred to as the FSC Standard. Below are the results of that review. All comments in this report are intended to; 1) ensure the report meets the requirements of Indicator 6.5.2 in the FSC Standard, and 2) improve the report.

Scope of the Review

In reviewing this report, consideration was given for information available, and information used in assessing the gaps in the Conservation Area Network within the Kenogami Forest as prepared by Ne-Daa-Kii-Me-Naan Inc. and, the requirements of the FSC Standard.

The review focused on three key areas/questions:

1. Does the gap analysis meet the requirements of Indicator 6.5.2 of the FSC Standard?
2. Does the gap analysis report identify gaps in the conservation area network and did those gaps result in proposed candidate areas for protection?
3. Did the gap analysis include appropriate stakeholder and Indigenous engagement and, were the results of that engagement included in the analysis?

Each question forms a sub-heading in this review with corrective actions to address deficiencies in the report or in meeting the requirements of the FSC Standard. The corrective actions are:

- Major – address required changes to fully meet requirements of the Standard
- Minor – address changes to fully meet requirements of the Standard but are not required
- Suggestions – address improvements in the analysis that would improve the quality of the report or complete the analysis.

Q1: Does the gap analysis meet the requirements of Indicator 6.5.2 of the FSC Standard?

The intent of a gap analysis is to identify gaps in provincially protected areas (i.e. parks and conservation reserves). Ontario has a well-recognized system in place that identifies and protects ecologically important representative areas. Protected areas are selected and chosen based on their ecological, geological, and cultural heritage features. The Ministry of Natural Resources and Forestry (MNR) uses an ecological land classification system (ELC) to define natural regions based on bedrock, climate, physical geography, and corresponding vegetation. These areas may contain:

- Old growth forest
- Lakes, rivers, and wetlands
- Archaeological sites or other cultural values
- Habitat for rare or endangered plants and animals.

Ontario uses a minimum threshold of 50 ha and/or 1% of the total area of a landform/vegetation association, whichever is greater and needed to ensure long-term conservation of biodiversity.

The FSC Standard requires the forest manager to “identify potential gaps in the completeness of the Conservation Areas Network in the management unit” using the best available information.

This gap analysis report was developed as a requirement of FSC certification of the Kenogami Forest. This report is the subject of this peer review. This review meets Indicator 6.5.3, FSC Standard. In conducting this review, it is important to note the Gap Analysis Report was prepared following Criterion 6.5 in the FSC Standard.

General Comments:

The Gap Analysis Report generally meets Criterion 6.5 of the FSC Standard however the report does not fully meet the requirements of the FSC Standard (see discussion below). Also, there are several editorial and content suggestions made that would improve the readability and flow of the report, including:

- i. Background – include Purpose in heading or have a separate heading that outlines the purpose described in para. 4 of the report. **Complete – heading changed from Background to Purpose**
- ii. Section 1.1 – suggest including a sentence that protected areas are regulated under the PPCRA (Provincial Parks and Conservation Reserves Act). **Complete**
- iii. Section 1.2 – suggest including what the dataset (i.e. FRI) used by MNRF with the GapTool **Complete**
- iv. Section 1.2 – should include in the analysis areas not regulated under PPCRA but recommended for protection (as on most management units not all areas proposed for protection during Lands for Life (Living Legacy) received protection) **Complete – these were included in the analysis & tables.**
- v. Section 3.1 – suggestion removing reference to restrictions to conservation reserves unless confirmed by local Parks staff. (see reference to the PPCRA in report comments) **Complete**
- vi. Table 4 – suggest organizing this table by ecodistrict as it can then be tied back to Table 1 and Table 5 **-not required, clear as is, and prefer not to.**
- vii. Section 3.2 – you reference the tabular results of the gap analysis but have not included the table or at least a table of under-represented L/V types **Complete – reference removed**
- viii. Section 3.3 – caribou blocks identified in the text for 2011-2021 don't correspond to Figure 13 **Complete –text revised**
- ix. General comment – some of the discussion and use of number for protected areas, in the discussion under each ecodistrict, is unclear between whether the figures apply to the Kenogami Forest or the entire L/V type. Suggest clarifying. **Complete –text revised prior to Table 5 and title of Table 5.**

Required Changes:

The report draws on the best available science (i.e. GapTool) used by the government to identify and protect ecologically important representative areas. The results of the GapTool identifies areas that are “under-represented” by eco-district and landform/vegetation (L/V) type. The report does a thorough job of presenting these results by ecodistrict for protected and under-represented areas and explores, in detail, additional areas, on the management unit, that are unavailable for forest management activities. For example, the report discusses the contributions of the following to the Conservation Areas Network on the management unit:

- long-term (i.e. 200 years+) deferrals for caribou
- riparian reserves unavailable for harvesting
- Intact Forest Landscapes (IFLs)
- Indigenous value areas

However, the report falls short of assessing each of these against the results of the GapTool for under-represented areas. To fully meet the requirements of the FSC Standard, further analysis is required to determine where each of these intersect/overlap with under-represented L/V types and, how these areas could contribute to improving on the amount of representative area by L/V type (ecodistrict) and, further, result in proposed candidate areas for protection. Additionally, once candidate areas for protection are identified these should be presented for comment and endorsement to affected Indigenous communities and stakeholders on the management unit. This discussion might also include government and ENGOs.

