KINROSS Great Bear

Great Bear Gold Project
Impact Statement

Section 15: Cumulative Effects Assessment

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Acronyms and Abbreviations

AEX	Advanced Exploration
ALIA	Anishinaabe-Led Impact Assessment
ANA	Asubpeeschoseewagong Netum Anishinabek
CULRTP	Current use of lands and resources for traditional purposes
FMU	Forest management unit
FRI	Forest resource inventory
fVC	Valued component under federal jurisdiction
Great Bear Resources	Great Bear Resources Ltd.
HHERA	Human health and ecological risk assessment
HIA	Health impact assessment
IAAC	Impact Assessment Agency of Canada
LSA	Local Study Area
LSFN	Lac Seul First Nation
MNR	Ministry of Natural Resources
NWOMC	Northwestern Ontario Métis Community
PA	Project Area
Project	Great Bear Project
Property	Great Bear Property
pVC	Pathway valued component
RSA	Regional study area
SAR	Species at Risk
UTM	Universal Transverse Mercator
VMF	Viggo management facility
WFN	Wabauskang First Nation
WMU	Wildlife Management Unit
WSP	WSP Canada Inc.

15.0 Cumulative Effects Assessment

15.1 Introduction

Cumulative effects are defined as changes to the environment, health, social and economic conditions as a result of the residual effects of a project, combined with the existence of other past, present and reasonably foreseeable physical activities (IAAC 2024). As per IAAC (2025), completion of a cumulative effects assessment allows for the identification of additional mitigation measures if needed, to address effects of a designated project in combination with other physical activities that have been or will be carried out.

The practice of impact assessment includes examining potential effects of a project on valued components and considering mitigation measures to address adverse effects. Valued components are components of the natural and human environment that are of particular concern or value to participants and that may be affected by the Great Bear Project (Project). The potential for cumulative effects on valued components arises when the residual effects of a proposed project overlap spatially and temporally, and interact with the same valued components that are affected by the residual effects of other past, present and known future projects or physical activities. The cumulative effects from past and existing physical activities are reflected in the existing baseline environmental conditions which are summarized in Section 2 and detailed in the appendices to this Impact Statement.

As detailed in Section 6.3, valued components have been identified based on the Tailored Impact Statement Guidelines and feedback received during consultation and engagement. As the federal Impact Assessment process is intended to prevent or mitigate significant adverse effects within federal jurisdiction, the selected valued components were further characterized as:

- Valued components within federal jurisdiction: federal valued components (fVCs) as guided by key issues identified by IAAC (2024)
- Valued components that provide a pathway for direct or indirect effects to fVCs: pathway valued components (pVCs).

This section provides the analysis of the cumulative effects from the Project on fVCs and pathways from pVCs. Table 15.4-1 summaries the changes after mitigation to pVCs and Table 15.4-2 summaries the changes after mitigation to residual effects to fVCs.

The lead consulting firm for each subsection prepared by qualified consultants and reviewed by experts, is as follows:

- Subsections 15.1 though subsection 15.8, and subsection 15.10 by WSP Canada Inc. (WSP)
- Subsection 15.9 by SLR Consulting (Canada) Ltd. and WSP (health).

15.2 Influence of Consultation and Engagement

The Impact Statement is required to demonstrate how questions and comments raised through the consultation and engagement processes were considered in the preparation of the Impact Statement. Great Bear Resources Ltd. (Great Bear Resources) have actively engaged with members of the public and rights holders prior to, and during preparation of the Impact Statement with a goal of both obtaining their viewpoints on the Project, and as an opportunity for them to provide Indigenous and local knowledge. A summary of consultation and engagement is provided in Section 3 and a record is detailed in Appendix C.

Key rights holders and stakeholders that have provided comments related to potential cumulative effects include:

- Local Indigenous Nations and Métis communities:
  - Asubpeeschoseewagong Netum Anishinabek (ANA)
  - Lac Seul First Nation (LSFN)
  - Northwestern Ontario Métis Community (NWOMC)
  - Wabauskang First Nation (WFN)
- Federal departments and agencies (Impact Assessment Agency of Canada; IAAC).

Responses were provided to feedback received through consultation and engagement activities for the Project, in writing or in follow-up meetings. Relevant comments and information received not specific to the Project, have also been considered in the assessment of changes to pVCs (Section 7) and fVCs (Section 8 to Section 14), as well as in this cumulative effects assessment.

Great Bear Resources has provided funds to support the documentation of Indigenous knowledge from local communities and to help inform the Impact Statement preparation. Confidential reports have been prepared for the LSFN, NWOMC and WFN, and have been shared with Great Bear Resources to help guide the Project design and inform the Impact Statement. Funding has also been provided to ANA to support documentation of Indigenous knowledge and to help inform the Project, but to date a report has not been shared with Great Bear Resources. Indigenous knowledge and local knowledge shared with Great Bear Resources has been incorporated throughout the Impact Statement as appropriate, including in this section.

There is an extensive consultation and engagement record for the Project, which is thoroughly documented. Each of the local Indigenous Nations listed above have expressed concerns about the potential for cumulative effects of the Project when considered in combination with existing and historic developments in the region that restrict access and / or withdraw lands from potential traditional use, and result in potential adverse changes to the environment. The potential for overlapping effects with other developments has been raised in consultation and engagement to date, including:

- Forestry effects on Species at Risk (SAR), Wolverine (LSFN and WFN)
- Existing and historic mining in the Red Lake area (water quality and fish; LSFN)
- Existing chlor-alkali chemical plant near Dryden far downstream of the Project (water quality and fish, Indigenous health; ANA).

Great Bear Resources have listened to these concerns and responded with field investigations and modelling efforts to demonstrate that the Project can be developed without significant cumulative effects.

As part of the consultation and engagement, the proposed cumulative effects methodology slide deck was shared with IAAC (October 3, 2025), with an offer to meet to discuss. IAAC indicated on November 26, 2025, that the federal government did not have substantial comments on the methodology presented. The method used in this section, is as presented to IAAC.

15.3 Federal Guidance and Assessment Methodology

The approach used for assessing the potential for cumulative effects from the Project is consistent with the requirements of the IAAC as currently described in the Technical Guidance for Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012* (CEAA 2018), the operational policy statement, Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act, 2012* (CEAA 2015) and the Policy Framework for Assessing Cumulative Effects under the *Impact Assessment Act* (IAAC 2025). The approach used in this section was confirmed with IAAC, as noted in Section 15.2.

The policy statement suggests a stepwise assessment including: scoping, analysis, mitigation, classification and follow up, with the latter steps included as needed based on the results of the analysis:

- Step 1 Scoping: is used to define the scope of the cumulative effects assessment. Residual effects can only have a cumulative effect on a valued component if they overlap spatially and temporally with residual effects of other present and foreseeable future projects and physical activities on the same valued component. Existing baseline conditions reflect cumulative effects from past and existing physical activities, and are accounted for within the effects assessment for the Project.
- Step 2 Analysis: of each pVC with changes after mitigation linked to one or more fVCs, analysis of each fVC, and the manner in which the effects from the Project interact with other identified present and foreseeable future, projects and physical activities.
- Step 3 Mitigation: is also considered to reduce adverse cumulative effects for present and foreseeable future projects and physical activities, as known.
- Step 4 Classification: of residual cumulative effects to fVCs is provided using the same criteria in the assessment of residual effects from the Project (Section 6.6.2): magnitude, geographic extent, duration, frequency, reversibility and timing (where applicable) and standards or thresholds established for the residual effects on the valued components (Section 8 to Section 14).
- Step 5 Follow-up: is provided where cumulative effects are identified that addresses Project-specific cumulative effects to the extent reasonable for an individual proponent.

This approach has been used to assess the potential for cumulative effects associated with the Project, as detailed in the subsections that follow.

15.4 Scoping

15.4.1 Spatial Boundaries

The spatial boundaries for the cumulative effects assessment were determined in consideration of the nature of the valued component and the characteristics of the residual Project effects noting the following general spatial study areas:

- Project Area (PA): the Project footprint including all temporary and permanent areas associated with the mine site development, as well as an outside buffer of approximately 250 m, in order to allow for flexibility for design optimizations prior to construction and over the mine life.
- Local Study Area (LSA): extends beyond the PA and is intended to capture potential direct effects from the Project.
- Regional Study Area (RSA): encompasses and extends beyond the PA and LSA and provides a regional context in the assessment of potential Project effects, including cumulative effects. It is the maximum geographical extent or zone of influence in which potential effects from the Project are assessed.

A 140 km distance [1] from the Project centroid was considered conservative and appropriate to consider the potential for Project-related cumulative effects. This distance encompasses all LSA boundaries for the valued components, and extends slightly beyond the furthest LSA boundary (the Indigenous Peoples LSA). Technical guidance from IAAC does not prescribe the area over where cumulative effects assessments should be considered.

The closest lands under federal jurisdiction is the Red Lake airport (CYRL), located approximately 26 km away from the Project. The Project is not expected to adversely affect federal lands and cumulative effects on federal lands are therefore not uniquely assessed.

15.4.2 Temporal Boundaries

The temporal boundaries for the cumulative effects assessment are the same as defined for other potential Project-related effects (Section 6.1):

- Construction phase: Years -3 to -1 representing the primary period of Project construction
- Operations phase: Years 1 to 26 when mining and processing of ore occurs
- Closure phase:
  - Years 27 to 29 represent the active closure period when the majority of the decommissioning and reclamation of the PA is completed
  - Year 30 is a passive closure period while the mine workings are filled with water and there are minimal other site activities
  - Year 31 is the final closure period when water treatment infrastructure is removed, after the LP Central pit is filled with water, and site waters are acceptable for passive release to the environment.

[1] All distances are across country and do not follow the road infrastructure, unless specifically identified otherwise.

15.4.3 Valued Components Considered in the Cumulative Effects Assessment

The potential for cumulative effects arises when the effects of a proposed project after mitigation, overlap spatially and temporally and interact with the same valued components that are affected by the residual effects of other past, present and known future projects or physical activities. Table 15.4-1 provides a summary of changes after mitigation for pVCs that are linked to fVCs (detailed in Section 7). Table 15.4-2 summarizes the residual effects identified for fVCs (detailed in Section 8 through Section 14).

Table 15.4-1: Summary of pVCs with Changes after Mitigation linked to fVCs

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted [1]	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
Air Quality (Section 7.2)	The modelled cumulative concentrations for all criteria for all averaging periods are below the respective Ambient Air Quality Criteria during the construction phase, operations phase and closure phase at the extent of the leased claims boundary and at all points of reception in the LSA.	Yes: • Migratory birds • Indigenous Peoples (current use of lands and resources for traditional purposes; CULRTP and health)	Emissions from the Project may change the condition of adjacent vegetation communities, habitat, and surface water during the construction, operation and closure of the Project. Air quality may also affect health.
Sound (Section 7.3)	Sound levels at all of the identified PORs are predicted to be below the federal and provincial criteria after application of mitigation measures. The change in percent highly annoyed meets the Health Canada limit of 6.5%, which means that changes to sound levels are not expected to trigger noise complaints from PORs.	Yes: • Migratory birds • Indigenous Peoples (CULRTP and health)	Noise from the construction, operation and closure of the Project may disturb wildlife and migratory birds. Effects to these species may affect traditional land and resource uses for Indigenous people.
Vibration (Section 7.4)	The predicted change to air overpressure and peak particle vibration are well below the provincial limits for all PORs and Fisheries and Oceans Canada requirements related to vibration for protection of fish will be met.	Yes: • Fish and fish habitat • Migratory birds • Indigenous Peoples (CULRTP and health)	Localized vibration resulting from the Project, may result in sensory disturbances to fish, migratory birds and other wildlife species, which could potentially affect health and traditional land and resource uses for Indigenous people.

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted (1)	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
Groundwater (Section 7.5)	After implementation of the proposed mitigation measures, there is a reduction of groundwater flows and levels during the construction and operations phases that is mitigated during closure. After the filling of the underground, LP Central pit and Viggo management facility (VMF) with water, groundwater flows and levels will recover to near baseline conditions.	Yes: • Fish and fish habitat • Indigenous Peoples (CULRTP and health)	Groundwater can be a key input to surface water flows and levels, and may affect where fish live. Changes in groundwater resulting from the Project may change the condition of adjacent vegetation and wetland communities and habitat during the construction, operation and closure of the Project, which may affect migratory birds, health and the CULRTP.
Surface Water Flows and Levels (Section 7.6)	There is a reduction of surface water flows and levels within the PA and parts of the LSA after implementation of the proposed mitigation measures, during the construction, operations and closure phases that is partially mitigated by closure-related activities. Some local hydrology changes are permanent, resulting from landscape changes from development. Estimated changes to flow and water level in the Chukuni River and further downstream are not observable during any Project phase.	Yes: • Fish and fish habitat • Migratory birds • Indigenous Peoples (CULRTP and health)	Changes to surface water flows and levels may affect the availability of fish habitat where fish live. Surface water flow and level changes resulting from the Project may change the local vegetation communities and habitat used by migratory birds. Changes to surface water flows and levels may also affect health and the CULRTP, including access.

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted [1]	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
Water Quality (Section 7.7)	Observable changes in water quality from baseline conditions are constrained to the LSA during all Project phases. In the operations phase, predicted concentrations for all modelled parameters are well below the identified water quality guidelines for protection of aquatic life (WQG PAL), or equivalent to baseline conditions where baseline concentrations are greater than these guidelines (arsenic and phosphorus), with the exception for cobalt concentrations at a node in Unnamed Watercourse 1. During the closure phase (and post-closure), all modelled parameters are predicted to be less than WQG PAL, or equivalent to baseline conditions where baseline concentrations are greater than WQG PAL (arsenic and phosphorus).	Yes: • Fish and fish habitat • Migratory birds • Indigenous Peoples (CULRTP and health)	Alterations in water quality can influence the availability and suitability of aquatic habitats supporting fish populations. Project-related changes to water quality could directly affect migratory birds, and / or indirectly through changes in local vegetation communities, which may also affect health and the CULRTP by Indigenous people.
Vegetation Communities (Section 7.8)	With the implementation of the proposed design and mitigation measures, direct changes to vegetation communities after mitigation are expected to be localized to the PA. Indirect effects are expected to be confined to the PA and its immediate surroundings. Restoration and revegetation efforts during closure are anticipated to support the recovery of vegetation communities, with long-term positive outcomes for ecosystem function and diversity, although re-establishment is a long-term process.	Yes: • Migratory birds • Indigenous Peoples (CULRTP and health)	Changes to vegetation communities may affect habitat availability for migratory birds and traditional foods for Indigenous people (CULRTP and health).
Wild Rice (Section 7.9)	The zone of changes to Wild Rice is predicted to be within Unnamed Waterbody 1, with mitigation proposed through an offset as part of the Wild Enhancement Project at the WFN reserve.	No	The permanent change to Wild Rice within the PA will be offset which would mitigate the potential food source loss to migratory birds and Indigenous people.

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted (1)	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
Moose (Section 7.10)	The removal of the PA resulted in a fractional change to habitat abundance and connectivity. No critical habitat types are eliminated at the regional scale, and overall habitat diversity and connectivity are maintained within the RSA. With the implementation of the proposed design and mitigation measures, changes to the abundance of Moose habitat are not expected after closure. There will be a change in the risk of mortality as wildlife - vehicle collisions are possible when roads and vehicular traffic are present. This will be limited after the active closure period and removed post-closure. Indirect effects to Moose during the construction, operations and closure phases may extend into the LSA but cease after closure activities end.	Yes: • Indigenous Peoples (CULRTP and health)	Moose has been identified as a traditional food, and is also a species of importance to Indigenous people.
Other Wildlife (Section 7.11)	Habitat for other wildlife will be reduced within the PA from vegetation removal required for Project development, but habitat losses are low at a regional scale. The closure phase will directly increase functional other wildlife habitat which will continue to increase post-closure. There will be a change in the risk of mortality due to wildlife - vehicle collisions, which are possible when roads and vehicular traffic are present. This will be limited after the active closure period and removed post-closure. Indirect effects to other wildlife during the construction, operations and closure phases may extend into the LSA but cease after closure activities end.	Yes: • Indigenous Peoples (CULRTP and health)	The PA contains traplines which represent Indigenous cultural and subsistence activities. Some other wildlife species have been identified as a traditional food.

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted (1)	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
SAR (Section 7.12)	Direct habitat losses will occur within the PA during construction, but no critical SAR habitats will be eliminated, and overall habitat diversity will be maintained within the RSA. Therefore, there are no effects on the relative abundance of habitat after mitigation. There will be a change in the risk of mortality due to wildlife - vehicle collisions, which are possible when roads and vehicular traffic are present. This will be limited after the active closure period and removed post-closure. Indirect effects to SAR during the construction, operations and closure phases may extend into the LSA but cease after closure activities end.	Yes: • Indigenous Peoples (CULRTP and health)	The PA is located within the Sydney Range for Boreal Caribou. Boreal Caribou has been identified as a traditional food. The PA also contains potentially affected traplines (Wolverine interacts with traplines), which represent Indigenous cultural and subsistence activities.
Land and Resource Use (Section 7.13)	Public access to the PA will be prohibited from the onset of the construction phase until following active closure so that construction, operations and closure activities can be carried out safely. In addition, sensory disturbance may potentially cause wildlife and recreational users to avoid the immediate area.	No	Changes to public access to the PA does not have unique effect on fVCs.
Cultural Heritage (Section 7.14)	The zone of changes to Wild Rice is predicted to be within Unnamed Waterbody 1, with mitigation proposed through and offset as part of the Wild Enhancement Project at the at the WFN reserve.	No	The permanent change to Wild Rice within the PA will be offset which would mitigate the potential food source loss to migratory birds and Indigenous people.
Archaeology (Section 7.15)	With the proposed design and mitigation measures, no changes to the terrestrial archaeological sites or areas of marine archaeological potential are expected.	No	The identified archaeological site within the PA will be avoided.

Pathway Valued Components (pVCs)	Changes after Mitigation Predicted (1)	Adverse Change after Mitigation with Pathways to a fVC	Additional Information
Local and Regional Economy (Section 7.16)	The Project will have a net positive effect on the local and regional economy through employment and labour income, opportunities and income for local and regional businesses, and increased revenues to local and regional municipalities. The zone of changes is dominantly within the RSA. The remainder of the potential direct, indirect and induced economic effects are expected to occur in the rest of Ontario and Canada.	No	Effects to the local and regional economy are positive.

Note:
Please review details in related sections referenced in Column 1.
CULRTP: Current use of lands and resources for traditional purposes.

Table 15.4-2: Summary of fVCs with Residual Effects

Federal Valued Components (fVCs)	Adverse Residual Effects Predicted after Mitigation	Linked to another fVC
Fish and Fish Habitat (Section 8)	No, with the implementation of proposed mitigation and measures in the Fish Habitat Offset and Compensation Plan (FHOCP): • There are no residual effects on fish habitat predicted • Adverse residual effects to fish communities, including those of Indigenous community concern, are not predicted • There are no predicted residual effects to fish health as the changes to water quality will be effectively mitigated by the implementation of the integrated water management and treatment system as contact water released to the environment will meet the WQG PAL.	Fish are a traditional food for Indigenous people and may interact through traditional land and resource use (CULRTP) and health.
Migratory Birds (Section 9)	Yes, with the implementation of mitigation measures and expected offset via restoration during closure, the residual effect on migratory birds from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in the abundance of habitat is not significant • Change to connectivity and quality of habitat is not significant • Change to migratory birds density and population is not significant • Change in the risk of mortality for migratory birds is not significant • Change to the abundance of habitat of migratory bird SAR is not significant.	Some migratory birds are a traditional food for Indigenous people and may interact through traditional land and resource use (CULRTP) and health.
Indigenous Peoples – LSFN (Section 10)	Yes, with the implementation of mitigation measures, the residual effect on Indigenous Peoples – LSFN from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in community services and infrastructure is not significant • Change in CULTRP is not significant • Change in Indigenous physical or cultural heritage, and structures, sites, or things of significance is not significant (Indigenous physical or cultural heritage) is not significant • Change in community well-being is not significant • Change in health is not significant.	No

Federal Valued Components (fVCs)	Adverse Residual Effects Predicted after Mitigation	Linked to another fVC
Indigenous Peoples – WFN (Section 11)	Yes, with the implementation of mitigation measures, the residual effect on Indigenous Peoples – WFN from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in community services and infrastructure is not significant • Change in CULTRP is not significant • Change in Indigenous physical or cultural heritage is not significant • Change in community well-being is not significant • Change in health is not significant.	No
Indigenous Peoples – ANA (Section 12)	Yes, with the implementation of mitigation measures, the residual effect on Indigenous Peoples – ANA from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in community services and infrastructure is not significant • Change in CULTRP is not significant • Change in Indigenous physical or cultural heritage is not significant • Change in community well-being is not significant • Change in health is not significant.	No
Indigenous Peoples – NWOMC (Section 13)	Yes, with the implementation of mitigation measures, the residual effect on Indigenous Peoples – NWOMC from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in community services and infrastructure is not significant • Change in CULTRP is not significant • Change in Indigenous physical or cultural heritage is not significant • Change in community well-being is not significant • Change in health is not significant.	No

Federal Valued Components (fVCs)	Adverse Residual Effects Predicted after Mitigation	Linked to another fVC
Indigenous Peoples – Red Lake and Ear Falls (Section 14)	Yes, with the implementation of mitigation measures, the residual effect on Indigenous Peoples living in the Red Lake and Ear Falls area from changes related to the Project are primarily be constrained to the PA but could extend into the LSA: • Change in community services and infrastructure is not significant • Change in CULTRP is not significant • Change in Indigenous physical or cultural heritage is not significant • Change in community well-being is not significant • Change in health is not significant.	No

15.5 Identification of Potential Interactions with Project

As set out in the operational policy statement and the technical guidance from IAAC (CEAA 2015, 2018; IAAC 2025), present-day conditions reflect the cumulative effects from past and most present activities. Existing conditions described in the environmental baseline reports appended to the Impact Statement fully represent the cumulative effects associated with physical disturbances of developments, such as mining, forestry, communities and infrastructure in the region. Present-day conditions also reflect ongoing harvesting activities in the region (fishing, hunting and trapping).

The following sources were used to identify known future projects and physical activities that could interact with the Project:

- IAAC Registry:
  - Lists all projects being considered for approval under the *Impact Assessment Act* and the *Canadian Environmental Assessment Act, 2012*
  - https://iaac-aeic.gc.ca/050/evaluations
- Ministry of the Environment, Conservation and Parks:
  - Lists projects completing environmental assessments under the *Environmental Assessment Act*
  - https://www.ontario.ca/page/environmental-assessments
- Environmental Approval Registry:
  - Map viewer allows identification of projects and activities under select provincial legislation requesting approval
  - https://www.lioapplications.lrc.gov.on.ca/Access_Environment/index.html?viewer=Access_Environment.AE&locale=en-CA
- Provincial Forestry Management Plans:
  - Provides information regarding work planned in the forest management unit (FMU)
  - https://nrip.mnr.gov.on.ca/s/fmp-online?language=en_US
- Ontario Highway Programs:
  - Lists highways going through expansion or repairs
  - https://www.ontario.ca/page/building-ontario?gad_source=1&gclid=Cj0KCQiA_qG5BhDTARIsAA0UHSLm8E5bAiWigrtazhLtLk3tqM-rnBDmX-M12r5S7yLp0yViFYJzXWgaAggoEALw_wcB&gclsrc=aw.ds
- Ontario Mining Association:
  - Publishes information regarding the location of mines and exploration projects that in Ontario
  - https://oma.on.ca/en/ontario-mining/Map.aspx
- Aggregate Pit and Quarry Registry:
  - Identifies approved aggregate pits and quarries

    - https://www.lioapplications.lrc.gov.on.ca/Pits_And_Quarries/index.html?viewer=Pits_and_Quarries.Pits_and_Quarries&locale=en-CA
- Hydro One Networks Inc.:
    - Provides information regarding electricity generation and transmission
    - https://www.hydroone.com/about/corporate-information/major-projects.

The following criteria were used to identify future projects and physical activities to be included in the cumulative effects assessment utilizing the above and other public sources of information:

- Undergoing or having completed an impact assessment, environmental assessment or known environmental approvals process based on readily available public information
- Publicly announced applications known to be filed that have a defined project execution period and sufficient project details are available for consideration
- Activities identified in an approved development or management plan
- Under construction.

Table 15.5-1 to Table 15.5-7 identify projects or activities as of December 2025 that are existing or considered to be likely to proceed. Universal Transverse Mercator (UTM) coordinates are provided in the tables, along with distance and orientation with respect to the approximately centroid of PA. The projects or activities are shown on Figure 15.5-1 and Figure 15.5-2. Hunting, fishing and trapping are also expected to continue into the future.

The following types of existing or foreseeable projects were uniquely identified near the Project:

- Great Bear Advanced Exploration (AEX) Program (existing)
- Aggregate operations (existing)
- Forestry timber cutting operations (existing)
- Highway 105 (existing).

The Project is located in a region with a long history of mining and exploration. Past activities are reflected in the baseline environment summarized in Section 2 and detailed in the baseline studies appended to the Impact Statement. It is reasonable to assume that there could be future mineral exploration by Great Bear Resources and other companies locally and in the region. Mineral exploration activities include such activities as claims staking and grass roots exploration (surface sampling, drilling or trenching and geophysics surveys for example). These activities tend to occur over short periods of time over limited areas, and can not be reasonably predicted temporally or spatially to assess if they overlap with the Project.

The spatial boundaries of the larger communities listed in Table 15.5-5 were considered as existing projects, with the assumptions that there would be ongoing and proposed projects and activities within those borders. The following foreseeable projects within community boundaries were identified including through the sources listed above:

- Proposed construction of a new health facility, replacement of sewage pumps and construction of a long-term care and treatment facility (ANA; approximately 80 km away)

- Proposed project involving petroleum hydrocarbon soil remediation, installation of fibre optic cabling and antennae, nursing station fuel storage tank system repairs, construction of a new Elders Lodge and two, five-unit apartment buildings (Pikangikum Indian Reserve 14; approximately 108 km away)
- Proposed construction of new broadband towers and installation of fibre optic cabling and antennae (LSFN; approximately 120 km away)
- Project to increase long term waste disposal capacity (Dryden; approximately 131 km away)
- Relocation and redevelopment of Waasegiizhig Nanaandawe'iyewigamig Health Access Centre, central community club green space enhancements project and central community club recreation facility reconstruction (Kenora; approximately 134 km away).

There may be future projects and activities within the larger communities listed in Table 15.5-5, in addition to those listed above. These are expected to be of a similar scale to those listed above, and could include for example, construction and maintenance of buildings and infrastructure, and waste management (the locations of the landfills in Red Lake and Ear Falls which are nearest to the Project are shown in Figure 4.15-1). None of these foreseeable projects or activities within the listed community boundaries are of a scale that would be reasonably be expected to spatially overlap with the effects of the Project.

Table 15.5-1: Existing and Reasonably Foreseeable: Mine and Mineral Development Projects

Mine / Mining Project	Description	Status	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
			Easting	Northing		
Great Bear Advanced Exploration Program	Gold advanced exploration program on the Great Bear Property (Property) owned by Great Bear Resources. Location is coincident with the Project. Located within the Chukuni River watershed.	Operating AEX Program	455665	5633910	-	-
Red Lake Gold Mines	Active gold mine owned by Evolution Mining. Located within the Chukuni River watershed upstream of the Project.	Operating Mine	435555	5646612	23.8	WNW
Madsen Mine	Active gold mine owned by West Red Lake Gold Mines. Located within the Chukuni River watershed upstream of the Project.	Operating Mine	448145	5657067	24.4	NNE
Separation Rapids Project	Lithium mining project owned by Separation Rapids. Preliminary Economic Assessment was completed in 2018. Located downstream of the Project, within the Lower English River watershed.	Exploration and Development	594425	5641572	93.5	SSW
Springpole Gold Project	Planned gold mine owned by First Mining Gold. Located within the Lac Seul watershed upstream of Pakwash Lake.	Federal and Provincial Environmental Assessment in Progress	549163	5694112	111.2	ENE
Goliath Complex Project	Gold project owned by NexGold, consisting of the Goliath, Goldlund and Miller projects. Located within the Wabigoon River watershed.	Exploration and Development	388455	5568989	135.1	SSE
Root Project	Gold project owned by Green Technology Metals. Undergoing further drilling and drill testing. Located within the Lac Seul watershed.	Exploration and Development	524880	5517996	139.0	ENE

Notes:
N: north; E: east; S: south; W: west
Early exploration projects / temporary operations are not considered in this cumulative effects assessment. Mines and mining projects are shown on Figure 15.5-1.

