R & B CORMIER INC.

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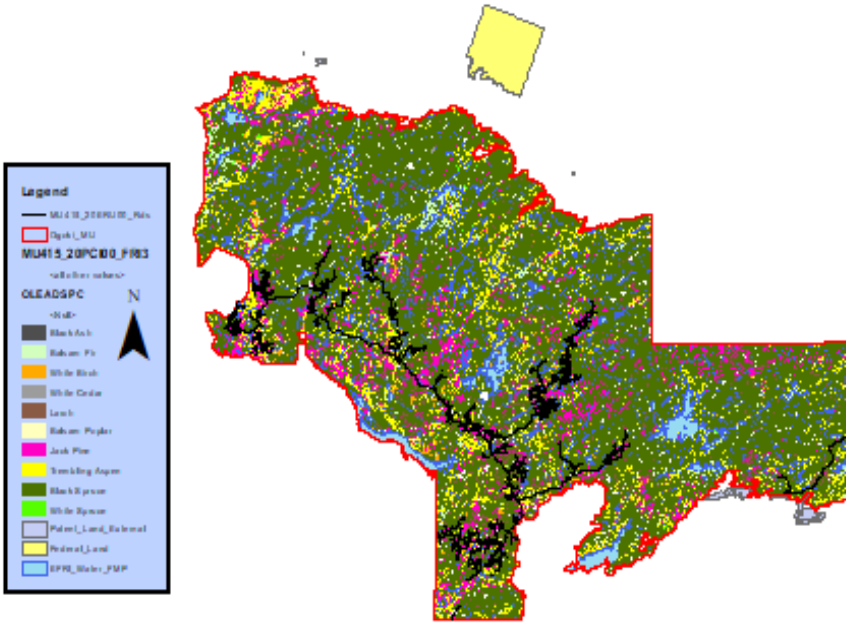
SEPTEMBER 2023 – REPORT 2 of 2

OPPORTUNITIES: GREEN ENERGY & NON-TIMBER FOREST PRODUCTS IN ONTARIO'S OGOKI CROWN FOREST



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BY:

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1.0 Forward

R&B Cormier Inc. is a Canada based Natural Resource Contracting and Consulting firm based in Sault Ste. Marie, Ontario. The Contracting division supplies turnkey forest resort inventory development, satellite, radar and airborne imagery, operational field services, and three-dimensional land mapping. The Consulting division specializes in wood supply and biomass analysis, including forest carbon assessments, timber evaluations and non-timber forest product research.

This Second Report is a high-level cursory GIS and trend analysis to identify Economic Development Opportunities that could be further pursued by the ADC and BTC to create employment through new projects with markets beyond the community level that need access to capital to perform in depth feasibility and engineering analysis and is based solely on Lead Analyst's opinions and past experiences.

At the request of **Big Tree Carbon Incorporated**. (**BTC**) R&B Cormier Inc. (**R&B**) is pleased to provide this confidential report as per the Terms of Reference received earlier and "*requested*" below.

BTC Terms of Refence Received*:*

Purpose: The Consultant shall also prepare an Opportunities Report utilizing data products derived from the preparation of the Assessment Report and all available datasets to identify non-carbon offset opportunities for the Ogoki Forest management unit, including green/renewable energy potential projects and non-forestry potential economic project opportunities.

R&B focussed on identifying opportunities (at a high level direct and, or spin-off) that would be beyond a small-scale community sustenance level and that had long term revenue potential for the ADC and would benefit from BTC's ability and experience in raising capital for development, research, and capital projects.

For green renewable energy we did an overview of potential sites spatially within the OMU based on access, hydrology and elevation that could be commercialized within the next 5-10 years and subject to further engineering, environmental, regulatory and feasibility analysis. We also focussed on identifying potential Projects suited for the ADC's current operations, infrastructure, and expertise within and surrounding the OMU.

For non-forestry (aka non-timber forest products) we looked at comparable ecosystems across Canada that had established and profitable products that also could be commercialized within the next 5-10 years and create new employment opportunities that would be complementary to what the ADC is doing in the OMU.

1.1 Proponents/Partners

Big Tree Carbon Incorporated:

Big Tree Carbon Incorporated (**BTC**) is a carbon sequestration, natural resource developer and a mineral exploration firm. It is a TSX Venture- publicly traded company with a majority Indigenous Directors and an Anishinaabe President & CEO. BTC strives to provide both access to the investing public in the Natural Asset Resource business and guidance between First Nations communities and capital markets.

Agoke Development Corporation:

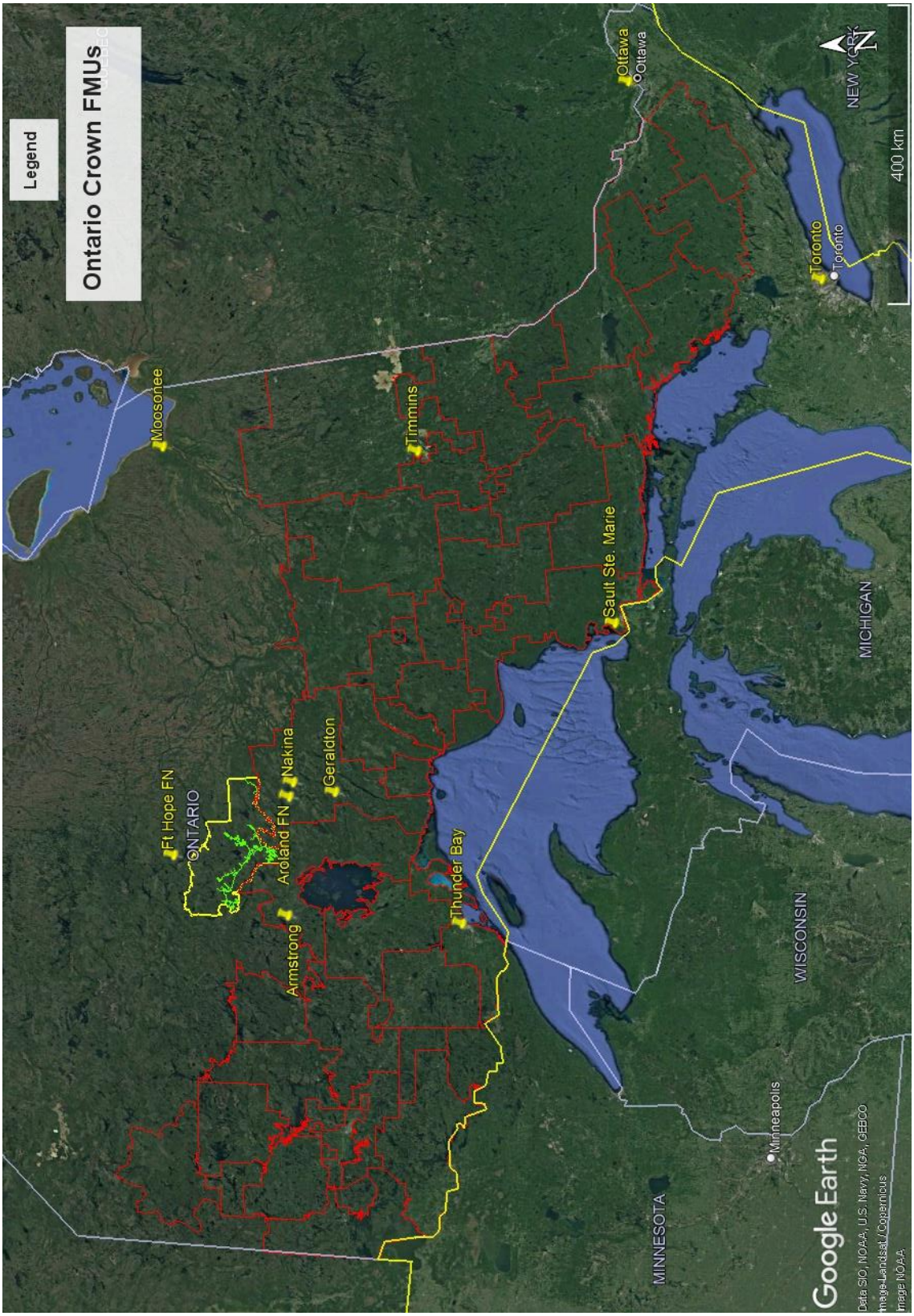
The Agoke Development Corporation **(ADC)** which was incorporated in September 2015, is equally owned by three First Nation Partners, and is designed as a vehicle to separate business from politics and to pursue forest management. Those Partners are Aroland First Nation, Eabametoong First Nation, and Marten Falls First Nation. In March 2018, ADC signed a ground-breaking forestry agreement with the Ministry of Natural Resources and Forestry (**MNRF**) to take on forest management of the Ogoki Forest Management Unit's (**OMU**) Sustainable Forestry License (**SFL**).

1.2 Project Location and Metrics

The OMU is one of forty-two Crown Forest Management Units (**FMU)** across Ontario (See outlines in red Map 1, Pg 6) and one of eighteen in Northwestern Ontario. Located 240 kilometers northeast of Thunder Bay, Ontario, the OMU is one of the farthest Northern FMUs in the Province and is just south of the treeline and covers an area of over 1,090,503 hectares (**ha**). (See outline in yellow Map 1, Pg 6). A breakdown of land classes is as follows:

OMU Land Types			
Type	**Ha**	**Ac**	**%**
Forested	**933,849**	**2,307,634**	**85.63%**
Lakes	**111,967**	**276,682**	**10.27%**
Open Muskeg	**21,832**	**53,949**	**2.00%**
Treed Muskeg	14,227	35,156	1.30%
Brush	6,603	16,317	0.61%
Unclassified	1,029	2,543	0.09%
Islands in Lakes	917	2,266	0.08%
Rock Outcrop	74	183	0.01%
Grassland	5	12	0.00%
	1,090,503	**2,694,742**	**100.00%**

MAP 1: Ontario's Crown Forest Management Units & the OMU



2.0 List of Acronyms Used in Reports 1 & 2:

- **AAC** Allowable Annual Cut
- **Ac** acre
- **ADC**. Agoke Development Corporation
- **aka** also known as
- **AR** Annual Report
- **ASL** Above Sea Level
- **Bf** Balsam Fir Forest unit
- **BW** White Birch Forest Unit
- **BTC** Big Tree Carbon Incorporated
- **BTU** British Thermal Units
- **CE** Cedar Forest Unit
- **C0²e** Carbon Dioxide Equivalents
- **Dom** Dominant Species
- **FN** First Nation
- **FMP** Forest Management Plan
- **FRI** Forest Resource Inventory
- **F. Tch.** Forestry Technologist
- **FU** Forest Unit
- **GHG** Greenhouse Gases
- **GIS** Geographic Information Systems (spatial records and files)
- **GTV** Gross Total Volume includes all parts of tree above stump height
- **Ha** hectare
- **Hdwd (Hrd)** Hardwood (deciduous) Species
- **IESO** Independent Electricity System Operator (Ontario)
- **IFM** Improved Forest Management
- **M³** (**m3**) cubic metres
- **MAI** mean annual growth increment (factor)
- **Mgmt** Management
- **MT** Metric Tonnes

