Chapter 18.0: Assessment of Potential Environmental Effects on Traditional Land and Resource Use

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18.0 ASSESSMENT OF POTENTIAL ENVIRONMENTAL EFFECTS ON TRADITIONAL LAND AND RESOURCE USE

Traditional land and resource use (TLRU) includes activities related to the harvesting of resources such as hunting, fishing, trapping, gathering plants for food and medicine, areas where teaching or transfer of knowledge regarding cultural practices occur, ceremonial sites, travel routes, and sacred sites. TLRU was selected as a valued component (VC) for assessment because of the potential for the Project to affect traditional activities, sites and resources identified by First Nations and Métis (herein referred to as Aboriginal communities). “Aboriginal”, in the context of this Final Environmental Impact Statement/Environmental Assessment (EIS/EA) is taken from the usage in section 35 of the Canadian Constitution Act, 1982. Aboriginal community locations in the region are illustrated in Figure 18-1. Métis people live throughout the region including citizens of the Métis Nation of Ontario (MNO) (“Métis Nation of Ontario - Traditional Knowledge and Land Use Study for the Hardrock Project: Lakehead/Nipigon/Michipicoten Traditional Territories” [MNO TKLU Study; Appendix J3]) and Red Sky Métis Independent Nations (RSMIN; RSMIN 2016). Project-specific traditional knowledge (TK) studies by Aroland First Nation (AFN), Eabametoong First Nation (EFN), Ginoogaming First Nation (GFN), Long Lake #58 First Nation (LLFN), MNO, and Pays Plat First Nation (PPFN), as well as Project consultation activities, land use survey results from LLFN, and existing literature confirmed the potential for Project effects on TLRU.

The objective of this chapter is to understand and document Aboriginal people’s TLRU, describe potential Project interactions, identify mitigation strategies, and characterize anticipated Project residual effects.

Activities associated with the Project’s construction, operation, and closure phases have the potential to affect TLRU activities, sites, and locations. The Project may affect TLRU through local changes to:

- availability of plant species and access to plant harvesting sites and activities
- availability of fish species and access to fishing areas and activities
- availability of hunted and trapped species and access to hunting and trapping areas and activities
- cultural or spiritual practices, sites, or areas
- conditions for TLRU (i.e., perceptions of effects on water quality) (see Section 18.1.2).
Many of the TLRUs described in this chapter are intrinsically linked to biophysical and socio-economic VCs. The assessment of TLRU has integrated discussion and conclusions from the following VCs:

- **atmospheric environment (Chapter 7.0)** - Project construction and operation have the potential to increase dust and combustion gas emissions, and ambient lighting conditions which have the potential to affect the use and enjoyment of property.
- **acoustic environment (Chapter 8.0)** - changes in noise and vibration levels have the potential to affect traditional land and resource use as a result of sensory disturbance.
- **surface water (Chapter 10.0)** - changes in surface water quantity may affect the navigability of watercourses and the ability to participate in water-based activities (e.g., fishing).
- **fish and fish habitat (Chapter 11.0)** - due to linkages with fishing practices.
- **vegetation communities (Chapter 12.0)** - due to linkages with plants used for traditional foods and medicines, as well as for crafts, ceremonial and other traditional purposes.
- **wildlife and wildlife habitat (Chapter 13.0)** - due to linkages with species traditionally hunted and trapped.
- **land and resource use (Chapter 16.0)** - due to linkages with shared use of the land.
- **heritage resources (Chapter 17.0)** - due to linkages between current and historical traditional land use.
- **human and ecological health (Chapter 19.0)** - changes in chemical uptake in vegetation, animals or fish can affect human health through direct consumption.

These VCs and their relationship to the TLRU VC are discussed in Sections 18.1.2 and 18.4.

### 18.1 Scope of Assessment

This TLRU chapter considers potential Project effects on Aboriginal communities as required by the Ontario Environmental Assessment Act (EAA), and the Canadian Environmental Assessment Act, 2012 (CEAA 2012) (discussed further in Section 18.1.4).

As required by the EAA and CEAA 2012, this TLRU chapter:

- Addresses effects of changes to the environment on current use of lands and resources for traditional purposes\(^1\) by Aboriginal people.
- Records community knowledge and Aboriginal TK.

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\(^1\) To simplify editorial components of the Final EIS/EA, current use of lands and resources for traditional purposes is referred to as TLRU.
The assessment considers potential Project effects on traditional use of lands by Aboriginal communities listed in Table 18-1. The fourteen Aboriginal communities presented in Section 18.2.2 were consulted with by Greenstone Gold Mines GP Inc. (GGM), with an approach designed to meet individual community needs. TLRU and TK information, where provided, was considered in the assessment. As Aboriginal communities expressed an interest during consultation, GGM participated in ongoing discussions and continues to provide support for the studies of TLRU and TK. In the Addendum to “Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012” (EIS Guidelines; Appendix A1) for the Hardrock Project, issued in February 2016 the Aboriginal communities are described by the Canadian Environmental Assessment Agency (CEA Agency) as potentially affected communities, or potentially less affected (i.e., interested) by the Project (Table 18-1) (CEA Agency 2016). See Chapter 3.0 (community and stakeholder consultation) for additional details and community profiles. See Figure 18-1 for each community’s location relative to the regional watershed.

**Table 18-1: Aboriginal Communities and their Locations**

<table>
<thead>
<tr>
<th>Aboriginal Community</th>
<th>Reserve</th>
<th>Distance from Nearest Project Development Area Boundary</th>
<th>Watershed</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CEA Agency identified potentially affected communities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Animbiigoo Zaagi’igan Anishinaabek (AZA)</td>
<td>Lake Nipigon</td>
<td>Located near Legault and Colter Townships; 24 kilometres (km) from the Project development area (PDA)</td>
<td>Nipigon</td>
</tr>
<tr>
<td>AFN Aroland Indian Settlement</td>
<td>Located 90 km north of the Ward of Geraldton, Ontario and 25 km west of Nakina, Ontario; 47 km from the PDA</td>
<td>Little Current</td>
<td></td>
</tr>
<tr>
<td>GFN Ginoogaming</td>
<td>Located approximately 40 km east of the Ward of Geraldton, Ontario; 22 km from the PDA</td>
<td>Upper Kenogami</td>
<td></td>
</tr>
<tr>
<td>LLFN Long Lake 58</td>
<td>Located approximately 40 km east of the Ward of Geraldton, Ontario on the northern shore of Long Lake; 28 km from the PDA.</td>
<td>Upper Kenogami</td>
<td></td>
</tr>
<tr>
<td>MNO N/A</td>
<td>The MNO-Region 2 administrative office is 165 km southwest of the PDA. The MNO Greenstone Métis Council is in the town of Geraldton. Métis live throughout the Lakehead, Nipigon and the Michipicoten traditional territories (MNO TKLU Study; Appendix J3).</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td><strong>CEA Agency identified less affected communities</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bigtigong Nishnaabeg</td>
<td>Pic River 50</td>
<td>Just outside of Pukawskwa National Park, 3.2 km east of Lake Superior, and 122.3 km from the PDA.</td>
<td>Pic</td>
</tr>
</tbody>
</table>
### Table 18-1: Aboriginal Communities and their Locations

<table>
<thead>
<tr>
<th>Aboriginal Community</th>
<th>Reserve</th>
<th>Distance from Nearest Project Development Area Boundary</th>
<th>Watershed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biinjitiwaabik Zaaging</td>
<td>Rocky Bay 1</td>
<td>Located in the Municipality of Greenstone, Ontario; 82 km from the PDA.</td>
<td>Nipigón</td>
</tr>
<tr>
<td>Anishinaabek (BZA)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bingwi Neyaashi Anishinaabek</td>
<td>Sand Point First</td>
<td>On the shore of Lake Nipigon, 75.2 km from the PDA.</td>
<td>Nipigón</td>
</tr>
<tr>
<td>(BNA)</td>
<td>Nation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constance Lake First Nation</td>
<td>Constance Lake</td>
<td>Located on the Kabinakagami River</td>
<td>Lower Kabinakagami</td>
</tr>
<tr>
<td>(CLFN)</td>
<td>92, English River</td>
<td>Located on the east bank of the Kenogami River; 197 km from the PDA.</td>
<td></td>
</tr>
<tr>
<td>EFN</td>
<td>Fort Hope 64</td>
<td>On the north shore of Eabamet Lake, 211.1 km from the PDA.</td>
<td>Upper Albany-Makokibatan</td>
</tr>
<tr>
<td>Marten Falls First Nation</td>
<td>Marten Falls</td>
<td>At the confluence of the Albany and Ogoki Rivers; 227 km from the PDA.</td>
<td>Upper Albany-Makokibatan</td>
</tr>
<tr>
<td>(MFFN)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PPFN</td>
<td>Pays Plat 51</td>
<td>Northwest of Fort William, 88.9 km from the PDA.</td>
<td>Jackpine</td>
</tr>
<tr>
<td>Pic Mobert First Nation</td>
<td>Pic Mobert North</td>
<td>Pic Mobert North is 53 km east of Marathon, Ontario and 143 km from the PDA.</td>
<td>White</td>
</tr>
<tr>
<td>(PMFN)</td>
<td>Pic Mobert South</td>
<td>Pic Mobert South is at the southwest end of White Lake, Ontario, 33 km east of Marathon, Ontario, and 143.6 km from the PDA.</td>
<td></td>
</tr>
<tr>
<td>RSMIN</td>
<td>N/A</td>
<td>The administrative office in Thunder Bay, Ontario is 210 km from the PDA. RSMIN citizens reside in communities throughout the Robinson-Superior Treaty area (RSMIN 2016).</td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A not applicable

GGM has consulted with Biigtigong Nishnaabeg, BNA, BZA, CLFN, PMFN, and RSMIN and has discussed opportunities to share TK and TLRU information for the Project. BNA did not want to be involved in completing a TK study. CLFN has expressed interest in completing a TK study; GGM has been willing to discuss but no proposal has been provided. GGM offered funding support for MFFN and on February 15, 2017, GGM and MFFN agreed on a workplan for environmental assessment (EA) capacity support, community consultation and legal/advisory support.

A TK study was initiated by AZA, funded by the Ministry of Northern Development and Mines (MNDM) (Aboriginal Participation Funding) and the CEA Agency in 2015/2016 with additional funding and support by GGM in 2017. Agreements were finalized in November 2016. GGM confirmed that TK received after the Final EIS/EA submission will be compiled by GGM in collaboration with AZA as a part of ongoing consultation.
TK studies have been received from AFN, EFN, GFN, LLFN, and MNO, and PPFN completed a watershed study.

Aboriginal communities included in this chapter are those for which Project-specific or secondary TLRU information was available through the sources as listed in Section 18.2.1. Regional Aboriginal community locations are illustrated in Figure 18-1, including those presented in Table 18-1 above. Locations for those described in Table 18-1 as Potentially Affected Communities are illustrated in Figure 18-1. TK sharing will occur throughout the life of the Project and GGM will review the results of TK information received after submission of the Final EIS/EA against the conclusions of the TLRU assessment, to determine whether additional mitigation is required with respect to Project design and environmental management and monitoring plans (EMMPs).
18.1.1 Sources of Information

Information sources used in this chapter include:

- TK and traditional land use studies completed for the Project, including:
  - A TK and TLRU study was prepared by AFN with funding support by GGM. This study is considered confidential and is not included in the Final EIS/EA. AFN has agreed to allow use of a summary document (AFN TKLU summary document) that omits confidential information to inform the effects assessment, but has not approved any documentation to be appended to the Final EIS/EA.
  - “Traditional Knowledge Assessment Related to the Premier Gold Mines Hardrock Project: prepared for Long Lake #58 First Nation” (LLFN TK Assessment; Appendix J1) prepared with funding support by GGM.
  - “Long Lake #58 First Nation Traditional Land Use Survey Results Greenstone Gold Mine” (LLFN TLU Survey; Appendix J2) prepared with funding support by GGM.
  - “Métis Nation of Ontario - Traditional Knowledge and Land Use Study for the Hardrock Project: Lakehead/Nipigon/Michipicoten Traditional Territories” (MNO TKLU Study; Appendix J3) prepared with funding support by GGM.
  - “Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold’s Proposed Hardrock Project” (EFN Knowledge and Use Study; Appendix J5) prepared with funding support by GGM.

- Other relevant primary information sources:
  - “Aroland First Nation Cultural Impact Assessment Final Report” (AFN 2014) prepared with funding support by GGM. Information in the document has been considered in the Final EIS/EA. The study is not appended to the Final EIS/EA at the request of the community.
  - “Long Lake #58 First Nation Cultural Impact Assessment: Final Report” (LLFN CIA; LLFN 2013) prepared with funding support by GGM. Information in the document has been considered in the Final EIS/EA. The study is not appended to the Final EIS/EA at the request of the community.
  - “Pays Plat First Nation Watershed Study for Greenstone Gold Mines” (PPFN Watershed Study; Appendix J4) prepared with funding support by GGM.
  - “Community Needs Assessment Ginoogaming First Nation” (GFN Community Needs Assessment; Appendix J7). Information in the document has been considered in the Final EIS/EA.
  - “Ginoogaming First Nation Social Impact Assessment” (GFN SIA; Appendix J8). Information in the document has been considered in the Final EIS/EA.
• Project consultation activities including community knowledge acquired through meetings, oral input, and written input (see Chapter 3.0 [community and stakeholder consultation]).

• A review of publicly available secondary sources containing relevant TK and TLRU information, including:
  - Partridge Lake Land Use Plan - GIIWEDAA Animbiigoo Zaagi'igan Anishinaabek Comprehensive Community Plan (AZA 2012)
  - Animbiigoo Zaagi'igan Anishinaabek (Lake Nipigon First Nation) Mitigation Table for AZA from the Energy East Project (Energy East Pipelines Ltd. 2016)
  - Matawa First Nations Homelands and Traditional Territory Map (Matawa Environmental Services Group 2016)
  - First Nations Moose Hunt in Ontario: A Community's Perspectives and Reflections (LeBlanc et al. 2011)
  - Special Impacts Report: Preserving the Métis Way of Life (MNO 2012)
  - Biigtigong Nishnaabeg website including a map of their traditional territory (Ojibways of the Pic River First Nation 2016)
  - Our History on the BZA website (BZA 2009)
  - BNA community website (BNA 2016)
  - CLFN website (CLFN 2010)
  - Matawa First Nations Homeland and Territory Traditional Map (Matawa First Nations 2016)
  - PMFN website (PMFN 2016)
  - RSMIN website (RSMIN 2016)

18.1.2 Conditions for Traditional Land and Resource Use

Various biophysical and socio-economic settings influence conditions for TLRU. For example, effects on air quality or water quality, noise, visual aesthetics or altered landscapes may result in sensory disturbance to Aboriginal land users that deter individuals from conducting TLRU activities in affected areas or locations. Perceptions of environmental contamination, change in quality of lands and resources, or anticipated likelihood of a practice to be successful may also deter TLRU activities. Project employment may enhance the ability of individuals to participate in TLRU and can also leave individuals with less time to practice TLRU activities. The ability to engage in activities related to TLRU relies on the knowledge of where and how to conduct TLRU and the extent of lands available to conduct TLRU activities.
The atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0), labour and economy VC (Chapter 14.0), land and resource use VC (Chapter 16.0) and human and ecological health VC (Chapter 19.0) are related to the conditions for TLRU. Measurable parameters were established for each of these related VCs. The extent to which a change in these VCs will in turn affect conditions for TLRU are most effectively understood through consultation with Aboriginal communities throughout the Project.
Legend

- Regional Assessment Area
- Local Assessment Area
- Project Development Area
- First Nation Reserve Land
- Métis Administrative Office
- Highway
- Major Road
- Local Road
- Railway
- Waterbody

Ontario Treaties (from Morris 1943)
- Treaty No. 60, 1850 (Robinson-Superior)
- Treaty No. 9, 1905-1906

Notes
1. Coordinate System: NAD 1983 UTM Zone 16N
2. Data features produced under license with the Ontario Ministry of Natural Resources © Queen's Printer for Ontario, 2013.
3. Based on mapping created by Four Rivers Matawa Environmental Services Group.
4. Treaty boundaries illustrated are taken from James L. Morris, Indians of Ontario (Toronto: Dept. of Lands and Forestry, 1943) for cartographic representation only.

Client/Project
Greenstone Gold Mines GP Inc. (GGM) Hardrock Project

Figure No. 18-2

TLRU Assessment Area and Potentially Affected Communities
18.1.3 Regulatory and Policy Setting

The following provides a summary of federal Acts, Regulations, policies, and/or guidelines considered in the assessment of TLRU.

18.1.3.1 Environmental Impact Statement Guidelines and Terms of Reference Requirements

The environmental effects assessment for TLRU has been prepared in accordance with the requirements of the federal EIS Guidelines (Appendix A1) and provincial “Hardrock Project Terms of Reference” (ToR; Appendix A2). Concordance tables indicating where EIS Guidelines and ToR requirements have been addressed are provided in Appendix B.

18.1.3.2 Federal

For federal EAs with respect to Aboriginal people, CEAA 2012 requires the consideration of “an effect occurring in Canada of any change that may be caused to the environment on the current use of lands and resources for traditional purposes” (section 5(1)(c)(iii)). Technical guidance for assessing effects on current use of lands and resources for traditional purposes (TLRU in this document) where the CEA Agency is the responsible authority is provided in Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012 (CEA Agency 2015).

The federally issued EIS Guidelines (Appendix A1) also identify requirements for consultation with fourteen Aboriginal communities, integrating Aboriginal TK in the assessment of environmental effects, provision of information regarding existing conditions to support the analysis of predicted effects on TLRU, and documenting specific suggestions raised by Aboriginal communities for mitigating effects of changes to the environment.

18.1.3.3 Provincial

The EAA requires the assessment of effects related to the natural, social, economic, cultural and built environments. The provincial Ministry of the Environment and Climate Change’s (MOECC) Code of Practice: Preparing and Reviewing Environmental Assessments in Ontario (Ministry of the Environment 2014) directs that the EA should reflect the input of, and be responsive to, potentially affected Aboriginal communities when a project may adversely affect Aboriginal or treaty rights. Based on the definition of the environment in the EAA, potential effects on Aboriginal or treaty rights are primarily related to effects on air, land, or water; plant and animal life, including human life; and the social, economic, and cultural conditions that influence the life of humans or a community. The ToR (Appendix A2), approved by the province, also identifies that potential effects and mitigation measures related to traditional land use will be evaluated.
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The EA has been conducted in a manner that provides the necessary data and analysis to meet the requirements of the EIS Guidelines and ToR, and the supporting federal and provincial EA legislation. This includes using a single body of information and preparing a single EIS/EA document to address both provincial and federal EA processes, as outlined in section 2.3 of the ToR (Appendix A2).

18.1.3.4 Treaty Rights and Traditional Land and Resource Use

In Canada, treaties between Aboriginal people and the Crown are constitutionally recognized agreements. Treaty terms vary, but generally provide reserves for Aboriginal people, cash annuities, material items such as ammunition, fishing equipment, and agricultural implements, and the right to hunt, trap, fish and gather on unoccupied Crown land. Treaties may also provide Aboriginal people's rights to other services such as health care and education. In considering the scope and content of treaty rights, the Supreme Court of Canada has ruled that the honour of the Crown demands that treaties be liberally construed and in the spirit and intent in which they were signed. This has repercussions for EA and is evidenced in regulations requiring detailed consideration of the environmental effects of development projects situated within the traditional territories of Aboriginal communities, and the assessment of effects on traditional land users and knowledge holders' ability to exercise their Aboriginal and treaty rights, including use of traditional lands and resources—which is linked to disturbance to animal, fish, and plant habitat—as well as disruption to sacred cultural sites including burial grounds. It is generally accepted that Aboriginal and treaty rights may encompass more than specific harvesting activities such as hunting, trapping, fishing and gathering, and may include an array of values, customs, traditions and practices, important and unique to each Aboriginal community, such as performing traditional practices including ceremonies and burials (INAC 2011).

If development activities have the potential to adversely affect potential or established Aboriginal or treaty rights, the Crown has a duty to consult and, where appropriate, accommodate potentially affected Aboriginal communities. This is reflected in requirements for EAs that routinely require consideration of how a project may affect Aboriginal and treaty rights. Information regarding potential effects on Aboriginal or treaty rights is often obtained through TK studies which seek to gauge the extent of past and present use of the land for traditional purposes including, but not limited to, hunting, fishing, trapping, plant gathering, as well as trails and travelways, habitation areas, and cultural and spiritual sites and practices. When assessing the effect of a development project on Aboriginal and treaty rights, the measurable parameter used is the degree to which the project will affect the ability of that Aboriginal community to undertake the activities and practices upon which the exercise of Aboriginal and treaty rights depend. TK studies provide information relevant to gauge the use of the area and how that use could be impacted by a development project (INAC 2011).
18.1.4 Influence of Consultation on the Identification of Issues and the Assessment Process

18.1.4.1 Summary of Comments Received during Consultation

Consultation has been ongoing prior to and throughout the EA process, and will continue with agencies, local Aboriginal communities, and stakeholders through the life of the Project. Chapter 3.0 (community and stakeholder consultation) provides more detail on the consultation process covering open houses, site visits, targeted meetings, newsletters, questionnaires, presentations, and capacity funding for technical reviews and community-based studies among other areas. The Record of Consultation (RoC; Appendix C) includes comments received during the development of the Final EIS/EA. As part of the information sharing throughout the consultation process, Project-related information was provided by Aboriginal communities in the form of TK and TLRU studies and other forms of information sharing. This information was considered in the environmental effects assessment as described in this chapter.