Issues: analysis does not fully meet Indicator 6.5.2 of the FSC Standard

Issue category: **major**

Comment: Complete the analysis and propose (or not) candidate areas for protection.

Company response:

Complete - Additional WWF Enduring Features analysis was performed after this Peer Review and is included in Section 4.2 of this revised report. Furthermore, additional consultation meetings with local stakeholders and Indigenous and local communities has occurred since this report was peer reviewed. This dialogue is ongoing as well as including ENGOs. Additional areas are proposed and have been included in the resulting tables and maps in Section 5.0.

Issues: analysis does not meet Indicator 6.5.1 of the FSC Standard

Issue category: **major**

Comment: The FSC Standard Indicator 6.5.1 states: an efficient process is used to engage Indigenous peoples and self-identified interested and affected stakeholder regarding the identification and management of designated conservation lands (as per 6.5, areas that are managed through the exclusion of forest management activities (except where required for restoration or maintenance of natural conditions (i.e. caribou management, cultural values)). The report acknowledges this will be addressed however, the report assumes there will be consensus regarding no candidate protected areas endorsed as a result of engagement.

Company response: **Complete** - Additional consultation meetings with Indigenous and local communities has occurred since this report was peer reviewed. Interested stakeholders were contacted for feedback. Additional explanation added to Section 5.0 Conclusions to clarify this as it was not included in the peer reviewed report.

Issues: analysis does not utilize all gap analyses available (i.e. WWF, to determine most complete science to use

Issue category: **minor**

Comment: the analysis would benefit from reaching out to Ontario Nature or WWF to obtain the WWF gap analysis that uses the “enduring features” approach as this is referenced in the FSC Standard under 6.5.2. The analysis could draw on the parallels between enduring features approach and the Ontario approach (GapTool).

Company response: **Complete** – Additional WWF Enduring Features analysis was performed after this Peer Review and is included in Section 4.2 of this revised report.

Q2: Does the gap analysis report identify gaps in the conservation area network and did those gaps result in proposed candidate areas for protection?

The report does a good job of identifying the gaps in the conservation area network within the management unit, however, as discussed under Q.1 above, falls short in completing the analysis by identifying candidate areas for protection that are reviewed by affected Indigenous Peoples and affected and interested stakeholders.

The analysis correctly includes deferred areas (i.e. caribou deferrals) and other areas removed from forest management activities as areas that may offset the gaps in protected areas within the management unit. The use of riparian reserves, area of concern reserves and caribou calving reserves is questionable as it does not meet the intent of 6.5 of the FSC Standard because roads can cross riparian reserves, area of concern reserves may not meet the threshold of 1% or 50 ha in most instances, and caribou calving and nursery areas will be harvested when they fall within the managed landbase and open DCHS blocks.

Suggestion: remove riparian reserves, area of concern reserves and caribou calving and nursery areas from the analysis for the reasons noted above. -Partially Complete - Riparian areas have been removed. Caribou calving and nursery areas are for the 2011-2021 FMP period, which will expire soon. These have been included in Table 6 (not Table 7 2021-2031 FMP) and are included to show what would have been included if the FMP did not proceed as planned. At the time of writing the original report, the 2021-2031 FMP is under development between Stage 3 and Stage 4 Draft FMP.

As mentioned above, the analysis uses deferrals and other areas removed from forest management activities as areas that can contribute to the under-represented L/V types on the Kenogami Forest. However, the analysis is incomplete because it does not analyze what under-represented L/V types are addressed by these areas.

Suggestion: consider completing the analysis and presenting how much area by L/V type would be represented by these areas (deferred and other areas removed from harvest). - Not Required – Further analysis of protected areas identified in Table 7 with LV types are not needed. These protected areas in Table 7 have been selected for protection for more meaningful reasons than simply a landform/vegetation relationship. For example the FN Confidential areas have been identified as important to local Indigenous communities for their traditional and spiritual needs.

One of the suggested considerations in the gap analysis is landscape connectivity. The analysis discusses riparian areas, deferrals but does not delve into how these areas might provide landscape connectivity. Are there any caribou travel corridors identified on the Kenogami Forest that might contribute to connectivity across the landscape?

Suggestion: consider assessing landscape connectivity as it relates to caribou deferrals, caribou travel corridors, and riparian reserves. Is there a missed opportunity to propose candidate areas for protection through landscape connectivity? - Not Required -There are no travel corridors in the caribou mosaic area but rather deferral blocks and water bodies provide linkages as per MNRF development of the mosaic. The previous travel corridor south through the discontinuous zone burned and no other suitable habitat available. The riparian areas were dropped from protected areas as requested by the peer review.

Although not a requirement to meet 6.5.2, HCVs are one element that could contribute to completing the Conservation Area Network. The report does not discuss how HCV's and HCV areas could contribute to improving the completeness of the Conservation Area Network.

Issues: analysis does not utilize HCVs and HCV areas in completing the Conservation Area Network.

Issue category: **minor**

Comment: the analysis should include how HCV's and HCV areas can contribute to the completion of the Conservation Area Network as per 6.5.2 in the FSC Standard.

Company response: Complete – **Complete** – *Text added to Section 3.4. IFLs and caribou deferrals (large landscape patches) are discussed in this report*

Major corrective actions under this question are addressed under Q.1.

Q3: Did the gap analysis include appropriate stakeholder and Indigenous engagement and, were the results of that engagement included in the analysis?

This question is addressed under Q.1 and any corrective actions are also addressed under Q.1.