- **Mx** Mixed Species
- **NMV** Net Merchantable Volume only includes log products volumes of a tree
- **MNR&F** Ontario Ministry of Natural Resources & Forestry
- **MRV** Monitoring, Reporting and Verification
- **MU** Management Unit (Ontario Crown Forest)
- **NSR** Not Sufficiently Regenerated (post harvest or disturbance)
- **OC** Other Conifer Forest Unit
- **OMU** Ogoki Crown Forest Management Unit
- **Pj** Jackpine Forest Unit
- **PWR** Pine (White & Red) Forest Unit
- **R&B** R & B Cormier Inc.
- **R.P.F.** Registered Professional Forester
- **SFL** Sustainable Forestry Licence
- **SPF** Spruce-Pine-Fir Forest Unit
- **Sftwd** Softwood (coniferous) Species
- **TOL** Tolerant Hardwood Forest Unit
- **TPY** tonnes per year (metric)
- **Twh** Terawatt-hours
- **Yr** year

3.0 Executive Summary

Below is a summary of R&B's Key Findings and Opportunity Recommendations:

- **The main Public Utility Grid (aka Hydro) in Northern Ontario is approximately 50 to 80 km away from the OMU. The grid in the Region has only had three recent upgrades (Table 3. Pg 28) According to developers and media the grid is woefully in need of updates. Excluding hydro, Ontario currently produces 11.4% of it's supply with wind, solar and biofuels. (Table 2, Pg 28).**

- **Currently the OMU's potential for green energy projects are only local community based, and all will need new infrastructure to deliver energy to the nearby communities. The commercial and export energy markets beyond the OMU vicinity (including the Ring of Fire) will be several years in the making and likely include adding green hydrogen to the mix once the technology becomes mainstream. New projects will require major capital investments in grid capacity and infrastructure for year-round roads, utility corridors and bridges.**

- **In the 1990s, the Bowater Mill in Thunder Bay began reclaiming burnt standing timber from wild fires for chips and biomass after 1 to 2 years of winter snows (reducing char on exterior of timber) with in-bush chipping. Considering the potential of fires in the OMU and the opportunity listed below, R&B recommends diversifying the current harvesting method to include full tree and log biomass processing to take advantage of any post fire reclamation (Appendix 1. Pg 33).**

- **The best, and most immediate opportunity with an identified need is with one of the partners in the ADC. The current electricity for the Eabametoong FN Community is fossil fuel generated and far removed from the Ontario Power Grid (Map 2, Pg 14). The Community could emulate the 6.5-megawatt biomass heat and power plant now under construction on the Whitesand FN near Armstrong, Ontario.**
  (**See** Indigenous biomass heat and power plant lands $35 million from Ottawa - Northern Ontario Business)

- **The next best and immediate opportunity we identified with the OMU is the development of a commercial sized organic wild rice business. There is current sustenance level harvesting of fish, game, and edibles now within the OMU, but none have true export market potential nor the foreseen growth in demand as with wild rice. The existing and planned logging roads and their 112,000 ha of lakes could make the OMU a major player in the wild rice market internationally and emulate a large Saskatchewan Producer.** (**See**: Canadian Wild Rice – Northern Lights Foods)

- **Finally, an immediate economic possibility exists for attempting to acquire the ownership or development rights for a small-scale forest carbon offset project within, and adjacent to the southeast boundary of the OMU on approximately 5,800 ha of private (freehold) ownership lands (Map 14, Pg 27).**

- **Excellent terrain and hydrological conditions were identified for long-term opportunities for wind and hydro projects (and possibly green hydrogen once small-scale technology is proven and becomes mainstream). We identified six potential sites with suitable heights of land in proximity to existing and planned access roads that would take advantage of the prevailing northwesterly winds and, or nearby waterways. These sites are summarized in Table below (shown in detail in Maps 2 through 11)**

Item	Type	Approx Ha	See MAP #
1	Wind & Hydro in OMU only	66,665	6
2	Wind & Hydro in OMU only	87,115	7
3	Wind & Hydro in OMU only	437	8
4	Wind & Hydro Freehold within & near OMU	10,800	9
5	Wind Only in OMU	33,020	10
6	Hydro Only in OMU	5,830	11

- **We feel that the best approach to overcome the challenges identified in our Reports 1 and 2 for BTC and the ADC is to approach the Ontario Government and lobby to have the OMU become a pilot project for Crown Forests in Ontario for GHC sequestering, green energy and non-timber forest products projects.**

- **All identified green energy opportunities at a commercial/export scale need participation from all levels of Government and Regional Industry. The OMU only supplies a small portion of industrial logs to the Regional Forest Products Industry and is more suited to GHC sequestering, renewable energy and non-timber forest products without negatively impacting the industrial wood-flow. As in British Columbia (See Report 1) the Ontario Government can use these developments within the OMU to offset a major portion of their GHC emissions. This would be a win-win scenario for all.**

- **Green Hydrogen seems to be the latest trend but we could not identify any proven technologies or Projects at a scale that would be suitable in the OMU. This technology is however moving fast with a large-scale Project underway in Newfoundland. By the time the Ontario Hydro Grid is upgraded to handle forecasted demand and markets, green hydrogen may very well be part of the mix in green energy developments on the OMU. We recommend that BTC and the ODC keep current with this technology as it evolves.**

4.0 Key Challenges for Opportunities with External Markets and Growth Beyond the OMU

As in Report 1 for carbon assessment, part of our research and interviews with past Clients focussed on Renewable Energy and Non-Timber Forest Products was to evaluate what challenges particular to the OMU should be expected by the ADC and BTC should they decide to pursue any, or all opportunities. Although not an inclusive list we do feel the following three will need to be part of any evaluation going forward.

4.1 State of the Energy Grid in Northern Ontario

The main Public Utility Grid (aka Hydro) in Northern Ontario is approximately 50 to 80 km away from the OMU. The grid in the Region has only had three recent upgrades (Table 3. Pg 28) According to developers and media the grid is woefully in need of updates. Excluding hydro, Ontario currently produces 11.4% of it's supply with wind, solar and biofuels. (Table 2, Pg 28).

Ontario's current push for increasing the capacity and grid infrastructure to meet predicted demand in key growth markets in the Industrial South and the Far North mining development zone known as the Ring of Fire (Maps 2,12 & 13) seems to be focused more in Southern Ontario. On a recent Project in Northeastern Ontario where the "East-West Tie" (Table 3. Pg 28) was just completed, we identified several hydro projects very close to the new twin line for a land owner only to find that the recent twinning could not handle any new capacity!

The Ontario Government has identified hundreds of potential new Hydro sites suitable for major dams, run of river, and, or pump storage type developments and there is a plethora of identified hydro sites in and around the OMU (Map 2, Pg 14). All those in the know we interviewed estimated that it will take 4-6 years to rectify this current challenge in favour of new energy projects in the vicinity that could be connected to the major North American Grid and meet the increasing demand to replace fossil fuel power in favor of renewables.

Already the Province has developed a strategy for clean energy including biofuel and green hydrogen but it seems to be focussed away from Northern Ontario. Below is an excerpt from their Strategy Document:

"Ontario's low-carbon hydrogen strategy sets out a vision for a low-carbon hydrogen economy in our province – one where we can leverage our many strengths to develop a self-sustaining sector in Ontario, evolve our energy system, create local jobs and attract investment while reducing greenhouse gas (GHG) emissions.

Ontario's hydrogen strategy sets out a path where eight concrete and immediate actions are expected to lead to an eight-fold increase in the province's production capacity of low-carbon hydrogen and support the nascent market to meet its potential.
Ontario is well-positioned to become a leader in the low-carbon hydrogen sector. Our province's current advantages include:

- ***Clean Biofuel Resources****: Ontario's rich forest, agricultural and municipal biomass resources could be used to create low-carbon hydrogen or other renewable fuels. This includes using diverting waste streams from these sectors, as well as material from sustainably managed forests and purpose-grown crops."*
  Source: Ontario's Low-Carbon Hydrogen Strategy | ontario.ca

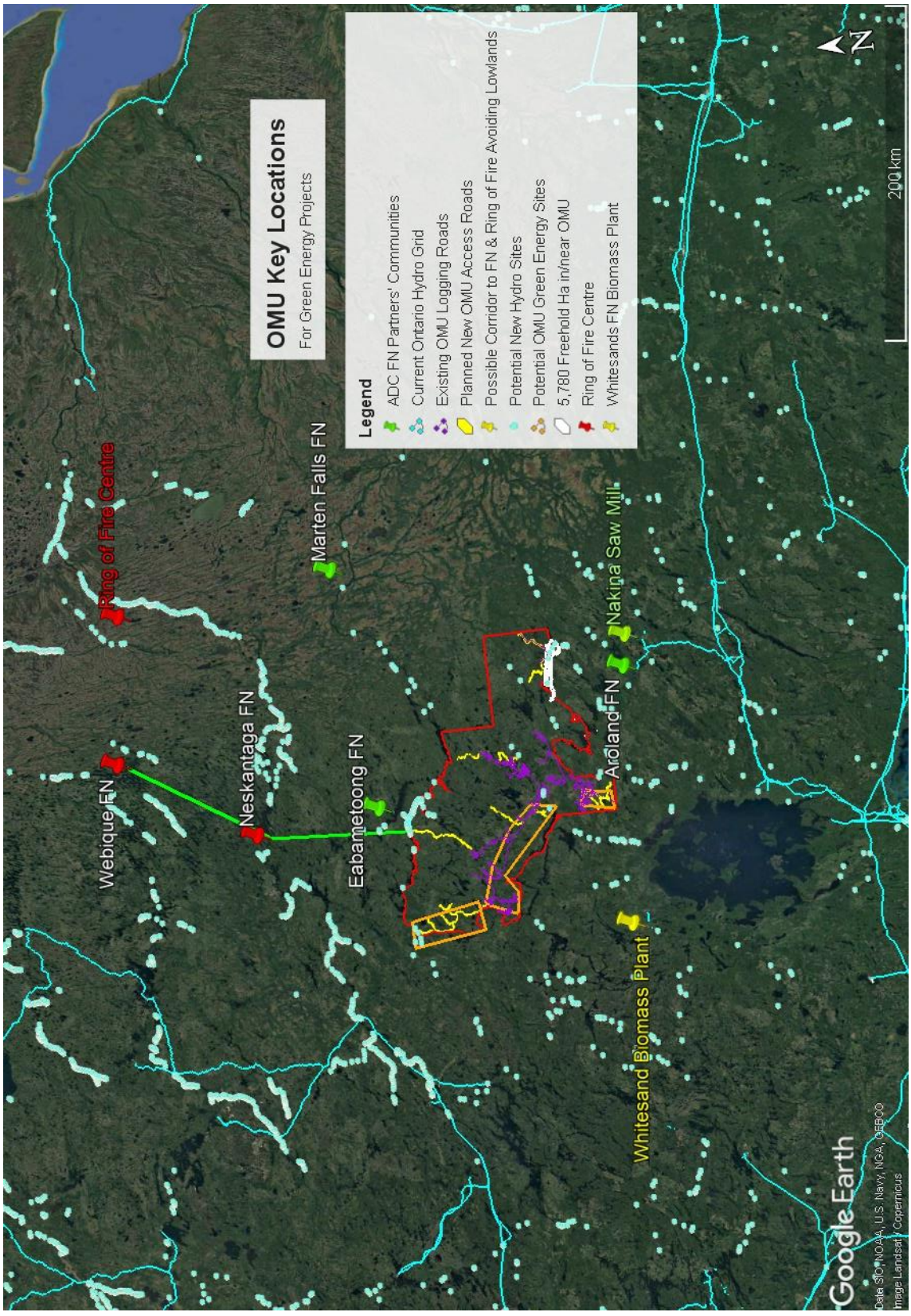
4.2 Potential for Green Energy in the OMU