Table 15.5-2: Existing and Reasonably Foreseeable: Aggregate Operations

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Lafarge Canada [2]	Tuzyk's Road (Rd.)	Pit	50	455199	5635987	1.9	NNE
Municipality of Red Lake	Pit 12	Pit	12.25	456058	5636595	2.6	NNE
Lafarge Canada [2]	Pit 14	Pit	12.2	456592	5636801	2.8	NNE
Shewchuk Enterprises	Pit 15	Pit	4	456358	5636927	3.0	NNE
William Saskosky Logging	Pit 20 (two)	Pit	10	452617	5638582	5.3	NNE
P. Spinelli Trucking	Pit 10	Pit	1.3	453220	5639215	5.6	NNE
Larry Herbert & Nathan Herbert	Pit 76	Pit	30	449683	5635575	5.9	WNW
Draco (1985)	Pit 92	Pit	6	449600	5633174	6.0	WSW
H. Moncrief & Son Contracting	Pit 98	Pit	0.65	463992	5634172	8.3	ENE
Snake Falls Camp	Unorganized	Pit	3.5	466403	5631025	11.1	ESE
P. Spinelli Trucking	Pit 90	Pit	1.17	446330	5650853	19.2	NNE
Ministry of Natural Resources (MNR) Red Lake	L-2 Poodle Rd.	Pit	9.5	449985	5612412	22.2	SSW
Pakuni Holdings	Pit P-6 Pakuni Rd.	Pit	0.5	461665	5612246	22.4	SSE
1304928 Ontario	Pit 19	Pit	16.2	452950	5657101	23.1	NNE
1304928 Ontario	Pit 6	Pit	16.2	453249	5657455	23.4	NNE
Pakuni Holdings	Old Pit L-1	Pit	0.1	458948	5610533	23.6	SSE
MNR Red Lake	L-13	Pit	2.5	433829	5619463	26.1	WSW
Shewchuk Enterprises	Pit 4 - McMarmac	Pit	7.6	444503	5659820	28.1	NNE
Newmont Canada	NE of Cochenour	Pit	4.5	445340	5660348	28.3	NNE
MNR Kenora	L-4 Overnight Rd.	Pit	2.5	442939	5608034	28.8	SSW

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Green Acres Contracting	Pit T-2	Pit	16	486597	5620329	33.7	ESE
Green Acres Contracting	South Bay Rd.	Pit	12	489282	5628192	34.0	ESE
Dale Butterfield	Nungessor Rd.	Pit	105	454350	5669757	35.7	NNE
Ross E. Roeck	Pit I-60	Pit	0.2	485013	5611907	36.6	ESE
MNR Kenora	Gould Rd.	Pit	2.5	470413	5599268	37.6	SSE
Green Acres Contracting (Red Lake)		Pit	12	494200	5621700	40.4	ESE
Arbossie Bulk Systems	Manitou Falls Rd.	Pit	3.12	486161	5607033	40.5	ESE
Moncrief Construction	T-1	Pit	10	486436	5606355	41.2	ESE
Green Acres Contracting	Sawmill Pit	Pit	12.2	486570	5605884	41.6	ESE
Dave's Trucking and Contracting	T-6	Pit	6	486751	5604667	42.6	ESE
Newmont Canada	T-5	Pit	12.15	461128	5677177	43.5	NNE
Larry Herbert & Nathan Herbert	Pit 1-9	Pit	1.8	454934	5677735	43.9	NNE
MNR Red Lake	I-2 - Mile 42 Rd.	Pit	2.5	411534	5622016	45.5	WSW
MNR Kenora	Conifer Rd.	Pit	17.5	426895	5597538	46.1	SSW
Allan H. Hutchison Contracting	Old pit 100	Pit	2.5	487559	5600023	46.5	SSE
Dave's Trucking and Contracting	Randall Rd.	Pit	4.1	489784	5600458	47.7	ESE
Larry Herbert & Nathan Herbert	Pit 1-8	Pit	0.85	446934	5681749	48.6	NNE
MNR Red Lake	I-16	Pit	1.8	404285	5629606	51.5	WSW
Steven Blair Contracting	Scout Lake (Lk.)	Pit	5	490415	5591272	54.8	SSE
Glen Kafka	Coreless Rd.	Quarry	8.14	503460	5663161	56.0	ENE
MNR Kenora	Conifer Lk. Rd.	Pit	3	421614	5587125	57.8	SSW

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
MNR Kenora	Aerobus Rd.	Pit	1.1	477214	5577693	60.2	SSE
Campbell's Lac Seul Onaway Lodge	Highway 105	Pit	5	493133	5583434	62.8	SSE
MNR Kenora	Deer Lk. Rd.	Pit	3.04	461452	5569477	64.6	SSE
Jim & Julies Wabaskang Camp	Wabaskang Camp Rd.	Pit	3.6	484405	5575728	64.8	SSE
MNR Kenora	Slush Lk. Rd.	Pit	1.3	454950	5562561	71.3	SSW
William Petiquan	Cliff Lk. Area	Pit	2.5	475472	5554596	81.7	SSE
MNR Kenora	Deer Lk. Rd.	Pit	3.2	475172	5553631	82.6	SSE
Northland Enterprises	Cedar Lk.	Pit	2.28	484097	5553030	85.7	SSE
Nelson Granite	Jones Rd.	Quarry	57.43	432411	5549098	87.4	SSW
Domtar	Pit 237	Pit	18.6	507638	5562326	88.3	SSE
Whitefeather Forest Community Resource Management Authority	Whitefeather Forest	Pit	3	443787	5721646	88.5	NNE
Whitefeather Forest Community Resource Management Authority	Pikangikum Rd.	Pit	11.43	444246	5723633	90.5	NNE
Whitefeather Forest Community Resource Management Authority	Nungesser Rd.	Pit	1	447412	5725190	91.5	NNE
Andrew T. Poschner	Shoe Bay Pit	Pit	2.7	413749	5551668	92.2	SSW
MNR Kenora	Puzzle Bay Rd.	Pit	12	495762	5550456	92.5	SSE
Besco International Investment	Wonderland Pic Lk.	Pit and Quarry	9.38	414643	5548942	94.2	SSW
Avalon Advanced Materials	English River Rd.	Pit	2.4	386466	5568776	95.0	WSW

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Nelson Granite	Wonderland Lk.	Pit	2.5	411053	5549955	95.0	SSW
Nelson Granite	Wonderland Lk.	Quarry	176	411089	5548810	95.1	SSW
Avalon Advanced Materials Inc.	Patterson Lk.	Pit	1.36	386735	5568023	95.3	WSW
Nelson Granite	Lount Lk. Rd.	Quarry	96.93	409354	5548097	96.8	SSW
Nelson Granite	Red Deer Pit 2	Pit	6.9	416476	5544957	97.1	SSW
Nelson Granite	Red Deer Lk.	Pit and Quarry	39	416033	5543769	98.0	SSW
Avalon Advanced Materials	Snook Lk. Area	Quarry	12	385482	5564904	98.2	SSW
Nelson Granite	Forgotten Lk.	Quarry	225	404073	5547084	99.3	SSW
Miitigoog General Partner	English River Rd.	Pit and Quarry	13	393836	5555863	99.4	SSW
Nelson Granite	Forgotten Lk.	Quarry	368	405678	5546903	99.7	SSW
Nelson Granite	Forgotten Lk.	Pit	1.11	402836	5548782	100.2	SSW
Nelson Granite	Forgotten Lk.	Pit	4.5	405878	5546348	100.6	SSW
Miitigoog General Partner	Sand Lk. Rd.	Pit	4.2	384135	5562594	100.9	SSW
Domtar	Glider Lk. Rd.	Pit	12.6	514936	5551748	101.0	SSE
Domtar	Wauchope Township	Pit	6.4	487449	5537301	101.6	SSE
EWL Management	Werner Lk. Quarry	Quarry	16	361792	5592897	102.1	WSW
Nelson Granite	Snook Lk. Area	Quarry	32	378607	5565771	102.5	WSW
EWL Management	Gordon Lk.	Pit	27.3	361145	5592883	102.6	WSW
Domtar	Chaval Rd.	Pit	4.6	476544	5531880	104.1	SSE

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Degagne Construction	Fifth Creek	Pit	4	400198	5545546	104.2	SSW
Domtar	Glider Rd.	Pit	15	518528	5550209	104.4	SSE
Miitigoog General Partner	English River Rd.	Pit	6.7	400753	5544741	104.5	SSW
Domtar	Pit 573	Pit	7.8	492436	5535364	105.0	SSE
Domtar	Vaughan Lk. Area	Pit	7.7	533173	5559701	107.2	ESE
Joe Neniska	Dicker Lk. Rd.	Pit and Quarry	20	422149	5530478	108.5	SSW
Domtar	Mold Road	Pit	6.5	525383	5550261	108.8	SSE
Domtar	Pit 651	Pit	3	517099	5544041	108.8	SSE
Municipality of Machin	Pit 188	Pit	3.6	471408	5525773	109.2	SSE
Norsemen Contracting	English River Rd.	Pit	8.25	400165	5539605	109.2	SSW
Municipality of Machin	Pit 269	Pit	19.4	469673	5525209	109.4	SSE
Joe Neniska	Redditt Ball Park	Pit	3.4	399575	5539615	109.6	SSW
Joe Neniska	Redditt Ball Park	Pit and Quarry	5.95	399325	5539496	109.9	SSW
Norsemen Contracting Inc	Arpin Lk.	Pit	7.1	418674	5530262	109.9	SSW
Northland Enterprises	Pit 105	Pit	12	471693	5524160	110.7	SSE
Miller Northwestern Limited	Pit 380	Pit	13.5	462110	5523031	110.9	SSE
Nelson Granite	Redditt Quarry	Quarry	16	399010	5538196	111.0	SSW
Miitigoog General Partner	Corn Lk. Pit	Pit	2.6	399052	5537911	111.4	SSW
Michael Strecker	Sand Lk. Rd.	Pit	5	372496	5559579	111.4	WSW
Miller Northwestern	Pit 153	Pit	20	461064	5522467	111.5	SSE

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Pikangikum Economic Development	Berens Lk. 3	Quarry	3.95	436558	5744104	111.8	NNE
Dryden Forest Management Company	Pit 659	Pit	14	459517	5521852	112.0	SSE
Roy Banning	English River Rd.	Pit	2	399032	5536849	112.3	SSW
Nelson Granite	Goshawk Lk. Area	Quarry	16	370633	5559350	112.8	WSW
Domtar	Camp 1 Rd.	Pit	10	524533	5543905	113.2	SSE
Nelson Granite	Claim K1221254	Quarry	17.5	370248	5558760	113.5	WSW
Moncrief Construction	Sand Lk. Rd.	Pit	5	369556	5558791	114.2	WSW
Nor-quip Construction	Caribou Falls	Pit	303	360554	5569643	114.6	WSW
Nelson Granite	Silver Lk. Quarry	Quarry	14.2	419211	5525079	114.6	SSW
Nelson Granite	Silver Lk. Quarry	Quarry	14.2	418831	5524815	115.0	SSW
Dryden Forest Management Company	Kupper Rd.	Pit	7.2	477439	5520469	115.3	SSE
Domtar	Little Tag Rd.	Pit	1.7	539863	5554299	115.9	ESE
Kindelane Enterprises	Pit 656	Pit	4.9	479218	5519304	116.9	SSE
Domtar	Cherry Rd.	Pit	3.4	540987	5553989	116.9	ESE
Kupper Contracting	Pit 196	Pit	5	480193	5518803	117.6	SSE
Domtar	Pit 667	Pit	3.3	536751	5548190	117.9	SSE
Steven Blair Contracting	Pit 317	Pit	6.3	506436	5527145	118.1	SSE
Domtar	Bar Road	Pit	18.5	531103	5542317	118.5	SSE
Canadian Pacific	East Hawk Lk.	Quarry	21	428557	5518138	118.6	SSW

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Moncrief Construction	Moose Lk. Pit	Pit and Quarry	8	394920	5531345	119.1	SSW
Norsemen Contracting Inc	East Hawk Lk. Rd.	Pit	5	428016	5517889	119.2	SSW
Harold G. Moncrief	Whitney Lk. Area	Pit	5	394234	5531058	119.8	SSW
Martin Lindquist	Pit 98	Pit	2	482315	5516861	120.0	SSE
Domtar	Pit 74 North Rd.	Pit	3	517647	5531057	120.0	SSE
Joe Neniska	Austin Lk.	Pit	1.11	399165	5527166	120.7	SSW
Clarke Anderson	S. of Morgan Lk.	Pit	2	416444	5519369	121.1	SSW
Reid Martin & Sons	Swan Lk.	Pit	1.25	373110	5544789	121.4	SSW
William Loughheed	Black Sturgeon	Pit	8.1	391450	5530245	121.8	SSW
Clarke Anderson	S. of Morgan Lk.	Pit	2	414734	5519107	121.9	SSW
Domtar	Pit 96	Pit	3	533235	5539787	121.9	SSE
Joe Neniska	Jones Rd.	Pit	9	410601	5520149	122.2	SSW
Joe Neniska	N. of Drewry Creek	Pit	1.39	410948	5519905	122.4	SSW
Al Minor	Cygnet Lk. Rd.	Pit and Quarry	16.8	371564	5544687	122.5	SSW
Joe Neniska	Drewry Creek	Quarry	5.2	410973	5519629	122.7	SSW
Steven Blair Contracting	Pit 315	Pit	26.3	512960	5524974	122.8	SSE
Al Minor	Cygnet Lk. Rd.	Quarry	5.2	371061	5544464	123.0	SSW
Clarke Anderson	Black Sturgeon Lk.	Pit	2	409518	5519277	123.4	SSW
Domtar	Gullwing Lk.	Pit	8.8	523772	5530491	123.7	SSE
Domtar	Vaughan Lk.	Pit	3.1	551075	5554858	123.8	ESE

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Miller Northwestern	Pit 508	Pit	12.5	513758	5524178	124.0	SSE
Reid Martin & Sons	Gunn Lk. Rd.	Pit	7.23	378518	5536477	124.1	SSW
Paul Marion	Pit 426	Pit	5	513890	5523915	124.3	SSE
Fred J. Cook Construction	N. Lynx Lk. Rd.	Pit	23.8	545632	5547391	124.6	ESE
2111447 Ontario	Pit 205	Pit	2.7	488085	5513308	124.8	SSE
2111447 Ontario	Pit 578	Pit	3.7	489358	5513072	125.4	SSE
Miitigoog General Partner	Cygnet Lk. Rd.	Pit	5	369348	5542683	125.4	SSW
2111447 Ontario	Pit 578	Pit	3.7	489471	5512954	125.5	SSE
Christopher R. Kipp	Pit 134	Pit	7	521956	5526229	126.3	SSE
Hilda Ackewance for LSFN	Pit 162	Pit	30.9	552029	5551687	126.4	ESE
Moncrief Construction	Island Lk. Pits	Pit	17.9	403964	5518001	126.5	SSW
Lou Cordeiro	Highway 569	Pit	2.32	376442	5534477	127.1	SSW
Michael Strecker	Galbraith Rd.	Pit	3.5	403553	5517270	127.5	SSW
Big North Lodge & Outposts	Big North Rd.	Pit	1.2	377049	5532216	128.5	SSW
Alex Rheault	Big North Rd.	Pit	11.3	376398	5532337	128.7	SSW
City of Kenora	Ritchie Rd.	Pit	9.3	396306	5519222	128.9	SSW
Brian Alcock	Ritchie Rd.	Pit	0.4	396311	5518989	129.3	SSW
Maria Isable Margarita Macas Strecker	Jaffray Melick	Pit	11.7	402075	5515655	129.6	SSW
Donald Woitowicz	Ghost Lk. Rd.	Pit	31	521162	5521110	130.2	SSE
Domtar	Crossover Rd.	Pit	8.2	541882	5536049	130.3	SSE
846022 Ontario	SL031	Pit	20	555152	5547777	131.3	ESE

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Domtar	Pit 600	Pit	2	531960	5526874	131.4	SSE
Joe Neniska	Highway 596	Pit and Quarry	5.2	372523	5531627	131.6	SSW
Domtar	Pit 601	Pit	1	525148	5521928	131.7	SSE
IISD Experimental Lakes Area	Hillock Lk. Area	Pit and Quarry	16.5	443979	5501791	132.1	SSW
Allan H. Contracting	Pit 267	Pit	51	503322	5509203	133.1	SSE
City of Kenora	Hilly Lk.	Pit	12.1	402280	5511596	133.3	SSW
William Lougheed	Paddle Rd.	Pit	5.3	384949	5520799	133.3	SSW
Degagne Brothers	Hilly Lk.	Pit	4	402103	5511683	133.3	SSW
Allan H. Contracting	Pit 132	Pit	12	502823	5509052	133.4	SSE
Sunpoint Road Association	Gavigan Lk.	Quarry	7.1	380981	5523153	133.5	SSW
Sunpoint Road Association	Ripple Gavigan Stream	Quarry	9.4	380299	5523575	133.5	SSW
M & M Sewage Disposal	Goodie Lk. Rd.	Pit	3.9	557943	5547901	133.6	ESE
1489647 Ontario Inc.	Pit 316	Quarry	0.69	476885	5501827	133.8	SSE
Fred J. Cook Construction	Hudson	Pit	4	558668	5548032	134.0	ESE
Jarnel Contracting Ltd.	Highway 17 East	Pit	14.8	402424	5510531	134.2	SSW
Luke Degagne	Big Stone Bay Rd.	Pit	2	401919	5510875	134.2	SSW
Titan Contractors (Kenora)	Bigstone Bay Rd.	Pit	4.4	401904	5510679	134.4	SSW
C.J. Edwards & Son	N. of Longbow Lk.	Pit	4.61	404263	5509343	134.7	SSW
Domtar	Mining Rd.	Pit	8.2	523542	5517270	134.8	SSE

Owner [1]	Location or Identifier	Type	Size (ha)	UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
				Easting	Northing		
Carlton Dent	Longbow Lk.	Pit	0.5	403955	5509239	135.0	SSW
C.J. Edwards & Son	Bigstone Bay Pit	Pit	5.2	401465	5509999	135.1	SSW
M & M Sewage Disposal	At Radio Tower	Pit	2.5	561434	5549732	135.1	ESE
2111447 Ontario	Pit 685	Pit	7.7	501695	5506740	135.1	SSE
Domtar	Philcot Lk. Rd.	Pit	7	538236	5526060	135.7	SSE
Bamaji Lake Economic Development Corporation	Otatakan	Pit	99.71	593323	5641989	137.2	ENE
Titan Contractors (Kenora)	Dogtooth Lk.	Pit	6.9	416263	5502314	137.2	SSW
Dan Grosenick	Block 445	Pit	6.8	415881	5502415	137.3	SSW
Dan Grosenick	Bipemaejoie Lk.	Pit	4.1	416605	5502261	137.3	SSW
Domtar	Bear Narrows Junction	Pit	45	505256	5504567	138.0	SSE
Al Smith	Storm Bay Rd.	Pit	2.43	401671	5506880	138.0	SSW
Degagne Brothers	Lemay Township	Pit	6.5	415380	5501790	138.1	SSW
Degagne Brothers	Lemay Township	Pit	2.29	415329	5501623	138.3	SSW
Norsemen Contracting	Catherine Lk. Pit	Pit	0.5	372314	5523541	138.3	SSW
Kelly’s Sand and Gravel	N. of MTO Pit ID6	Pit	2	415235	5501465	138.5	SSW
W. R. Mowe	Storm Bay Rd.	Pit	3.2	405763	5504484	138.5	SSW
617002 Ontario	Kathlyn Lk. Rd.	Pit	9.1	548507	5530758	138.7	SSE
Cory Henderson Contracting	Musky Pit	Pit	22.9	552863	5533675	139.5	SSE

Notes:
N: north; E: east; S: south; W: west
Pit: Sand and gravel pit; Rd.: Road; Lk.: Lake

All operations are existing; no reasonably foreseeable aggregate operations were identified.
Wayside permits / pits are not considered in the cumulative effects assessment as by their nature they are temporary.
Existing aggregate projects as available from Provincial database are shown on Figure 15.5-1
Excludes aggregate operations that are part of mines or mining projects (such as the Great Bear Project or Springpole Project)

1. Green Acres Contracting has an existing sand and gravel pit located within the PA. It was fully considered in the cumulative effects assessment although it is not listed in the table above.
2. Company name was changed in 2025 to Amrize Canada Inc.

Table 15.5-3: Existing and Reasonably Foreseeable: Forestry-related Operations

Forestry-related Operation	Description	(UTM (Zone 15)		Distance from PA Centroid (km)	Direction from PA Centroid
		Easting	Northing		
Interfor Ear Falls Division	Sawmill	486450	5603540	43.3	ESE
Dryden Fibre	Pulp Mill	511038	5514522	131.7	SSE
Weyerhaeuser	Engineering Wood Mill	401970	5515029	130.5	SSW

Notes:
N: north; E: east; S: south; W: west
All listed operations are existing; no reasonably foreseeable forestry-related manufacturing or processing operations were identified.
There is ongoing forestry activity in accordance with forestry management plans (see Table 15.5-4).

Table 15.5-4: Existing and Reasonably Foreseeable: Forestry Management Activities

Forest Management Unit	Description
Red Lake Forest	Encompasses approximately 3,155 km^2 of land, with a planned harvest of 2.08 million cubic metres (Mm^3) between 2020 to 2030 (Red Lake Forest Management Company 2020).
Trout Lake Forest	Encompasses approximately 9,307 km^2 of Crown-managed land, with a planned harvest of 733 km^2 between 2021 to 2031 (Domtar 2021).
Whitefeather Forest	Encompasses approximately 11,757 km^2 total land with 7,670 km^2 of Crown-managed land and a planned harvest of 464 km^2 between 2022 to 2032 (Whitefeather Forest Community Resource Management Authority 2022).
Whiskey Jack Forest	Encompasses approximately 9,640 km^2 of Crown-managed land, with a planned harvest of 1.8 Mm^3 between 2024 to 2034 (Miisun Integrated Resource Management Company 2024).
Kenora Forest	Encompasses approximately 12,311 km^2 of land, with a planned harvest of 4.29 Mm^3 between 2022 to 2032 (Miisun Integrated Resource Management Company 2022).
Lac Seul Forest	Encompasses approximately 7,977 km^2 of Crown-managed land, with a planned harvest 6.27 Mm^3 between 2024 to 2034 (Obishikokaang Resource Corporation 2024).
Wabigoon Forest	Encompasses approximately 7,323 km^2 with 6,788 km^2 of Crown-managed land and a planned harvest of 6.37 Mm^3 between 2019 to 2029 (Domtar 2019).
Dryden Forest	Encompasses approximately 3,071 km^2 of land with 2,027 km^2 of Crown-managed land and a planned harvest of 1.68 Mm^3 between 2021 to 2031 (Dryden Forest Management Company 2021).

Notes:
N: north; E: east; S: south; W: west
Forest Management Units in this table are located partially, or entirely, within the 140 km radius from the PA centroid / cumulative effects study area.

Table 15.5-5: Larger Communities within the Cumulative Effects Study Area

Community Name	Cross-country Distance from PA Centroid (km)	Direction from PA Centroid	Road Distance (km)
Red Lake	23.0	NNE	29.3
Ear Falls	36.3	ESE	47.6
WFN	56.8	SSE	73.8
ANA	79.8	SSW	189.1
Pikangikum Indian Reserve 14	107.7	NNE	145.0
LSFN	120.1	ESE	279.5 (1)
Dryden	131.8	SSE	134.5
Kenora	133.8	SSW	249.1

Notes:
N: north; E: east; S: south; W: west
These communities are located partially, or entirely, within the 140 km radius from the PA centroid / cumulative effects study area.
For each community, construction and infrastructure projects are assumed to be ongoing and proposed, such as new building construction, installation of infrastructure, maintenance and waste management.
1. Distance could be considerably shorter via service, resource and other roads.

Table 15.5-6: Existing and Reasonably Foreseeable: Transportation Infrastructure

Name	Description	Distance from PA Centroid (km) (1)	Direction from PA Centroid
Highway 105	Provincial highway	4.6	NNE
Red Lake (CYRL)	Airport	26.2	NNE
CN Railway	Freight and passenger railway	97.2	S
Vermilion Bay (CKQ7)	Airport	109.0	SSE
Pikangikum (CYPM)	Airport	110.0	NNE
Trans-Canada Highway 17	Provincial highway	111.9	S
Trans-Canada Highway 17 A	Provincial highway	128.6	SSW
Kenora (CYQK)	Airport	129.5	SSW
Dryden Regional (CYHD)	Airport	130.3	SSE

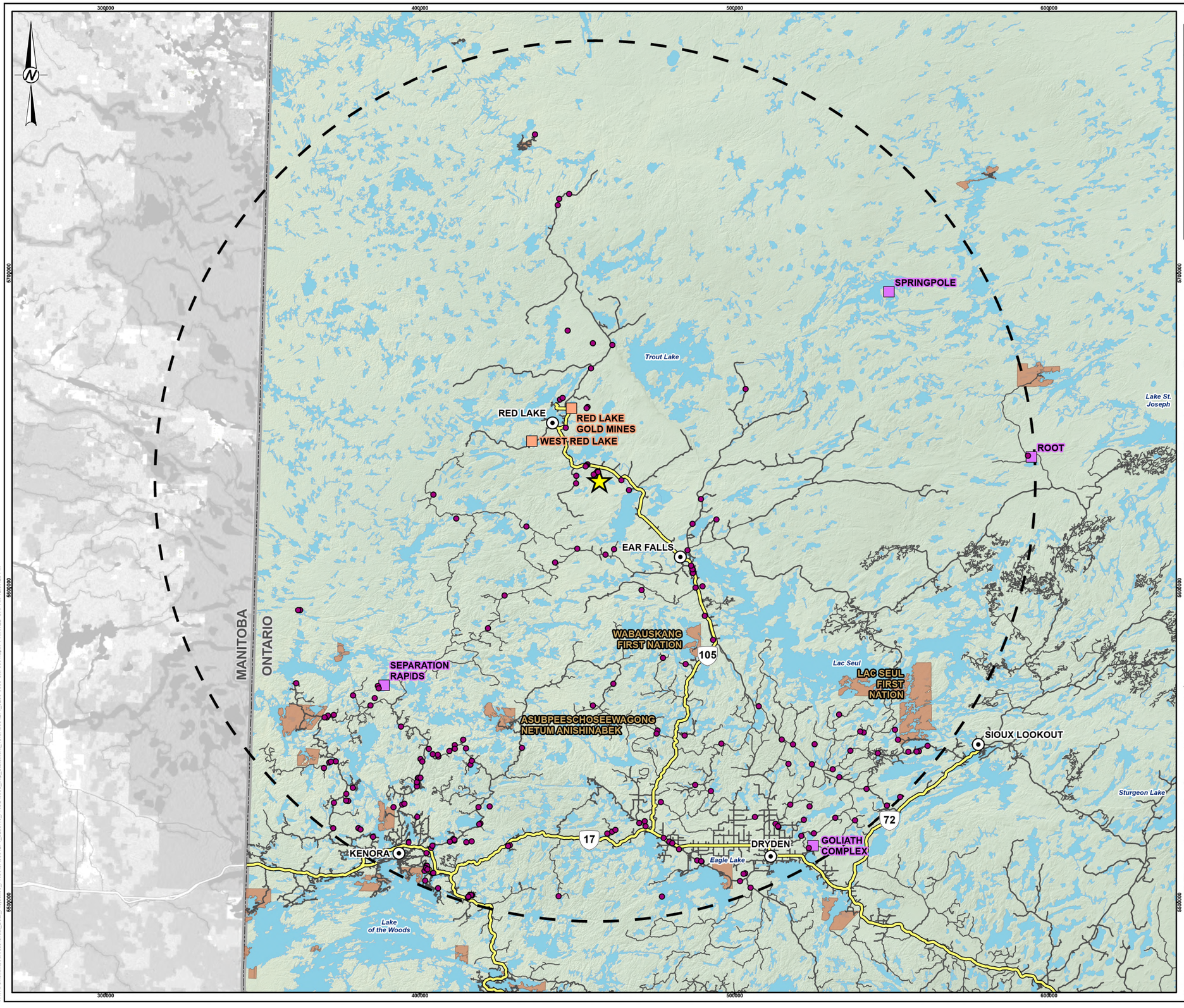
Notes:
N: north; E: east; S: south; W: west
All infrastructure are existing; no reasonably foreseeable infrastructure projects were identified.
Construction and maintenance projects associated with the identified transportation infrastructure have not identified as they are temporary transient.
1. Distances denote the closest point of highways and railways to the PA centroid.

