Bluesource – Greenleaf Improved Forest Management Project

November 10, 2020

ACR 506

Prepared by: Bluesource

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A. PROJECT OVERVIEW

A1. PROJECT TITLE

The project title is "Bluesource – Greenleaf Improved Forest Management Project".

A2. PROJECT TYPE

This project is to be registered under the American Carbon Registry Standard[1] (ACR, 2019) as an Improved Forest Management (IFM) project, under an approved ACR Improved Forest Management Methodology.[2]

A3. PROOF OF PROJECT ELIGIBILITY

Eligibility for this Improved Forest Management project has been determined with reference to the ACR Standard Version 6.0 and Improved Forest Management for Non-Federal U.S. Forestlands Version 1.3. The Bluesource – Greenleaf Improved Forest Management Project meets all relevant eligibility requirements as described in Table A 3.1 below.

Table A3.1. Project Eligibility Requirements

Eligibility Requirements	**Proof of Eligibility**	**Reference**
Ownership Type	The project ownership is private non-federal U.S. forestland.	See section G1. PROOF OF TITLE
Project proponent has third-party certification or no commercial timber harvesting	The project proponent is certified under the Green Timber Tree Farm Group.	See also section A5.1. Background Information
Project area meets the definition of Forestland condition as per USFS FIA program definition	Per the ACR Forest Carbon Project Standard, the project meets the definition of forestland through a minimum of 10% forest cover (or equivalent stocking) by live trees of any size.	See also section A4. LOCATION
Project start date	The project start date of April 11, 2019 coincides with the signing of the Carbon Marketing & Development Agreement between Greenleaf Timber Holding, Inc and Bluesource. This has been provided separately for verification purposes. The project Start Date complies with requirements of the ACR protocol, that the project must have a	See also section H1. START DATE.

[1] ACR. 2019. American Carbon Registry Standard, Version 6.0. American Carbon Registry, Arlington, VA, USA.
[2] ACR. 2018. Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal Forestlands, Version 1.3, April 2018, American Carbon Registry, Arlington, VA, USA.

	validated/verified Start Date of January 1, 2000 or after.	
Project term	The project proponent commits to maintain the carbon project scenario stocking levels on the project area at least for the required Project Term of 40 years.	See also section H2. PROJECT TIMELINE.
Crediting Period	In compliance with ACR Standard Version 6.0, the crediting period for the project is 20 years.	See also section H2. PROJECT TIMELINE.
Real	GHG removals are quantified based on inventory of the standing stock in the project area at the time of verification.	See also sections D. MONITORING PLAN and E. QUANITIFCATION
Land Title	For all areas included in the project, long term land titles have been issued and ownership is thus clear, unique, and uncontested.	See also appendix A. Landowner and Contracts.
Direct Emissions/ Offset Title	GHG emission reductions generated by the project activity are generated from forest carbon sources and sinks over which Greenleaf Timber Holding, Inc (see Appendix A: Deeds and Contracts) holds exclusive ownership rights. Greenleaf Timber Holding, Inc holds title to all lands in the project area (see Section G below) and all rights to carbon credits/offsets produced through management of forests in the project area (see Appendix A, Deeds and Contracts).	See also section G2. CHAIN OF CUSTODY
Additionality	Additionality for the project has been shown through a regulatory surplus test, a common practice test, and an implementation barrier test.	See also section C. ADDITIONALITY
Permanent	The long-term setup, risk analysis, and buffer establishment assure permanence of the project benefits.	See also section B8. PERMANENCE.
Net of Leakage	Possible leakage effects due to activity shifts are quantified and deducted from the GHG benefits.	See also section E3. LEAKAGE.
Independently Validated and Verified	In accordance with ACR methodology, the project benefits will be verified by SCS Global Services.	
Community and Environmental Impacts	Impacts on community and environment were analyzed in	See also section F. COMMUNITY &

	accordance with the ACR Standard 6.0, net positive impacts were confirmed.	ENVIRONMENTAL IMPACTS

A4. LOCATION

A GIS shapefile of the project area, "Greenleaf_Boundary.shp" was provided separately for verification. This shapefile gives unique identification and delineation of the specific extent of the project. Vicinity map (Figure A-1.) gives project location and latitude/longitude coordinates. Figure A-2. shows the Bluesource – Greenleaf Improved Forest Management project in the context of local hydrology. The canopy cover map (Figure A-3.) clearly shows that the project meets the US Forest Service definition of forestland (at least 10% tree cover) as forest covers the majority of the project area. Non-forested acres were removed from the project to a minimum mapping unit of 2.5 acres. A topographic map, Figure A-4. is also provided as a reference. The roads map, Figure A-5. shows the public and private roads near and on the property, additional foot trails may exist that are not mapped. The ownership map, Figure A-6 shows the extent of land owned by Greenleaf Timber Holding, Inc.

Figure A-1. Vicinity Map with Latitude and Longitude

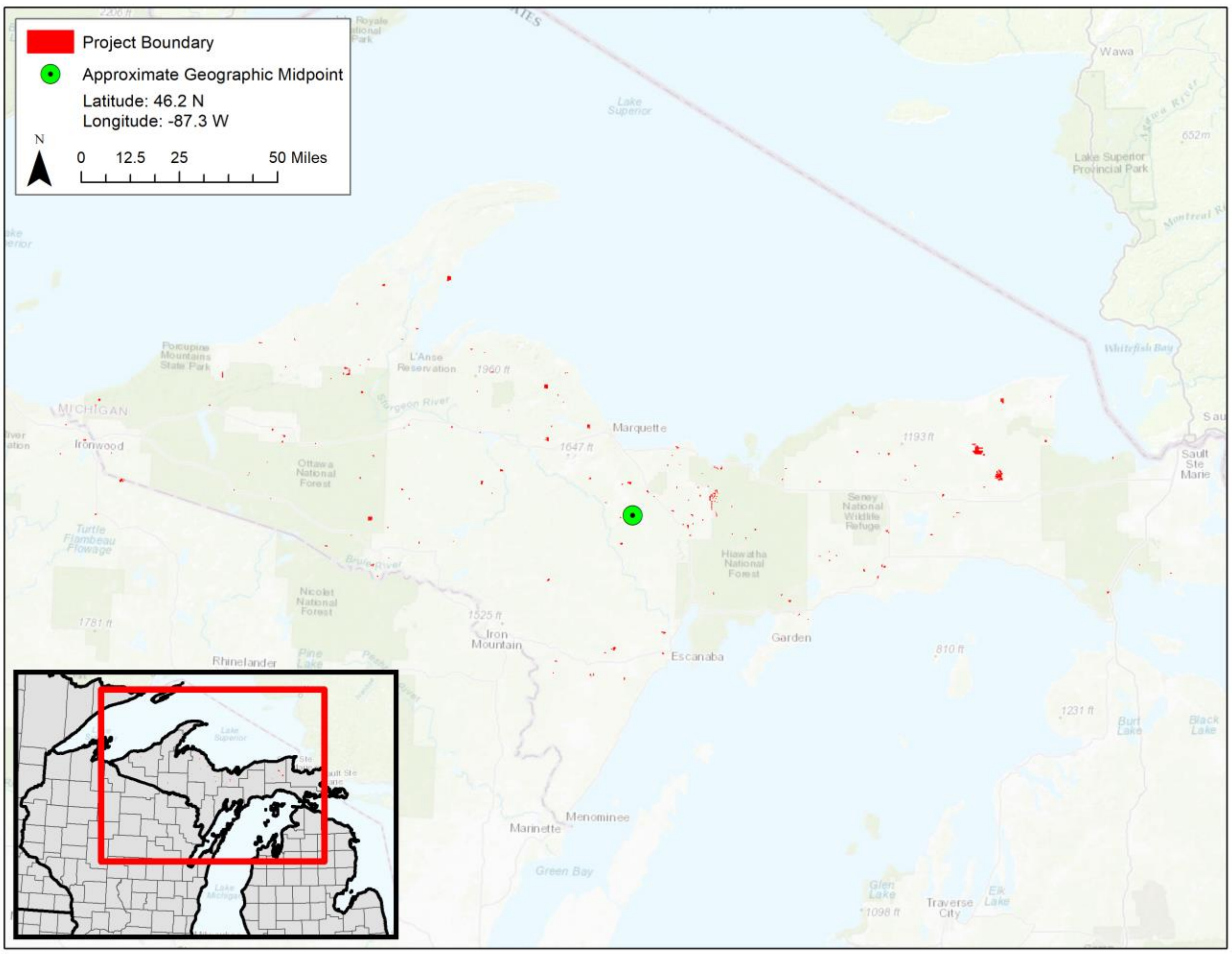
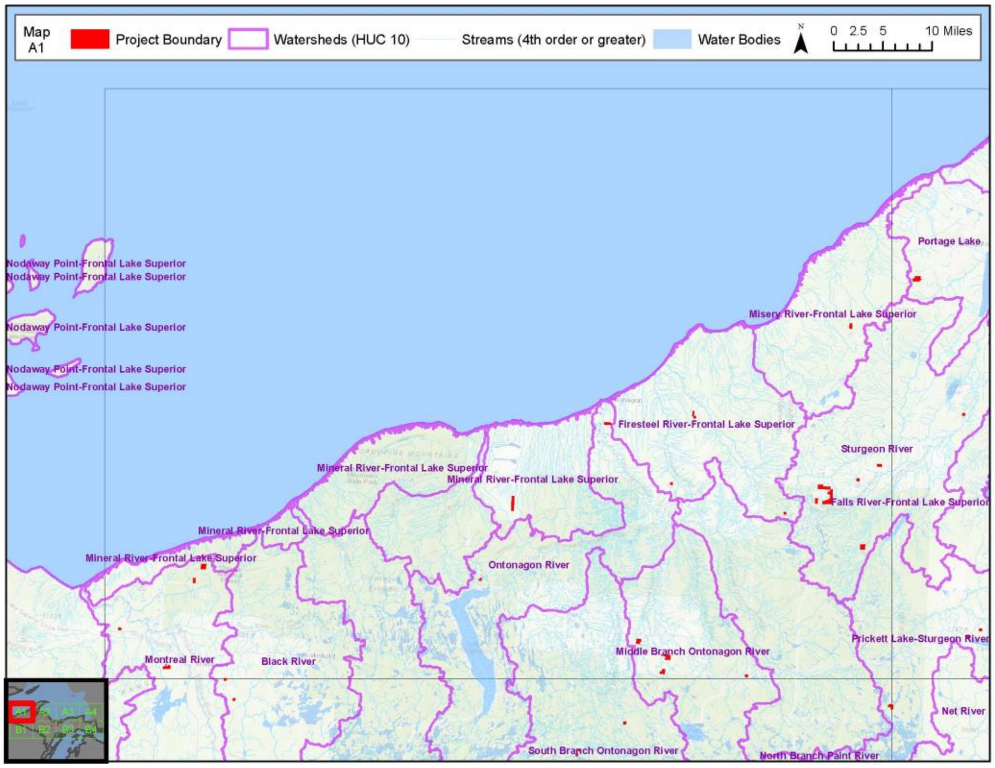
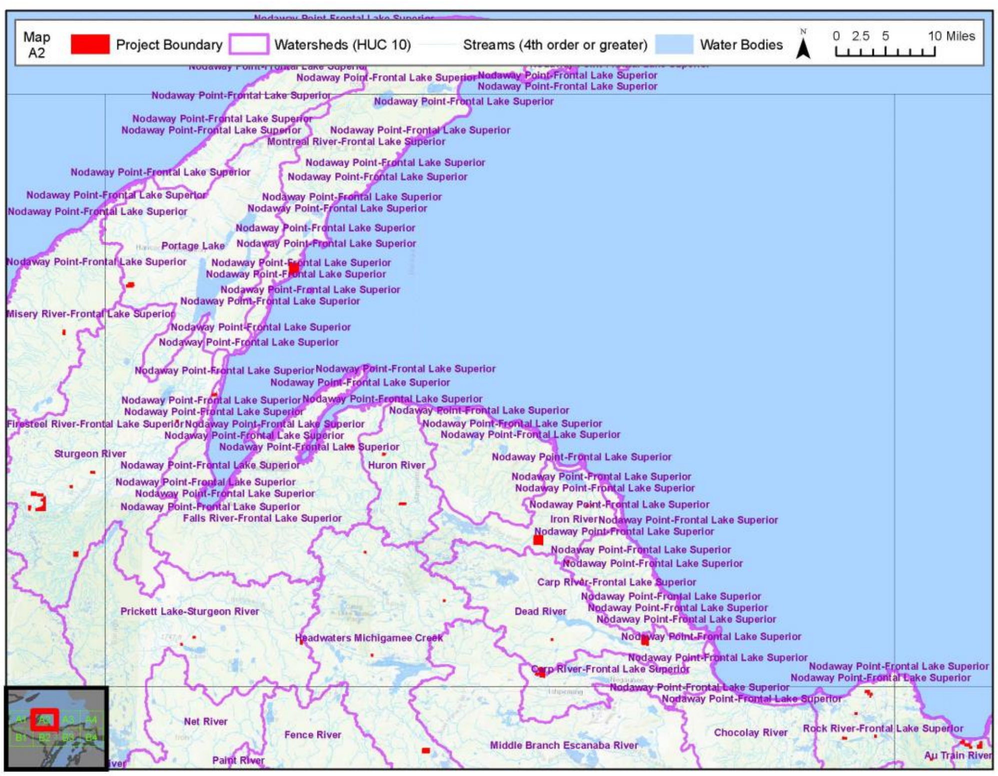
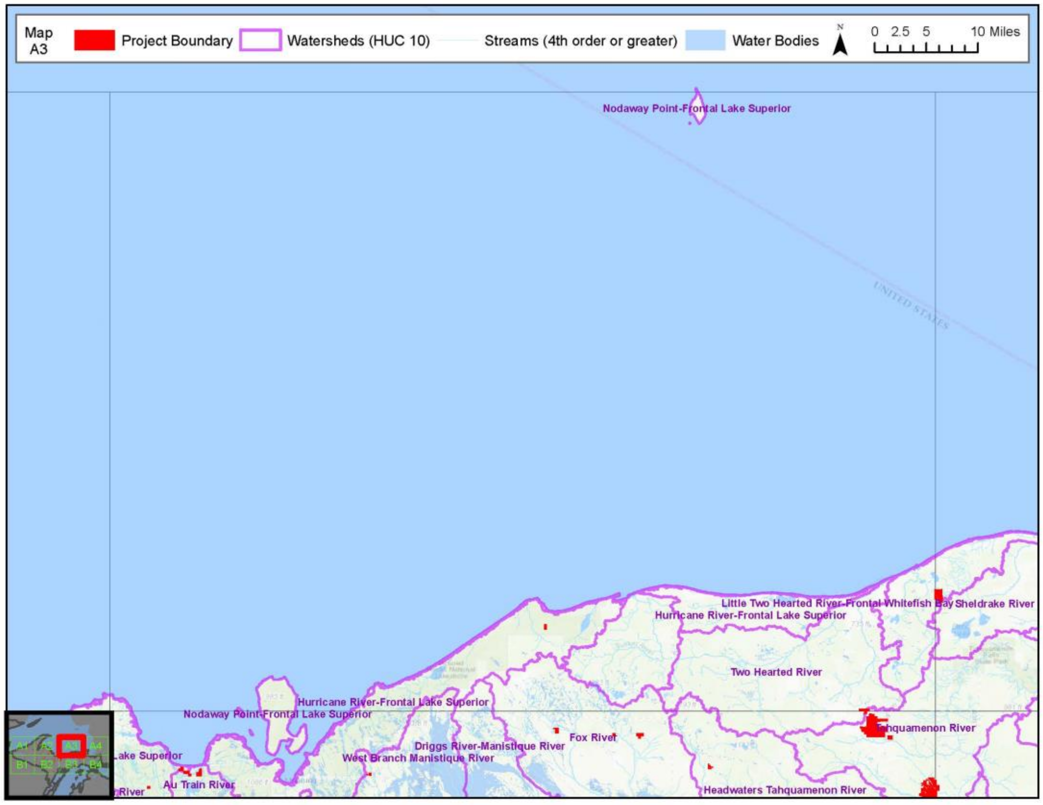
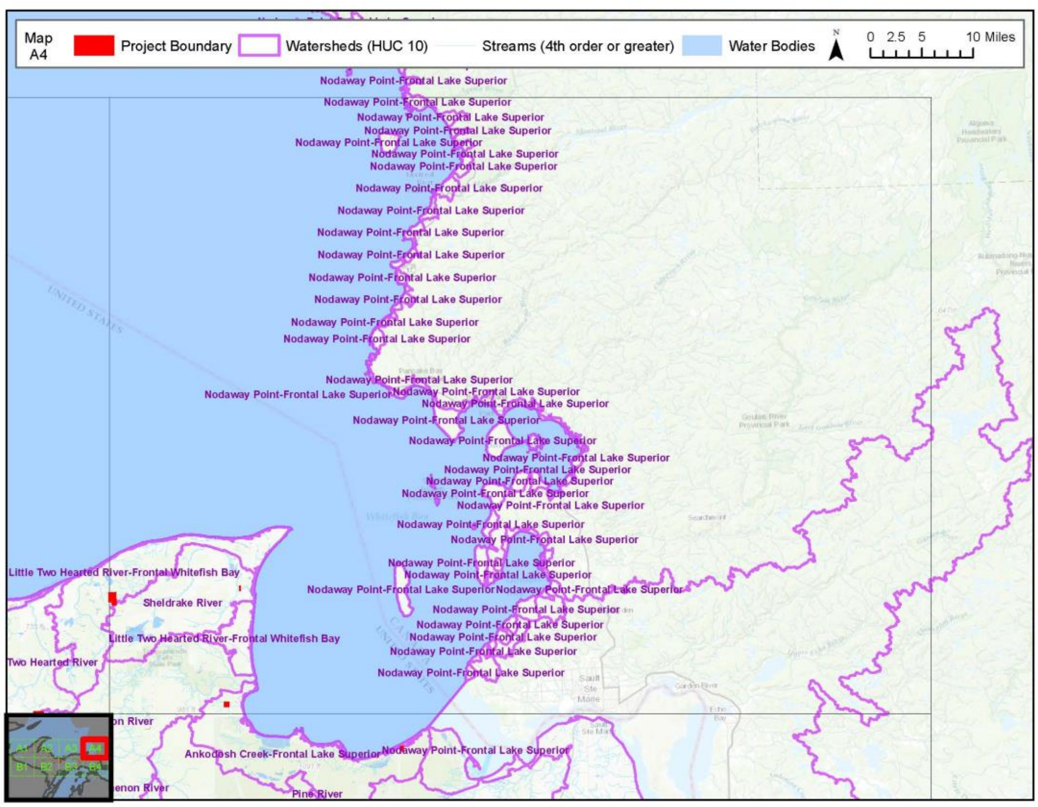


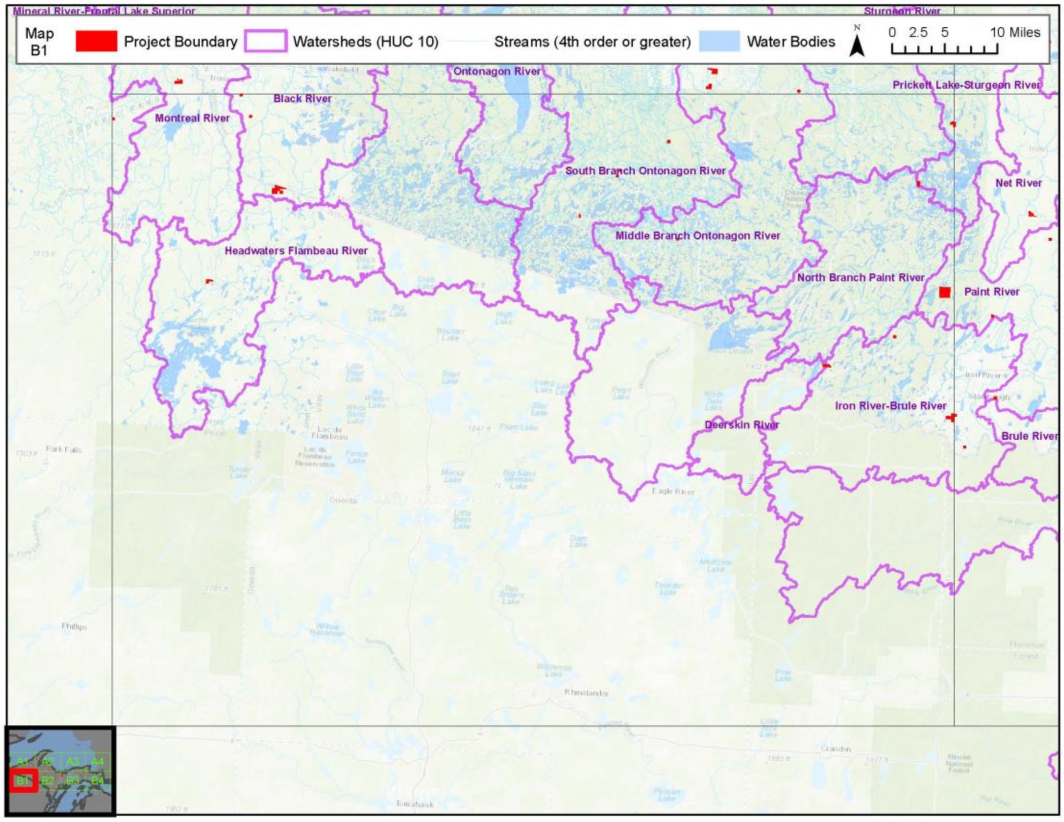
Figure A-2. Regional Hydrology Map

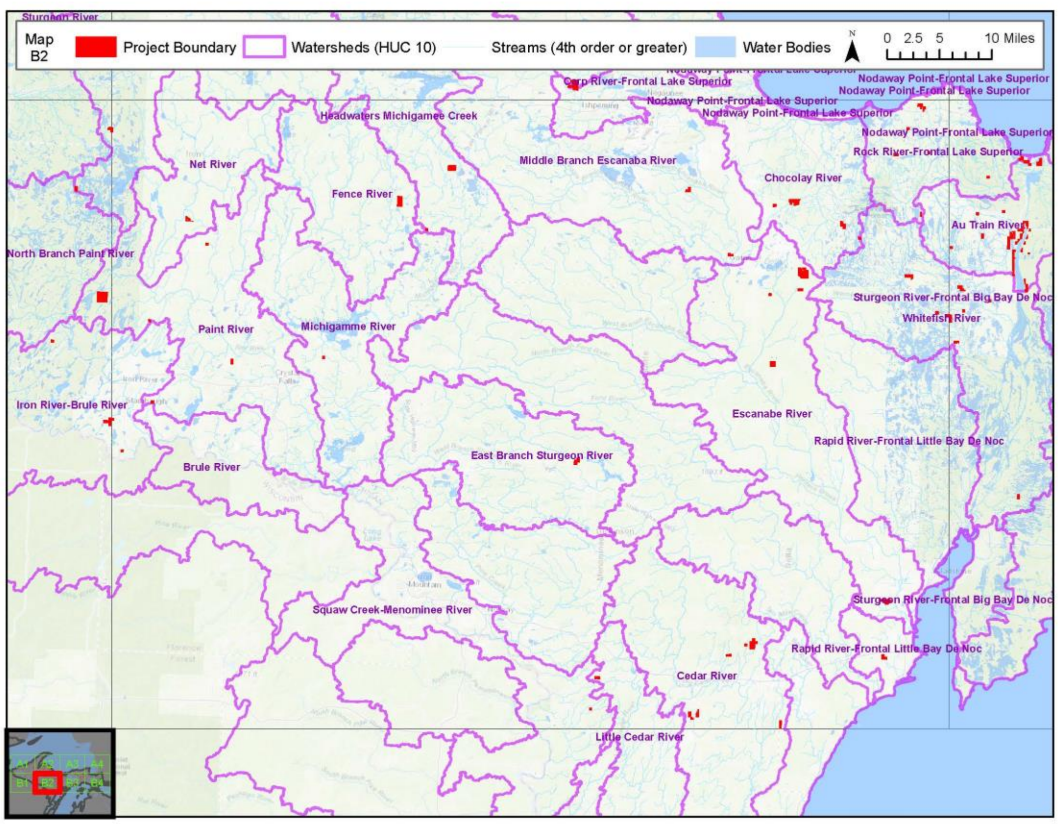


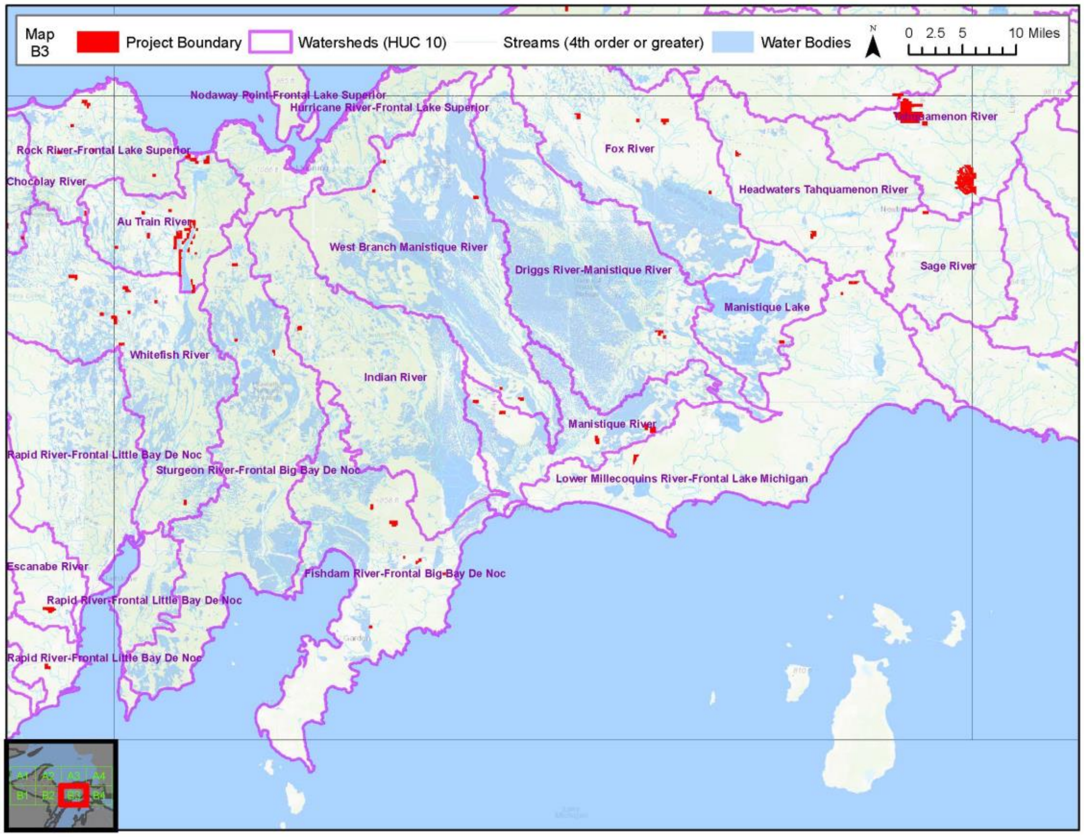



Map A3
Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Nodaway Point-Frontal Lake Superior
Little Two Hearted River-Frontal Whitefish Bay
Sheldrake River
Hurricane River-Frontal Lake Superior
Two Hearted River
Tahquamenon River
Fox River
Driggs River-Manistique River
West Branch Manistique River
Au Train River
Headwaters Tahquamenon River