Currently the OMU's potential for green energy projects are only local community based, and all will need new infrastructure to deliver energy to the nearby communities. The commercial and export energy markets beyond the OMU vicinity (including the Ring of Fire) will be several years in the making and likely include adding green hydrogen to the mix once the technology becomes mainstream. New projects will require major capital investments in grid capacity and infrastructure for roads, utility corridors and bridges.

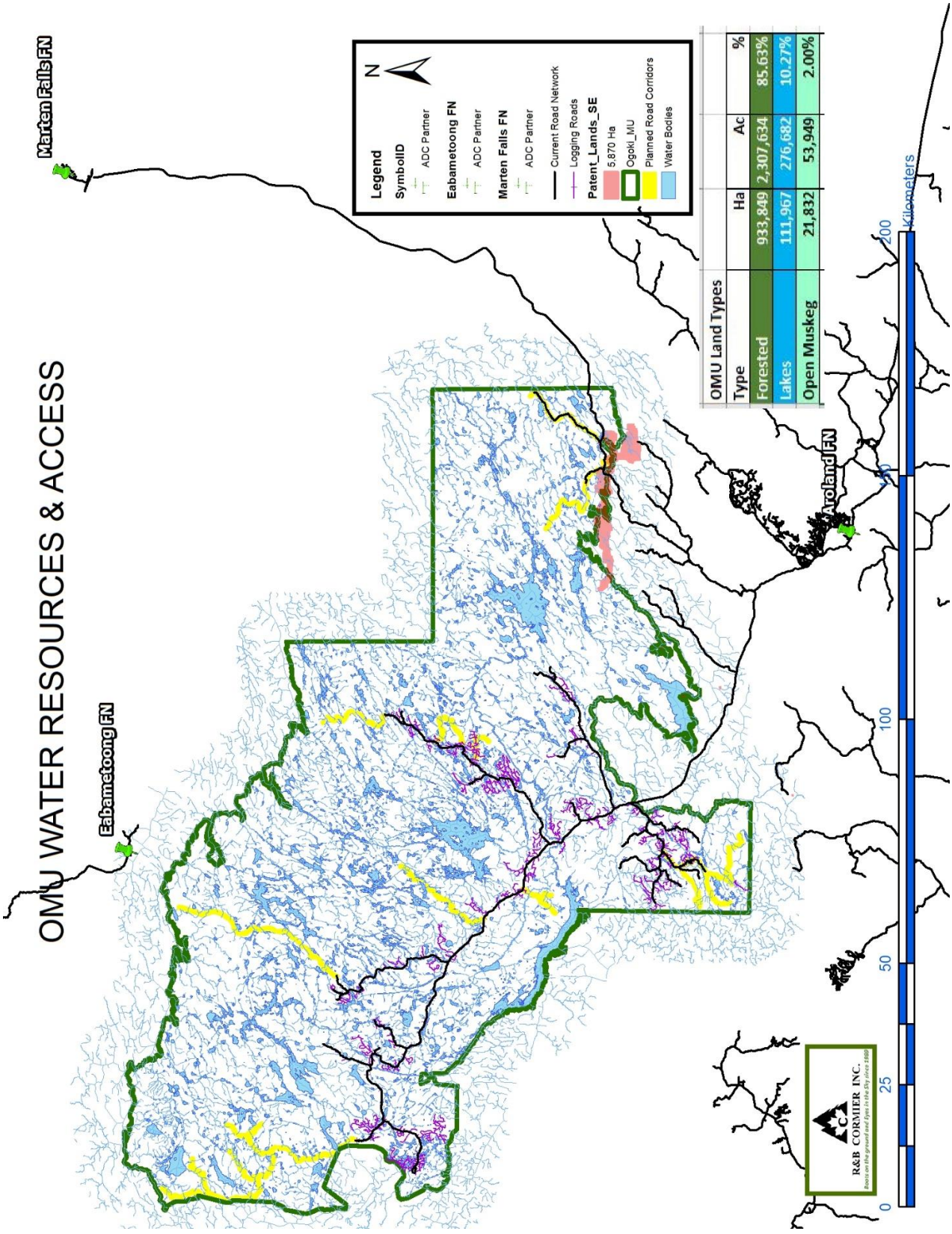
4.3 Potential for Non-Timber Forest Products & Minerals

Although there are many opportunities for non-timber forest products (flora, fauna, and others) we could not identify any opportunities that had export market potential apart from minerals for which we are not qualified, nor were requested to identify. There is however a good reason to look at minerals and rare earths considering the OMU's proximity to the Ring of Fire area nearby.

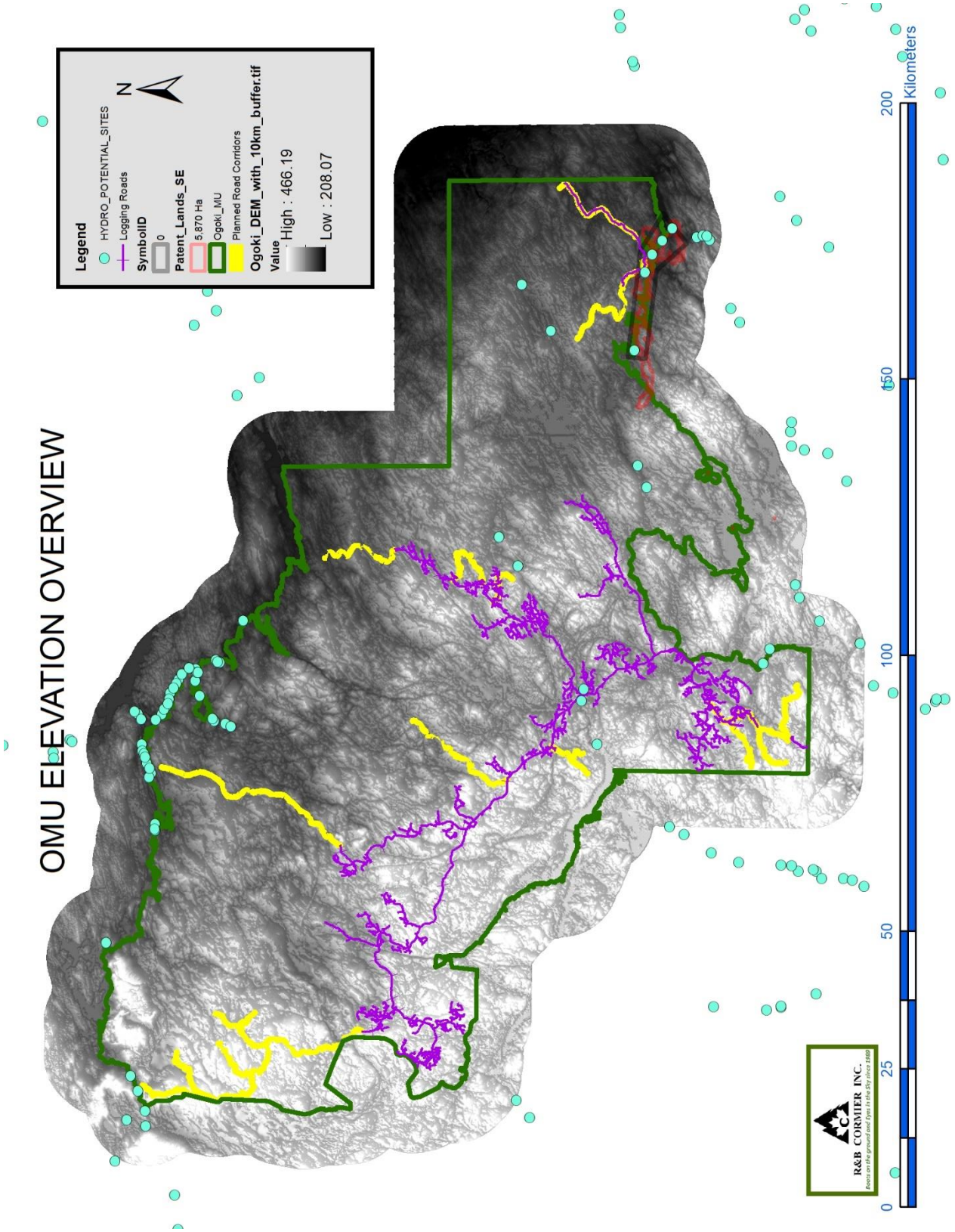
MAP 2: OMU Key Locations & Infrastructure