Table 15.5-7: Existing and Reasonably Foreseeable: Other Infrastructure

Name and Utility Type	Distance from PA Centroid (km)	Direction from PA Centroid
Regional E2R Transmission Line	3.4	NNE
Unknown Transmission Line 1	8.9	ENE
Snowshoe Rapids Dam	9.7	ENE
Unknown Transmission Line 2	14.9	ESE
Private Dam 1	27.3	NNE
Manitou Falls Generating Station Dam	32.7	SSE
Ear Falls Dam	38.2	ESE
Natural Gas Pipeline 1	45.8	SSE
Private Dam 2	51.6	WNW
Stewart Lake Dam (Kenora)	66.9	SSW
Unknown Pipeline 1	87.6	SSE
Natural Gas Pipeline 2	87.6	SSE
Natural Gas Pipeline 3	92.0	SSE
Private Dam 3	98.6	SSE
Forest Lake Dam	99.9	SSE
Unknown Transmission Line 3	112.0	ESE
Unknown Transmission Line 4	112.4	ESE
Unknown Transmission Line 5	112.4	ESE
Unknown Transmission Line 6	113.1	ESE
Unknown Transmission Line 7	113.2	ESE
Natural Gas Pipeline 4	113.7	SSE
Unknown Transmission Line 8	113.8	ESE
Natural Gas Pipeline 5	113.9	SSE
Natural Gas Pipeline 6	114.0	SSW
Natural Gas Pipeline 7	114.1	SSW
Natural Gas Pipeline 8	114.1	SSW
Natural Gas Pipeline 9	114.3	SSE
Unknown Transmission Line 9	114.4	ESE
Natural Gas Pipeline 10	114.5	SSW
Natural Gas Pipeline 11	114.6	SSE
Caribou Falls Generating Station	115.9	WSW
Unknown Transmission Line 10	116.2	SSW

Name and Utility Type	Distance from PA Centroid (km)	Direction from PA Centroid
Private Dam 4	116.7	WSW
Caribou Falls - Block Dam	116.7	WSW
Ena Lake Dam	117.0	SSW
Unknown Transmission Line 11	117.5	SSW
Unknown Transmission Line 12	117.6	SSW
Unknown Transmission Line 13	119.0	SSW
Whitedog Falls Generating Station	120.5	WSW
McKenzie Falls Generating Station Dam	121.0	SSE
Eagle River Generating Station Dam	122.4	SSE
Unknown Transmission Line 14	126.8	SSE
Wainwright Generating Station	126.9	SSE
Wabigoon Lake Dam	131.9	SSE
Kenora Dam	135.6	SSW
Norman Generating Station Dam	136.4	SSW
Rushing River Dam	137.2	SSW
Provincial Dam 1	138.2	SSW
Keewatin Portage Bay Dam	138.6	SSW
Dryden Nursery (North Dam)	138.8	SSE
Dryden Nursery (South Dam)	138.9	SSE
Longbow Lake Dam	139.2	SSW

Notes:
N: north; E: east; S: south; W: west.
All other infrastructure is existing; no reasonably foreseeable other infrastructure was identified.
Distances denote the closest point of the utility line or infrastructure to the PA centroid.



KEY MAP

SCALE: 1:1,200,000

LEGEND

- GREAT BEAR PROJECT / AEX PROGRAM
- AGGREGATE OPERATION
- EXISTING MINING OPERATION
- PROPOSED MINING PROJECT
- CUMULATIVE EFFECTS SPATIAL BOUNDARY
- TOWN
- HIGHWAY
- LOCAL ROAD
- RESOURCE / RECREATION ROAD
- FIRST NATION RESERVE
- WATERBODY

0 12.5 25 50

1:1,200,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE
2. NO MAJOR DEVELOPMENTS WERE IDENTIFIED WITHIN THE BOUNDARY IN MANITOBA

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
EXISTING AND REASONABLY FORSEEABLE FUTURE PROJECTS (MINING AND AGGREGATE)

CONSULTANT

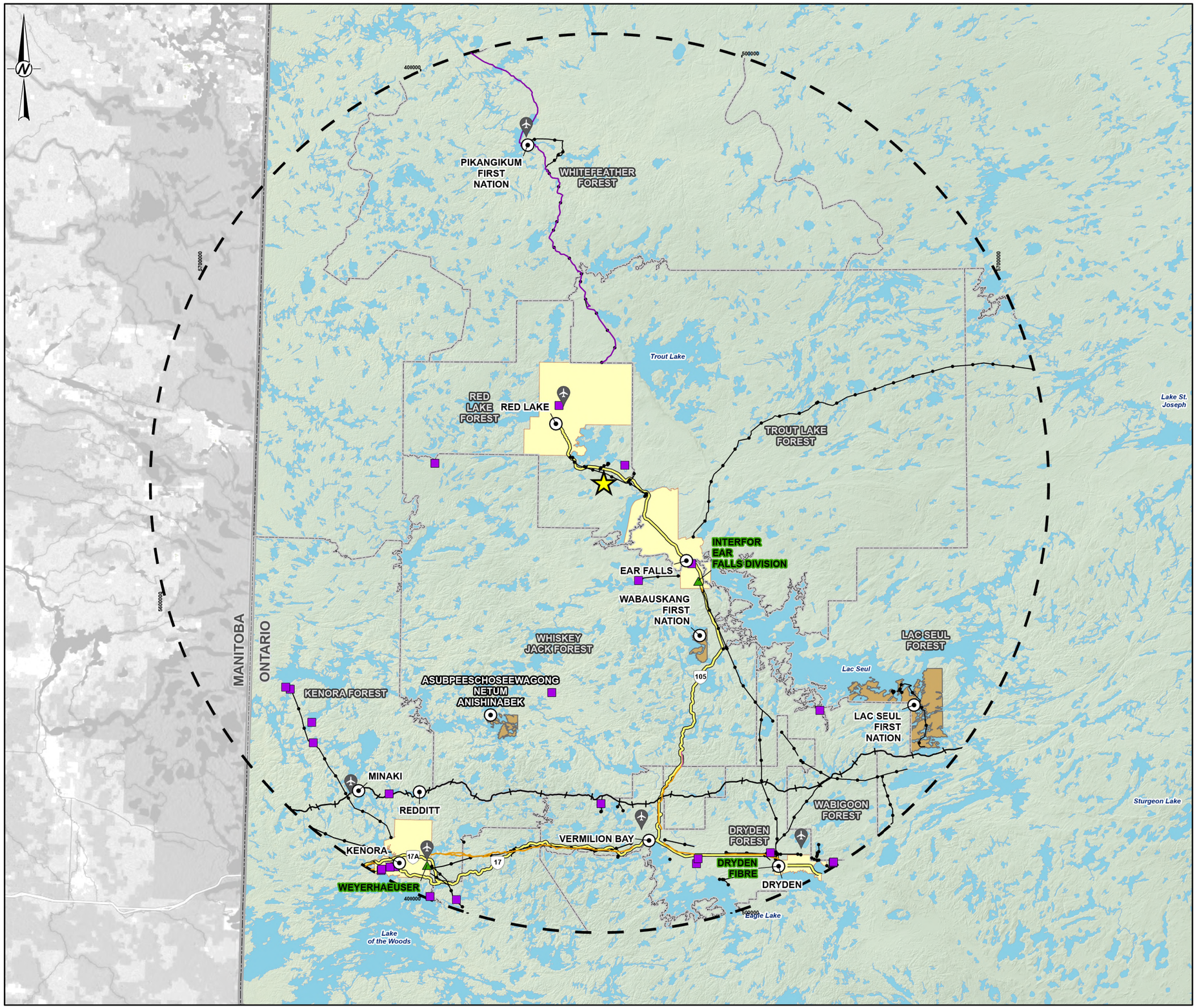
YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	DB
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271.9255	0005	A	15.5-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

0 25mm

PATH: S:\Clients\Kinross\Great_Bear_Project\99_PRO\CA0031271_9255\40_PRO\0005_Imp_Statement_15\CA0031271_9255-0005-GM-0001.aprx PRINTED ON: AT: 12:57:28 PM



KEY MAP

SCALE: 1:1,200,000

LEGEND

- GREAT BEAR PROJECT / AEX PROGRAM
- COMMUNITY
- AIRPORT
- FORESTRY MILL
- DAM
- EXISTING TRANSMISSION LINE
- COMMUNICATION LINE
- NATURAL GAS PIPELINE
- UNKNOWN PIPELINE
- CANADIAN NATIONAL RAILWAY
- HIGHWAY
- CUMULATIVE EFFECTS SPATIAL BOUNDARY
- FOREST MANAGEMENT UNIT
- FIRST NATION RESERVE
- MUNICIPAL BOUNDARY
- WATERBODY

0 12.5 25 50
1:1,200,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE
2. NO MAJOR DEVELOPMENTS WERE IDENTIFIED WITHIN THE BOUNDARY IN MANITOBA.
3. INFRASTRUCTURE SHOWN IS SHOWN AS AVAILABLE IN DATABASE AND AS REASONABLE WITH MAP SCALE.

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
EXISTING AND REASONABLY FORSEEABLE FUTURE PROJECTS (FORESTRY, COMMUNITY, ENERGY, TRANSPORTATION)

CONSULTANT

wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	DB
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271.9255	0005	A	15.5-2

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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15.6 Analysis of Pathway Valued Components with Changes after Mitigation

15.6.1 Air Quality

15.6.1.1 Summary of Changes

The Project is predicted to result in a change to air quality as described in Section 7.2 and summarized in Table 15.4-1, which has been identified as a potential pathway to effects to fVCs. The modelled concentrations (Appendix D-2) from the Project plus existing background with proposed mitigation, are below Ambient Air Quality Criteria (all assessment criteria, averaging periods and Project phases) at the leased claims boundary. Emissions from the Project will disperse and decrease with distance from the Project. Changes to air quality will cease once Project activities cease during the closure phase.

15.6.1.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for cumulative air quality effects with the Project. Figure 15.6-1 shows the existing and foreseeable, projects or activities located within the air quality LSA and RSA. These include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing)
- Highway 105 (existing)
- Forestry timber cutting operations (foreseeable; non-location specific)
- Mineral exploration operations (foreseeable; non-location specific).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

Aggregate operations and Highway 105 will overlap spatially and temporally with the Project, however, the baseline ambient air quality measurements used to model the total cumulative changes to air quality for comparison to regulatory criteria, already includes the best information available for these existing sources and other emission sources further away.

Two other reasonably foreseeable projects that may overlap temporally and spatially with the Project have been identified although there is insufficient information to specify a location:

- Mineral exploration activities (Great Bear Resources or other mining and exploration companies)
- Timber harvesting in accordance with forestry management plans.

Mineral exploration activities, such as claims staking and grass roots exploration (surface sampling, drilling or trenching and geophysics surveys for example), could result in short periods of localized air emissions of low magnitude. This work could overlap temporally with the Project, but would not be expected to overlap spatially with the effects of the Project in a material way.

Timber harvesting was ongoing within the LSA and RSA during the air quality baseline studies (Appendix D-1), and related air emissions would therefore have been included in the assessment of changes to air quality. While those harvesting programs have been completed,

there are other proposed cutting blocks within the LSA and RSA and anticipated to be future cutting programs that are not in current forest management plans. Future forestry cutting programs are likely to have emissions similar to the forestry activities that were measured within the baseline air quality concentrations. Accordingly, although this work could overlap temporally and spatially with the effects of the Project, there would be no additional cumulative effects as similar potential effects are already considered in the air quality model (Appendix D-2).

As the potential changes identified for existing and reasonably foreseeable projects will not overlap both spatially and temporally within the Project, or were already included in the assessment of changes to air quality from the Project, a cumulative effects assessment is not required for air quality.

15.6.2 Sound

15.6.2.1 Summary of Changes

Changes to sound from the Project has been identified as a potential pathway to effects to fVCs. The Project is predicted to result in changes to sound as summarized in Table 15.4-1 and described in Section 7.3. Sound levels at all of the identified points of reception within the LSA and RSA are predicted to be below the federal and provincial criteria after application of proposed mitigation measures. Sound emissions (noise) from the Project will decrease with distance from the Project. Changes to sound will cease once Project activities cease during the closure phase.

15.6.2.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for cumulative sound effects with the Project. Figure 15.6-2 shows the existing projects or activities located within the sound LSA and RSA. Existing and foreseeable projects that may have sound emissions that may overlap temporally or spatially with the Project include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing)
- Highway 105 (existing)
- Forestry timber cutting operations (foreseeable; non-location specific)
- Mineral exploration operations (foreseeable; non-location specific).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

The baseline sound measurements (Appendix E-1) included the existing sources of sound from aggregate operations, forestry and Highway 105 (and potentially other sources further away). Existing sound from these projects and activities, were therefore already included in the modelling for total cumulative changes to sound for comparison to regulatory criteria.

Two other reasonably foreseeable projects that may overlap temporally and spatially with the Project have been identified although there is insufficient information to specify a location:

- Mineral exploration activities (Great Bear Resources or other mining and exploration companies)
- Timber harvesting in accordance with forestry management plans.

The sound baseline (Appendix E-1) included ongoing exploration activities within the Property by Great Bear Resources, that were occurring at the same time as the baseline sound measurements. Future mineral exploration activities, such as claims staking and grass roots exploration, could result in short periods of localized sound emissions of low magnitude. This work could overlap temporally with the Project, but would not be expected to overlap spatially with the effects of the Project in a material way.

Timber harvesting was ongoing within the LSA and RSA when some of the sound baseline measurements were being taken. Related noise would have been included in the assessment of changes to sound from the Project. There are other proposed cutting blocks within the LSA and RSA in the current forest management plans, and there is anticipated to be future cutting programs that are not in current forest management plans. Future forestry cutting programs are likely to have sound emissions similar to the forestry activities that were measured within the baseline sound concentrations. Although this work could potentially overlap temporally and spatially with the effects of the Project, there would be no additional cumulative effects as similar potential effects are already considered in the sound model (Appendix E-2).

As the potential changes identified for existing and reasonably foreseeable projects will not overlap both spatially and temporally with the Project, or were effectively already included in the assessment of changes to sound from the Project, a cumulative effects assessment is not required for sound.

15.6.3 Vibration

15.6.3.1 Summary of Changes

There will be periodic ground-borne vibration and air overpressure from the Project resulting from activities such as explosives use / blasting as described in Section 7.4 and summarized in Table 15.4-1. Vibration has been identified as a potential pathway to effects to fVCs. Project-related vibration / overpressure levels will meet all regulatory limits with proposed mitigation measures. Vibration / overpressure from the Project will decrease with distance from the Project, and the zone of influence of the vibration from the Project is limited. Changes to ambient vibration / overpressure levels will be reduced after open pit mining ends, and will cease during the closure phase.

15.6.3.2 Screening and Analysis for Potential Cumulative Effects

There is a limited vibration zone of influence associated with vibration from the Project and material vibration levels are not predicted off-Property. A screening was completed of the identified existing and foreseeable future projects and physical activities within the Property boundary, to determine if there is the potential for cumulative vibration effects with the Project. Existing projects that may result in vibration within the Property boundary include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing)
- Forestry timber cutting operations
- Highway 105 (existing)
- Mineral exploration activities by Great Bear Resources (foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

The baseline vibration measurements (Appendix E-1) included ongoing exploration activities within the Property by Great Bear Resources that were occurring at the same time as the baseline vibration measurements, as well as potentially, activities associated with local aggregate (sand and gravel) operations, forestry operations and Highway 105. None of these projects or activities are expected to emit vibration of a magnitude or over a spatial area that would interact with the Project.

There are no foreseeable future projects or activities within the Property that are not associated with the Project.

As a result, there is no reasonable expectation that vibration from existing or future foreseeable projects would overlap temporally and spatially with the changes to vibration from the Project with proposed mitigation, and a cumulative effects assessment is not required for vibration.

15.6.4 Groundwater

15.6.4.1 Summary of Changes

The Project is predicted to result in a change to groundwater as described in Section 7.5 and summarized in Table 15.4-1. Groundwater has been identified as a potential pathway to effects to fVCs. Dewatering of the underground mine, LP Central pit and Viggo pit / VMF will act as a groundwater sink, depressing groundwater levels in the adjacent area. After implementation of the proposed mitigation measures, there is a reduction in the groundwater level and change to groundwater flows, during the construction and operations phases of the Project within a geographic area focussed on the PA (Figure 7.5-10). The changes to groundwater levels and flows decreases with distance away from the Project dewatering activities associated with the mining operations. Groundwater flows and levels will recover to near baseline conditions after the expedited filling of the underground mine, LP Central pit and VMF with water during the closure phase. Expedited filling will materially shorten the length of time until the groundwater levels recover.

15.6.4.2 Screening and Analysis for Potential Cumulative Effects

A screening was completed of the identified existing and foreseeable future, projects and physical activities to determine if there is the potential for cumulative groundwater effects with the Project. Figure 15.6-3 shows the existing Projects or activities located within the groundwater LSA and RSA. Existing projects that may affect groundwater flow or levels, that may overlap temporally or spatially with the Project include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing).

The Great Bear AEX Program does not overlap temporally with the Project and is not considered further.

The baseline groundwater measurements (Appendix H-1) included potential effects on groundwater flows and levels from the existing aggregate operations, including those located along Tuzyk's Road, and the effects, if any from these existing projects, were therefore included in the modelling for changes to groundwater levels from the Project (Appendix H-2).

There are no other reasonably foreseeable projects that may overlap temporally and spatially with the changes from the Project to groundwater.

As the potential changes identified for existing or reasonably foreseeable projects will not overlap spatially and temporally with the Project, or were already included in the assessment of changes to groundwater from the Project, a cumulative effects assessment is not required for groundwater.

15.6.5 Surface Water Flows and Levels

15.6.5.1 Summary of Changes

The Project is predicted to result in a change surface water flows and levels as detailed in Section 7.6, and summarized in Table 15.4-1. Changes to surface water flows and levels has been identified as a potential pathway to effects to fVCs. Changes to surface water flows were evaluated using comprehensive water models detailed in Appendix I-2 and Appendix I-3. Potential changes in the water levels of local surface watercourses and waterbodies were characterized using a combination of the modeled changes in flow and stage-discharge relationships, or with qualitative analyses and comparisons to baseline conditions.

There will be localized changes to surface water flows and levels within the PA and immediately downstream during all Project phases, including related to:

- Changes to groundwater levels from dewatering
- Collection of contact water for management
- Overprinting of watercourses and waterbodies by Project facilities
- Surface water takings.

As the topography of the PA will be permanently changed by the Project, some the local watersheds will also be permanently altered. The changes to surface water flows and levels is focussed on the PA and becomes less with distance downstream from the PA. No observable changes in the water levels or flows in the Chukuni River or Pakwash Lake are predicted. There will be a temporary reduction in the Chukuni River flow of approximately 1.7% during the expedited filling of the underground mine workings, LP Central pit and VMF water during the closure phase, which is being completed to reduce the time for the groundwater levels within the PA to return to near baseline condition.

15.6.5.2 Screening and Analysis for Potential Cumulative Effects

Existing and foreseeable future projects and physical activities were screened to determine if there is the potential for cumulative surface water flow and level effects with the Project. Figure 15.6-4 shows the existing Projects or activities located within the LSA and RSA for surface water levels and flows.

Existing projects that may affect water levels and flows, that may overlap temporally or spatially with the Project include:

- Great Bear AEX Program (existing)
- Snowshoe Rapids Dam (existing).

The Great Bear AEX Program does not overlap temporally with the Project and is not considered further.

The Snowshoe Rapids Dam is located upstream of the Project water taking and treated effluent discharge location on the Chukuni River, and controls water levels of upstream lakes and flows released to the Chukuni Rivers. The MNR operates the dam based on a rule curve, to manage water levels and flows in consideration of flood protection, navigation, water supply needs and environmental factors. Downstream of Snowshoe Rapids Dam, the Chukuni River drops in elevation through several rapids to upstream of Highway 105. Water levels in the reach of the Chukuni River east of the PA, from above Highway 105 to Pakwash Lake, are controlled by either Snake Falls or backwater from Pakwash Lake when lake levels rise above Snake Falls. Ontario Power Generation controls the water levels in Pakwash Lake with the Manitou Falls Dam based on regulatory guidance from the Lake of the Woods Control Board. Measured baseline water levels in the Chukuni River were within the guidelines, and corroborated that this guidance is in use.

The baseline hydrology measurements (Appendix I-1) included the potential effects of the Snowshoe Rapids Dam and water level control from outside the RSA, on surface water flows and levels within the Chukuni River. These existing structures were therefore included in the modelling for changes to surface water flows and levels from the Project (Appendix I-2 and Appendix I-3).

There are no other reasonably foreseeable projects that may overlap temporally and spatially with the changes from the Project to surface water levels and flows.

As the potential changes identified for other existing or reasonably foreseeable projects and activities will not overlap spatially and temporally with the Project, or were already included in the assessment of changes to surface water flows and levels from the Project, a cumulative effects assessment is not required for surface water flows and levels.

15.6.6 Water Quality

15.6.6.1 Summary of Changes

Changes to water quality after mitigation are described in Section 7.7 and summarized in Table 15.4-1. Details are provided in the comprehensive water quality modelling reports provided as Appendix K-2 and Appendix K-3. Changes to water quality has been identified as a potential pathway to effects to fVCs. There are changes to groundwater and surface water quality from baseline conditions within the LSA after implementation of proposed mitigation measures during all Project phases. Predicted concentrations for all modelled water quality parameters, however,

remain well below the WQG PAL [2,3], outside of a mixing zone within the Chukuni River. The mixing zone extends 10 m below the treated effluent discharge location under average flow conditions. The mixing zone under the most extreme modelled condition is approximately 300 m and remains well upstream of Pakwash Lake (Appendix K-3). For phosphorus and arsenic, which are already above WQG PAL in the baseline condition, there are no predicted increases above baseline conditions (Appendix K-1).

During the operations phase of the Project (only) as detailed in Section 7.7.7.2, six water quality parameters in Pakwash Lake are predicted be greater than baseline conditions (i.e., are at least 20% different from baseline concentrations): ammonia, nitrate, nitrite, sulphate, thallium and tungsten. The concentrations of these parameters remain well below WQG PAL for all modelled scenarios and the predicted increases for these parameters are minor in magnitude (Table 7.7-21). As discussed in Section 7.7.3, these results were generated using a conservative modelling approach, which results in an overestimation of most parameters in all modelled watercourses and waterbodies.

15.6.6.2 Screening and Analysis for Potential Cumulative Effects

Identified existing and foreseeable future projects and physical activities were screened to determine if there is the potential for cumulative water quality effects with the Project. Figure 15.6-5 shows the existing Projects or activities located within the water quality LSA and RSA. There are no existing or foreseeable future projects or activities located within the mixing zone downstream of the treated effluent discharge location.

Projects that could overlap temporally or spatially with the effects of the Project on water quality include:

- Great Bear AEX Program (existing; located within the PA)
- Exploration activities by Great Bear Resources and other companies (foreseeable; within the LSA and RSA; upstream and potentially downstream of treated effluent discharge location)
- Local aggregate operations (existing; within the PA, LSA and RSA; upstream and downstream of treated effluent discharge location)
- Forestry timber cutting operations (existing and foreseeable; within the LSA and RSA; upstream and downstream of treated effluent discharge location)
- Highway 105 (existing; within the LSA and RSA; upstream of treated effluent discharge location)
- West Red Lake Mine (existing; within the RSA; upstream of treated effluent discharge location)

[2] Or are equivalent to baseline conditions where baseline concentrations are greater than the water quality guidelines for protection of aquatic life (for arsenic and phosphorus), and with the exception for cobalt concentrations at a node in Unnamed Watercourse 1 during the operations phase.
[3] WQG PAL are sourced from federal, provincial or Canadian Council of Ministers of the Environment guidelines, are scientifically defensible and designed to protect the most sensitive aquatic life stages under indefinite exposure (Section 7.7.2.4).

- Red Lake Gold Mines (existing; within the RSA; upstream of treated effluent discharge location)
- Municipality of Red Lake (existing; within the RSA; upstream of treated effluent discharge location)
- Snowshoe Rapids Dam (existing; within the RSA; upstream of treated effluent discharge location).

With respect to each of these existing or potentially foreseeable projects:

- The AEX Program does not overlap temporally with the Project and is not considered further.
- Ongoing and future exploration activities within the Property by Great Bear Resources, could result in the release of increased suspended solids in the immediate vicinity of the work. The water quality effects of these activities if any, would be of low magnitude and would not overlap spatially with the effects of the Project, although they could overlap temporally. If the activities occurred within the contact water management area of the Project, there would be no effect as the water would be collected and treated within the integrated water management system for the Project.
- Effects on water quality from ongoing or potential future exploration activities by other companies off-Property, could also result in localized water quality effects, such as the release of suspended solids in the work area and to watercourses and waterbodies if they are the immediate vicinity. The water quality effects of these mineral exploration activities within the LSA and RSA, if any, would not overlap spatially with the effects of the Project although they could overlap temporally.
- While there are a large number of existing aggregate operations within the LSA and RSA, there is no information to suggest that future operations would affect water quality in the LSA and RSA differently than what is already reflected in baseline conditions used in the Project's water quality modelling. Discharges, if any, from the operations will be required to meet regulatory requirements. Accordingly, no additional effects are anticipated from ongoing aggregate operations that would overlap spatially with the Project.
- Existing and future timber harvesting within the LSA and RSA could release increased suspended solids into nearby waterbodies and watercourses; however, the effect of existing and foreseeable future timber harvesting programs on the proposed blocks to be cut, are not expected to overlap spatially with the effects of the Project on water quality, although they may overlap temporally.
- Ongoing runoff from Highway 105 could have a localized effects on water quality, including to waterbodies near the highway, such as the Chukuni River which flows under the highway. Effects from highway runoff would be captured in the baseline water quality for the Project, and there are no foreseeable changes to the quality of the runoff. No additional effects are anticipated that would overlap spatially with the Project, beyond those already captured through the use of baseline water quality in the Project modelling.
- The Municipality of Red Lake, West Red Lake Mine and Red Lake Gold Mines are located in the RSA watershed that eventually flows into the Chukuni River, which will

receive treated effluent from the Project. These mines and other industries and government operations within the Municipality, are required to meet effluent quality requirements established through environmental approvals in accordance with provincial and federal regulatory requirements. The effects of other projects and activities within the municipality and these mines on regional water quality, if any, are captured by the baseline water quality for the Chukuni River that was used in Project modelling. Therefore, no additional effects are anticipated that would overlap spatially with the Project, beyond those already captured through the use of baseline water quality in the Project modelling.

- The Snowshoe Rapids Dam is located upstream of the Project treated effluent discharge location on the Chukuni River and controls the flows released to the Chukuni River. The MNR operates the dam based on a rule curve. Chukuni River flows were incorporated into the Project water quality modelling, including determination of the mixing zone. The potential effects of the Snowshoe Rapids Dam on water quality within the Chukuni River, was therefore included in the modelling for changes for the Project.

There are no other reasonably foreseeable projects that may overlap temporally and spatially with the changes from the Project on water quality. Future projects and expansions or alterations to existing projects that could have an effect on the regional water quality upstream would need to meet regulatory requirements, and consider contributions to cumulative effects on water quality.

As the potential changes identified for other existing or reasonably foreseeable projects will not overlap spatially and temporally with the Project, or were already included in the assessment of changes to water quality from the Project, a cumulative effects assessment is not required for water quality.

15.6.7 Vegetation Communities

15.6.7.1 Summary of Changes

The Project is predicted to result in changes to vegetation communities, as detailed in Section 7.8 and Table 15.4-1, which has been identified as a potential pathway to effects to fVCs. Direct effects include the removal of all terrestrial, riparian and wetland vegetation communities within the PA during construction. No ecosites are eliminated from the regional landscape and ecosite diversity is maintained.

Mitigation measures, including Project footprint minimization, progressive rehabilitation, invasive species management, and erosion and dust control, are expected to substantially reduce the magnitude and extent of effects. During closure, revegetation and natural succession will increase vegetation cover and enhance ecological functions. Vegetation in the PA is expected to return to its current successional state, or a similar one, over time following closure.

15.6.7.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for cumulative effects on vegetation communities with the Project. Based in part on Figure 15.6-6, existing and reasonably foreseeable projects or activities located within the vegetation LSA and RSA include:

- Great Bear AEX Program (existing)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies)
- Forestry timber cutting operations in the Red Lake Forest Management Unit and the Trout Lake Forest Management Unit (existing and foreseeable)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

Within the LSA and RSA, existing disturbances include those from past forestry activities, local aggregate operations, roads, transmission lines and other anthropogenic clearings. These features have contributed to a landscape that is characterized by fragmented and successional vegetation, which is reflected in the Forest Resource Inventory (FRI). The field-verified baseline mapping already incorporates the effects of these past and current activities.

Future forestry activities and mineral exploration may occur in the LSA and RSA , and may occur concurrently with the Project. These activities are either already represented in baseline conditions, are anticipated to be of similar or lesser magnitude compared to disturbances incorporated into the baseline, or are spatially separated from the PA and therefore unlikely to overlap with Project vegetation removal. The work could overlap temporally with the Project, but would not be expected to overlap spatially with the effects of the Project in a material way.

