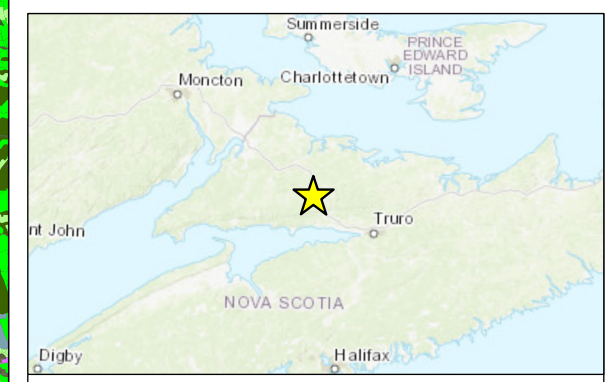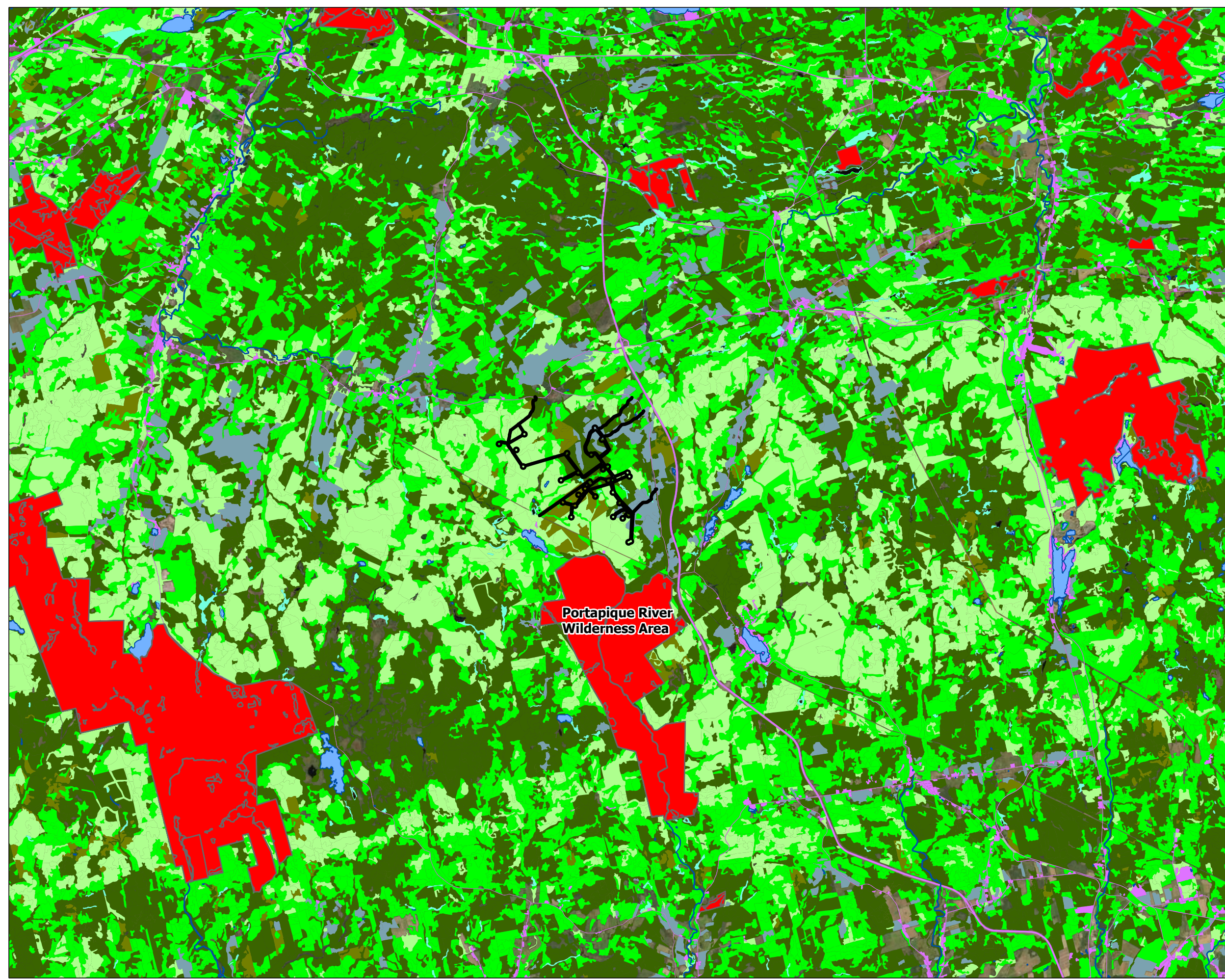Westchester Wind Project Addendum