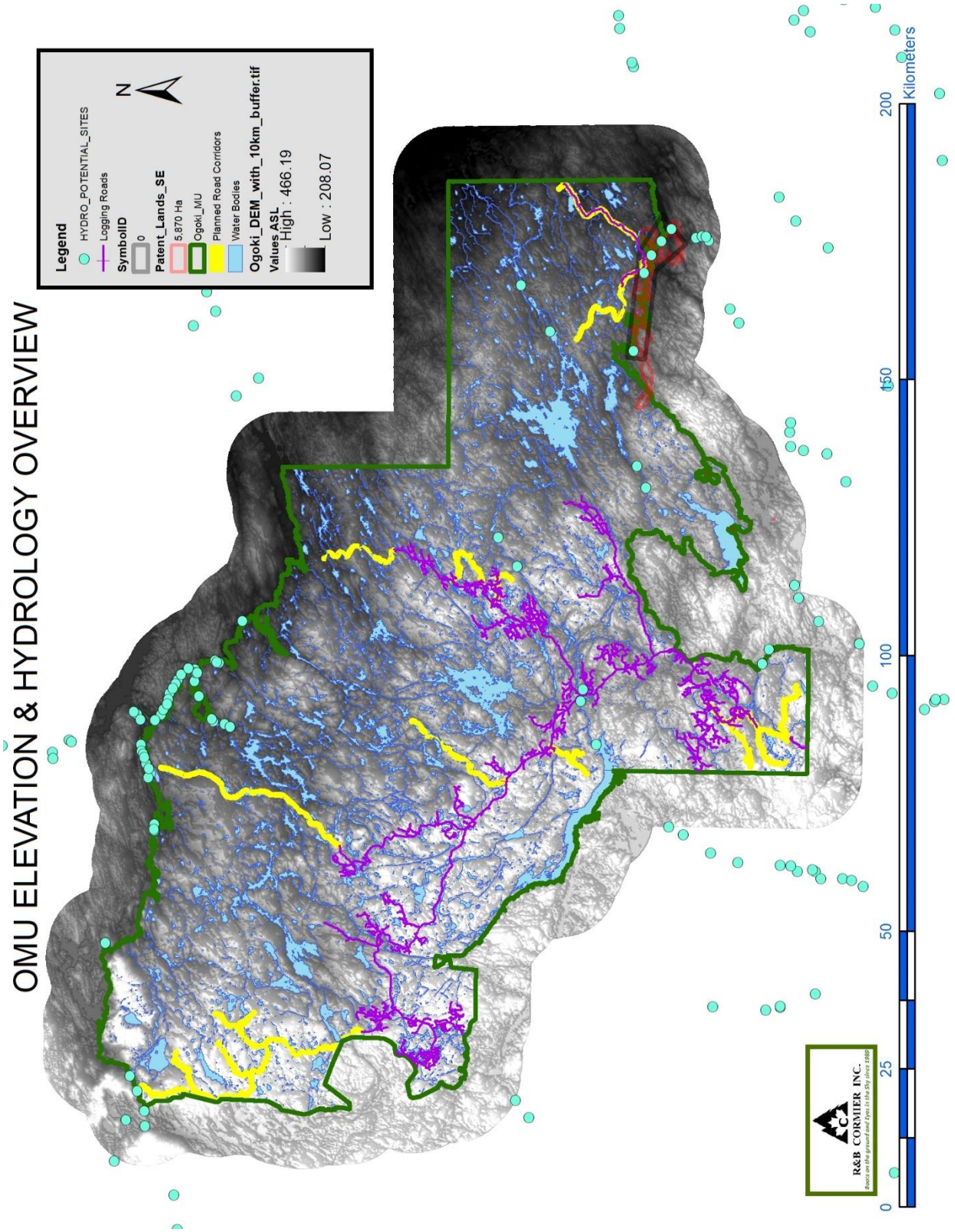
MAP 3: OMU Water Resources & Access



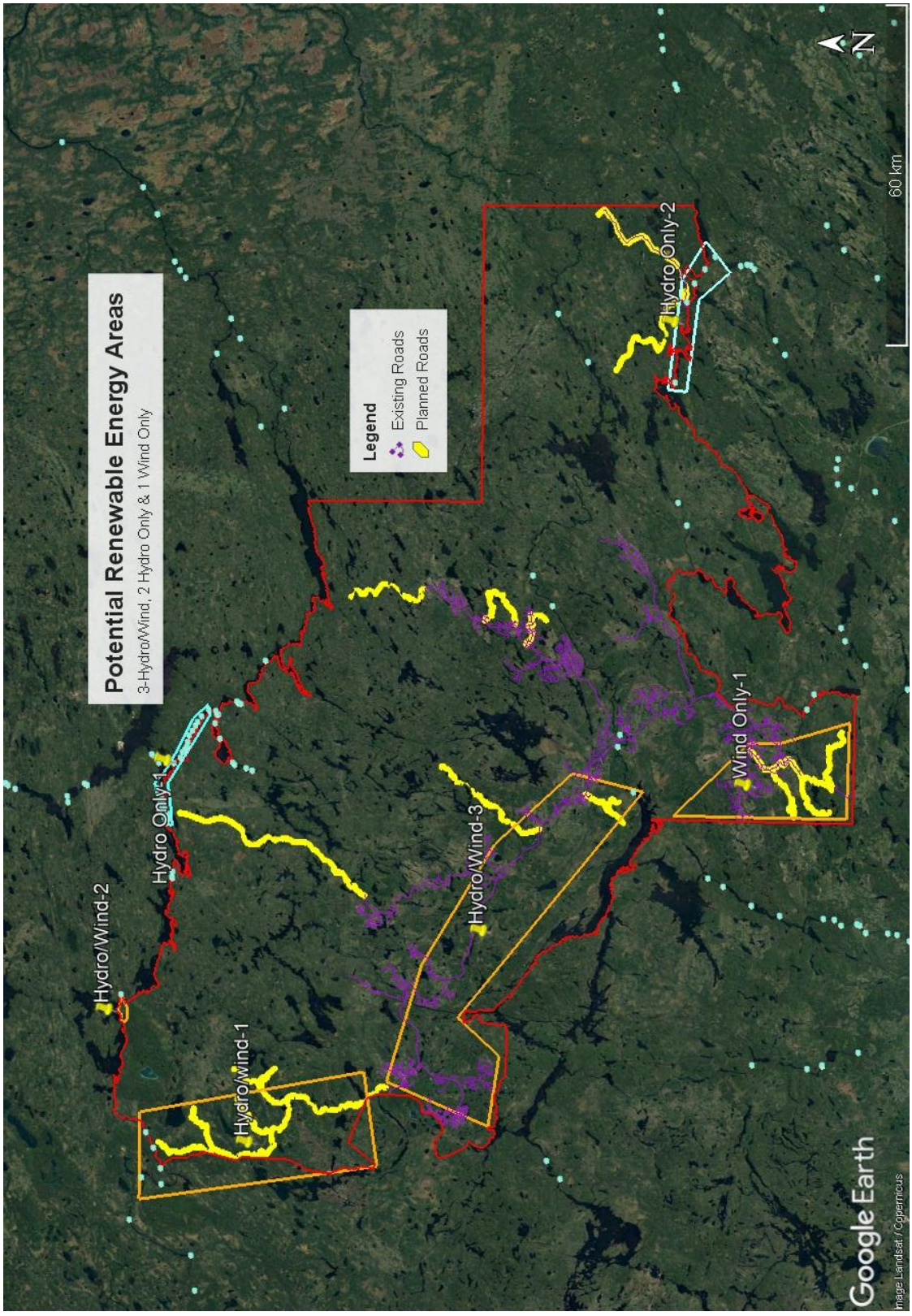
MAP 4A: OMU ELEVATIONS OVERVIEW



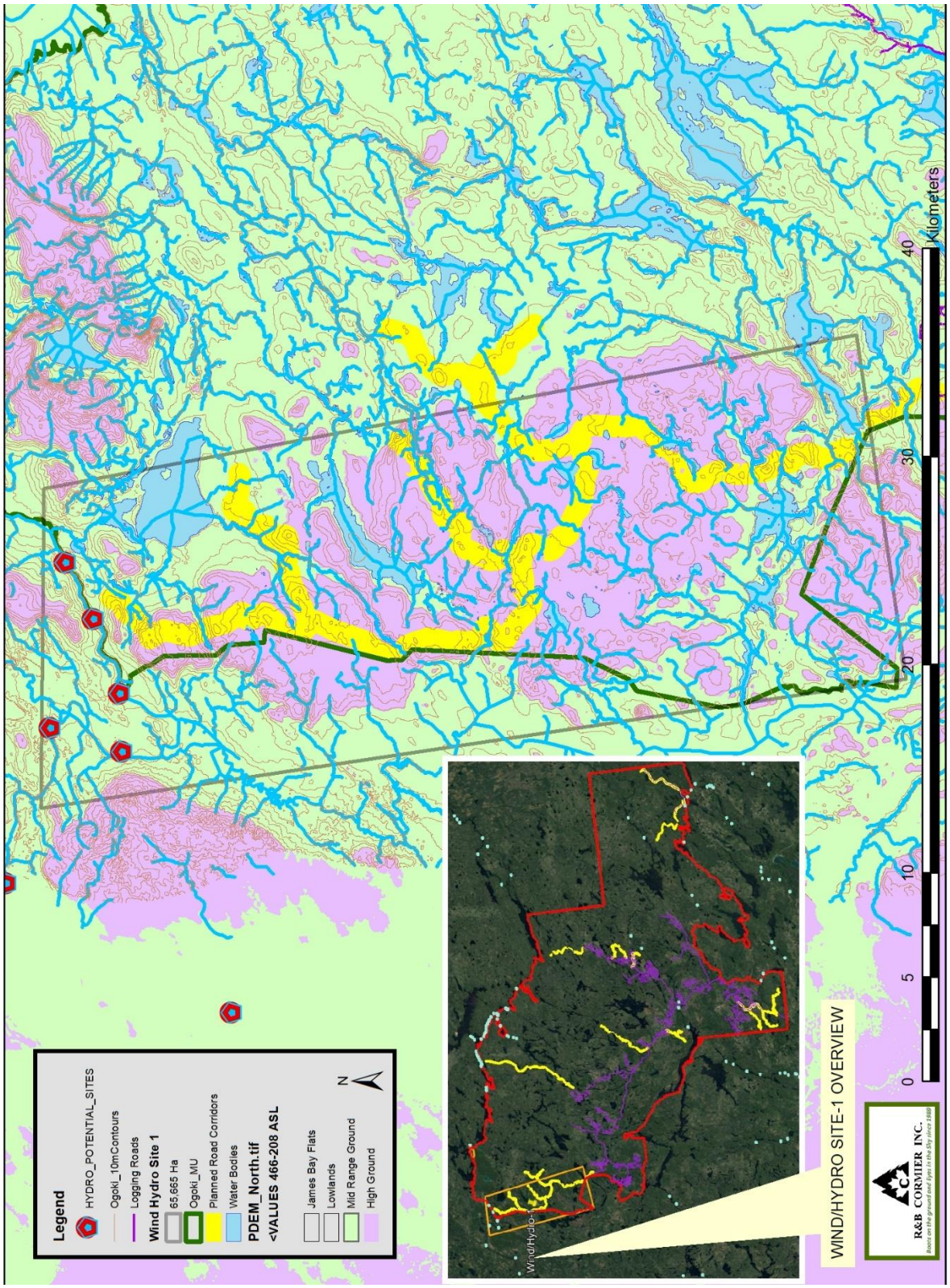
Map 4B: OMU ELEVATIONS & HYDROLOGY OVERVIEW