Map A4
Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Nodaway Point-Frontal Lake Superior
Little Two Hearted River-Frontal Whitefish Bay
Sheldrake River
Two Hearted River
Ankodash Creek-Frontal Lake Superior
Pine River


Map B1
Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Mineral River-Frontal Lake Superior
Sturgeon River
Ontonagon River
Prickett Lake-Sturgeon River
Black River
Montreal River
South Branch Ontonagon River
Net River
Middle Branch Ontonagon River
Headwaters Flambeau River
North Branch Paint River
Paint River
Iron River-Brule River
Deerskin River
Brule River


Map B2
Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Sturgeon River
Carp River-Frontal Lake Superior
Nodaway Point-Frontal Lake Superior
Headwaters Michigamme Creek
Net River
Middle Branch Escanaba River
Rock River-Frontal Lake Superior
Chocolay River
Fence River
Au Train River
North Branch Paint River
Sturgeon River-Frontal Big Bay De Noc
Whitefish River
Paint River
Michigamme River
Iron River-Brule River
Escanaba River
Rapid River-Frontal Little Bay De Noc
Brule River
East Branch Sturgeon River
Squaw Creek-Menominee River
Cedar River
Little Cedar River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Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Nodaway Point-Frontal Lake Superior
Hurricane River-Frontal Lake Superior
Rock River-Frontal Lake Superior
Chocolay River
Au Train River
Fox River
Headwaters Tahquamenon River
West Branch Manistique River
Driggs River-Manistique River
Sage River
Manistique Lake
Whitefish River
Indian River
Manistique River
Rapid River-Frontal Little Bay De Noc
Sturgeon River-Frontal Big Bay De Noc
Lower Millecoquins River-Frontal Lake Michigan
Escanabe River
Fishdam River-Frontal Big Bay De Noc
Rapid River-Frontal Little Bay De Noc
Rapid River-Frontal Little Bay De Noc

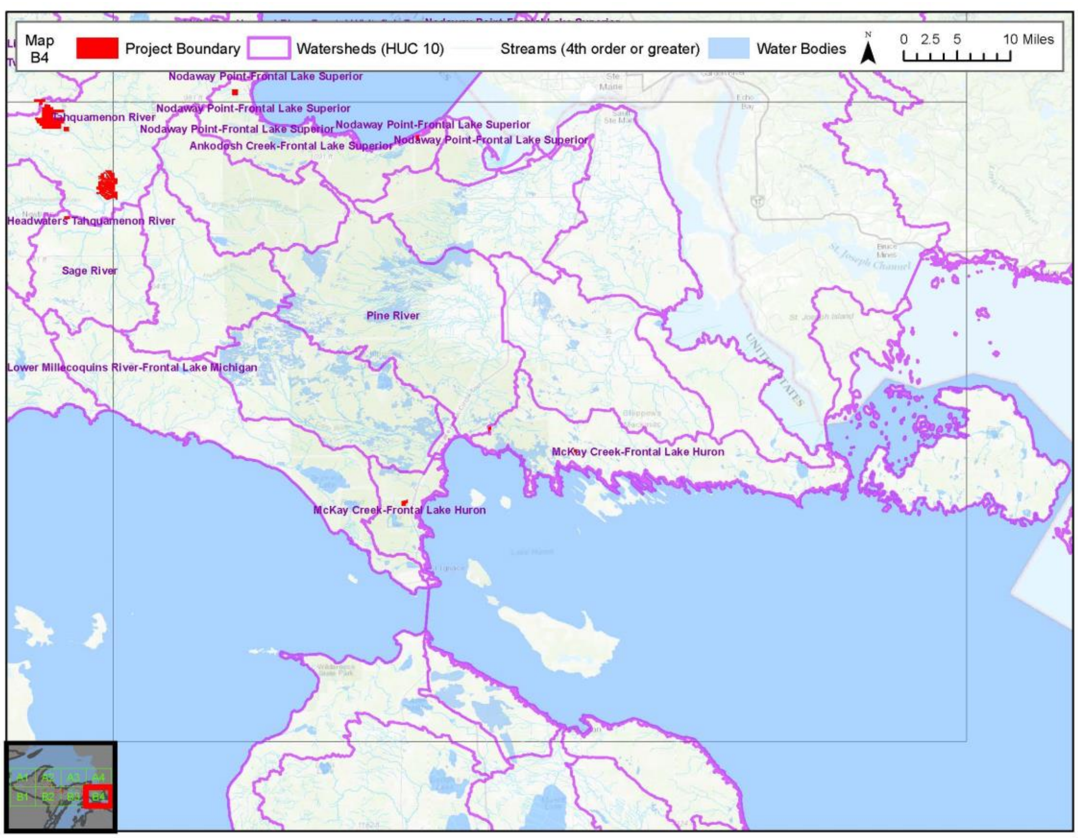
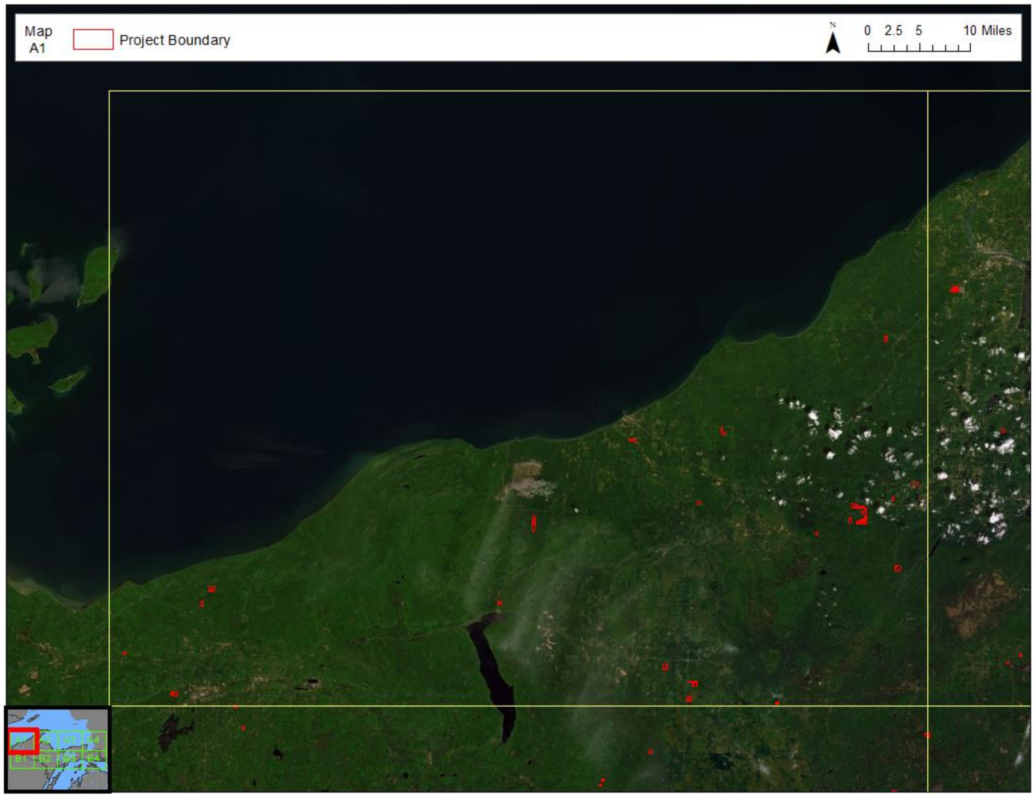
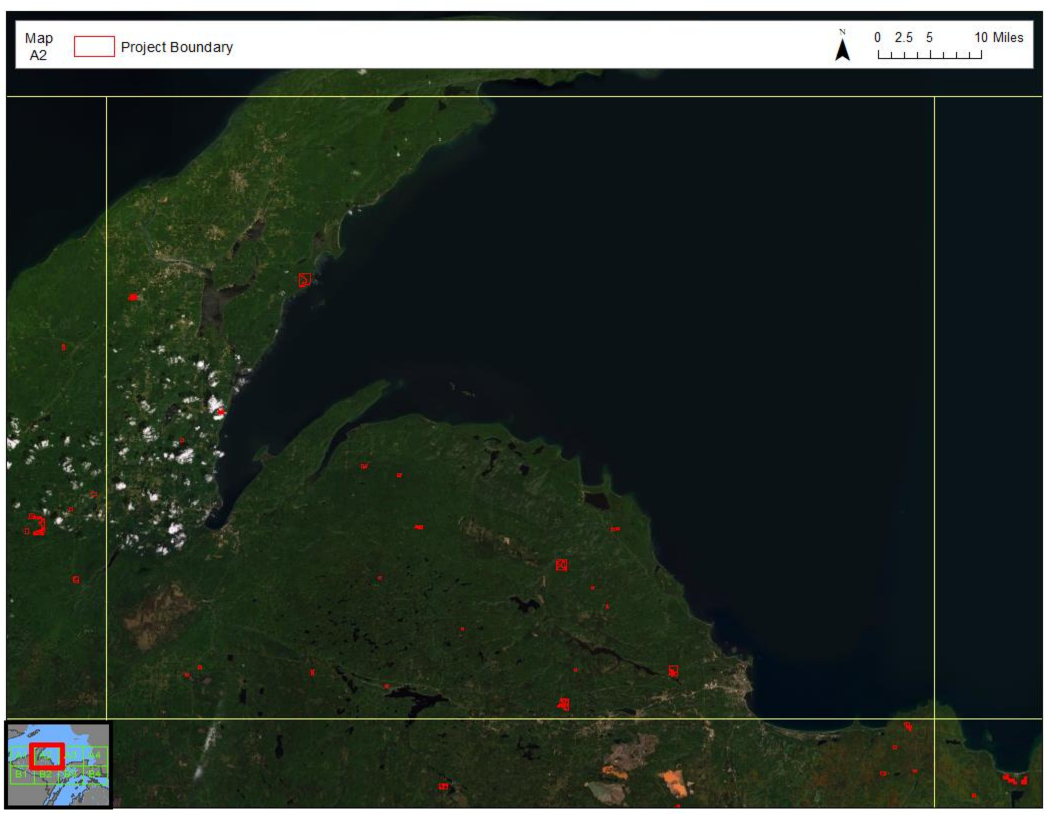
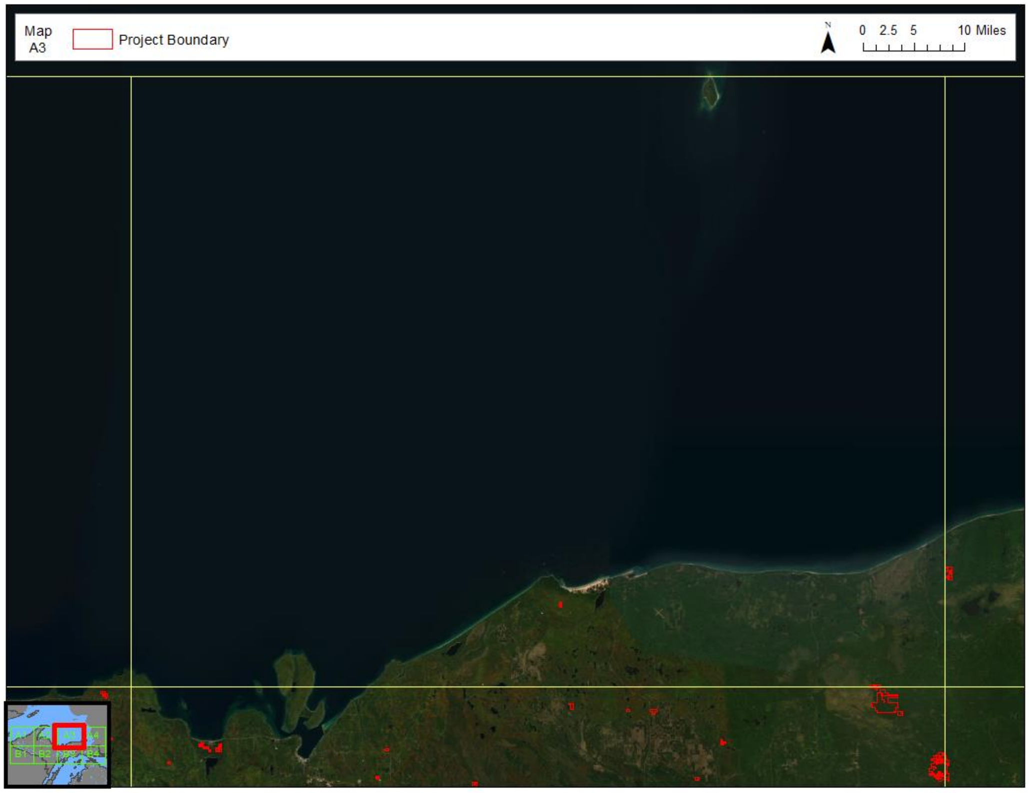
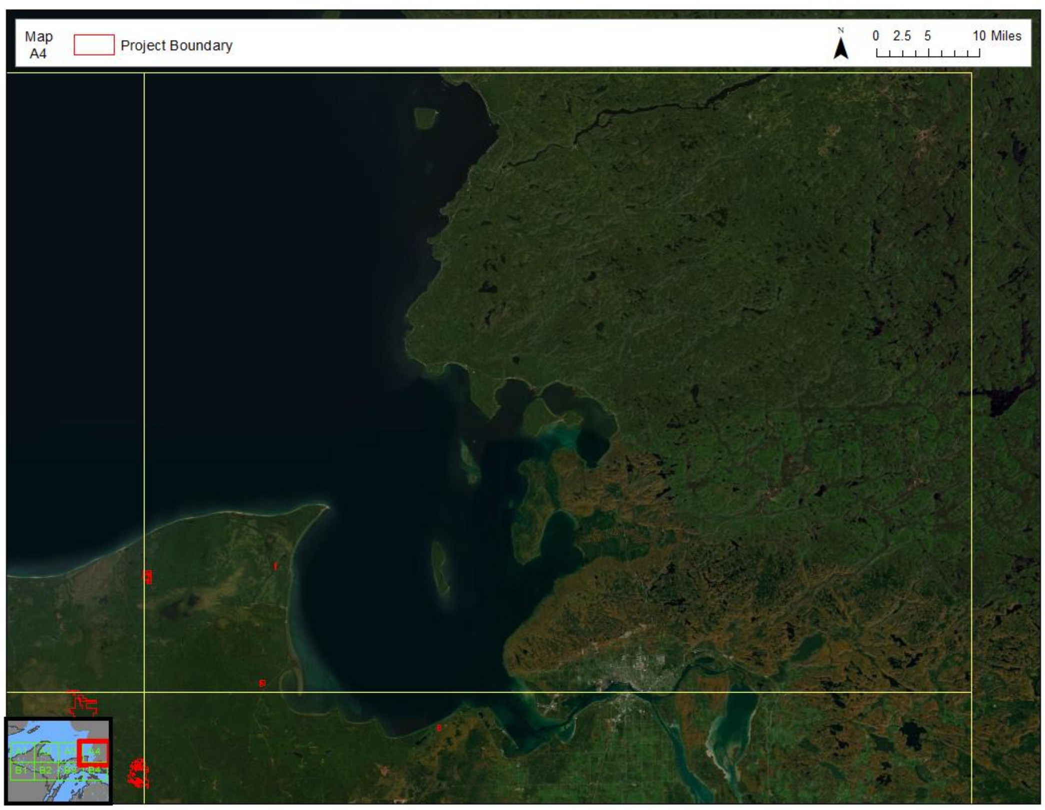

Map B4
Project Boundary
Watersheds (HUC 10)
Streams (4th order or greater)
Water Bodies
0 2.5 5 10 Miles
Nodaway Point-Frontal Lake Superior
Tahquamenon River
Nodaway Point-Frontal Lake Superior
Nodaway Point-Frontal Lake Superior
Nodaway Point-Frontal Lake Superior
Ankodosh Creek-Frontal Lake Superior
Nodaway Point-Frontal Lake Superior
Headwaters Tahquamenon River
Sage River
Pine River
Lower Millecoquins River-Frontal Lake Michigan
McKay Creek-Frontal Lake Huron
McKay Creek-Frontal Lake Huron

Figure A-3. Canopy Cover Map depicting greater than 10% canopy cover.






Map
A3
Project Boundary
N
0 2.5 5 10 Miles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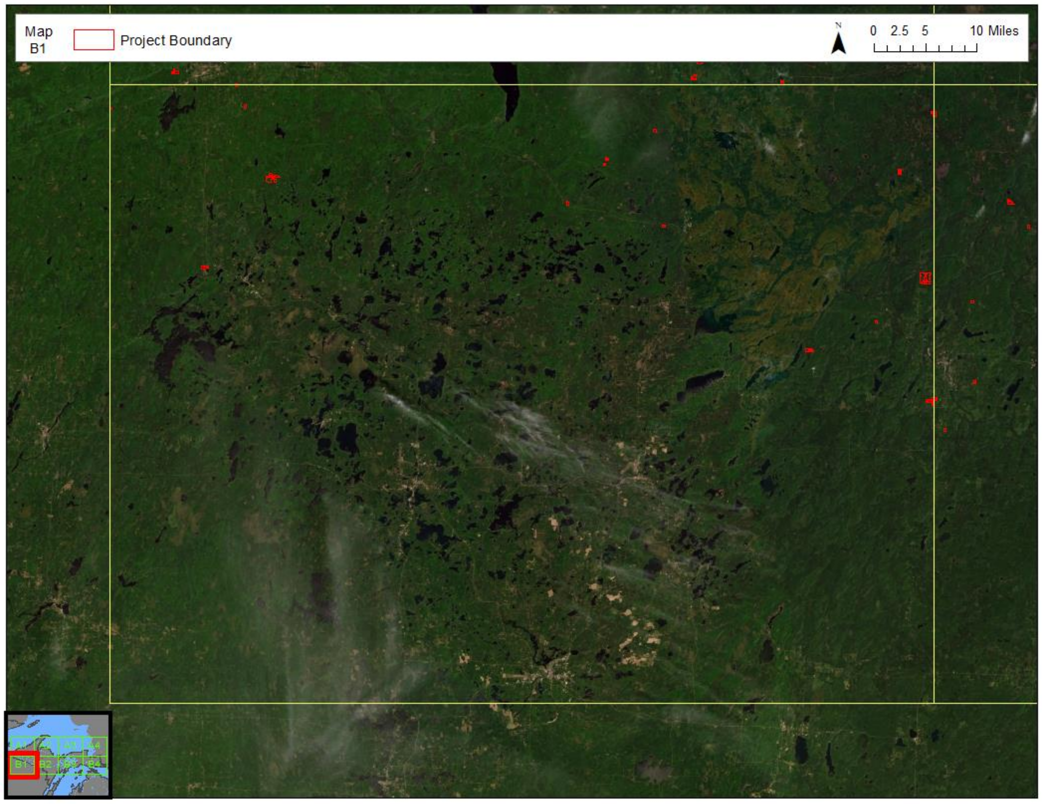
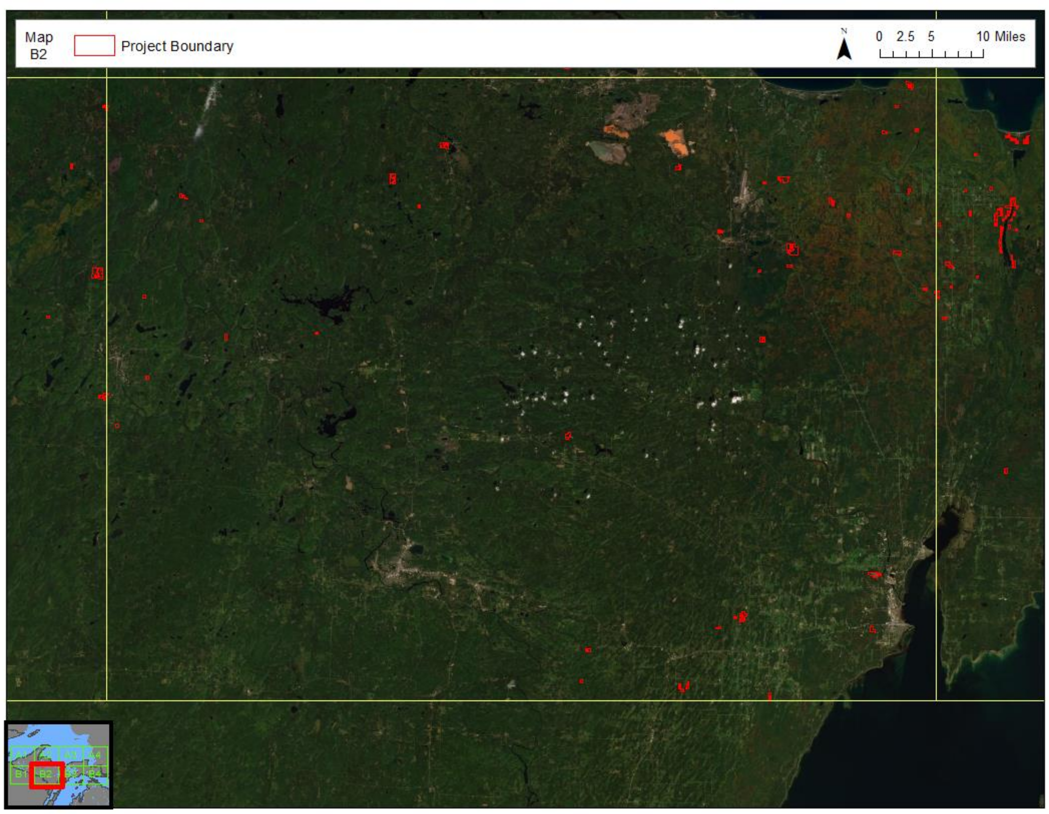
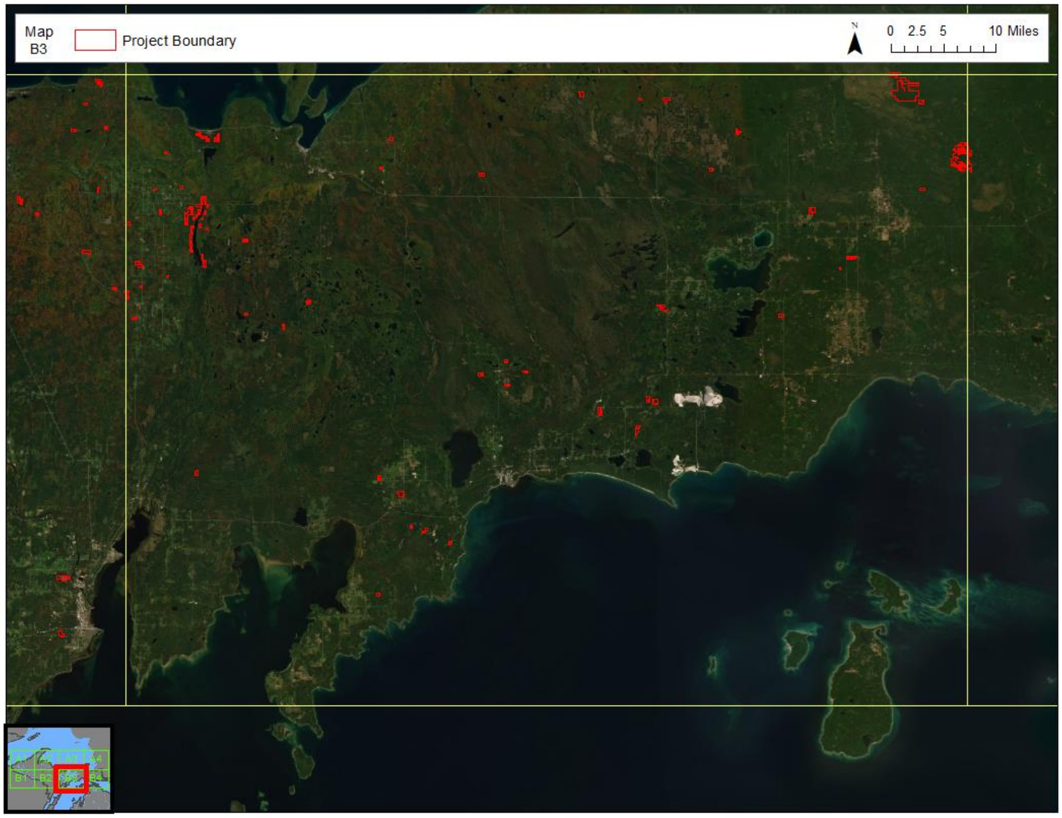
A4
Project Boundary
N
0 2.5 5 10 Miles