Given that the Project's changes to vegetation communities after mitigation are confined to the PA, baseline conditions already reflect major existing landscape disturbances (Appendix M-1), and foreseeable activities are not predicted to overlap spatially with Project vegetation removal, a cumulative effects assessment is not required for vegetation communities.

15.6.8 Moose

15.6.8.1 Summary of Changes

The Project is predicted to result in changes to Moose, as detailed in Section 7.10 and summarized in Table 15.4-1, which has been identified as a potential pathway to effects to a fVC. Direct effects occur from vegetation removal and habitat loss will occur within the PA, where it has been conservatively assumed for the Impact Statement that all Moose habitat is removed during the construction phase. No critical Moose habitat types (calving or nursery habitat) occur within the PA, and regionally, Moose habitat types remain abundant, with no habitat type eliminated from the RSA. Indirect effects, such as from sensory disturbance (noise), may temporally reduce habitat quality and suitability; however, these effects are largely confined to the LSA and remain small relative to the extensive suitable habitat across the RSA.

Mitigation measures, including Project footprint minimization, progressive rehabilitation, dust and noise management, water management, and traffic controls, are expected to substantially reduce both direct and indirect effects and limit changes to Moose density and risk of mortality. Population modelling indicates Moose populations in the local Wildlife Management Unit (WMU) 3 remain stable under both baseline (existing) and future disturbance scenarios. During closure, revegetation will increase habitat availability and quality, supporting Moose reoccupation of the

PA. Overall, changes after mitigation are limited in extent and not expected to result in population-level changes.

15.6.8.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for cumulative effects on Moose with the Project. Figure 15.6-7 and the list below include the existing and foreseeable projects or activities located within the Moose LSA and RSA. These include:

- Great Bear AEX Program (existing)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies)
- Forestry timber cutting operations in the Red Lake Forest Management Unit, Trout Lake Forest Management Unit, and Whiskey Jack Forest Management Unit (existing and foreseeable)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable)
- Ongoing harvesting activities in the region (hunting; existing and foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

Existing disturbances within the Moose LSA and RSA include from past forestry activities, local aggregate operations, roads, transmission lines and other anthropogenic clearings. These activities contributed to a landscape already characterized by mixed-age forests, early successional habitat and fragmentation. These conditions are reflected in the FRI data and field-verified during baseline surveys, and these disturbances are already incorporated into the baseline used for the effects assessment for Moose.

Future forestry activities and mineral exploration may occur concurrently with the Project; however, these activities are either already represented in baseline conditions, are anticipated to be of similar or lesser magnitude compared to disturbances incorporated into the baseline (Appendix M-1), or are spatially separated such that overlap with Project-related habitat loss is unlikely to occur. Population-level modelling for WMU 3 indicates a Moose population above carrying capacity and resilient to the small scale of Project-related disturbance.

Future hunting and trapping within the LSA and RSA is assumed be at a scale consistent with existing effects and / or will meet MNR wildlife management and control measures, such that the magnitude of this future activity would not materially overlap with the Project.

Given that the Project's changes to Moose after mitigation are primarily limited to the PA, baseline conditions already reflect major existing landscape disturbances, and foreseeable activities are not predicted to overlap spatially and temporally in a manner that would materially compound Project effects, a cumulative effects assessment for Moose is not required.

15.6.9 Other Wildlife

15.6.9.1 Summary of Changes

The Project is predicted to result in changes to other wildlife as detailed in Section 7.11 and summarized in Table 15.4-1, which has been identified as a potential pathway to effects to a fVC. Direct effects occur from vegetation removal and habitat loss within the PA, where all habitat is conservatively assumed to be removed during construction. Proxy species representing furbearers, large mammals, herptiles, raptors and culturally important species will experience small, localized habitat losses. No habitat types are eliminated at the regional scale, and habitat availability across the RSA remains high for all groups. Indirect effects, such as from sensory disturbance (noise), may temporally reduce habitat quality and suitability; however, these effects are largely confined to the LSA and remain small relative to the extensive suitable habitat across the RSA.

Mitigation measures, including Project footprint minimization, seasonal clearing restrictions, progressive rehabilitation, dust and noise management, water management, and traffic controls, are expected to substantially reduce both direct and indirect effects and limit changes to wildlife density and risk of mortality. During closure, revegetation will increase habitat availability, quality and connectivity for all wildlife groups. Overall, changes after mitigation are limited in extent and not expected to influence wildlife populations regionally.

15.6.9.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for the Project to have cumulative effects on other wildlife. Based in part on Figure 15.6-8, the existing and foreseeable projects or activities located within the other wildlife LSA and RSA include:

- Great Bear AEX Program (existing)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies)
- Forestry timber cutting operations in the Red Lake Forest Management Unit, Trout Lake Forest Management Unit, and Whiskey Jack Forest Management Unit (existing and foreseeable)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable)
- Ongoing harvesting activities in the region (hunting and trapping; existing and foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

Within the LSA and RSA for other wildlife, existing disturbances include those from past forestry activities, local aggregate operations, roads, transmission lines and other anthropogenic clearings. These activities contributed to a landscape already characterized by mixed-age forests, early successional habitat and fragmentation. These conditions are reflected in the FRI

data and field-verified during baseline surveys, meaning these disturbances are already incorporated into the baseline for the other wildlife assessment (Appendix M-1).

Future forestry activities and mineral exploration may occur in the LSA and RSA, and may occur concurrently with the Project. These activities are either already represented in baseline conditions, are anticipated to be of similar or lesser magnitude than disturbances incorporated into the baseline, or are spatially separated from the PA such that overlap with Project-related habitat loss is unlikely. Habitat for all proxy species remains abundant at the RSA scale after Project-related clearing, and because indirect effects beyond the PA are small, the Project effects after mitigation are not expected to materially interact with potential future activities.

Future hunting and trapping within the LSA and RSA is assumed be at a scale consistent with existing effects and / or will meet MNR wildlife management and control measures, such that the magnitude of this future activity would not materially overlap with the Project.

As the Project-related changes to other wildlife after mitigation are primarily limited to the PA, baseline conditions already reflect major existing landscape / habitat disturbances, and foreseeable activities are not predicted to overlap spatially and temporally in a manner that would materially compound Project effects, a cumulative effects assessment for other wildlife is not required.

15.6.10 Species at Risk

15.6.10.1 Summary of Changes

The Project is predicted to result in changes to SAR as detailed in Section 7.12 and summarized in Table 15.4-1. SAR have been identified as a potential pathway to effects to a fVC. Direct effects to SAR occur from vegetation removal and habitat loss within the PA, where for the purposes of the effects assessment, all SAR habitat has been conservatively assumed to be removed during the construction phase. SAR habitat considered removed includes portions of mapped or modelled habitat for SAR bats, Wolverine, Rusty Blackbird, Short-eared Owl, Snapping Turtle, Yellow-banded Bumblebee and Boreal Caribou. Note that no Boreal Caribou nursery or overwintering habitat occurs in the PA, and the PA is located in an area of very low Boreal Caribou occurrence probability and low connectivity within the Sydney Range.

Indirect effects, such as from sensory disturbance (noise), may temporally reduce habitat quality and suitability. Effects are largely restricted to the LSA and small in magnitude at the RSA scale. Noise represents the most substantial indirect effect pathway for SAR bats, with additional but limited effects on Wolverine and other SAR. Fragmentation increases are minor across all SAR groups, and no critical SAR habitat types (e.g., Caribou nursery areas, bat hibernacula with high likelihood and Wolverine dens) are predicted to be eliminated.

Mitigation measures for the Project, including footprint minimization, seasonal timing restrictions, detailed den / roost management procedures, progressive rehabilitation, dust and noise management, water management, species-specific buffers and traffic controls, are expected to substantially reduce direct and indirect effects and limit changes to SAR density and risk of mortality. Boreal Caribou population modelling shows that the Project does not alter the already declining trajectory of the Sydney Range population, which is driven by cumulative regional disturbance unrelated to the Project. Overall, changes after mitigation remain small, are spatially limited to the PA, and do not lead to population-level changes for SAR. During closure, revegetation will increase habitat availability and quality, supporting SAR reoccupation of the

PA. Overall, changes to SAR after mitigation are limited in extent and not expected to result in population-level changes.

15.6.10.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was completed to determine if there is the potential for cumulative effects on SAR with the Project. Figure 15.6-9, Figure 15.6-10 and Figure 15.6-11 and the list below, provide the existing and foreseeable projects or activities located within the SAR LSA and RSAs. These include:

- Great Bear AEX Program (existing)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies)
- Forestry timber cutting operations in the Red Lake Forest Management Unit, Trout Lake Forest Management Unit, and Whiskey Jack Forest Management Unit (existing and foreseeable)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable)
- Ongoing harvesting activities in the region (hunting and trapping; existing and foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

Within the SAR LSA and RSA, existing disturbances include those from past forestry activities, local aggregate operations, roads, transmission lines and other anthropogenic clearings. These activities contribute to a landscape already characterized by mixed-age forests, early successional habitat, and fragmentation, reflected in the FRI data and field-verified during baseline surveys. Accordingly, these disturbances are already incorporated into the baseline for the SAR assessment (Appendix M-1).

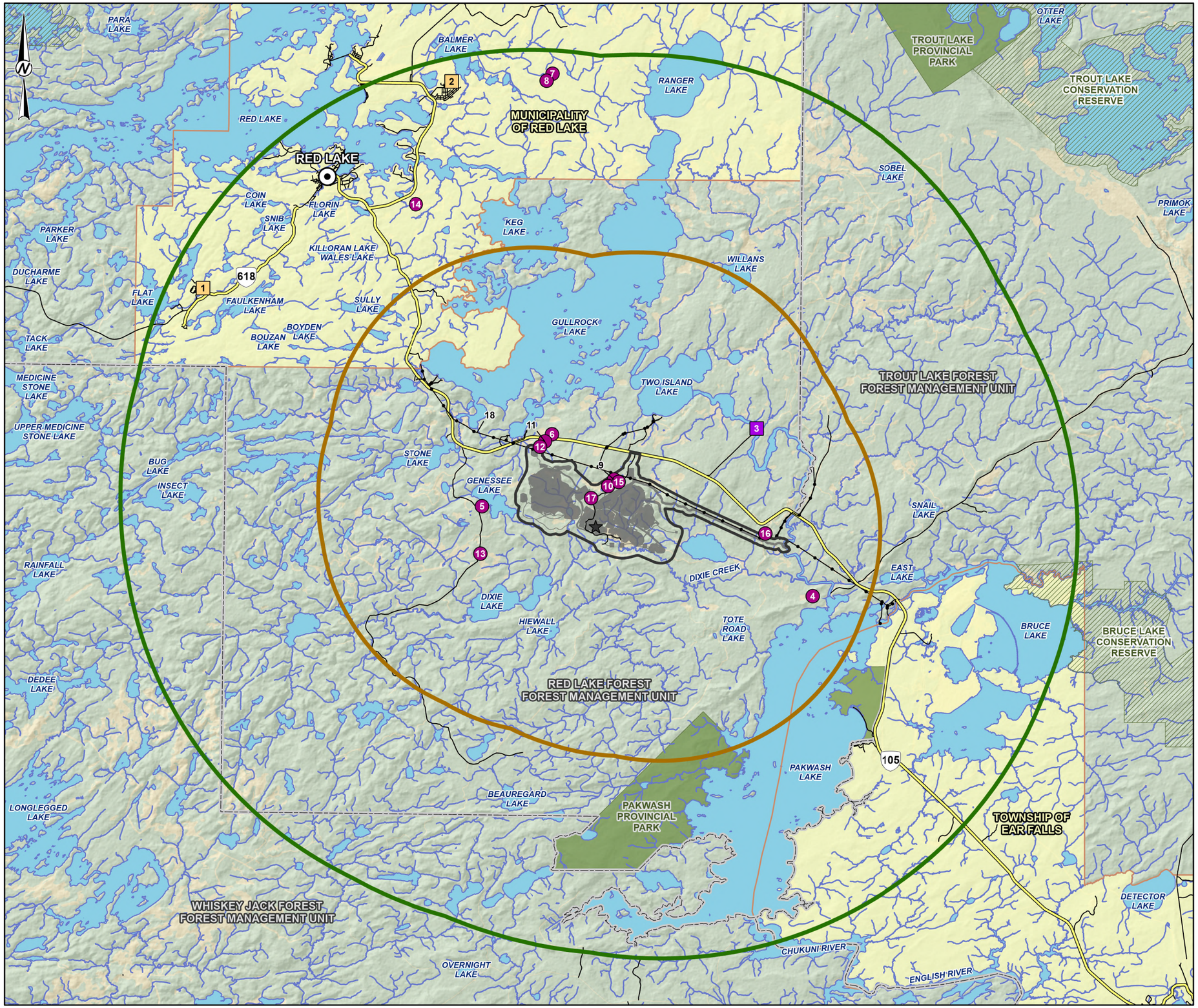
Future hunting and trapping within the LSA and RSA is assumed to be at a scale consistent with existing effects, and / or will meet regulatory requirements for hunting and trapping SAR and MNR wildlife management and control measures, such that the magnitude of this future activity would not materially overlap with the Project.

Future forestry activities and mineral exploration may occur in the LSA and RSA, and may occur concurrently with the Project. These activities are either already represented in baseline conditions, are anticipated to be of similar or lesser magnitude as disturbances incorporated into the baseline, or are spatially separated from the PA such that overlap with Project-related habitat loss is unlikely. The Project's changes to SAR after mitigation are primarily confined to the PA, and indirect effects beyond the PA are limited and diminish with distance.

For Boreal Caribou, disturbance mapping shows that the Sydney Range already exceeds federal cumulative-disturbance thresholds. The contribution of the Project to total range disturbance is negligible (<0.1% change in population growth rate λ; see Appendix M-2). The Project also does not modify predicted range connectivity or movement corridors, which are already limited in the eastern portion of the range.

For other SAR including bats, Wolverine, Rusty Blackbird, Short-eared Owl, Snapping Turtle, and Yellow-banded Bumblebee, habitat changes after mitigation are minor at the LSA scale and negligible at the RSA scale.

Given that the Project's changes to SAR after mitigation are primarily limited to the PA, baseline conditions already reflect major existing landscape disturbances, and foreseeable activities are not predicted to overlap spatially and temporally in a manner that would materially compound Project effects, a cumulative effects assessment for SAR is not required beyond the analyses already incorporated in the changes described in Section 7.12.



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR AIR QUALITY
- REGIONAL STUDY AREA FOR AIR QUALITY
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	SNOWSHOE RAPIDS DAM	DAM
4	SNAKE FALLS CAMP	AGGREGATE OPERATION
5	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
6	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	1304928 ONTARIO INC.	AGGREGATE OPERATION
9	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
10	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
13	DRACO (1985) LTD.	AGGREGATE OPERATION
14	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
15	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
16	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
17	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:195,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR AIR QUALITY

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-1

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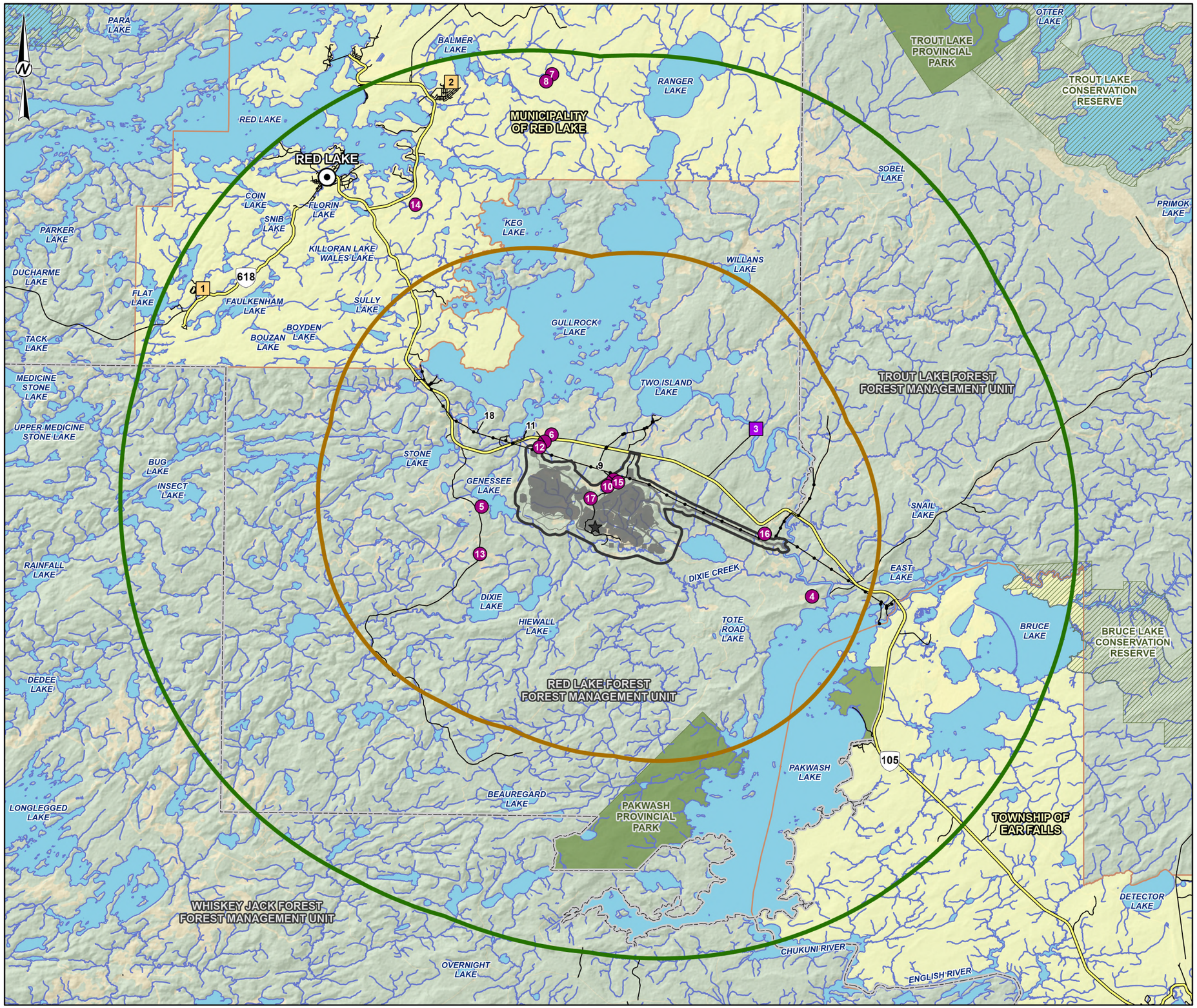

LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR SOUND
- REGIONAL STUDY AREA FOR SOUND
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	SNOWSHOE RAPIDS DAM	DAM
4	SNAKE FALLS CAMP	AGGREGATE OPERATION
5	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
6	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	1304928 ONTARIO INC.	AGGREGATE OPERATION
9	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
10	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
13	DRACO (1985) LTD.	AGGREGATE OPERATION
14	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
15	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
16	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
17	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:195,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR SOUND

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
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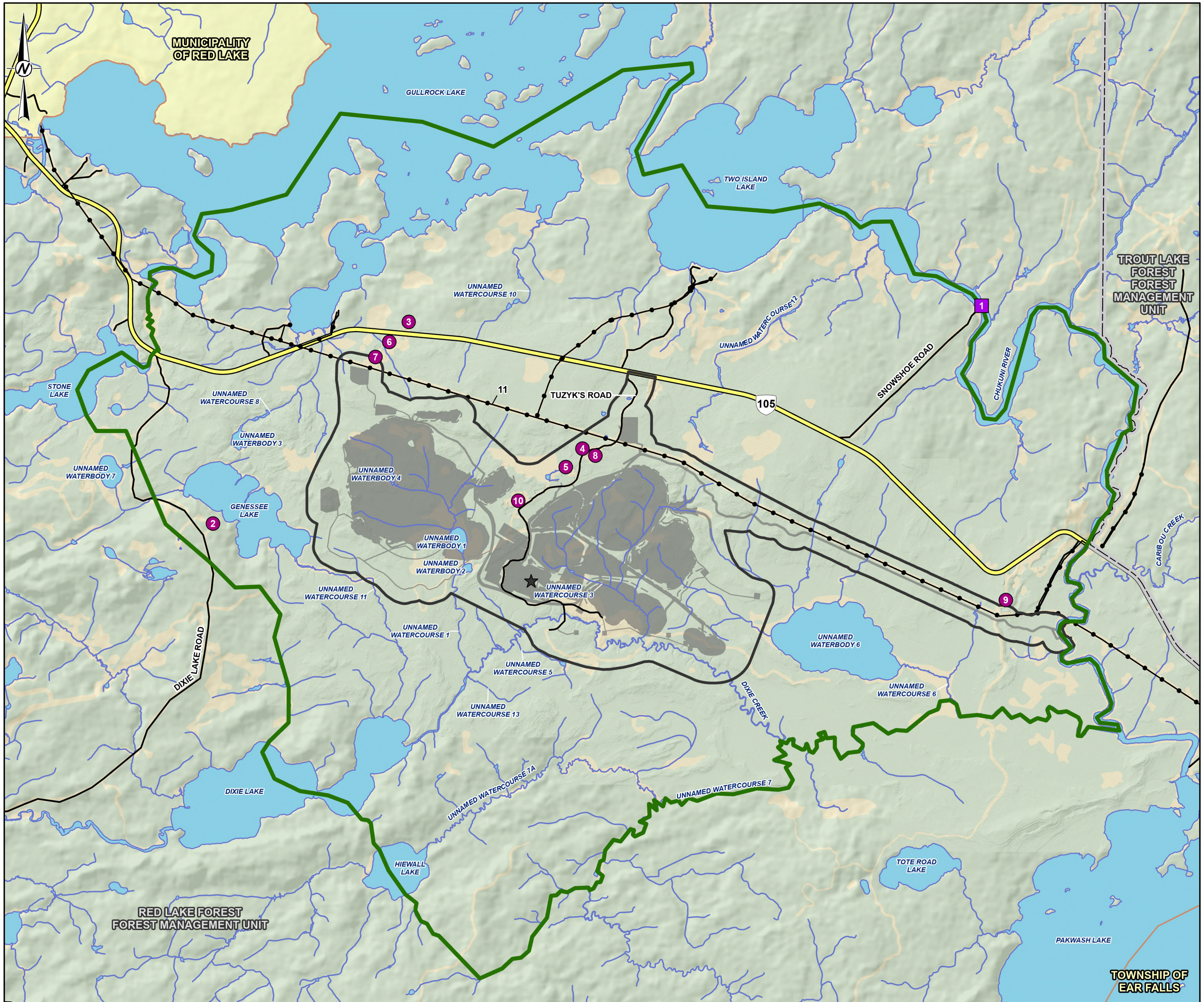

LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL AND REGIONAL STUDY AREAS FOR GROUNDWATER
- LOWER TIER MUNICIPAL BOUNDARY
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	SNOWSHOE RAPIDS DAM	DAM
2	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
3	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
4	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
5	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
6	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
7	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
8	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
9	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
10	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
11	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE

0 1 2 4

1:70,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. ROADS INFORMATION PROVIDED BY GREAT BEAR RESOURCES, AUGUST 2022.
3. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR GROUNDWATER

CONSULTANT

wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
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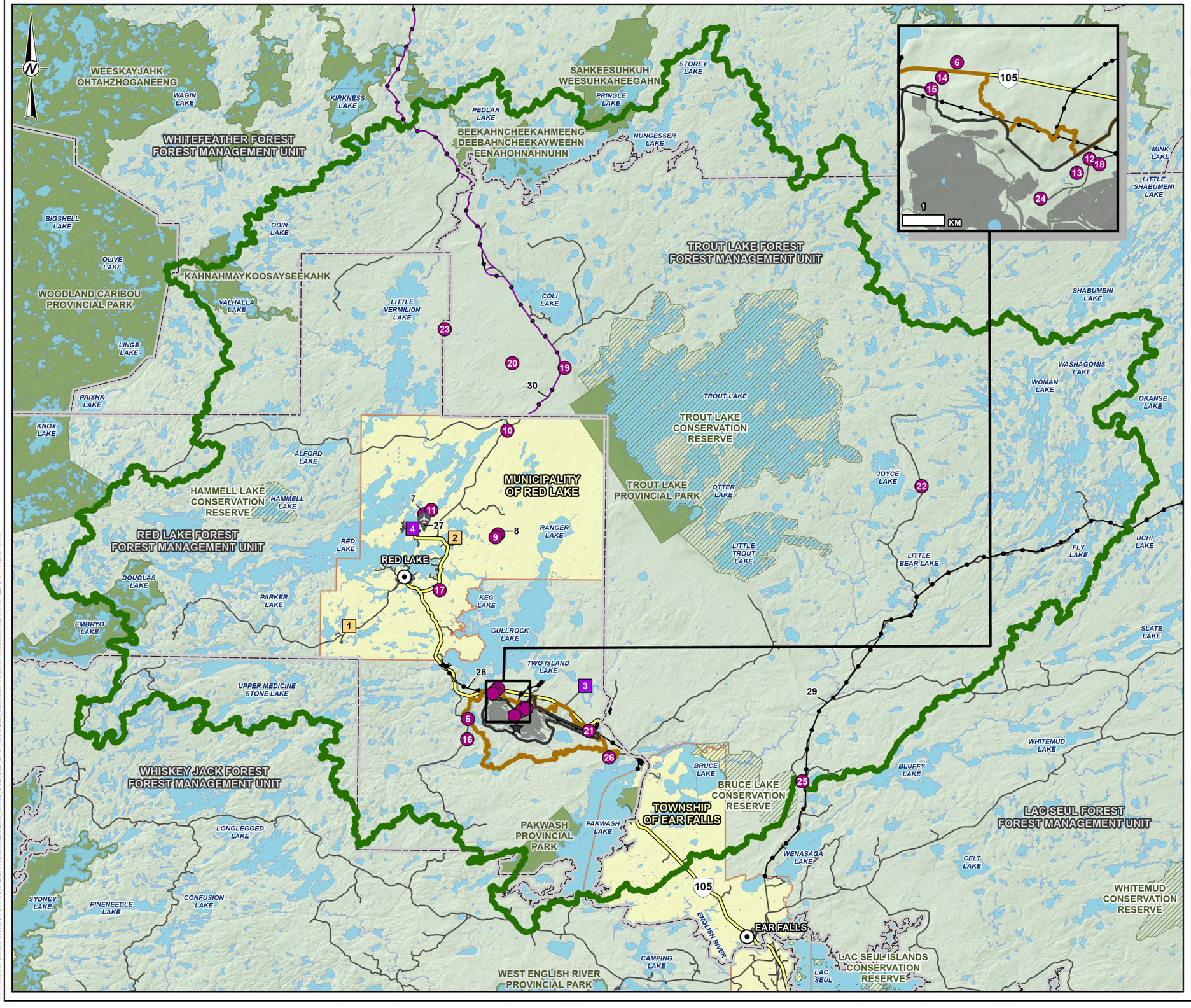

LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR SURFACE WATER FLOWS AND LEVELS
- REGIONAL STUDY AREA FOR SURFACE WATER FLOWS AND LEVELS
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- AIRPORT LOCATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- COMMUNICATION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	SNOWSHOE RAPIDS DAM	DAM
4	PRIVATE	DAM
5	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
6	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
7	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
8	1304928 ONTARIO INC.	AGGREGATE OPERATION
9	1304928 ONTARIO INC.	AGGREGATE OPERATION
10	DALE BUTTERFIELD	AGGREGATE OPERATION
11	NEWMONT CANADA	AGGREGATE OPERATION
12	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
13	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
14	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
15	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
16	DRACO (1985) LTD.	AGGREGATE OPERATION
17	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
18	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
19	NEWMONT CANADA	AGGREGATE OPERATION
20	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
21	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
22	GLEN KAFKA	AGGREGATE OPERATION
23	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
24	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
25	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
26	SNAKE FALLS CAMP	AGGREGATE OPERATION
27	RED LAKE AIRPORT	AIRPORT
28	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
29	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE
30	WATAYNIKANEYAP TRANSMISSION PROJECT	EXISTING TRANSMISSION LINE

0 5 10 20
1:450,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR SURFACE WATER FLOWS AND LEVELS