Consultation feedback related to TLRU has been addressed through direct responses (in writing and follow-up meetings), updates to baseline information, and in the Final EIS/EA, as appropriate. An overview of the key comments that influenced the TLRU effects assessment between the Draft and Final EIS/EA is provided below.

Consideration of Aboriginal Interests and Knowledge Regarding Traditional Land and Resource Use

The MOECC and the CEA Agency requested the information on Aboriginal communities to be provided on a community-by-community basis. In response, the baseline conditions section was updated to provide information on each of the fourteen potentially affected communities for which information regarding TLRU through Project-specific studies, secondary sources, and consultation activities, is available. Project mechanisms were assessed on a community basis, while the residual environmental effect summarized the residual effects on Aboriginal communities.

Aboriginal communities also requested the consideration of Project-specific traditional land use information which has been addressed in this chapter. For example, Aboriginal communities requested special receptors for air quality and noise in TLRU areas. Using available TLRU information, 17 special receptors were added to record data in TLRU areas.

GGM recognizes that Aboriginal communities are interested in participating in a moose health (i.e., tissue sampling) monitoring study in the region. Given the large ranges of these animals and mandate of the Ministry of Natural Resources and Forestry (MNRF), GGM will participate in an MNRF-led study with local Aboriginal communities during Project operation.
Access to Land and Change in Harvesting

AFN, BNA, GFN, LLFN, MNO and the CEA Agency identified the need to clarify access restrictions to areas within the PDA and local assessment area (LAA), including harvesting areas.

In response, access restrictions within the PDA have been clarified during construction, operation, and closure. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. In addition, where there is interest GGM will provide opportunities to local communities for harvesting of plants for traditional purposes prior to construction.

Past and Current Land Use in the Project Development Area

AZA, GFN, LLFN, MNO and the CEA Agency requested additional information be included in the Final EIS/EA regarding past and current land use by Aboriginal communities, traditional territories, reserve land, and treaty history.

In response, information on Aboriginal communities including Project-specific sources, secondary sources, and consultation activities was incorporated into the scope of assessment Section 18.1 (see Table 18-1), existing conditions Section 18.2.2, and carried through to the assessment in Section 18.4. In addition, information on reserve land and treaties was presented in maps for the Aboriginal communities (see Figure 18-1 and Figure 18-2). Treaty history of Aboriginal communities is described in Chapter 3.0, Section 3.6.4 (Community Profiles).

Effects on the Exercise of Aboriginal and/or Treaty Rights

AZA, AFN, Biigtigong Nishnaabeg, GFN, LLFN, MNO, MOECC and the CEA Agency requested information on how the Project may affect the exercise of Aboriginal and/or treaty rights regarding TLRU.

In response, potential environmental effects (Section 18.1.4) and the characterization of residual effects (Section 18.1.6) were determined based on the information presented in the Project-specific TK studies, cultural impact assessments, relevant secondary sources, and comments provided during Aboriginal consultation. Potential effects are assessed in Section 18.4.

Anticipated Project Effects Identified by Aboriginal Communities

A number of Aboriginal communities and agencies requested information and commented on the methods used for the assessment of residual effects and the mitigation measures used to limit potential effects on TLRU (e.g., species of importance to Aboriginal communities). In response, information from Aboriginal communities was used in considerations for the characterization of residual environmental effects in Section 18.1.7 and throughout the assessment of residual environmental effects, as well as mitigation measures for potential effects on TLRU (Section 18.4). Key comments are provided below and have been grouped alphabetically by community to align with the assessment of residual environmental effects presented in Section 18.4.
Animbiigoo Zaagi'igan Anishinaabek

In comments made by AZA to the CEA Agency, members raised a concern regarding potential effects of the Goldfield Creek diversion on fish and fish habitat, including spawning (RoC; Appendix C3). This has been considered in the fish and fish habitat VC (Chapter 11.0) and the “Draft Hardrock Project: Fisheries Act, Paragraph 35(2)(b) Authorization and MMER Schedule 2 Draft Fisheries Offset Plan” (Draft Fisheries Offset Plan; Appendix F10). In addition, AZA provided comments about the potential effects on health via fish consumption from contamination of fish including mercury contamination. This has been considered in the fish and fish habitat VC (Chapter 11.0) and the human and ecological health VC (Chapter 19.0). AZA also identified Kenogamisis Lake as an area used by its members and stated that the Project may affect AZA’s Aboriginal rights and resources. Use of Kenogamisis Lake has been considered in the assessment of residual environmental effects in Section 18.4.

AZA provided comments regarding potential seepage effects on the surrounding environment (RoC; Appendix C3). This has been considered in the groundwater VC (Chapter 9.0) and surface water VC (Chapter 10.0) through geochemical testing, the use of modelling, and conservative assumptions so effects are not under predicted.

AZA provided comments regarding potential effects on waterfowl and migratory birds if they land on the tailings management facility (TMF). They also raised a concern regarding potential effects on health from contamination of fish, wildlife, and waterfowl (RoC; Appendix C3). The effects on waterfowl, migratory birds and wildlife have been considered in the wildlife and wildlife habitat VC (Chapter 13.0). The effects on fish have been considered in the fish and fish habitat VC (Chapter 11.0). Health effects are considered in the human and ecological health VC (Chapter 19.0).

In addition to these comments, AZA requested additional information on how the golf course and Highway 11 have the potential to be affected by the Project. GGM has endeavoured to design the site plan making best efforts to avoid use of contingency waste rock storage area A/C unless needed. This approach aims to preserve the golf clubhouse and the front nine holes for the longest duration possible. GGM is working with relevant agencies and regulatory bodies regarding the removal of provincial infrastructure. Effects on Community Services and infrastructure are discussed in Chapter 15.0. AZA has also requested additional information on employment opportunities and training for community members. Additional information is provided in Chapter 14.0 (labour and economy VC).
AFN provided comments regarding potential seepage effects on the surrounding environment due to waste rock and tailings materials (RoC; Appendix C3). This has been considered in the groundwater VC (Chapter 9.0) and surface water VC (Chapter 10.0) through geochemical testing, the use of modelling, and conservative assumptions so effects are not under predicted. In addition, they provided comments regarding the effects of the Project on the sparse treed fen (RoC; Appendix C3). This area has been avoided through Project design and considered in the vegetation communities VC (Chapter 12.0).

In comments made by AFN to the CEA Agency, members raised concerns about the following effects of the Project:

- Project operation on TLRU, species at risk (SAR), critical habitat, and vegetation. For information on how this has been considered see the fish and fish habitat VC (Chapter 11.0), vegetation communities VC (Chapter 12.0), wildlife and wildlife habitat VC (Chapter 13.0) and assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

- Changes in harvesting areas and access to land because of the Project. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

- Contamination of lands and potential for spills. Potential contamination has been considered throughout the assessment. Accidents and Malfunctions are considered in Chapter 22.0.

- Changes in the availability of traditional plants of importance including wild rice and winkes (assumed to be wike [sweet flag]) due to dewatering (RoC; Appendix C3). For information on how this potential effect has been considered see the vegetation communities VC (Chapter 12.0) and assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.2).

AFN members provided comments regarding potential effects on plants and plant harvesting activities in the AFN TKLU summary document, including:

- Potential contamination of country foods or medicines. Information on how this potential effect has been considered in the human and ecological health VC (Chapter 19.0) and assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.2).

- Potential effects on diet and/or health because of consuming or avoiding contaminated country foods. For information on how this potential effect has been considered see the human and ecological health VC (Chapter 19.0).
Potential reduced quality of lands and resources for traditional purposes. For information on how this potential effect has been considered see conditions for TLRU (Section 18.1.1).

Loss of access to/use of lands and resources used for traditional purposes. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

Potential effect on ability to exercise Aboriginal and treaty rights. This potential effect has been considered in Section 18.4 and in Chapter 3.0 (community and stakeholder consultation).

Loss of individual and community TK and skills because of loss of lands and resources used for traditional purposes (AFN TKLU summary document). For information on how this potential effect has been considered see conditions for use (Section 18.1.2).

AFN recommended that mitigation is required to limit effects from dewatering on traditional plants of importance including wild rice and winkes (assumed to be wike [sweet flag]). The effects of dewatering on vegetation have been considered in the vegetation communities VC (Chapter 12.0). Sweet flag was not recorded during baseline surveys of the PDA/LAA.

In consultation with the CEA Agency, AFN stated a concern regarding the loss of fish habitat including the loss of spawning habitat and how these losses will be offset (RoC; Appendix C2). AFN also commented on the Goldfield Creek diversion and potential effects on fish. They noted that the Goldfield Creek diversion could change fish passage between Kenogamisis Lake and Goldfield Lake (RoC; Appendix C3). This has been considered in the fish and fish habitat VC (Chapter 11.0) and the Draft Fisheries Offset Plan (Appendix F10). In addition, AFN provided comments regarding existing arsenic and mercury levels in the Southwest Arm Tributary and Kenogamisis Lake, and the concentration of metals in fish tissues including walleye (RoC; Appendix C3). This has been considered in the surface water VC (Chapter 10.0), fish and fish habitat VC (Chapter 11.0) and the human and ecological health VC (Chapter 19.0).

AFN members expressed concerns in the AFN TKLU summary document regarding potential effects on hunted and trapped species and their habitat, including:

- Loss of access to/use of lands and resources for traditional purposes. For information on how this potential effect has been considered see the assessment of residual environmental effects (Section 18.4).
- Potential effects on harvesting rights. This potential effect has been considered in Section 18.4.2 and in Chapter 3.0 (community and stakeholder consultation).
- Degradation of the quality of lands and resources for traditional purposes. For information on how this has been considered see conditions for TLRU (Section 18.1.2).
- Degradation of wildlife habitat. For information on how this has been considered see existing conditions (Section 18.2) and the wildlife and wildlife habitat VC (Chapter 13.0).
Changes in the distribution and/or abundance of wildlife. For information on how this has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4 and the wildlife and wildlife habitat VC [Chapter 13.0]).

Accumulation of parameters of potential concern in aquatic or terrestrial food chains. For information on how this has been considered see the fish and fish habitat VC (Chapter 11.0), vegetation communities VC (Chapter 12.0), wildlife and wildlife habitat VC (Chapter 13.0), and human and ecological health VC (Chapter 19.0).

Contamination of country foods. For information on how this has been considered see the human and ecological health VC (Chapter 19.0).

Infringements/effects on Aboriginal and treaty rights or the ability to exercise such rights. This potential effect has been considered in Section 18.4 and in Chapter 3.0 (community and stakeholder consultation).

In comments regarding the review of the Draft EIS/EA to the CEA Agency, AFN provided several comments regarding hunting and trapping including the following (RoC; Appendix C2):

Potential effects on commercial trapline licenses (it was not indicated whether these were held by AFN members). For information on how commercial traplines have been considered see the land and resource use VC (Chapter 16.0).

Changes in harvesting areas and access to land because of the Project. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

Effects from Project operation on traditional land use, SAR, and critical habitat. For information on how this potential effect has been considered see the wildlife and wildlife habitat VC (Chapter 13.0) and the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

Potential effects on harvesting rights. For information on how potential effects on plant gathering, fishing, hunting and trapping have been considered see the assessment of residual environmental effects (Section 18.4) and Chapter 3.0 (community and stakeholder consultation).

Potential contamination from waste rock and tailings. For information on how this potential effect has been considered see the groundwater VC (Chapter 9.0) and the surface water VC (Chapter 10.0).
In comments made by AFN to the CEA Agency, AFN provided comments regarding potential effects on snowmobile trails through the PDA. AFN confirmed they use snowmobile trails, which are operated by the Ontario Federation of Snowmobile Clubs and maintained by the Greenstone Snowmobile Club, along Highway 11 in the PDA for hunting. Geraldton Snowmobile Club has confirmed that the trail along Lahtis Road is no longer maintained. Potential interactions with snowmobile trails as a result of the Project are considered in the land and resource use VC (Chapter 16.0, Sections 16.4.2 and 16.4.3).

AFN also noted the importance of including areas used for traditional purposes by Aboriginal communities in the atmospheric and noise assessments. In response, special receptors representing areas of TLRU were included in the atmospheric environment VC (Chapter 7.0) and acoustic environment VC (Chapter 8.0).

AFN provided comments and requested additional information regarding the traditional land use objectives after closure. This has been considered in the vegetation communities VC (Chapter 12.0) and in the development of the “Hardrock Project - Conceptual Closure Plan” (Conceptual Closure Plan; Appendix I).

AFN also noted the importance of working collaboratively with GGM to develop a procedure for communication regarding potential new archaeological finds. This has been considered in the heritage resources VC (Chapter 17.0) and the “Hardrock Project Conceptual Archaeology and Heritage Resources Management Plan” (Conceptual AHRMP; Appendix M14).

AFN has also requested additional information on how the Discover Geraldton Interpretive Centre, the Hydro One transformer station, the OPP station, the golf course and the MacLeod-Cockshutt Mining Headframe have the potential to be affected by the Project. As described in Section 5.6.1.3 of Chapter 5.0 (Project Description), an agreement has been signed between the Municipality and GGM to support the Municipality’s future plans with respect to municipal facilities. With respect to the golf course, GGM has committed to avoid using the contingency waste rock storage area (WRSA) A/C to preserve the golf clubhouse and the front nine holes unless needed. The OPP station is managed by Infrastructure Ontario but rented from a private landowner. As the OPP station is privately owned, there are no EA requirements associated with relocation of the station. GGM will continue to work with Infrastructure Ontario and the landowner outside of the EA process to complete the relocation process. GGM is also working with Hydro One regarding the relocation of the transformer substation.

AFN has also requested additional information on employment opportunities and training for community members. Additional information is provided in Chapter 14.0 (labour and economy).
Biigtigong Nishnaabeg

Biigtigong Nishnaabeg provided comments about health effects on wildlife, including moose and bears, from the TMF (RoC; Appendix C3). The community also requested consideration of fish species of interest to Aboriginal communities and representative fish portions to be assessed. This has been considered in the fish and fish habitat VC (Chapter 11.0) and health effects are considered in the human and ecological health VC (Chapter 19.0).

Biigtigong Nishnaabeg provided comments regarding potential seepage effects on the surrounding environment (RoC; Appendix C3). This has been considered in the groundwater VC (Chapter 9.0) and surface water VC (Chapter 10.0) through geochemical testing, the use of modelling, and conservative assumptions so effects are not underpredicted. Biigtigong Nishnaabeg also requested additional information and clarification on the assimilative capacity study and discharge locations. In response, the “Technical Data Report: Hardrock Project - Assimilative Capacity Study of Southwest Arm of Kenogamisis Lake” (Appendix F6) was revised and the effects assessment was updated accordingly (surface water VC; Chapter 10.0, Section 10.4.3).

Biigtigong Nishnaabeg requested additional information regarding potential effects on fish and fish habitat due to noise and vibration as well as information regarding existing contamination in fish tissues. This has been considered in the fish and fish habitat VC (Chapter 11.0). Biigtigong Nishnaabeg also noted the importance of considering effects on Long Lake and the Aguasabon River related to fish habitat because of the risk of downstream effects from a potential TMF dam failure. This has been considered in the accidents and malfunctions chapter (Chapter 22.0).

Biinjitiwaabik Zaaging Anishinaabek

During consultation, BZA requested additional information regarding fish species in Goldfield Creek as well as spawning activity (RoC; Appendix C3). Information related to fish species and spawning activity has been considered in the fish and fish habitat VC (Chapter 11.0) and baseline information related to fish species and spawning activity (Environmental Baseline Data Reports - Hardrock Project: Fish and Fish Habitat; Appendix E7).

BZA has also requested additional information on employment opportunities for community members. Additional information is provided in Chapter 14.0 (labour and economy).

Bingwi Neyaashi Anishinaabek

During consultation, BNA requested information regarding groundwater seepage and hydrogeology modelling and noted the importance of water treatment and controlling the release of contaminated water (RoC; Appendix C3). For information on how this has been considered see the “Hardrock Project - Water Management and Monitoring Plan” (Appendix M1) and the groundwater VC (Chapter 9.0).
BNA requested information regarding effects on swamplands in Geraldton (RoC; Appendix C3). For information on how this has been considered see the vegetation communities VC (Chapter 12.0). A summary of comments received during consultation and how they were considered in the Final EIS/EA is included in Chapter 3.0 (community and stakeholder consultation).

BNA also provided comments about hunting areas identified around the Project (RoC; Appendix C3). The potential effect to hunting areas has been considered in Section 18.4.4 and the land and resource use VC (Chapter 16.0).

BNA has also requested additional information on how the Discover Geraldton Interpretive Centre, the Hydro One transformer station, the OPP station, the golf course and the MacLeod-Cockshutt Mining Headframe have the potential to be affected by the Project. As described in Section 5.6.1.3 of Chapter 5.0 (Project Description), an agreement has been signed between the Municipality and GGM to support the Municipality’s future plans with respect to municipal facilities. With respect to the golf course, GGM has committed to avoid using the contingency waste rock storage area (WRSA) A/C to preserve the golf clubhouse and the front nine holes unless needed. The OPP station is managed by Infrastructure Ontario but rented from a private landowner. As the OPP station is privately owned, there are no EA requirements associated with relocation of the station. GGM will continue to work with Infrastructure Ontario and the landowner outside of the EA process to complete the relocation process. GGM is also working with Hydro One regarding the relocation of the transformer substation.

**Constance Lake First Nation**

CLFN requested that fish migration and spawning activities near the community be considered, including the Goldfield Creek and Southwest Arm Tributary drainages, which will be affected by the Project (RoC; Appendix C3). CLFN requested information regarding fish and wildlife that are harvested by CLFN that may be affected as a result of potential contaminants from the Project (RoC; Appendix C3). CLFN also requested information regarding mitigation measures to manage water quality during the closure phase of the Project and to address potential effects on fish habitat (RoC; Appendix C3). These have been considered in the fish and fish habitat VC (Chapter 11.0), the Draft Fisheries Offset Plan (Appendix F10), wildlife and wildlife habitat VC (Chapter 13.0), the surface water VC (Chapter 10.0), and the human and ecological health VC (Chapter 19.0).

CLFN requested information regarding how TK shared by CLFN has been included in the Final EIS/EA (Appendix C3). Existing conditions for CLFN have been summarized from the CLFN website, a non-project related source (CLFN 2010). The TLRU information is summarized in existing conditions in Section 18.2.2.10 as well as the community summary in Section 18.5.6.
Eabametoong First Nation

EFN member participants in the EFN Knowledge and Use Study (Appendix J5) raised concerns regarding fishing and access to fishing areas; hunting/trapping and access to hunting and trapping; and cultural continuity, including:

- Potential effects from increased (road) access to preferred areas by non-EFN member hunters/anglers increasing competition for and loss of resources, deterring First Nation members from using the area.
  - As discussed in the land and resource use VC (Chapter 16.0), Lahtis Road will be closed during construction and operation due to safety reasons. At closure, Lahtis Road is anticipated to be re-opened to the Goldfield Creek diversion. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. No access to previously inaccessible areas will be created by the Project.
  - No potential effects on fish and wildlife resources as a result of increased competition are anticipated in the LAA. The potential for competition from in-migration of construction and operation workers would be managed to a great extent through existing provincial catch and bag limits and tag and seal requirements for valued species.

- Potential effects on spawning areas for fish. For information on how this effect has been considered see the fish and fish habitat VC (Chapter 11.0).

- Potential effect of degradation of harvestable resources and restricted access to TLRU areas leading to a decreased transmission of knowledge and time being spent on the land. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

- Potential fear and uncertainty of contamination (i.e., environmental effect) from the Project of subsistence resources, including bodies of water, plants, fish, birds, and mammals during construction and operation. For information on how this potential effect has been considered see the human and ecological health VC (Chapter 19.0).

- Potential effects from the Project on the Albany River (RoC; Appendix C3). Fish within Kenogamisis Lake do not typically migrate downstream. Fish are also prevented from traveling into Kenogamisis Lake from the Albany River by two dams. There is a very low likelihood of fish moving downstream to the Albany River and a low probability of those fish then being caught for consumption. Given the low likelihood of fish from Kenogamisis Lake being caught in the Albany River and the predicted improvements to the water quality in Kenogamisis Lake, the Project is not anticipated to affect fish usability in the Albany River.

- Potential disruption to important wildlife habitat including moose habitat. For information on how this potential has been considered see the wildlife and wildlife habitat VC (Chapter 13.0).
Potential effect of disruption to the landscape and fears of contamination decreases the spiritual connection that EFN members feel towards the landscape. For information on how this potential effect has been considered, see the assessment of residual environmental effects (Section 18.4.5).