Map
B1
Project Boundary
0 2.5 5 10 Miles


Map
B2
Project Boundary
0 2.5 5 10 Miles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B3
Project Boundary
N
0 2.5 5 10 Miles

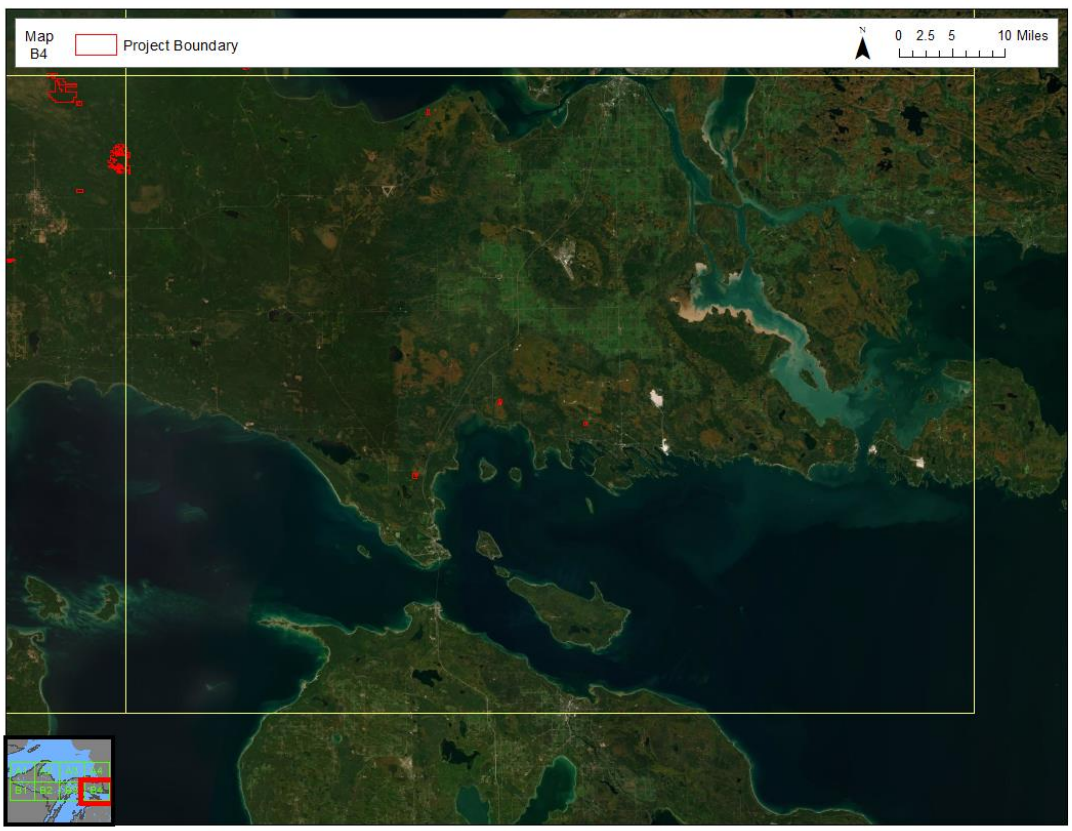
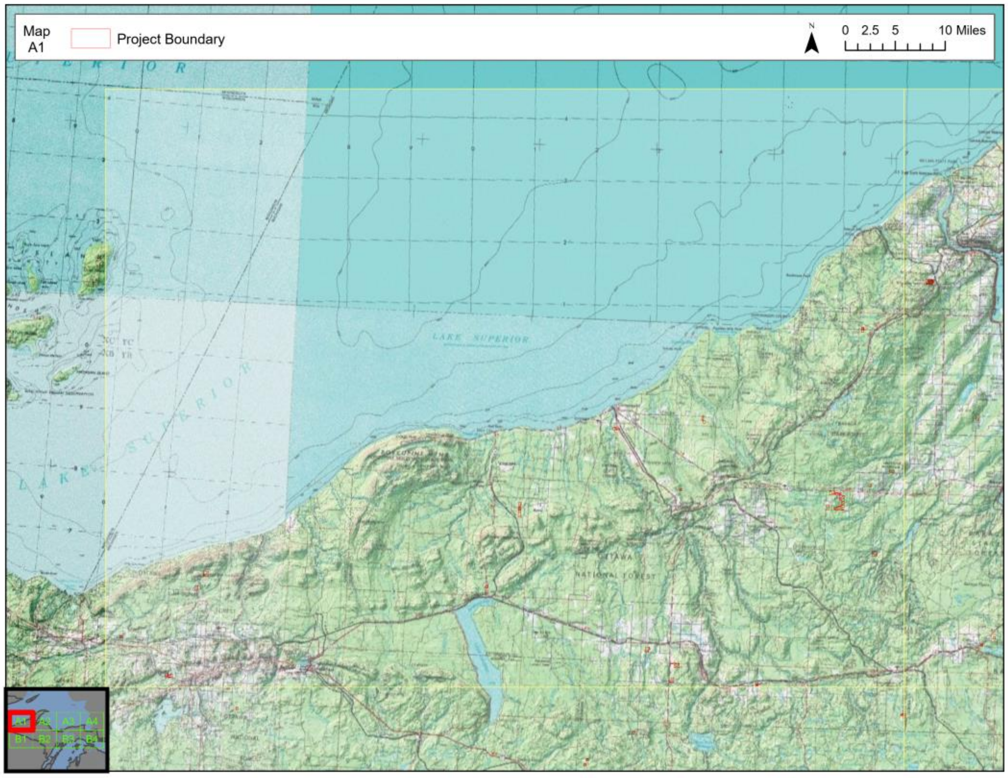
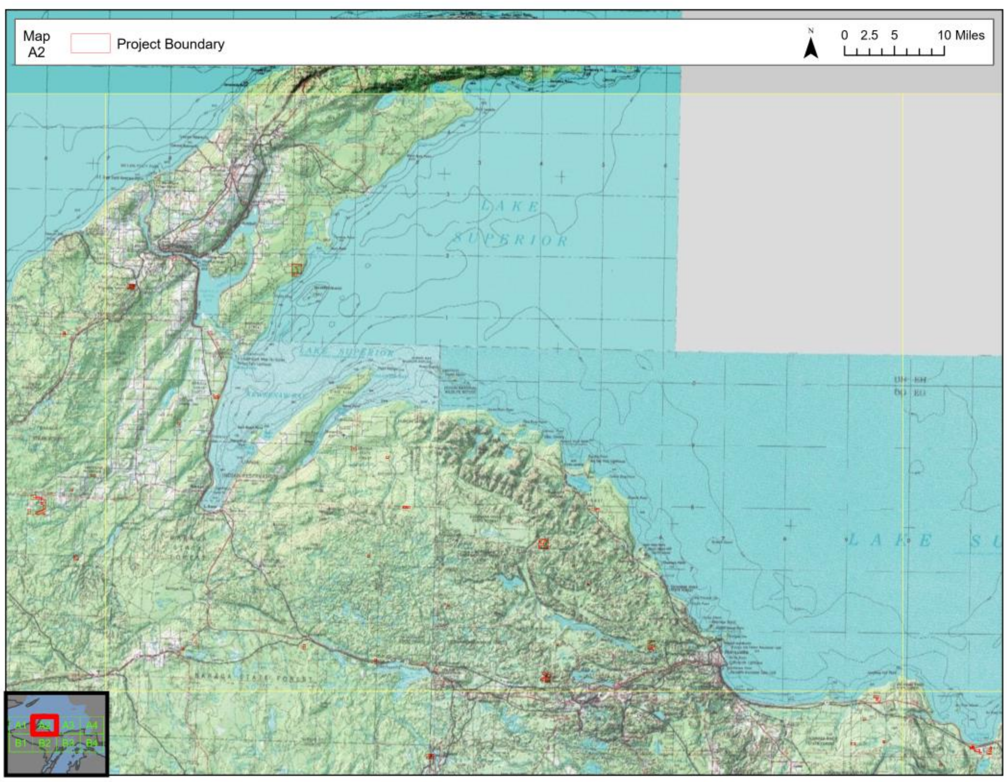
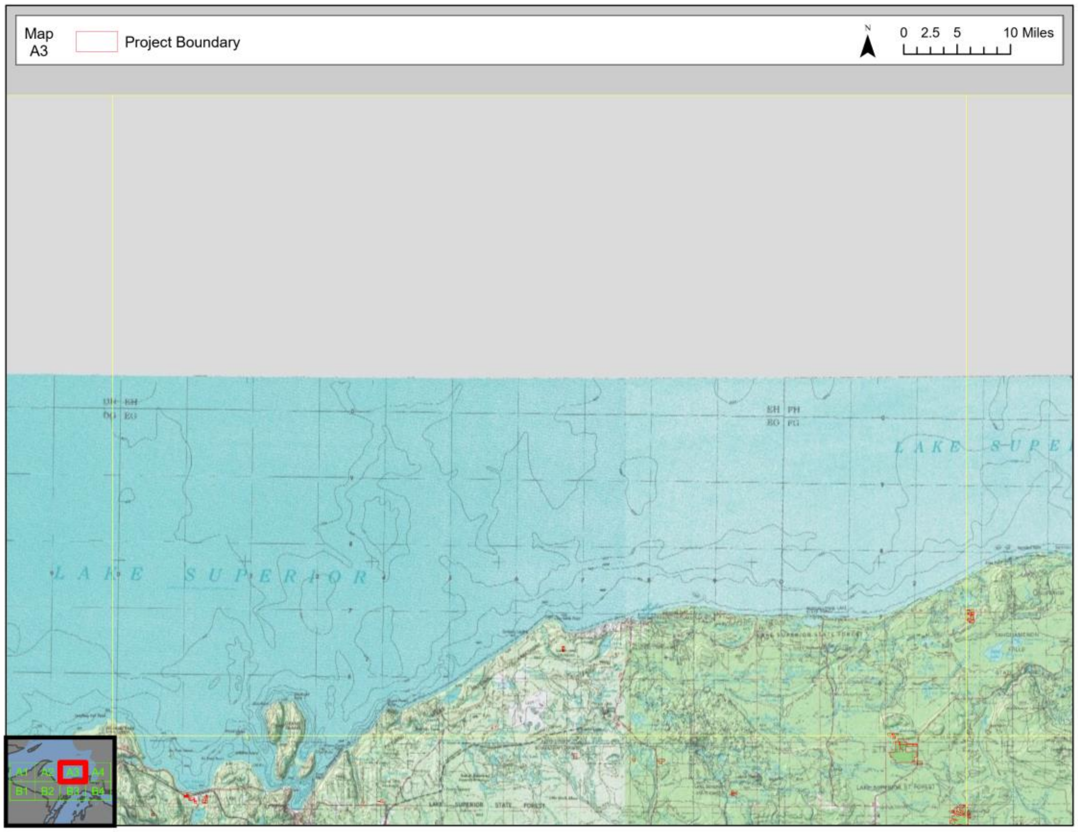
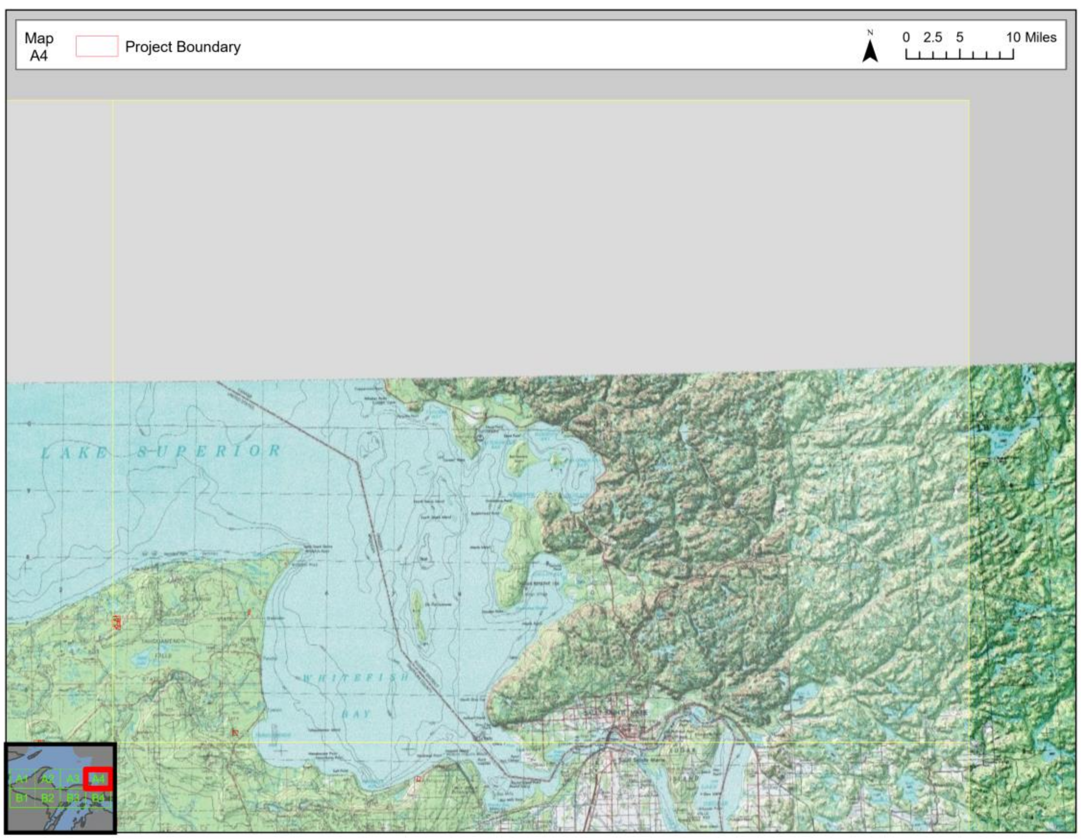

Map
B4
Project Boundary
N
0 2.5 5 10 Miles

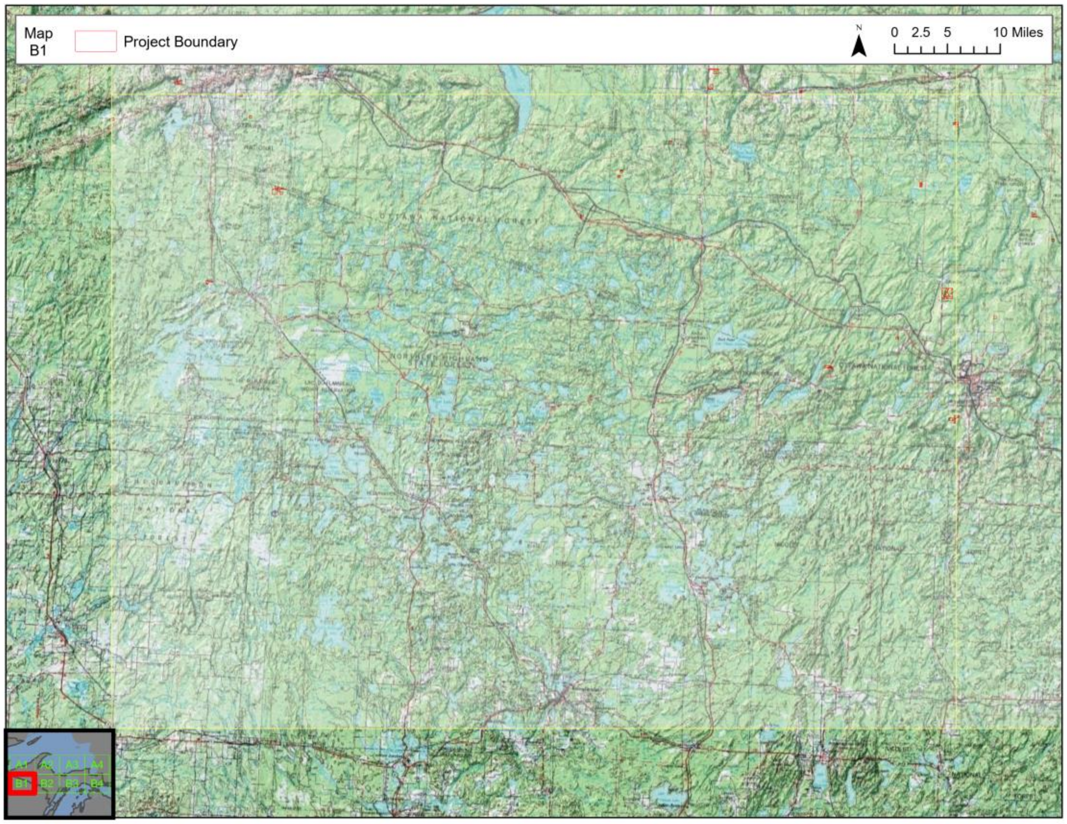
Figure A-4. Topography Map

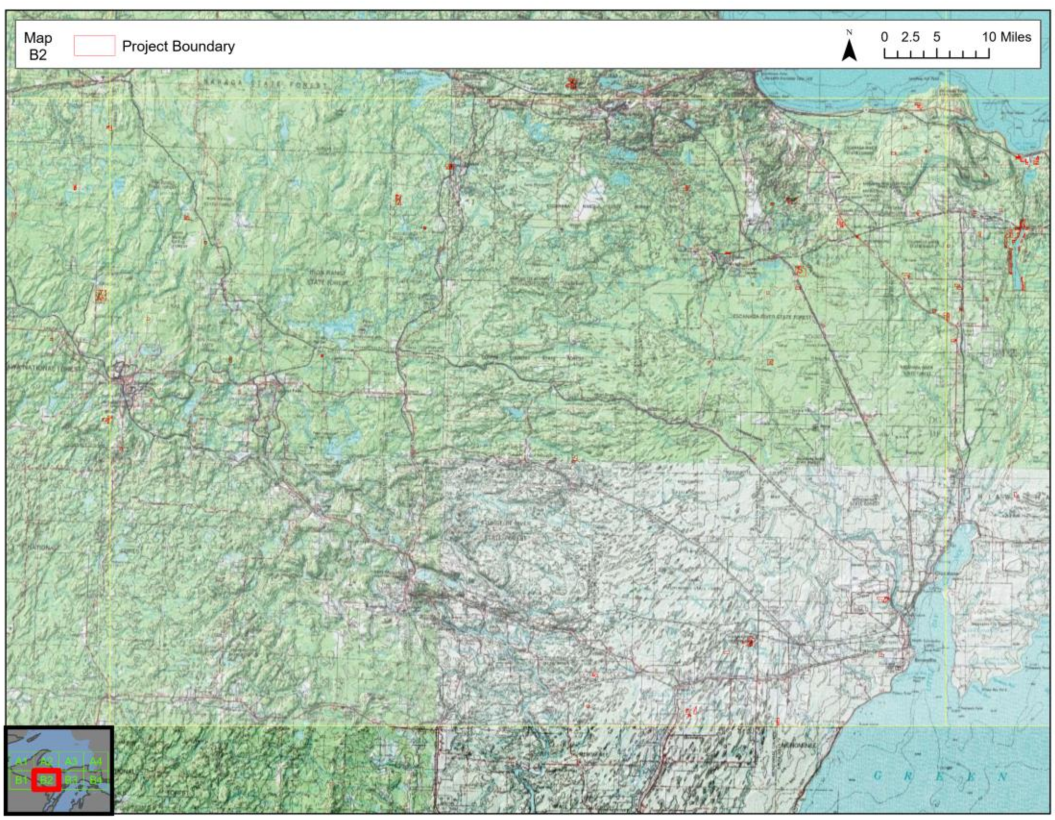





Map
A3
Project Boundary
N
0 2.5 5 10 Miles
LAKE SUPERIOR
LAKE SUPE


Map
A4
Project Boundary
N
0 2.5 5 10 Miles
LAKE SUPERIOR
WHITEFISH
BAY


Map
B1
Project Boundary
N
0 2.5 5 10 Miles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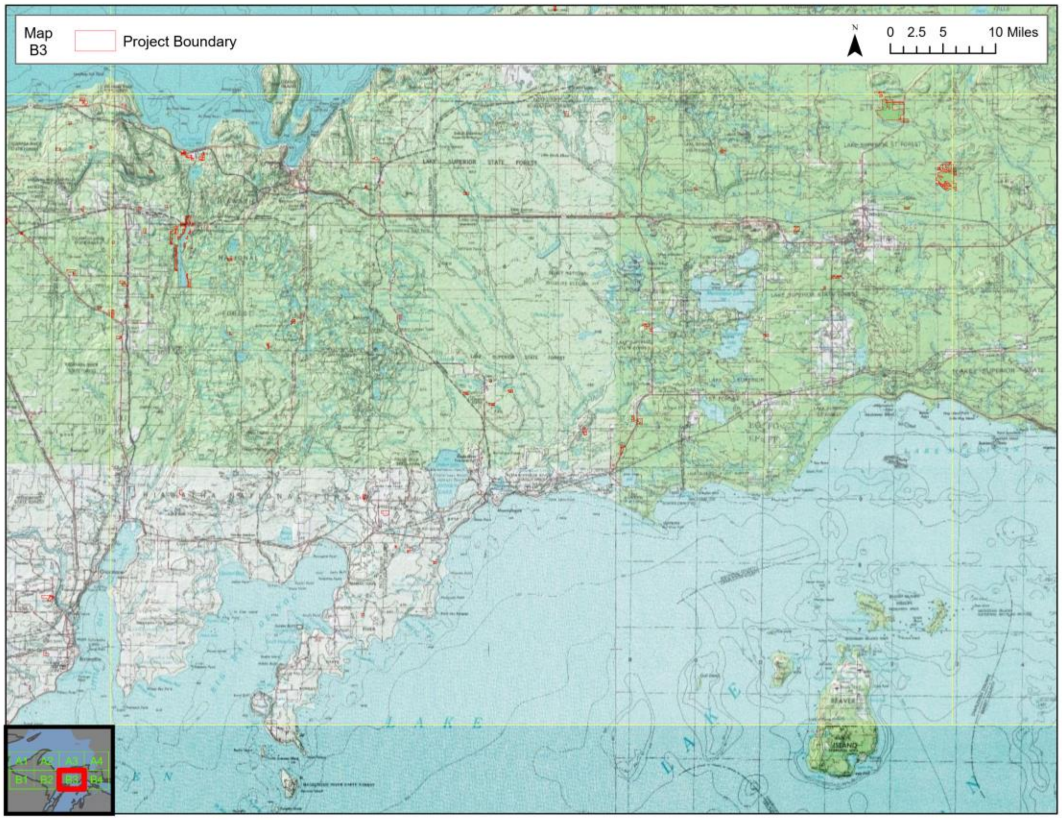
B2
Project Boundary
N
0 2.5 5 10 Miles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B3
Project Boundary
N
0 2.5 5 10 Miles

