



SECTION 2.0

PROJECT SCOPING

2.0 PROJECT SCOPING

For the purposes of this EIS the “Project” includes all components of the Marathon PGM-Cu Project proposed by Stillwater Canada Inc., as described herein (see Section 1.4.3 in particular) and in the accompanying supporting documentation.

2.1 Factors considered in the Environmental Impact Statement

The assessment has considered the factors listed in subsections 16(1)(a) to (e) and 16(2) of the *Canadian Environmental Assessment Act* and subsection 6.1(2) of the *Ontario Environmental Assessment Act*, as reflected in the Guidelines.

2.2 Scope of the Factors

Scoping establishes the boundaries of the environmental assessment (EA) and focuses the assessment on relevant issues and concerns. By defining the spatial and temporal boundaries, a frame of reference for identifying and assessing the potential environmental effects associated with the Project was established.

Where appropriate the effects analysis considers the magnitude, aerial or spatial extent, duration, frequency and reversibility of residual effects as well as the assimilative capacity of the receiving environment.

SCI has consulted with various government agencies during development of the environmental impact statement (EIS) on the methodology used in various aspects of the assessment.

2.3 Valued Ecosystem Components

2.3.1 Definition of Valued Ecosystem Component

A Valued Ecosystem Component or VEC can be defined as:

“an environmental element of an ecosystem that is identified as having scientific, ecological, social, cultural, economic, historical, archaeological or aesthetic importance. The value of an ecosystem component may be determined on the basis of cultural ideals or scientific concern.”

In practical terms a VEC is some component of the environment that has some “value” (where value could be inherent or could be ascribed to it by an individual, community, society, etc...) and can be measured (either quantitatively or qualitatively).

2.3.2 Use of VECs in the EA Process

VECs are tools that are used to measure the potential effects of a project on the environment. Given the large number of species, habitats and other ecosystem elements that could potentially occur within the EA study area, it is neither possible, nor particularly useful, to

attempt to measure effects on all possible receptors. Rather, the impact assessment focuses on those ecosystem elements that have been deemed to be of some importance (i.e., the VECs).

2.3.3 VEC Selection Process for the Marathon PGM-Cu Project EA

For the purposes of this EIS VECs were selected based on:

- prior experience with similar projects;
- data that were collected as part of the baseline environmental program;
- information available with regards to species that are afforded protection by legislation;
- guidance from regulatory agencies (e.g., EIS Guidelines); and
- direct consultation with stakeholders and Aboriginal communities.

2.3.4 VECs for the Marathon PGM-Cu Project EA

The VECs defined for the purpose of assessing the potential effects of the Project on the environment are listed in Table 2.3-1. For each VEC, its rationale for inclusion in the EA process and its relationship to the Project is provided. The VECs are representative of a wide measure of the environmental factors including:

- the physical environment (media and habitats);
- vegetation;
- wildlife
- Species at Risk;
- aquatic resources;
- the social environment;
- the economic environment;
- land and resource uses;
- physical and cultural heritage; and,
- Aboriginal considerations.

It is noted that the assessment of effects for many of the other biophysical and socio-economic environment VECs also has relevance from an Aboriginal perspective.

Table 2.3-1: Summary of VECs used for the Marathon PGM-Cu Project Environmental Impact Assessment