Ginoogaming First Nation

During consultation, GFN requested additional information on the assessment of loss of wetlands and effects on plant species including weke (assumed to be wike [sweet flag]) (RoC; Appendix C3). Loss of wetlands and effects on plant species have been considered in the vegetation communities VC (Chapter 12.0).

In the GFN SIA (Appendix J8), GFN members expressed a concern regarding the decrease in the availability of fish. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources in Section 18.4.3.

GFN identified locations where fishing occurs including Kenogamisis Lake, Burrows Lake, Twin Lakes, Chipman Lake, and Long Lake as well as the waterways that connect them (AAFN/HC 1997). For information on how this potential effect has been considered see existing conditions in Section 18.2 and the fish and fish habitat VC (Chapter 11.0).

In the GFN SIA (Appendix J8), GFN members expressed a concern regarding a decrease in the availability of wildlife. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources in Section 18.4.4.

GFN provided comments regarding the effect of the Project on access to land and resources for the Aboriginal communities (RoC; Appendix C3). This has been considered in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

GFN recommended developing mitigation measures to control hunting, trapping and fishing by mine workers (RoC; Appendix C3). For information on how this potential effect has been considered see the land and resource use VC (Chapter 16.0, Section 16.4.2.1).

GFN provided comments regarding potential seepage effects on the surrounding environment (RoC; Appendix C3). This has been considered in the groundwater VC (Chapter 9.0) and surface water VC (Chapter 10.0) through geochemical testing, the use of modelling, and conservative assumptions so effects are not under predicted.

GFN also notes the importance of working collaboratively with GGM to develop a procedure for communication regarding potential new archaeological finds. This has been considered in the heritage resources VC (Chapter 17.0) and the Conceptual AHRMP (Appendix M14).
GFN noted the importance of including areas used for traditional purposes by Aboriginal communities in the atmospheric and noise assessments. In response, special receptors representing areas of TLU were included in the atmospheric environment VC (Chapter 7.0) and acoustic environment VC (Chapter 8.0).

In the GFN SA (Appendix J8), GFN members expressed a concern that a decrease in the health and availability of fish, wildlife, and traditional plants will diminish the strong connection that GFN members have with the land and their traditional practices. For information on how this potential effect has been considered see assessment of residual environmental effects on the availability of and access to harvesting areas and resources in Section 18.4, in the wildlife and wildlife habitat VC (Chapter 13.0), the vegetation communicates VC (Chapter 12.0), the fish and fish habitat VC (Chapter 11.0), and the human and ecological health VC (Chapter 19.0).

GFN requested additional information on how health care services and recreation services and infrastructure could potentially be affected by the Project. Further clarification is provided in the description of existing conditions of health and emergency services and infrastructure and recreation in Sections 15.2.2.3 and 15.2.2.5 and in an assessment of the effects in Section 15.4.3. GFN also requested more detail on mitigation measures for changes in labour and economy, including related to employment opportunities, economic effects on recreation and tourism activities, and labour changes during closure. Additional information on mitigation measures related to employment opportunities, labour changes during closure, and economic effects on the recreation and tourism industries are provided in Sections 14.4.2.2 and 14.4.3.2.

**Long Lake #58 First Nation**

The 2015 LLFN TLU Survey (Appendix J2) results included several recommendations by LLFN members:

- protect the environment and keep it safe
- keep traditional area safe for future generations and consult with Elders
- keep pollution to a bare minimum
- follow correct legislation/requirements/policies regarding development

These recommendations have been considered in the Conceptual EMMPs (provided in Appendix M).

In the LLFN TK Assessment (Appendix J1), concerns were raised about potential effects the Project may have on harvesting. This has been considered in Sections 18.4.2, 18.4.3 and 18.4.4.
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LLFN members noted that there are areas that have been previously disturbed; there are some areas near Highway 11, east of Geraldton, now underwater, where medicinal plants used to grow. During consultation with GGM the Elders noted that the plants are contaminated (RoC; Appendix C3). For additional information on how this has been considered see Section 18.2.2.5.

In the LLFN CIA, respondents raised concerns regarding potential effects of the Project on medicinal plants; “Medicinal Plants (e.g., sweetgrass) occur along the shoreline of Kenogamisis Lake and the surrounding waterbodies. If alterations occur to water levels and quality along the shoreline, this value is likely to be impacted” (LLFN 2013). This has been considered in the vegetation communities VC (Chapter 12.0), which confirms sweetgrass was not identified in the PDA during the vegetation surveys; however, the occurrence is noted in the LAA. This is considered in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.2).

In comments made by LLFN to the CEA Agency, a medicinal plant site was reported in the area of the open pit (RoC; Appendix C3). GGM is unable to find reference to the site within the LLFN TK Assessment (Appendix J1) or the LLFN CIA and has requested clarification from LLFN on several occasions.

The LLFN TK Assessment (Appendix J1) identifies four campsite or cabin areas in the PDA. In addition, comments from LLFN to the CEA Agency identified a heritage site “located within the proposed realignment of Highway 11”. During GGM and LLFN follow-up meetings on April 18 and 19, 2017 LLFN confirmed there are a total of four “land use” sites within the PDA. LLFN also confirmed that these are not sacred sites and further detail is confidential. The land use sites are in the same general locations as the campsite or cabin areas identified in the TK Assessment. GGM and LLFN have agreed upon a path forward for these sites.

In comments made by LLFN to the CEA Agency, members raised concerns about the effects of the Project on vegetation, including changes to harvesting rights contamination of lands and potential for spills (RoC; Appendix C2). LLFN also provided comments about changes in harvesting areas and access to land because of the Project (RoC; Appendix C3). LLFN in comments to CEA Agency requested that plant species identified by LLFN should be considered species of importance (RoC; Appendix C3). This has been considered in the vegetation communities VC (Chapter 12.0), and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.2). Accidents and malfunctions are considered in Chapter 22.0.

LLFN recommended that “appropriate mitigation strategies be identified to address potential impacts to noted LLFN TK of sites and areas if/when specific impacts are identified” (LLFN TK Assessment; Appendix J1). The Draft EIS/EA considered the LLFN TK Assessment (Appendix J1) and LLFN has reviewed and commented on the Draft EIS/EA. Most respondents (95% of the 49 respondents) from the LLFN TLU Survey (Appendix J2) noted concerns regarding pollution from
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the Project and the resulting effect on the environment. LLFN also requested that berry harvesting locations be identified and mapped prior to construction of the Project as part of the ongoing research for existing conditions (LLFN TLU Survey; Appendix J2). LLFN recommended special monitoring take place for the medicinal plants along the shoreline of Kenogamisis Lake and surrounding waterbodies (LLFN 2013). LLFN recommends environmental monitoring to ensure legislation/policies/best practices are being followed (LLFN TLU Survey; Appendix J2). Conceptual EMMPs are provided in Appendix M.

In consultation with the CEA Agency, LLFN provided comments about community health due to the harvest and consumption of walleye. This has been considered in the fish and fish habitat VC (Chapter 11.0), human and ecological health VC (Chapter 19.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.3).

Through the LLFN TLU Survey (Appendix J2), Kenogamisis Lake, Kenogamisis River, Eldee Lake and the lakes around Nakina were identified as fishing areas within the regional assessment area (RAA). LLFN members also expressed that most waterbodies within the RAA are fishing areas. Locally caught fish was identified as a primary component in the diet of LLFN members (LLFN TLU Survey; Appendix J2). LLFN indicated that Long Lake and lakes around the LLFN Reserve have become too polluted to fish (LLFN TLU Survey; Appendix J2). LLFN members are concerned that the Project will render waterways unsuitable for fishing purposes. Moreover, LLFN identified potential direct effects of the Project on fish habitat including heavy metal loading in waterbodies (RoC; Appendix C3). LLFN provided comments about parameters of potential concern in fish, lakes, and streams, including elevated mercury, arsenic, and phosphorus levels. This has been considered in surface water VC (Chapters 10.0), fish and fish habitat VC (Chapter 11.0), human and ecological health VC (Chapter 19.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.3).

Comments made in the LLFN TLU Survey (Appendix J2) include the following:

- Questions regarding how the Project will affect waterways and may affect the ability to fish. For information on how this potential effect has been considered see the surface water VC (Chapter 10.0) and the fish and fish habitat VC (Chapter 11.0).
- The potential effect the Project will have on waterbodies including toxicology and repercussions on fishing and diet. For information on how this potential effect has been considered see the human and ecological health VC (Chapter 19.0).

LLFN recommended that a special monitoring program be established for fish (LLFN 2013). In addition, LLFN suggested environmental monitoring to ensure proper legislation/policies/best practices are being followed (LLFN TLU Survey; Appendix J2). In response, a “Hardrock Project - Conceptual Aquatic Management and Monitoring Plan” (Conceptual AMMP) is included in
Appendix M12. The LLFN TLU Survey (Appendix J2) suggested that, considering the importance of fish in LLFN members’ diets, toxicology and hydrology studies should be undertaken to determine Project effects on fishing. This has been considered in the surface water VC (Chapter 10.0) and fish and fish habitat VC (Chapter 11.0). In consultation with GGM regarding the Draft EIS/EA, LLFN requested that walleye is identified as a species of importance. As well, additional information regarding the Project effects on fish habitat, including those related to the removal of water from Kenogamisis Lake, the loss of fish habitat due to Goldfield Creek diversion channel, and fish habitat areas directly affected by the Project was requested by LLFN (RoC; Appendix C3). This has been considered in the fish and fish habitat VC (Chapter 11.0).

The LLFN TK Assessment (Appendix J1) repeatedly noted a concern regarding the potential disruption of game and related hunting and trapping success. This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

In addition, 75.6% of members surveyed are concerned with noise from the Project and the potential effect on hunted/trapped species (LLFN TLU Survey; Appendix J2). This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

LLFN provided comments about the effect of the Project on wildlife including the distribution and abundance of wildlife and the potential for contamination:

- “Mammals (moose, rabbit, marten etc.), birds (geese, grouse etc.) all occupy the Project site and are hunted/trapped from the surrounding area. If alterations occur to the air and water quality in the surrounding area, excessive noise occurs at key seasons and/or animals access contaminated soils, these values are likely to be impacted” (LLFN 2013).

This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

LLFN provided comments about changes in harvesting areas and access to land because of the Project (RoC; Appendix C3). This has been considered in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

LLFN provided comments about effects of the Project, including: the effects on harvesting rights; contamination due to waste rock and tailing materials; contamination of lands; and potential for spills (RoC; Appendix C3). This has been considered in the assessment of residual environmental effects (Section 18.4), and in Chapter 3.0 (community and stakeholder consultation). Spills are considered in the assessment of effects of potential accidents or malfunctions (Chapter 22.0). Potential contamination has been considered throughout the Final EIS/EA.
LLFN requested additional information and clarification with regard to potential seepage effects on the surrounding environment (RoC; Appendix C3). This has been considered in the groundwater VC (Chapter 9.0) and surface water VC (Chapter 10.0). LLFN also requested clarification on potential effects from dust on local communities and the environment, including potential metals deposition in nearby lakes. The air quality assessment included 1,475 closely spaced receptors on Kenogamisis Lake to assess particulate and metals deposition. This is discussed further in the assessment of effects on the atmospheric environment (Chapter 7.0).

LLFN recommended a special monitoring program be established for mammals and birds (LLFN 2013). LLFN recommends environmental monitoring to ensure that the proper legislation/policies/best practices are being followed (LLFN TLU Survey; Appendix J2). GGM commits to consulting with the LLFN to identify specific issues and work with the community to address the concerns. The “Hardrock Project Conceptual Biodiversity Management and Monitoring plan” is provided in Appendix M13.

In the LLFN CIA, members noted that, “One Gathering Site (former family settlement) is located immediately north of the Hardrock Project site. The site could be affected if the Project Activities expand beyond the current project boundaries” (LLFN 2013). This is considered in this chapter by incorporation in existing conditions (Section 18.2).

In comments made by LLFN to the CEA Agency, members made suggestions for cultural and spiritual practices/sites/areas (RoC; Appendix C2):

- Archaeological sites, heritage resources and heritage landscapes should be fully understood prior to Project development.
- It is GGM’s responsibility to notify LLFN if heritage resources are to be altered and that the value of heritage resources is dependent upon the value to the community.

These have been considered in the heritage resources VC (Chapter 17.0) and in Section 18.5.2.

LLFN recommended that an agreement be confirmed between GGM and LLFN to address the potential discoveries of burials, artifacts, or settlement related evidence because of Project activities (LLFN TK Assessment; Appendix J1). Additional consultation should take place with LLFN Elders to identify and protect ceremonial sites (LLFN TLU Survey; Appendix J2). This has been considered in the heritage resources VC (Chapter 17.0).

Based on the LLFN TLU Survey (Appendix J 2) results, several recommendations for mitigation measures were identified by LLFN members:

- Explore the area for protection of the First Nation's heritage including potential expanded cultural programming for children in school.
- Protect the traditional area for future generations.
- Protect archaeological and heritage features.
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This has been considered in the heritage resources VC (Chapter 17.0) and in Section 18.5.2.

LLFN has also requested additional information on how community services and infrastructure will be affected by the Project including, the golf course, Highway 11 health care and emergency services, housing/rental stock, and community and recreation services for children. As well as additional information on employment opportunities and training for community members. GGM has endeavoured to design the site plan making best efforts to preserve the golf clubhouse and the front nine holes for the longest duration possible. GGM is working with relevant agencies and regulatory bodies regarding the removal of provincial infrastructure. Existing conditions related to transportation are described in Section 15.2.2.6. An assessment of the effects of the Project includes consideration of traffic and the existing road network (15.4.5). The Project includes a temporary camp to house workers during construction and has committed to providing some basic services, thereby reducing potential pressure on some community services and infrastructure. Further clarification is provided in the description of existing conditions in Sections 15.2.2.1 to 15.2.2.9 and in an assessment of the effects in Sections 15.4.2, 15.4.3 and 15.4.4. Additional information is provided in Chapter 14.0 (labour and economy VC).

Marten Falls First Nation

During meetings between GGM and MFFN, MFFN expressed that it has an interest in the Project. MFFN explained that MFFN members fly out of the community to Nakina, located 60 km north of Geraldton. Off-reserve members live in Thunder Bay and the Geraldton area including in the RAA. MFFN members practice traditional activities such as moose hunting and share concerns about water quality. This has been considered in the groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0), land and resource use VC (Chapter 16.0) and in this chapter.

MFFN also requested additional information on business opportunities for Aboriginal communities. GGM has and will continue to work with local and Aboriginal-owned businesses on Project contracts regarding the supply of goods and services, particularly for the operation phase. Increased participation of local and Aboriginal-owned businesses will enhance positive economic effects in the LAA. Additional information is provided in Chapter 14.0 (labour and economy).

Métis Nation of Ontario

Members of the MNO shared concerns regarding the potential environmental effects of the Project including those on water, air, noise, heritage resources and wildlife. These have been considered in the groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0), atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), wildlife and wildlife habitat VC (Chapter 13.0) and the heritage resources VC (Chapter 17.0). Other comments provided related to access to land use areas and Kenogamisis Lake through Lahtis Road (MNO TKLU Study; Appendix J 3). This has been considered in the land and resource use VC (Chapter 16.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4). GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.
MNO also noted the importance of including areas used for traditional purposes by Aboriginal communities in the atmospheric and acoustic environment assessments. In response, special receptors representing areas of TLRU were included in the atmospheric environment VC (Chapter 7.0) and a acoustic environment VC (Chapter 8.0).

In comments made by the MNO to the CEA Agency, the MNO raised concerns about the effects of the Project on vegetation, including changes to harvesting rights, contamination of lands and potential for spills (RoC; Appendix C2). This has been considered in the vegetation communities VC (Chapter 12.0), in Chapter 3.0 (community and stakeholder consultation) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.2). Spills are considered in the assessment of effects of potential accidents or malfunctions (Chapter 22.0) and the “Hardrock Project Conceptual Spill Prevention and Response Plan” (Appendix M8).

The MNO identified locations important to fisheries in the Project area specifically Kenogamisis Lake, Goldfield Lake, Magnet Creek, and Mosher Lake (MNO TKLU Study; Appendix J3). A concern was raised about the potential effect on the MNO's fishing rights (MNO TKLU Study; Appendix J3). The MNO raised concerns about changes in harvesting areas and access to land because of the Project:

- “Lahtis Road, where we go to camp - not just me but most of all the town. That road almost became inaccessible because that's where they're mining” (MNO TKLU Study; Appendix J3).
- MNO is concerned about the effects of the Project on fish (including pickerel) and fish habitat including contamination from the Project (MNO TKLU Study; Appendix J3).
- “The biggest concern that I had was where they're going to store some of the waste is very close to the lake. That makes me a little bit nervous, so I might be even more cautious, say, harvesting fish from Kenogamisis” (MNO TKLU Study; Appendix J3).
- MNO is concerned about the potential effect on fish from increases in mercury and arsenic levels (RoC; Appendix C3).
- MNO is also concerned about the effect of roads on fish spawning areas including Magnet Creek (MNO TKLU Study; Appendix J3).

The effects on fish and fish habitat are considered in the fish and fish habitat VC (Chapter 11.0) and the effects on harvesting are considered in Section 18.4.2.3. Harvesting rights are considered in Chapter 3.0 (community and stakeholder consultation).

MNO members expressed the following concern in the MNO TKLU Study (Appendix J3) regarding potential effects on the abundance and distribution of hunted species: “It would have impact on the animals, you know, the birds flying over, the ducks, you know. Are they going to avoid the area? For sure”. This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).
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The MNO provided comments regarding the potential for MNO members limiting harvesting activities in the area near the TMF on the Southwest Arm of Kenogamisis Lake due to the perception of contamination based on seepage from the existing tailings into Barton Bay. Seepage has been considered in the groundwater VC (Chapter 9.0), and surface water VC (Chapter 10.0) and harvesting activities have been considered in conditions for TLRU (Section 18.1.1).

In comments made by the MNO to the CEA Agency, members requested that the list of mammal species in the wildlife and wildlife habitat assessment include mink, rabbit or deer as identified by MNO harvesters (RoC; Appendix C3). This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0).

Additional comments made by the MNO to the CEA Agency included a request for additional information on potential effects on community fishing, plant harvesting, hunting and trapping, restricted access to cultural and spiritual sites and mitigation measures for these effects to be included in the Final EIS/EA. This is considered in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).

MNO provided comments regarding potential effects on migrating wildlife and land users because of light pollution. This has been considered in the atmospheric environment VC (Chapter 7.0) and the wildlife and wildlife habitat VC (Chapter 13.0).

MNO has also requested consideration of unique labour force values in relation to the Métis population, including labour force participation and unemployment rates, employment by industry and occupation, labour force skill levels, labour availability, income levels and business and economic activities. GGM undertook a labour market survey earlier in 2016 which included identifying over 60 Project-related jobs. The survey included Aboriginal communities in the local assessment area (LAA). A summary of survey results and other information on employment opportunities for the Project, including a breakdown of estimated labour requirements during construction and operation is provided in the Labour and Economy VC (Chapter 14.0, Section 14.4.2.3).

Pays Plat First Nation

PPFN prepared a 2016 watershed study for the Project (PPFN Watershed Study; Appendix J4). The PPFN Watershed Study does not overlap with the PDA/LAA for this chapter; however, Toupee Lake is in the RAA. Information from the PPFN Watershed Study has been incorporated into the existing conditions for water quality (Section 10.2.2.8) in the surface water VC (Chapter 10.0). PPFN provided the following comments in the Watershed Study:

- "Pays Plat depends on a healthy ecosystem for food, clothing and collecting medicinal plants" (PPFN Watershed Study; Appendix J4). This is considered in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4).
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- “Mining activities can alter/challenge calving grounds, river crossings, migration routes and wintering sites” (PPFN Watershed Study; Appendix J4) regarding potential effects on hunted species. This has been considered in the wildlife and wildlife habitat VC (Chapter 13.0) and in the assessment of residual environmental effects on the availability of and access to harvesting areas and resources (Section 18.4.4).

- Concern about the effect of the Project on wildlife populations including moose. Participants in the PPFN Watershed Study noted that there has been a very large decline in the moose population in the past three years [2013-2016] (PPFN Watershed Study; Appendix J4). Information on moose is provided in the wildlife and wildlife habitat VC (Chapter 13.0).

- Statements including “protection of our sacred sites is vital” and “this specific area has certain sites present that are essential to our culture” related to sites located in the geographic area considered in the Watershed Study (PPFN Watershed Study; Appendix J4). This has been considered in the assessment of residual environmental effects (Section 18.4.5).

While GGM has not received Project-specific information, PPFN asserts in consultation with MOECC and GGM that it carries out sustainable activities across a general area, including harvesting, fishing and hunting in the general Kenogamisis and Greenstone areas.

PPFN has also requested additional information on employment opportunities for community members. Additional information is provided in Chapter 14.0 (labour and economy VC).

Pic Mobert First Nation

PMFN provided comments regarding Project effects on commercial traplines near Caramat Road, which is outside the RAA (RoC; Appendix C3). Commercial traplines have been considered in the land and resource use VC (Chapter 16.0).

PMFN has also requested additional information on moose, including habitat, travel routes and an aerial survey. As well as additional information on the socio-economic effects and benefits as a result of the Project. Information on moose from the baseline field data, stakeholder consultation and MNRF data are provided in Figure 13-3 and Section 13.2.2. Additional information on Labour and Economy is provided in Chapter 14.0.