**Figure 30
Land Cover Types Within Project Region**

Legend

- ⬜ Project Development Area
- 🟥 Protected Areas/Old Forest Growth
- 🟦 Wetlands or Bogs
- 🟦 Water
- 🟪 Urban or Transportation
- 🟫 Harvests
- 🟩 Hardwoods
- 🟩 Mixedwoods
- 🟩 Softwoods
- ⬜ Barren or Blueberries

Notes

1. 28 turbine locations are being considered for the project. Only up to 12 turbine locations and their associated infrastructure would be developed for this Project.

Sources
- Basedata provided by the Province of Nova Scotia
- Basemap: ESRI World Topo Map

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Meters
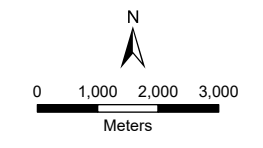
Scale: 1:125,000

Spatial Reference: WGS 1984 Complex UTM

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Portapique River Wilderness Area

Production Date: Dec 13, 2022   Prepared By: Alex Torrealba

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5.1.5 Seral Stage

The seral stage of a landscape classifies the successional progress of forests following a disturbance (reference). Classifications of seral stage for communities range from early seral stage (i.e., recently disturbed forests) to late seral stage communities (i.e., forests with long-lived "climax" species present). There is a balance in distribution between early and late seral stages within the PDA (approximately 36 and 46%, respectively), consistent with forestry activities that have occurred in the area. The PDA also presents patches of mid seral stage (approximately 3%) along with unclassified areas (approximately 15%). When looking at the broader region, most of the ecodistrict is characterized as late seral stage, including the Portapique River and Economy River Wilderness Areas. There is also a distinct corridor of mid and late seral stage forest northwest of the Project, connecting the Polly Brook Wilderness Area with the Economy River Wilderness Area. This corridor would be preferred for wildlife looking for vegetation community types associated with mid and late seral stages (**Figure 31**).

5.1.6 Road Index and Linear Infrastructure

Roads and linear infrastructure can have adverse environmental effects related to habitat fragmentation, mortality, and dispersal barriers. As such, they are another factor to take into consideration when analyzing the landscape. Overlaying the ecological landscape with transportation networks and other linear infrastructure can help provide an understanding of how to integrate these systems into the ecological landscape analysis and design process. Nova Scotia's Procedural Guide for Ecological Landscape Analysis includes a GIS based Road Index program to assess and map road distributions across ecodistricts, serving as a monitoring tool and helping describe existing conditions. This index weights the type of transportation feature, the density of linear infrastructure in a given area, and the distance of an area from transportation features to determine their relative influence on ecosystem function. Interpretation of the road index score was facilitated by correlating index values to patterns of land use:

- Urban (40-100): high building densities and road access, few tracts of undeveloped land;
- Suburban-Agricultural (25-39): dominated by suburban settlement and/or open agricultural field;
- Mixed rural (16-24): mixed land use encompassing rural settlements, forest resource and some agriculture;
- Forest resource (7-15): areas without significant settlement, where forest resource access roads are the primary linear infrastructure; and
- Remote landscape (0-6): unpopulated areas with very few roads, trails, or other linear features.