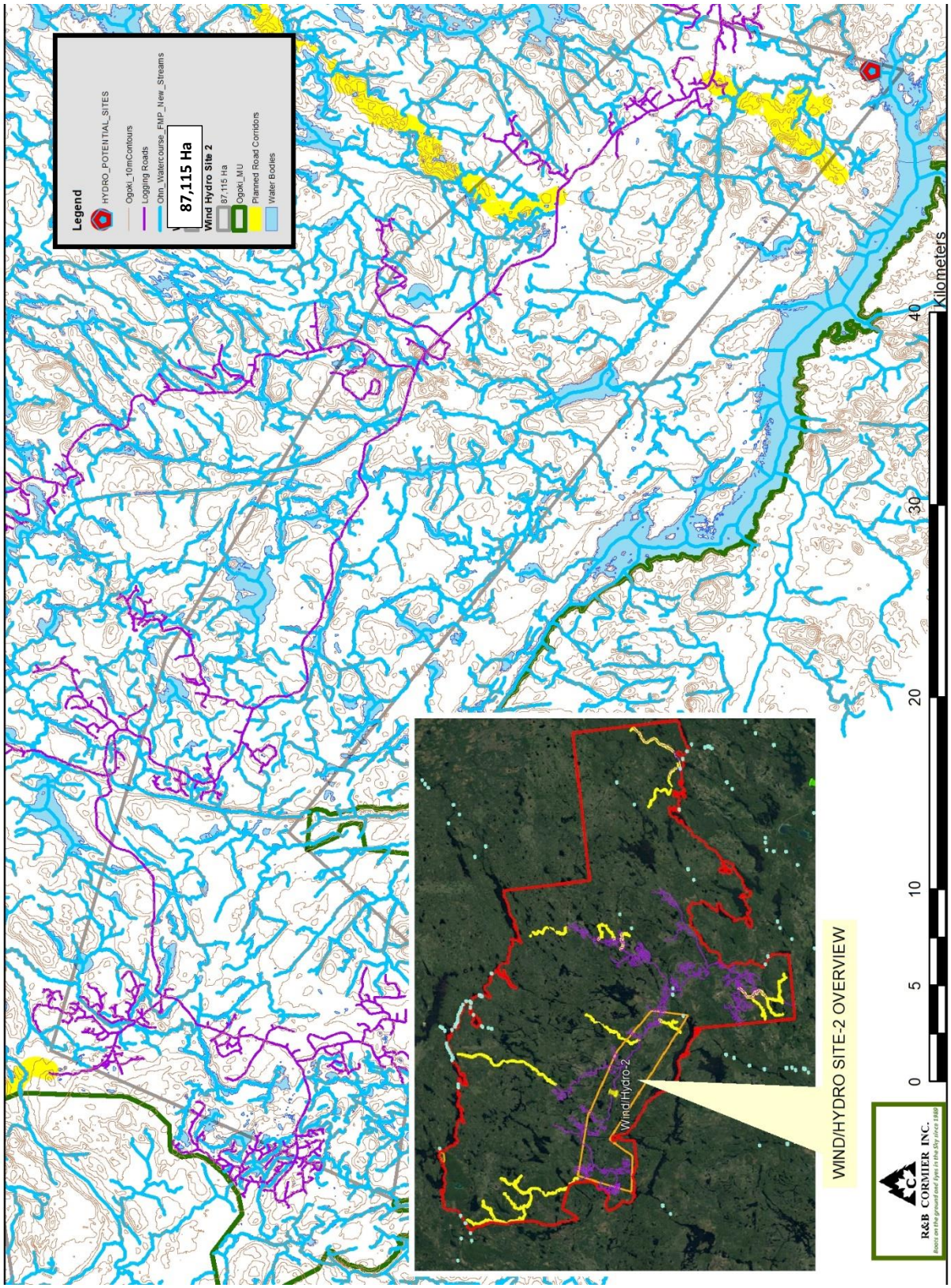
Map 5: OMU Six Possible Renewable Energy Development Areas