Red Sky Métis Independent Nation

RSMIN provided comments regarding Project effects on fish habitat in Goldfield Creek (RoC; Appendix C3). This has been considered in the fish and fish habitat VC (Chapter 11.0) and the Draft Fisheries Offset Plan (Appendix F10).

RSMIN also noted interest in potential effects related to changes on lands traditionally and currently used for recreation, fishing, and hunting. This has been considered in the assessment of residual environmental effects (Section 18.4.5).

RSMIN has also requested additional information on employment opportunities and training for community members. Additional information is provided in Chapter 14.0 (labour and economy VC).
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18.1.5 Selection of Potential Environmental Effects and Measurable Parameters

Table 18-2 summarizes the potential environmental effects of the Project on TLRU, the measurable parameters, and the rationale for their selection. These potential environmental effects and measurable parameters were selected based on professional judgment, recent EAs for mining projects in Ontario, and comments provided during consultation.

The potential environmental effects on TLRU (Table 18-2) were measured in terms of a change in availability and access. Availability refers to the physical presence, the abundance and distribution of lands and resources for TLRU activities as well as the integrity of cultural and spiritual sites and areas. Access considers the change to the ability to access lands and resources for TLRU activities or alteration of lands and resources for TLRU activities. The potential environmental effects listed in Table 18-3 represent a wide range of potential tangible effects on TLRU. The intangible, experiential and spiritual aspects of TLRU are discussed in Section 18.1.1.

Table 18-2: Potential Environmental Effects and Measurable Parameters for Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Potential Environmental Effect</th>
<th>Measurable Parameter(s)</th>
<th>Notes or Rationale for Selection of the Measurable Parameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change to availability of plant species and access to plant harvesting sites and activities</td>
<td>• Availability of resources • Plant harvesting sites and associated access</td>
<td>• Plant harvesting depends on the abundance and distribution of traditionally harvested species • Plant harvesting depends on the continued availability of traditional plant harvesting areas and continued access to these areas</td>
</tr>
<tr>
<td>Change to availability of fish species and access to fishing areas and activities</td>
<td>• Availability of resources • Access to fishing sites</td>
<td>• Fishing depends on the distribution and abundance of traditionally harvested species • Fishing depends on the continued availability of fishing areas and continued access to these areas</td>
</tr>
<tr>
<td>Change to availability of hunted and trapped species and access to hunting and trapping areas and activities</td>
<td>• Availability of resources • Access to hunting and trapping areas</td>
<td>• Hunting and trapping depends on the distribution and abundance of traditionally harvested species • Hunting and trapping depend on the continued availability of traditional hunting areas and continued access to these areas</td>
</tr>
<tr>
<td>Change to cultural or spiritual practices, sites, or areas</td>
<td>• Integrity (disturbance, alteration, or removal) of cultural or spiritual sites or areas • Access to cultural or spiritual sites or areas</td>
<td>• The use of spiritual or cultural sites (including trails and travelways, sacred areas, communal gathering areas, and habitation sites) depends on continued availability, integrity, and access.</td>
</tr>
</tbody>
</table>
18.1.6 Boundaries

The areas applied for the assessment of potential environmental effects on TLRU are described below and shown in Figure 18-2.

18.1.6.1 Spatial Boundaries

Project Development Area

The PDA encompasses the Project footprint and is the anticipated area of physical disturbance associated with the construction, operation, and closure of the Project (Figure 18-2). The PDA is approximately 2,200 hectares (ha) in size.

Local Assessment Area

The LAA for TLRU is aligned with the LAA established for the surface water VC (Chapter 10.0). This LAA also encompasses the predicted extent of potential effects on aquatic and terrestrial uses (effects on vegetation communities VC [Chapter 12.0] and wildlife and wildlife habitat VC [Chapter 13.0]), which includes Kenogamisis Lake, Kenogamisis River, Goldfield Lake and nearby and connecting waterbodies that could be affected by contact water. The LAA was selected based on drainage patterns (i.e., watershed-based approach) of local streams and lakes, and was established to consider the area in which the Project activities could have direct or indirect effects on TLRU. The LAA is approximately 55,171 ha in size.

Regional Assessment Area

The regional assessment area (RAA) also aligns with the RAA selected for the surface water assessment due to Aboriginal use and reliance on waterways in the area as described by LLFN (LLFN TK Assessment; Appendix J1), MNO (MNO TKLU Study; Appendix J3) and PPFN (Toupee Lake, PPFN Watershed Study; Appendix J4). The RAA extends downstream from the Kenogamisis Lake Dam to the discharge point of the Kenogami River to Long Lake at Crib Road and northeast to the Kenogami Diversion Dam. This drainage area forms the basis for the assessment of the terrestrial area of current use. The RAA is used to provide regional context for the significance of residual effects and is also the area within which potential for cumulative effects of the Project in combination with other past, present, or reasonably foreseeable projects or activities are considered. The RAA is approximately 133,780 ha in size.

Where site-specific TLRU information is available, TLRU sites that fall within the spatial boundaries of the TLRU assessment are identified.
18.1.6.2 Temporal Boundary

The temporal boundaries for the assessment of TLRU are:

- **Construction:**
  - Years -3 to -1 with early ore stockpiling commencing after the first year of construction.

- **Operation:**
  - Years 1 to 15, with the first year representing a partial year as the Project transitions from construction to operation.

- **Closure:**
  - **Active Closure:** Years 16 to 20, corresponding to the period when primary decommissioning and rehabilitation activities are carried out.
  - **Post-Closure:** Years 21 to 36, corresponding to a semi-passive period when the Project is monitored and the open pit is allowed to fill, creating a pit lake.

The temporal boundary for current use of lands and resources for traditional purposes (TLRU in this document) considers each Aboriginal community’s current and future use of lands and resources for traditional purposes during the Project construction, operation, and closure. Current use of lands and resources for traditional purposes was defined as extending back from the present time to within the last 25 years (or one generation); therefore, information regarding existing conditions, with associated temporal details is limited to 1990 to present and into the reasonably foreseeable future. Twenty-five years was chosen as the temporal boundary because knowledge about traditional practices or locales may be lost or may not be passed on to younger members of the community if it goes unused for a generation. Future use pertains to the opportunities for generations of descendants to practice traditional activities (in modern form) and maintain traditional cultural and spiritual values.

The temporal boundary also applies to wildlife breeding seasons, seasonality of vegetation communities, and Aboriginal resource harvesting times, and how the Project timeline interacts with these activities.

18.1.7 Residual Environmental Effects Description Criteria

Table 18-3 summarizes how residual environmental effects are characterized in terms of direction, magnitude, geographic extent, timing, frequency, duration, reversibility, and ecological and socio-economic context. Quantitative measures or definitions for qualitative categories are provided.
### Table 18-3: Characterization of Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Characterization</th>
<th>Description</th>
<th>Quantitative Measure or Definition of Qualitative Categories</th>
</tr>
</thead>
</table>
| **Direction**    | The relative change compared to baseline conditions. | Positive — an increase in availability of and access to TLRU relative to baseline conditions.  
Adverse — a decrease in availability of and access to TLRU relative to baseline conditions. |
| **Magnitude**    | The amount of change in either the measurable parameters or the VC relative to baseline conditions. | Low — the residual environmental effect will not reduce the ability to undertake the activities.  
Moderate — the residual environmental effect will reduce the ability to undertake TLRU activities.  
High — the residual environmental effect will eliminate TLRU. |
| **Geographic Extent** | The geographic area in which the residual environmental effect occurs. | PDA — the residual environmental effect is restricted to the PDA.  
LAA — the residual environmental effect extends into the LAA.  
RAA — the residual environmental effect extends into the RAA. |
| **Timing**       | Considers when the residual environmental effect is expected to occur. Timing considerations are noted in the evaluation of the environmental effect, where applicable or relevant. | N/A — seasonal aspects are unlikely to alter the residual environmental effect on TLRU.  
Applicable — seasonal aspects may alter the residual environmental effect on TLRU. |
| **Frequency**    | Identifies how often the residual environmental effect occurs within a given time. | Single event — the residual environmental effect occurs once during the Project.  
Multiple irregular event (no set schedule) — the residual environmental effect occurs at irregular intervals throughout the life of Project.  
Multiple regular event — the residual environmental effect occurs on a regular basis and at regular intervals throughout the life of Project.  
Continuous — the residual environmental effect occurs continuously throughout the life of the Project. |
| **Duration**     | The length of time required until the residual environmental effect can no longer be measured or otherwise perceived. | Short-term — the residual environmental effect is limited to construction or active closure.  
Medium-term — the residual environmental effect extends throughout construction, operation, and active closure.  
Long-term — the residual environmental effect extends beyond active closure. |
Table 18-3: Characterization of Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Characterization</th>
<th>Description</th>
<th>Quantitative Measure or Definition of Qualitative Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reversibility</td>
<td>Pertains to whether a measurable parameter or the VC can return to its baseline condition after the Project activity ceases</td>
<td><strong>Reversible</strong> — the residual environmental effect is likely to be reversed after the activity ceases.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Irreversible</strong> — the residual environmental effect is permanent and either the measurable parameter of the VC is unlikely to return to baseline conditions after the activity ceases.</td>
</tr>
<tr>
<td>Ecological and Socio-economic Context</td>
<td>Considers uncommon characteristics of the area, a community and/or ecosystems that may be affected by the Project and/or whether the VC or measurable parameter is important to the functioning of an ecosystem or community of people.</td>
<td><strong>Typical</strong> — the VC or measurable parameter is considered common and/or is considered not important to the functioning of the community.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Atypical</strong> — the VC or measurable parameter is considered uncommon and/or is considered important to the functioning of the community.</td>
</tr>
</tbody>
</table>

18.1.8 Considerations for Determination of Significance for Residual Environmental Effects

Under CEAA 2012, there is a requirement to make a determination of significance for residual environmental effects on TLRU. The lack of laws, policies, management plans or standard industry practice regarding thresholds for this VC makes choosing and applying significance thresholds methodologically challenging. The subjective nature of describing and understanding the importance of effects on current use of lands and resources for traditional purposes means that selected thresholds might not evenly apply across Aboriginal communities and circumstances. The determination of significance of residual effects on TLRU is discussed in Section 18.6. The determination of significance for assessment of residual environmental effects considers TLRU and TK information from traditional land use and TK information sharing (Project-specific TLRU studies), applicable literature review, review of significance determination for assessment of residual effects of related biophysical and socio-economic VC assessments, review of detailed biophysical existing conditions work conducted in the PDA, outcomes of Project consultation activities, past project experience and professional judgment.

18.2 Existing Conditions for Traditional Land and Resource Use

This section provides a summary of existing conditions for TLRU and the methods used to characterize baseline conditions.
18.2.1 Methods

18.2.1.1 Data Collection

Existing conditions for TLRU are derived from Project-specific TLRU studies, literature review and Project consultation activities. A summary of available information is presented in Section 18.2.2, arranged by Aboriginal community.

Project-specific studies indicate that TLRU sites and activities occur within the RAA, LAA and PDA. These studies commonly acknowledge study limitations; therefore, the information provided in Section 18.2.2 should not be regarded as exhaustive or comprehensive, and a lack of information does not imply an absence of use or occupancy relating to TLRU. EFN stated three limitations to their Knowledge and Use Study, including that the study did not include all knowledge holders and was thus preliminary; the data collected was limited by what the participants were willing to report; and, that the mapped values are only a small portion of the actual area required for the practice of traditional activities (EFN Knowledge and Use Study; Appendix J5). The GFN SIA (Appendix J8) identified the limitation that the study did not include an equal number of participants across all age groups. MNO stated the TKLU Study had a small sample size and therefore may not have captured all of the land use that is important to MNO members (MNO TKLU Study; Appendix J3). In a letter dated November 14, 2016, MNO authorizes GGM to use information in the MNO TKLU Study, including the maps, provided that commercial fishing or trapline information is not included in a manner that would allow precise identification of locations. AFN, in consultation with GGM, has asked that details of TLRU locations and resource species be kept confidential.

Table 18-1 lists potentially affected communities for which information is available regarding TLRU through Project-specific studies, secondary sources, and consultation activities. Figure 18-1 shows the location of First Nation communities included in this chapter, including associated reserve lands and administrative offices. First Nation communities are presented in detail in Table 18-1. The MNO offices (MNO Greenstone Métis Council in Geraldton and MNO – Region 2 office in Thunder Bay) appear on Figure 18-2.

A review of the information provided by those Aboriginal communities, as well as secondary sources and consultation, informed the identification of potential Project effects on TLRU. The identification (through federal and provincial direction) of Aboriginal communities that have the potential to be affected by the Project, is discussed in Chapter 3.0 (community and stakeholder consultation), along with profiles of the Aboriginal communities.

TLRU information relevant to existing conditions includes:

- description of traditional territories or lands
- cultural and historical background information
- locations of harvesting sites and areas (including, but not limited to, hunting, trapping, fishing, plant harvesting)
locations of sites and areas of importance to Aboriginal communities (including sacred sites, burial sites, trails or other travelways, archaeological or paleontological sites, cabins, camping areas, fishing villages, spawning areas, calving areas, mineral licks, quarries)

- lists of species or resources harvested (including wildlife, plants, fish).

Data were then categorized by potential environmental effects and the associated measurable parameters, including:

- change to distribution of plant species and plant harvesting sites and activities
- change to distribution fish species and fishing areas and activities
- change to distribution of hunted and trapped species and hunting and trapping areas and activities
- change to cultural or spiritual practices, sites, or areas.

### 18.2.2 Overview of Existing Conditions

Project-specific TK and TLRU studies that have been made available to GGM and incorporated in this chapter are available in the Traditional Knowledge Studies/Information (Appendix J) and described in Table 18-4.

<table>
<thead>
<tr>
<th>Table 18-4: Project-Specific Traditional Knowledge Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aboriginal Community</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>AFN</td>
</tr>
<tr>
<td>LLFN</td>
</tr>
</tbody>
</table>
### Table 18-4: Project-Specific Traditional Knowledge Studies

<table>
<thead>
<tr>
<th>Aboriginal Community</th>
<th>Study Name</th>
<th>Description of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>LLFN</td>
<td>“Long Lake #58 First Nation Traditional Land Use Survey Results Greenstone Gold Mine” (LLFN TLU Survey; Appendix J2)</td>
<td>This document is intended to supplement the LLFN TK Assessment. The survey addressed land and resource use within the LLFN traditional territory and the GGM RAA. The RAA used in the survey has the same as the RAA identified in Section 18.1.5.1 Spatial Boundaries.</td>
</tr>
<tr>
<td>MNO</td>
<td>“Métis Nation of Ontario - Traditional Knowledge and Land Use Study for the Hardrock Project: Lakehead/Nipigon/ Michipicoten Traditional Territories” (MNO TKLU Study; Appendix J3)</td>
<td>The study comprised a VC workshop, site visits with community members, map biographies and oral histories. This report documented past and current land use as well as perspectives on the Project and potential environmental effects.</td>
</tr>
<tr>
<td>PPFN</td>
<td>“Pays Plat First Nation Watershed Study for Greenstone Gold Mines” (PPFN Watershed Study; Appendix J4)</td>
<td>This report documents the monitoring program for nine lakes (all but one is outside the RAA) used by PPFN. The introduction to this study provides information on TLRU.</td>
</tr>
<tr>
<td>EFN</td>
<td>“Eabametoong First Nation Knowledge and Use Scoping Study for Greenstone Gold’s Proposed Hardrock Project” (EFN Knowledge and Use Study; Appendix J5)</td>
<td>The study comprised semi-structured interviews and mapping with knowledge holders. The study documents use and occupancy of lands and identification of traditional resource use near the Project.</td>
</tr>
</tbody>
</table>
| GFN                  | “Community Needs Assessment Ginoogaming First Nation” (GFN Community Needs Assessment; Appendix J7)  
“Ginoogaming First Nation Social Impact Assessment” (GFN SIA; Appendix J8). | The goal of the GFN Community Needs Assessment was to describe the community’s current circumstance (including strengths and resources) and identify actions that the community can take to benefit from proposed development projects within their territory. The GFNSIA comprised interviews with experts and community members, engagement with community members at talking circles, and an Open House Community Gathering. The report describes the community’s concerns and recommended mitigation measures regarding potential negative aspects of the developments. |

Maps illustrating TLRU in the RAA are provided in Project-specific TLRU studies. See Appendix J (Traditional Knowledge Studies/Information) for the original TLRU study figures and Table 18-5 for a list of specific sources.
## Table 18-5 TLRU Information Sources

<table>
<thead>
<tr>
<th>Community</th>
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<th>Description from Source</th>
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</thead>
</table>
| EFN       | Plant Harvesting Sites and Activities (PDA, LAA, RAA) | • Subsistence (including harvesting and kill sites, plant collection areas, and trapping areas)  
• Environment (including specific, highly valued habitat) | EFN Knowledge and Use Study | J5         | Figure 2 - EFN reported site-specific values within the footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.’s proposed Hardrock Project | 26     |
|           | Fishing Areas and Activities (PDA, LAA, RAA) | • Subsistence (including harvesting and kill sites, plant collection areas, and trapping areas)  
• Environment (including specific, highly valued habitat) | EFN Knowledge and Use Study | J5         | Figure 2 - EFN reported site-specific values within the footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.’s proposed Hardrock Project | 26     |
|           | Hunting and Trapping Areas and Activities (PDA, LAA, RAA) | • Subsistence (including harvesting and kill sites, plant collection areas, and trapping areas)  
• Environment (including specific, highly valued habitat) | EFN Knowledge and Use Study | J5         | Figure 2 - EFN reported site-specific values within the footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.’s proposed Hardrock Project | 26     |
|           | Cultural or Spiritual Practices, Sites, or Areas (RAA) | • Transportation (including trails, water routes, and navigation sites)  
• Habitation (including temporary, occasional, seasonal, and permanent camps and cabins) | EFN Knowledge and Use Study | J5         | Figure 2 - EFN reported site-specific values within the footprint, LSA, and RSA of Greenstone Gold Mines GP Inc.’s proposed Hardrock Project | 26     |
| LLFN      | Plant Harvesting Sites and Activities (LAA, RAA) | • Gathering (including for cones, gardens, black ash, wild rice, blueberries, high bush cranberries, low bush cranberries, raspberries, strawberries, choke cherries, pin cherries, and other berries) | A Cultural Atlas of the Homeland of the Long Lake #58 First Nation. Prepared E.A.G.L.E. Project (AAFN/HC 2017) | N/A      | N/A                         | N/A    |
## Table 18-5  TLRU Information Sources

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<td></td>
<td>Plant Harvesting Sites and Activities (LAA, RAA)</td>
<td>• Medicine Gathering</td>
<td>A Cultural Atlas of the Homeland of the Long Lake #58 First Nation. Prepared E.A.G.L.E. Project (AAFN/HC 2017)</td>
<td>N/A</td>
<td>N/A</td>
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</table>
|           | Fishing Areas and Activities (LAA, RAA) | • Fishing Sites and Areas | 1. LLFN TK Assessment (Appendix J1)  
2. N/A | 1. Map 5 - Fishing Sites and Areas  
2. N/A | 1. 21  
2. N/A |
|           | Hunting and Trapping Areas and Activities | • Hunting Areas and Sites | 1. LLFN TK Assessment (Appendix J1)  
2. N/A | 1. Map 3 - Hunting Sites and Areas  
2. N/A | 1. 19  
2. N/A |
|           | Hunting and Trapping Areas and Activities | • Trapping Areas and Sites | 1. LLFN TK Assessment (Appendix J1)  
2. N/A | 1. Map 4 - Trapping Sites and Areas  
2. N/A | 1. 20  
2. N/A |
|           | Cultural or Spiritual Practices, Sites, or Areas | • Sacred Sites | A Cultural Atlas of the Homeland of the Long Lake #58 First Nation. Prepared E.A.G.L.E. Project (AAFN/HC 2017) | N/A | N/A | N/A |
### Table 18-5  TLRU Information Sources

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| **Cultural or Spiritual Practices, Sites, or Areas** | • Habitation Sites (PDA, LAA, RAA) | Camp Sites and Cabins | 1. LLFN TK Assessment (Appendix J1)  
2. N/A | 1. Map 1 - Camp Sites and Cabins Areas  
2. N/A | 1. 17  
2. N/A |
| **Cultural or Spiritual Practices, Sites, or Areas** | • Trails and Travelways (LAA, RAA) | Travel Routes and Sites | 1. LLFN TK Assessment (Appendix J1)  
2. N/A | 1. Map 2 - Travel Routes and Sites  
2. N/A | 1. 18  
2. N/A |
| **MNO** | Plant Harvesting Sites and Activities (LAA, RAA) | Natural Materials Harvesting Area | MNO TKLU Study (Appendix J3) | J3 | Figure 12 - Plant and Natural Material Harvesting in Project Area and Surrounding Area | 47 |
| **Plant Harvesting Sites and Activities (PDA, LAA, RAA)** | | Plant Harvesting Area | MNO TKLU Study (Appendix J3) | J3 | Figure 11 - Plant and Natural Material Harvesting in Regional Area | 46 |
| | | | | J3 | Figure 12 - Plant and Natural Material Harvesting in Project Area and Surrounding Area | 47 |
| | | | | J3 | Figure 25 - Plant and Natural Material Harvesting in Project Area | 68 |
| **Fishing Areas and Activities (PDA, LAA, RAA)** | | Fish Harvesting Area | MNO TKLU Study (Appendix J3) | J3 | Figure 9 - Fish Harvesting in Regional Area | 41 |
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<td>Figure 30 - Occupancy in Project Area</td>
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<td>Cultural or Spiritual Practices, Sites, or Areas • Trails and Travelways (LAA, RAA)</td>
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<td>Figure 31 - Access Routes in Project Area</td>
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<td>J3</td>
<td>Figure 31 - Access Routes in Project Area</td>
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<td>J3</td>
<td>Figure 29 - Cultural Practices in Project Area</td>
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<tr>
<td>Cultural or Spiritual Practices, Sites, or Areas • Other Cultural or Spiritual Sites or Areas (LAA, RAA)</td>
<td>• Site or Area of Métis Cultural Practice</td>
<td>MNO TKLU Study (Appendix J3)</td>
<td>J3</td>
<td>Figure 29 - Cultural Practices in Project Area</td>
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</table>
Further Project-specific and secondary source information used in the assessment is as follows:

**Comments made during the preparation of the EIS/EA**

Comments provided by AZA, AFN, BNA, GFN, LLFN, MFFN, MNO, and PPFN throughout the EIS/EA process included information regarding TLRU, which were also considered in the assessment.