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
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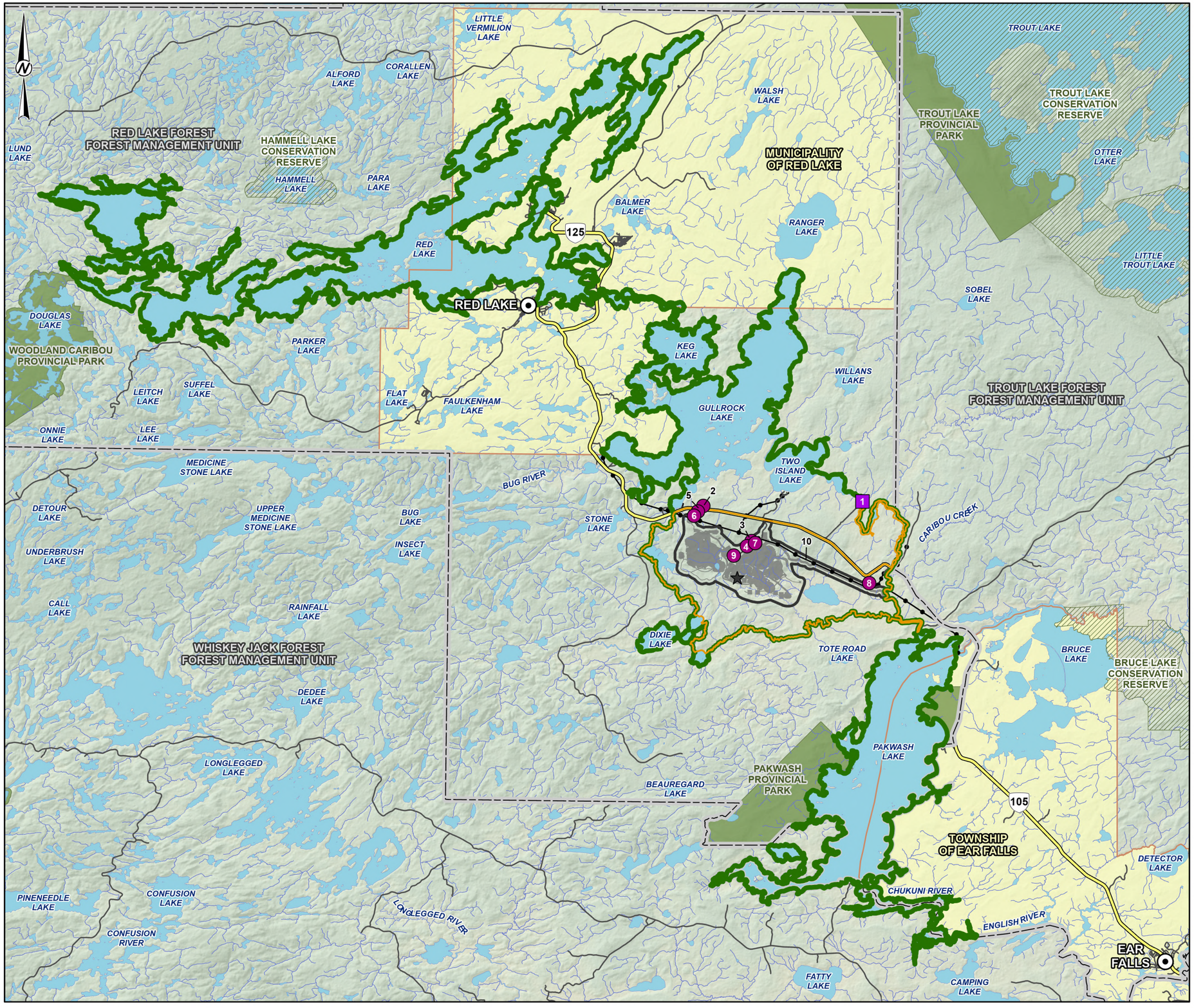

LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR SURFACE WATER QUALITY
- REGIONAL STUDY AREA FOR WATER QUALITY
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	SNOWSHOE RAPIDS DAM	DAM
2	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
3	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
4	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
5	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
6	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
7	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
8	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
9	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
10	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:250,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. ROADS INFORMATION PROVIDED BY GREAT BEAR RESOURCES, AUGUST 2022.
3. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR WATER QUALITY

CONSULTANT

wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-5

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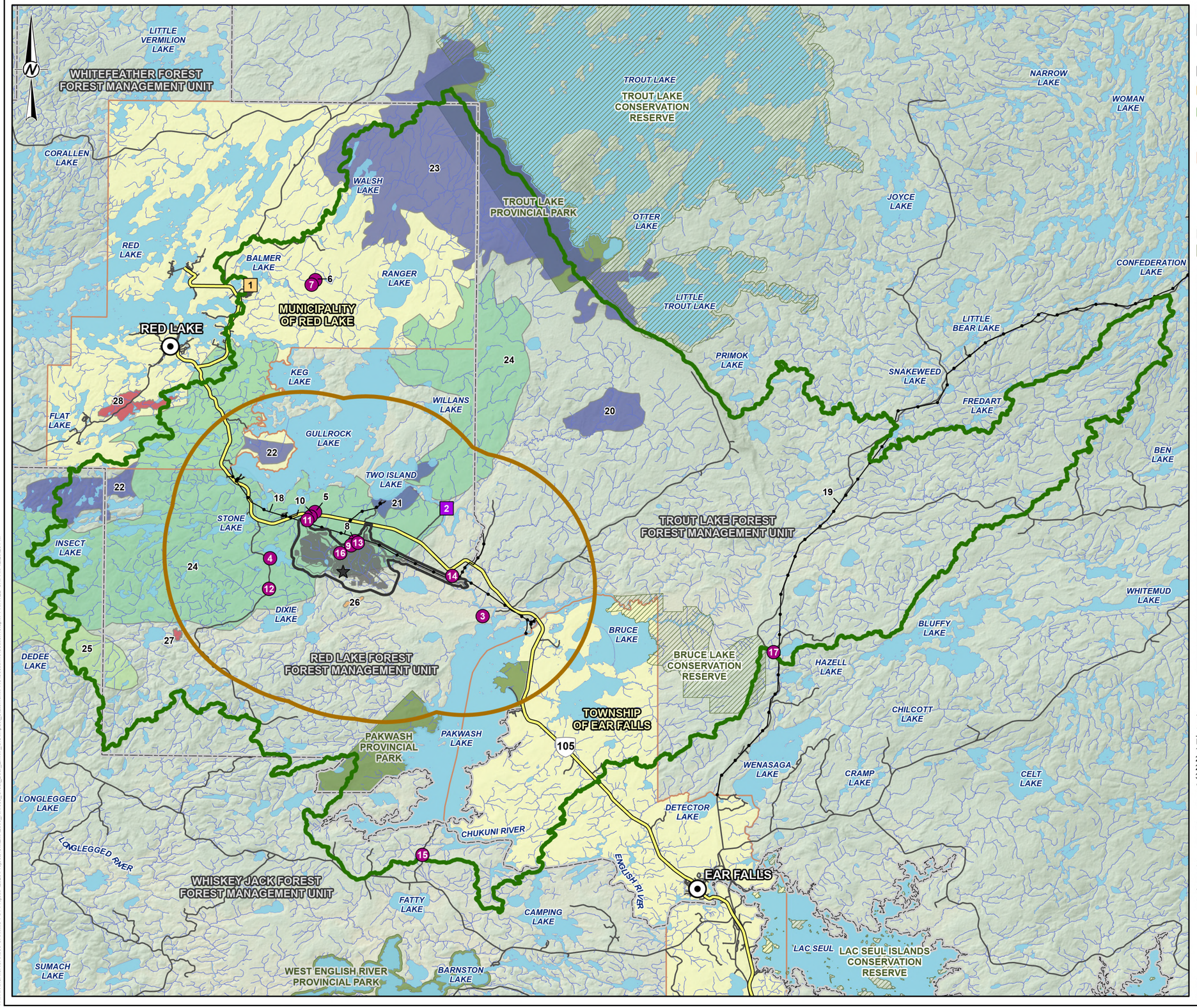


LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR VEGETATION COMMUNITIES
- REGIONAL STUDY AREA FOR VEGETATION COMMUNITIES
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

WILDFIRE AREA (BY YEAR)

- 1961
- 1980
- 1983
- 2010
- 2019
- 2020

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	RED LAKE GOLD MINES	EXISTING MINE OPERATION
2	SNOWSHOE RAPIDS DAM	DAM
3	SNAKE FALLS CAMP	AGGREGATE OPERATION
4	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
5	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
6	1304928 ONTARIO INC.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
9	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
10	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	DRACO (1985) LTD.	AGGREGATE OPERATION
13	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
14	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
15	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
16	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
17	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
19	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE
20	RED34 (1961)	WILDFIRE AREA
21	RED9 (1961)	WILDFIRE AREA
22	RED35 (1961)	WILDFIRE AREA
23	RED26 (1961)	WILDFIRE AREA
24	RED14 (1980)	WILDFIRE AREA
25	RED149 (1983)	WILDFIRE AREA
26	RED25 (2010)	WILDFIRE AREA
27	RED75 (2019)	WILDFIRE AREA
28	RED49 (2020)	WILDFIRE AREA

0 2.5 5 10

1:300,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

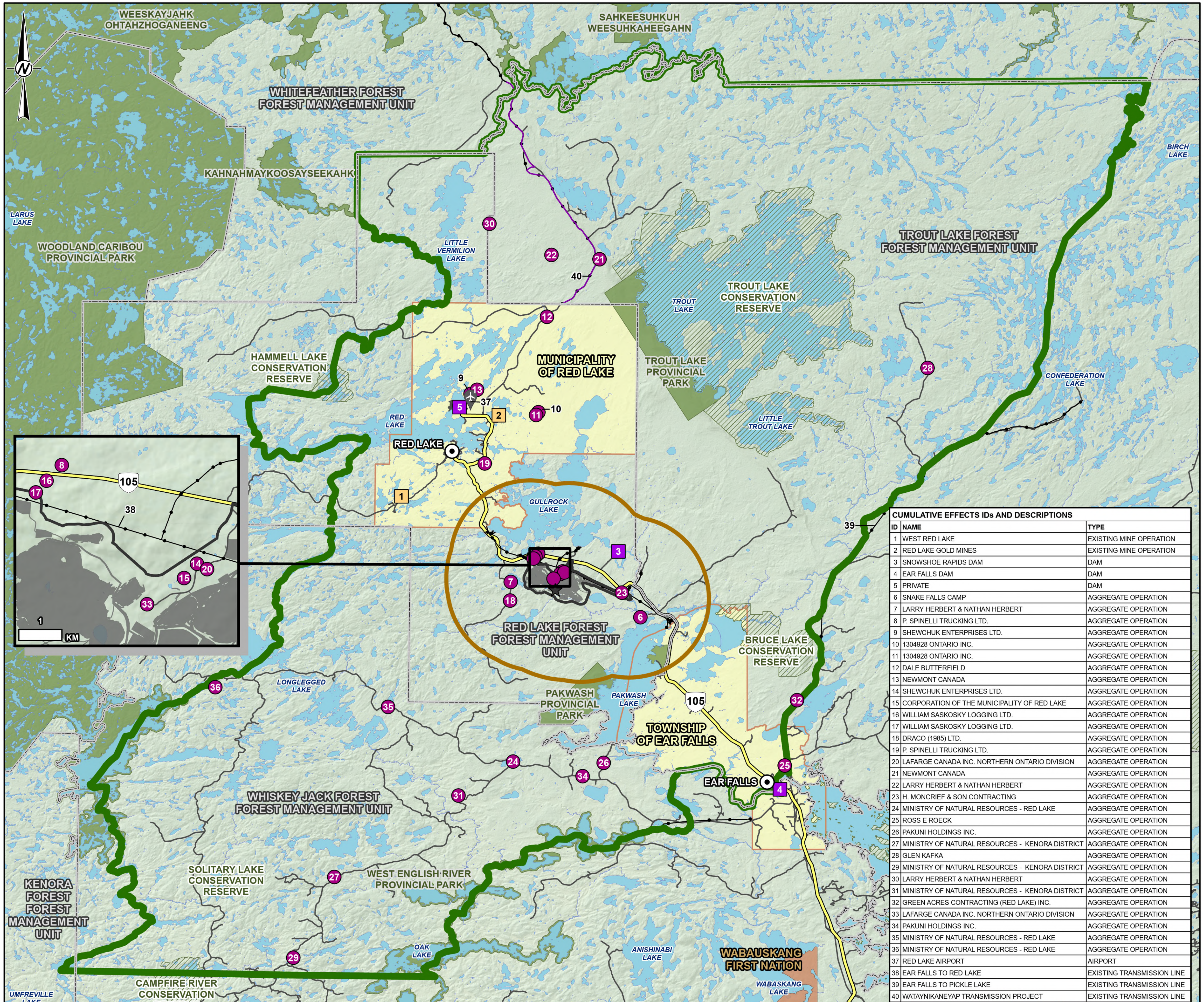
PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR VEGETATION COMMUNITIES

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-6



LEGEND
- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR MOOSE
- REGIONAL STUDY AREA FOR MOOSE
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- FIRST NATION RESERVE
- EXISTING MINE OPERATION
- AIRPORT LOCATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- COMMUNICATION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	SNOWSHOE RAPIDS DAM	DAM
4	EAR FALLS DAM	DAM
5	PRIVATE	DAM
6	SNAKE FALLS CAMP	AGGREGATE OPERATION
7	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
8	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
9	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
10	1304928 ONTARIO INC.	AGGREGATE OPERATION
11	1304928 ONTARIO INC.	AGGREGATE OPERATION
12	DALE BUTTERFIELD	AGGREGATE OPERATION
13	NEWMONT CANADA	AGGREGATE OPERATION
14	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
15	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
16	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
17	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
18	DRACO (1985) LTD.	AGGREGATE OPERATION
19	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
20	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
21	NEWMONT CANADA	AGGREGATE OPERATION
22	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
23	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
24	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
25	ROSS E ROECK	AGGREGATE OPERATION
26	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
27	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
28	GLEN KAFKA	AGGREGATE OPERATION
29	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
30	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
31	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
32	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
33	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
34	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
35	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
36	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
37	RED LAKE AIRPORT	AIRPORT
38	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
39	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE
40	WATAYNIKANEYAP TRANSMISSION PROJECT	EXISTING TRANSMISSION LINE

0 5 10 20
1:500,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE
2. LIO: LAND INFORMATION ONTARIO

REFERENCE(S)
1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

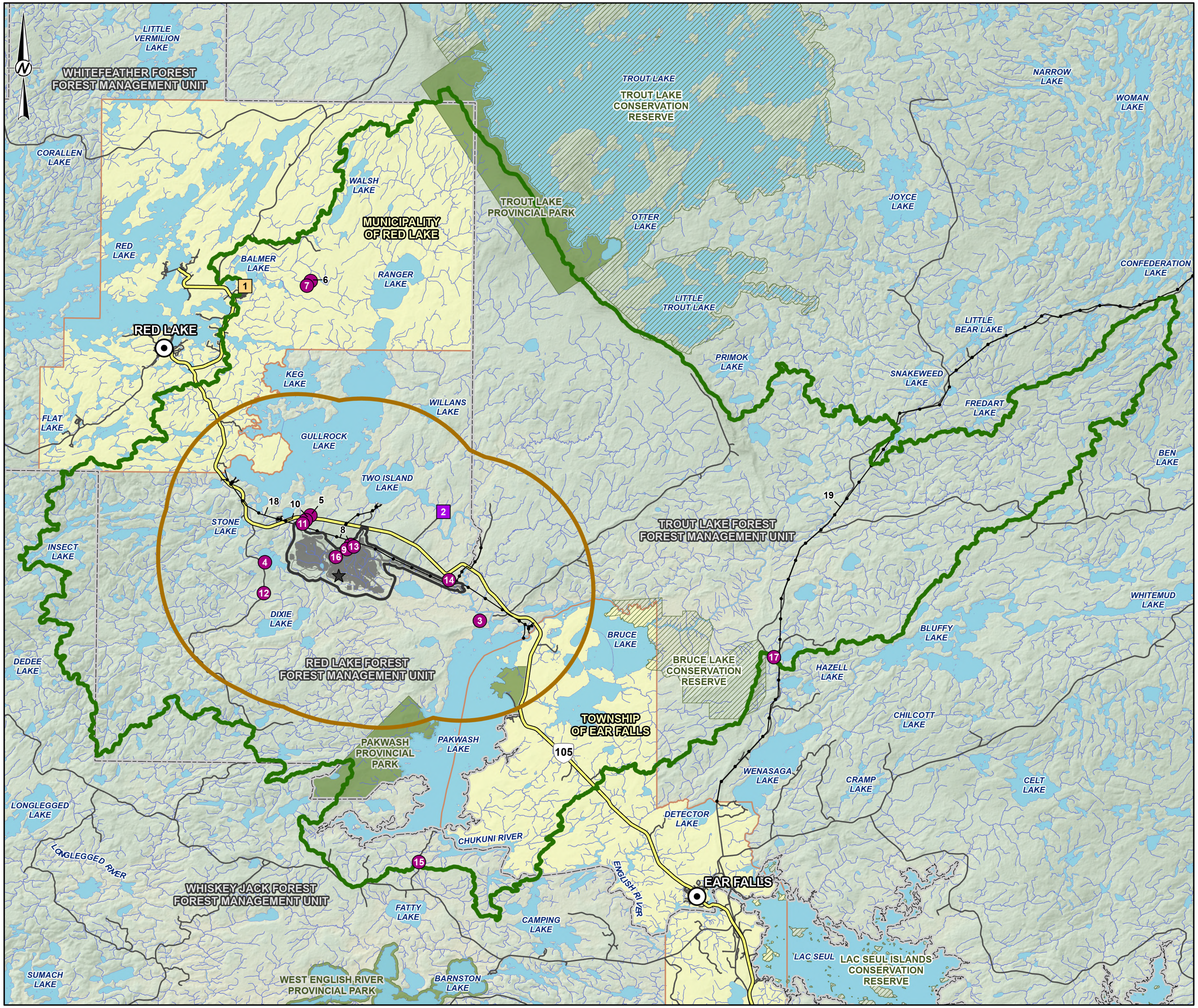
TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR MOOSE

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-7

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR OTHER WILDLIFE
- REGIONAL STUDY AREA FOR OTHER WILDLIFE
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	RED LAKE GOLD MINES	EXISTING MINE OPERATION
2	SNOWSHOE RAPIDS DAM	DAM
3	SNAKE FALLS CAMP	AGGREGATE OPERATION
4	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
5	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
6	1304928 ONTARIO INC.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
9	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
10	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	DRACO (1985) LTD.	AGGREGATE OPERATION
13	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
14	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
15	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
16	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
17	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
19	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:300,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

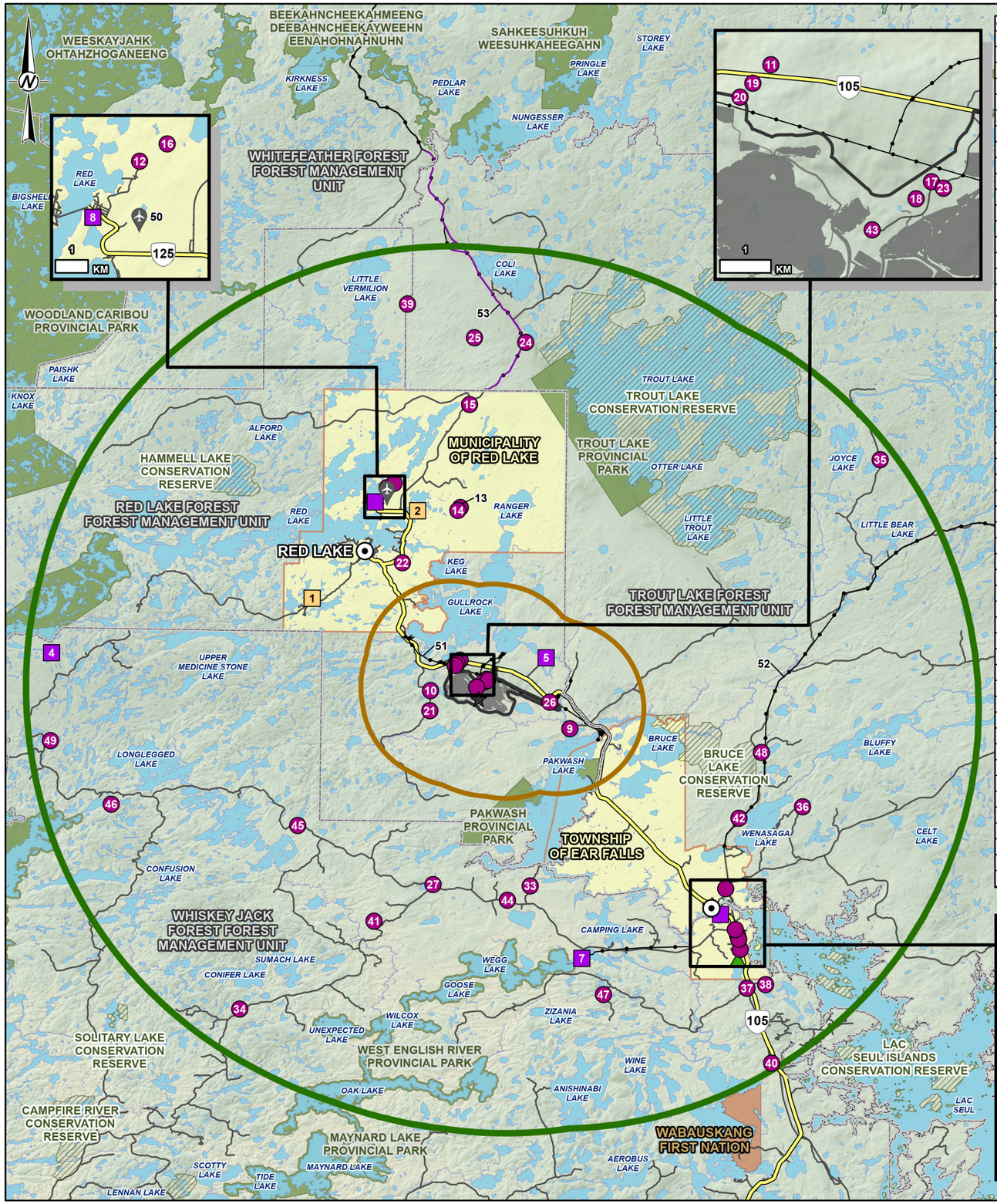
PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR OTHER WILDLIFE

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-8



CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	INTERFOR EAR FALL DIVISION	MILL
4	PRIVATE	DAM
5	SNOWSHOE RAPIDS DAM	DAM
6	EAR FALLS DAM	DAM
7	MANITOU FALL GENERATING STATION DAM	DAM
8	PRIVATE	DAM
9	SNAKE FALLS CAMP	AGGREGATE OPERATION
10	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
11	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
12	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
13	1304928 ONTARIO INC.	AGGREGATE OPERATION
14	1304928 ONTARIO INC.	AGGREGATE OPERATION
15	DALE BUTTERFIELD	AGGREGATE OPERATION
16	NEWMONT CANADA	AGGREGATE OPERATION
17	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
18	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
19	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
20	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
21	DRACO (1985) LTD.	AGGREGATE OPERATION
22	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
23	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
24	NEWMONT CANADA	AGGREGATE OPERATION
25	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
26	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
27	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
28	ROSS E ROECK	AGGREGATE OPERATION
29	MONCRIEF CONSTRUCTION LIMITED	AGGREGATE OPERATION
30	DAVE'S TRUCKING AND CONTRACTING LTD.	AGGREGATE OPERATION
31	GREEN ACRES CONTRACTING (RED IAKE) INC.	AGGREGATE OPERATION
32	ARBOSSI BULK SYSTEMS Inc.	AGGREGATE OPERATION
33	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
34	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
35	GLEN KAFKA	AGGREGATE OPERATION
36	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
37	ALLAN H. HUTCHISON CONTRACTING LTD.	AGGREGATE OPERATION
38	DAVE'S TRUCKING AND CONTRACTING LTD.	AGGREGATE OPERATION
39	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
40	STEVEN BLAIR CONTRACTING LTD.	AGGREGATE OPERATION
41	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
42	GREEN ACRES CONTRACTING (RED IAKE) INC.	AGGREGATE OPERATION
43	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
44	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
45	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
46	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
47	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
48	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
49	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
50	RED LAKE AIRPORT	AIRPORT
51	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
52	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE
53	WATAYNIKANEYAP TRANSMISSION PROJECT	EXISTING TRANSMISSION LINE

LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR FOR WOLVERINE
- REGIONAL STUDY AREA FOR WOLVERINE
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- FIRST NATION RESERVE
- EXISTING MINE OPERATION
- MILL
- AIRPORT LOCATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- COMMUNICATION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERBODY

0 5 10 20

1:550,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR WOLVERINE

CONSULTANT

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-9

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

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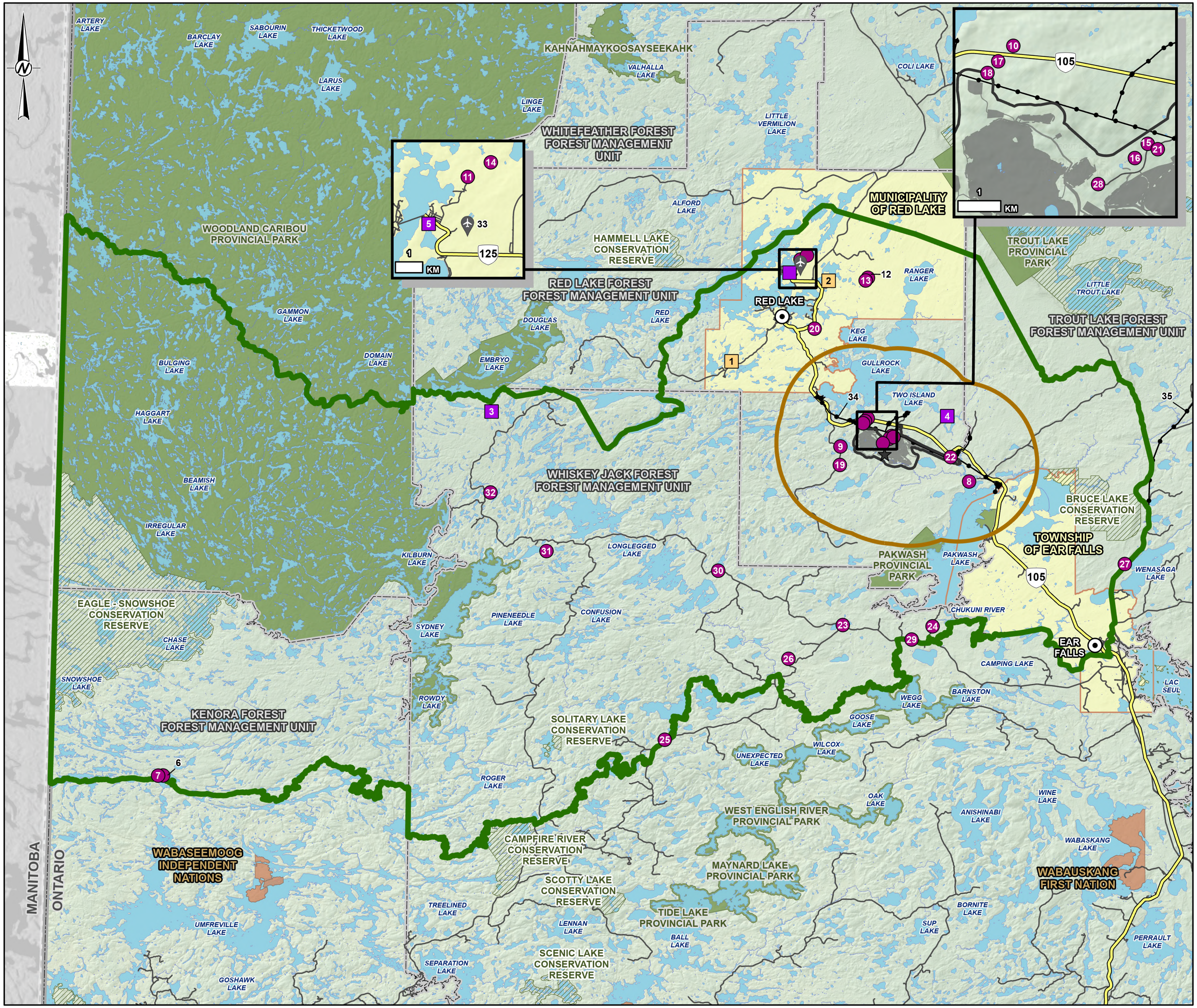
PATH: X:\CA\CAOAK300-OAK\MIS-FS1-Project\P2023\Projects\OMEMA2003_Kinross_Great_Bear_Envt\7_GIS\Impact_Statement\PRO\Section15\Section15.aprx PRINTED ON: AT: 12:51:08 PM



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR BOREAL CARIBOU
- REGIONAL STUDY AREA FOR BOREAL CARIBOU
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- FIRST NATION RESERVE
- EXISTING MINE OPERATION
- AIRPORT LOCATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- HIGHWAY
- LOCAL ROAD
- CONSERVATION RESERVE
- PROVINCIAL BORDER
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERBODY
- PROVINCIAL PARK