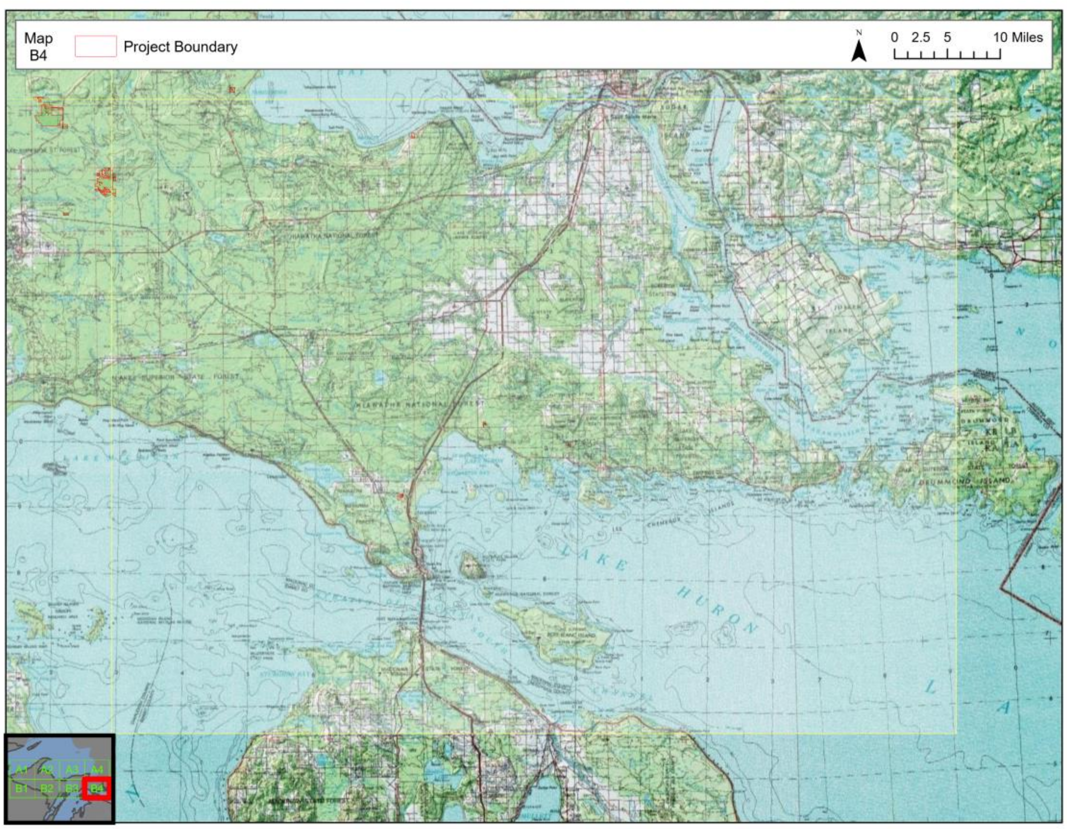
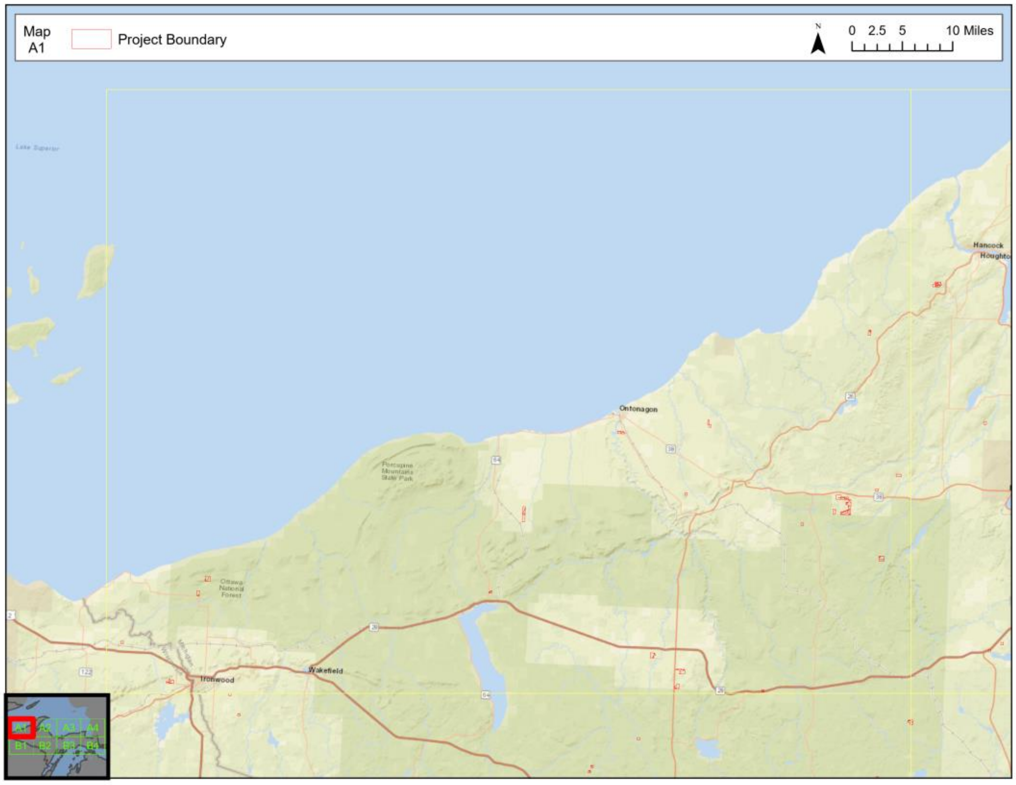
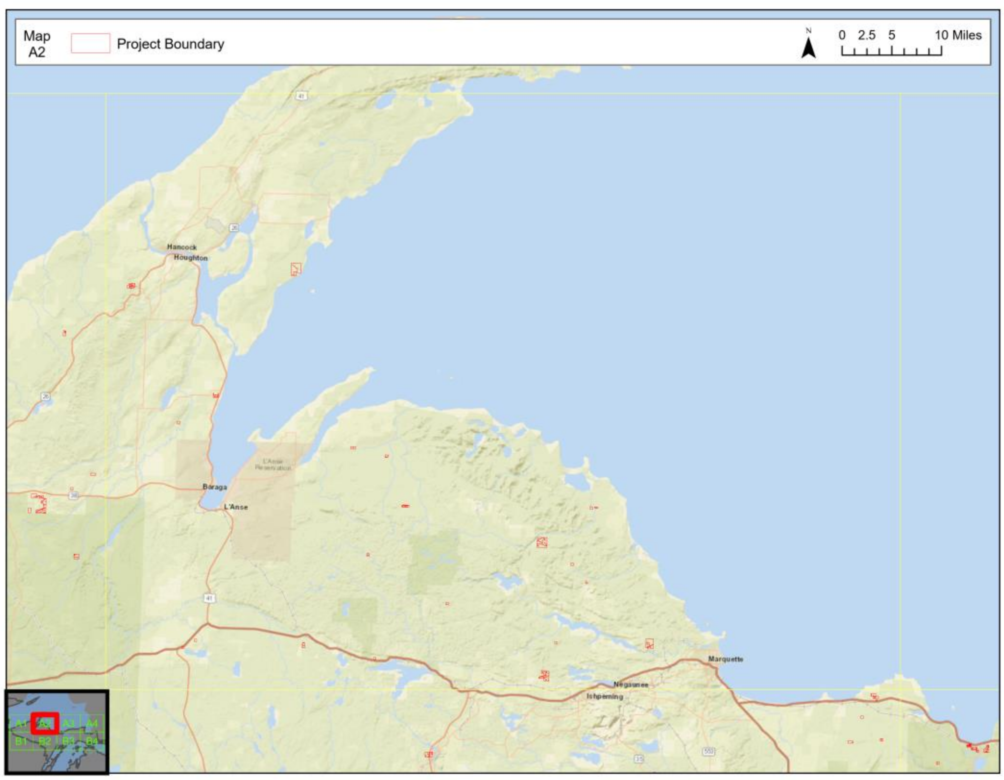
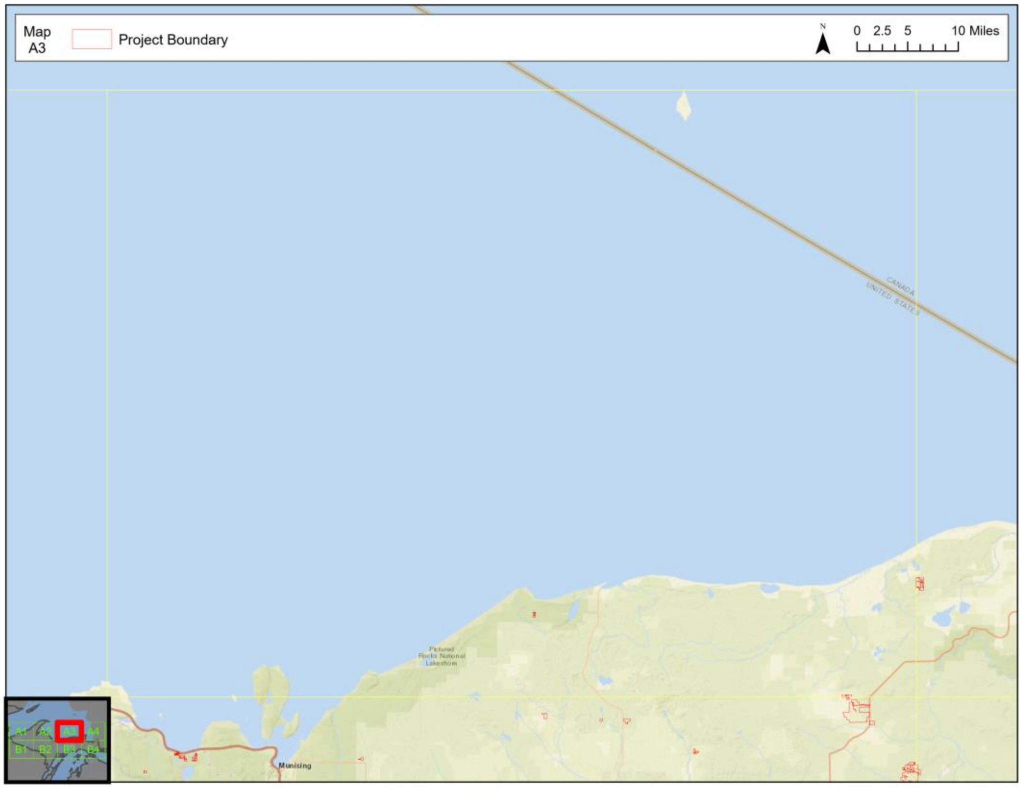
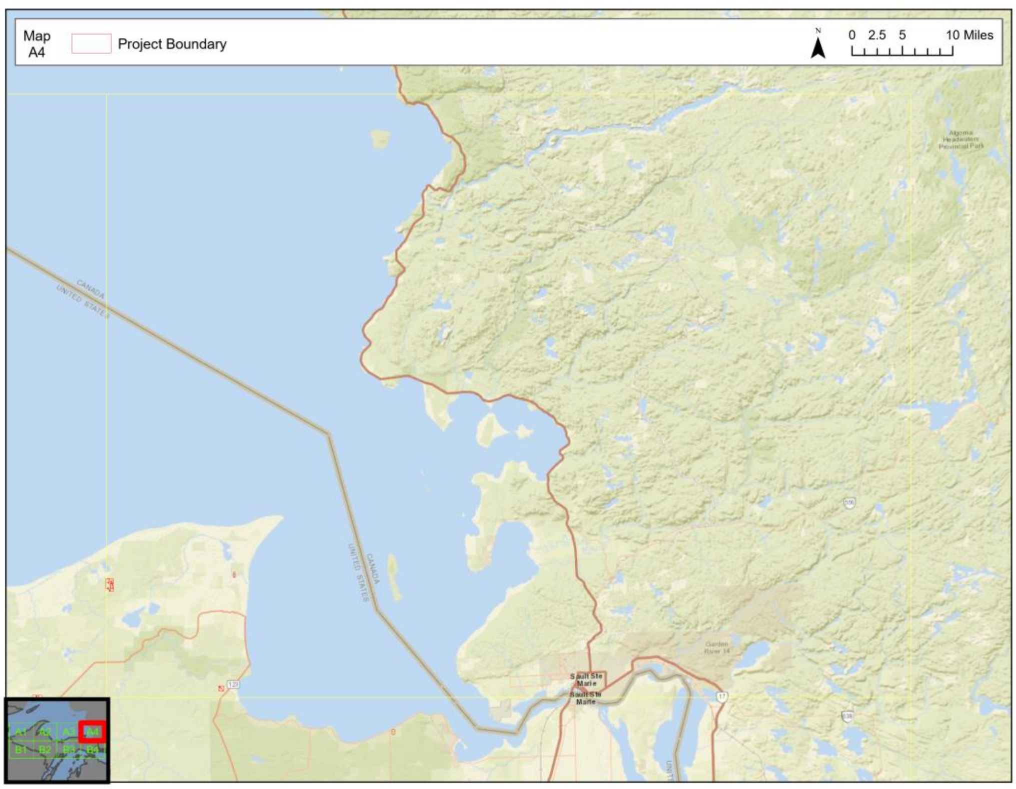

Map
B4
Project Boundary
N
0 2.5 5 10 Miles

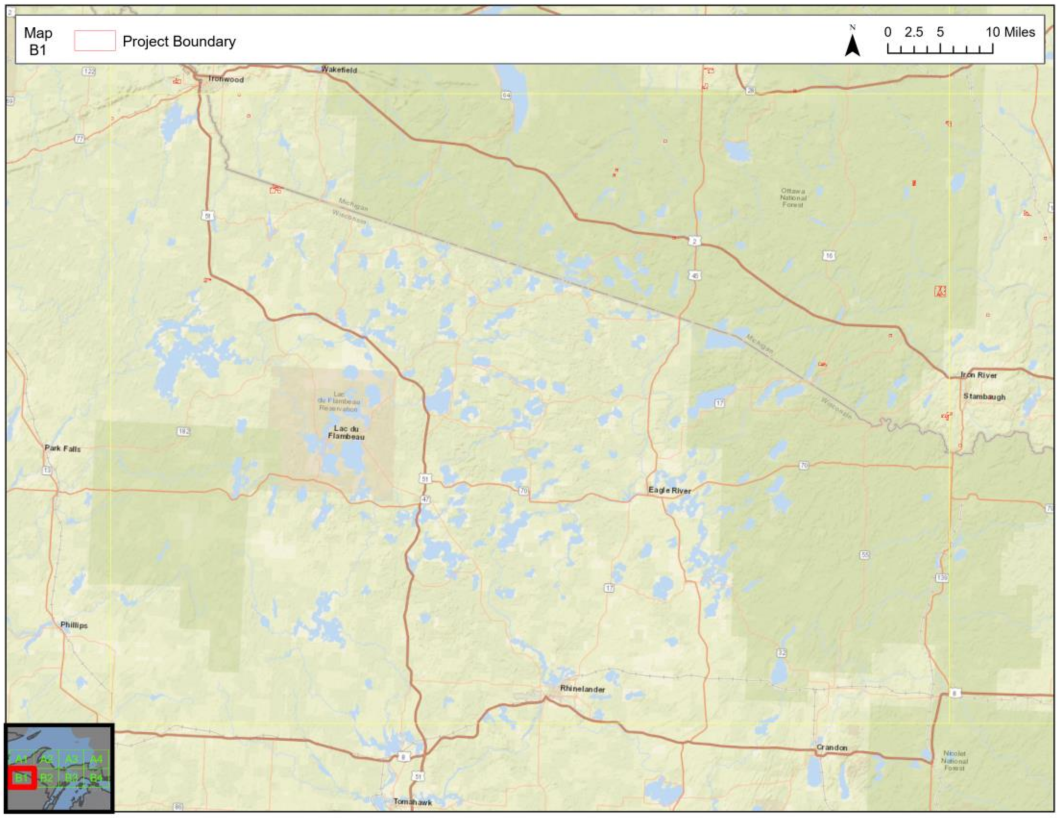
Figure A-5. Roads Map

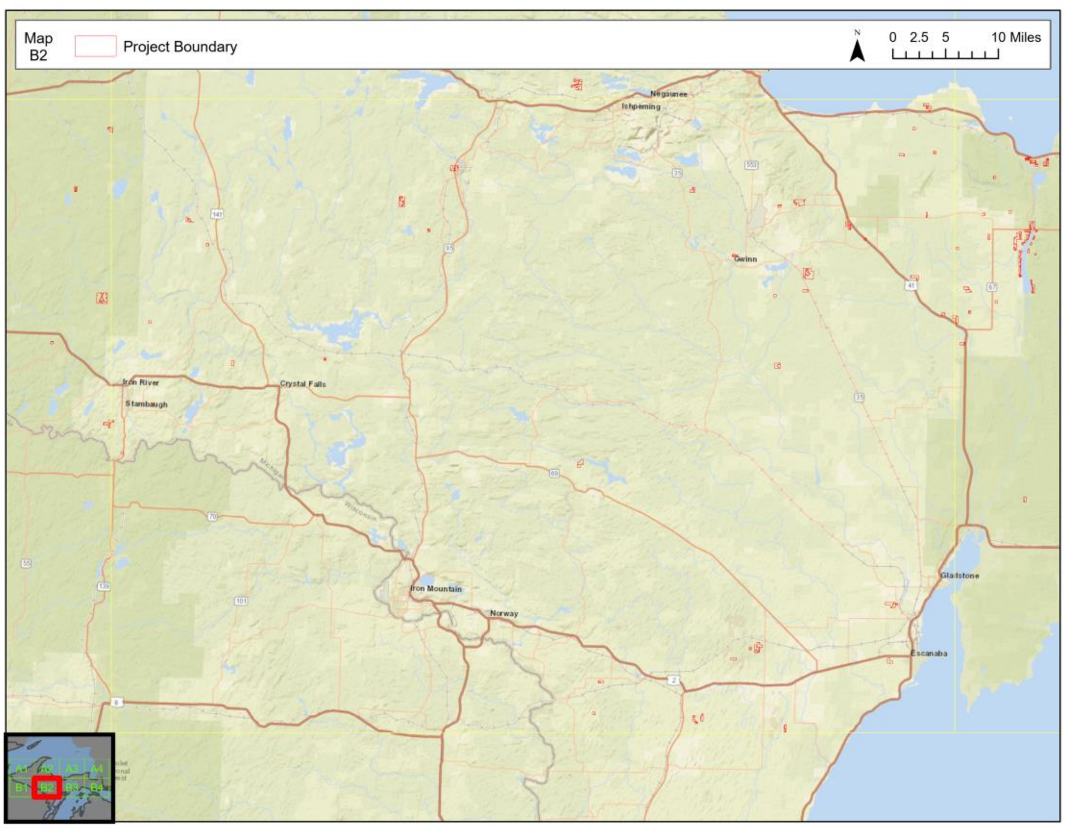


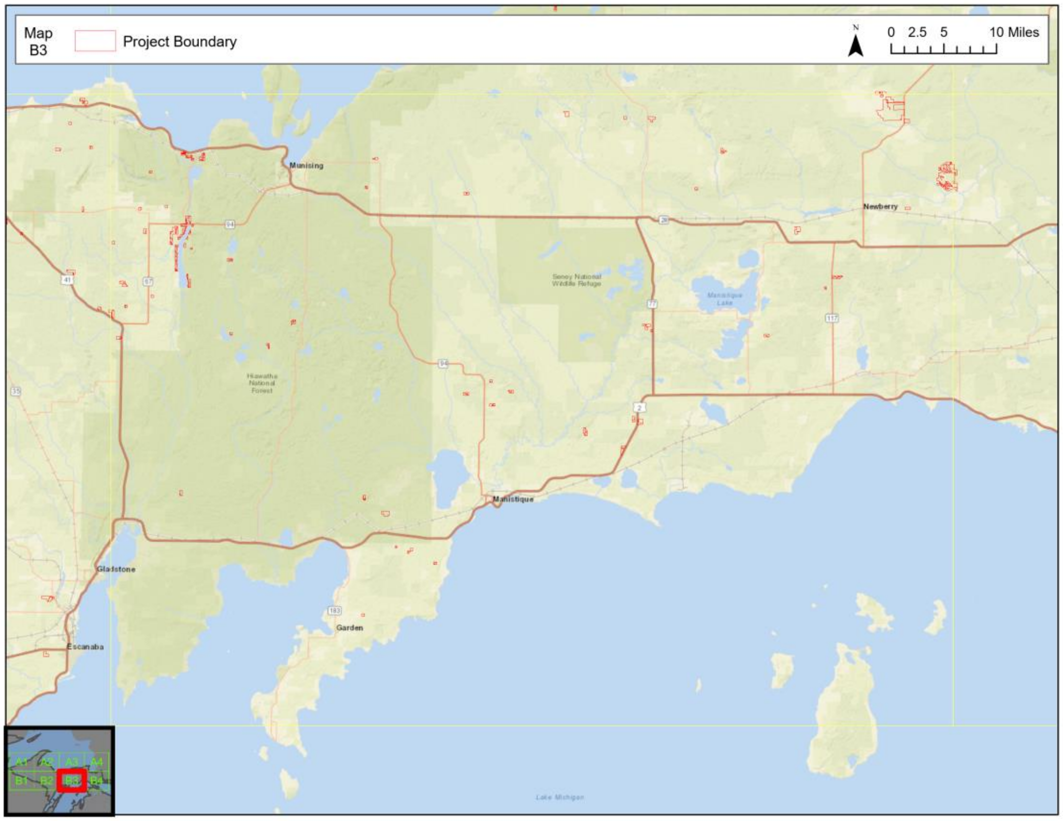



Map
A3
Project Boundary
0 2.5 5 10 Miles
N
Munising


Map
A4
Project Boundary
0 2.5 5 10 Miles
N


Map
B1
Project Boundary
0 2.5 5 10 Miles
Ironwood
Wakefield
Iron River
Stambaugh
Lac du Flambeau
Park Falls
Eagle River
Phillips
Rhinelander
Crandon
Tomahawk
A1
A2
A3
A4
B1
B2
B3
B4


Map
B2
Project Boundary
0 2.5 5 10 Miles
Negaunee
Ishpeming
Gwinn
Iron River
Stambaugh
Crystal Falls
Iron Mountain
Norway
Gladstone
Escanaba
A1
A2
A3
A4
B1
B2
B3
B4


Map
B3
Project Boundary
N
0 2.5 5 10 Miles
Munising
Newberry
Manistique
Gladstone
Escanaba
Garden
Lake Michigan