The majority of the PDA (approximately 79%) is located within a forest resource area, with a minor portion (six turbines and the transmission line – approximately 17%) located within a remote area based on the NSDNRR classification above. Additionally, two access roads are located in patches of mixed rural and agricultural land (approximately 4%). The following list describes the road index scores in areas surrounding the PDA (**Figure 32**):

- East: The portion of Highway 104 located east and southeast of the Project PDA has a road index ranging from 7 to 24. It is not as high other large highways and roads in the province, which reach a score of 40 (**Figure 32**). This indicates that there is the potential for terrestrial wildlife movement from west-east across the portion of Highway 104, particularly the portion located 2 km southeast of the PDA.
- West: There are very large patches of remote areas, including old growth forest, west and southwest of the Project that could provide habitat to terrestrial wildlife. The short distance between them could also allow for interconnectedness between remote patches in the region.
- North: There is more stress from roads north of the PDA, particularly from roads leading to Oxford (most notably Wentworth Collingwood Road, Thomson Road, Wyvern Road, and Highway 321). The Project is not adding impacts to terrestrial wildlife movement from north-south.
- South: There are large patches of remote areas and forest resources south of the PDA, in line with the location of the Portapique River and Economy River Wilderness Areas.

5.1.7 Ecological Emphasis Classification

The Ecological Emphasis Classification assesses an area based on NSDNRR's GIS forestry database layer and assigns one of the four classes. The proportion of land in each of the classes can be used to calculate an "ecological emphasis index" as an indicator of overall land use intensity. The following classes are included:

- Reserve class – Reserved lands which meet biodiversity conservation goals through preservation of natural conditions and processes. Resource management activities are usually not permitted;
- Extensive management class – Lands that conserve biodiversity and sustain natural structure and functions. These areas could support a moderate level of resource production.
- Intensive management class – Lands with more optimized resource production, practices may produce unnatural conditions. Despite the potential for a reduction of biodiversity on these lands, intensive management areas contribute substantially to landscape function, structure, and composition.
- Converted class – Areas converted to an unnatural state for human use (e.g., agriculture, power lines, roads, mines).