Cultural Impact Assessments (CIA): LLFN (October 2013) and AFN (December 2014) engaged in CIAs during the advanced exploration phase of the Project. GGM supported the efforts of MNDM in initiating CIA studies for these communities. With respect to the values associated with the Project area, information gathered in the CIAs was similar to the information gathered for a TRLU study; however, the CIAs focused on advanced exploration which was a precursory phase for the Project. Advanced exploration activities included dewatering the former mine shaft into a settling pond, treating and discharging water into Kenogamisis Lake.

**Community Needs Assessment or Social Impact Assessment**

GFN conducted their Community Needs Assessment and SIA in 2015 and the information was provided to GGM in February 2017 for consideration in the Final EIS/EA and Project planning. The study describes GFN’s priorities and actions to prepare for potential development in their traditional territory.

**Secondary Sources**

A review of relevant, publicly available documents, including non-Project specific TLRU studies was completed. These sources included a socio-cultural assessment that encompassed the RAA, reports from regulatory applications for other developments near the Project, academic reports related to or containing TLRU information and government reports related to TLRU. A list is provided above in Section 18.1. The literature review used publicly available data in good faith to provide context and background, and to demonstrate an effort to understand the extent of TLRU in the region as well as past documented concerns of Aboriginal communities.

GGM recognizes the proprietary nature of certain information regarding TLRU, and that Aboriginal communities may stipulate one-time use of some TLRU information. Confidential studies regarding TLRU or those stipulating one-time use were excluded from the literature review. The assessment adopts a conservative assumption that TLRU sites and activities may occur near the Project even if not specifically identified by Aboriginal communities in the sources of information described above.

**18.2.2.1 Animbiigoo Zaagi’igan Anishinaabek**

AZA is approximately 24 km west of the Project, near Beardmore, Ontario along Highway 11 in the Robinson-Superior Treaty territory (1850). AZA has asserted their rights based on the location of the Project, noting that 125 community members fish and hunt in the region. Existing conditions for AZA TLRU have been summarized from comments received during consultation.
AROLAND FIRST NATION

AFN is approximately 47 km north of the Project. Existing conditions for AFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and Project-related sources including the Project specific AFN TKLU summary document and non-Project specific sources including Matawa First Nations Homelands and Traditional Territory Map.

GREENSTONE GOLD MINES

18.52
Assessment of Potential Environmental Effects on Traditional Land and Resource Use
June 2017

(Matawa Environmental Services Group 2016), First Nations Moose Hunt in Ontario: A Community's Perspectives and Reflections (LeBlanc et al. 2011). The AFN TKLU summary document was prepared with funding support by GGM. The focus of the AFN TKLU summary document was to document and understand AFN's TLRU and the connection between that land use and socio-economic conditions, cultural and archaeological heritage. The AFN TKLU summary document also aimed to document sensitive ecological areas associated with the land or land-use that may be affected by the Project. AFN have confirmed that the AFN TKLU summary document is confidential and therefore traditional ecological knowledge and TLRU information and study results are not included in the Final EIS/EA. The AFN TKLU summary document provided by AFN has been used to inform this overview.

The AFN TKLU summary document identified that land use practices of hunting, fishing, trapping and gathering were passed down through generations and are based on a dependence on the land for harvesting wild foods and for socio-economic and cultural well-being. Participants noted that their land use was important to their traditional and cultural life and provided a social fabric to their relationship with other AFN members.

AFN respondents identified 838 locations of land and resource use within the PDA, LAA, and RAA including hunting, fishing, trapping, gathering, travel routes, camp sites, cultural sites, habitation sites, and sites of traditional ecological knowledge. In total, participants mapped 1,426 locations within AFN’s traditional territory, which extends beyond the RAA. AFN has asked that details of species and abundance of plants and animals and locations for harvesting and cultural practices compiled in the AFN TKLU summary document remain confidential; consequently, site specific AFN TLRU information and information about the nature and extent of AFN traditional resource use cannot be identified in this assessment.

The AFN TKLU summary document was completed using map biography and oral history interview methods focused on the collection of the following information:

- fish spawning areas and fishing locations
- locations of cultural heritage resources, sacred sites, archaeological sites, other special sites, and gathering places
- locations of travel routes and methods of travel
- locations of hunting sites and traplines
- locations of overnight sites including cabins, other types of structures and camping sites
- locations of plant species and plant gathering sites, including medicines and food plants
- AFN citizens’ perceptions of the Project’s effects on rights, culture, interests and claims in their traditional territory (see Chapter 3.0, community and stakeholder consultation).
AFN shared their interests and concerns about potential Project effects with GGM and with CEA Agency through the Draft EIS/EA review. This is discussed in Section 18.4.

**Plant Species and Plant Harvesting Sites and Activities**

AFN members harvest plant materials in the PDA, LAA and RAA for food, medicine, making traditional items, ceremonies and for fuel (AFN TKLU summary document). In an academic study, AFN and GFN community members noted that herbicide spraying removes plants, including raspberries and blueberries. Some Elders avoid harvesting in disturbed areas and cease to use treated areas (LeBlanc et al. 2011).

At the direction of AFN, the locations and nature of plant harvesting sites and plant species identified in the AFN TKLU summary document are confidential and have not been considered in the TLRU assessment.

In comments made by AFN to CEA Agency regarding the review of the Draft EIS/EA, members of AFN identified traditional plants of importance including wild rice and weekah (assumed to be wike [sweet flag]) (RoC; Appendix C3).

**Fish Species and Fishing Areas and Activities**

AFN community members fish year-round in the lakes, rivers, and streams in the LAA and RAA and have stated the cultural importance of fish, fishing and sharing fish in their community. Respondents reported fish spawning areas in the PDA, LAA and RAA (AFN TKLU summary document). In hard economic times, fishing provides valuable economic input and invaluable cultural, spiritual, and recreational opportunity (LeBlanc et al. 2011).

At the direction of AFN, the locations and nature of fishing areas including fish species in the AFN TKLU summary document are confidential and have not been included in the TLRU assessment.

While AFN requires confidentiality about the locations and nature of fishing, AFN has commented to CEA Agency regarding the review of the Draft EIS/EA. Members identified the following fish species of importance: whitefish, walleye, sucker, sturgeon, trout, dace, and minnows (RoC; Appendix C3). AFN members perceive that Goldfield Lake and its fish are cleaner than Kenogamisis Lake (RoC; Appendix C3).

**Hunted and Trapped Species and Hunting and Trapping Areas and Activities**

AFN community members hunt and trap in the PDA, LAA and RAA (AFN TKLU summary document). Hunting and trapping continues to be an important traditional activity practiced by AFN for both economic and cultural purposes (AFN TKLU summary document). Respondents report that potential habitat loss affects distribution of game animals.
AFN identified moose as an important species (RoC; Appendix C3). An academic study of Aboriginal communities in the area (AFN and GFN) with 40 individuals found that moose is a very important component of diets in the fall and that 73% of respondents still rely on moose as a source of meat (LeBlanc et al. 2011). In hard economic times, hunting provides valuable economic input and invaluable cultural, spiritual, and recreational opportunity. Based on the 2010 survey for this academic study, AFN and GFN harvest on average 87 moose per year combined (LeBlanc et al. 2011). This study reports that the practice of hunting has declined among members of the two communities in terms of importance and level of effort expended.

AFN reported that past herbicide spraying (including both ground-based and aerial spraying for roads and logged areas) affected the vegetation by altering the vegetation community and moose are reported to move away for a year or two until the vegetation (i.e., food supply) returns (LeBlanc et al. 2011).

At the direction of AFN, the locations and nature of hunting areas and traplines including hunted and trapped species identified in the AFN TKLU summary document are confidential and have not been considered in the TLRU assessment.

**Cultural or Spiritual Practices, Sites, or Areas**

AFN community members use cultural sites, including travel routes, sacred areas, communal gathering areas, and habitation sites in the PDA, LAA and RAA (AFN TKLU summary document). At the direction of AFN, the locations and nature of cultural sites identified in the AFN TKLU summary document are confidential and have not been included in the TLRU assessment.

In comments made by AFN to the CEA Agency, AFN confirmed they use snowmobile trails, which are operated by the Ontario Federation of Snowmobile Clubs and maintained by the Greenstone Snowmobile Club. Most segments of the snowmobile trails in and near the PDA run parallel to Michael Power Boulevard, Lahtis Road and Old Arena Road. Geraldton Snowmobile Club has confirmed that the trail along Lahtis Road is no longer maintained.

**18.2.2.3 Biigtigong Nishnaabeg**

Biigtigong Nishnaabeg is approximately 123 km south of the Project. Existing conditions for Biigtigong Nishnaabeg TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the Biigtigong Nishnaabeg website, a non-Project related source (Ojibways of the Pic River First Nation 2016). Biigtigong Nishnaabeg has published a map entitled The Ojibways of the Pic River Aboriginal Title Area on the community website (Ojibways of the Pic River First Nation 2016). The map illustrates the Biigtigong Nishnaabeg exclusive claim area and shared claim areas. The shared claim area’s northwestern boundary is southeast of Long Lake and outside the RAA of the Project. The exclusive claim area is within the shared claim area and outside the RAA to the southeast of Long Lake. A literature review revealed no information regarding TLRU by Biigtigong Nishnaabeg within the RAA.
18.2.2.4 Biinijitiwaabik Zaaging Anishinaabek

BZA is approximately 82 km west of the Project. Existing conditions for BZA TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and Our History on the BZA website, a non-Project related source (BZA 2009).

**Plant Species and Plant Harvesting Sites and Activities**

BZA community members harvest native plants for food, medicinal and cultural purposes. Ancestors of BZA community members survived by hunting, fishing and gathering. Community members still follow the traditional ways of harvesting wild rice, berry picking and making maple sugar (BZA 2009). The literature review revealed no publicly available information regarding plant gathering activities by BZA within the RAA and GGM has not received TLRU information through consultation.

**Fish Species and Fishing Areas and Activities**

Community members reported that their ancestors survived by hunting, fishing and gathering food (BZA 2009). The literature review revealed no information regarding fishing by BZA within the RAA.

**Hunted and Trapped Species and Hunting and Trapping Areas and Activities**

Ancestors of BZA community members survived by hunting, fishing and gathering food. When the fur trade came, they started to include hunting and trapping for the purposes of trading (BZA 2009). The literature review revealed no information regarding hunting or trapping by BZA within the RAA.

**Cultural or Spiritual Practices, Sites, or Areas**

No information regarding BZA cultural or spiritual practices, sites or areas has been identified through consultation or a review of publicly available information.

18.2.2.5 Bingwi Neyaashi Anishinaabek

BNA is approximately 75 km west of the Project. Existing conditions for BNA TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the BNA community website, a non-Project related source (BNA 2016). BNA’s traditional territory is in the region surrounding the southeast shore of Lake Nipigon (Municipality of Greenstone 2016).

The literature review revealed no further information regarding TLRU by BNA within the RAA.
18.2.2.6 Constance Lake First Nation

CLFN’s main reserve is located approximately 197 km east of the Project. Existing conditions for CLFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the CLFN website, a non-Project related source (CLFN 2010).

**Plant Species and Plant Harvesting Sites and Activities**
The literature review revealed no information regarding plant gathering by CLFN within the RAA.

**Fish Species and Fishing Areas and Activities**
Local fish species caught by CLFN include northern pike, trout, whitefish, pickerel, and perch, which occur in lakes and streams in their traditional territory (CLFN 2010). The literature review revealed no information regarding fishing by CLFN within the RAA.

**Hunted and Trapped Species and Hunting and Trapping Areas and Activities**
Local wildlife harvested by CLFN includes moose, rabbit, beaver, muskrat, mink, marten, and lynx in their traditional territory (CLFN 2010). The literature review revealed no information regarding hunting and trapping by CLFN within the RAA.

**Cultural or Spiritual Practices, Sites, or Areas**
Mammamattawa camp, located 128 km northwest of Hearst, Ontario at the English River post near Hudson’s Bay, is used for traditional activities (CLFN 2010). The literature review revealed no information regarding CLFN cultural or spiritual practices, sites, or areas within the RAA.

18.2.2.7 Eabametoong First Nation

EFN is approximately 211 km north of the Project. Existing conditions for EFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and Project-related sources including the EFN Knowledge and Use Study (Appendix J5). The Project lies within the Matawa First Nations Homeland and Territory Traditional (Matawa First Nations 2016).

As part of the Knowledge and Use Study, EFN collected data on water and fishing, hunting, and cultural continuity with the PDA, LAA, and RAA (EFN Knowledge and Use Study; Appendix J5).

**Plant Species and Plant Harvesting Sites and Activities**
In the Knowledge and Use Study EFN members reported gathering blueberries within the LAA (EFN Knowledge and Use Study; Appendix J5). Other activities include collecting firewood.
Fish Species and Fishing Areas and Activities

In the Knowledge and Use Study EFN members noted that fishing continues to be practiced by EFN within the region and identified Kenogamisis Lake as an important fishing location. Fish were identified as an important part of many EFN members' traditional diet. EFN reported fishing locations within the PDA, LAA, and RAA (EFN Knowledge and Use Study; Appendix J5). Fish species harvested within the PDA include Northern Pikeminnow\(^2\) (also known as squaw fish), pickerel (also known as Walleye), and whitefish (EFN Knowledge and Use Study; Appendix J5). EFN members also noted a fish spawning area for both pickerel and sucker fish within the PDA (EFN Knowledge and Use Study; Appendix J5).

Hunted and Trapped Species and Hunting and Trapping Areas and Activities

Hunting for both large and small game animals is an important aspect of EFN members' way of life (EFN Knowledge and Use Study; Appendix J5). Hunting is important as a source of food, medicines, and an important cultural activity. EFN members hunt with their families.

In the Knowledge and Use Study, EFN members reported a rabbit snaring site within the PDA (EFN Knowledge and Use Study; Appendix J5). Community members noted several wildlife species of importance for hunting and trapping including beaver, marten, otter, mink, grouse, duck, wolves, bear, moose, and partridge. Members also described the importance of all aspects of the hunt including processing game, which consist of butchering, skinning, tanning the hides, making clothing and crafts from the hide, and preparing the meat for consumption.

Cultural or Spiritual Practices, Sites, or Areas

Members of the EFN define cultural and traditional practices as cultural continuity, which can include teachings, travelling, place-based stories and values, spirituality, burial sites, and subsistence activities such as plant and medicine gathering (EFN Knowledge and Use Study; Appendix J5). In the Knowledge and Use Study, EFN members reported one site of cultural continuity within the LAA and 5 sites of cultural continuity within the RAA (EFN Knowledge and Use Study; Appendix J5). The deep connection to the land and ability to practice cultural continuity is an integral part of the EFN way of life and their identity.

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\(^2\) The species range for Northern Pikeminnow (Ptychocheilus oregonensis) does not include Ontario and therefore this species is not directly assessed in this chapter; however, mitigation measures and offsetting is designed to protect habitat for all fish species that are present.
18.2.2.8 Ginoogaming First Nation

GFN is approximately 22 km east of the Project. Existing conditions for GFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and Project-specific sources including the GFN SIA (Appendix J8) and the GFN Community Needs Assessment (Appendix J7), as well as non-Project specific sources including First Nations Moose Hunt in Ontario: A Community’s Perspectives and Reflections (Leblanc et al. 2011).

Plant Species and Plant Harvesting Sites and Activities

GFN community members harvest native plants for food, medicinal and cultural purposes. In the SIA, it was noted that a previous study found sweetgrass along the shores of Kenogamisis Lake (GFN SIA; Appendix J8). In an academic study, AFN and GFN community members noted that herbicide spraying removes plants, including raspberries and blueberries. Some Elders avoid harvesting in disturbed areas and cease to use treated areas (LeBlanc et al. 2011). In the SIA, members identified that spraying has already affected blueberries and may lead to a decrease in use of other traditional plants and medicines including cedar, red willow, bear root, bulrush, sweetgrass, juniper, and cranberries (GFN SIA; Appendix J8).

Fish Species and Fishing Areas and Activities

Fishing is an important aspect of GFN member’s way of life and as it keeps a connection to the land, which is important for maintenance of tradition and culture (GFN SIA; Appendix J8). GFN members fish throughout the region including at Kenogamisis Lake. They fish for pike, perch, trout, and walleye. However, members noted that they are having to go further and further to access fishing areas and the quality and quantity of fishing is getting worse due to increased pollution and access by non-community members as illustrated by one of their members:

“Less time is being spent on the land by middle age and Elders. There is a loss of connection to the land – mostly because hunting and fishing [is] not as good” (GFN SIA; Appendix J8).

In the GFN SIA (Appendix J8), members note that they are having to go to the store to buy fish, which costs them money and they lose their connection to the land.

Hunted and Trapped Species and Hunting and Trapping Areas and Activities

Members of GFN hunt throughout the region including Kenogamisis Lake (GFN SIA; Appendix J8). Members hunt and trap moose, rabbit, martin, geese, grouse, and ducks. Moose are important as they are often shared amongst the family and community. The SIA noted that spraying in the forest (to control deciduous species in planted areas) has had a negative effect on ungulates such as moose.
An academic study noted that, historically, members of AFN and GFN participated in the fur trade and made a livelihood through the local production of food that came from natural sources or from agriculture. Community participants indicated that employment in the resource extraction sector provides cash for food and gasoline, which alleviates the pressure to procure food by traditional means. First Nations Moose Hunt in Ontario: A Community's Perspectives and Reflections (LeBlanc et al. 2011) found that moose is a very important component of diets in the fall. Seventy-three percent of respondents still rely on moose as a source of meat. In hard economic times, hunting and fishing provide valuable economic input and invaluable cultural, spiritual, and recreational opportunity. As of 2010, AFN and GFNs community members harvest an average of 87 moose per year combined. This study reports that the practice of hunting has declined among members of the two communities in terms of importance and level of effort expended (Leblanc et al. 2011).

GFN reported that herbicide spraying affects the vegetation and moose move away for a year or two until the vegetation returns (Leblanc et al. 2011).

**Cultural or Spiritual Practices, Sites, or Areas**

GFN members value a strong connection to the land and traditional practices. The GFN SIA (Appendix J 8) emphasized the importance of connection to culture and traditional land use for healing practices.

**18.2.2.9 Long Lake #58 First Nation**

LLFN is approximately 28 km east of the Project. Existing conditions for LLFN have been summarized from comments received during consultation (RoC; Appendix C 3) and Project-related sources, including the LLFN TLU Survey (Appendix J 2) and the LLFN TK Assessment (Appendix J 1), and non-project related sources including A Cultural Atlas of the Homeland of the Long Lake #58 First Nation Prepared for The E.A.G.L.E. Project (AAFN/HC 1997) and the LLFN CIA (LLFN 2013). The TLU survey and TK assessment were prepared with funding support by GGM.

As part of the LLFN TK Assessment (Appendix J 1), LLFN collected data relating to harvesting sites and areas and sacred areas and travel routes within the PDA, LAA and RAA.

The LLFN TLU Survey (Appendix J 2) specifically mentioned eight activities including hunting, gathering berries, medicinal uses, ceremonies, trapping, firewood, camping, and teaching, in which 88% of 49 respondents reported active traditional land use activities in the RAA. Respondents in the 2013 CIA identified locations of value throughout an area defined as GGM’s Area of Interest. The area of interest is an approximate 60 km (east to west) by 30 km (north to south) area surrounding the Project PDA (LLFN 2013).
Plant Species and Plant Harvesting Sites and Activities

LLFN community members harvest native plants for food, medicinal and cultural purposes (AANF/HC 1997). Information about the species harvested, their uses and general harvesting locations are presented below.