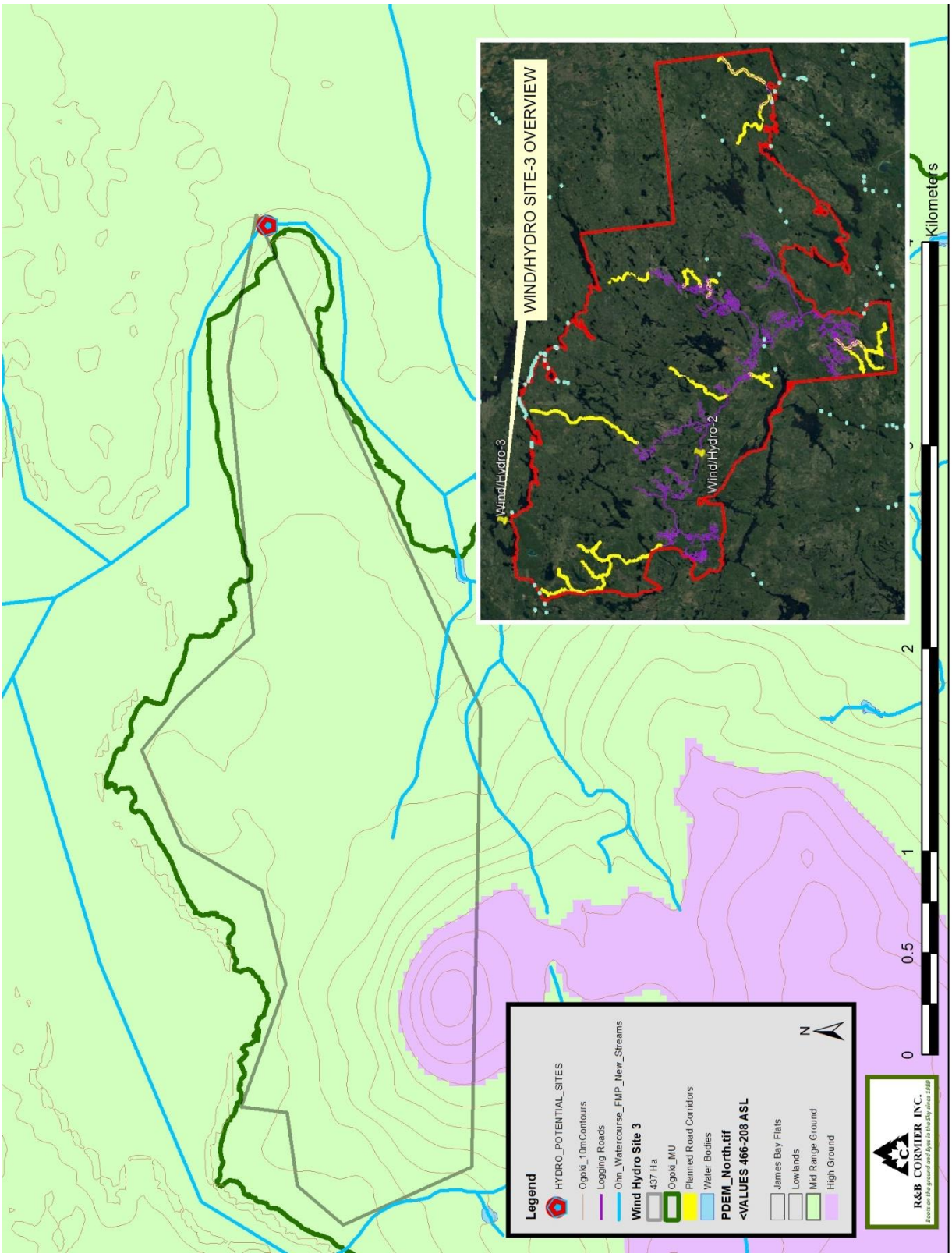
MAP 6: Energy Site 1 of 6



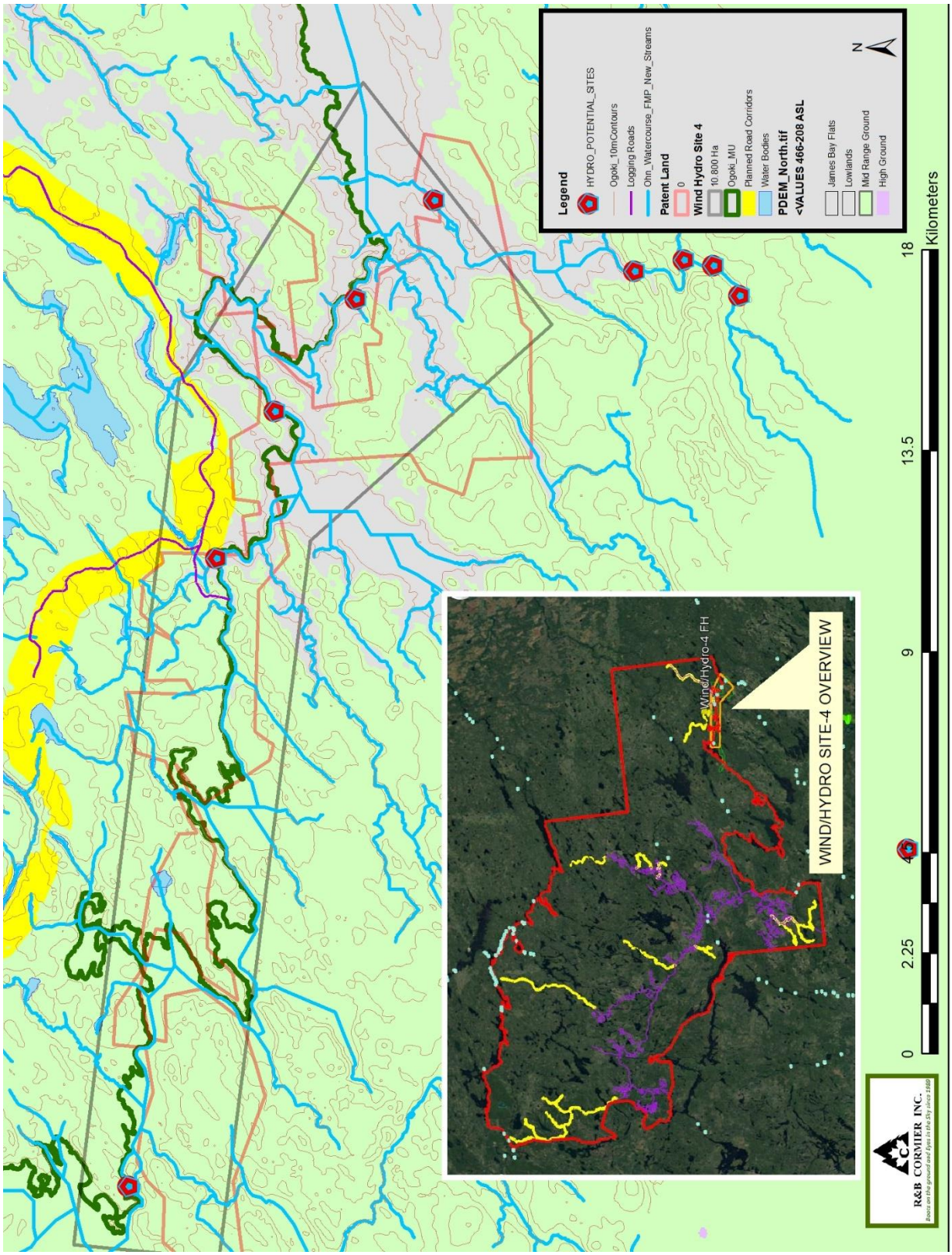
MAP 7: Energy Site 2 of 6



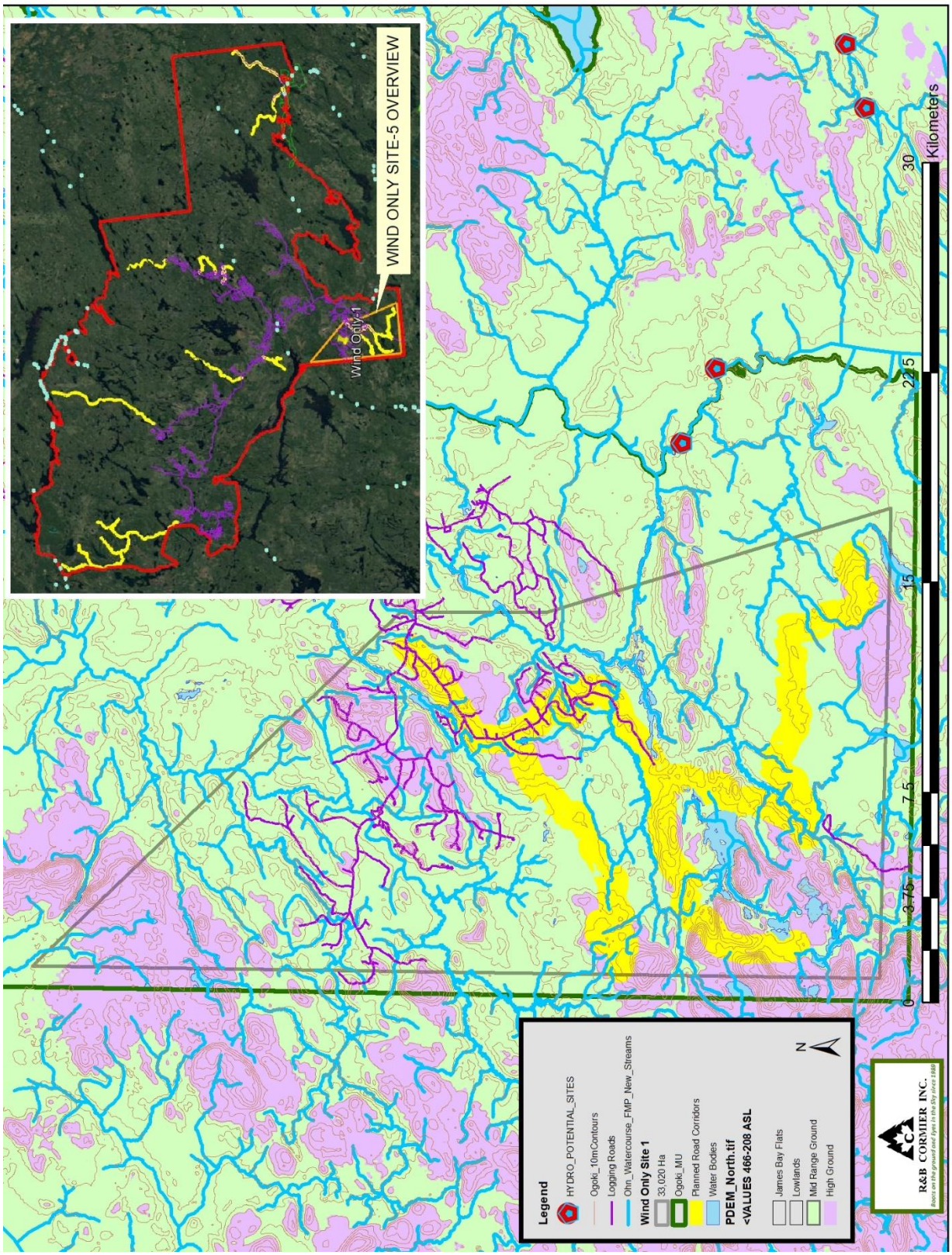
MAP 8: Energy Site 3 of 6



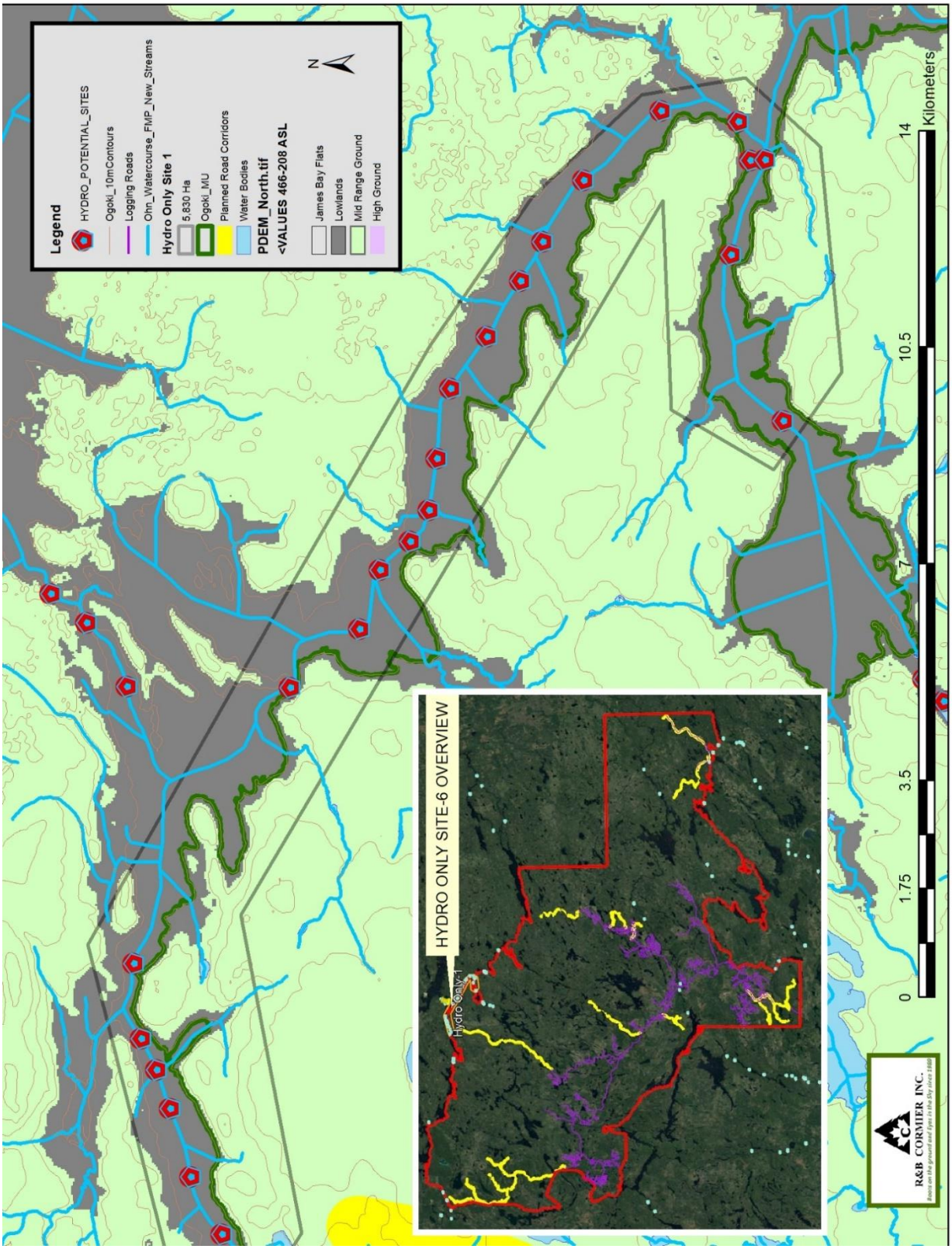
MAP 9: Energy Site 4 of 6



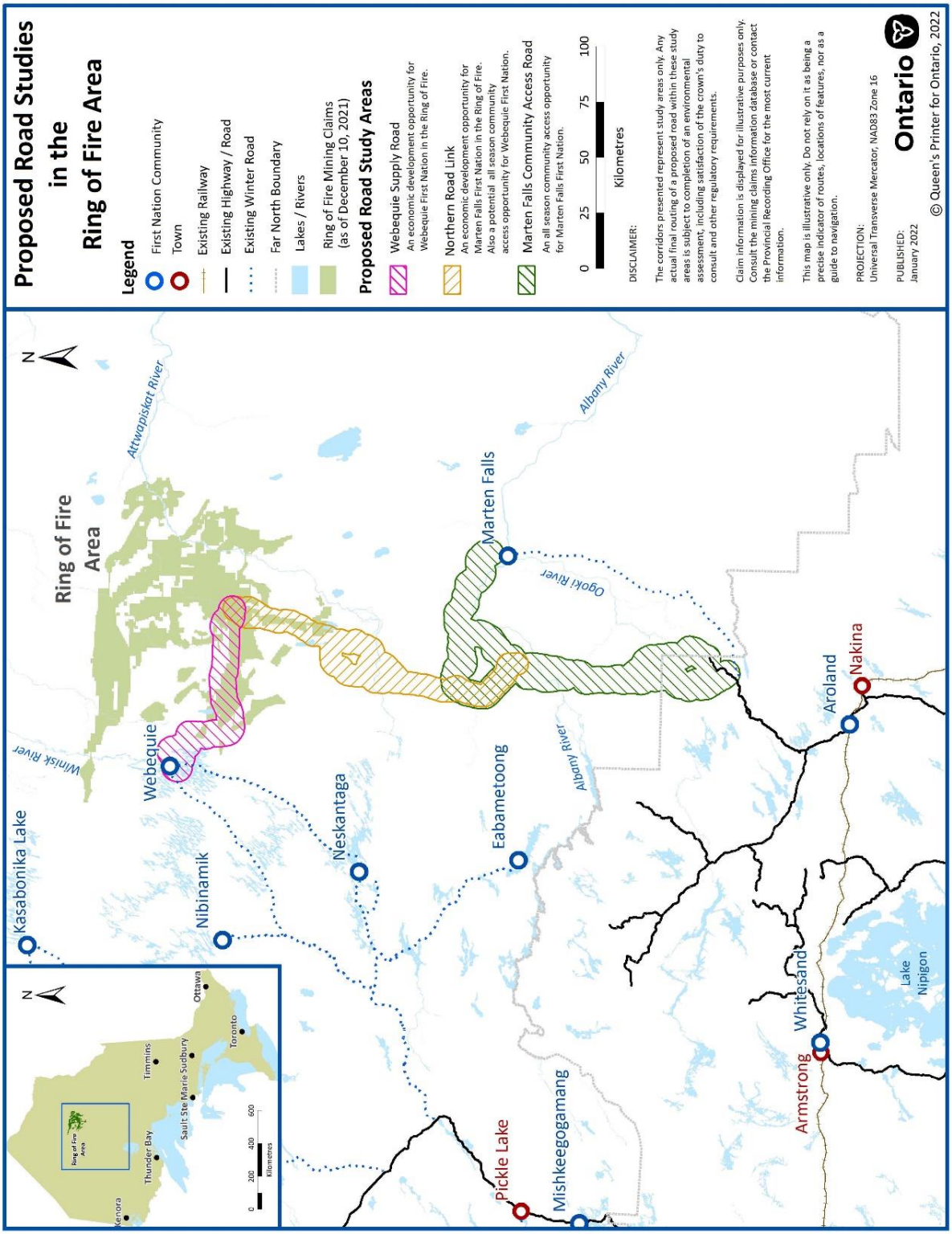
MAP 10: Energy Site 5 of 6