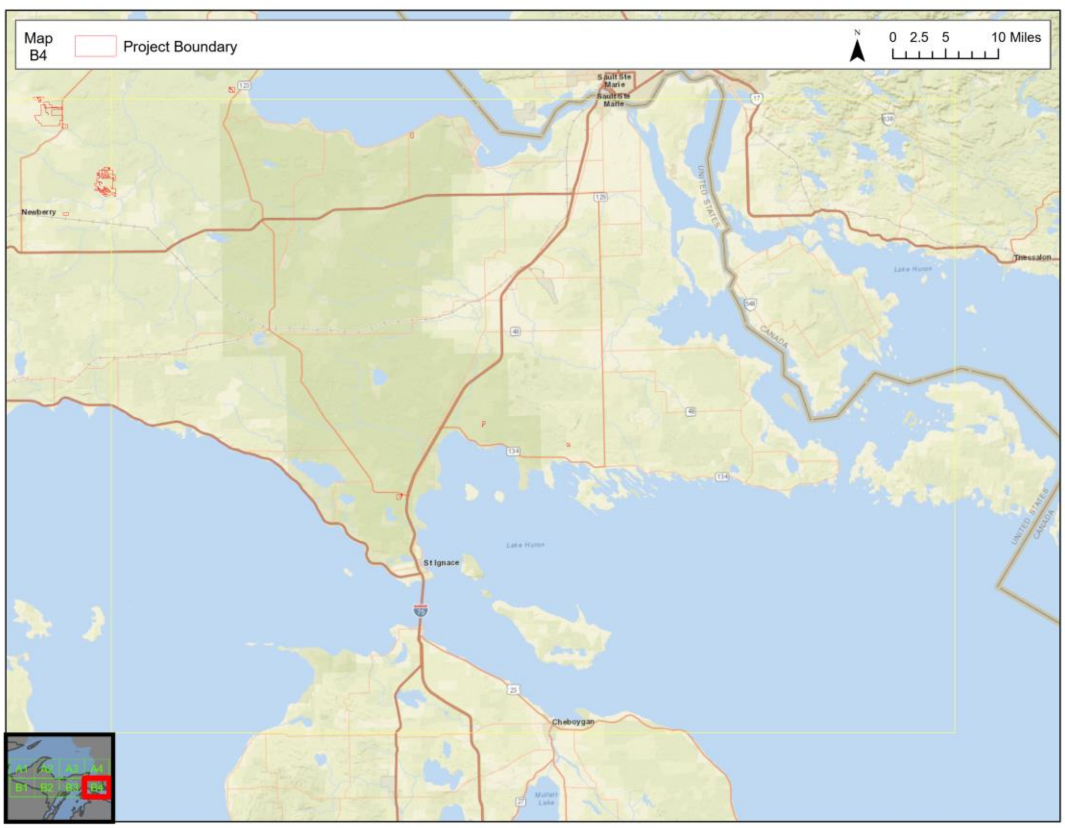
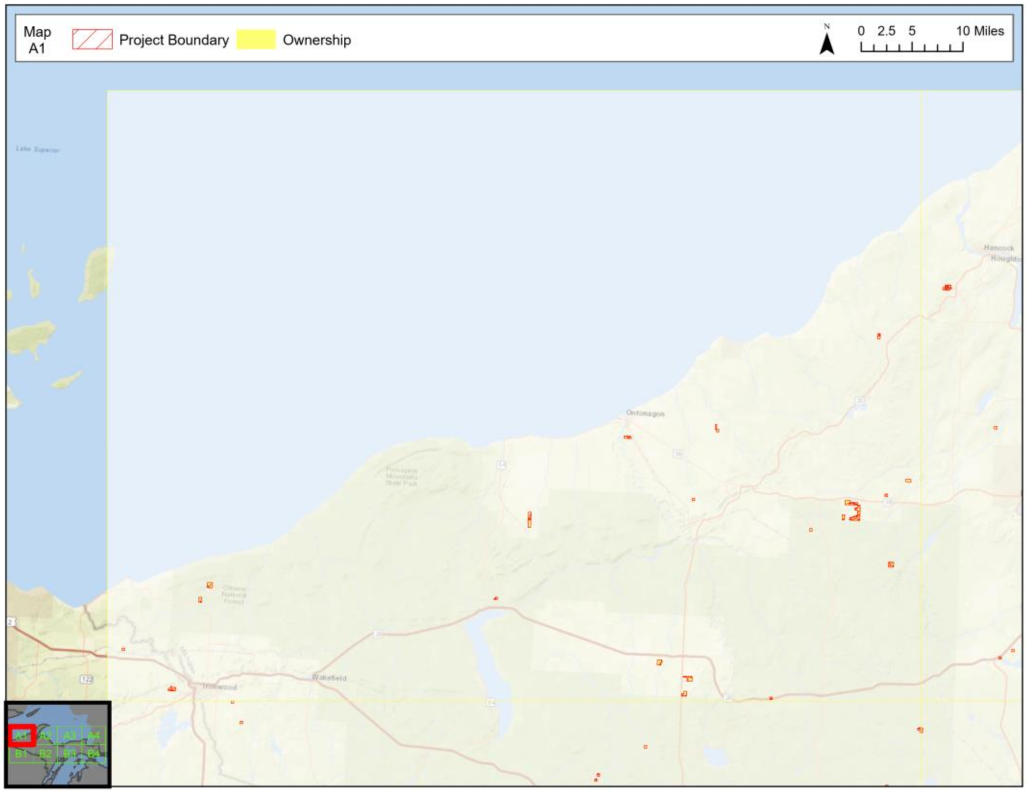
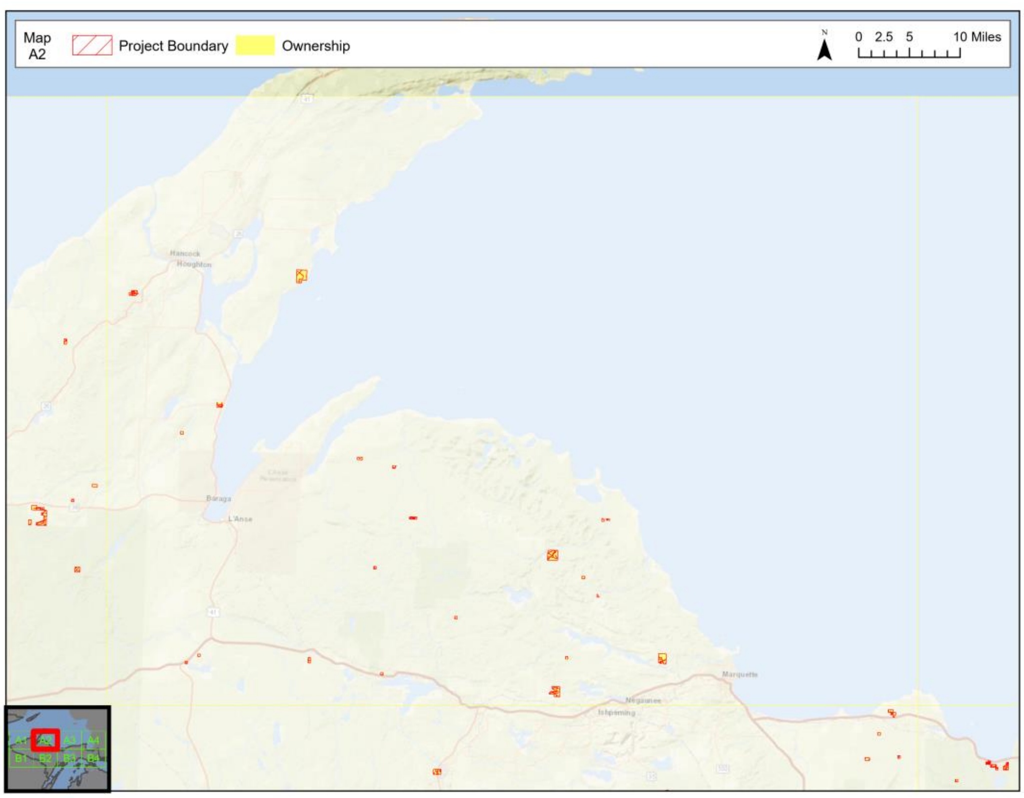
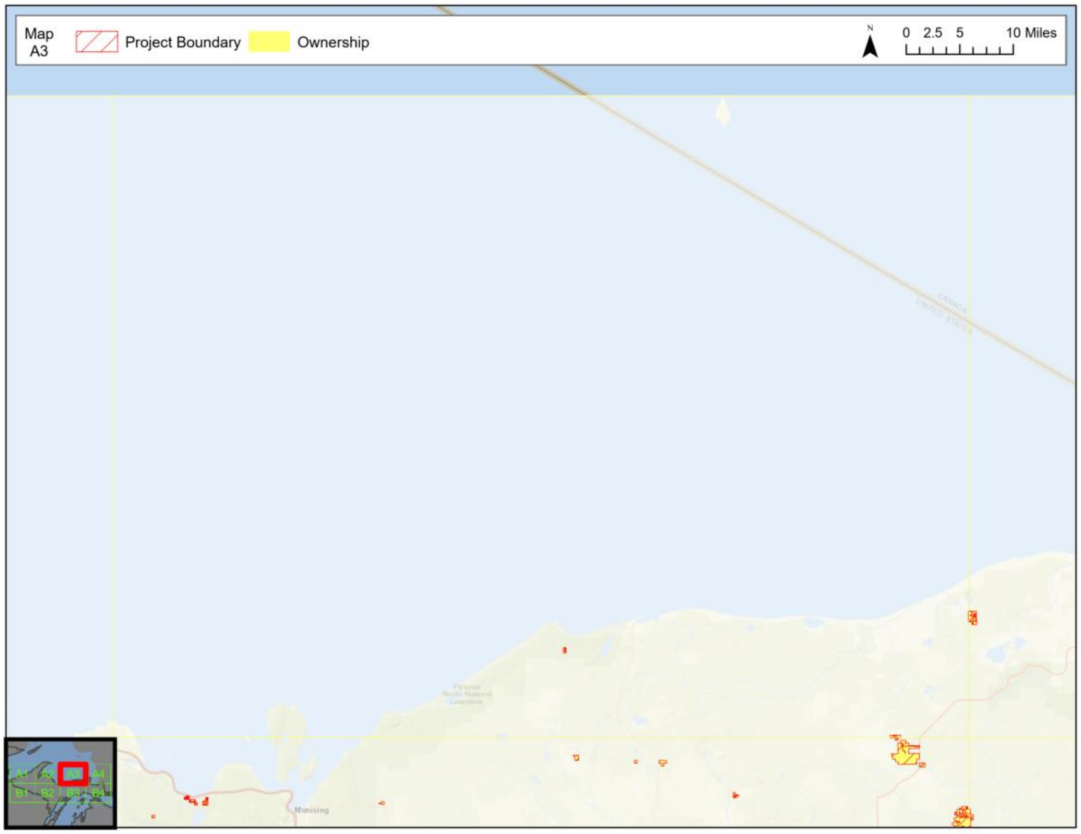
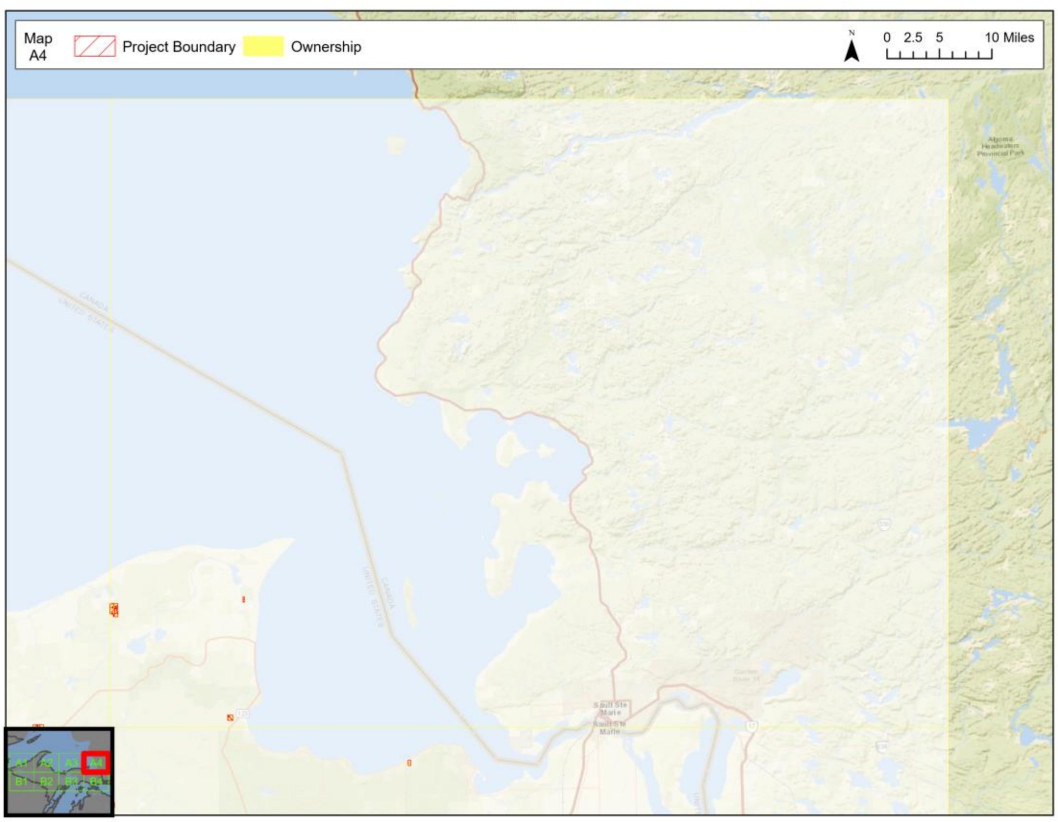

Map
B4
Project Boundary
N
0 2.5 5 10 Miles
Newberry
Thessalon
St Ignace
Cheboygan
Lake Huron

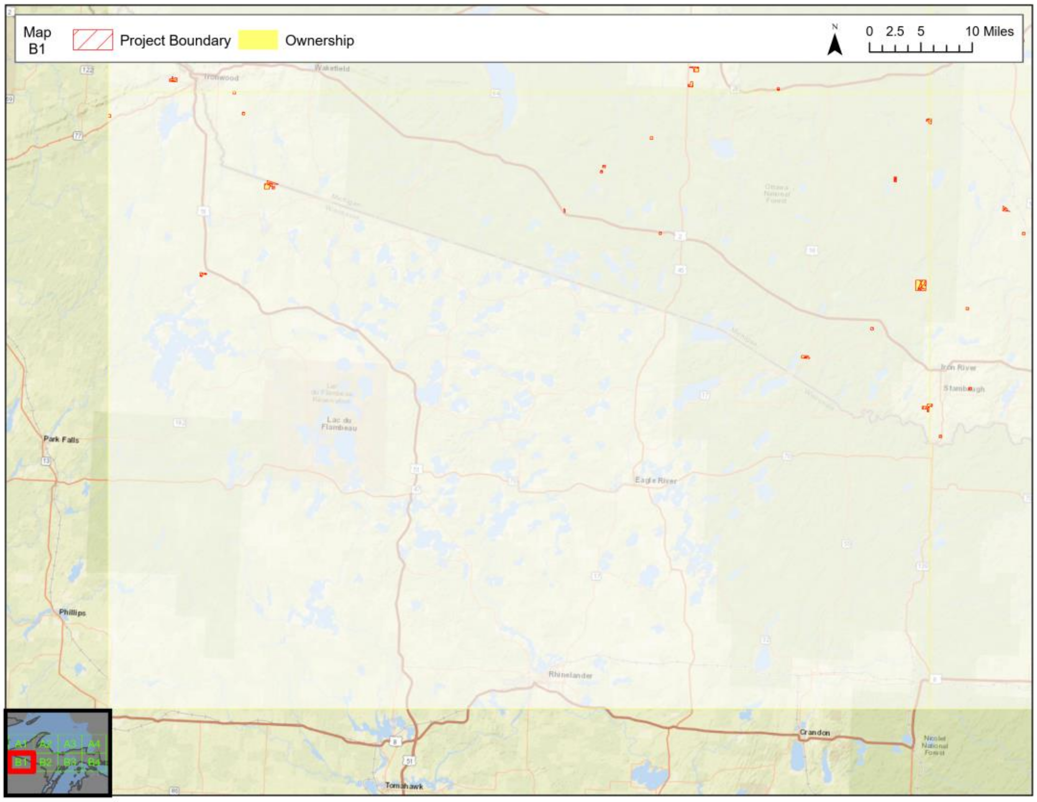
Figure A-6. Ownership Map

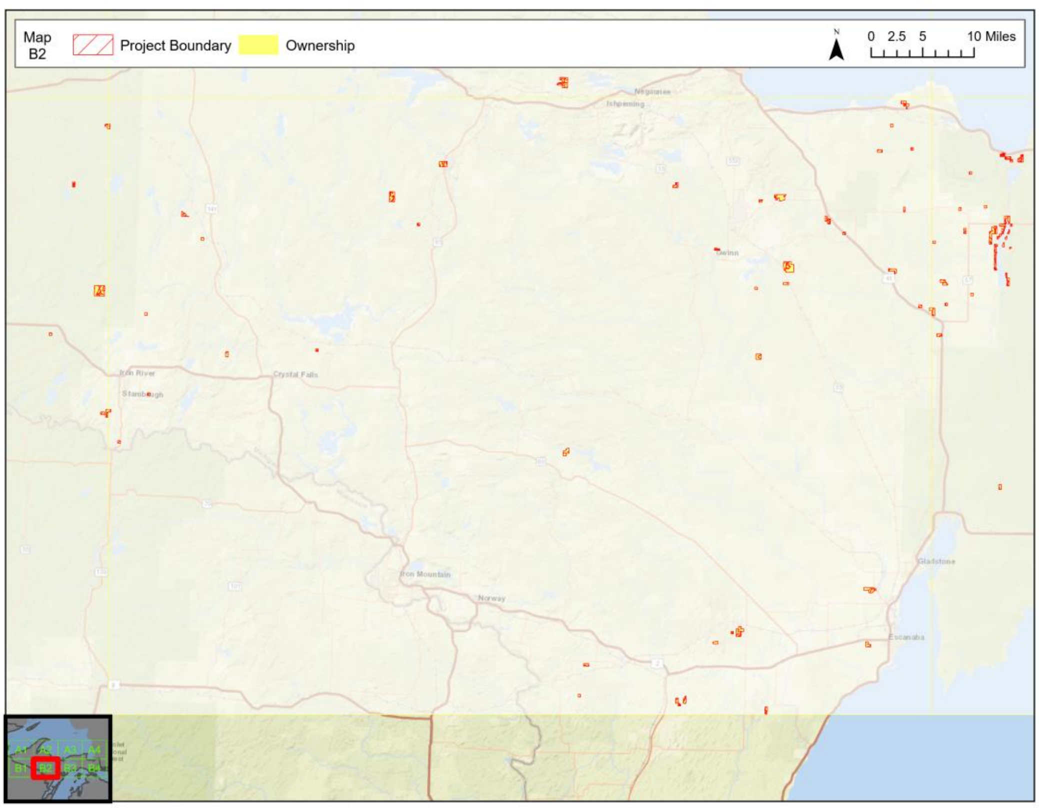


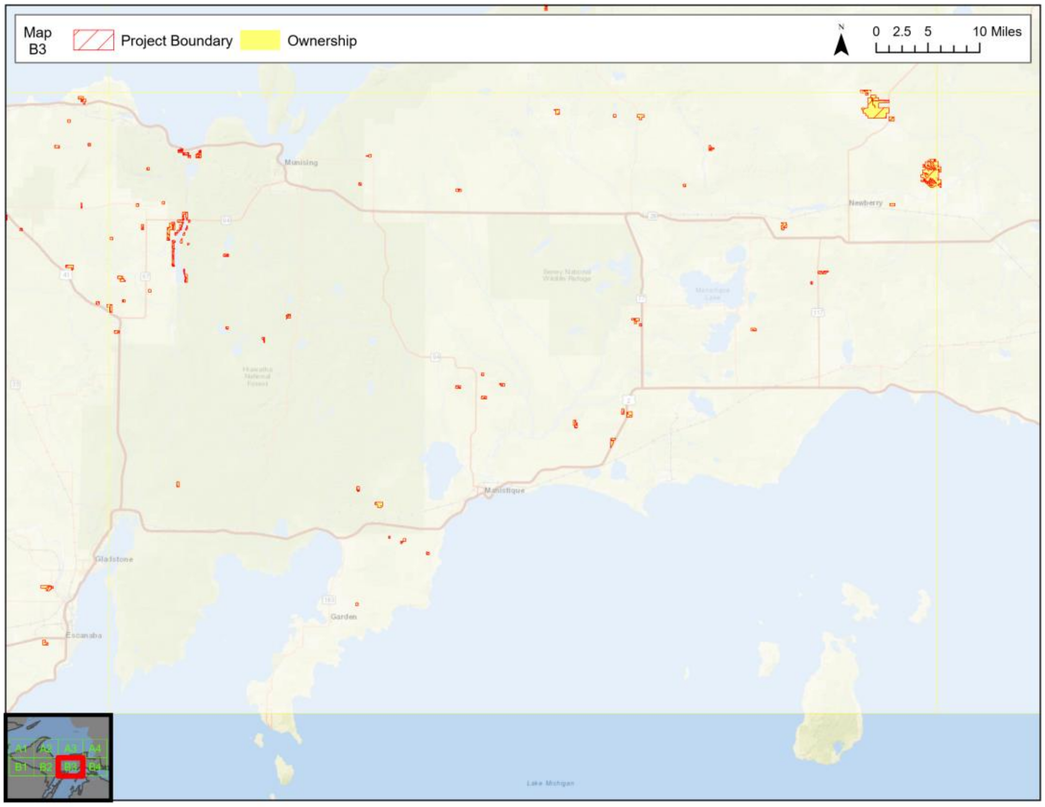


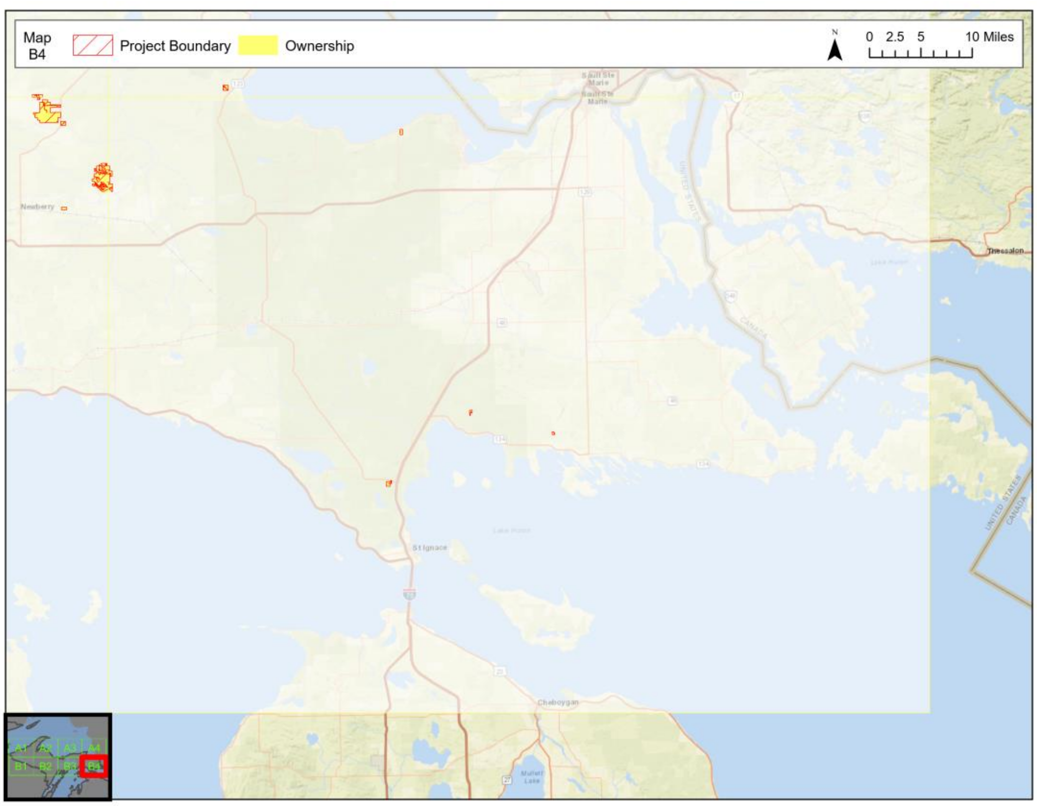

Map
A3
Project Boundary
Ownership
N
0 2.5 5 10 Miles
Munising


Map
A4
Project Boundary
Ownership
N
0 2.5 5 10 Miles


Map
B1
Project Boundary
Ownership
N
0 2.5 5 10 Miles
Park Falls
Phillips
Eagle River
Rhinelander
Crandon
Tomahawk
Iron River
Lac du Flambeau


Map
B2
Project Boundary
Ownership
N
0 2.5 5 10 Miles
Iron River
Crystal Falls
Iron Mountain
Norway
Gladstone
Escanaba


Map B3
Project Boundary
Ownership
0 2.5 5 10 Miles
Munising
Newberry
Manistique
Gladstone
Escanaba
Garden
Lake Michigan


Map B4
Project Boundary
Ownership
0 2.5 5 10 Miles
Newberry
Sault Ste Marie
St Ignace
Cheboygan
Thessalon

A5. BRIEF SUMMARY OF PROJECT

A5.1 Background Information

The Bluesource – Greenleaf Improved Forest Management Project is located on approximately 22,209.5 acres of mixed forestland strewn across the Upper Peninsula, majorly in the state of Michigan and incidentally in the state of Wisconsin. The project includes 14 counties in Michigan, and 1 county in Wisconsin, listed in the table below.

State	County	Acres
Michigan	Alger	3217.0
	Baraga	564.5
	Chippewa	266.5
	Delta	627.0
	Dickinson	168.6
	Gogebic	363.0
	Houghton	2082.2
	Iron	1405.1
	Luce	5587.0
	Mackinac	290.5
	Marquette	3669.5
	Menominee	698.6
	Ontonagon	1041.9
	Schoolcraft	1605.5
Wisconsin	Iron	622.6
	Total Acres	**22,209.5**

Much like the management history throughout the Upper Peninsula, these forests were clear-cut, with most timber stands harvested by the onset of the 1900s. The general project region is sparsely populated with most activity occurring seasonally including outdoor recreation and tourism activities, in addition to active forest management and operations.

A5.2 Description of Project Activity

The project activity is improved forest management, with Greenleaf’s forest management practices representing a significant improvement in the carbon storage and conservation value than higher return, more aggressive management regimes of industrial private lands in the region, which are characterized by shorter, even-aged rotations. Harvest operations did not occur in the first reporting period so that the project proponent could complete their enrollment in the Tree Farm certification program. Going forward, management decisions of the forest focus on sustainable forest growth and regular, uneven-aged harvests as well as promotion of recreation, wildlife habitat and forest health. The project ensures long-term sustainable management of the forests, which could otherwise undergo significant commercial timber harvesting.

A5.3 Project Purpose and Objectives

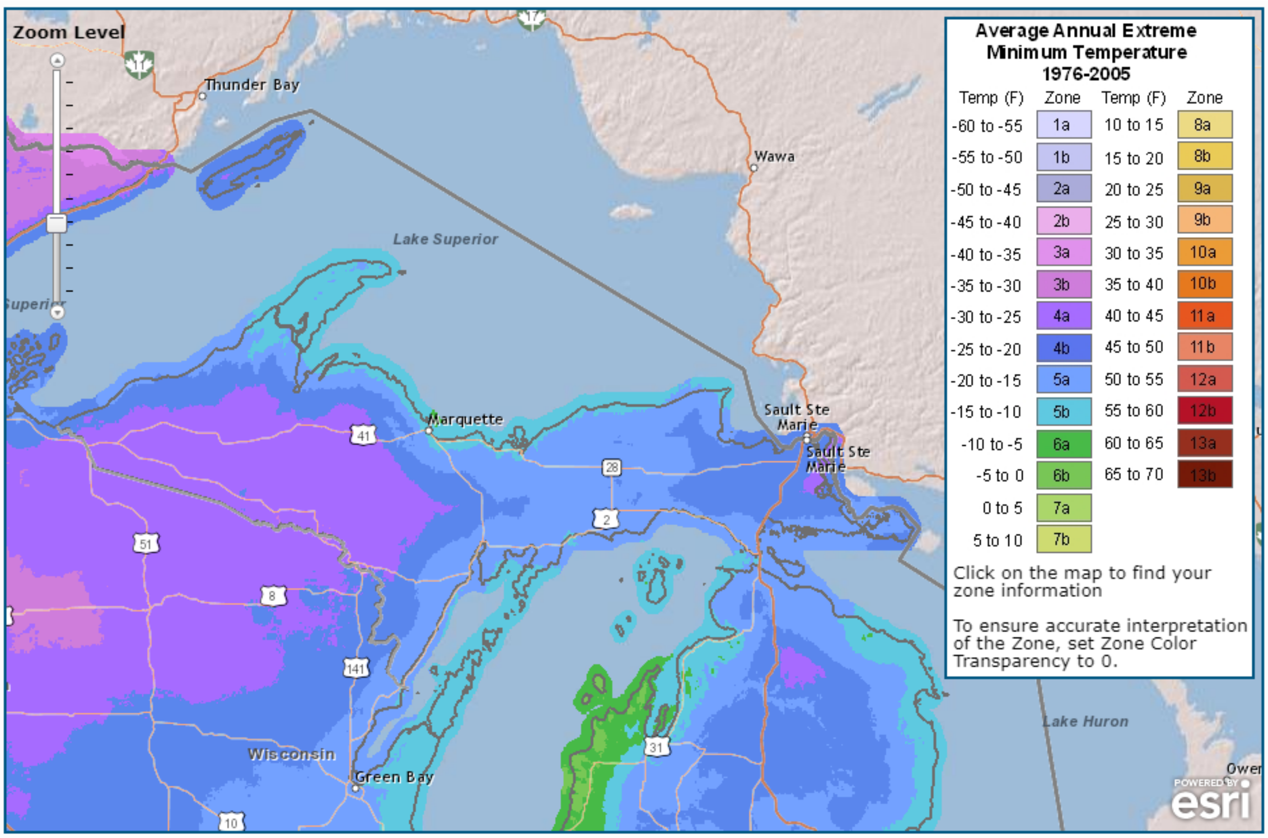
By committing to maintain forest CO_2 stocks above the regional baseline level, the project will provide significant climate benefits through carbon sequestration. The aim of this project is also to ensure long-term continuance of all environmental benefits provided by the preservation of the mixed forestlands and forested bogs of the Upper Peninsula, particularly their value to hydrologic function and wildlife habitat.