Respondents identified medicinal plants within the traditional territory of LLFN including parts of the Project PDA, LAA and RAA. Medicinal plants identified included, but were not limited to, cedar, sage, raspberries, sweetgrass, mountain ash, white willow, red willow, yarrow, birch, and balsam fir. Medicinal plants gathered within the Project RAA and LAA (e.g., sweetgrass) occur along the shoreline of Kenogamisis Lake and the surrounding waterbodies including Nakina and MacLeod Lakes, and “near the railway tracks in the study area” (LLFN TLU Survey; Appendix J2).

LLFN members report gathering berries and medicinal plants “Wherever they grow” within the RAA including Goldfield Road, Wintering Lake, Blueberry Road, Eldee Landing, Nakina, Hardrock, and the roads off Highway 11 (LLFN TLU Survey; Appendix J2). In comments made by LLFN to the CEA Agency, a medicinal plant site was reported in the area of the open pit (RoC; Appendix C2). GGM is unable to find reference to the site within the LLFN TK Assessment (Appendix J1) or the LLFN CIA and has requested clarification from LLFN on several occasions as this area appears to be within the existing brownfield site conditions. However, it is understood from the LLFN that this site can be mitigated and LLFN has proposed a path forward.

Firewood is also gathered throughout the RAA and is an important fuel source for many of the respondents according to respondents in the LLFN TLU Survey (Appendix J2).

The following list has been compiled, from the LLFN TLU Survey (Appendix J2), LLFN TK Assessment (Appendix J1) and A Cultural Atlas of the Homeland of the Long Lake #58 First Nation Prepared for The E.A.G.L.E. Project (AANF/HC 2017) traditional plants that are gathered by LLFN members. This list is not exhaustive and the absence of a species does not preclude its importance for traditional use by community members.

- balsam fir
- blueberries
- birch
- birch mushrooms
- black ash
- black spruce
- blueberries
- cedar
- chanterelle mushrooms
- choke cherries
- cranberry (low and high bush)
- currants
- ferns
- wild rice
- Labrador tea
- mint
- mountain ash
- pin cherries
- raspberries
- strawberries
- sage
- sweetgrass
- white and red willow
- yarrow
LLFN community members identified locations in the PDA, LAA and RAA for medicine gathering and berry picking areas; the specific activity (medicine gathering or berry picking or both) practiced at each site was not identified (AAFN/HC 1997).

Study participants identified medicinal plants that are gathered along the shoreline of Kenogamisis Lake and surrounding waterbodies (LLFN TLU Survey; Appendix J2). Goldfield Road, Wintering Lake, Blueberry Road, Eldee Landing, Nakina, Suckle Lake and the roads off Highway 11 were identified as berry gathering areas located within the RAA (LLFN TLU Survey; Appendix J2). Nakina and MacLeod Lake were identified as medicinal gathering areas located within the RAA. LLFN also identified a gathering site in the LAA, north of the PDA (LLFN 2013). In the LLFN TLU Survey (Appendix J2) one respondent identified a medicinal gathering area by the PDA. The exact site was not disclosed.

**Fish Species and Fishing Areas and Activities**

Members of LLFN fish in the lakes, rivers, and streams in the LAA and RAA (LLFN TK Assessment; Appendix J1; AAFN/HC 1997). Through the LLFN TLU Survey (Appendix J2), Kenogamisis Lake, Kenogamisis River, the lakes around Nakina, and Eldee Lake were identified as fishing areas within the RAA. LLFN members also expressed that most waterbodies within the RAA are fishing areas. However, LLFN also indicated that Long Lake and lakes around the LLFN Reserve have become too polluted to fish (LLFN TLU Survey; Appendix J2). Information about the species harvested, their uses and general harvesting locations is presented below:

- LLFN members state that they rely on locally caught fish as a main part of their diet and tend to consume pickerel, sturgeon, lake trout, northern pike, walleye, and smelt as often as two to three times per week.
- LLFN participants identified fishing areas were on Wig Lake, Rogers Lake, Butt Lake, Wintering Lake, Gamsby Lake, Kenogamisis Lake, Kenogamisis River, Burrows River, and other unnamed waterbodies (AAFN/HC 1997).

**Hunted and Trapped Species and Hunting and Trapping Areas and Activities**

Members of LLFN hunt and trap in the PDA, LAA, and RAA and harvest game (LLFN TK Assessment; Appendix J1; AAFN/HC 1997). Hunting and trapping continues to be an important traditional activity practiced by members of LLFN in the region for both economic and cultural purposes (LLFN TK Assessment, Appendix J1). Information about the species harvested, their uses, and general harvested locations is presented below.

Members of LLFN identified hunting areas throughout the PDA, LAA and RAA (LLFN TLU Survey; Appendix J2) including along most waterbodies such as the whole of Kenogamisis Lake and many waterbodies within the RAA including the LAA. Goldfield Road, McCluskey Road, Eldee Road, Kenogamisis Lake, and Kenogamisis River were identified by Aboriginal participants in the 2015 TK survey as hunting areas within the RAA (LLFN TLU Survey; Appendix J2). Moose are prized...
above other animals. The hunters freely distribute what they harvest to friends and family, a
practice that goes back many generations. Hunting areas were also identified along the
shores of Long Lake, which is adjacent to the RAA (AAFN/HC 1997). Mammals (moose) and birds
are found within and are hunted and trapped in this area by members of LLFN (AAFN/HC 1997).

Members of LLFN identified trapping areas throughout the Project PDA, LAA and RAA
(AAFN/HC 1997). LLFN identified traplines currently held by LLFN community members in the RAA,
LAA, and PDA are GE034, GE023 and GE009. Members repair their traplines near the end of fall,
and then use them almost continuously until spring. Traplines were originally allocated to family
groups based on their historical occupation of the land. “The Elders of the Long Lake #58 First
Nation also say that when the Province of Ontario implemented its registered trapline system
during the 1940s it mimicked the system they had long employed, a system that was neither
random nor precarious but based upon their environmental expertise and the tenets of their
culture. What rankles them is that the government which adopted their system has since seen fit
to reduce the number of traplines under the jurisdiction of Anishinabe people, who must have
access to the wilderness in order for their identity and culture to flourish.” (AAFN/HC 1997).

Cultural or Spiritual Practices, Sites, or Areas

Members of LLFN use cultural or spiritual sites or areas, including trails and travelways, sacred
areas, communal gathering areas, and habitation sites throughout the region (LLFN TK Assessment;
Appendix J1). Members of LLFN continue to use long-established trails and travelways that
connect communities, harvesting areas, and gathering places in a network of traditional use and
cultural patterns (LLFN TK Assessment; Appendix J1). Habitation sites may be for both short-term
and long-term occupation. Aboriginal people continue to use traditional gathering places in the
region to come together for socializing, harvesting or ceremonial purposes. Sacred areas can
include a variety of uncommon features that are important to members of LLFN. Information
about the uses and general locations of cultural or spiritual sites or areas is presented below.

LLFN identified one gathering site (a former family settlement) that is immediately north of the
PDA. The site could be affected if the Project activities expand beyond the current PDA
(LLFN TK Assessment; Appendix J1).

Travel routes were the transportation corridors that people would use to go into the forest on
foot, by dog sled or by canoe (AAFN/HC 1997). These routes were used to “gain access to
important cultural landmarks within their homeland, or to visit others outside of their territory”
(AAFN/HC 1997). Their routes were generally the most efficient and safest routes used, and they
continue to be used today (AAFN/HC 1997). Travel routes are identified throughout the LLFN
homeland including areas within the LAA, and RAA. Identified routes include a route on the
north end of Wildgoose Lake, through the Southwest Arm of Kenogamisis Lake and continuing
through Kenogamisis Lake and a route through Long Lake (AAFN/HC 1997).
Members of LLFN identified campsites in the PDA, LAA, and RAA. Campsites were identified between the Ward of Geraldton and Kenogamisis Lake, south of the Southwest Arm of Kenogamisis Lake and along the western shore of Long Lake (AAFN/HC 1997).

Members of LLFN identified cabins near the railway between the Ward of Geraldton and the community of Long Lake, and along the shores of Long Lake. Many of the campsites and cabins are near waterbodies and many cabins are near the Long Lake community. Cabins and campsites are occupied on an intermittent basis depending on the season. Cabins are used primarily in the winter. They are strategically placed at an appropriate distance from sacred sites and near the natural resources that are harvested. Campsites are generally used in the warmer months and are located at an appropriate distance from sacred sites and near the natural resources being harvested (AAFN/HC 1997). These features have a cultural significance, which is expressed by the joy felt by being out on the land (AAFN/HC 1997).

The LLFN TK Assessment (Appendix J1) identifies four campsite or cabin areas in the PDA. In addition, comments from LLFN to the CEA Agency identified a heritage site “located within the proposed realignment of Highway 11”. During GGM and LLFN follow-up meetings on April 18 and 19, 2017 LLFN confirmed there are a total of four “land use” sites within the PDA. LLFN also confirmed that these are not sacred sites and further detail is confidential. The land use sites are in the same general locations as the campsite or cabin areas identified in the TK Assessment. GGM and LLFN have agreed upon a path forward for these sites.

Sacred sites are located near the railway, east of the Ward of Geraldton, along the shores of Long Lake and surrounding the community of Long Lake. Namows Lake is described as a sacred area. Medicine gathering locations occur east of Kenogamisis Lake south of Highway 11, in and around the Long Lake community, and west of Michael Power Boulevard.

According to the AAFN/HC (1997) sacred sites include cemeteries, places where traditional medicines are made, and locations where positive spiritual energy resides. There are also places where negative energy resides; members avoid these areas. Such sites include those containing amorphous negative spiritual energy and those that contain dangerous supernatural entities that can manifest into various physical forms.

LLFN collected data relating to harvesting sites and areas and sacred areas and travel routes within the PDA, LAA and RAA (LLFN TK Assessment; Appendix J1). Community members camp and conduct ceremonies throughout the RAA. Eldee Landing, Lottie Landing, Kenogamisis Lake, Kenogamisis River, and MacLeod Provincial Park were identified by members of LLFN as camping areas located within the RAA (LLFN TLU Survey; Appendix J2). MacLeod Provincial Park and the shores of Kenogamisis Lake were additionally recognized as ceremonial areas. Specific sites within these general camping and ceremonial areas were not identified. Aboriginal participants in the 2015 LLFN TLU Survey (Appendix J2) stated that the land within the RAA is also used to teach the community’s youth.
The following cultural or spiritual sites or areas were identified by LLFN within the RAA (LLFN TK Assessment; Appendix J1):

- One gathering site (a former family settlement) that is immediately north of the PDA.
- Four campsite or cabin areas are within the PDA, and may coincide with the four land use sites identified by LLFN during consultation.
- Six cabins are in the RAA, four of which are also located within the LAA.
- Five campsites are in the RAA, three of which are also located within the LAA.
- One travel route is intersected by both the RAA and LAA and adjacent to the PDA along the Southwest Arm of Kenogamisis Lake.
- Four sacred areas are located within the RAA, three of which are located on Kenogamisis Lake and within the LAA (AAFN/HC 1997).

18.2.2.10 Marten Falls First Nation

MMFN is approximately 227 km north of the Project. Existing conditions for MMFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the MFFN page of the Matawa First Nations Community Cultural Portal Website which states: “Marten Falls First Nation and other Matawa First Nation communities share traditional lands that extend over a vast area of Northern Ontario surrounding the community. MFFN traditional territory extends from the Current River and Ogoki Lake in the south, Makokibaton Lake in the west, Jasper Lake, and Muketei Rivers to the north and the Albany Forks to the east. This area was used by Aboriginal people for trapping, hunting, trade and socializing long before European contact” (Matawa First Nations 2016). The PDA, LAA and RAA are within this shared traditional territory.

18.2.2.11 Métis Nation of Ontario

The Study Region is located in the MNO Lakehead, Nipigon, and Michipicoten traditional territory; three chartered Community Councils represent Métis interests in this area (Greenstone Métis Council, Superior North Shore Métis Council, and the Thunder Bay Métis Council). Existing conditions for MNO TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and a Project-specific source, the MNO TKLU Study (Appendix J3) prepared with funding support by GGM, and non-Project specific source, the Special Impacts Report: Preserving the Métis Way of Life (MNO 2012). While the MNO TKLU Study (Appendix J3) considered TLRU within the Study Region and the Project Area (which includes the PDA encircled by a 10 km buffer), collection of spatial data was focused on a radius of 30 km from the PDA. The purpose of the MNO TKLU Study (Appendix J3) was to document MNO’s TK and past and present land use activities within the MNO TKLU Study (Appendix J3) study area.
The MNO TKLU Study (Appendix J3) describes a historic Métis community north of Lake Superior and within the Nipigon area specifically, comprised of the interconnected Métis populations at Lake Nipigon, Long Lake, and Pic River and other locations in the area. The MNO TKLU Study (Appendix J3) describes the Métis population in this area as a community sharing a distinct and collective Métis identity, customs, and traditions. The MNO TKLU Study (Appendix J3) states that they have been and continue to be mobile throughout this region, exercising their harvesting rights within the Lakehead, Nipigon, and Michipicoten traditional territories. “Métis live, work and harvest throughout these territories and rely on them for their individual as well as their community’s overall cultural, social, spiritual, physical, and economic well-being” (MNO TKLU Study; Appendix J3).

Respondents to the MNO TKLU Study (Appendix J3) indicated that harvesting is an important and healthy food source and hunting, fishing and gathering activities allow Métis the opportunity to spend time together and share their knowledge of the land and harvesting skills. Harvested food is often shared with immediate and extended family members. “Wild foods are consumed regularly and are featured at Métis gatherings, which demonstrates a strong linkage between wild foods and Métis identity”. Respondents also related spiritual rituals associated with harvesting.

**Plant Species and Plant Harvesting Sites and Activities**

MNO members harvest native plants for food, medicinal and cultural purposes (MNO TKLU Study; Appendix J3). Respondents identified plant and natural material harvesting areas within the PDA, LAA, and RAA and indicated that they have harvested their entire lives and do so extensively during all seasons (MNO TKLU Study; Appendix J3).

Some key groups of harvested species are important to many Métis communities in Ontario, including ferns, berries (blueberries and raspberries), herbs, chanterelle, and shaggy mane mushrooms, chaga mushrooms and trees. These have multiple uses, including for food, medicinal, ceremonial and construction purposes (MNO 2012). From trees and shrubs, spruce gum is used for healing cuts, the inner bark of birch is steeped as a tea and used as a digestive remedy while tea made from willow branches is for headaches. Regarding berries, one study participant said “The blueberries, I'd clean them, because there are little spiders in them. So I'd take them to the river and wash them. The strawberries not so much, because they're on sand. So you just brush the sand off. And the raspberries, well you just crush them and eat them.” (MNO TKLU Study; Appendix J3). Wild rice is harvested on Kenogamisis Lake. According to one participant, “Well I remember my mom would cut it. She'd have these things made up like screens, and you just grab your rice and you just [whack whack], then you put a tarp, and all your rice falls in the boat and then you pick it up”(MNO TKLU Study; Appendix J3). Shaggy mane mushrooms are collected on roadsides.
The MNO TKLU Study (Appendix J3) has identified traditional plants, listed below, that are gathered by members of their communities. This list is not exhaustive and the absence of species does not preclude its importance for traditional use by MNO members.

- balsam fir
- blueberries
- birch
- black ash
- black spruce
- blueberries
- cedar
- chokecherries
- cranberry (low and high bush)
- currants
- fens
- Labrador tea
- mint
- mountain ash
- mushrooms (chaga)
- mushrooms (chanterelle)
- mushrooms (shaggy mane)
- pin cherries
- raspberries
- sage
- Saskatoon berry
- spruce
- strawberries
- sweetgrass
- white and red willow
- wild rice
- yarrow

Fish Species and Fishing Areas and Activities

The MNO identified fishing as important to the Métis way of life, one respondent stated: "I’ve always lived off the land. Always berry picked, always fished. So, I can never see that being taken away from me, because that would be awful" (MNO TKLU Study; Appendix J3). Respondents to the MNO TKLU Study (Appendix J3) identified fishing areas within the PDA, LAA, and RAA including the Southwest Arm Tributary and indicated that they have harvested within the LAA and RAA their entire lives and do so extensively during all seasons. Knowledge is continually passed to younger generations about sustainability when collecting wild foods. One respondent stated, "So there’s the creek, so we don’t fish in it in the spring because that is where the walleye spawn, but when you go around to the mouth here - like a lot of people fish in there - at the mouth of Creelman Creek in the spring after the fish have spawned” (MNO TKLU Study; Appendix J3).

Key groups of harvested species are important to many Métis communities in Ontario. MNO provided information on fish species harvested and the number of “areas harvested” for each of the species identified. Species included bass, Burbot (ling cod), Northern Pike (jackfish), Yellow Perch (perch), Walleye (pickerel), Rainbow Smelt (smelt), sucker, trout, Lake Whitefish (whitefish), salmon, Lake Sturgeon and other non-commercial fish. The species with the greatest number of “areas harvested” were Walleye, Northern Pike and trout (MNO TKLU Study; Appendix J3).

Hunted and Trapped Species and Hunting and Trapping Areas and Activities

Respondents to the MNO TKLU Study (Appendix J3) indicated that they have harvested within the region defined in their study their entire lives and do so extensively during all seasons. Respondents identified hunting and trapping areas in the PDA, LAA, and RAA, including for a variety of big game, small mammals, waterfowl, and other birds (MNO TKLU Study; Appendix J3).
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Some key groups of harvested species are important to many Métis communities in Ontario, including moose, deer, ruffed grouse, geese, and various duck species (MNO 2012). Other species harvested by MNO members include black bear, beaver, marten, mink, rabbit, partridge, and lynx (MNO TKLU Study; Appendix J3).

Cultural or Spiritual Practices, Sites, or Areas

Respondents to the MNO TKLU Study (Appendix J3) have travelled, harvested, and stayed overnight throughout the PDA, LAA, and RAA. Many of these activities were undertaken with other Métis family members and friends when they shared their knowledge of the land, its cultural sites, historic travel routes and Métis gathering sites within the region defined in their study (MNO TKLU Study; Appendix J3).

Knowledge is continually passed to younger generations about sustainability when collecting wild foods (MNO TKLU Study; Appendix J3). The act of harvesting and sharing and spending time with others Métis is valued. For some members, there are spiritual rituals related with harvesting.

Sacred areas within the region defined in their study can include a variety of uncommon features that are significant to MNO members such as places for spiritual rituals related to harvesting (MNO TKLU Study; Appendix J3).

The following cultural or spiritual sites or areas were identified by MNO within the RAA (MNO TKLU Study; Appendix J3):

- Two bush camps in the RAA; one located along the east side of Kenogamisis Lake and one located west of Goldfield Lake.
- Five Tents/temporary structures; one located south of Mosher Lake within the PDA, three are located in the LAA immediately adjacent to the PDA along the Southwest Arm of Kenogamisis Lake near Lahtis Road, and one is located in the LAA on the east side of Goldfield Lake.
- Eight additional habitation areas, including public campground, cabins, and other overnight stays are located in the LAA or RAA; one located immediately adjacent to the PDA along the Southwest Arm of Kenogamisis Lake near Lahtis Road within the LAA, one located on the west side of Goldfield Lake within the LAA, two located on the west side of Kenogamisis Lake within the LAA, three located along the east side of Kenogamisis Lake within the RAA, and one located on the west side of Pussy Lake within the RAA.
- Five boat launches or portages; two located in the LAA immediately adjacent to the PDA along the Southwest Arm of Kenogamisis Lake near Lahtis Road, two located along Kenogamisis Lake between the Central Basin and Outlet Basin within the LAA, and one located along the east side of Kenogamisis Lake within the RAA.
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- Two land or water routes (current/historic); one connecting Highway 11 with Mosher Lake within the PDA and the other located east of Kenogamisis Lake within the RAA.
- Route of Métis cultural practices located along the center of Kenogamisis Lake outside of the PDA.
- 17 sites or areas of Métis cultural practice; one located immediately adjacent to the PDA located near the outlet of Goldfield Creek, one located north of Mosher Lake within the LAA, seven located near Rosedale Point within the LAA, one located on Barton Bay (West) within the LAA, one located south of Kenogamisis Lake within the LAA, one located at MacLeod Provincial Park within the LAA, three located along the shores of Kenogamisis Lake (northern portion) within the LAA, and two located in the Geraldton area within the RAA.

18.2.2.12 Pays Plat First Nation

Pays Plat (Pawgwasheeng) First Nation is approximately 91 km south of the Project. Existing conditions for PPFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the Project-specific PPFN Watershed Study (Appendix J4) in which they state: “Pays Plat depends on a healthy ecosystem for food, clothing and collecting medicinal plants” and add “Today, community members from Pays Plat still utilize this area [Long Lake] for harvesting food, i.e., hunting, fishing and trapping.” The PPFN Watershed Study does not overlap with the Project PDA/ LAA, however Toupee Lake is to the south in the RAA.

Plant Species and Plant Harvesting Sites and Activities

According to participants in the 2016 watershed study PPFN members harvest native plants for food, medicinal and cultural purposes. The PPFN Watershed Study (Appendix J4) states: “Medicine gatherers use the area [Long Lake] to harvest plants and hold ceremonies”.