MAP 11: Energy Site 6 of 6

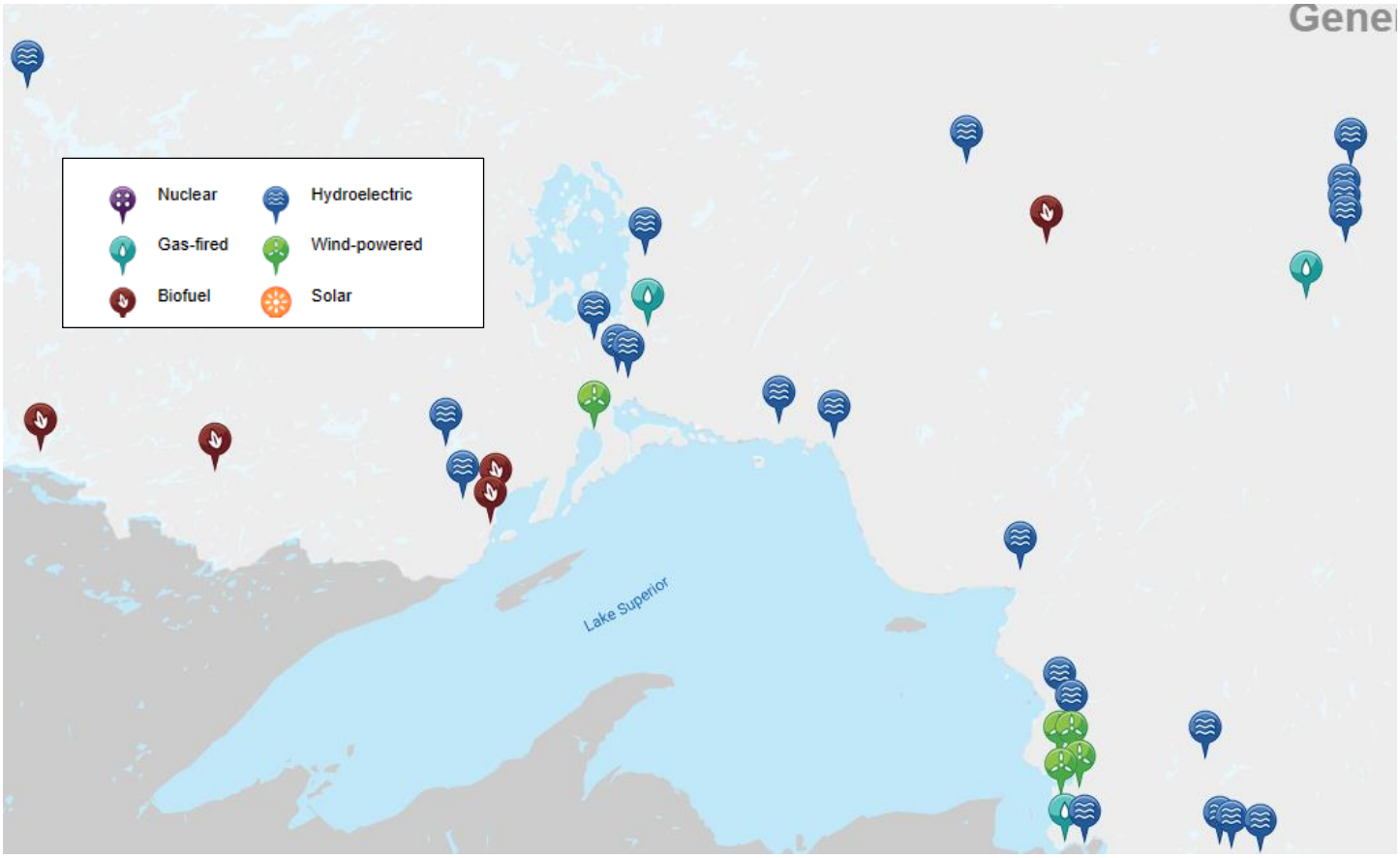


MAP 12: Ontario's Ring of Fire & Planned access Roads



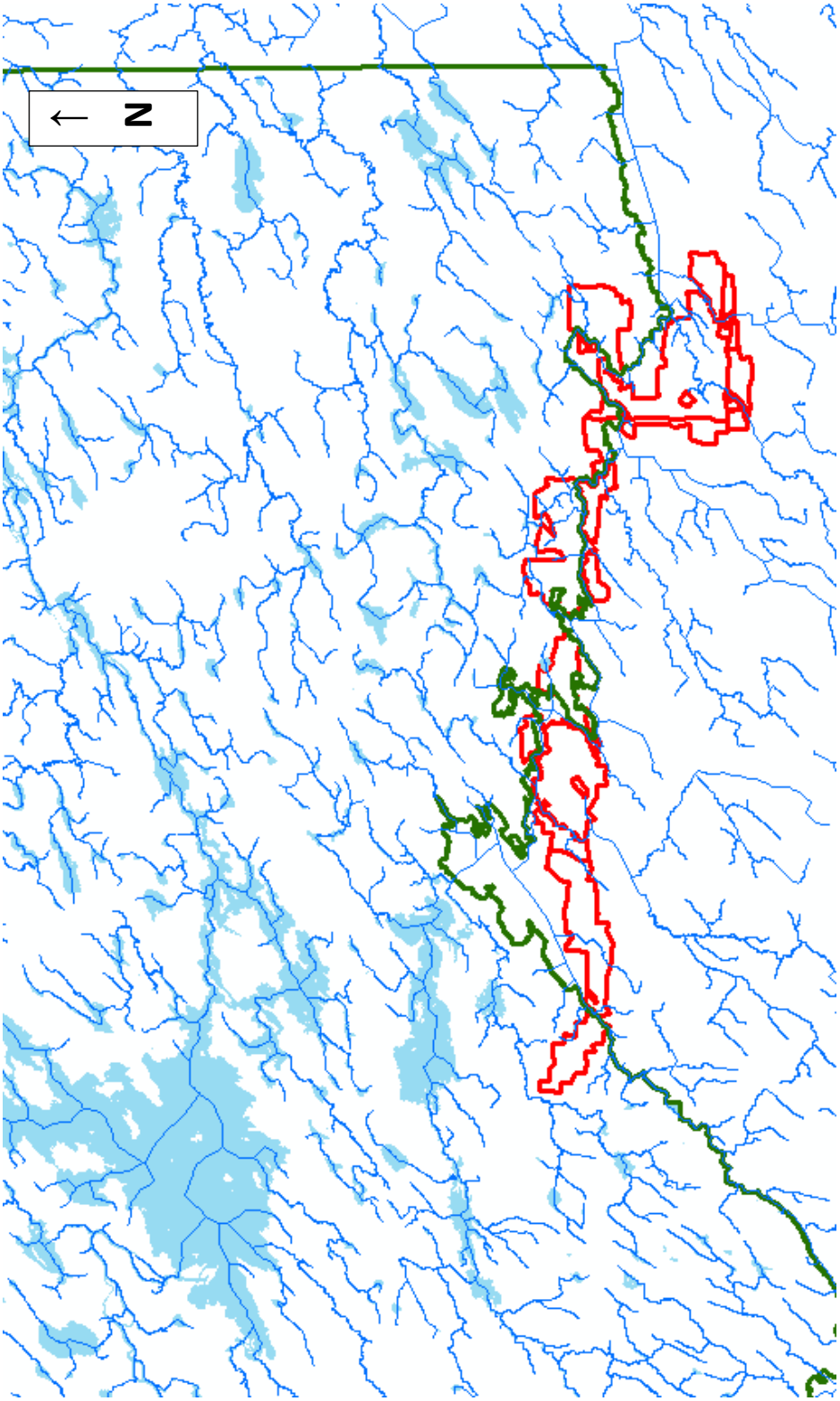
Source: [ndmnrf-ring-of-fire-study-map-area-en-4224x3264-2022-02-02.jpg (4224×3264) (ontario.ca)]

MAP 13: Existing Energy Producing Facilities in Region



Source: [Ontario's Electricity System (ieso.ca)]