A6. PROJECT ACTION

A6.1 Prior Physical Conditions

<u>Climactic zone</u>

The project area is predominantly in the Upper Peninsula of Michigan, which lies in zones 4a, 4b, 5a, and 5b on the USDA plant hardiness zone map. In aggregate, average annual extreme minimum temperatures for these zones are -30°F to -15°F at the low end, and -25°F to -10°F at the high end.



<u>Ecosystem/Vegetation</u>

Given the wide geographic footprint, forest types throughout the property are varied. Some more common types are spruce-fir, mixed hardwood, cedar, red pine, and intermediate forest types that are aggregates of these named types. Prevalent tree species in the carbon project region include balsam fir, aspen spp., birch spp., ash spp., tamarack, white spruce, black spruce, jack pine, red pine, white pine,

northern white cedar, hemlock, red maple, hard maple, and basswood. The vast majority of the project area's timber is merchantable in one market or another and it is the intention of the owner to recommence harvest under certification.

Land Use

Regional land use is predominantly forestry but in the past mining was prevalent in this region, particularly for copper and iron ore. Other than commercial forestry, low-density development is common throughout the Upper Peninsula, especially for waterfront properties and second homes.

A6.2 Description of Project Technologies, Products, Services, and Expected Level of Activity

Commercial harvesting, beginning after the first reporting period, is intended for the carbon project area. Management considerations for the project area will promote uneven-aged silviculture practices. The landowner is committed to following state Best Management Practices so as not to impact water quality in the area.

A6.3 Project Action

By committing to maintain forest CO2 stocks above the baseline level, the project will provide significant climate benefits through carbon sequestration. The project action will allow the forest to progress naturally with less intensive commercial harvesting than would otherwise be expected on similar properties in the region. Bluesource – Greenleaf Improved Forest Management Project will achieve GHG removals by sequestering more atmospheric CO_2 than a baseline scenario in live aboveground biomass, belowground biomass and dead wood.

A7. *EX ANTE* OFFSET PROJECTION

Total projected GHG removal is 1,319,688 mtCO_2e (without risk buffer deduction) over the first crediting period of 20 years (including GHG removal from long-term wood products). Table A7.1 lists the estimates of GHG emissions reductions per year:

Table A7.1. Estimate of Net ERTs by Year.

Project Year	*Year*	*Estimates of GHG emission reductions (mtCO_2e)*
0	2019	Start Date
1	2020	187,784
2	2021	186,808
3	2022	186,808
4	2023	186,808
5	2024	133,010
6	2025	28,833
7	2026	28,833
8	2027	28,833

9	2028	28,833
10	2029	28,833
11	2030	29,235
12	2031	29,235
13	2032	29,235
14	2033	29,235
15	2034	29,235
16	2035	29,626
17	2036	29,626
18	2037	29,626
19	2038	29,626
20	2039	29,626

A8. PARTIES

The project was implemented by Greenleaf Timber Holding, Inc., the landowner, and Blue Source, LLC, a carbon offsets project developer. Project verification will be completed by SCS Global Services and the forest carbon inventory was conducted by Green Timber Consulting Foresters, Inc. Technical modeling was conducted by Blue Source, LLC.

Table A-3. Project Partners & Responsibilities

Project Parties	Personnel/Point of Contact	Roles and Responsibilities	Contact Information
Greenleaf Timber Holding, Inc.	Matt Beaupied, Director of Land Resource	Project Proponent – financing and implementation of long-term project management	Greenleaf Timber Holding, Inc PO Box 386 Powers, MI 49874 Phone: (906) 235-4919
Blue Source, LLC	Josh Strauss, Vice President	Offset Developer – coordination of project implementation, modeling	Blue Source LLC 2825 E. Cottonwood Pkwy Suite 400 Cottonwood Heights, UT 84121 Phone: 949-233-1501
SCS Global Services	Christie Pollet-Young, Director, GHG Verification	Verifier	SCS Global Services 2000 Powell Street Emeryville, CA 94608 Phone: 510-452-8000
Green Timber Consulting Foresters, Inc.	Justin Miller, President	Contractor – Forest Inventory	Green Timber Consulting Foresters, Inc. 11511 U.S. Highway 41 Pelkie, MI 49958 Phone: 906-353-8584

B. METHODOLOGY

B1. APPROVED METHODOLOGY

The methodology used for the Bluesource – Greenleaf Improved Forest Management Project is the American Carbon Registry Improved Forest Management Methodology for Quantifying GHG Removals and Emission Reductions through Increased Forest Carbon Sequestration on Non-Federal U.S. Forestlands, Version 1.3 (April 2018).

(hereinafter called the "methodology")

B2. METHODOLOGY JUSTIFICATION

All applicability criteria of the selected methodology are fulfilled by the Bluesource – Greenleaf Improved Forest Management Project:

1. The land committed to the Greenleaf Improved Forest Management Project is a non-federally owned private forestland.
2. Greenleaf Timber Holding, Inc controls the timber rights on the forestland and can legally harvest (appendix A. Deeds and Contracts).
3. The landowner will harvest in the future. The property is certified under the Tree Farm Certification.
4. N/A. The managing legal entity for Bluesource – Greenleaf Improved Forest Management project is Greenleaf Timber Holding, Inc, a private forestland owner.
5. N/A. Bluesource – Greenleaf Improved Forest Management Project is not on public, non-federal lands.
6. There is no use of non-native species where adequately stocked native stands were converted for forestry or other land uses after 1997.
7. There is no draining or flooding of wetlands on or after the project Start Date.
8. See attached Deeds (Appendix A. Deeds and Contracts).
9. Stocking levels increase well above the baseline conditions for the duration of the project and by the end of the Crediting Period (see section E1. Baseline).

B3. PROJECT BOUNDARIES

The physical project boundaries include 22,209.5 acres of forestland, shown in the maps in section A4. Location and in the shapefile "Greenleaf_Boundary.shp".

See H2. Project Timeline for the temporal boundaries of the project.

B4. IDENTIFICATION OF GHG SOURCES AND SINKS

Carbon pools	**Included / Optional / Excluded**	**Justification / Explanation of Choice**
Above-ground biomass carbon	Included	Major carbon pool subjected to the project activity.
Below-ground biomass carbon	Included	Major carbon pool subjected to the project activity.
Standing dead wood	Included/Optional	Major carbon pool in unmanaged stands subjected to the project activity. Project Proponent may also elect to include the pool in managed stands. Where included, the pool must be estimated in both the baseline and with project cases. *For Bluesource – Greenleaf Improved Forest Management Project, standing dead wood will be included in all stands.*
Lying dead wood	Optional	Project proponent may elect to include the pool. Where included, the pool must be estimate in both the baseline and with project cases. *For Bluesource – Greenleaf Improved Forest Management Project, lying dead wood will **not** be included.*
Harvested wood products	Included	Major carbon pool subjected to the project activity,
Litter/Forest Floor	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.
Soil organic carbon	Excluded	Changes in the litter pool are considered *de minimis* as a result of project implementation.

Gas	**Source**	**Included / Excluded**	**Justification / Explanation of choice**
CO_2	Burning of biomass	Excluded	However, carbon stock decreases due to burning are accounted as a carbon stock change.
CH_4	Burning of biomass	Included	Non-CO_2 gas emitted from biomass burning.
N_2O	Burning of biomass	Excluded	Potential emissions are negligible.

Leakage Source		**Included / Optional / Excluded**	**Justification/ Explanation of Choice**
Activity-Shifting	Timber Harvesting	Excluded	Project Proponent must demonstrate no activity-shifting leakage beyond the *de minimis* threshold will occur as a result of project implementation
	Crops	Excluded	Forestland eligible for this methodology do not produce agricultural crops that could cause activity shifting

	Livestock	Excluded	Grazing activities, if occurring in the baseline scenario, are assumed to continue at the same levels under the project scenario and thus there are no leakage impacts
Market Effects	Timber	Included	Reductions in project outputs due to project activity may be compensated by other entities in the marketplace. Those emissions must be included in the quantification of project benefits.

B5. BASELINE

The baseline scenario represents an aggressive industrial harvest regime, targeted to maximize net present value at a 6% discount rate, typical of current practices in the project region on private lands.

Baseline practices involve clearcut, shelterwood, and single tree selection silvicultural prescriptions. Derivation and justification for the baseline is detailed in Section E. Quantification.

B6. PROJECT SCENARIO

The project scenario consists of managing the forestland using uneven-aged silvicultural techniques for generation of wood products, focusing too on preservation of water quality and wildlife habitat promotion, as described in Section A6. Project Action.

B7. REDUCTIONS AND ENHANCED REMOVALS

The project will achieve greenhouse gas reductions through natural growth of forestland on lands that otherwise could be heavily cut in the baseline scenario. Introduction of uneven-aged harvest regimes will enhance removal rate to maintain carbon stocks above the common practice values of the region.

B8. PERMANENCE

Project Proponent must conduct its risk assessment using the *ACR Tool for Risk Analysis and Buffer Determination*. All Project types must claim a value from risk categories A, B and C. Additional values that must be selected by project type include:

Forestry projects claim one value from each:

- D Conservation Easement (if applicable)
- E Fire
- F Disease/pest
- G Levee failure/water table changes (required only if forested wetlands comprise more than 60% of project area)
- H Other natural disaster risk scores.

1. Management and Governance Risks: All project types must select one value form each risk category that applies:

A	Financial	• 4% Default Value • 3% US Public and Tribal Lands
B	Project Management	• 4% Default Value • 3% US Public and Tribal Lands
C	Social/Policy	• 2% Default Value • 5% if project is located outside of the US • 3% if project is located outside of the US and demonstrates community engagements through ACR-approved mechanism
D	Conservation Easement Deduction	• -2% Default value • -3% if there is regular onsite monitoring of activities related to carbon-specific conservation activities

2. Natural Disaster Risks: Select one value from each risk category that applies:

E	Fire	• 8% if project is located in an area where fire greater than 1000 acres has occurred within 30 mile radius of project area in prior 12 months • 4% if project is located in high fire risk region • 2% if project is located in low fire risk region (verifiable evidence must be provided) • 1% for agriculture and grassland projects only
F	Diseases and Pests	• 8% if epidemic disease or infestation is present within project area, or within 30 mile radius of project area • 4% Default Value
G	Levee Failure and Water Table Changes	• 2% Default for all wetland projects (and for forest projects where more than 60% of the project area is a forested wetland)
H	Other Natural Disaster Events	• 2% Default Value for all sequestration projects

Calculated Risk Score

Section 1 (A + B + C + D*) + Section 2 (E + F + G + H) = Total Risk score %

Section 1 (4 + 4 + 2 + 0) + Section 2 (2* + 4 + 0 + 2) = 18%

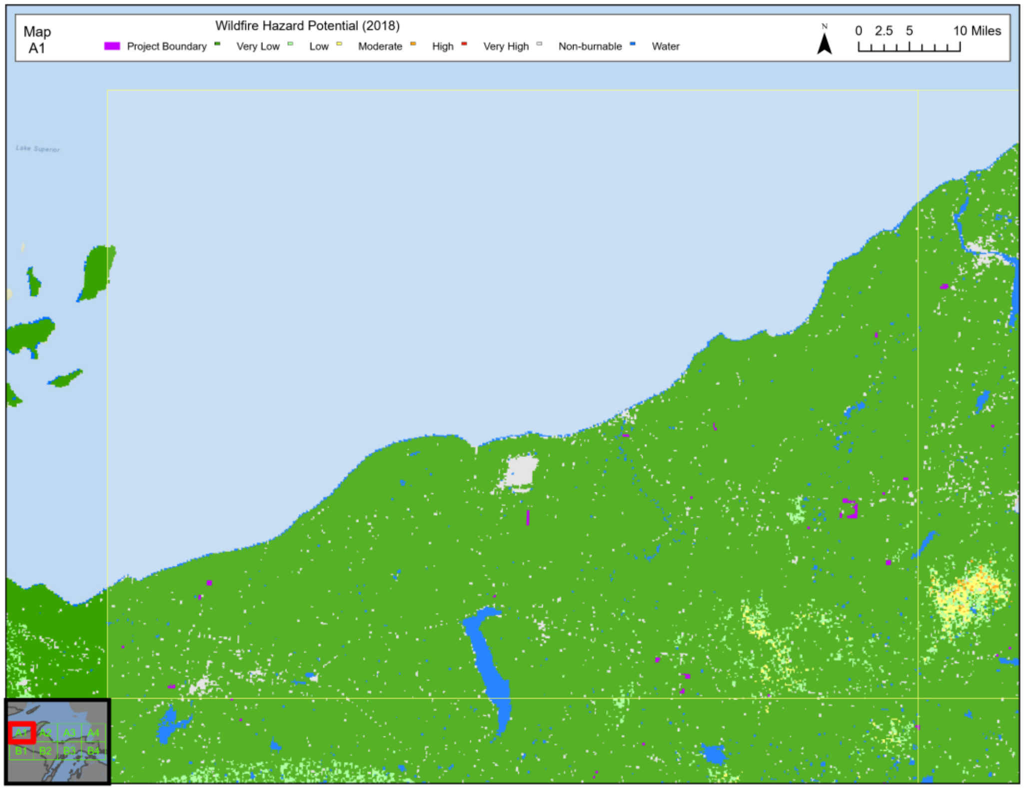
*Project area is in a majority low fire risk region according to the Hazard Potential (WHP) map provided by the USFS.

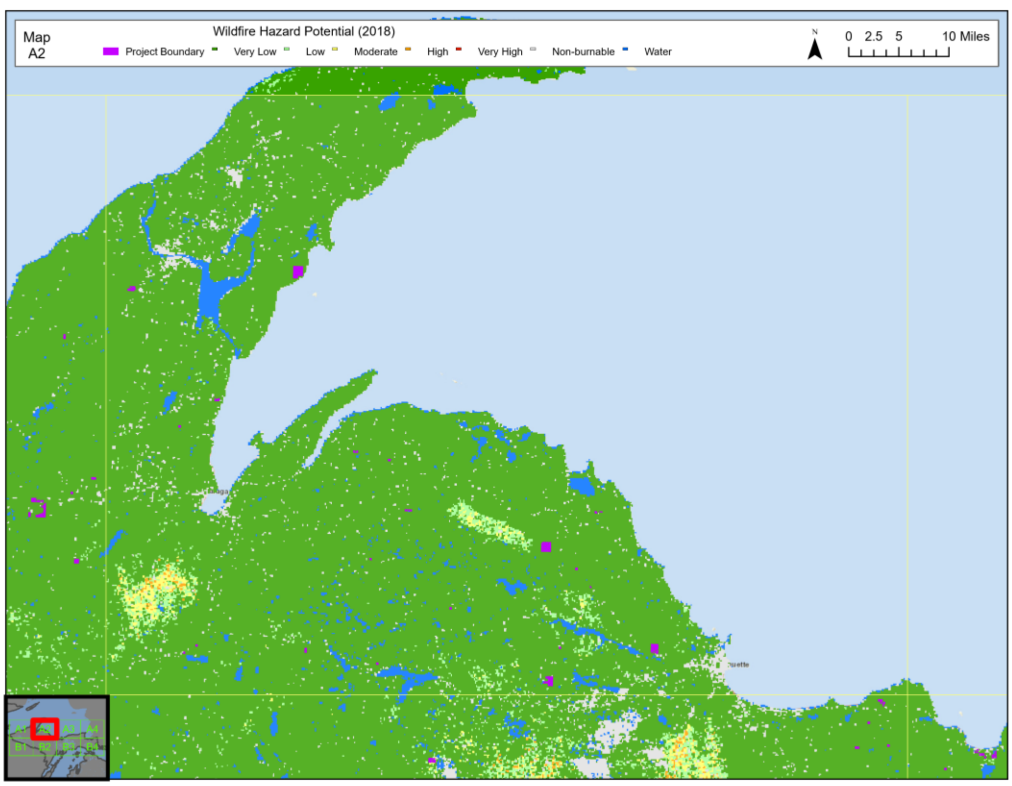
Buffer Pool Contribution

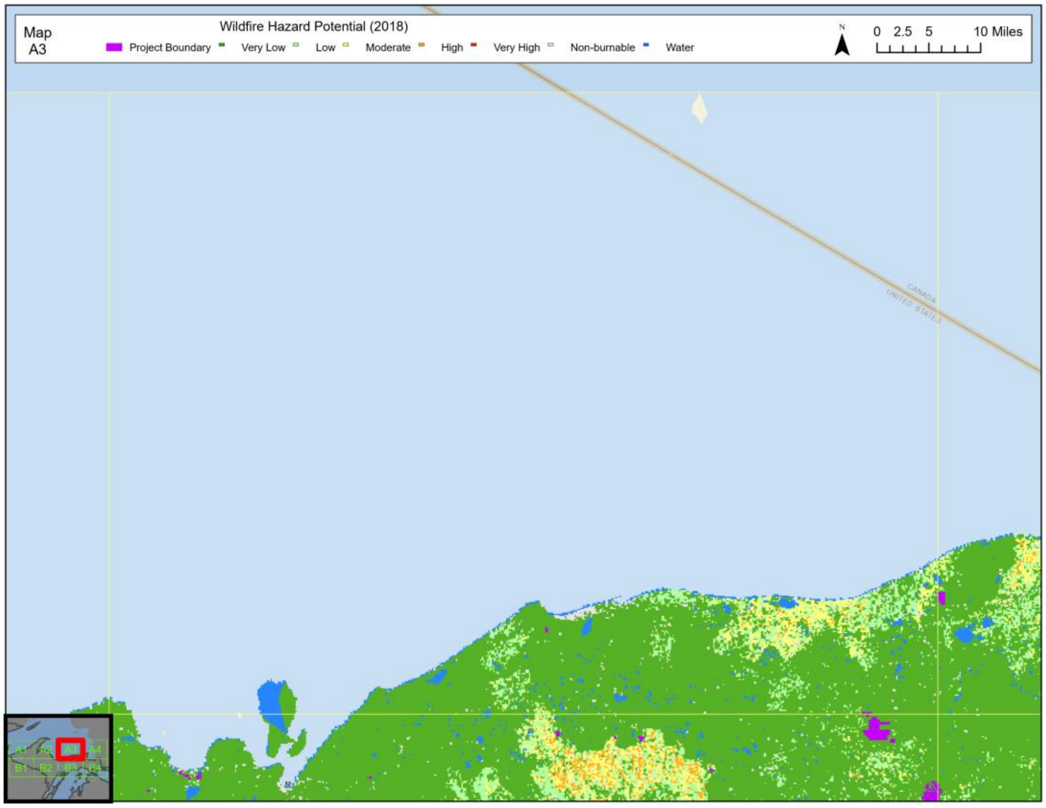
Total Risk score % * Total ERTs generated for reporting period = Buffer pool contribution in ERTs at time of issuance.

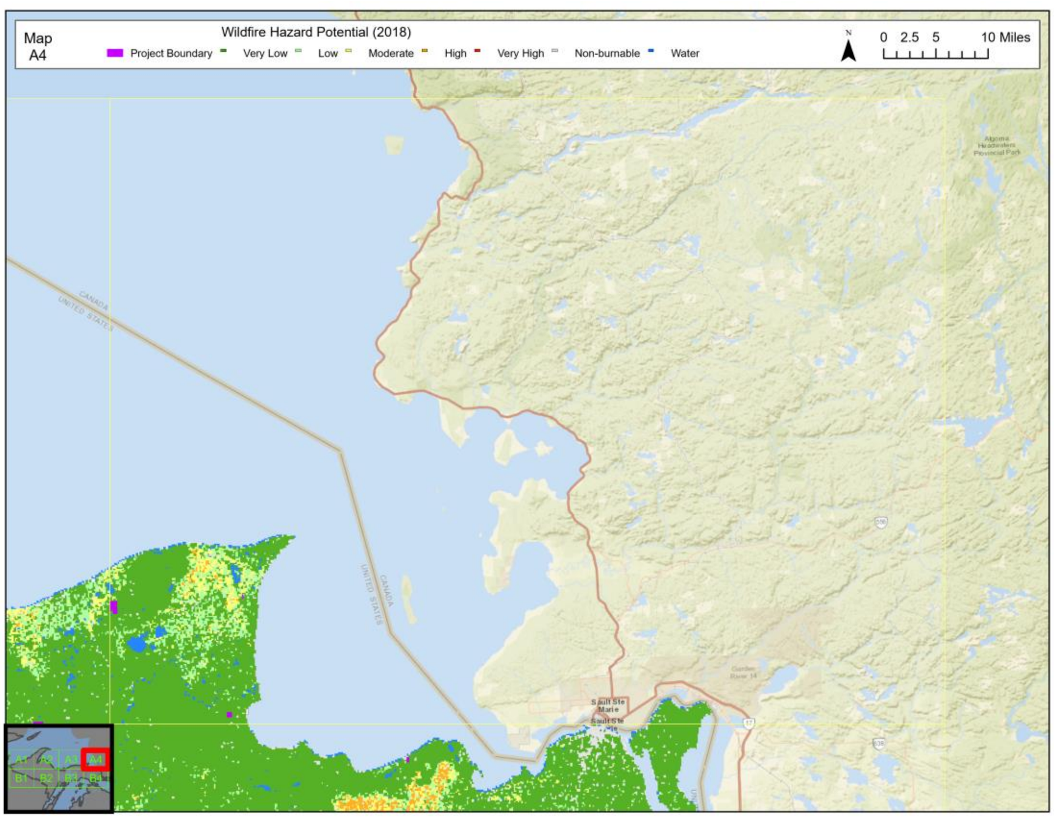
*18% * 187,784 = 33,802 credits of buffer pool contribution*

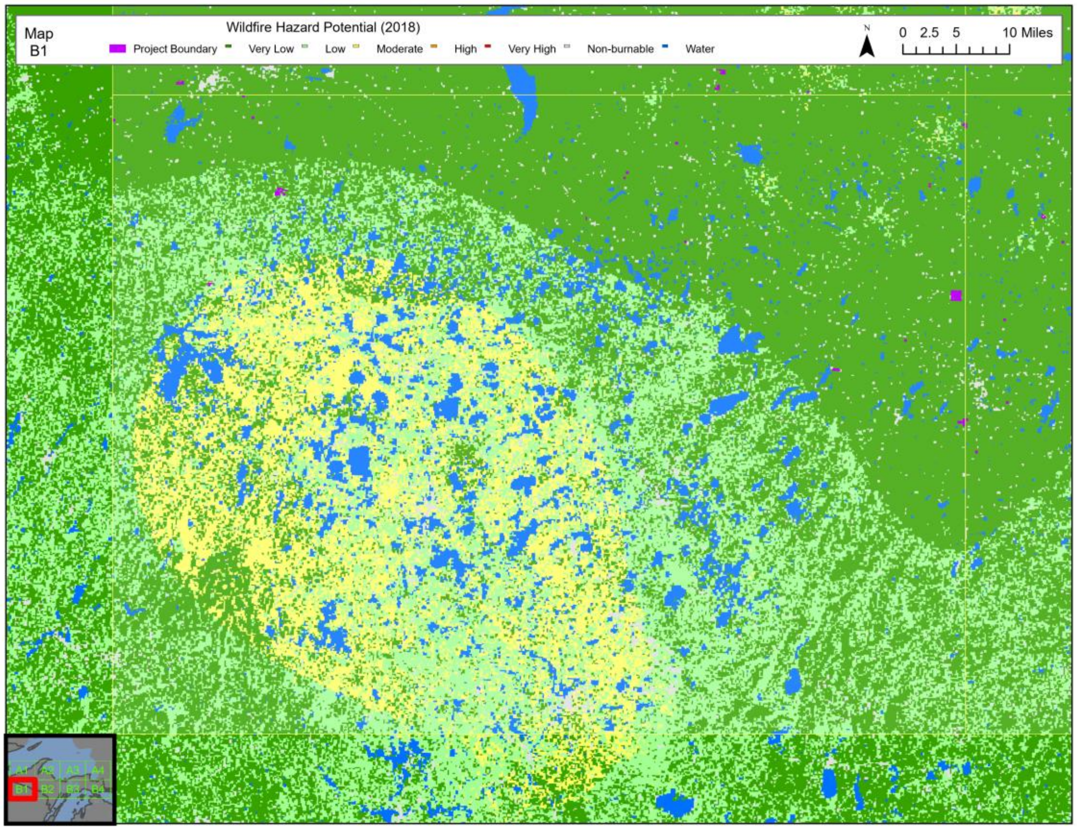
Figure B8. Wildfire risk map using Wildfire Hazard Potential, Version 2014 from USDA Forest Service