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	PRIVATE	DAM
4	SNOWSHOE RAPIDS DAM	DAM
5	DRYDEN NURSERY (NORTH DAM)	DAM
6	EWL MANAGEMENT LTD.	AGGREGATE OPERATION
7	EWL MANAGEMENT LTD.	AGGREGATE OPERATION
8	SNAKE FALLS CAMP	AGGREGATE OPERATION
9	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
10	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
11	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
12	1304928 ONTARIO INC.	AGGREGATE OPERATION
13	1304928 ONTARIO INC.	AGGREGATE OPERATION
14	NEWMONT CANADA	AGGREGATE OPERATION
15	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
16	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
17	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
18	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
19	DRACO (1985) LTD.	AGGREGATE OPERATION
20	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
21	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
22	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
23	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
24	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
25	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
26	MINISTRY OF NATURAL RESOURCES - KENORA DISTRICT	AGGREGATE OPERATION
27	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
28	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
29	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
30	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
31	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
32	MINISTRY OF NATURAL RESOURCES - RED LAKE	AGGREGATE OPERATION
33	RED LAKE AIRPORT	AIRPORT
34	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
35	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE

0 5 10 20
1:500,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

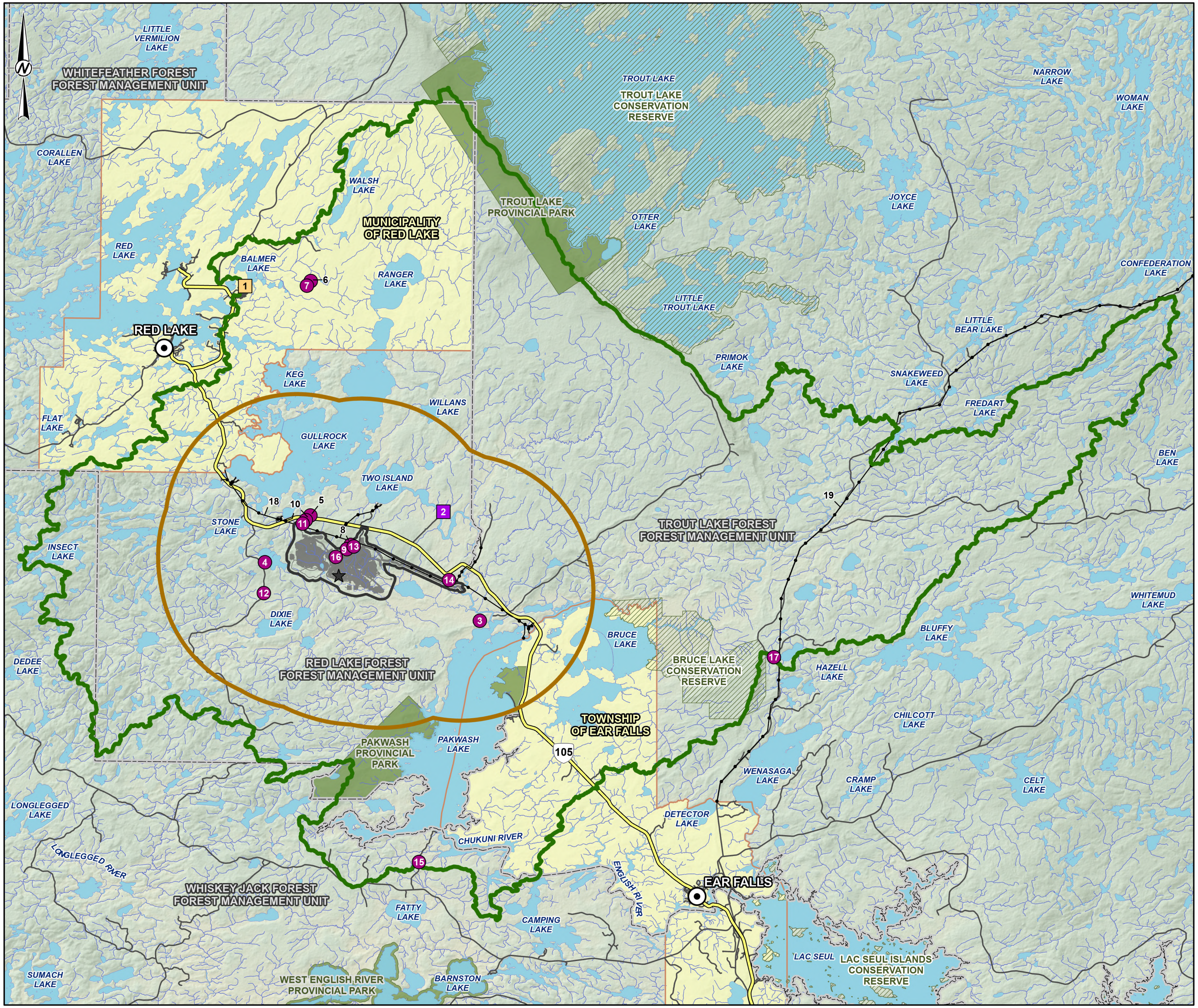
TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR BOREAL CARIBOU

CONSULTANT
wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-10

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B
25mm



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR SPECIES AT RISK BATS, BIRDS AND OTHER WILDLIFE
- REGIONAL STUDY AREA FOR SPECIES AT RISK BATS, BIRDS AND OTHER WILDLIFE
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	RED LAKE GOLD MINES	EXISTING MINE OPERATION
2	SNOWSHOE RAPIDS DAM	DAM
3	SNAKE FALLS CAMP	AGGREGATE OPERATION
4	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
5	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
6	1304928 ONTARIO INC.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
9	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
10	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	DRACO (1985) LTD.	AGGREGATE OPERATION
13	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
14	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
15	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
16	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
17	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
19	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:300,000 KILOMETRES

NOTE(S)
1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)
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3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR OTHER SPECIES AT RISK

CONSULTANT
wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.6-11

15.7 Fish and Fish Habitat

15.7.1 Summary of Residual Effects after Mitigation

The assessment of effects to fish and fish habitat considered for all Project phases:

- Changes to fish habitat (Section 8.7.1)
- Changes to fish communities (Section 8.7.2)
- Changes to fish health (Section 8.7.3).

The majority of changes to fish habitat occur during the construction phase due to the initial site capture and mine development activity. These changes will be offset and compensated for, in accordance with the policies and regulatory requirements of the *Fisheries Act* as administered by Fisheries and Oceans Canada. An initial draft FHOCP was consulted upon and reviewed by Fisheries and Oceans Canada in 2025, and an updated draft Plan is provided in Appendix L-2. Changes to fish habitat resulting from the construction phase and operations phase of the Project will be fully mitigated by the FHOCP, and changes to fish habitat during the closure phase will be positive. As a result, there are no residual effects on fish habitat predicted due to changes in fish habitat from the Project.

After implementation of proposed mitigation measures including fish rescues and blasting management, there are no predicted residual effects to fish communities including those of Indigenous community concern during the construction phase and operations phase of the Project. There will be some changes to the flows in watercourses within the PA at closure which were considered within the draft FHOCP. There is the potential for some positive changes to species richness and abundance during final reclamation. Given the relatively small reduction, infrequent occurrence, limited extent of the flow reduction and mitigation through the FHOCP, residual effects to fish communities are not predicted during any phase of the Project.

The assessment of changes to fish health is supported by analysis for other sections, including the surface water quality models (Appendix K-2 and Appendix K-3) and the human and ecological health assessment are reported in Sections 10.9, 11.9, 12.9, 13.9 and 14.9, as well as the mercury study report (Appendix T). An integrated site water management system will be implemented for the Project that includes the collection, management and treatment of contact water (Section 4.12), which will continue throughout all Project phases until monitoring demonstrates that contact water is suitable to be released to the environment without treatment. As the potential effects to fish health are mitigated by effective implementation of the integrated water management and treatment system, there are no predicted residual effects to fish health during construction, including those identified of Indigenous community concern to Great Bear Resources (i.e., Lake Trout, White Sucker, Smallmouth Bass and shiner minnow species), during any Project phase.

With the implementation of the FHOCP, and proposed mitigation measures for the Project, including the site wide integrated water management and treatment system, residual effects to fish and fish habitat are not predicted during any Project phase (Section 8.7).

15.7.2 Screening and Analysis for Potential Cumulative Effects

Cumulative effects are defined as changes to the environment, health, social and economic conditions as a result of the residual effects of a project, combined with the existence of other past, present and reasonably foreseeable physical activities (IAAC 2024). As there are no residual effect from the Project on fish and fish habitat, a cumulative effects assessment on fish and fish habitat is not required.

15.8 Migratory Birds

15.8.1 Summary of Residual Effects after Mitigation

The assessment of effects to migratory birds considered for all Project phases:

- Changes to abundance of habitat (Section 9.7.1)
- Changes to connectivity and quality of habitat (Section 9.7.2)
- Changes to density and population (Section 9.7.3)
- Changes to risk of mortality (Section 9.7.4)
- Changes to migratory bird SAR (Section 9.7.5).

The Project is predicted to result in residual effects to migratory birds through pathways associated with habitat removal, altered habitat quality, sensory disturbances, and increased mortality risk. Mitigation measures presented in Section 9.6 for migratory birds and their habitats are predicted to reduce and mitigate the Project's effects on migratory birds. After the application of mitigation measures, these interactions result in low magnitude, largely localized effects on migratory birds and their habitats, except for SAR migratory birds, which are considered to have a moderate magnitude RSA effect as a conservative measure.

Direct habitat for loss will occur within the PA during the construction phase; however, this area represents less than 2% of available habitat at the RSA scale for all assessed species. Connectivity and habitat quality may also be influenced by fragmentation, dust deposition, noise, groundwater drawdown and artificial lighting associated with the Project. These effects are predicted to be small relative to the amount of available habitat, and modelling shows that most indirect effects are contained within the PA or its immediate surroundings. Sensory disturbance (noise) is the largest contributor to changes in habitat quality, but modelled effects decline with distance from the PA, decrease substantially during the closure phase and ceases following closure.

Changes in bird density and population resulting from the Project are also expected to be low. Displacement of individuals from the PA may lead to minor density increases in the LSA and RSA, but these changes represent less than 2% of regional populations for most species and are not expected to influence population persistence. Mortality risks, including those associated with vegetation clearing, vehicle collisions, light attraction, predators subsidized by domestic waste and building / window strikes, will be minimized through the use of timing windows, design considerations, lighting controls, traffic management and waste-handling practices.

For migratory birds listed under the federal *Species at Risk Act*, residual effects are similarly low. Habitat losses remain below 2.2% of available habitat in the RSA, and indirect effects from dust, groundwater changes and noise remain below 8% for even the most sensitive SAR species. Low baseline (existing) population densities mean that some SAR populations may be more sensitive to mortality; however, mitigation measures and the availability of alternative habitat are expected to prevent significant population-level effects.

Overall, adverse residual effects on migratory birds across habitat abundance, connectivity and quality, density and population, mortality risk and SAR considerations are predicted to be not significant following the application of mitigation (Section 9.8). Effects decrease over time and improve during closure as revegetation and hydrological recovery support the re-establishment of functional habitat.

15.8.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on migratory birds and their habitats related to the Project. Figure 15.8-1 shows the existing Projects or activities located within the migratory bird LSA and RSA.

Existing and foreseeable projects and activities that are expected to have habitat disturbance that may overlap temporally or spatially with the Project include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable)
- Forestry timber cutting operations in the Red Lake Forest Management Unit and the Trout Lake Forest Management Unit (existing and foreseeable)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies)
- Ongoing harvesting activities in the region (hunting; existing and foreseeable).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further.

There are existing disturbances from past forestry activities, local aggregate operations, roads, transmission lines and other anthropogenic clearings in the migratory bird LSA and RSA. These activities contribute to a landscape already characterized by mixed-age forests, early successional habitat and fragmentation, reflected in the FRI data and field-verified during baseline surveys. These disturbances are already incorporated into the baseline for the migratory bird assessment (Appendix M-1).

Forestry activities within the migratory bird RSA are managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU (Figure 15.8-1 and Appendix M-2, Figure 3-2). Each FMU has its own plans and supporting data, including the location and timing of planned harvesting shapefiles (which are not publicly available). The current Red Lake Forest Management Plan covers the 2020 to 2030 period and includes harvest blocks within the PA, LSA and RSA, particularly around Pakwash Lake, Ranger Lake and Willans Lake. The current Trout Lake Forest Management Plan covers the 2021 to 2031 period and includes harvest blocks within the LSA and RSA. The Whiskey Jack Forest Management Plan, which occurs in the southern and western extents of the RSA, covers the 2024 to 2034 period but has no planned harvest activities in the RSA.

Future forestry activities may occur concurrently with the Project in the migratory bird LSA and RSA. These activities are either spatially separated such that overlap with Project-related habitat loss is unlikely, are anticipated to be of similar or lesser magnitude compared to disturbances incorporated into the baseline, or are already represented in baseline conditions. The residual effects assessment already simulated changes in habitat distribution by moving the Project footprint across the landscape, therefore additional analyses were not required. The approach inherently captures how variation in the spatial arrangement of polygonal disturbances, including potential future polygonal disturbances, influences fragmentation

patterns within the migratory bird RSA. Incorporating additional future forestry-related disturbances would increase the overall level of fragmentation in the RSA, which could make the Project's relative contribution appear even smaller in comparison. As such, further modelling would likely not change the conclusions of the assessment for the Project.

Future mineral exploration may occur in the LSA and RSA in the future, and may occur concurrently with the Project, but these disturbances are anticipated to be of limited magnitude as disturbances and spatially separated from the PA such that overlap with Project-related effects are unlikely.

Future hunting and trapping within the LSA and RSA is assumed be at a scale consistent with existing effects, and / or will meet regulatory requirements for hunting migratory birds including SAR, such that the magnitude of this future activity would not materially overlap with the Project.

The Project's residual effects after mitigation are primarily confined to the PA, and indirect effects beyond are limited and diminish with distance. The Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in Project-related cumulative effects.

15.8.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 9.6 for migratory birds and their habitats are predicted to reduce and mitigate the Project's cumulative contribution. No additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on migratory birds.

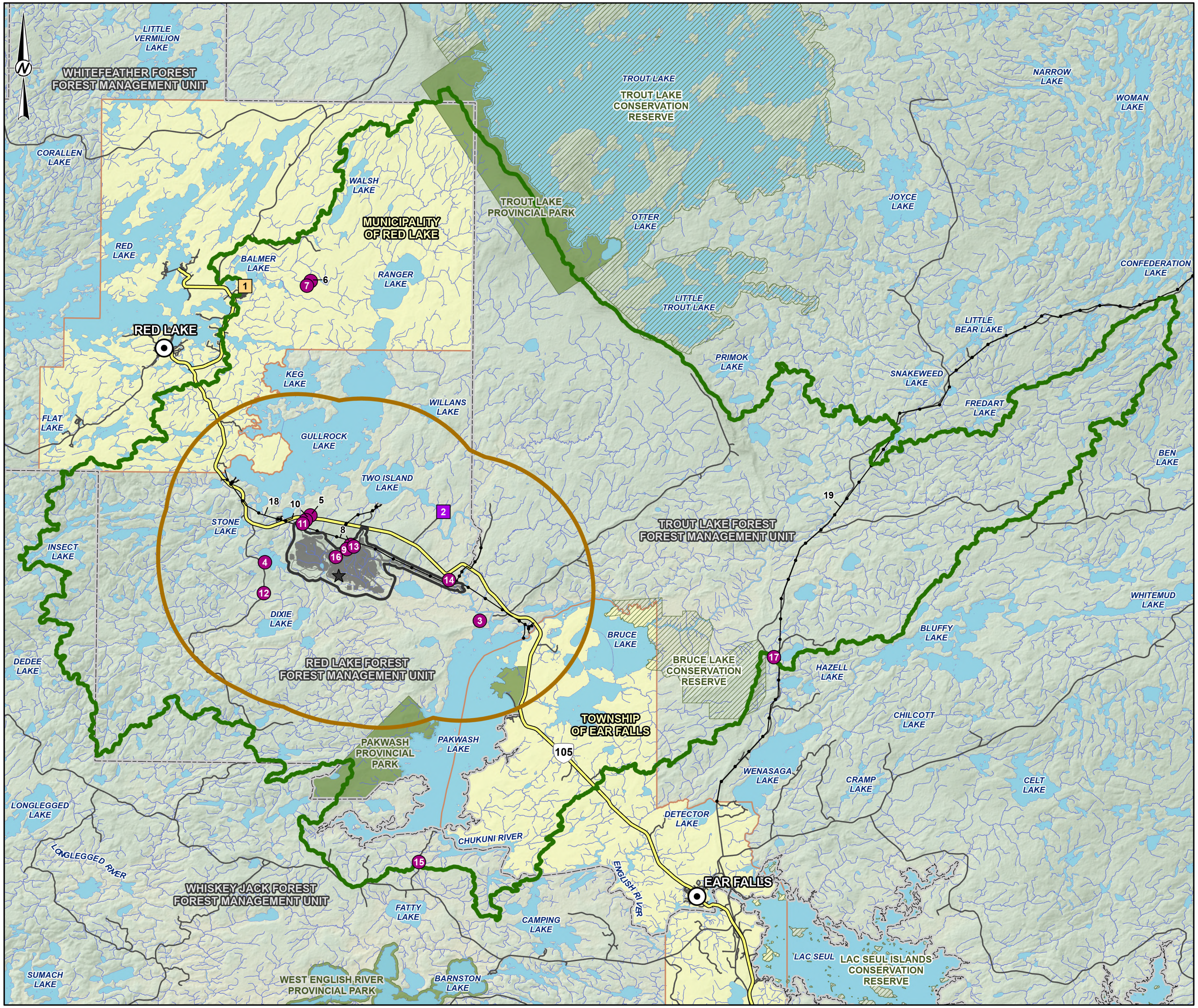
15.8.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.8.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects.

The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6. The predicted cumulative effects to migratory birds are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I
- Duration: Level III
- Frequency: Level I
- Reversibility: Level III.

As a result, the predicted cumulative effects to migratory birds from the Project are not significant.



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR MIGRATORY BIRDS
- REGIONAL STUDY AREA FOR MIGRATORY BIRDS
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	RED LAKE GOLD MINES	EXISTING MINE OPERATION
2	SNOWSHOE RAPIDS DAM	DAM
3	SNAKE FALLS CAMP	AGGREGATE OPERATION
4	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
5	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
6	1304928 ONTARIO INC.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
9	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
10	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	DRACO (1985) LTD.	AGGREGATE OPERATION
13	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
14	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
15	PAKUNI HOLDINGS INC.	AGGREGATE OPERATION
16	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
17	GREEN ACRES CONTRACTING (RED LAKE) INC.	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE
19	EAR FALLS TO PICKLE LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:300,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
3. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
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TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR MIGRATORY BIRDS

CONSULTANT

wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.8-1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm

15.9 Indigenous Peoples

The assessment of the potential effects of the Project on LSFN, WFN, ANA, NWOMC and Indigenous peoples living in Red Lake and Ear Falls and their interests considered the following criteria:

- Community services and infrastructure
- Current use of lands and resources for traditional purposes (CULRTP)
- Indigenous physical or cultural heritage
- Community well-being
- Health.

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on Indigenous Peoples related to the Project. Existing and reasonably foreseeable future mining and aggregate projects are shown in Figure 15.5-1 and existing and reasonably foreseeable forestry, community, energy and transportation projects are shown in Figure 15.5-2. Figure 15.9-1 shows the existing Projects or activities located within the health LSA and RSA.

Existing and foreseeable projects and activities with effects that may overlap temporally or spatially with the Project include:

- Great Bear AEX Program (existing)
- Local aggregate operations (existing)
- Anthropogenic uses such as roads, transmission lines and the communities of Red Lake and Ear Falls (existing and foreseeable)
- Forestry timber cutting operations in the Red Lake Forest Management Unit and the Trout Lake Forest Management Unit (existing and foreseeable)
- Mineral exploration activities (foreseeable; Great Bear Resources or other mining and exploration companies).

The Great Bear AEX Program will not overlap temporally with the Project and is not considered further. No future roads or transmission lines have been identified; foreseeable activities would include regular maintenance which would not be anticipated to interact cumulatively with effects to Indigenous Peoples, and therefore, have not been considered further.

There are existing disturbances from past forestry activities, local aggregate operations, roads, transmission lines and other activities in the study areas. As existing activities or disturbances have already been incorporated into the baseline for the Indigenous People's assessments these are not considered further. No proposed or reasonably foreseeable aggregate projects were identified; therefore, these have not been considered further. There were no proposed forestry-related manufacturing operations identified; therefore, they have not been considered further. Construction and maintenance projects associated with the identified transportation infrastructure have not identified as they are temporary and transient, but they are considered further in this subsection, as applicable.

Forestry activities in the RSAs are managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU (Figure 15.8-1 and Appendix M-2, Figure 3-2):

- The Red Lake Forest Management Plan includes cut blocks within the PA as well as around Pakwash Lake, Ranger Lake and Willams Lake. Activities will take place between 2020 and 2030. Pakwash Lake and Ranger Lake are both partially within the LSA for CULRTP, and Indigenous physical or cultural heritage. Williams Lake is within the RSA for community services and infrastructure, CULRTP, Indigenous physical or cultural heritage, and areas and community well-being.
- The Trout Lake Forest Management Pla, in place until 2031, includes harvest blocks that overlap the LSA for CULRTP, Indigenous physical or cultural heritage, and community well-being.

Due to the overlap of these future activities with the Project PA and the LSAs for the fVC Indigenous Peoples, forestry activities have the potential to act cumulatively with residual effects to Indigenous Peoples and have been considered further.

Mineral exploration may occur in the LSAs and RSAs for the Indigenous Peoples in the future and may occur concurrently with the Project. While these disturbances have not been identified publicly there is potential for effects to interact cumulatively with Project residual effects if they spatially overlap with one of the study areas. Therefore, future mineral exploration has the potential to act cumulatively with residual effects to Indigenous Peoples and has been considered further.

15.9.1 LSFN

15.9.1.1 Summary of Residual Effects

The assessment of potential cumulative effects to LSFN considered the following criteria for all Project phases:

- Community services and infrastructure (Section 10.5)
- CULRTP (Section 10.6)
- Indigenous physical an, cultural heritage (Section 10.7)
- Community well-being (Section 10.8)
- Health (Section 10.9).

LSFN have identified CULRTP in the LSA, including registered traplines and harvesting sites that overlap the PA. Access to the PA will be restricted during Project phases, and access in the LSA will not be directly affected, but quality of experience may still be indirectly affected by Project activities at sites in areas immediately adjacent to the PA. These potential effects are anticipated to occur during construction and operations, primarily due to sensory disturbance that could alter wildlife behaviour or use of the area by LSFN. The effects are expected to be reversed during closure.

The PA overlaps with terrestrial locations and resources that LSFN identifies as having historical and cultural importance. The Project will result in the loss of a manoomin (Wild Rice) stand at Unnamed Waterbody 1, access to the trapline area, and plant gathering areas in the PA during Project construction and operations, and as a result a residual effect to CULRTP and Indigenous physical or cultural heritage is anticipated. The residual effects are expected to be limited to the PA and reversible (see Section 10.6.6).

Following implementation of Project design features and mitigation measures, no direct residual effects to community well-being, as indicated by the cost of goods and services in LSFN, are anticipated, as residents primarily access essential goods either on reserve or through regional hub centers such as Kenora. Indirect residual effects may occur due to changes to the traditional economy. Restrictions to land access or perceived environmental risks may lead to decreased participation in traditional harvesting activities. This could increase household expenditure on store-bought food or reduce supplemental income from activities such as fur trading or craft production. The effects are expected to be medium term and reversible (see Section 10.8.6).

Community well-being, as indicated by population growth linked to Project development, may worsen existing barriers to accessing health, social, and education services in the region (RSA). For LSFN, no direct effect is anticipated on community-based services and infrastructure. Indirect residual effects may occur due to some community members reliance on regional specialized services located in regional centres such as Sioux Lookout, Dryden or Thunder Bay. For LSFN members community well-being associated with Project economic opportunities may support household income stability, debt reduction, and access to improved quality of life. However, given the community's geographic distance from the Project, access to employment may require relocation or extended time away from home, which can limit participation for individuals with caregiving responsibilities or other barriers. Planned mitigation and monitoring measures are expected to effectively reduce risks to cost of living and traditional economic stability.

The residual effects have been characterized as not significant and are anticipated to be:

- Change in availability, access to, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping; Section 10.6.6.1.1):
    - Availability (quantity of traditionally hunted and trapped wildlife species available)
    - Access (to locations and areas for hunting and trapping)
- Quality of experience, change in availability, access to, and quality of experience related to traditional plant harvesting (food and medicinal purposes; Section 10.6.6.1.2):
    - Availability (quantity of traditionally gathered plant species available)
    - Access (to locations for plant gathering and picking)
- Quality of experience, change in availability, access to, and quality of experience related to traditional habitation, cultural, and spiritual sites and areas (Section 10.7.6.1.3):
    - Quality of experience (detectable changes to sensory conditions at traditional habitation, cultural, or spiritual sites and areas currently used)
- Change in Indigenous physical or cultural heritage (Section 10.7.6.1):
    - Alteration or destruction of sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites
    - Change in access to or experience with sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites
    - Change in sacred, ceremonial, spiritual and cultural values (including language, stories and traditions) associated with sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites

- Change in community well-being (Section 10.8.6.1) as indicated by:
  - Change is cost of living and traditional economy,
  - Change in access to services (health, social, and education services)
  - Change in economic opportunity and inequality,
  - Alterations to access to traditional land and natural resources.

Residual effects for health after mitigation have been identified as detailed in Section 10.9. Anticipated residual effects are through pathways associated with changes in:

- Biophysical determinants of health (linked to changes in air quality, multi-media environmental quality, access and availability of water, access and availability of traditional foods, and sensory disturbances) or
- Social determinants of health (linked to changes in economics, housing, access to health and social services, food security, mental wellness and personal behaviours, actual and perceived public safety, and safety of Indigenous women and girls).

Overall, adverse residual effects to health were characterized as not significant following application of mitigation.

There are no residual effects to community services and infrastructure for LSFN. The communities of LSFN are approximately 200 km by road away from the PA. Existing conditions are expected to remain unchanged, and Project activities will not place additional demand on, or otherwise affect, community services and infrastructure within the LSFN on-reserve communities. Community members seeking specialized services off reserve access them in Kenora or Dryden, which is not anticipated to be impacted by the Project.

15.9.1.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on the fVC Indigenous Peoples related to the Project. Existing and foreseeable, projects and activities with effects that may overlap temporally or spatially with the Project are outlined at the beginning of Section 15.9.

Mineral exploration and forestry were identified for further consideration and have been considered in relation to the LSA and RSA used for community services and infrastructure, and community well-being (Figure 10.5-1 and Figure 10.8-1), as well as the LSA and RSA used for CULRTP and Indigenous physical or cultural heritage (Figure 10.6-1 and Figure 10.7-1).

Residual effects to availability, access to and quality of experience related to terrestrial wildlife harvest may act cumulatively with future forestry activities. Forestry activities managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU are anticipated to occur concurrently with the Project, including some approved harvest blocks within the PA, LSA and RSA. There is potential for cumulative interaction with LSFN. Residual effects to CULRTP will not extend beyond the LSA, therefore there is no potential for cumulative interaction in the RSA. The effects assessment assumed the PA would be fully cleared, therefore, effects in the PA are considered in the residual effects and no cumulative interaction is anticipated. Physical disturbance and sensory effects of forestry may result in changes to wildlife movement resulting in changes to species availability. These same effects may influence LSFN members to change their use of the area. Residual effects from the Project to CULRTP are limited to the LSA and

are reversible after Project closure. Only forestry activities that overlap spatially with the LSA and temporally with the Project have the potential to interact cumulatively.

The only residual effects identified as having geographic extent in the RSA are change in access to services (health, social and education services) and economic opportunity and inequality. These Project residual effects are not anticipated to interact cumulatively with future forestry activities, as the forestry industry is already operating in the RSA, and therefore, effects would have been considered in the baseline conditions.

Future mineral exploration may occur in the LSA and RSA and may occur concurrently with the Project. If known exploration projects (i.e., Goliath Complex Project and Root Project) advance into operation there may be a cumulative effect to community well-being at the regional level. There are no development plans or identified timelines for either project to advance beyond exploration, therefore, no cumulative effect is anticipated. Existing mines, including Red Lake Gold Mine and Madsen Mine, are not considered further as they are considered in baseline conditions.