MAP 14: Location 7,157 Ha Freehold Forested Lands Within & Near the OMU



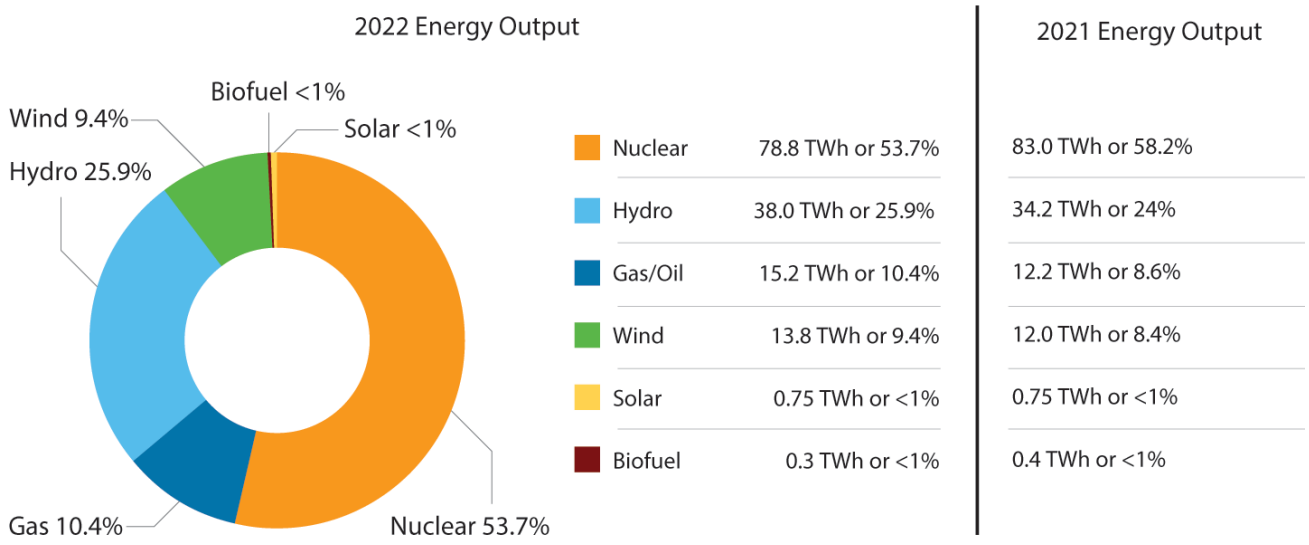
Source: Green Forest Management Thunder Bay, Ontario GIS Department

4.0 Tables/Graphs

Table 1: OMU Unutilized AAC

ONTARIO AVAILABLE WOOD REPORT - March 2023 (thousands cubic metres per year)											
REGION	**MANAGEMENT UNIT**	**MERCHANTABLE**									
Northwest	Ogoki Forest	**BW**	**CE**	**OC**	**PO**	**PWR**	**SPF**	**TOL**	**Total All**	**Total Hdwd**	**Total Sftwd**
		27	2	29	(12)	-	-	-	46	15	31
		UNMERCHANTABLE									
		BW	**CE**	**OC**	**PO**	**PWR**	**SPF**	**TOL**			
		11	-	17	84	-	207	-	319	95	224
									365	**110**	**255**
Source: https://www.ontario.ca/page/wood-available-ontario											

Table 2: Ontario's 2022 Energy Output Types



Source: [Transmission-Connected Generation (ieso.ca)]

Table 3 Most Recent Power Grid Work in Region

Northwest	N/A	Hydro-One	Ear Falls TS: EOL T5, Asset Replacement Project	2024 Q3
	2016-596	Hydro-One	Longlac TS: Relocate	2024 Q3
	N/A	Hydro-One	East-West Tie: Network Transfer Capability	2024 Q4

6.0 Author's Key Findings, Recommendations and Challenges

Based on our Report 1 Forest Carbon Offset Assessment for the OMU, our past work on energy, non-timber forest products and a land cover analysis we identified possible new economic initiatives that could be pursued by the ADC and BTC for further economic opportunities.

6.1 New Biofuel Energy Plant in Eabametoong FN

The best, and most immediate opportunity with an identified need is with one of the partners in the ADC. **The current electricity for the Eabametoong FN Community is fossil fuel generated and far removed from the Ontario Power Grid (Map 2, Pg 14). The Community could emulate the 6.5-megawatt biomass heat and power plant under construction on the Whitesand FN near Armstrong, Ontario**. (see Indigenous biomass heat and power plant lands $35 million from Ottawa - Northern Ontario Business)

Eabametoong is an ADC Partner and is (currently) only accessible by air or winter road from the north. The northern terminus of a new planned logging road on the OMU is 15km southwest of the Community. The main challenge is that it would require a few new bridges to cross the Albany River to reach the Community and may require that the ADC to convert harvesting operations to treelength processing for biomass & chips.

The OMU has a surplus of 319,000 M^3/yr of unmerchantable wood (no current markets due to species. size & grade) and is suitable mostly for biomass heat & power, especially the 95,000 M^3/yr of poplar and some high BTU/molecular density white birch (Table 1, Pg 28).

6.2 Commercialize Organic Wild Rice Within the OMU

The next best and immediate opportunity we identified with the OMU is the development of a commercial sized organic wild rice business. There is current sustenance level harvesting of fish, game, and edibles now within the OMU, but none have true export market potential nor the foreseen growth in demand as with wild rice. The existing and planned logging roads and their 110,000+ ha of lakes could make the OMU a major player in the wild rice market internationally and emulate a large Saskatchewan Producer. (**See**: Canadian Wild Rice – Northern Lights Foods)

"Wild Rice Market was valued at around USD 392.09 million in 2022 & estimated to reach USD 519.45 million by 2029. 2. What is the growth rate of the Wild Rice Market? Wild Rice Market is likely to grow at compounded annual growth rate (CAGR) of 4.1% between 2023 to 2029."
Source: Google.

6.3 Partner with Ontario Govt & Industry to Upgrade Grid & New OMU Project

All identified green energy opportunities at a commercial/export scale need participation from all levels of Government and Industry. The OMU only supplies a small portion of industrial logs to the regional forest products industry and is more suited to GHC sequestering, renewable energy and non-timber forest products without negatively impacting the industrial wood-flow. As in British Columbia (See Report 1) the Ontario Government can use these developments within the OMU to offset a major portion of their GHC emissions. This would be a win-win scenario for all.

6.3.1 Planning for a Future to Include Green Hydrogen

Green Hydrogen seems to be the latest trend but we could not identify any proven technologies or Projects at a scale that would be suitable in the OMU. This technology is however moving fast with a large-scale Project under development in Newfoundland. By the time the Ontario Hydro grid is upgraded to handle forecasted demand and markets, green hydrogen may very well be part of the mix in green energy developments on the OMU. We recommend that BTC and the ODC keep current with this technology as it evolves.

7.0 Recommended Reading & Web Links:

Canadian Wild Rice – Northern Lights Foods

2030, Wild Rice Products Market Size | Industry Report 2023 - MarketWatch

Producing hydrogen in Canada

Newfoundland's dreams of a wind-powered hydrogen future are starting to take shape - The Globe and Mail

About – WorldEnergyGH2

ON-and-QC-Newsletter_Winter2022_FINAL.pdf (enbridge.com)

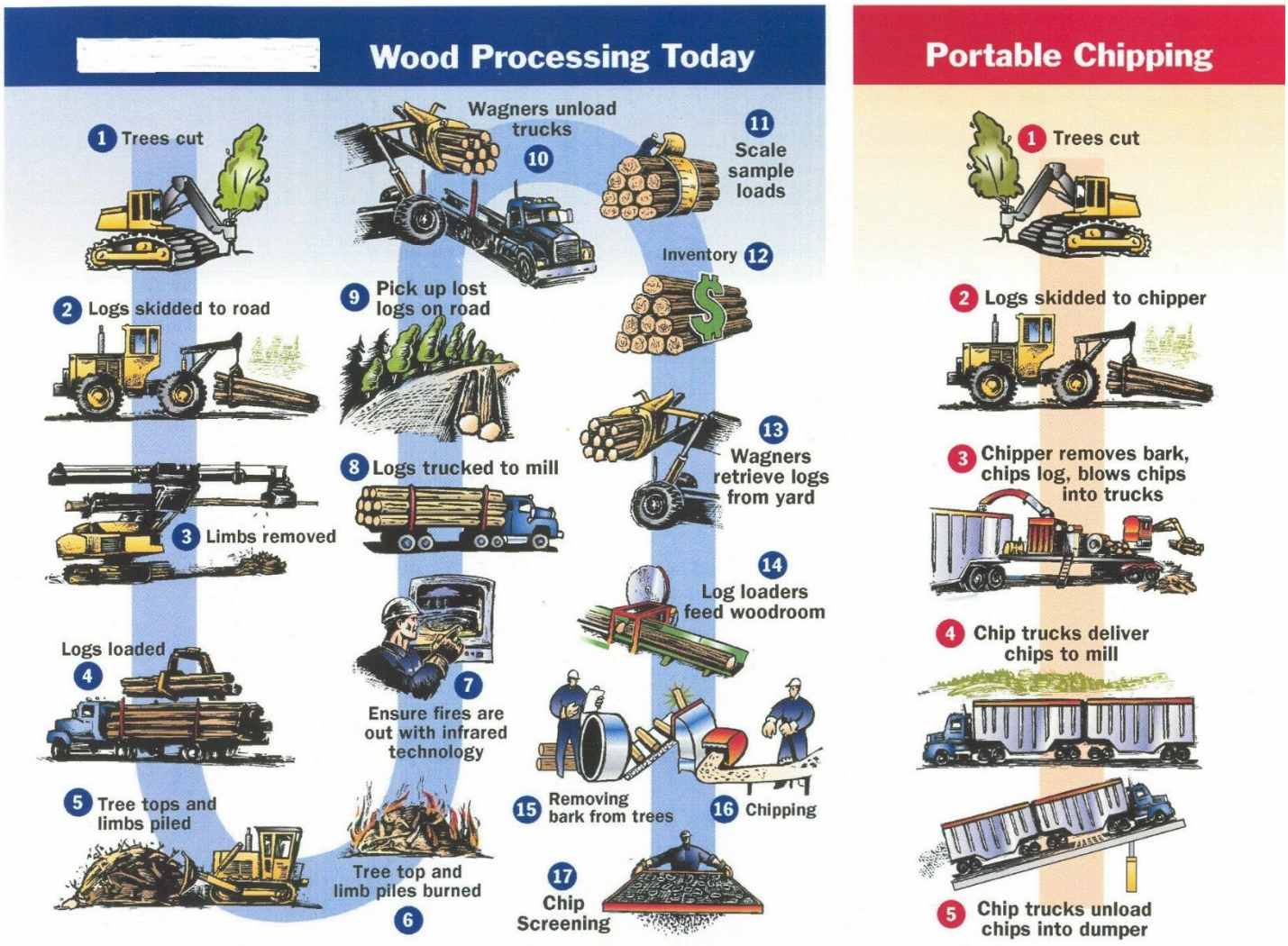
NextBridge Infrastructure East-West Tie Transmission Line Project

Marten Falls chief wants housing and water issues fixed ahead of Ring of Fire mining - Sudbury News

Bearskin Lake First Nation added to Wataynikaneyap Power line - NWONewsWatch.com

APPENDICES

1. In-Bush Chipping vs Conventional Biomass Logging



Source: Mario Letourneau & Ray Markham c/o Macri Logging, Thunder Bay, Ontario ↑

No-Market treelength chipping for hog fuel ↑

Treelength de-barking & chipping for pulp or biomass chips ↑

Typical Equipment Required for Tree Length Hog Fuel & Clean Chipping:

↑ Grapple Skidder

↑ Combo Harvester/Loader

↑ Portable De-Barker & Chipper

↑ Portable Tree & Limb Grinder

↑ Chip/Hog Hauling Vans

↑ On Site Chip Grading Station