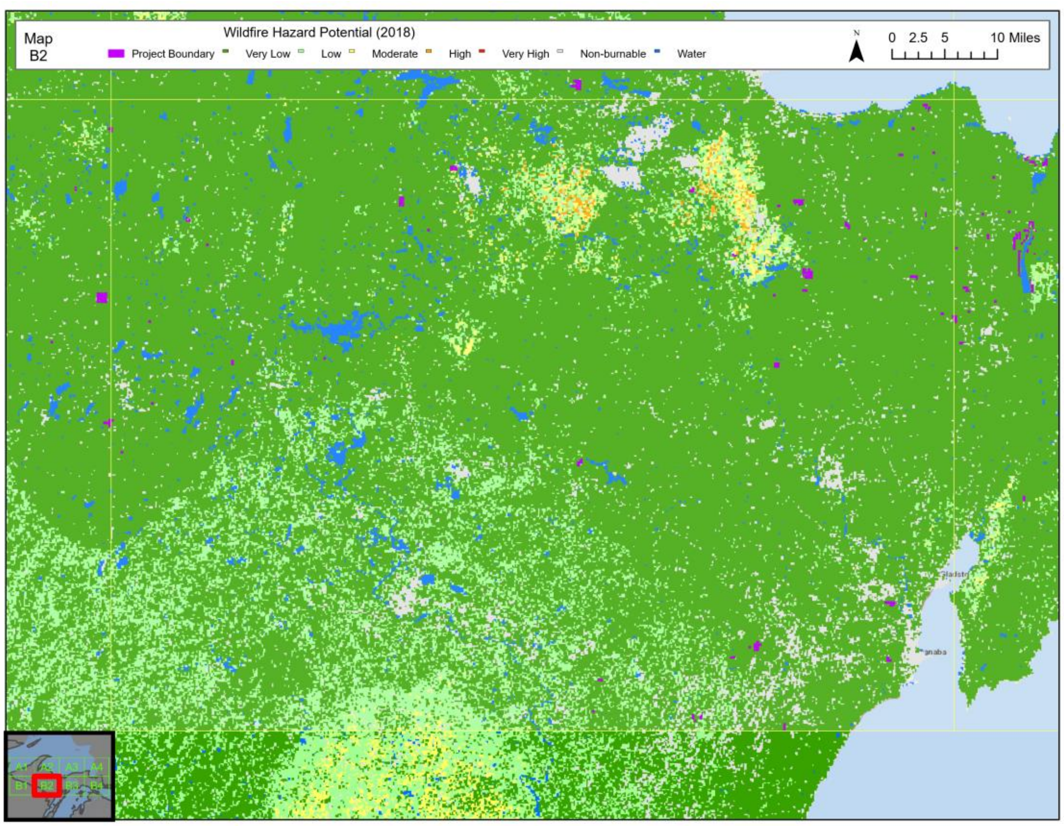


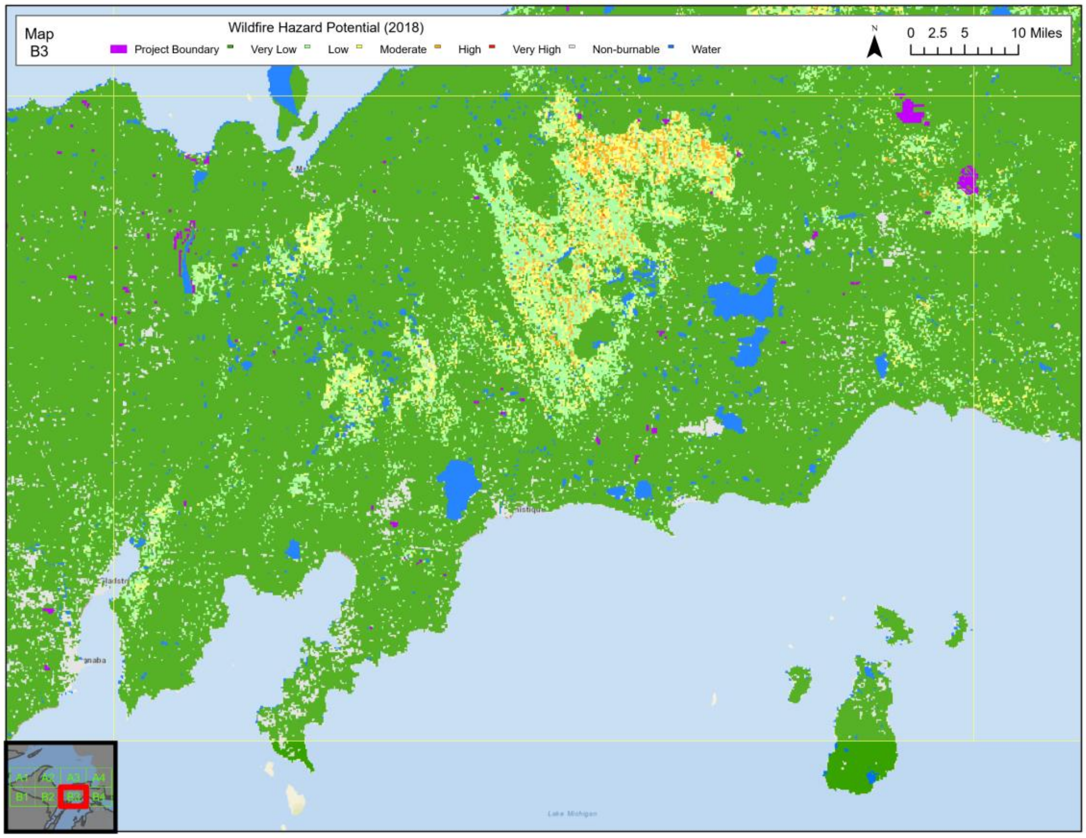


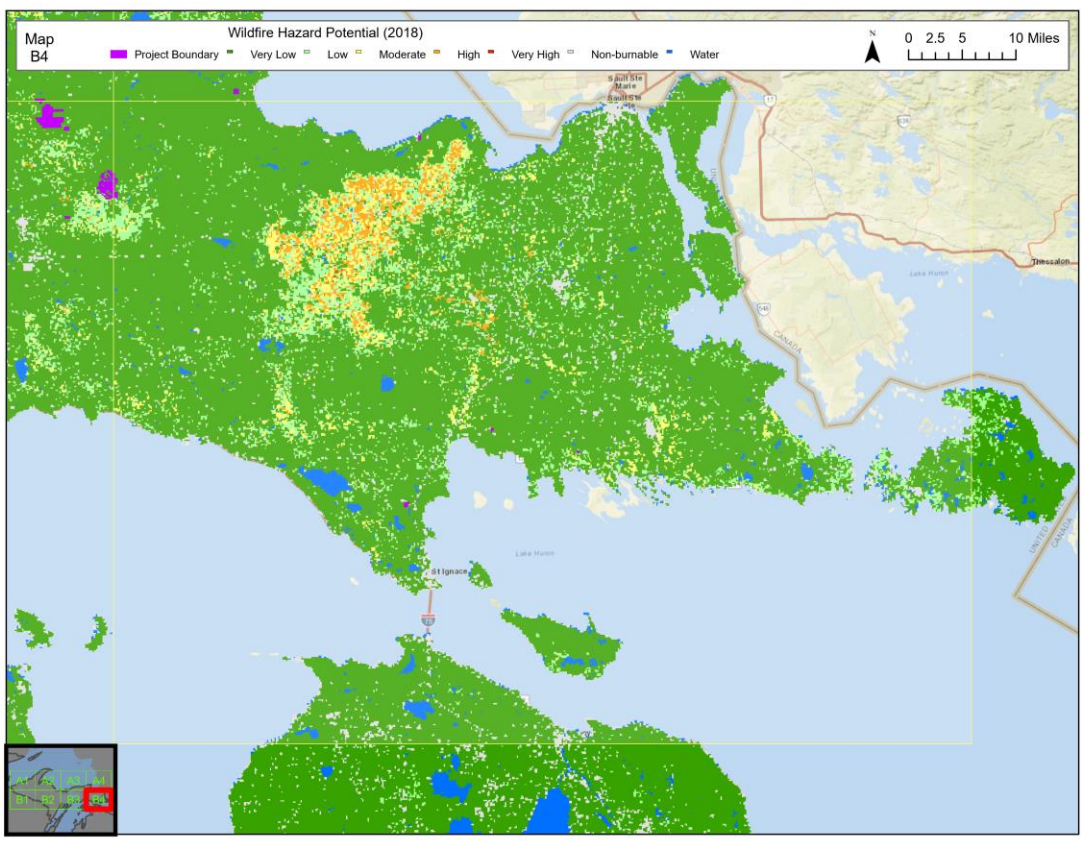

Map
A3
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles
CANADA
UNITED STATES


Map
A4
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles
CANADA
UNITED STATES
Sault Ste
Marie


Map
B1
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles


Map
B2
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles


Map
B3
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles


Map
B4
Wildfire Hazard Potential (2018)
Project Boundary
Very Low
Low
Moderate
High
Very High
Non-burnable
Water
N
0 2.5 5 10 Miles

C.ADDITIONALITY

C1. REGULTORY SURPLUS TEST

Relevant laws, regulations, statues, legal rulings, and other regulatory frameworks that affect the project activity:

National laws, regulations and policies.

Clean Water Act
Endangered Species Act
Fair Labor Standards Act (1938) (amended)
Multiple-Use Sustained-Yield Act of 1960
National Environmental Policy Act (NEPA)
National Forest Management Act (NFMA)
Resources Planning Act (RPA)
Wilderness Act
The Logger's Guide to the New OSHA Logging Safety Standards, 1995

State & Local laws.

Michigan Department of Natural Resources: Forestry Best Management Practices for Soil and Water Quality
Michigan Commercial Forest Act
Wisconsin Department of Natural Resources, Division of Forestry: Best Practices for Water Quality

Binding International Agreements.

Kyoto Protocol (signed, not ratified)
United Nations Framework Convention on Climate Change, 1992
United Nations Convention on Biological Diversity, 1992 (signed, not ratified)
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), 1973
UNESCO World Heritage Convention, 1972

None of the above or any other existing law, regulation, statute, legal ruling, or other regulatory framework in effect as of the CDMA date of April 11, 2019 effectively requires the forest carbon project activity and its associated GHG emissions reductions/removal enhancements. Consequently, the project passes the Regulatory Surplus test.

C2. COMMON PRACTICE TEST

The Bluesource – Greenleaf Improved Forest Management Project located in the Upper Peninsula of Michigan, and incidentally in Wisconsin. A wide range of wood products, including hard and softwood sawtimber, hardwood veneer, and mixed distributed to mills throughout this region. The region and particularly the ownership have a history of timber harvesting and contracting to logging companies. The

forest type for this project is similar to industrial forestland ownerships typical of the region. Throughout the geographic region, private forestland is heavily cut, often through clear-cutting and high-grading, and is managed to maximize NPV of the asset. According to Bluesource's interviews with professionals familiar with the regional industry, as well as the Timber Mart North stumpage report[3], wood product demand in this region is strong and consistent across species and product types. The ownership itself is large and varied enough to sell into all markets common throughout the region, able to respond demand and fluxes throughout out the year. It's a seller's market, with mills often operating below maximum capacity. If the Bluesource – Greenleaf Improved Forest Management Project was not implemented, the forest management would resemble that of a typical industrial forestland ownership in the region. Instead, the project will exceed the common practice as described in Section A6. Project Action.

C3. IMPLEMENTATION BARRIERS TEST

- ***Financial***
- *Technological*
- *Institutional*

Implementation Barriers	*Choose one of the following three:*
Financial	Does the project face capital constraints that carbon revenues can potentially address; *or* is carbon funding reasonably expected to incentivize the project's implementation; *or* are carbon revenues a key element to maintaining the project action's ongoing economic viability after its implementation? **Yes = Pass; No = Fail**
Technological	Does the project face significant technological barriers such as R&D deployment risk, uncorrected market failures, lack of trained personnel and supporting infrastructure for technology implementation, or lack of knowledge on practice/activity, and are carbon market incentives a key element in overcoming these barriers? **Yes = Pass; No = Fail**
Institutional	Does this project face significant organizational, cultural, or social barriers to implementation, and are carbon market incentives a key element in overcoming these barriers? **Yes = Pass; No = Fail**
If the project passes the Regulatory Surplus and Common Practice tests, and at least one Implementation Barrier test, ACR considers the project additional.	

Carbon funding is reasonably expected to incentivize the project's implementation. The implementation of the carbon project represents an opportunity cost to lost revenue associated with the potential timber harvesting that could legally and feasibly occur on the property in the lifetime of the carbon project. A financial feasibility assessment is provided separately for verification demonstrating the financial barrier carbon funding overcomes in project implementation.

[3] Prentiss & Carlisle. Timber Mart North Price Report. Volume 25, Number 2. 2019.

C4. PERFORMANCE STANDARD TEST

The Bluesource – Greenleaf Improved Forest Management project uses the three-pronged approach; therefore, this step is not required.

D.MONITORING PLAN

D1. MONITORED DATA AND PARAMETERS

Data or Parameter Monitored	A_1
Unit of Measurement	Acres
Description	Area of IFM Project
Data Source	GIS shape file derived from GPS coordinates
Measurement Methodology	Strata area figures adjusted based on stocking levels and species distribution projected in modeling and verified through inventory updates
Monitoring Frequency	Every 5 years, following with inventory update
Value applied:	22,209.5
Reporting Procedure	Handheld GPS unit, GIS software
QA/QC Procedure	Meta data is kept current and uncorrupted
Purpose of Data	Calculation of project emissions
Calculation method:	Calculated in Arc GIS
Notes	

Data or Parameter Monitored	T
Unit of Measurement	Year
Description	Number of years between monitoring time t and t1 (T = t2 – t1)
Data Source	Monitoring reports
Measurement Methodology	
Monitoring Frequency	Yearly
Value applied:	Calendar
Reporting Procedure	
QA/QC Procedure	All calculations double checked for accuracy prior to submission for verification
Purpose of Data	Calculation of project emissions
Calculation method:	Subtraction
Notes	

Data or Parameter Monitored	Diameter at breast height of tree
Unit of Measurement	Inches (to 1/10th an inch)

Description	Tree diameter measure 4.5 feet above ground
Data Source	Field measurement
Measurement Methodology	Measured with Loggers Tape or calipers
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. Breast height marked with permanent paint on all record trees > 5 inches in diameter
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	H
Unit of Measurement	Feet
Description	Height of tree
Data Source	Field measurement
Measurement Methodology	Measured with clinometer or hypsometer
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All heights will be double checked for reasonableness prior to submission for verification
Purpose of Data	Calculations of project emissions
Calculation method:	N/A
Notes	

Data or Parameter Monitored	Decay Class
Unit of Measurement	
Description	Qualitative degree of decomposition
Data Source	Forest Inventory
Measurement Methodology	Qualitative assessment of dead tree into 1 of 4 decay classes based on class descriptions
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All decay classes will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Tree Live/Dead Status
Unit of Measurement	
Description	Live or Dead
Data Source	Forest Inventory
Measurement Methodology	Consistent with "Greenleaf_CarbonPlot_Methodology_11_6_19.pdf"
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree statuses will be double checked for reasonableness prior to submission for verification
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Defect
Unit of Measurement	%
Description	Qualitative percent of missing biomass
Data Source	Forest Inventory
Measurement Methodology	Tree defect is qualitatively assessed for missing biomass in the bole from 1ft stump to total height. The exception is for broken tops below 4" DOB when the percent biomass missing is calculated from 1ft stump to broken top. Tree defect is assessed by dividing the tree into thirds, estimating percentage of missing carbon volume in each third, and assign a deduction value. Top height and phantom height are measured and missing biomass in the broken portion is calculated post-inventory. For dead tree defect, only bole defect will be estimated from 1ft stump to 4" DOB.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	Tree-specific
Reporting Procedure	Handheld GPS unit or cruise tally sheet
QA/QC Procedure	Equipment will be maintained in excellent condition. All tree defects will be double checked for reasonableness prior to submission for verification.
Purpose of Data	

Calculation method:	
Notes	

Data or Parameter Monitored	Species Composition
Unit of Measurement	%
Description	Spp. composition as a percentage of basal area
Data Source	Forest Inventory
Measurement Methodology	Derived from basal area calculations from inventory data.
Data Uncertainty	None
Monitoring Frequency	Every 5 years after the first inventory
Value applied:	
Reporting Procedure	
QA/QC Procedure	Species identification is confirmed at verification.
Purpose of Data	Calculation of project emissions
Calculation method:	Basal Area = 0.005454 * DBH^2
Notes	

Data or Parameter Monitored	Harvested Wood Products
Unit of Measurement	Metric tons CO_2
Description	Carbon remaining in stores wood products 40 years after harvest for the project in year t.
Data Source	NA
Measurement Methodology	NA
Data Uncertainty	None
Monitoring Frequency	Annual data summed for the monitoring period, applied as average annual for the monitoring period
Value applied:	
Reporting Procedure	
QA/QC Procedure	NA
Purpose of Data	
Calculation method:	
Notes	

Data or Parameter Monitored	Forest Carbon
Unit of Measurement	Metric tons of CO_2
Description	Carbon stores in above and below ground live trees at the beginning of the year t
Data Source	Forest Inventory
Measurement Methodology	Consistent with “Greenleaf_CarbonPlot_Methodology_11_6_19 .pdf”

Data Uncertainty	To be calculated as the mean +/- 90% confidence interval
Monitoring Frequency	Every 5 years or less, or at request for ERT issuance
Value applied:	
Reporting Procedure	
QA/QC Procedure	"Greenleaf_CarbonPlot_Methodology_11_6_19 .pdf"- The inventory will use a random sample design and re-measure the same permanent plots established in 2019, which targeted a precision level of +/- 10% of the mean live tree biomass with 90% confidence.
Purpose of Data	
Calculation method:	
Notes	

D2. MONITORING PLAN

Each year, the Project Proponent shall submit a signed Attestation that:

- Confirms the continuance of project activities;
- Confirms that ownership remains clear and uncontested;
- Discloses any negative environmental or community impacts or claims of negative environmental and community impacts, and documents plans to mitigate any reported negative environmental or community impacts;
- Addresses any significant change in external conditions that would affect the quality or environmental integrity of the project.

The following material outlines the monitoring plan to be followed during the decade following the initial project validation and verification.

The following material outlines the monitoring plan to be followed during the decade following the initial project validation and verification.

General Monitoring Method

In the year prior to validation/initial verification, a representative sample of 198 fixed radius permanent inventory plots were established across the project area. The plot network provided enough data to keep total project uncertainty below 10% of the net anthropogenic greenhouse gas removals by sinks across the project, thereby avoiding any uncertainty deductions in the quantification process. All permanent plots will be re-inventoried at least twice over the following decade to calibrate forest growth models and improve carbon sequestration projections.

The heavily monumented and well-maintained plot design gives forest managers the opportunity to consistently track the growth and development of specific trees over an extended timeline and allows for

improved ease of plot location during field work and site verifications. All plots will be re-measured in a manner consistent with the Inventory Methodology, provided separately for verification. [4]

In addition to the full inventory update of the entire property that will be conducted on all plots every 5 years, inventories of select portions of the Project Area will be updated periodically in response to natural disturbance or significant forest management activities. Following natural disturbance events, affected project stands will be assessed for damage. If damage is significant, the affected areas will be re-inventoried and project scenario models will be adjusted to reflect onsite carbon stocks.

In years in which forest plots are not re-inventoried carbon stocks will be monitored through forest growth and yield modeling.

In addition to inventory sampling, management staff will consistently monitor the general health and condition of the forest throughout the course of normal forest management activities (e.g. road maintenance, ecological studies, boundary marking, etc.), reducing the risk of reversal by disease, pest invasion, and unauthorized timber removal.

Blue Source LLC (Bluesource) will oversee the execution and reporting of all project reporting, modeling, and monitoring activities on behalf of the landowner. The landowner will be responsible for “on the ground” forest management activities on the project area, and Green Timber Consulting Foresters, Inc. will conduct inventory measurements and data collection. After forest inventory data collection, Green Timber Consulting Foresters, Inc. will report results to Bluesource for processing and updating of modeling projections. After processing is complete, Bluesource will house all data and submit the necessary documentation for compliance with ACR standards. Bluesource will ultimately store project data for at least ten years after the conclusion of the project.

Data Processing and Storage

Manually and electronically filed data are stored and archived. Backup copies of all electronically stored data are maintained in a separate data center with scheduled archiving to assure data protection. Future revisions to project documents after initial verification and registration will be clearly identified by saving them as separate files and including the date of revision in any modified documents. All data will be stored on Dropbox or similar online cloud storage service as well as on an external hard drive and kept by Bluesource for a minimum of 15 years.

QA/QC Field Procedures

Field Procedures

At the end of each field day, individual foresters will email their plots from the data recorders (or paper) to the senior forester. The senior forester will then look for irregularities in the data and ask the field crew to confirm the data or remeasure any plots that cannot be reconciled. The senior forester will then add all the data to a master spread sheet.

4 The details of the carbon inventory methodology are considered commercially sensitive material as the methodology is the result of considerable investment of Blue Source LLC’s resources.

At least 5% of the plots will be checked by a different forester than cruised the plot, preferably by someone senior to the field crew. This will involve full plot measurement to identify any problems with determining in/out trees, species calls, defect measurements, DBH measurements, and height measurements. Any errors noted during the check cruise will be used to update the master spread sheet file. Any consistent height, species, DBH, or defect errors will be resolved by talking with the foresters and removing crew members if need be.

Desk Procedures

The following QA/QC approach is designed to ensure that field data, once input, is appropriately managed and maintained, and that subsequent calculations using that data to determine onsite carbon stocks and associated ERT issuance are correctly implemented.

A three-stage QA/QC process with a defined review group for the project will be established, engaging both personnel intimately familiar with all project files and documentation, as well as independent reviewers who are able to bring "fresh eyes" to key outputs.

Independent Forester Review: The project implementation team (Bluesource) has a team of foresters with intimate knowledge of the files, models and documents. The development of quantitative components, such as Access databases, FVS model runs and Excel workbooks, are led by one of these foresters. Prior to finalization, a second forester who did not lead development of that component is tasked with a QA/QC review including random examinations and data checks to identify and fix any errors.

Technical Review: Once quantitative outputs are finalized, exported from Access/FVS to Excel, and are ready to be transferred into the GHG Plan and other project documents, an independent manager reviews these outputs. This individual performs data checks by tracing key outputs back from final ERT calculations though the chain of Excel documents to the underlying Access/FVS database.

Senior Management Review: Once outputs have been transferred from Excel to the GHG Plan and other project documents, a senior manager reviews these documents and checks that all quantitative elements have been correctly exported from the underlying workbook. At this stage, the senior manager (or other individual not involved in document preparation) also reviews text, grammar and formatting for presentation and accuracy.

E. QUANTIFICATION

E1. BASELINE

Baseline analysis began with a forest carbon inventory of the project area, conducted from April 2019-April 2059. The inventory was a systematic random sample of nested fixed radius circular plots; field measurement protocols are documented in “Greenleaf_Carbon_Plot_Methodology_02_27_19.pdf”. Strata were delineated to represent broad forest/type structure and management regimes in the project area.

Table E1a-Project acreage

Stratum	n	acres
CB	56	5,652
NH	81	10,417
PSF	24	3,684
PL	37	2,457
Total	100	22,210

GROWTH MODEL OVERVIEW

Field measurement protocols are documented in Greenleaf_Carbon_Plot_Methodology.pdf.” Strata were delineated based on the distribution of forest types in the project area.

Total aboveground biomass carbon was estimated from inventory data applying species group-specific allometric equations sourced from Jenkins et al 2003[5]. Root biomass was then estimated from total aboveground biomass using component ratios from Jenkins et al 2003, to produce total live tree biomass. Total live tree biomass was converted from pounds to metric tons, multiplied by 0.5 to estimate carbon fraction, then multiplied by 3.664 to calculate CO2 equivalent.

Carbon in standing dead wood was estimated in the same way as for live trees, with deductions for decay class recorded in the field. Decay classes were recorded according to the ACR standard using the methodology-defined class (see table below).

Table E-1b. ACR Decay classes

Decay Class	Description
Decay Class 1	Tree with branches and twigs that resembles a live tree (except for leaves)
Decay Class 2	Tree with no twigs but with persistent small and large branches.
Decay Class 3	Tree with large branches only.
Decay Class 4	Bole only, no branches.

[5] Jenkins, J.C., Chojnacky, D.C., Heath, L.S. and R.A. Birdsey. 2003. National-scale biomass estimators for United States tree species. Forest Science 49:12-35

Growth and Yield Simulation

For growth and yield projections, we used the US Forest Service Forest Vegetation Simulator (FVS) Lake States (LS) variant. The FVS-LS model was calibrated to the project area entering the appropriate FVS location codes 902 (Chequamegon National Forest), 910 (Hiawatha National Forest) and 907 (Ottawa National Forest) and the following site indices, sourced from the tree cores (derived as the within-stratum area-weighted average); documented in "Site Index Greenleaf.xls. In 22 of the permanent plots, tree cores were not available; so for those plots average site index of the predominant species for the project area by basal area was used (for this project area, the predominant species was Northern white cedar – FIA code 241)

Table E-1c. Average Strata Site Index

Stratum/stand	Number of plots	Site index of reference species	Reference species
CB	56	40	Northern white cedar
NH	81	49	Red maple
PSF	24	52	Aspen
PL	37	51	Red pine

The FVS "NoTriple" command was entered to avoid excessive tree records and speed processing.

Initial carbon stock estimates for the project start date were back-modeled via FVS-NEFVS-LS from the Inventory Start Date -End Date inventory data via the approach outlined below.