Residual effects to community well-being may interact cumulatively with activities in the LSA and RSA that affect cost of living, access to services in the region, and access to land and resources. Forestry and mining are already industries active in the area, therefore, it is not anticipated that there will be cumulative effects to cost of living and access to services in the region to interact cumulatively with Project residual effects.

The residual effects of the Project on health are regional in nature. Residual effects to health may interact cumulatively with existing and foreseeable future, projects and physical activities in the LSA and RSA, that affect the biophysical and social determinants of health, and the upstream conditions that influence health, if they overlap temporally and spatially with the Project. Existing projects and activities are already incorporated into the baseline for the health assessment utilized in the Human Health and Ecological Risk Assessment (HHERA) and Health Impact Assessment (HIA). Foreseeable future project and physical activities that may materially overlap with biophysical determinants of health or social determinants of health include forestry timber cutting operations (Section 15.5; Table 15.5-4).

Future timber harvesting within the LSA and RSA could affect biophysical determinants of health; however, the effect of future timber harvesting programs are not expected to overlap spatially with the effects of the Project on biophysical determinants of health, although they may overlap temporally. For biophysical determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

Foreseeable future projects and physical activities that may materially overlap with social determinants of health include: ongoing harvesting activities in the region; and Projects within community and First Nation Reserve boundaries (Section 15.5; Table 15.5-5).

Ongoing harvesting and the foreseeable projects or activities within the listed community boundaries in Table 15.5-5 may spatially and temporally overlap with the effects of the Project on health, via changes to upstream conditions that influence health indirectly. For social determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

Overall, the Project's residual effects after mitigation to health are not predicted to overlap spatially and temporally with existing and foreseeable future, projects and physical activities, in a manner that would result in material cumulative effects.

15.9.1.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 10 (Sections 10.5.4, 10.6.4, 10.7.4 and 10.8.4) for LSFN are predicted to reduce and mitigate the Project's effects as well as the Project's cumulative contribution to the effects. Potential effects are considered to be mitigated to the extent practicable based on currently available information; therefore, no additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on LSFN.

15.9.1.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.9.1.2, the Project's residual effects after mitigation may overlap spatially and temporally in the LSA in a manner that could result in cumulative effects on CULRTP. The Project's residual effects to other Indigenous Peoples areas are not predicted to overlap spatially and temporally with identified existing and foreseeable, future projects and physical activities.

The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6. The predicted cumulative effects to CULRTP are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I
- Duration: Level II
- Frequency: Level II
- Reversibility: Level I
- Timing: Level I.

As a result, the predicted cumulative effects to CULRTP for LSFN from the Project are not significant.

As indicated in Section 15.9.1.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects to health. The predicted cumulative effects to health are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level II
- Duration: Level II
- Frequency: Level II
- Reversibility: Level II
- Timing: Level I.

As a result, the predicted cumulative effects to health for LSFN from the Project are not significant.

15.9.1.5 Cumulative Effects on Interests of LSFN and Impact to the Exercise or Practice of Rights

Great Bear Resources have funded an independent Anishinaabe-Led Impact Assessment (ALIA) that is a joint undertaking between LSFN and WFN. As discussed with LSFN and WFN on November 5, 2025, Great Bear Resources is of the understanding that the ALIA addresses rights-based concerns for LSFN, including cumulative effects.

The ALIA is guided by Anishinaabe law, ensuring that the assessment reflects community priorities, lived experience, and Indigenous governance. An additional key undertaking is the Shared Spirits water monitoring program, a partnership between WFN and LSFN. This initiative brings together science and Anishinaabe knowledge to monitor long-term changes in water quality, aquatic ecosystems, and toxicity risks across the traditional territory.

15.9.2 WFN

15.9.2.1 Summary of Residual Effects

The assessment of potential cumulative effects to WFN considered the following criteria for all Project phases:

- Community services and infrastructure (Section 11.5)
- CULTRP (Section 11.6)
- Indigenous physical or cultural heritage (Section 11.7)
- Community well-being (Section 11.8)
- Health (Section 11.9).

The WFN identified CULTRP and Indigenous physical or cultural heritage in the LSA and RSA, but not within the PA. Access in the LSA outside of the PA, will not be directly affected, but quality of experience may still be indirectly affected by Project activities at sites and areas immediately adjacent to the PA. These potential effects are anticipated to occur during the Project, primarily due to sensory disturbance that could alter wildlife behavior or use by WFN of the area immediately adjacent to the PA. The effects are expected to be reversed after closure of the Project (Section 11.6.6).

Following implementation of Project design features and mitigation measures, no direct residual effects to community well-being, as indicated by the cost of goods and services in WFN, are anticipated, as residents primarily access essential goods either on reserve or through regional hub centers such as Kenora. However, indirect residual effects may occur due to changes to the traditional economy. Restrictions to land access or perceived environmental risks may lead to decreased participation in traditional harvesting activities. This could increase household expenditure on store-bought food or reduce supplemental income from activities such as fur trading or craft production. The effects are reversed at closure of the Project (Section 11.8.6).

Community well-being as indicated by population growth linked to Project development may worsen existing barriers to accessing health, social, and education services in the region. For WFN, no direct effect is anticipated on community-based services and infrastructure. Indirect residual effects may occur due to some community members reliance on regional specialized services located in regional centres in the LSA, such as Red Lake and Ear Falls. For WFN members community well-being associated with Project economic opportunities may support

household income stability, debt reduction, and access to improved quality of life. Given the community's geographic distance from the Project site, access to employment may require relocation or extended time away from home, which can limit participation for individuals with caregiving responsibilities or other barriers. Planned mitigation and monitoring measures are expected to effectively reduce risks to cost of living and traditional economic stability.

The residual effects have been characterized as not significant, and are anticipated to be:

- Change in availability, access to, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping; Section 11.6.6.1.1):
  - Availability (quantity of traditionally hunted and trapped wildlife species available)
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)
- Change in availability, access to, and quality of experience related to traditional plant harvesting (food and medicinal purposes; Section 11.6.6.1.2):
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)
- Change in availability, access to, and quality of experience related to traditional habitation, cultural, and spiritual sites and areas (Section 11.7.6.1.3):
  - Quality of experience (detectable changes to sensory conditions at traditional habitation, cultural, or spiritual sites and areas currently used)
- Change in Indigenous physical or cultural heritage (Section 11.7.6.1):
  - Change in access to or quality of experience with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
  - Changes in sacred, ceremonial, spiritual, and cultural values (including language, stories, and traditions) associated with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
- Change in community well-being (Section 11.8.6.1) as indicated by:
  - Change to cost of living and traditional economy
  - Change in access to services (health, social, and education services)
  - Change in Economic opportunity and inequality
  - Alterations to access to traditional land and natural resources.

Residual effects for health after mitigation have been identified as detailed in Section 11.9. Anticipated residual effects are through pathways associated with changes in:

- Biophysical determinants of health (linked to changes in air quality, multi-media environmental quality, access and availability of water, access and availability of traditional foods, and sensory disturbances) or
- Social determinants of health (linked to changes in economics, housing, access to health and social services, food security, mental wellness and community cohesion, actual and perceived public safety, and safety of Indigenous women and girls).

Overall, adverse residual effects to health were characterized as not significant following application of mitigation.

There are no residual effects to community services and infrastructure for WFN. Existing conditions are expected to remain unchanged, and Project activities will not place additional demand on, or otherwise affect, community services and infrastructure within WFN on-reserve community.

15.9.2.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to determine whether there is potential for cumulative effects on the fVC Indigenous Peoples related to the Project. Existing and foreseeable projects and activities with effects that may overlap temporally or spatially with the Project are outlined at the beginning of Section 15.9.

Mineral exploration and forestry were identified for further consideration and have been considered in relation to the LSA and RSA used for community services and infrastructure, and community well-being (Figure 11.5-1 and Figure 11.8-1), as well as the LSA and RSA used for CULRTP and Indigenous physical or cultural heritage (Figure 11.6-1 and Figure 11.7-1).

Residual effects to availability and quality of experience related to terrestrial wildlife harvest may act cumulatively with future forestry activities. Forestry activities managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU are anticipated to occur concurrently with the Project. Residual effects to CULRTP will not extend beyond the LSA, therefore there is no potential for cumulative interaction in the RSA. The effects assessment assumed the PA would be fully cleared, therefore, effects in the PA are considered in the residual effects and no cumulative interaction is anticipated. Physical disturbance and sensory effects of forestry may result in changes to wildlife movement resulting in changes to species availability. These same effects may influence WFN members to change their use of the area directly adjacent to the PA. Residual effects from the Project to CULRTP are limited to the LSA and are reversible. Only forestry activities that overlap spatially with the LSA and temporally with the Project have the potential to interact cumulatively.

The only residual effects identified as having geographic extent in the RSA are change in access to services (health, social and education services) and economic opportunity and inequality. These Project residual effects are not anticipated to interact cumulatively with future forestry activities as the forestry industry is already operating in the RSA, and therefore effects would have been considered in the baseline conditions.

Future mineral exploration may occur in the LSA and RSA and may occur concurrently with the Project. If known exploration projects (i.e., Goliath Complex Project and Root Project) advance into operation there may be a cumulative effect to community well-being at the regional level. There are no development plans or identified timelines for either project to advance beyond exploration, therefore, no cumulative effect can be assessed. Existing mines, including Red Lake Gold Mine and Madsen Mine, are not considered further as they are considered in baseline conditions.

Residual effects to community well-being may interact cumulatively with activities in the LSA and RSA that affect cost of living, access to services in the region, community cohesion, and access to land and resources. Forestry and mining are already industries active in the area,

therefore, it is not anticipated that there will be additional effects to cost of living and access to services in the region to interact cumulatively with Project residual effects.

The residual effects of the Project on health are regional in nature. Residual effects to health may interact cumulatively with existing and foreseeable future, projects and physical activities in the LSA and RSA, that affect the biophysical and social determinants of health, and the upstream conditions that influence health, if they overlap temporally and spatially with the Project. Existing projects and activities are already incorporated into the baseline for the health assessment utilized in the HHERA (Appendix N-1) and HIA (Appendix N-2). Foreseeable future project and physical activities that may materially overlap with biophysical determinants of health or social determinants of health include: forestry timber cutting operations (Section 15.5; Table 15.5-4).

Future timber harvesting within the LSA and RSA could affect biophysical determinants of health; however, the effect of future timber harvesting programs are not expected to overlap spatially with the effects of the Project on biophysical determinants of health, although they may overlap temporally. For biophysical determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

Foreseeable future project and physical activities that may materially overlap with social determinants of health include: ongoing harvesting activities in the region; Projects within community and First Nation Reserve boundaries (Section 15.5; Table 15.5-5).

Ongoing harvesting and the foreseeable projects or activities within the listed community boundaries in Table 15.5-5 may spatially and temporally overlap with the effects of the Project on health, via changes to upstream conditions that influence health indirectly. For social determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

15.9.2.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 11 for WFN are predicted to reduce and mitigate the Project's effects as well as the Project's cumulative contribution to the effects. Potential effects are considered to be mitigated to the extent practicable based on currently available information therefore, no additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on WFN.

15.9.2.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.9.2.2, the Project's residual effects after mitigation may overlap spatially or temporally in the LSA in a manner that would result in cumulative effects only on CULRTP.

The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6. The predicted cumulative effects to CULRTP are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I

- Duration: Level II
- Frequency: Level II
- Reversibility: Level I
- Timing: Level I.

As a result, the predicted cumulative effects to CULRTP for WFN from the Project are not significant.

As indicated in Section 15.9.2.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects to health. The predicted cumulative effects to health are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level II
- Duration: Level II
- Frequency: Level II
- Reversibility: Level II
- Timing: Level I.

As a result, the predicted cumulative effects to health for WFN from the Project are not significant.

15.9.2.5 Cumulative Effects on Interests of WFN and Impact to the Exercise or Practice of Rights

Great Bear Resources have funded an independent ALIA that is a joint undertaking between LSFN and WFN. As discussed with LSFN and WFN on November 5, 2025, Great Bear Resources is of the understanding that the ALIA addresses rights-based concerns for LSFN, including cumulative effects.

The ALIA is guided by Anishinaabe law, ensuring that the assessment reflects community priorities, lived experience, and Indigenous governance. An additional key undertaking is the Shared Spirits water monitoring program, a partnership between WFN and LSFN. This initiative brings together science and Anishinaabe knowledge to monitor long-term changes in water quality, aquatic ecosystems, and toxicity risks across the traditional territory.

15.9.3 ANA

15.9.3.1 Summary of Residual Effects

The assessment of potential cumulative effects to ANA considered the following criteria for all Project phases:

- Community services and infrastructure (Section 12.5)
- CULTRP (Section 12.6)
- Indigenous physical or cultural heritage (Section 12.7)

- Community well-being (Section 12.8)
- Health (Section 12.9).

ANA claims its members exercise their Rights through hunting and trapping in the LSA, but not within the PA. As expressed in Section 12.6.6, potential effects on the availability of hunted and trapped species and quality of experience are expected to be confined to the LSA in areas immediately adjacent to the PA. These potential effects may occur, primarily due to sensory disturbances from the Project that could alter wildlife behavior near the PA. The effects are expected to be reversed after Project closure. Habitat for all species remains available in the LSA and RSA, and Project activities are not anticipated to jeopardize furbearer populations (Section 12.6.6).

Following implementation of Project design features and mitigation measures, no direct residual effects to community well-being, as indicated by the cost of goods and services in ANA, are anticipated, as residents primarily access essential goods either on reserve or through regional hub centers such as Kenora. Indirect residual effects may occur due to changes to the traditional economy. Changes in experience or perceived environmental risks may lead to decreased participation in traditional harvesting activities. This could increase household expenditure on store-bought food or reduce supplemental income from activities such as fur trading or craft production. The effects are expected to be reversed after Project closure (Section 12.8.6).

Community well-being as indicated by population growth linked to Project development may contribute to longer wait times or added pressure on regional systems. These effects, while indirect, may compound existing inequities in access and negatively affect individual and community well-being. These indirect effects may manifest as renewed concerns, or increased need for culturally-appropriate mental health supports. As there are no direct effects, the residual effect has been characterized as low in magnitude. This also reflects the limited scale and reversibility of potential changes.

Although no direct Project activities are proposed within the ANA reserve boundary, the boundaries of their Treaty 3 territory, especially around the Chukuni River, overlap the Project, and changes to the land and resources have the potential to indirectly affect community well-being (community cohesion). Given the community's long-standing experience of environmental harm, and mistrust of government and industrial sectors, community members may be more sensitive to indirect effects and changes. Great Bear Resources are confident in the mitigation measures identified for the Project; however, there is acknowledgement that the technical mitigations may not address the emotional, and spiritual connection to the Chukuni River or the effects of environmental grief linked to the historical mercury contamination of the English River - Wabigoon River system.

The residual effects have been characterized as not significant, and are anticipated to be:

- Change in availability, access to, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping; Section 12.6.6.1.1):
    - Availability (quantity of traditionally hunted and trapped wildlife species available)
    - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)

- Change in availability, access to, and quality of experience related to traditional habitation, cultural, and spiritual sites and areas (Section 12.7.6.1.2):
    - Quality of experience (detectable changes to sensory conditions at traditional habitation, cultural, or spiritual sites and areas currently used)
- Change in physical and cultural heritage (Section 12.7.6.1) by:
    - Change in access to or quality of experience with sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites
    - Change in sacred, ceremonial, spiritual and cultural values (including language, stories and traditions) associated with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
- Change in community well-being (Section 12.8.6.1) as indicated by:
    - Change to cost of living and traditional economy
    - Change in access to services (health, social and education services)
    - Change to community identity and community cohesion
    - Alterations to access to traditional land and natural resources.

Residual effects for health after mitigation have been identified as detailed in Section 12.9. Anticipated residual effects are through pathways associated with changes in:

- Biophysical determinants of health (linked to changes in air quality, multi-media environmental quality, access and availability of water, access and availability of traditional foods, and sensory disturbances) or
- Social determinants of health (linked to changes in economics, housing, access to health and social services, food security, mental wellness and community cohesion, actual and perceived public safety, and safety of Indigenous women and girls).

Overall, adverse residual effects to health were characterized as not significant following application of mitigation.

There are no residual effects to community services and infrastructure for ANA as the community is approximately 200 km away by road from the PA. Existing conditions are expected to remain unchanged, and Project activities will not place additional demand on, or otherwise affect, community services and infrastructure within ANA on-reserve community.

15.9.3.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on the fVC Indigenous Peoples related to the Project. Existing and foreseeable projects and activities with effects that may overlap temporally or spatially with the Project are outlined at the beginning of Section 15.9.

Mineral exploration and forestry were identified for further consideration and have been considered in relation to the LSA and RSA used for community services and infrastructure and community well-being (Figure 12.5-1 and Figure 12.8-1); as well as the LSA and RSA used for CULRTP and Indigenous physical or cultural heritage (Figure 12.6-6 and Figure 12.7-1).

Residual effects to availability and quality of experience related to terrestrial wildlife harvest may act cumulatively with future forestry activities. Forestry activities managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU are anticipated to occur concurrently with the Project. Residual effects to CULRTP will not extend beyond the LSA, therefore there is no potential for cumulative interaction in the RSA. The effects assessment assumed the PA would be fully cleared, therefore effects in the PA are considered in the residual effects and no cumulative interaction is anticipated. Physical disturbance and sensory effects of forestry may result in changes to wildlife movement resulting in changes to species availability. These same effects may influence ANA members to change their use of the area. Residual effects from the Project to CULRTP are limited to the LSA and are reversible after Project closure. Only forestry activities that overlap spatially with the LSA and temporally with the Project have the potential to interact cumulatively.

The only residual effects identified as having geographic extent in the RSA are change in access to services (health, social and education services), and economic opportunity and inequality. These Project residual effects are not anticipated to interact cumulatively with future forestry activities as the forestry industry is already operating in the RSA, and therefore effects would have been considered in the baseline conditions.

Future mineral exploration may occur in the LSA and RSA and may occur concurrently with the Project. If known exploration projects (i.e., Goliath Complex Project and Root Project) advance into operation there may be a cumulative effect to community well-being at the regional level. There are no development plans or identified timelines for either project to advance beyond exploration, therefore, no cumulative effect is anticipated. Existing mines, including Red Lake Gold Mine and Madsen Mine, are not considered further as they are considered in baseline conditions.

Residual effects to community-well-being may interact cumulatively with activities in the LSA and RSA that affect cost of living, access to services in the region, community cohesion, and access to land and resources. Forestry and mining are already industries active in the area, therefore, it is not anticipated that there will be cumulative effects to cost of living and access to services in the region to interact cumulatively with Project residual effects.

Future activities have the potential to effect community cohesion, and access to land and resources which may overlap temporally with the Project. Forestry activities have the potential to overlap spatially with the LSA. Mineral exploration activities are not anticipated to overlap spatially with the LSA but may overlap with the RSA. This may interact cumulatively with Project residual effects to contribute to perceived changes in environmental quality or safety. These perceptions may influence how some community members choose to engage in land-based practices, even in the absence of direct physical disturbance.

The residual effects of the Project on health are regional in nature. Residual effects to health may interact cumulatively with existing and foreseeable future, projects and physical activities in the LSA and RSA, that affect the biophysical and social determinants of health, and the upstream conditions that influence health, if they overlap temporally and spatially with the Project. Existing projects and activities are already incorporated into the baseline for the health assessment utilized in the HHERA (Appendix N-1) and HIA (Appendix N-2). Foreseeable future project and physical activities that may materially overlap with biophysical determinants of health or social determinants of health include forestry timber cutting operations (Section 15.5; Table 15.5-4).

Future timber harvesting within the LSA and RSA could affect biophysical determinants of health; however, the effect of future timber harvesting programs are not expected to overlap spatially with the effects of the Project on biophysical determinants of health, although they may overlap temporally. For biophysical determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects. Foreseeable future project and physical activities that may materially overlap with social determinants of health include: ongoing harvesting activities in the region, Projects within community and First Nation Reserve boundaries (Section 15.5; Table 15.5-5).

Ongoing harvesting and any of the foreseeable projects or activities within the listed community boundaries in Table 15.5-5 may spatially and temporally overlap with the effects of the Project on health, via changes to upstream conditions that influence health indirectly. For social determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

15.9.3.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 12 for ANA are predicted to reduce and mitigate the Project's effects as well as the Project's cumulative contribution to the effects. Potential effects are considered to be mitigated to the extent practicable based on currently available information therefore, no additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on ANA.

15.9.3.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.9.3.2, the Project's residual effects after mitigation may overlap spatially or temporally with identified existing and foreseeable future projects and physical activities in a manner that could result in cumulative effects to ANA for CULRTP and community well-being. The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6.

The predicted cumulative effects to CULRTP are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I
- Duration: Level II
- Frequency: Level I
- Reversibility: Level I
- Timing: Level I.

The predicted residual cumulative effects to CULRTP for ANA from the Project are not significant.

The predicted cumulative effects to community well-being (cultural cohesion) are:

- Ecological and social context: Level I
- Magnitude: Level I

- Geographic extent: Level I
- Duration: Level II
- Frequency: Level II
- Reversibility: Level I
- Timing: Level I

The predicted residual cumulative effects to community well-being (cultural cohesion) for ANA from the Project are not significant.

As indicated in Section 15.9.3.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects to health. The predicted cumulative effects to health are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level II
- Duration: Level II
- Frequency: Level II
- Reversibility: Level II
- Timing: Level I.

As a result, the predicted cumulative effects to health for ANA from the Project are not significant.

15.9.3.5 Cumulative Effects on Interests of ANA and Impact to the Exercise or Practice of Rights

The residual effects that may impact ANA's ability to exercise or practice rights were identified in Section 12.10 as:

- Change in availability, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping)
- Change in quality of experience related to traditional habitation, cultural, and spiritual sites and areas
- Change in community well-being
- Change in health.

Through the assessment completed in Section 12.10, it is anticipated that residual effects linked to the exercise of Rights are limited to the LSA and associated with sensory disturbance in areas immediately adjacent to the PA. No critical habitat for traditional use has been identified in the PA nor are negative effects on access in the LSA expected. The exercise of Rights and quality of experience in the LSA may require an increase in effort necessary for traditional terrestrial wildlife harvesting but not reduce the ability to practice these traditional activities nor are they eliminated. It is acknowledged however, that the Project may contribute to ongoing avoidance of traditional land use areas, reduced opportunities for land-based healing and

cultural continuity, and diminished transmission of knowledge. Downstream residual effects associated with avoidance of traditional foods due to perception issues may affect some individuals; however, measurable Project-related changes in environmental exposures and / or social determinants of health are unlikely to result in an adverse change in population-level health status of local Indigenous people.

The assessment (Section 12.10.3) concluded the impact on the exercise or practice of Aboriginal and Treaty Rights for ANA at the population-level is considered to be low severity and that proposed mitigation measures allow for the exercise or practice of rights to continue in the same or similar manner.

Change in community well-being is the only residual effect identified as having the potential to interact cumulatively with future projects and activities (Section 15.9.3.2). The cumulative effects assessment (Section 15.9.3.4) concluded the Project's residual effects after mitigation may overlap spatially and temporally with identified existing and foreseeable future projects and physical activities in a manner that could result in cumulative effects to ANA. These predicted residual cumulative effects to community well-being (cultural cohesion) for ANA from the Project are not significant. There is no cumulative effect to the exercise or practice of rights anticipated and the exercise of rights are anticipated to continue in the same or similar manner. The impact on the exercise or practice of Aboriginal and Treaty Rights for ANA at the population-level is considered to be low severity.

Given the community's long-standing experience of environmental harm and mistrust of government and industrial sectors, it is acknowledged that the Project may indirectly contribute to ongoing avoidance of traditional land use areas adjacent to the PA, reducing opportunities for land-based healing and cultural continuity, and transmission of knowledge.

15.9.4 NWOMC

15.9.4.1 Summary of Residual Effects

The assessment of effects to NWOMC considered the following criteria for all Project phases:

- Community services and infrastructure (Section 13.5)
- CULTRP (Section 13.6)
- Indigenous physical or cultural heritage (Section 13.7)
- Community well-being (Section 13.8)
- Health (Section 13.9).

The NWOMC identified CULRTP (hunting and trapping), which NWOMC views as an exercise of their harvesting rights, in the LSA and RSA, but not within the PA. Access in the LSA, outside of the PA, will not be directly affected, but quality of experience may still be indirectly affected by Project activities at sites and areas immediately adjacent to the PA. These potential effects are anticipated to occur during the Project, primarily due to sensory disturbance that could alter wildlife behavior or use of the area by NWOMC. The effects are expected to be reversed after closure of the Project.

NWOMC note the importance of intergenerational knowledge sharing activities associated with traditional terrestrial harvesting activities, including hunting and trapping, and that changes to availability and quality of experience may affect knowledge sharing activities. Project related

changes are not however, anticipated to be sufficient to alter intergenerational knowledge transfer following the implementation of mitigation measures (Section 13.6.6).

Access and availability of traditional habitation NWOMC sites will not be directly or indirectly affected by the Project, as they are outside of the PA (3 to 5 km). It is anticipated that NWOMC members visiting traditional habitation sites in the LSA may be indirectly affected by changes in the quality of experience due to potential sensory disturbances and change to viewscapes. The residual effect to experience at the NWOMC temporary habitation sites, is expected be experienced intermittently and will recover during Project phases.

The residual effect to opportunities for intergenerational knowledge transfer, cultural continuity and land-based wellness practices is expected to occur intermittently over the Project and is expected to recover after the Project.

Following implementation of Project design features and mitigation measures, no direct residual effects to community well-being as indicated by the cost of goods and services in NWOMC, are anticipated. Indirect residual effects may occur due to changes to the traditional economy. Restrictions to land access or perceived environmental risks may lead to decreased participation in traditional harvesting activities. This could increase household expenditure on store-bought food or reduce supplemental income from activities such as fur trading or craft production. The effects are expected to be reversible after the Project (Section 13.8.6).

Community well-being as indicated by population growth linked to Project development may worsen existing barriers to accessing health, social, and education services in the region. At Project closure, the loss of direct and indirect employment opportunities could result in income instability and reduced community-level spending. Planned mitigation and monitoring measures are expected to effectively reduce risks to cost of living and traditional economic stability.

The residual effects have been characterized as not significant and are anticipated to be:

- Community services and infrastructure (Section 13.5.6):
  - Change in municipal, provincial, and non-profit service delivery capacity
- Change in availability, access to, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping; Section 13.6.6.1.1):
  - Availability (quantity of traditionally hunted and trapped wildlife species available)
  - Access (to locations and areas for hunting and trapping)
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)
- Change in availability, access to, and quality of experience related to traditional plant harvesting (food and medicinal purposes; Section 13.6.6.1.2):
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)

- Change in availability, access to, and quality of experience related to traditional habitation, cultural, and spiritual sites and areas (Section 13.7.6.1):
    - Quality of experience (detectable changes to sensory conditions at traditional habitation, cultural, or spiritual sites and areas currently used)
- Change in Indigenous physical or cultural heritage (Section 13.7.6.1) by:
    - Alteration or destruction of sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
    - Change in access to or experience with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
    - Change in sacred, ceremonial, spiritual and cultural values (including language, stories and traditions) associated with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
- Change in community well-being (Section 13.8.6.1) as indicated by:
    - Change to cost of living and traditional economy
    - Change in access to services (health, social and education services)
    - Change in economic opportunity and inequality
    - Alterations to access to traditional land and natural resources.

Residual effects for health after mitigation have been identified as detailed in Section 13.9. Anticipated residual effects are through pathways associated with changes in:

- Biophysical determinants of health (linked to changes in air quality, multi-media environmental quality, access and availability of water, access and availability of traditional foods, and sensory disturbances) or
- Social determinants of health (linked to changes in economics, housing, access to health and social services, food security, mental wellness and community cohesion, actual and perceived public safety, and safety of Indigenous women and girls).

Overall, adverse residual effects to health were characterized as not significant following application of mitigation.

15.9.4.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on the fVC Indigenous Peoples related to the Project. Existing and foreseeable projects and activities with effects that may overlap temporally or spatially with the Project are outlined at the beginning of Section 15.9.

Mineral exploration and forestry were identified for further consideration and have been considered in relation to the LSA and RSA used for community services and infrastructure, and community well-being (Figure 13.5-1 and Figure 13.8-1) as well as the LSA and RSA used for CULRTP, and Indigenous physical or cultural heritage (Figure 13.6-1 and Figure 13.7-1).