Environmental component	VEC	Rationale and relationship to the Project
Physical Environment	Atmospheric environment (air quality, dustfall, ambient light levels)	There will be releases to air as the result of the Project that could impact air quality in the study area. Artificial light will be required at the Project site for operational and employee health and safety reasons that could disturb human and non-human activities and/or distribution.
	Climate change	The proponent is required to assess its GHG emissions within the national and industry contexts, as well as the potential impact of climate change to the Project...
	Acoustic environment (noise)	Noise will be created as the result of the construction and operation of the mine that may disturb human and non-human activities and/or distribution.
	Terrain and Soils	There will be physical alteration of terrain and soils and the potential for the deposition of air releases to change soil and/or water quality.
	Surface water quantity	Drainage on and around the mine site will be altered (watershed boundaries will be redefined).
	Surface water quality	Drainage from the mine site will be released to existing surface watersheds off the mine site.
	Groundwater quantity	Ground watershed boundaries and water table elevations could be changed as the result of the mining operation.
	Groundwater quality	There will be seepage from site infrastructure into groundwater, which may migrate off-site or discharge to surface water.
	Lake / stream sediments	Stream and/or lake sediments may be affected by releases of mine site drainage to surface waters. Lake and stream sediments are habitat for aquatic biota and are a consideration for contaminant pathways modeling.
Vegetation	Forest cover	Forest cover is a catch-all term for forested areas on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact forest cover.
	Non-forest cover (incl. wetlands and rock barren)	Wetlands and rock barren occur in isolated basins on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact these features.
	Regionally rare species	Regionally rare species is a catch-all term for regionally rare species that are on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact regionally rare species.
	Provincially rare species	Provincially rare species is a catch-all term for provincially rare species that are on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact provincially rare species.
	Protected species	Protected species is a catch-all term for legally protected vegetation species that are on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact protected species.
Wildlife	Furbearers	Furbearers, including Pine Marten, Red Fox, Lynx, Beaver, Mink, Rabbit, Skunk, Squirrel, Weasel, Porcupine and Otter, can be found on the Project site and are a target of trapping in the area. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact furbearers (activities and/or distribution).

		Furbearers have been identified as of cultural importance by Aboriginal peoples.
	Moose	The moose is targeted by hunters and is a prey species of wolf in the area. It is also considered as an alternate prey species as it concerns the dynamic between wolves and woodland caribou. Given typical moose density in this part of Ontario, about 8 to 10 animals could use the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Moose (activities and/or distribution). Moose have been identified as of cultural importance by Aboriginal peoples.
	Grey Wolf	The wolf is the top predator on the site. The Project site would be a relatively small area of (likely) one wolf pack's overall territory. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Grey Wolf (activities and/or distribution).
	Black Bear	Given typical bear density in this part of Ontario about 5 to 8 animals could use the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Black Bear (activities and/or distribution)..
	Migratory Birds (songbirds and waterfowl)	A number of migratory songbirds and waterfowl use the Project site and surrounding area. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact migratory birds (activities and/or distribution). A range of migratory birds have been identified as of cultural importance by Aboriginal peoples (see Section 5.0).
Species at Risk	Woodland Caribou	The woodland caribou is legally protected (threatened nationally and provincially) and the Project site is within the Lake Superior Coastal range, though there is no evidence of the use of the Project site. The potential for land clearing activities to develop mine infrastructure or mine operations to impact Woodland Caribou movement through or past the site cannot be completely discounted.
	Little brown myotis / northern myotis	Land clearing activities to develop mine infrastructure, as well as mine operations, may impact bat such species (activities and/or distribution), although none are currently known to inhabit the Project site.
	Canada Warbler	Canada warbler is legally protected (Threatened nationally) and found on the Project site. It is common in birch-dominated mixed-wood forests in the area. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Canada Warbler (activities and/or distribution).
	Rusty Blackbird	Rusty blackbird is listed as Special Concern nationally and may nest on the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Rusty Blackbird (activities and/or distribution).
	Bald Eagle	Bald eagle is listed as Special Concern provincially and nests in the area surrounding the Project site, although not on the site. Bald eagle has been identified as of cultural importance by Aboriginal peoples.
	Olive-sided Flycatcher	Olive-sided flycatcher is legally protected (Threatened nationally) and was encountered one time on the Project site during baseline studies. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Olive-sided Flycatcher (activities and/or distribution).
	Common Nighthawk	The common nighthawk is legally protected (Threatened nationally) and the Project site is potentially within its provincial range, though no sightings of it on the Project site have been recorded. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Common Nighthawk (activities and/or