1. Inventory Start Date -End Date inventory data were entered into FVS-LS and grown for 10 years with no management (with "NoTriple" keyworded to track individual trees and permit cross-referencing to raw inventory dataset).
2. For each live tree (ascribed a unique identifier), annual diameter growth was derived assuming linear growth during the 10-year projection interval (i.e. for dbh, annual growth calculated as dbh at end of 10-year interval *minus* dbh at beginning of 10-year interval, reported in the FVS Treelist output, *divided by* 10).
3. For each live tree, diameter data from the Inventory Start Date - End Date inventory were degrown referencing the annual rates derived in step 2 above, subtracting one year annual growth (i.e. one growing season) from the Inventory Start Date - End Date measurement value.
4. Initial carbon stocks were recalculated using the degrown data. No harvests or significant disturbances took place during the intervening period. Diameter of standing dead trees were assumed to be constant through the period.
5. The baseline scenarios were subsequently modeled entering the degrown inventory data into FVS-LS.

Table E1-d. De-grown results for above- and belowground (live and dead) tree biomass.

Live CO2 Stats

Strata	Average of Live CO2e	StdDev of Live CO2e
PSF	105.17	65.96
CB	124.02	56.10
PL	7.91	23.19
NH	103.78	73.42

Dead CO2 Stats

Strata	Average of Dead CO2e	StdDev of Dead CO2e
PSF	1.91	4.24
CB	4.49	8.06
PL	0.04	0.22
NH	1.45	4.31

Estimated total stock in live and dead trees in Start Date, de-grown from the inventory data, is 2,114,940.19 t CO2 (= 95.23 t CO2/ac * 22,209.55 acres). These calculations are detailed in the 'InvDate', 'IndTreeGrow', and 'TreeList' tabs in Greenleaf_Start_RP_CO2.xlsx.

BASELINE HARVEST SCHEDULE SCENARIO OVERVIEW

The Baseline Scenario represents an industrial harvest regime designed to maximize the 100-year Net Present Value (NPV) at a 6% discount rate. Only volume from merchantable species count toward costs and revenue for regeneration harvest. The acres to cut for each prescription by plot was determined using a linear programming model, which found the combination of prescriptions that maximizes the NPV over 100 years.

Timber and revenue assumptions

These treatments were derived by applying the most common northern hardwood silvicultural prescriptions that are currently implemented in Northern Michigan and Wisconsin, typically, single-tree-selection, shelterwood, and clearcut harvests followed by natural regeneration. These practices are commonly implemented the US Forest Service on most young growth managed timber, and private landowners in the region. Specifically, there are 11 silvicultural prescription in the linear programming model, shown in in Table E1-e.

Table E1-e. Silvicultural prescriptions used for the baseline harvest schedule.

Management prescription	Abbreviation	Management actions	Min DBH harvest (inches)	Harvest and planting regimes
Grow	GROW	Allow existing stocks to grow without harvesting.		
Clearcut	CC_2019	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 1st time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - 60-year rotation PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option

Management prescription	Abbreviation	Management actions	Min DBH harvest (inches)	Harvest and planting regimes
Clearcut	CC_2024	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 2nd time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - 60-year rotation PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option
Clearcut	CC_2029	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 3rd time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - 60-year rotation PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option

Management prescription	Abbreviation	Management actions	Min DBH harvest (inches)	Harvest and planting regimes
Clearcut	CC_2034	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 4th time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option
Clearcut	CC_2039	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 5th time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option

Management prescription	Abbreviation	Management actions	Min DBH harvest (inches)	Harvest and planting regimes
Clearcut	CC_2044	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 6th time period if trigger criteria met. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - 60-year rotation PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. - 60-year rotation NH Strata: - Not an option
Clearcut	CC_2049	Cut throughout all species and diameter classes; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	First clearcut in 7th time period or in a subsequent time period. CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen PL Strata: - Trigger: Total basal area ≥ 110 square ft/ac - Plant red pine at 8 ft x 8 ft spacing, both in the first time period (regardless of initial conditions), and after any regen harvest. - Include both sprouting and natural regen - Note: This option may be chosen by a plot that does not meet threshold criteria. In that case, the plot would not be harvested until the threshold criteria was met. NH Strata: - Not an option

Management prescription	Abbreviation	Management actions	Min DBH harvest (inches)	Harvest and planting regimes
Shelterwood	SHW	Residual basal area for shelterwood = 50 square feet; Overstory removal occurs 5 years after shelterwood cut; No residual overstory trees; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	CB and PSF Strata: - Not an option PL Strata: - Not an option NH Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac AND Basal Area ≥ 80 square ft/ac - Include both sprouting and natural regen - Constrained to occur at most every 40 years
Single tree selection	STS75BA10	Harvest to basal area of 75 square feet for trees > 5" DBH; Q-factor = 1.4; Subsequent removal of all trees > 24 inches DBH; Natural sprouting and regeneration	FVS defaults by Forest Code (nearest National Forest)	CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - Constrained to occur at most every 10 years PL Strata: - Not an option NH Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - Constrained to occur at most every 10 years
Single tree selection	STS50BA10	Harvest to basal area of 50 square feet for trees > 5" DBH; Q-factor = 1.4; Subsequent removal of all trees > 24 inches DBH; Natural sprouting and regeneration	FVS defaults for Forest Code (nearest National Forest)	CB and PSF Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - Constrained to occur at most every 10 years PL Strata: - Not an option NH Strata: - Trigger: Total cubic feet ≥ 600 cubic ft/ac - Include both sprouting and natural regen - Constrained to occur at most every 10 years

Harvest Revenues

*FVS groups refer to the summary of all spatial buffer areas with distinct temporal harvest prescriptions; these are separate categories from the spatial "Buffer" groups shown above

Baseline projections

The scenarios above were projected in FVS-LS for the period 2019 to 2059. Projections were annualized using linear interpolation (FVS-LS produces projections in 5-year cycles); see Baseline_Project_40YR_CO2 of "100Yr_Calcs.xls". Direct biomass carbon estimates for live trees were output via FVS FFE carbon reports, using Jenkins et al 2003 biomass predictions in metric tons of carbon per acre, matching the calculations applied to the forest inventory measurements.

Standing dead wood was modeled using the Fire and Fuels Extension of FVS (FVS FFE) to produce detailed snag lists for each model cycle. Biomass carbon of each snag was estimated using model output cubic foot volumes of hard and soft components of dead wood, multiplied by dead wood density. Dead wood densities were referenced from the US Forest Service Wood Handbook or from Miles and Smith 2009[6], and incorporated deductions for decay classes corresponding to the hard and soft dead wood components output from the FVS FFE model, and summarized in the table below. Belowground biomass was estimated for hard classes of standing dead wood applying component ratios from Jenkins et al 2003. Standing dead biomass was converted to carbon applying a carbon fraction of 0.5, and carbon converted to carbon dioxide equivalent (CO2e) applying a conversion factor of 3.664.

Table E1.g Dead wood classes.

FVS FFE snag class	Deduction	Description/justification
soft	0.8	Per FVS FFE no branches remain, corresponds with methodology decay class 4
hard	0.97	Corresponds to methodology decay class 1; per FVS FFE: "Soft snags are more decayed and are assumed to have 80% of the wood density of hard snags"

FVS FFE = Rebain et al., 2012

Harvested wood products

Step 1:
Long-term storage in wood products was calculated from FVS projections of removals. Projected harvested volumes were broken out into the following categories: softwood sawlog, softwood pulp, hardwood pulp and hardwood sawlog. Pulp/saw breakdowns referenced merchantability standards in the FVS-LS variant (Dixon et al 2008[7]).

[6] Kretschmann D. E. 2010. Chapter 5: Mechanical properties of wood. Wood Handbook. U. S. Department of Agriculture, Forest Service, Madison, Wisconsin, General Technical Report FPL-GTR-190: 5-1–5-46.

P. Miles and W. B. Smith. 2009. Specific Gravity and Other Properties of Wood and Bark for 156 Tree Species Found in North America. USFS Research Note NRS-38

[7] Dixon, Gary E.; Keyser, Chad E., comps. 2008 (revised March 16, 2012). Lake State (LS) Variant Overview – Forest Vegetation Simulator. Internal Rep. Fort Collins, CO: U. S. Department of Agriculture, Forest Service, Forest Management Service Center. 40p.

Volumes were converted to biomass by applying species-specific specific gravities referenced from the USFS Wood Handbook 2010 Table 5-3a or from Miles and Smith 2009. Biomass was converted to carbon applying a carbon fraction of 0.5, and then converting to CO2 equivalent by multiplying by 3.664. Harvest tCO2/acre (before delivery to mill) for each modeled group (i.e. baseline stratum) were summed for four categories: hardwood saw, hardwood pulp, softwood saw and softwood pulp.

Step 2:

Carbon transformed to wood products was estimated applying mill efficiency values referenced from the ARB 2015 forest protocol "Regional Mill Efficiency Data.xls" database[8], for the Lake States (LS) region (which includes Michigan and Wisconsin), specified in the table below.

Table E1-k: Mill efficiency values (%)

Species group	Sawtimber	Pulp
Hardwood	58.5	68.5
Softwood	63.0	51.4

Steps 3 and 4:

Transformed carbon was summed across the hardwood/softwood/pulp/sawtimber categories and then distributed among a range of end wood product classes. Distributions of end wood product classes referenced ARB 2015 forest protocol values, derived as area-weighted averages from the Laurentian Mixed Forest Southern Superior, Laurentian Mixed Forest Northern Highlands, Laurentian Mixed Forest NLP/EUP and Laurentian Mixed Forest Green Bay Lobe (table below).

Table E1.c. Wood Product Category Percentages

Supersections	Softwood Lumber	Hardwood Lumber	Plywood	Oriented Strand Board	Non-structural Panels	Miscellaneous	Paper	Acres in Supersection
Laurentian Mixed Forest Southern Superior	15.73%	46.09%	0.51%	25.64%	8.54%	3.50%	0.00%	9,027.97
Laurentian Mixed Forest Northern Highlands	12.31%	39.62%	0.30%	36.37%	7.06%	4.33%	0.00%	1,393.47
Laurentian Mixed Forest NLP/EUP	22.84%	34.58%	0.13%	36.72%	3.34%	2.40%	0.00%	8,457.99
Laurentian Mixed Forest Green Bay Lobe	19.56%	57.39%	0.78%	5.91%	5.57%	10.79%	0.00%	3,328.76
Weighted Average	18.80%	43.00%	0.39%	27.58%	6.02%	4.22%	0.00%	

[8] Sourced at: https://www.arb.ca.gov/cc/capandtrade/protocols/usforest/usforestprojects_2015.htm

Wood product amounts retained in storage for 40 years in in-use wood products and landfills were then calculated referencing end wood product class-specific 40-year average storage factors provided in the methodology[9].

Step 5:

Carbon in long-term storage was then summed across in-use wood products and landfills and across modeled groups/baseline strata to produce annual total t CO2 stored in in-use wood products and landfills over 40 years from wood harvested in a given year.

Detailed harvested wood product calculations are provided in "RP_ERT_HWP.xls".

Emissions due to burning logging slash are conservatively assumed in the baseline to be zero. Thus, parameter BSBSL equals zero and the outcome of equation 4 of the methodology, parameter GHGBSL, equals zero.

Projections of live tree, standing dead wood and harvested wood products carbon stocks in the project area in the baseline scenario for the first crediting period from 2019 to 2059. For the live tree and standing dead pools, stocks represent stocks on April 11 of the corresponding year. For harvested wood products (HWP), stocks represent stocks harvested in the annual interval beginning April 11 of the corresponding year.

Table E-1k. Baseline Carbon Stocks

Year	Total Live CO2e (tons per acre)	Standing dead CO2e (tons per acre)	Total HWP CO2e (tons per acre)
2019	93.2	2.0	0.4
2020	81.4	1.8	0.4
2021	69.6	1.5	0.4
2022	57.8	1.2	0.4
2023	46.0	0.9	0.4
2024	34.3	0.6	0.4
2025	33.8	0.6	0.4
2026	33.4	0.5	0.4
2027	33.0	0.4	0.4
2028	32.6	0.4	0.4
2029	32.2	0.3	0.4
2030	33.0	0.3	0.4
2031	33.9	0.3	0.4
2032	34.7	0.2	0.4

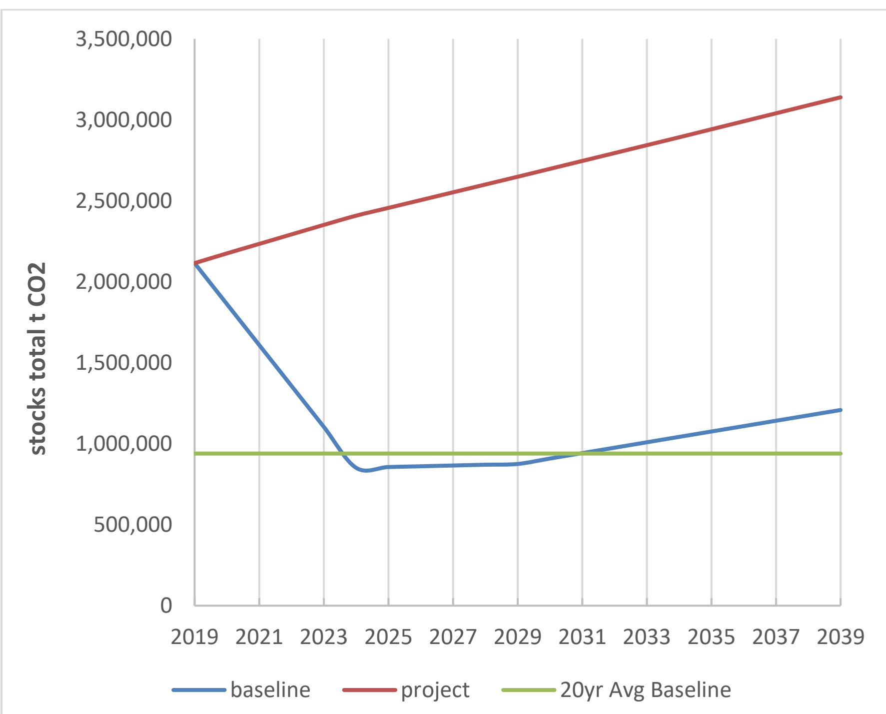
[9] Sourced from Smith JE, Heath LS, Skog KE, Birdsey RA (2006) Methods for calculating forest ecosystem and harvested carbon with standard estimates for forest types of the United States. In: General Technical Report NE-343 (eds Usdafs), PP. 218. USDA Forest Service, Washington, DC, USA.

2033	35.5	0.2	0.4
2034	36.4	0.2	0.4
2035	37.2	0.2	0.4
2036	38.0	0.2	0.4
2037	38.8	0.2	0.4
2038	39.6	0.2	0.4
2039	40.5	0.1	0.4

From the modeled stocks, we first calculated long‐term average baseline stocking level for the first 20-year crediting period, 939,303 t CO2, and the change in baseline carbon stocks for each year.

Project year 5 (April 11 2023 –April 10 2024), is the year that projected stocking levels in the baseline reach the long-term average, after which *ΔCBSL,t* becomes 0; i.e. the crediting baseline is equal to the modeled baseline until the modeled baseline reaches the long-term average, at which point baseline stocks are assumed to be constant (and subsequent change in stocks is equal to zero).

The figure below depicts the projected baseline stocks, average baseline stock for the first crediting period, and projected with-project stocks (see below for derivation of with-project stock projections).



E2. PROJECT SCENARIO

Ex ante projection of the project scenario is derived and documented in Section E6 below.

E3. LEAKAGE

Quantification of leakage is limited to market leakage, as no activity-shifting leakage is allowed by the methodology beyond *de minimis* levels. All forestland owned by Greenleaf Timber Holding, Inc. is certified under the Tree Farm certification program, therefore there is no activity-shifting leakage.

Market leakage was determined by quantifying the merchantable carbon removed in both the baseline and with-project cases. Carbon in long-term storage in in-use wood products and landfills, calculated above, was used to assess relative amounts of "total wood products produced" in the two scenarios. Because future harvest values have not yet been determined, we applied no timber harvest to the project scenario so as to conservatively default to the highest leakage factor, 40%.

Calculation of leakage factors for baseline:

Period	Total HWP stored for 20 yr. crediting period in the Baseline (tCO2e)	Total HWP stored for 20 yr. crediting period project scenario (tCO2e)	Decrease in Wood Products as Percentage of Baseline Stocks	Applicable Leakage Factor
2019-2039	306,372	-	100%	40%

E4. UNCERTAINTY

Per the methodology, "The 90% statistical confidence interval (CI) of sampling can be no more than ±10% of the mean estimated amount of the combined carbon stock across all strata. If the Project Proponent cannot meet the targeted ±10% of the mean at 90% confidence, then the reportable amount shall be the lower bound of the 90% confidence interval."

Parameter $e_{BSL,TREE}$ (7.9%) is derived below from the Inventory Start Date – End Date Inventory data (from which Project Start Date stocks were estimated).

Table E4.a. Uncertainty in start date live CO_2e stocks.

Strata	Average of Live CO2e	StdDev of Live CO2e	Count of Plot_ID	Acres	%	StdError Live CO2	Total CO2
PSF	105.2	66.0	24	2,457	11%	13.47	258,348
CB	124.0	56.1	56	5,652	25%	7.50	700,947
PL	7.9	23.2	37	3,684	17%	3.81	29,156
NH	103.8	73.4	81	10,417	47%	8.16	1,081,123

Parameter e_{BSL_DEAD} (29.5%) is derived below from the Inventory Start Date – End Date Inventory data (from which Project Start Date stocks were estimated).

Table E4.b. Uncertainty in start date dead CO_2e stocks.

Strata	Average of Dead CO2e	StdDev of Dead CO2e	Count of Plot_ID	Acres	%	StdError Live CO2	Total CO2
PSF	1.9	4.2	24	2,457	11%	0.86	4,700
CB	4.5	8.1	56	5,652	25%	1.08	25,398
PL	0.0	0.2	37	3,684	17%	0.04	133
NH	1.5	4.3	81	10,417	47%	0.48	15,135

Overall uncertainty in the baseline is calculated using equation 10 of the methodology,

$$UNC_{BSL} = \sqrt{((C_{BSL,TREE} * e_{BSL,TREE})^2 + (C_{BSL,DEAD} * e_{BSL,DEAD})^2 + (C_{BSL,HWP} * e_{BSL,TREE})^2 + (GHG_{BSL} * e_{BSL,TREE})^2)} \; / \; \text{abs}(C_{BSL,TREE} + C_{BSL,DEAD} + C_{BSL,HWP} + GHG_{BSL})$$

where $C_{BSL,TREE}$ is the live tree carbon stock at the start date, $C_{BSL,DEAD}$ is the dead wood carbon stock at the start date and $C_{BSL,HWP}$ is the twenty-year average stock of carbon in long term storage in wood products. Emissions due to burning logging slash are conservatively assumed in the baseline to be zero, thus parameter GHG_{BSL} equals zero.

Overall uncertainty in the baseline is 7.7%.

E5. REDUCTIONS AND REMOVAL ENHANCEMENTS

Table E5.a shows estimated net reductions and removal enhancements attributable to the Greenleaf project over the first 20-year crediting period (2019 - 2039). As the annual project-level uncertainty was below the 10% threshold required by the ACR protocol, no uncertainty deduction was applied to the annual Emission Reduction Tons (ERTs) generated by the project. ERTs presented in Table E1.n incorporate the assumed 40% market leakage. ERTs are dated beginning on April 11, 2019, the project Start Date. Therefore, annual values in Table E5.a correspond to the 1-year interval ending on April 10 of each year. For example, ERTs in 2019 include GHG reductions and removals occurring between April 11, 2019 and April 10, 2020.

Table E5.a Estimate of net Emission Reduction Tons (ERTs) by year (includes buffer tonnes).

Project Year	Year	Estimates of GHG emission reductions ($mtCO_2e$)
0	2019	Start Date
1	2020	187,784
2	2021	186,808
3	2022	186,808
4	2023	186,808
5	2024	133,010

6	2025	28,833
7	2026	28,833
8	2027	28,833
9	2028	28,833
10	2029	28,833
11	2030	29,235
12	2031	29,235
13	2032	29,235
14	2033	29,235
15	2034	29,235
16	2035	29,626
17	2036	29,626
18	2037	29,626
19	2038	29,626
20	2039	29,626

E6. EX-ANTE ESTIMATION METHODS

Live tree carbon stocks in the with-project scenario were projected *ex ante* in FVS-LS for the period 2019-2039. Projections were annualized using linear interpolation. Direct biomass carbon estimates for live trees were output via FVS FFE carbon reports, using Jenkins et al 2003 biomass predictions in metric tons of carbon per acre, again, matching the calculations applied to the forest inventory measurements. Projections were made assuming no timber harvest or other forest management activities take place during the period. Stocks of standing dead wood are assumed to be constant through the period.

Projections of live tree, standing dead wood and harvested wood products carbon stocks in the project area in the with-project scenario for the first crediting period from 2019 to 2039. For the live tree and standing dead pools, stocks represent stocks on April 11 of the corresponding year. For harvested wood products (HWP), stocks represent stocks harvested in the annual interval beginning April 11 of the corresponding year.

Table E6.a Project CO_2e stocks.

Year	Total live CO2e (tons per acre)	Standing dead CO2e (tons per acre)	Total HWP CO2e (tons per acre)
2019	93.2	2.0	0.0
2020	95.9	2.0	0.0
2021	98.5	2.0	0.0
2022	101.2	2.0	0.0
2023	103.8	2.0	0.0

2024	106.4	2.0	0.0
2025	108.5	2.0	0.0
2026	110.7	2.0	0.0
2027	112.9	2.0	0.0
2028	115.0	2.0	0.0
2029	117.2	2.0	0.0
2030	119.4	2.0	0.0
2031	121.6	2.0	0.0
2032	123.8	2.0	0.0
2033	126.0	2.0	0.0
2034	128.2	2.0	0.0
2035	130.4	2.0	0.0
2036	132.6	2.0	0.0
2037	134.8	2.0	0.0
2038	137.1	2.0	0.0
2039	139.3	2.0	0.0

No burning of any kind is expected to take place in the project area. Thus, parameter BS_P equals zero and the outcome of equation 13 of the methodology, parameter GHG_P, equals zero.

In ex ante calculations of net emission reductions, it is assumed that future inventories achieve overall precision less than +/-10% of the mean with 90% confidence, thus UNC_P is assumed to be equal to UNC_{BSL}.

F. COMMUNITY & ENVIRONMENTAL IMPACTS

F1. NET POSITIVE IMPACTS

F1. NET POSITIVE IMPACTS

Community and Environmental Assessment

1. See section A5. Brief Summary of Project and A4. Location.

2. For applicable laws, regulations, rules, and procedures and the associated oversight institutions, see section C1. Regulatory Surplus Test

3. The Bluesource – Greenleaf Improved Forest Management project comprises forestland owned by Greenleaf Timber Holding, Inc., a private forestland owner. No formal stakeholder consultation was conducted in advance of the project, nor was any required because the property is privately held. If the Project Proponent is contacted by any persons regarding the project, the Project Proponent will provide references to the publicly available documentation for the project.

4. The below identify Sustainable Development Goals to which the project aligns and the positively contributes:

Impact	Carbon sequestration
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Habitat protection for wildlife, plant species, and trees in the forested communities.
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Water quality protection
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Protection from soil erosion and degradation
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for

	the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

Impact	Access to recreation opportunities
Risk Category	Positive
Monitoring Plan (how, how often, by whom)	Forest management activities described in the Forest Management Plans and monitoring for the carbon project is described in Section D2. Monitoring Plan.
If negative, describe aversion, reduction, mitigation, or compensation strategy:	n/a

The Bluesource – Greenleaf Improved Forest Management project has no anticipated negative community or environmental impacts. Annual attestations confirming this assessment will be provided separately for verification purposes.

5. The Bluesource – Greenleaf Improved Forest Management project is not a community-based project.

F2. STAKEHOLDER COMMENTS

N/A. The Project Proponent, Greenleaf Timber Holding, Inc. is a private forestland owner, and adhered to its internally agreed upon practices of project consultation and notification on associated decision making. Greenleaf Timber Holding, Inc. will provide references to the publicly available documentation for the project as requested.

G. OWNERSHIP AND TITLE

G1. PROOF OF TITLE

G1.1 Ownership of forestlands

Forestlands included in the project are owned directly by the Project Proponent, Greenleaf Timber Holding, Inc., who holds full legal title across the ownership and thus has long term control of the land. The relevant deeds and contracts are available for review by verifier.

G1.2 Emission reduction rights

Emissions reductions rights are owned by the Project Proponent.

G2. CHAIN OF CUSTODY

No sales or purchasing of offsets was conducted prior to project registration.

G3. PRIOR APPLICATION

The Bluesource – Greenleaf Improved Forest Management project has not previously applied or been registered under any GHG emission trading system or program.

H. PROJECT TIMELINE

H1. START DATE

The project "Bluesource – Greenleaf Improved Forest Management Project" has a project start date of April 11, 2019, the date by which of the contractual signing agreement between the Project Proponent (Greenleaf Timber Holding, Inc.) and the Offset Developer (Blue Source LLC) was completed. This start date is appropriate and consistent with the ACR Standard v. 6.0.

H2. PROJECT TIMELINE

Below is a schedule of the project activities in chronological order for important aspects of the Bluesource – Greenleaf Improved Forest Management Project.

Project Activity	**Date**	**Source/Notes**
Project Start Date (Initiation of project activities)	April 11, 2019	CDMA contract signing
Frequency of monitoring, reporting and verification		Every 5 years after the first verification
Length of First Crediting period	Through April 10, 2039	20 years
Expected project longevity	Minimum Project Term of at least 40 years	40 years