Residual effects to availability, access to and quality of experience related to terrestrial wildlife harvest and are connected to the exercise and practice of Rights may act cumulatively with future forestry activities. Forestry activities managed through the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU are anticipated to occur concurrently with the Project. Residual effects to CULRTP will not extend beyond the LSA, therefore there is no potential for cumulative interaction in the RSA. The effects assessment assumes the PA will be fully cleared, therefore, effects in the PA are considered in the residual effects and no cumulative interaction is anticipated. Physical disturbance and sensory effects of forestry may result in changes to wildlife movement resulting in changes to species availability. These same effects may influence NWOMC members to change their use of the LSA. Residual effects from the Project to CULRTP are limited to the LSA and are reversible. Only forestry activities that overlap spatially with the LSA and temporally with the Project have the potential to interact cumulatively.

The only residual effects identified as having geographic extent in the RSA are change in access to services (health, social and education services), and economic opportunity and inequality. These Project residual effects are not anticipated to interact cumulatively with future forestry activities as the forestry industry is already operating in the RSA, and therefore effects would have been considered in the baseline conditions.

Future mineral exploration may occur in the study areas and may occur concurrently with the Project. If known exploration projects (i.e., Goliath Complex Project and Root Project) advance into operation there may be a cumulative effect to community well-being at the regional level. There are no development plans or identified timelines for either project to advance beyond exploration, therefore no cumulative effect is anticipated. Existing mines, including Red Lake Gold Mine and Madsen Mine are not considered further, as they are considered in baseline conditions.

Residual effects to community-well-being may interact cumulatively with activities in the LSA and RSA that affect cost of living, access to services in the region, and access to land and resources. Forestry and mining are already industries active in the area, therefore it is not anticipated that there will be effects to cost of living and access to services in the region to interact cumulatively with Project residual effects.

The residual effects of the Project on health are regional in nature. Residual effects to health may interact cumulatively with existing and foreseeable future, projects and physical activities in the LSA and RSA, that affect the biophysical and social determinants of health, and the upstream conditions that influence health, if they overlap temporally and spatially with the Project. Existing projects and activities are already incorporated into the baseline for the health assessment utilized in the HHERA (Appendix N-1) and HIA (Appendix N-2). Foreseeable future project and physical activities that may materially overlap with biophysical determinants of health or social determinants of health include: forestry timber cutting operations (Section 15.5; Table 15.5-4).

Future timber harvesting within the LSA and RSA could affect biophysical determinants of health; however, the effect of future timber harvesting programs are not expected to overlap spatially with the effects of the Project on biophysical determinants of health, although they may overlap temporally. For biophysical determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

Foreseeable future project and physical activities that may materially overlap with social determinants of health include: ongoing harvesting activities in the region; and Projects within community and First Nation Reserve boundaries (Section 15.5; Table 15.5-5).

Ongoing harvesting and any of the foreseeable projects or activities within the listed community boundaries in Table 15.5-5 may spatially and temporally overlap with the effects of the Project on health, via changes to upstream conditions that influence health indirectly. For social determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

15.9.4.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 13 for NWOMC are predicted to reduce and mitigate the Project's effects as well as the Project's cumulative contribution to the effects. Therefore, no additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on NWOMC and no residual cumulative effects are required to be characterized.

15.9.4.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.9.4.2, the Project's residual effects after mitigation may overlap spatially and temporally in the LSA in a manner that would only result in cumulative effects on CULRTP. The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6. The predicted cumulative effects to CULRTP are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I
- Duration: Level II
- Frequency: Level II
- Reversibility: Level I
- Timing: Level I.

As a result, the predicted cumulative effects to NWOMC from the Project are not significant.

As indicated in Section 15.9.4.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects to health. The predicted cumulative effects to health are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level II
- Duration: Level II
- Frequency: Level II
- Reversibility: Level II
- Timing: Level I.

As a result, the predicted cumulative effects to health for NWOMC from the Project are not significant.

15.9.4.5 Cumulative Effects on Interests of NWOMC and Impact to the Exercise or Practice of Rights

Through the assessment completed in Section 13.10, it is anticipated that residual effects linked to the exercise of Rights are limited to the LSA and associated with sensory disturbance in areas immediately adjacent to the PA. No critical habitat for traditional use has been identified in the PA nor are negative effects on access in the LSA expected. Project related effects on areas of preferred use are also not expected.

Negative residual effects associated with sensory disturbance do not extend beyond the medium term, are not expected within areas of preferred or exclusive use, and are expected to recover during Project phases. Sub-groups are resilient enough to sustain effects and maintain exercise of rights. Downstream residual effects associated with avoidance of traditional foods due to perception issues may affect some individuals; however, measurable Project-related changes in environmental exposures and / or social determinants of health are unlikely to result in an adverse change in population-level health status of local Indigenous people.

The assessment (Section 13.10.3) concluded the impact on the exercise or practice of Aboriginal and Treaty Rights for NWOMC at the population-level is considered to be low severity and that proposed mitigation measures allow for the exercise or practice of rights to continue in the same or similar manner.

As there are no cumulative effects to NWOMC (Section 15.9.4.4), there is no cumulative effect to the exercise of Rights anticipated and the exercise of rights are anticipated to continue in the same or similar manner.

15.9.5 Indigenous Peoples Living in Red Lake and Ear Falls

15.9.5.1 Summary of Residual Effects

The assessment of effects to Indigenous peoples living in Red Lake and Ear Falls considered the following criteria for all Project phases:

- Community services and infrastructure (Section 14.5)
- CULTRP (Section 14.6)
- Indigenous physical or cultural heritage (Section 14.7)
- Community well-being (Section 14.8)
- Health (Section 14.9).

Based on 2021 Census data, self-identified Indigenous people represent approximately 24% of the population in Red Lake and 19% in Ear Falls. Project-related workforce changes during construction and early operations may result in additional demand for local social services, childcare, daycare, and healthcare services in Red Lake and Ear Falls area. While mitigation measures such as hiring initiatives, on-site programs, community partnerships, and coordination with Indigenous service providers are expected to reduce potential effects, broader systemic limitations related to staffing, service capacity and funding persist. These pressures may be particularly experienced by Indigenous people living in the Red Lake and Ear Falls area, who

already face barriers to culturally-appropriate care and access. The effects are expected to be reversible after Project closure (Section 14.5).

Indigenous peoples living in the Red Lake and Ear Falls area have identified land and resource use for traditional purposes in the PA, LSA and RSA. There will be direct effects to access within the PA. Access in the LSA, outside of the PA, will not be directly affected, but quality of experience may still be indirectly affected by Project activities at sites and areas immediately adjacent to the PA. These potential effects are anticipated to occur over the Project, primarily due to sensory disturbance that could alter wildlife behavior or use of the area. There are no effects anticipated beyond the LSA and effects are expected to be reversed after the closure (Section 14.6).

Following implementation of Project design features and mitigation measures, indirect residual effects to community well-being may occur as indicated by to changes to the traditional economy. Restrictions to land access or perceived environmental risks may lead to decreased participation in traditional harvesting activities. This could increase household expenditure on store-bought food or reduce supplemental income from activities such as fur trading or craft production. The effects are expected to be end after closure of the Project.

Community well-being population growth linked to Project development may worsen existing barriers to accessing health, social, and education services. These challenges include longer wait times, inconsistent availability, staffing shortages, transportation barriers and limited culturally-appropriate care, which can negatively affect community well-being. Project economic opportunities may support household income stability, debt reduction, and access to improved quality of life. At Project closure, the loss of direct and indirect employment opportunities could result in income instability and reduced community-level spending, particularly if transitions are not supported through advance planning or workforce development (Section 14.8).

The residual effects have been characterized as not significant and are anticipated to be:

- Community services and infrastructure (Section 14.5.6.1):
  - Change in municipal, provincial, and non-profit service delivery capacity
- Change in availability, access to, and quality of experience related to traditional terrestrial wildlife harvesting (hunting and trapping; Section 14.6.6.1.1):
  - Availability (quantity of traditionally hunted and trapped wildlife species available)
  - Access (to locations and areas for hunting and trapping)
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)
- Change in availability, access to, and quality of experience related to traditional plant harvesting (food and medicinal purposes; Section 14.6.6.1.2):
  - Availability (quantity of traditionally gathered plant species available)
  - Access (to locations for plant gathering and picking)
  - Quality of experience (detectable changes to sensory conditions at harvesting sites or areas)

- Change in availability, access to, and quality of experience related to traditional habitation, cultural, and spiritual sites and areas (Section 14.6.6.1.3):
  - Quality of experience (detectable changes to sensory conditions at traditional habitation, cultural, or spiritual sites and areas currently used)
- Change in Indigenous physical or cultural heritage (Section 14.7.6) by:
  - Alteration or destruction of sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites
  - Change in access to or experience with sites or areas of Indigenous heritage importance, including archaeological, historical or architectural sites
  - Change in sacred, ceremonial, spiritual and cultural values (including language, stories and traditions) associated with sites or areas of Indigenous heritage importance, including archaeological, historical, or architectural sites
- Change in community well-being (Section 14.8.6) as indicated by:
  - Change in cost of living and traditional economy
  - Change in access to services (health, social and education services)
  - Change in economic opportunity and inequality
  - Alterations to access to traditional land and natural resources.

Residual effects for health after mitigation have been identified as detailed in Section 14.9. Anticipated residual effects are through pathways associated with changes in:

- Biophysical determinants of health (linked to changes in air quality, multi-media environmental quality, access and availability of water, access and availability of traditional foods, and sensory disturbances) or
- Social determinants of health (linked to changes in economics, housing, access to health and social services, food security, mental wellness and community cohesion, actual and perceived public safety, and safety of Indigenous women and girls).

Overall, adverse residual effects to health were characterized as not significant following application of mitigation.

15.9.5.2 Screening and Analysis for Potential Cumulative Effects

A screening of the identified existing and foreseeable future projects and physical activities was conducted to identify whether there is potential for cumulative effects on the fVC Indigenous Peoples related to the Project. Existing and foreseeable projects and activities with effects that may overlap temporally or spatially with the Project are outlined at the beginning of Section 15.9.

Mineral exploration and forestry were identified for further consideration and have been considered in relation to the LSA and RSA used for community services and infrastructure, and community well-being (Figure 14.5-1 and Figure 14.8-1), as well as the LSA and RSA used for CULRTP and Indigenous physical or cultural heritage (Figure 14.6-1 and Figure 14.7-1).

Residual effects to availability, access to and quality of experience related to terrestrial wildlife harvest may act cumulatively with future forestry activities. Forestry activities managed through

the Red Lake Forest, Trout Lake Forest and Whiskey Jack FMU are anticipated to occur concurrently with the Project, including some approved harvest blocks within the PA. There may be cumulative interaction within the PA between residual Project effects and future forestry activities. Physical disturbance and sensory effects of forestry may result in changes to wildlife movement resulting in changes to species availability. These same effects may influence Indigenous Peoples living in Red Lake and Ear Falls area to change their use of the area. Residual effects from the Project to CULRTP are limited to the LSA and are reversible after closure of the Project. Only forestry activities that overlap spatially with the LSA and temporally with the Project have the potential to interact cumulatively.

No cumulative interaction with future forestry activities is anticipated outside of the PA. The only residual effects identified as having geographic extent in the RSA are change in access to services (health, social and education services), and economic opportunity and inequality. These Project residual effects are not anticipated to interact cumulatively with future forestry activities as the forestry industry is already operating in the RSA, and therefore, effects would have been considered in the baseline conditions.

Future mineral exploration may occur in the LSA and RSA and may occur concurrently with the Project. If known exploration projects (i.e., Goliath Complex Project and Root Project) advance into operation there may be a cumulative effect to community well-being at the regional level. There are no development plans or identified timelines for either project to advance beyond exploration, therefore no cumulative effect is anticipated. Existing mines, including Red Lake Gold Mine and Madsen Mine, are not considered further as they are considered in baseline conditions.

Residual effects to community well-being may interact cumulatively with activities in the LSA and RSA that affect cost of living, access to services in the region, and access to land and resources. Forestry and mining are already industries active in the area, therefore it is not anticipated that there will be effects to cost of living and access to services in the region to interact cumulatively with Project residual effects.

The residual effects of the Project on health are regional in nature. Residual effects to health may interact cumulatively with existing and foreseeable future, projects and physical activities in the LSA and RSA, that affect the biophysical and social determinants of health, and the upstream conditions that influence health, if they overlap temporally and spatially with the Project. Existing projects and activities are already incorporated into the baseline for the health assessment utilized in the HHERA (Appendix N-1) and HIA (Appendix N-2). Foreseeable future project and physical activities that may materially overlap with biophysical determinants of health or social determinants of health include: forestry timber cutting operations (Section 15.5; Table 15.5-4).

Future timber harvesting within the LSA and RSA could affect biophysical determinants of health; however, the effect of future timber harvesting programs are not expected to overlap spatially with the effects of the Project on biophysical determinants of health, although they may overlap temporally. For biophysical determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects. Foreseeable future project and physical activities that may materially overlap with social determinants of health include: ongoing harvesting activities in the region; and Projects within community and First Nation Reserve boundaries (Section 15.5; Table 15.5-5).

Ongoing harvesting and any of the foreseeable projects or activities within the listed community boundaries in Table 15.5-5 may spatially and temporally overlap with the effects of the Project

on health, via changes to upstream conditions that influence health indirectly. For social determinants of health, the effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects.

15.9.5.3 Mitigation of Cumulative Effects

Mitigation measures presented in Section 14 for Indigenous peoples living in Red Lake and Ear Falls area are predicted to reduce and mitigate the Project's effects as well as the Project's cumulative contribution to the effects. Potential effects are considered to be mitigated to the extent practicable based on currently available information; therefore, no additional mitigation measures are proposed to mitigate the Project's contribution to cumulative effects on Indigenous peoples living in the Red Lake and Ear Falls area.

15.9.5.4 Description of Project-related Residual Cumulative Effects

As indicated in Section 15.9.5.2, the Project's residual effects after mitigation may overlap spatially and temporally with the PA and LSA in a manner that would result in cumulative effects to only CULTRP. The significance of the residual cumulative effects of the Project was assessed following the methods for assessing significance outlined in Section 6.6.

The predicted cumulative effects to CULTRP are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level I
- Duration: Level II
- Frequency: Level II
- Reversibility: Level I
- Timing: Level I.

As a result, the predicted cumulative effects to Indigenous Peoples living in Red Lake and Ear Falls from the Project are not significant.

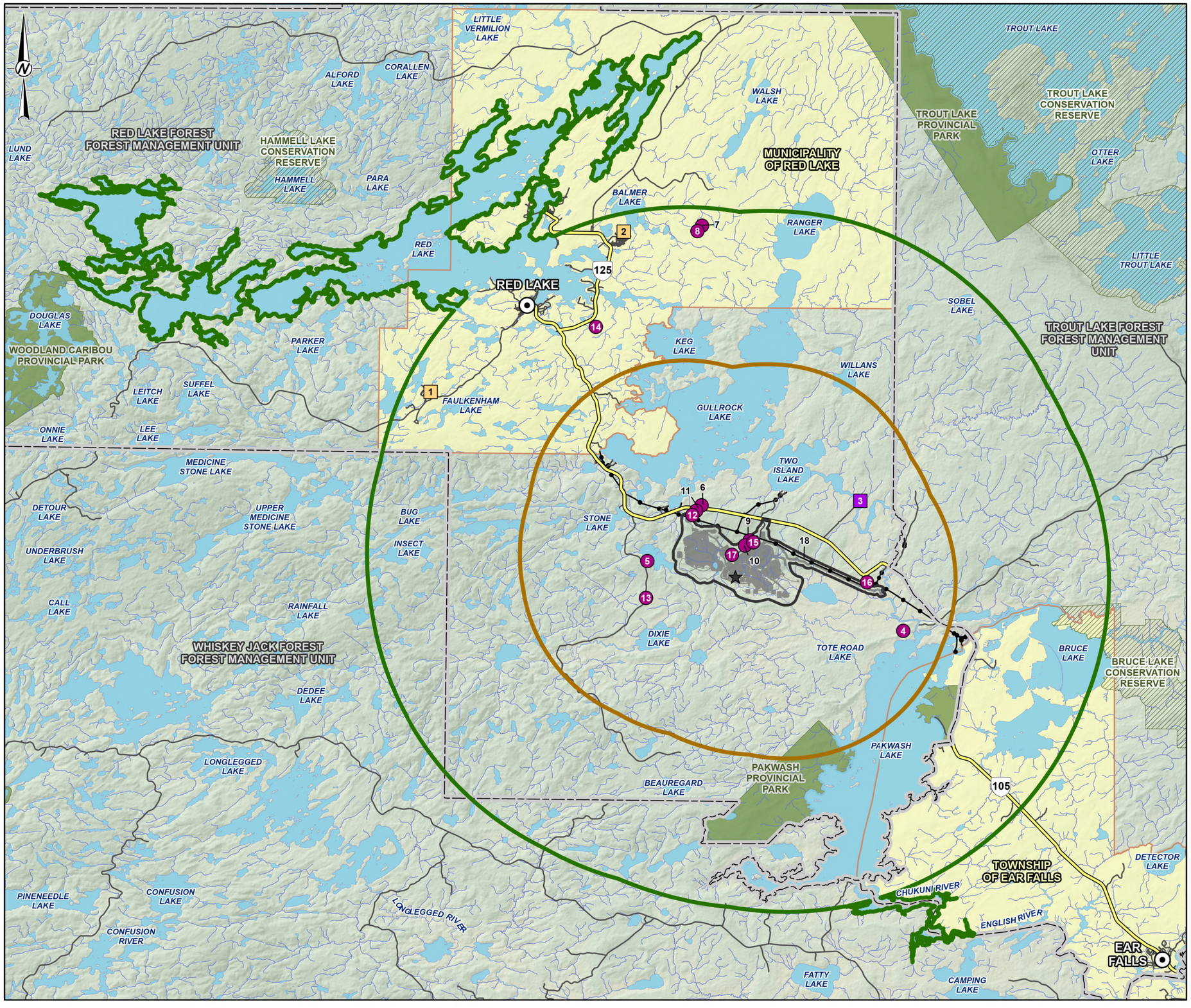
As indicated in Section 15.9.5.2, the Project's residual effects after mitigation may overlap spatially and temporally in a manner that could result in residual cumulative effects to health. The predicted cumulative effects to health are:

- Ecological and social context: Level I
- Magnitude: Level I
- Geographic extent: Level II
- Duration: Level II
- Frequency: Level II
- Reversibility: Level II
- Timing: Level I.

As a result, the predicted cumulative effects to health for Indigenous Peoples living in Red Lake and Ear Falls from the Project are not significant.

15.9.5.5 Cumulative Effects on Interests of Indigenous Peoples Living in the Red Lake and Ear Falls Area and Impact to the Exercise or Practice of Rights

The Project is located within an area of longstanding Anishinaabe land use within Treaty 3. It therefore has the potential to affect the exercise of Treaty and Aboriginal Rights by Indigenous peoples in the Red Lake and Ear Falls region. The potential for cumulative impact to the exercise or practice of rights for these Indigenous peoples is presented in Section 15.9.1 (LSFN), Section 15.9.2 (WFN), Section 15.9.3 (ANA) and Section 15.9.4 (NWOMC).



LEGEND

- GREAT BEAR PROJECT FOOTPRINT
- GREAT BEAR ADVANCED EXPLORATION PROGRAM
- PROJECT AREA
- LOCAL STUDY AREA FOR BIOPHYSICAL DETERMINANTS OF HEALTH - HEALTH IMPACT ASSESSMENT
- REGIONAL STUDY AREA FOR BIOPHYSICAL DETERMINANTS OF HEALTH - HEALTH IMPACT ASSESSMENT
- TOWN
- LOWER TIER MUNICIPAL BOUNDARY
- EXISTING MINE OPERATION
- DAM
- AGGREGATE OPERATION
- FOREST MANAGEMENT UNIT
- CONSERVATION RESERVE
- PROVINCIAL PARK
- HIGHWAY
- LOCAL ROAD
- EXISTING TRANSMISSION LINE (OUTSIDE MUNICIPAL BOUNDARIES)
- WATERCOURSE
- WATERBODY

CUMULATIVE EFFECTS IDs AND DESCRIPTIONS

ID	NAME	TYPE
1	WEST RED LAKE	EXISTING MINE OPERATION
2	RED LAKE GOLD MINES	EXISTING MINE OPERATION
3	SNOWSHOE RAPIDS DAM	DAM
4	SNAKE FALLS CAMP	AGGREGATE OPERATION
5	LARRY HERBERT & NATHAN HERBERT	AGGREGATE OPERATION
6	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
7	1304928 ONTARIO INC.	AGGREGATE OPERATION
8	1304928 ONTARIO INC.	AGGREGATE OPERATION
9	SHEWCHUK ENTERPRISES LTD.	AGGREGATE OPERATION
10	CORPORATION OF THE MUNICIPALITY OF RED LAKE	AGGREGATE OPERATION
11	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
12	WILLIAM SASKOSKY LOGGING LTD.	AGGREGATE OPERATION
13	DRACO (1985) LTD.	AGGREGATE OPERATION
14	P. SPINELLI TRUCKING LTD.	AGGREGATE OPERATION
15	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
16	H. MONCRIEF & SON CONTRACTING	AGGREGATE OPERATION
17	LAFARGE CANADA INC. NORTHERN ONTARIO DIVISION	AGGREGATE OPERATION
18	EAR FALLS TO RED LAKE	EXISTING TRANSMISSION LINE

0 2.5 5 10

1:250,000 KILOMETRES

NOTE(S)

1. ALL LOCATIONS ARE APPROXIMATE

REFERENCE(S)

1. CONTAINS INFORMATION LICENSED UNDER THE OPEN GOVERNMENT LICENCE - ONTARIO
2. ROADS INFORMATION PROVIDED BY GREAT BEAR RESOURCES, AUGUST 2022.
3. SITE PLAN BASED ON INFORMATION PROVIDED BY GREAT BEAR RESOURCES, DECEMBER 2024 / JUNE 2025.
4. COORDINATE SYSTEM: NAD 1983 UTM ZONE 15N

CLIENT
GREAT BEAR RESOURCES

PROJECT
GREAT BEAR PROJECT

TITLE
CUMULATIVE EFFECTS SPATIAL BOUNDARIES FOR BIOPHYSICAL DETERMINANTS OF HEALTH - HEALTH IMPACT ASSESSMENT

CONSULTANT

wsp

YYYY-MM-DD	2026-03-31
DESIGNED	----
PREPARED	MD
REVIEWED	----
APPROVED	SD

PROJECT NO.	CONTROL	REV.	FIGURE
CA0031271	0001	A	15.9-1

15.10 Summary of Residual Cumulative Effects and Significance

Table 15.10-1 provides a summary of the predicted residual cumulative effects for the fVCs for the Project and their significance, based upon the analysis and criteria used in the assessment. No significant residual cumulative effects have been identified for the Project:

- As there are no residual adverse effects after mitigation predicted to fish and fish habitat, there can be no cumulative effects, consistent with IAAC (2025).
- There are residual effects predicted after mitigation for migratory birds; however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects. The predicted cumulative effects to migratory birds from the Project have been assessed as not significant.
- There are residual effects predicted for LSFN that may interact cumulatively with future forestry activities; however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in cumulative effects. The predicted cumulative effects to LSFN have been assessed as not significant. Great Bear Resources understands that the independent ALIA addresses rights-based concerns for LSFN.
- There are residual effects predicted for WFN that may interact cumulatively with future forestry activities; however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in cumulative effects. The predicted cumulative effects to WFN have been assessed as not significant. Great Bear Resources understands that the independent ALIA addresses rights-based concerns for WFN.
- There are residual effects predicted for ANA that result in a cumulative effect to community well-being (cultural cohesion); however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in cumulative effects. The predicted cumulative effects to ANA have been assessed as not significant. Given the community's long-standing experience of environmental harm, and mistrust of government and industrial sectors, it is acknowledged that the Project may indirectly contribute to ongoing avoidance of traditional land use areas adjacent to the PA, reducing opportunities for land-based healing and cultural continuity, and transmission of knowledge.
- There are residual effects predicted for NWOMC that may interact cumulatively with future forestry activities; however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in material cumulative effects. The predicted cumulative effects to NWOMC have been assessed as not significant. As there are no cumulative effects to NWOMC, there is no cumulative effect to the exercise or practice of Rights anticipated and the exercise or practice of rights are anticipated to continue in the same or similar manner.

- There are residual effects predicted for Indigenous peoples living in Red Lake and Ear Falls that may interact cumulatively with future forestry activities; however, the Project's residual effects after mitigation are not predicted to overlap spatially and temporally in a manner that would result in cumulative effects. The predicted cumulative effects to Indigenous peoples living in the Red Lake and Ear Falls area have been assessed as not significant.

Table 15.10-1: Summary of Predicted Residual and Cumulative Effects for Federal Valued Components

Federal Valued Components (fVCs)	Criteria	Residual Effects?	Analysis of Cumulative Effects		
			Spatial and Temporal Overlap?	Cumulative Effects?	Significant Cumulative Effects?
Fish and Fish Habitat	Changes to fish habitat	No (Section 8.8)	Not applicable		
	Changes to fish communities	No (Section 8.8)	Not applicable		
	Changes to fish health	No (Section 8.8)	Not applicable		
Migratory Birds	Changes to abundance of habitat	Yes, not significant (Section 9.8.1)	Yes	Yes, not material	No
	Changes to connectivity and quality of habitat	Yes, not significant (Section 9.8.2)	Yes	Yes, not material	No
	Changes to density and population	Yes, not significant (Section 9.8.3)	Yes	Yes, not material	No
	Changes to risk of mortality	Yes, not significant (Section 9.8.4)	Yes	Yes, not material	No
	Changes to migratory bird SAR	Yes, not significant (Section 9.8.5)	Yes	Yes, not material	No
Indigenous Peoples - LSFN	Change in community services and infrastructure	No (Section 10.5.6)	Not applicable		
	Change in CULRTP	Yes, not significant (Section 10.6.6)	Yes	Yes, not material	No
	Change in Indigenous physical or cultural heritage	Yes, not significant (Section 10.7.6)	Yes	Yes, not material	No

Federal Valued Components (fVCs)	Criteria	Residual Effects?	Analysis of Cumulative Effects		
			Spatial and Temporal Overlap?	Cumulative Effects?	Significant Cumulative Effects?
	Change in community well-being	Yes, not significant (Section 10.8.6)	Yes	Yes, not material	No
	Change in health	Yes, not significant (Section 10.9.6)	Yes	Yes, not material	No
Indigenous Peoples - WFN	Change in community services and infrastructure	No (Section 11.5.6)	Not applicable		
	Change in CULRTP	Yes, not significant (Section 11.6.6)	Yes	Yes, not material	No
	Change in Indigenous physical or cultural heritage	Yes, not significant (Section 11.7.6)	Yes	Yes, not material	No
	Change in community well-being	Yes, not significant (Section 11.8.6)	Yes	Yes, not material	No
	Change in health	Yes, not significant (Section 11.9.6)	Yes	Yes, not material	No
Indigenous Peoples - ANA	Change in community services and infrastructure	No (Section 12.5.6)	Not applicable		
	Change in CULRTP	Yes, not significant (Section 12.6.6	Yes	Yes, not material	No
	Change in Indigenous physical or cultural heritage	Yes, not significant (Section 12.7.6)	Yes	Yes, not material	No

Federal Valued Components (fVCs)	Criteria	Residual Effects?	Analysis of Cumulative Effects		
			Spatial and Temporal Overlap?	Cumulative Effects?	Significant Cumulative Effects?
	Change in community well-being	Yes, not significant (Section 12.8.6)	Yes	Yes, not material	No
	Change in health	Yes, not significant (Section 12.9.6)	Yes	Yes, not material	No
Indigenous Peoples - NWOMC	Change in community services and infrastructure	Yes, not significant (Section 13.5.6)	Yes	Yes, not material	No
	Change in CULRTP	Yes, not significant (Section 13.6.6	Yes	Yes, not material	No
	Change in Indigenous physical or cultural heritage	Yes, not significant (Section 13.7.6)	Yes	Yes, not material	No
	Change in community well-being	Yes, not significant (Section 13.8.6)	Yes	Yes, not material	No
	Change in health	Yes, not significant (Section 13.9.6)	Yes	Yes, not material	No
Indigenous Peoples - Red Lake and Ear Falls	Change in community services and infrastructure	Yes, not significant (Section 14.5.6)	Yes	Yes, not material	No
	Change in CULRTP	Yes, not significant (Section 14.6.6)	Yes	Yes, not material	No
	Change in Indigenous physical or cultural heritage	Yes, not significant (Section 14.7.6)	Yes	Yes, not material	No

Federal Valued Components (fVCs)	Criteria	Residual Effects?	Analysis of Cumulative Effects		
			Spatial and Temporal Overlap?	Cumulative Effects?	Significant Cumulative Effects?
	Change in community well-being	Yes, not significant (Section 14.8.6)	Yes	Yes, not material	No
	Change in health	Yes, not significant (Section 14.9.6)	Yes	Yes, not material	No

15.11 References

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