		distribution).
	Whip-poor-will	The whip-poor-will is legally protected (Threatened nationally and provincially) and the Project site is potentially within its range, though no sightings of it on the Project site have been recorded. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Whip-poor-will (activities and/or distribution).
	Peregrine Falcon	The peregrine falcon is legally protected (Threatened provincially) and the site is within its range. Though no potential nesting sites have been identified in the vicinity of the Project site. Land clearing activities to develop mine infrastructure, as well as mine operations, may impact Peregrine Falcon (activities and/or distribution).
	Lake Sturgeon	Lake Sturgeon are legally protected (Threatened nationally and provincially) and have intrinsic value to Aboriginal people. Lake Sturgeon are found in the Pic River.
Aquatic Resources	Fish Habitat	Some localized HADD will be created by the development of the mine, through the alteration and destruction of some local water bodies and water courses.
	Benthic invertebrates	Benthic invertebrates are ubiquitous in aquatic habitats around the Project site and are used to assess biological impacts of changes in water and sediment chemistry.
	Recreational Fisheries	The development of the site and the operation of the Project could affect access to and/or use of recreational fisheries. There is no recreational fishery on the Project site. There is to the north of the site in Bamooos Lake, in Hare Lake, in Pic River and in the near shore some recreational fishing environment of Lake Superior.
	Commercial Fisheries	The development of the site and the operation of the Project could affect access to and use of commercial fisheries. There is no commercial fishery on the Project site. There is a commercial fishery in Lake Superior.
	Aboriginal Fisheries	The development of the site and the operation of the Project could affect access to and use of aboriginal fisheries. There is no Aboriginal fishery on the Project site. There is reported Aboriginal use of fisheries to the north of the site in Bamooos Lake, in Hare Lake, in Pic River and in the near shore environment of Lake Superior.
Social Environment	Demographics	The demographics of local and Aboriginal communities may change in response to people moving into these communities for economic opportunities.
	Housing	The cost and availability of housing in local and Aboriginal communities could be affected in response to people moving into these communities for economic opportunities.
	Education and training	The capacity of the education systems in local and Aboriginal communities could be affected in response to people moving into these communities for economic opportunities.
	Infrastructure	The capacity of infrastructure (e.g., sewage collection and treatment, waste management) in local communities could be affected in response to people moving into these communities for economic opportunities.
	Community services	Access to community services for local community members and Aboriginal peoples could be influenced by the development of the Project.
	Health and emergency services	Access to health and emergency services for local community members and Aboriginal peoples could be influenced (positively or negatively) by the development of the Project.

	Traffic	Traffic levels and patterns in and around local communities could be affected by the Project.
	Human health	The development of the site and the operation of the Project could directly or indirectly affect human health, including that of Aboriginal peoples.
Economic Environment	Employment and income	The Project will both directly and indirectly create relatively high paying jobs in a variety of sectors in the local and regional economies, including Aboriginal communities.
	Government revenue	Tax revenues related to the development of the Project will accrue to all levels of government.
	Economic and business development	The Project will provide opportunity for economic and business development in the local and regional economies, including Aboriginal communities, to fill direct Project-related needs, as well as spin-off needs.
Land, Water and Resource Use	Recreation and tourism	The development of the Project site could negate the site as a use for recreational use on a temporary basis until the site has reached a certain stage of closure.
	Navigable waters	Develop of the Project site will impact “navigable waters” as defined in the NWPA, though they would not be considered important waterways used to move people or products.
	Forestry	The Project may affect forestry values in the Big Pic Forest Management area.
	Agriculture	The Project may affect agricultural land though no land is used for such purposes in the vicinity of the Project.
	Commercial development	The development of the Project site could negate the site as a use for other commercial enterprises in the future.
Physical and Cultural Heritage	Built and Cultural Heritage	The development of the Project site could affect built and cultural heritage resources, though none were identified during baseline studies.
	Archaeological Resources	The development of the Project site could affect archaeological resources, though none were identified during baseline studies.
Aboriginal Considerations	Aboriginal and Treaty rights	The Robinson-Superior Treaty confers certain rights to aboriginal peoples in the area in which the Project site is located. The PRFN claim exclusive Aboriginal title over a traditional territory that includes the Project site.
	Traditional land and resource uses, including country foods	The development may affect traditional land uses of Aboriginal people as it pertains to the following indicators: animal harvesting, plant harvesting, fish harvesting, timber harvesting.
	Preponderance of traditional dietary habits	The development of the Project could affect the contribution of traditional foods that comprise a portion of a traditional Aboriginal diet.
	PRFN Trapline	The development of the Project will affect access and disturb a portion of the PRFN community trapline area
	Aboriginal Archaeological Resources	The development could affect Aboriginal archaeological resources, though none were identified by FNs and during baseline studies.
	Aboriginal Heritage Resources	The development could impact heritage resources as it pertains to the following indicators: travel routes, spiritual sites and habitation sites