Fish Species and Fishing Areas and Activities/Hunted and Trapped Species and Hunting and Trapping Areas and Activities

According to the PPFN Watershed Study (Appendix J4) participants, “Pays Plat First Nation have utilized the Long Lake, Dickison Lake, Chorus Lake and the Aguasabon River for centuries” and, “Today, community members from Pays Plat still utilize this area for harvesting food, i.e. hunting, fishing and trapping.” The study reports that participants observed: “there have been some drastic changes in the wildlife population in this area. There appears to be a very large decline in the moose population in the past three years.” [2013-2016] (PPFN Watershed Study; Appendix J4).

Cultural or Spiritual Practices, Sites, or Areas

PPFN members continue to use long-established trails and travelways that connect communities, harvesting areas, and gathering places in a network of traditional use and cultural patterns in the RAA. “There is a canoe route that goes from Pays Plat First Nation to Dickison Lake and eventually to Geraldton. It is a fact that community members from Pays Plat have used this
canoe route to travel to Geraldton in the past" (PPFN Watershed Study; Appendix J4). PPFN members continue to use traditional gathering places in the region to come together for socializing, harvesting or ceremonial purposes: "Elders bring youth on the land to pass down TK and teach the importance of maintaining our culture" (PPFN Watershed Study; Appendix J4). Sacred areas can include a variety of uncommon features that are significant to PPFN members: "medicine gatherers use the area [Long Lake] to harvest plants and hold ceremonies" (PPFN Watershed Study; Appendix J4). Regarding burial sites, the watershed study reports that in 2003, bones wrapped in birch bark were located on Long Lake and that the discovery indicates historic use by First Nations and occurrence of burials (PPFN Watershed Study; Appendix J4). Long Lake is outside the RAA.

18.2.2.13 Pic Mobert First Nation

PMFN is approximately 145 km from the Project. Existing conditions for PMFN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the PMFN website (PMFN 2016). PMFN has a community trap line for use by band members (PMFN 2016). The location of this trapline is not illustrated on the PMFN website. The literature review revealed no information regarding TLRU by PMFN within the RAA.

18.2.2.14 Red Sky Métis Independent Nation

Existing conditions for the RSMIN TLRU have been summarized from comments received during consultation (RoC; Appendix C3) and the RSMIN website (RSMIN 2016). RSMIN members are descendants of the 84 Métis who were recognized as beneficiaries and annuitants by the Crown under the Robinson-Superior Treaty of 1850. RSMIN traditional territory coincides with the area of the Robinson-Superior Treaty of 1850. The RSMIN website describes the area in which the Project is located (which is in Treaty No. 9) as external areas of RSMIN community interest (RSMIN 2016). The literature review revealed no information regarding TLRU by RSMIN within the RAA.

18.3 Project Interactions with Traditional Land and Resource Use

Table 18-6 identifies Project physical activities that might interact with TLRU. These interactions are indicated by a check mark (✓) and are further discussed in Section 18.4 in the context of effects mechanisms, standard and Project-specific mitigation and residual effects.
Table 18-6: Potential Project Effects on Interactions with Traditional Land and Resource Use, Prior to Mitigation

<table>
<thead>
<tr>
<th>Project Components and Physical Activities</th>
<th>Potential Environmental Effects (prior to mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change to Distribution of Plant Species and Plant Harvesting Sites and Activities</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td></td>
</tr>
<tr>
<td>Site Preparation (removal of existing buildings and associated infrastructure, timber harvesting, vegetation clearing, earthworks, overburden and topsoil stockpiling, temporary effluent treatment and discharge)</td>
<td>✓</td>
</tr>
<tr>
<td>Watercourse Crossings and Goldfield Creek diversion</td>
<td>✓</td>
</tr>
<tr>
<td>Pre-Production Mining and Development of Mine Components (open pit, waste rock storage areas, ore stockpile, water management facilities, Phase 1 of TMF)</td>
<td>✓</td>
</tr>
<tr>
<td>Buildings and Supporting Infrastructure (process plant, temporary camp, sewage treatment plant, mine dry, administration building, truckshop, warehouse and offices, power plant)</td>
<td>✓</td>
</tr>
<tr>
<td>Linear and Ancillary Facilities (site roads and parking areas, onsite pipelines, power lines/transformer station, fuel supply, storage and distribution)</td>
<td>✓</td>
</tr>
<tr>
<td>Highway 11 Realignment and Ontario Ministry of Transportation Patrol Yard Relocation</td>
<td>✓</td>
</tr>
<tr>
<td>Aggregate Sources (excavation and dewatering related to aggregate source development and extraction)</td>
<td>✓</td>
</tr>
<tr>
<td>Employment and Expenditure</td>
<td>✓</td>
</tr>
</tbody>
</table>

HARDROCK PROJECT
ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL ASSESSMENT

Assessment of Potential Environmental Effects on Traditional Land and Resource Use
June 2017

Table 18-6: Potential Project Effects on Interactions with Traditional Land and Resource Use, Prior to Mitigation

<table>
<thead>
<tr>
<th>Project Components and Physical Activities</th>
<th>Potential Environmental Effects (prior to mitigation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change to Distribution of Plant Species and Plant Harvesting Sites and Activities</td>
</tr>
<tr>
<td>CONSTRUCTION</td>
<td></td>
</tr>
<tr>
<td>Site Preparation (removal of existing buildings and associated infrastructure, timber harvesting, vegetation clearing, earthworks, overburden and topsoil stockpiling, temporary effluent treatment and discharge)</td>
<td>✓</td>
</tr>
<tr>
<td>Watercourse Crossings and Goldfield Creek diversion</td>
<td>✓</td>
</tr>
<tr>
<td>Pre-Production Mining and Development of Mine Components (open pit, waste rock storage areas, ore stockpile, water management facilities, Phase 1 of TMF)</td>
<td>✓</td>
</tr>
<tr>
<td>Buildings and Supporting Infrastructure (process plant, temporary camp, sewage treatment plant, mine dry, administration building, truckshop, warehouse and offices, power plant)</td>
<td>✓</td>
</tr>
<tr>
<td>Linear and Ancillary Facilities (site roads and parking areas, onsite pipelines, power lines/transformer station, fuel supply, storage and distribution)</td>
<td>✓</td>
</tr>
<tr>
<td>Highway 11 Realignment and Ontario Ministry of Transportation Patrol Yard Relocation</td>
<td>✓</td>
</tr>
<tr>
<td>Aggregate Sources (excavation and dewatering related to aggregate source development and extraction)</td>
<td>✓</td>
</tr>
<tr>
<td>Employment and Expenditure</td>
<td>✓</td>
</tr>
</tbody>
</table>

Stantec
GREENSTONE GOLD MINES

18.71
Table 18-6: Potential Project Effects on Interactions with Traditional Land and Resource Use, Prior to Mitigation

<table>
<thead>
<tr>
<th>Project Components and Physical Activities</th>
<th>Change to Distribution of Plant Species and Plant Harvesting Sites and Activities</th>
<th>Change to Distribution of Fish Species and Fishing Areas and Activities</th>
<th>Change to Distribution of Hunted and Trapped Species and Hunting and Trapping Areas and Activities</th>
<th>Change in Cultural or Spiritual Practices, Sites, or Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATION</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Pit Mining (drilling, blasting, loading and hauling of ore and waste rock)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Waste Rock Disposal</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Ore Processing (ore crushing and conveyance, ore milling)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Water Management (contact water collection system, process water supply, effluent management and treatment, open pit dewatering)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Tailings Management (including excavation and removal of historical tailings)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Site Buildings, Linear Facilities and Associated Infrastructure (site roads, power plant, explosives facility, fuel supply, storage and distribution)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Employment and Expenditure</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>CLOSURE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active Closure (primary decommissioning and rehabilitation)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Post-Closure (pit filling and monitoring)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Employment and Expenditure</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

NOTE: ✓ Potential interactions that might cause an effect without mitigation.
18.4 ASSESSMENT OF RESIDUAL ENVIRONMENTAL EFFECTS ON TRADITIONAL LAND AND RESOURCE USE

18.4.1 Analytical Methods

Potential environmental effects on TLRU were determined based on the Project-specific TK and TLRU studies, Project consultation activities, literature review and past project experience. Other VC assessments provide additional relevant information regarding effects on resources, and aspects of the biophysical and socio-economic environment that may affect TLRU. Potential effects on TLRU due to construction, operation and closure of the Project are outlined in Section 18.3.

18.4.1.1 Assumptions and the Conservative Approach

A conservative approach was used to identify potential interactions between the Project and TLRU activities and cultural sites, whereby activities with a degree of uncertainty are assumed to contribute to the environmental effect. In the absence of Project-specific information, TLRU locations and activities were assumed to occur within the RAA, even if the Aboriginal communities did not specifically identify these activities or site-specific uses.

TLRU relies primarily on the information from the TK assessments (completed by AFN, EFN, GFN, LLFN, MNO, and PPFN), CIAs (completed by AFN and LLFN), literature review, Aboriginal communities’ comments and responses during consultation activities throughout the EA process, the results of other VC assessments, past project experience and professional judgment.

Relying on the results of other VC assessments to understand effects on TLRU has limitations. First, there is often a lack of clear or complete concordance between other VCs and TLRU. For example, there may be incompatibilities in using the wildlife assessment to understand effects on hunting if the species used for the wildlife assessment do not adequately reflect traditionally harvested species. In many cases, species assessed by the vegetation communities, wildlife and wildlife habitat and fish and fish habitat VCs are chosen based on their status as species of management concern, rather than their traditional use potential. Further, the assessment of effects on plant, animal or fish species does not capture the conditions that influence the act of harvesting. An attempt was made to bridge this gap by considering the results of the biophysical and socio-economic assessments, but it remains important to note that these assessments are not undertaken from the standpoint of understanding changes to an Aboriginal community member’s experience of being on the land. Additionally, some of the conditions that influence TLRU, such as perceived effects, are not considered in the assessment of other biophysical or socio-economic VCs.
The extrapolation of the biophysical VC assessments to the harvesting assessment may also be constrained due to differing temporal and spatial parameters. Despite a determination of no significant effect for vegetation or wildlife, harvesting could still be affected because animals have moved away from a traditional hunting area or plants have been cleared from a particular gathering area for a period of time that is important in relation to TLRU. Regardless of whether a plant species can be reclaimed and eventually returned to baseline condition, or whether an ungulate population will remain viable in the region, individuals may not engage in traditional harvesting or gathering practices as long as the Project effects on that species continue. There may be areas outside the RAA that will support continued TLRU activities, however, it is acknowledged that TLRU cannot always be readily transferred to other locations within an Aboriginal community’s traditional territory or occupancy area, even if harvested resources can be found elsewhere within the territory. These areas may already be subject to TLRU and harvesting pressure from other Aboriginal communities and TLRU practices and related knowledge are often rooted in specific places that have important cultural and spiritual associations.

GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation; however, to be conservative the assessment of residual environmental effects in this chapter assumes that access to the Southwest Arm of Kenogamisis Lake through the PDA will be restricted during construction and operation.

### 18.4.2 Assessment of Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities

#### 18.4.2.1 Project Mechanisms for Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities

Aboriginal communities gather a variety of plants for traditional purposes within the RAA. Based on the available sources (see Sections 18.1.1 and 18.2.1.1), AFN, EFN, LLFN, and MNO identified site-specific TLRU within the RAA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if Aboriginal communities did not specifically identify these activities or site-specific uses. Limiting of Aboriginal communities’ ability to engage in plant harvesting activities is regarded as an effect on TLRU. This assessment of change to distribution of plant species and plant harvesting sites and activities examines changes in plant harvesting sites and associated access, and changes in availability of resources.
Potential Project Mechanisms for Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities from other Valued Components

The vegetation communities VC (Chapter 12.0) was reviewed to identify Project mechanisms that have potential to affect the availability of plant resources. A residual adverse effect was identified related to the removal of plant species of interest to Aboriginal communities, since clearing of vegetation during construction may result in the removal of these plant species.

The land and resource use VC (Chapter 16.0) was also reviewed to identify Project mechanisms that have potential to affect plant harvesting sites and associated access. Project construction will result in the loss of vegetation and access to harvesting areas within the PDA. As discussed in the land and resource use VC (Chapter 16.0, Section 16.4.4), navigation has not been confirmed within the PDA through consultation input, TK and TLRU studies or observations made during fieldwork, however the Goldfield Creek diversion will change the channel alignment but permit navigation by small vessels such as canoes or kayaks, with obstacles (e.g., beaver dams and vegetation obstructions), between Goldfield Lake and the Southwest Arm of Kenogamisis Lake following closure. In addition, access to waterways in the PDA will be restricted during construction, operation, and active closure due to safety concerns. As a result, patterns of access to harvesting areas for traditional land and resource users have the potential to be affected.

As noted in Section 18.1.1, GGM acknowledges that effects on air quality, water quality, noise, visual aesthetics or altered landscapes may result in indirect sensory disturbance to Aboriginal land users that deter individuals from collecting plants for traditional purposes in affected areas or locations. Effects on biophysical conditions that may influence indirect sensory disturbance to Aboriginal land users are addressed in the atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0) and land and resource use VC (Chapter 16.0) respectively.

18.4.2.2 Mitigation for Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities

Several mitigation measures have been incorporated in the Project to eliminate or reduce the effects on the environment that includes plant species and access to plant harvesting sites and activities. Mitigation for potential effects on the distribution of plant species and plant harvesting sites and activities, including those measures identified for the biophysical and socio-economic VC's which are relevant to TLRU, are presented in Table 18-7.

Conceptual EMMPs (Appendix M) have been developed for the Project; an overview of these is provided in Chapter 23.0 and the Conceptual EMMPs are provided in Appendix M. Where there is interest, GGM will continue to work with local Aboriginal communities to harvest plant species prior to construction.
Table 18-7: Proposed Mitigation for Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities

<table>
<thead>
<tr>
<th>Mitigation Measures for a Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities</th>
<th>Construction</th>
<th>Operation</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation measures for the potential effects from dust in Chapter 7.0 (atmospheric environment VC).</td>
<td>✓ - -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitigation measures for potential effects on groundwater in Chapter 9.0 (groundwater VC).</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitigation measures for potential effects on surface water in Chapter 10.0 (surface water VC).</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitigation measures related to vegetation described in Chapter 12.0 (vegetation communities VC).</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mitigation measures related to land and resource use described in Chapter 16.0 (land and resource use VC).</td>
<td>✓ ✓ ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Where there is interest, provide opportunities to local communities for harvesting of plants for traditional purposes prior to construction.</td>
<td>✓ - -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incorporate plant species of interest to Aboriginal communities into the Closure Plan as feasible.</td>
<td>- - ✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avoid the use of chemical herbicides.</td>
<td>✓ ✓ -</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES:
✓ Mitigation measures are applicable.
- Mitigation measures are not applicable.

In addition to the mitigation measures to reduce potential environmental effects, GGM is also committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.

18.4.2.3 Characterization of Residual Environmental Effect for Change to Availability of Plant Species and Access to Plant Harvesting Sites and Activities

The terms used to characterize residual environmental effects on TLRU are presented in Section 18.1.6. Residual environmental effects on the availability of plant species and access to plant harvesting sites and activities were characterized based on consideration of information provided by Aboriginal communities through Project-specific TLRU studies, CIAs, literature review and Aboriginal consultation activities, as well as relevant VC residual environmental effect assessments.

Residual effects are anticipated for plant gathering within the PDA. MNO identified plant harvesting locations within the PDA, EFN identified subsistence areas within the PDA, and AFN and LLFN reported plant harvesting in the PDA, however specific locations as well as details of access were not disclosed.
Patterns of access to harvesting areas in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road. Access changes may affect harvesting sites located southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake.

Residual environmental effects on plant species and plant harvesting sites and activities are considered adverse because of the removal of plants and habitat affecting availability of resources, loss of habitat and change of access in the PDA. However, these plant species are not limited to the habitat in the PDA or LAA and the vegetation communities that support these plant species are common throughout the RAA. The removal of plant species of interest to Aboriginal communities that are located within the PDA are not anticipated to affect the viability of these species occurring in the RAA. During construction, clearing of the PDA will result in a loss of existing vegetation, including plant species and potential plant harvesting sites identified by Aboriginal communities. Effects from dust deposition due to construction, operation and active closure activities will be localized to 30 metres (m) from the PDA. GFN, AZA and LLFN noted that too much dust on plants (e.g., berries) may result in less harvesting of traditional plants and medicines. Changes to access and navigation routes as a result of the Project will affect harvesting, navigation, and trail use areas in the PDA and along the shoreline of the Southwest Arm of Kenogamisis Lake in the LAA. Changes to patterns of access within the PDA and LAA will result in an effect of continuous frequency throughout all Project phases. Effects extending into the LAA are anticipated to be moderate in magnitude. The duration of the loss of plant species of Aboriginal interest will be long-term and irreversible, even with the reintroduction of species through rehabilitation and natural succession processes post-closure. In addition, effects to access are medium-term in duration because access through the PDA will be restored following active closure. Rehabilitation of Project components will provide opportunities for regrowth of plant species of interest to Aboriginal communities but access will be limited while in progress.

### 18.4.3 Assessment of Change to Availability of Fish Species and Access to Fishing Areas and Activities

#### 18.4.3.1 Project Mechanisms for Change to Availability of Fish Species and Access to Fishing Areas and Activities

Aboriginal communities fish in the streams, rivers, and lakes within the RAA. Based on the available sources (see Sections 18.2.1.1 and 18.2.2), AZA, AFN, EFN, GFN, LLFN, and MNO identified site-specific TLRU within the RAA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if Aboriginal communities did not specifically identify these activities or site-specific uses. Limiting of Aboriginal communities’ ability to engage in fishing could reasonably be regarded as an effect on TLRU. This assessment focuses on changes in fishing areas and associated access and changes in availability of resources. Aboriginal communities provided comments regarding potential effects on fish and fish harvesting during consultation and through TK studies. These are presented in Section 18.1.3 and below in Section 18.4.3.3.
Potential Project Mechanisms for Change to Availability of Fish Species and Access to Fishing Areas and Activities from other Valued Components

The fish and fish habitat VC (Chapter 11.0) residual environmental effects assessment was reviewed to verify that Project mechanisms that have the potential to affect the availability of fishing resources, are the same mechanisms that have potential to affect fish and fish habitat including:

- During construction, operation, and closure potential mechanisms for lethal and sub-lethal effects on fish include: the mobilization and transport of sediment to fish habitat; changes to flow; dewatering; destruction of fish eggs; stranding of fish; the introduction of deleterious materials to fish habitat from point (i.e., treated effluent discharge) and non-point sources (i.e., surface run-off, groundwater seepage, and dustfall); and shock waves from explosives usage.

- A permanent alteration of fish habitat may occur through changes to water characteristics from treated effluent, groundwater discharge, physical changes, extraction of surface water, changes to the riparian vegetation and structure, and changes to flow regime related to construction, operation, and closure activities.

Fish habitat may be lost as a result of the placement of materials or structures in water during construction. No operation or closure activities have been identified that would result in a loss of fish habitat. Loss of fish habitat that cannot be avoided will be addressed through the implementation of the Fisheries Offset Plan. The land and resource use VC (Chapter 16.0) residual environmental effect assessment was also reviewed to identify potential Project mechanisms that have potential to alter fishing areas or change access conditions or navigation routes used to travel to fishing areas. As discussed in Chapter 16.0 (Section 16.4.4), navigation has not been confirmed within the PDA through consultation input, TK and TLRU studies or observations made during fieldwork, however it is conservatively assumed that navigation is currently possible in the PDA on Goldfield Creek, the Southwest Arm Tributary, and SWP3. Although there has been no confirmed use of Goldfield Creek for navigation, the diversion will change the channel alignment but permit navigation by small vessels such as canoes or kayaks, with obstacles (e.g., beaver dams and vegetation obstructions), between Goldfield Lake and the Southwest Arm of Kenogamisis Lake following closure. In addition, access to waterways in the PDA will be restricted during construction and operation due to safety concerns. As a result, patterns of access to harvesting areas for traditional land and resource users have the potential to be affected.

As noted in Section 18.1.2, GGM acknowledges that effects on air quality, water quality, noise, visual aesthetics or altered landscapes may result in indirect sensory disturbance to Aboriginal land users that deter individuals from fishing in affected areas or locations. Effects on biophysical conditions that may influence indirect sensory disturbance to Aboriginal land users are addressed in the atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0) and land and resource use VC (Chapter 16.0), respectively.
18.4.3.2 Mitigation for Change to Availability of Fish Species and Access to Fishing Areas and Activities

Mitigation for potential effects on the availability of fish species and access to fishing areas and activities, including those measures identified for the biophysical and socio-economic VCs that are relevant to TLRU, are presented in Table 18-8.

Table 18-8: Proposed Mitigation for Change to Availability of Fish Species and Access to Fishing Areas and Activities

<table>
<thead>
<tr>
<th>Change to Availability of Fish species and access to fishing areas and activities</th>
<th>Construction</th>
<th>Operation</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation measures for potential effects on fish and fish habitat in Chapter 11.0 (fish and fish habitat VC) including the Draft Fisheries Offset Plan (Appendix F10).</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mitigation measures related to land and resource use described in Chapter 16.0 (land and resource use VC).</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

NOTE: ✓ Mitigation measures are applicable.