Westchester Wind Project Addendum

**Figure 31
Seral Stages within Project Region**
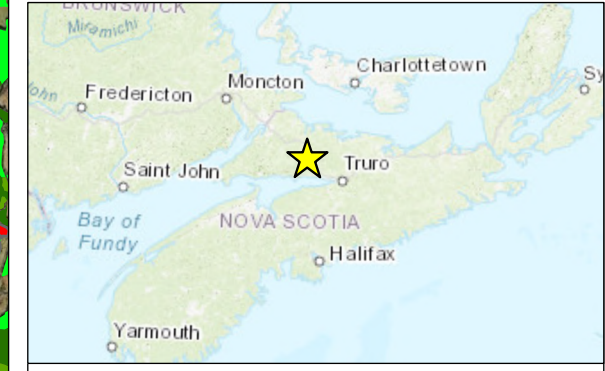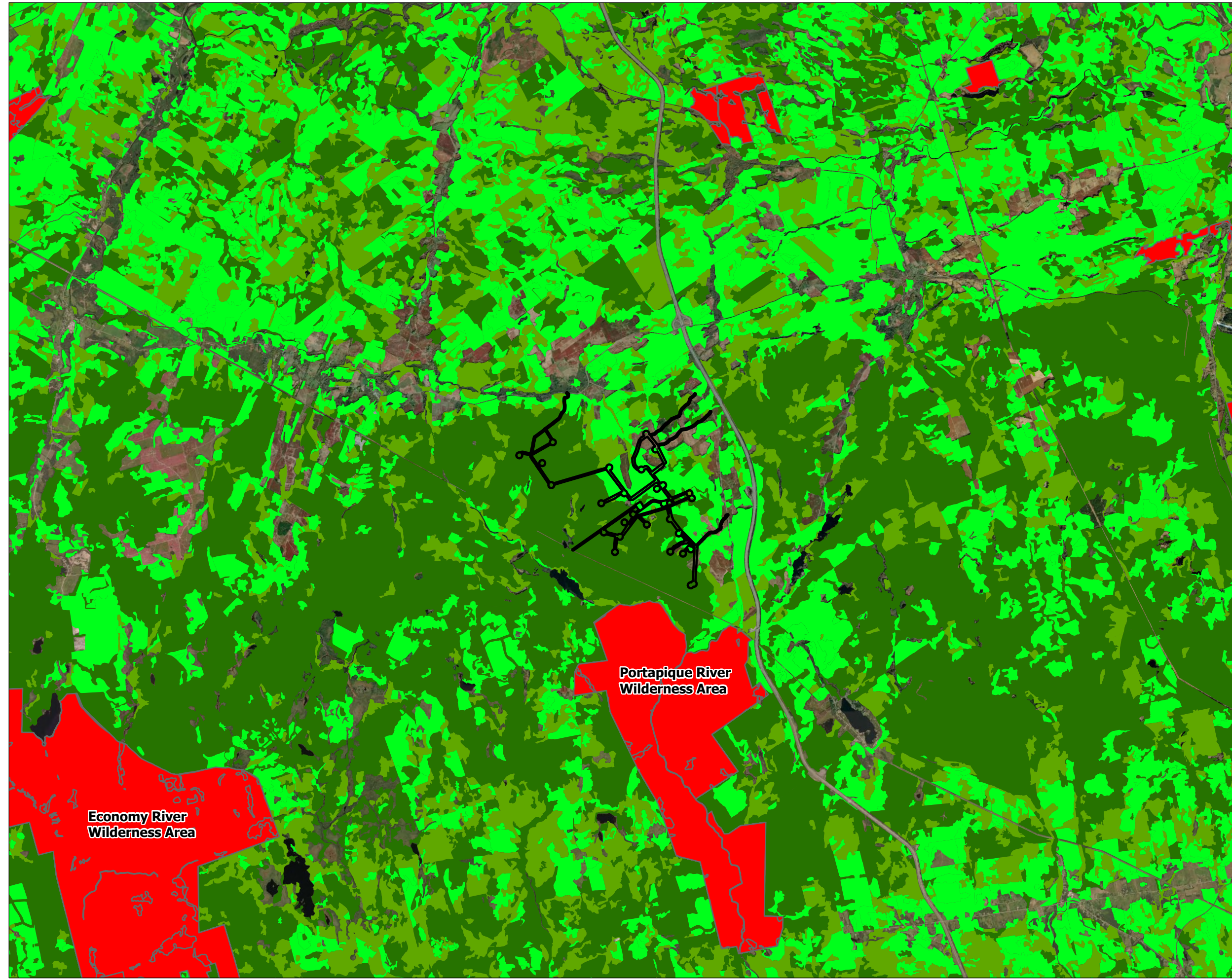
Legend

☐ Project Development Area

🟥 Protected Areas/Old Forest Growth

Seral Stages

🟩 Early

🟩 Mid

🟩 Late

Notes

1. 28 turbine locations are being considered for the project. Only up to 12 turbine locations and their associated infrastructure would be developed for this Project
2. The percentage of seral stages for the project development area is as follows:

Early: 35.4%
Mid: 2.5%
Late: 46.6%

Sources

- Basedata provided by the Province of Nova Scotia
- Basemap: ESRI World Topo Map

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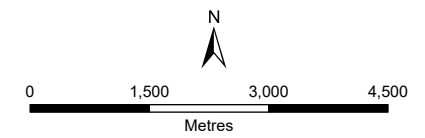
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Spatial Reference: WGS 1984 Complex UTM Zone 20N

Page Size: 11" x 17"

Production Date: Dec 13, 2022 | Prepared By: Alex Torrealba

Portapique River Wilderness Area

Economy River Wilderness Area

Natural Forces