2.4 Spatial Boundaries of the Assessment

It is necessary to define appropriate spatial and temporal boundaries relevant to the scale of the Project to assess potential Project-environment interactions and evaluate potential effects. Three spatial scales were considered in the EA process, as appropriate: the Site Study Area (SSA), the Local Study Area (LSA) and the Regional Study Area (RSA).

The SSA is the direct footprint of the Project (Figure 2.4-1).

The LSA was defined separately for the assessment of effects on the atmospheric, aquatic and terrestrial environments, as well as the socio-economic environment, because these components are potentially affected differently by Project activities. The LSA for the different assessment components was established as follows (Figure 2.4-2):

- The LSA for the atmospheric environmental component was set as the claim blocks and lease areas that define the perimeter of the Project site, plus the potential travel routes for concentrate delivery between the mine site and the concentrate handling facility in the Town of Marathon. This boundary is selected on the basis of experience in other similar circumstances that show that effects on the atmospheric environment are typically limited to areas close to sources of atmospheric emissions. In addition, the property limit is the boundary at which air quality is generally evaluated for the purposes of provincial permitting;
- The LSA for the aquatic environment was established as the watercourses/watersheds that are potentially affected (in terms of water quality or quantity) by the Project;
- The LSA for the terrestrial environment was set as the reasonable area outside the SSA for wildlife movement on and off the site. For the purposes of the assessment the wildlife LSA is represented by a 5 km radius circle around the perimeter of the Project site; and
- The spatial boundaries for the assessment of socio-economic effects vary somewhat from the boundaries defined for terrestrial, aquatic and atmospheric boundaries. For socio-economic component of the assessment, the spatial boundary focuses on the people and communities who live in and make use of the area potentially affected by biophysical changes. The LSA for the socio-economic assessment includes the area immediately surrounding the Town of Marathon and the Pic River First Nation community.

The RSA is the area within which cumulative effects are often assessed as appropriate, and as above the RSA can be defined differently for different environmental components/ VECs (Figure 2.4-3). As it pertains to potential biophysical effects, the assessment attempts to characterize any predicted effects that may be found at the SSA and LSA scales into a regional perspective. For example, for the aquatic environment the RSA includes the whole of the Pic River watershed and the whole of the east end of the Lake Superior Watershed. In the case of Woodland Caribou a Project-specific RSA has been defined based on advice provided by the OMNR. The RSA for Woodland Caribou includes the entire “Lake Superior Coast Range”, as

well as consideration of the potential for movement of animals between the coast range (in which the Project site sits) and the continuous caribou ranges to the north (Figure 2.4-4). For the socio-economic assessment the RSA relates to Project expenditures and business and employment opportunities and therefore is defined more broadly. This RSA generally includes 100 km radius around the Project site, a distance which people are likely to commute to the site, though the full economic benefits of the Project would also be seen at larger scales including corridor between Wawa and Thunder Bay (and the various communities therein), provincially and even nationally. The RSA also includes the overlapping traditional territories of the relevant Aboriginal groups (FNs and Métis).

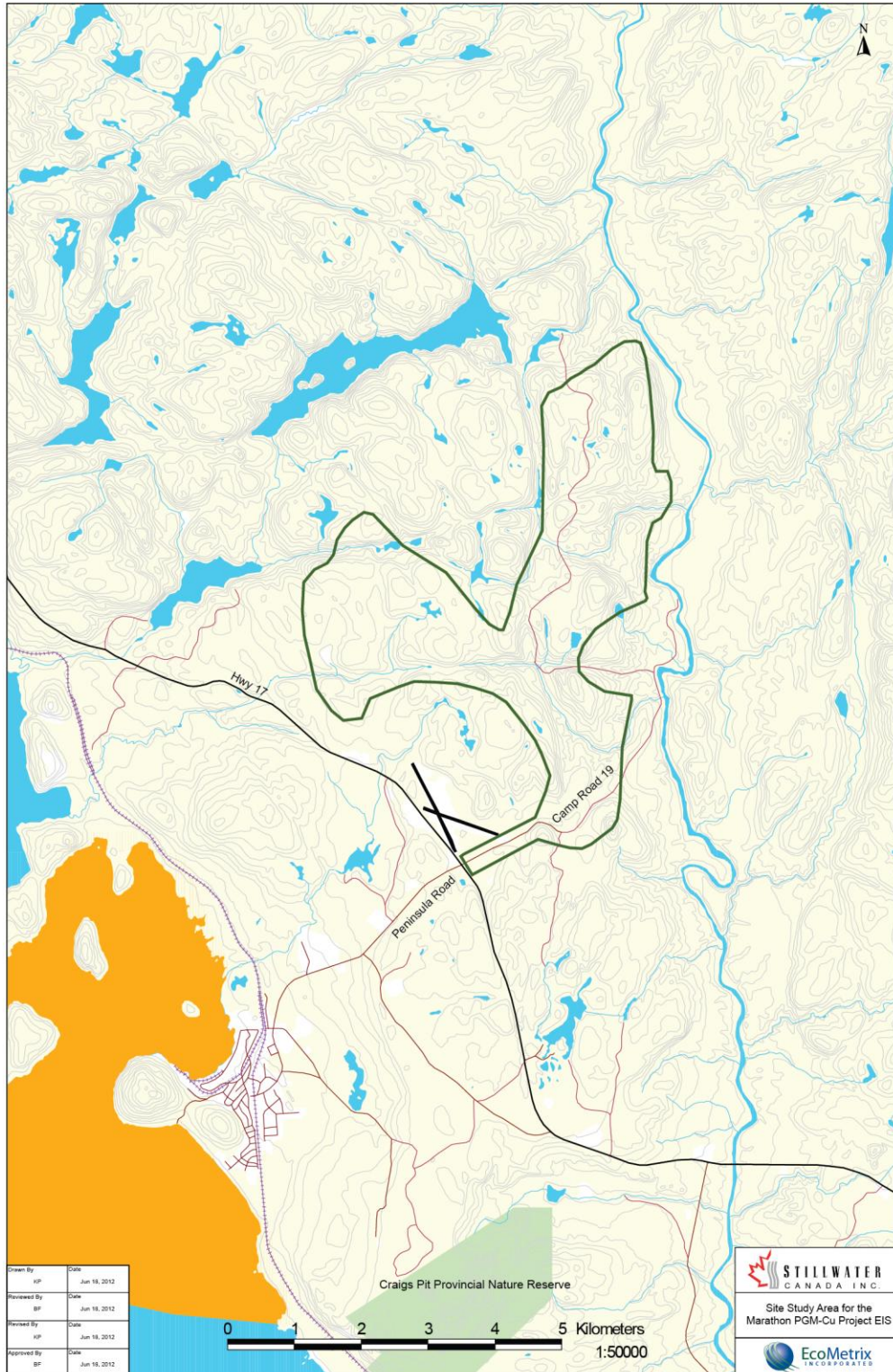


Figure 2.4-1: Site Study Area for the Marathon PGM-Cu Project EIS

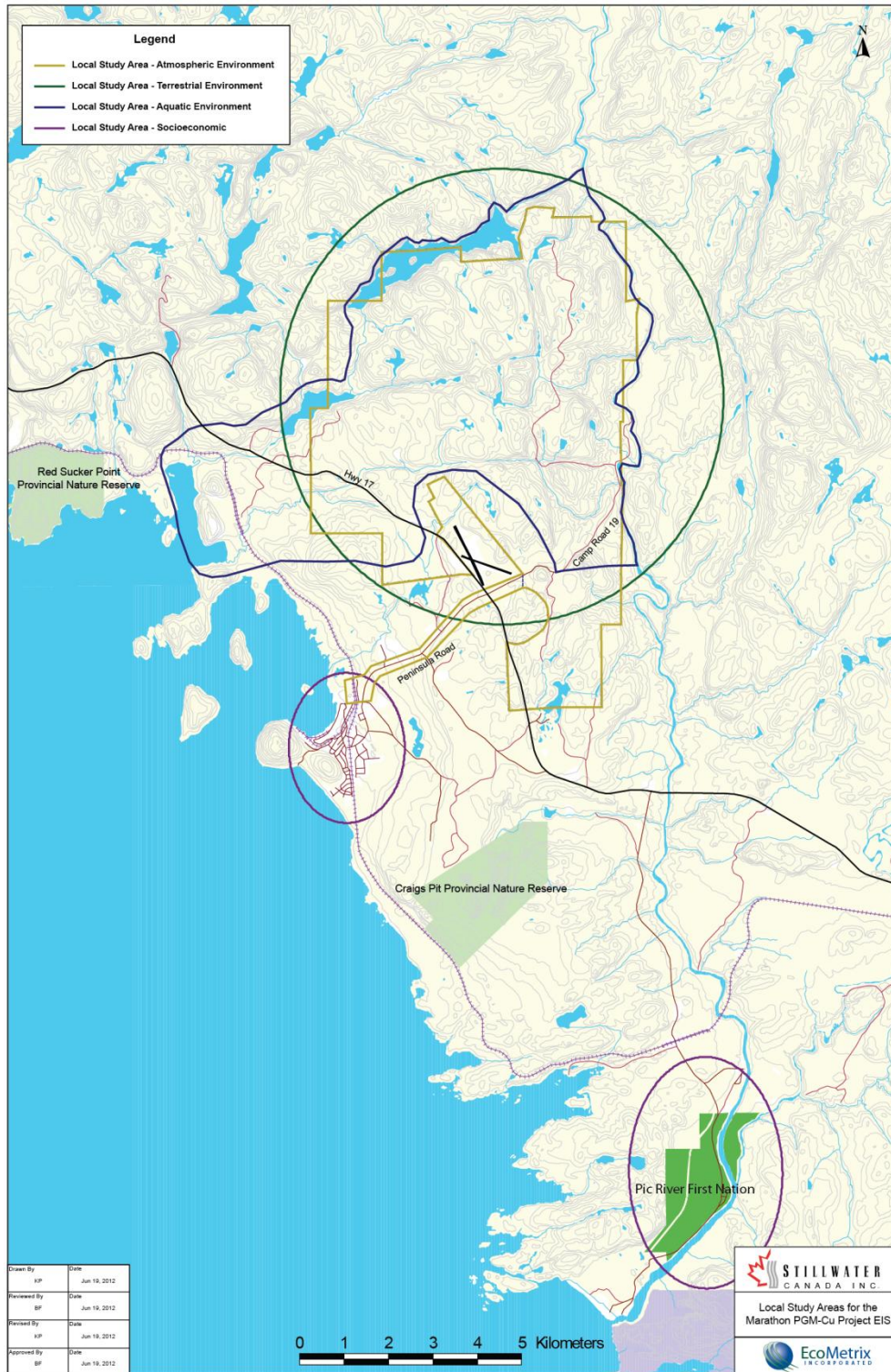


Figure 2.4-2: Local Study Areas for the Marathon PGM-Cu Project EIS

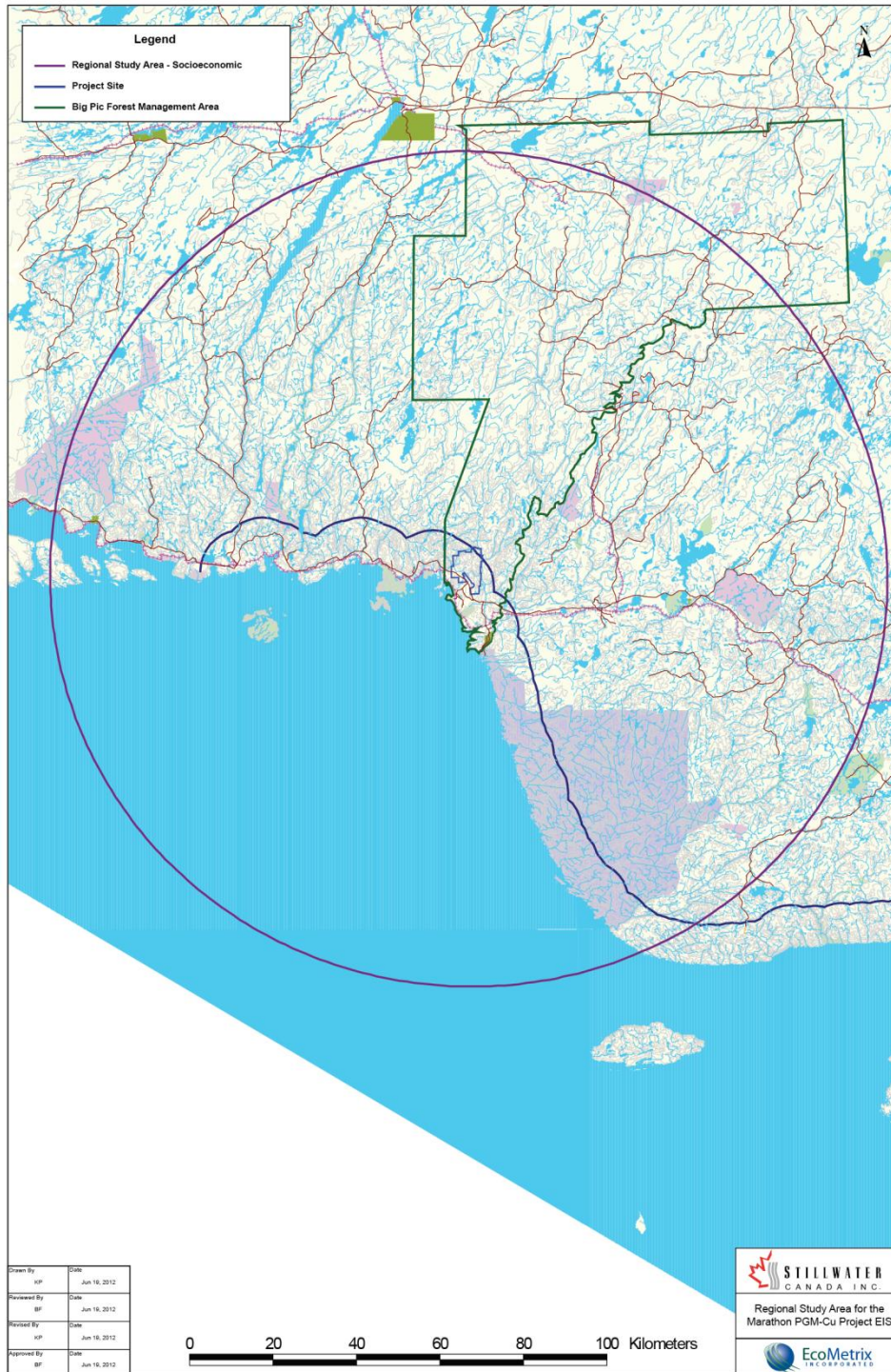


Figure 2.4-3: Regional Study Area for the Marathon PGM-Cu Project EIS

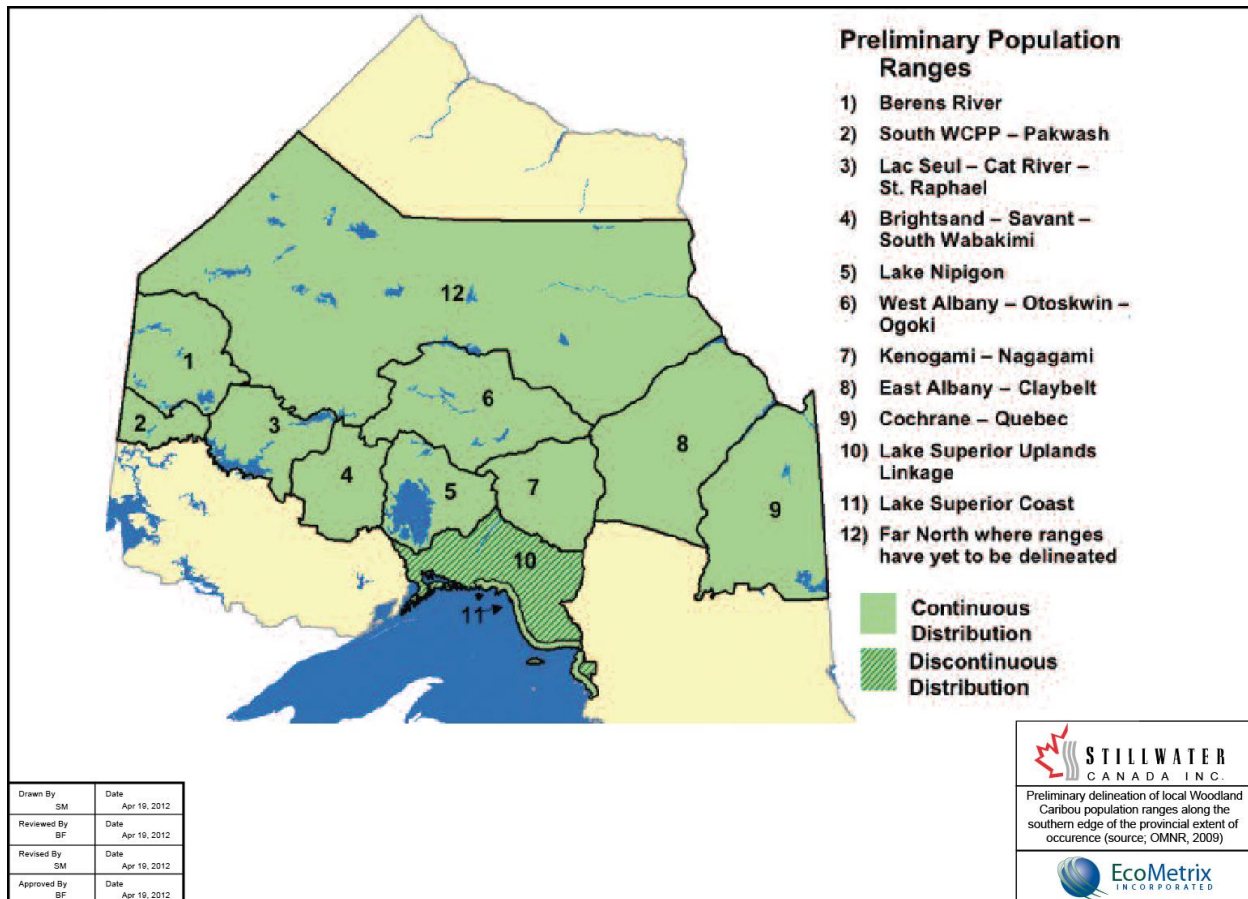


Figure 2.4-4: Preliminary Delineation of local Woodland Caribou population ranges along the southern edge of the provincial extent of occurrence (source; OMNR, 2009)

2.5 Temporal Boundaries of the Assessment

The temporal boundaries for the proposed Project are defined by the duration of the individual Project phases (Phase I Site Preparation, Phase II Construction and Commissioning, Phase III Operations, and Phase IV Decommissioning and Post Closure).

The site preparation and construction phases will take concordantly over a period of approximately 18 months. It will be followed by an operations phase estimated to last about 11.5 years. Though the site will be reclaimed on an ongoing basis to the extent practical during site preparation, construction and operations, a relatively intensive period of reclamation and decommissioning will commence following the cessation of operations. This intensive period of reclamation and decommissioning is anticipated to last approximately two years.

Environmental monitoring activities will take place on the site thereafter in order to verify the success of reclamation and decommissioning activities, and also to confirm that on-site water quality has stabilized such that there are no longer-term geochemistry concerns.