A conceptual framework and scope for EMMPs, including follow-up and monitoring programs is provided in Chapter 23.0. Conceptual EMMPs are also provided in Appendix M, including a Conceptual AMMP (Appendix M12).

In addition to the mitigation measures to reduce potential environmental effects, GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.

18.4.3.3 Characterization of Residual Environmental Effect for Change to Availability of Fish Species and Access to Fishing Areas and Activities

The terms used to characterize residual environmental effects on TLRU are presented in Section 18.1.6. Residual environmental effects for changes to availability of fish species and access to fishing areas and activities were characterized based on consideration of information provided by Aboriginal communities as well as relevant VC residual environmental effect assessments.

Effects on the sustainability and productivity of fish resources within the LAA are not anticipated. Residual effects on fish habitat are characterized as medium-term, as nutrients will be discharged in treated effluent during operation. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek diversion. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. More than half of the 6.58 ha of fish habitat that will be altered or lost is comprised of artificial golf course pond and poor...
quality habitat such as roadside ditches. However, due to safety concerns, access to the PDA will be restricted during construction, operation, and active closure. Therefore, patterns of access to fishing areas used by Aboriginal communities in the LAA may be affected. AFN, AZA, EFN, GFN, LLFN, and MNO have identified fishing areas within the LAA. Residual effects are anticipated for access to: portions of the Southwest Arm Tributary and its online ponds (Ponds SWP1, SWP2, SWP3 and SWP4); Lake A-322; and parts of Kenogamisis Lake accessed via Lahtis Road. Although navigation in the PDA has not been observed or identified through consultation or TK and TLRU studies, travel by small craft (e.g., canoe) will continue to be possible with obstacles (e.g., beaver dams and vegetation obstructions) between Goldfield Lake and Kenogamisis Lake with the new Goldfield Creek diversion; however, access through this area will be restricted during construction, operation, and active closure. The closure of Lahtis Road will affect access to areas located to the southwest of the PDA (although this area may be accessed via Goldfield Road). Access restrictions will remain in place until the end of active closure. The change in access may require Aboriginal communities to seek alternative routes and methods of access (i.e., boat vs. vehicle). Access through the PDA will be restored following active closure.

AZA, GFN, LLFN, and MNO reported fishing in Kenogamisis Lake and EFN identified subsistence areas at Kenogamisis Lake. MNO provided comments about access to Lahtis Road to reach the Southwest Arm of Kenogamisis Lake. GGM is required to restrict access to the PDA so that mining activities can be carried out in a safe manner without interfering with operation.

Effects on fish species and fish areas and activities are considered low in magnitude, limited to the LAA, and continuous in frequency.

The duration is characterized as medium-term and reversible overall because access will be re-opened post-closure.

18.4.4 Assessment of Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities

18.4.4.1 Project Mechanisms for Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities

Aboriginal communities harvest a variety of wildlife within the RAA. Based on the available sources (see Sections 18.2.1.1 and 18.2.2), AZA, AFN, EFN, GFN, LLFN, and MNO identified site-specific TLRU within the RAA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if Aboriginal communities did not specifically identify these activities or site-specific uses. Limiting of Aboriginal communities’ ability to engage in traditional hunting and trapping could reasonably be regarded as an effect on TLRU. This assessment of change to hunted and trapped species and hunting and trapping areas and activities examines changes to availability of hunted and trapped species and access to hunting and trapping areas and activities. Aboriginal communities provided comments regarding potential effects on hunting and trapping during consultation and TK studies. These are presented in Section 18.1.3 and below in Section 18.4.4.3.
Potential Project Mechanisms for Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities from Other Valued Components

The wildlife and wildlife habitat (Chapter 13.0) residual environmental effects assessment was reviewed to identify Project mechanisms that have potential to affect the availability of traditional hunted and trapped species:

- Availability of hunted and trapped species will be adversely affected during construction due to vegetation clearing resulting in habitat loss in the PDA.

- Availability of hunted and trapped species will be adversely affected during construction, operation, and active closure because of indirect loss or alteration of wildlife habitat due to sensory disturbance (habitat avoidance or under-utilization due to human activity) and changes to wildlife movement patterns. Sensory disturbance may affect wildlife within 200 m of the PDA, however habitat within this sensory disturbance zone is expected to retain some value for wildlife. Residual adverse effects on wildlife movement will be located primarily within the LAA. Because of their large home ranges, moose movement patterns may shift to the rest of their range and as a result residual effects on wildlife movement are considered to extend into the RAA for moose. Following active closure, new wildlife movement patterns may be established as sensory disturbance abates and revegetation of the PDA progresses, although for some species (e.g., species requiring more developed tree cover) this may take a longer period of time.

- Throughout construction, operation and active closure, an increased risk of mortality to wildlife within the LAA as a result of Project activities (e.g., site preparation, traffic, human-wildlife encounters) is anticipated, however the effect is predicted to be within the normal variability of baseline conditions and is not expected to affect the long-term persistence or viability of wildlife within the RAA.

The land and resource use VC (Chapter 16.0) residual environmental effects assessment was reviewed to identify Project mechanisms that have potential to affect the availability of traditional hunting and trapping resources. The Project will result in the loss of access to the PDA, which will restrict access to traditional harvesting of hunted and trapped species. The Project will restrict access to watercourses where it has been conservatively assumed that navigation is possible, and change a channel alignment that may pose an inconvenience to potential users. Areas, trails, and access to harvesting areas will be affected in the LAA due to changes in patterns of access to identified hunting areas because of the realignment of a portion of Highway 11 and diversion of Goldfield Creek.

As noted in Section 18.1.1, GGM acknowledges that effects on air quality, water quality, noise, visual aesthetics or altered landscapes may result in indirect sensory disturbance to Aboriginal land users that deter individuals from hunting or trapping in affected areas or locations. Effects on biophysical conditions that may influence indirect sensory disturbance to Aboriginal land users are addressed in the atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0) and land and resource use VC (Chapter 16.0), respectively.
Mitigation for Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities

Mitigation for potential effects on hunted and trapped species and hunting and trapping areas and activities, including those measures identified for the biophysical and socio-economic VCs which are relevant to TLRU are presented in Table 18-9.

GGM has provided information related to the conceptual environmental management and monitoring for wildlife in Chapter 23.0. Conceptual EMMPs are provided in Appendix M.

Table 18-9: Proposed Mitigation for Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities

<table>
<thead>
<tr>
<th>Change to Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities</th>
<th>Construction</th>
<th>Operation</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mitigation measures for potential effects on change in habitat, mortality risk, and movement of wildlife in Chapter 13.0 (wildlife and wildlife habitat VC).</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mitigation measures related to land and resource use described in Chapter 16.0 (land and resource use VC).</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Implementation of the Conceptual EMMP’s (Appendix M) and Conceptual Closure Plan (Appendix I).</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

NOTE: ✓ Mitigation measures are applicable.

In addition to the mitigation measures to reduce potential environmental effects, GGM recognizes, as a result of consultation input, that Aboriginal communities are interested in participating in a moose health (i.e., tissue sampling) monitoring study in the region. Given the large ranges of these animals and mandate of the MNRF, GGM will participate in an MNRF-led study with local Aboriginal communities during Project operation.

Characterization of Residual Environmental Effects for Change to Availability of Hunted and Trapped Species and Access to Hunting and Trapping Areas and Activities

The terms used to characterize residual environmental effects on hunted and trapped species and hunting and trapping areas and activities are presented in Section 18.1.7. Residual environmental effects on hunted and trapped species and hunting and trapping areas and activities were characterized based on information provided by Aboriginal communities as well as relevant VC residual environmental effect assessments.
The wildlife and wildlife habitat VC (Chapter 13.0) and land and resource use VC (Chapter 16.0) residual environmental effect assessments were reviewed for this assessment. After the application of mitigation, the wildlife and wildlife habitat and land and resource use assessments identified residual environmental effects that, in turn, will affect hunting and trapping through changes in wildlife habitat in the PDA. Effects on habitat through vegetation removal and sensory disturbance may cause wildlife important to TLRU to avoid habitat. Mortality risk may affect species important to TLRU through site preparation as the primary effect mechanism followed by traffic, and human-wildlife encounters. However, with the implementation of the identified mitigation measures in Chapter 13.0 (wildlife and wildlife habitat VC), direct mortalities resulting from the Project are expected to be within the normal variability of baseline conditions and are not expected to affect the long-term persistence or viability of wildlife within the RAA. Change in movement of wildlife important to TLRU will be primarily due to the open pit and its associated infrastructure, which act as a local barrier to wildlife movement. Other Project components such as ditches, access roads and transmission/distribution lines also have the potential to alter wildlife movement. Wildlife may be reluctant to cross these components because of high levels of human activity, sensory disturbance, or because the features are too high or wide to physically move across. Access will be altered by changes to access to Lahtis Road and the diversion of Goldfield Creek. Residual environmental effects described in these relevant VC assessments were considered to characterize residual environmental effects on hunted and trapped species and hunting and trapping areas and activities.

Residual effects are anticipated for TLRU locations in the PDA. AFN, EFN, LLFN, and MNO identified land use sites within the PDA. Patterns of access to hunting and trapping in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road. Access changes may affect hunting and trapping areas located southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake. GFN, LLFN, and MNO reported hunting and trapping activities at Kenogamisis Lake and EFN identified subsistence areas at Kenogamisis Lake.

Residual environmental effects on hunted and trapped species and hunting and trapping sites and activities or access to these are considered adverse. During construction, clearing of the PDA will result in a loss of wildlife habitat. In particular, wetland and forest areas will have some irreversible loss of associated wildlife habitat. During operation, hunted and trapped species will be affected because of indirect loss or alteration by sensory disturbance (habitat avoidance or under-utilization due to human activity) and is predicted to be adverse, moderate in magnitude but is not predicted to affect the sustainability of wildlife within the RAA.

The residual adverse effect on mortality risk during construction, operation and closure is predicted to be within the normal variability of existing conditions. The residual adverse effect on mortality risk will extend into the LAA and is considered reversible. The ecological context for the residual environmental effect on mortality risk is resilient. Access to areas used for hunting and trapping and trails and navigable waterways will be changed in the PDA and hunting and trapping will be affected in the LAA due to the Project altering access conditions and navigability.
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Changes to patterns of access within the PDA and LAA will result in an effect of continuous frequency throughout construction, operation and active closure. Effects extending into the LAA because of change in access through the PDA along Lahtis Road are anticipated to be moderate.

It is expected that effects on hunted and trapped species and hunting and trapping sites will be reversed (except for some areas of the PDA) following the completion of rehabilitation during closure. Residual effects are characterized as moderate in magnitude, medium-term in duration and irreversible overall because access through the PDA will be restored following active closure, but some wildlife habitat will be irreversibly lost.

18.4.5 Assessment of Change to Cultural or Spiritual Practices, Sites, or Areas

18.4.5.1 Project Mechanisms for Change to Cultural or Spiritual Practices, Sites, or Areas

Based on the available sources (see Sections 18.2.1.1 and 18.2.2), AFN, EFN, LLFN, MNO, and PPFN identified site-specific TLRU within the RAA. Cultural and spiritual sites and areas such as trails and travelways, sacred areas, communal gathering areas, camps, cabins, and other habitation areas, apart from having a physical presence on the landscape, represent an integrated network of beliefs, values and knowledge that delineate Aboriginal communities’ important cultural heritage landscapes. Discussed as Aboriginal Resources in the heritage resources assessment (Chapter 17.0), archaeological resources are often associated with these features, however, in recognition that the values placed on these features are intrinsically linked to active TLRU by Aboriginal communities, the potential effects on trails and travelways, sacred areas, communal gathering areas, and habitation areas are assessed below. As noted in Section 18.4.1.1, it was assumed that there is the potential for cultural or spiritual practices, sites or areas to occur within the RAA, even if Aboriginal communities did not specifically identify these activities or site-specific uses. Project mechanisms that have potential to affect cultural and spiritual sites include site preparation (removal of existing buildings, timber harvesting, vegetation clearing, earthworks, overburden and topsoil stockpiling, temporary effluent treatment and discharge), isolation due to positioning of Project infrastructure, and land use change due to mining. Limiting of Aboriginal communities’ ability to engage in cultural or spiritual practices could reasonably be regarded as an effect on TLRU. This assessment examines changes in cultural or spiritual sites or areas, and associated access. Aboriginal communities provided comments regarding potential effects on cultural spaces and practices during consultation and TK studies. These are presented in Section 18.1.4 and below in Section 18.4.5.3.

Potential Project Mechanisms for Change to Cultural or Spiritual Practices, Sites, or Areas from other Valued Components

The heritage resources VC (Chapter 17.0) addresses the following potential Project effects: loss or displacement of archaeological resources; and loss, displacement, or disruption of historical resources due to surface or subsurface ground disturbance. There is potential for heritage and
archaeological artifacts to be associated with cultural and spiritual sites. Environmental effects on heritage resources may in turn have environmental effects on cultural or spiritual practices, sites, or areas.

The land and resource use VC (Chapter 16.0) residual environmental effects assessment was reviewed to identify Project mechanisms that have potential to affect cultural and spiritual sites and associated access. As noted in Section 18.1.1, GGM acknowledges that effects on air quality, water quality, noise, visual aesthetics or altered landscapes may result in indirect sensory disturbance to Aboriginal land users that deter individuals from using cultural or spiritual sites in affected areas or locations. Effects on biophysical conditions that may influence indirect sensory disturbance to Aboriginal land users are addressed in the atmospheric environment VC (Chapter 7.0), acoustic environment VC (Chapter 8.0), groundwater VC (Chapter 9.0), surface water VC (Chapter 10.0) and land and resource use VC (Chapter 16.0), respectively.

### 18.4.5.2 Mitigation for Change to Cultural or Spiritual Practices, Sites, or Areas

Mitigation for potential effects on change to cultural and spiritual practices, sites or areas, including those measures identified for the socio-economic VCs that are relevant to TLRU, are presented in Table 18-10.

GGM has provided information related to the conceptual environmental management and monitoring for heritage resources in Chapter 24.0.

#### Table 18-10: Proposed Mitigation for Change to Cultural and Spiritual Practices, Sites, or Areas

<table>
<thead>
<tr>
<th>Mitigation Measures for Change to Cultural or Spiritual sites or areas, and associated access</th>
<th>Construction</th>
<th>Operation</th>
<th>Closure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed recording and mapping of spiritual or cultural sites in partnership with Aboriginal community representatives, a decision is then made about the relative importance of the site and, if warranted, how to maintain and control access.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Where there is interest, provide opportunities to local communities for harvesting of plants for traditional purposes prior to construction.</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Through Project design the length and location of roads have been considered in order to reduce potential access restrictions.</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>A Pipe Ceremony will be held prior to commencement of construction under the direction of local Aboriginal communities.</td>
<td>✓</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**NOTES:**
- ✓ Mitigation measures are applicable.
- - Mitigation measures are not applicable.
In addition to the mitigation measures to reduce potential environmental effects, GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.

18.4.5.3 Characterization of Residual Environmental Effects for Change to Cultural or Spiritual Practices, Sites, or Areas

The terms used to characterize residual environmental effects on TLRU are presented in Section 18.1.7. Residual environmental effects on cultural or spiritual practices, sites or areas were characterized based on information provided by Aboriginal communities as well as relevant VC residual environmental effect assessments. For the purposes of this assessment, cultural and spiritual sites and areas are recognized as representing important features on Aboriginal communities’ cultural heritage landscape, and features such as trails and travelways, sacred areas, communal gathering areas, and habitation areas are fundamentally linked to TLRU activities and practices. These cultural and spiritual sites and areas have similarities with, but are distinct from, heritage resources assessed in Chapter 17.0. The removal of any cultural or spiritual sites or areas within the PDA would be considered an adverse effect and irreversible because cultural sites are not capable of being renewed once removed. Effects on cultural and spiritual sites are site-specific (as opposed to effects on wildlife that can be assumed to occur throughout the PDA and LAA) and limited to the PDA. Patterns of access to cultural or spiritual sites, or areas in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road. These changes are predicted to result in changes in access to areas located southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake.

The heritage resources VC (Chapter 17.0) and land and resource use VC (Chapter 16.0) environmental effect assessments were reviewed for the TLRU assessment. There is potential for heritage and archaeological artifacts to be associated with cultural and spiritual sites. However, the heritage resources VC assessment (Chapter 17.0) concluded that no residual environmental effects on heritage resources are anticipated (Section 17.5). As discussed in Section 17.4.4.3, there is a potential for archaeological resources to go undiscovered while applying standard sampling methods. Protocols for chance encounters of archaeological resources during construction procedures described in the Conceptual AHRMP (Appendix M14) will address potential effects on these resources.

The land and resource use assessment identified residual environmental effects related to changes in access conditions, which will in turn affect cultural sites and practices in affected areas. The land and resource use VC assessment (Chapter 16.0) indicates that areas and trails will be lost in the PDA, and there will be access restrictions to watercourses where it has been conservatively assumed navigation is possible, and change a route, which may pose an inconvenience to potential users. Access to cultural or spiritual practices, sites, or areas in the LAA will be affected due to changes in patterns of access because of the realignment of
approximately 4.2 km of Highway 11 and diversion of Goldfield Creek. The effect is characterized as moderate in magnitude. The duration of the residual effect will vary from short-term residual effects from in-water works to medium-term residual effects related to most aspects of navigation. The duration is characterized as medium-term and reversible overall because access through the PDA will be restored following active closure.

Residual effects are anticipated for the locations within the PDA identified by LLFN and MNO. LLFN reported four campsite or cabin areas within the PDA in the LLFN TK Assessment (Appendix J1), referred to as land use sites in the heritage resources VC (Chapter 17.0, Section 17.2.2.2). During GGM and LLFN follow-up meetings on April 18 and 19, 2017 LLFN confirmed there are a total of four “land use” sites within the PDA. LLFN also confirmed that these are not sacred sites and further detail is confidential. The land use sites are in the same general locations as the campsite or cabin areas identified in the TK Assessment. GGM and LLFN have agreed upon a path forward for these sites. MNO reported a tent or temporary structure south of Mosher Lake and a route connecting Highway 11 with Mosher Lake, both conservatively assumed to be located within the PDA. Based on the layout of the PDA, Mosher Lake will remain accessible during all phases of the Project. MNO reported that camping sites may have important spiritual or ceremonial connection (MNO TKLU Study; Appendix J3). GGM is unaware of any sites important for spiritual or ceremonial purposes within the PDA or LAA.

In comments made by AFN to the CEA Agency, AFN confirmed they use snowmobile trails, which are operated by the Ontario Federation of Snowmobile Clubs and maintained by the Greenstone Snowmobile Club, along Highway 11 in the PDA for hunting. Geraldton Snowmobile Club has confirmed that the trail along Lahtis Road is no longer maintained. Potential interactions with snowmobile trails as a result of the Project are considered in Chapter 16.0 (Sections 16.4.2 and 16.4.3).

Within the LAA, residual environmental effects on availability of or access to cultural or spiritual practices, sites or areas are considered adverse and are expected through construction, operation, and closure phases of the Project because of disturbance of cultural or spiritual sites and changes to access conditions. Construction activities will affect the ability to access areas used for cabin or camp locations within portions of the LAA. For example, the Project will result in the loss of access to the PDA, and, therefore, alter access to the shoreline of the Southwest Arm of Kenogamisis Lake, affecting access to LLFN and MNO cultural sites. Cultural or spiritual sites or areas will not likely be directly disturbed in the LAA, although cultural or spiritual practices will be affected due to the Project changing access conditions and affecting the ability to undertake TRLU activities throughout construction, operation, and closure phases. Changes to patterns of access within the PDA and LAA will result in an effect of continuous frequency throughout Project phases. Effects extending beyond the PDA are characterized as moderate in magnitude, medium-term in duration and partially reversible because access through the PDA will be restored (exceptions include the vehicular access to the open pit, WRSA and TMF, Lahtis Road will only be re-opened to the Goldfield Creek diversion) following active closure.

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Within the PDA, residual environmental effects to cultural or spiritual sites and areas are considered adverse and are expected during construction of the Project because of removal of cultural and spiritual sites. Construction activities will affect the four cabin or camp locations; the temporary structure south of Mosher Lake and route connecting Highway 11 with Mosher Lake; and the snowmobile trail identified by Aboriginal communities due to clearing of the PDA, which will result in permanent removal of cultural or spiritual sites. Once removed, cultural and spiritual sites cannot be renewed or returned to baseline conditions, therefore effects on cultural or spiritual sites within the PDA are predicted to be a single event, high in magnitude, long term in duration, and irreversible.

### 18.4.6 Summary of Residual Environmental Effects

A summary of environmental effects that are likely to occur because of the Project is provided in Table 18-11.

Residual adverse effects are considered further in terms of their significance in Section 18.5 and are carried forward to the cumulative effects assessment (Chapter 20.0). A conceptual framework and scope for EMMPs, including follow-up and monitoring programs is provided in Chapter 23.0. Conceptual EMMPs are also provided in Appendix M.
Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHANGE TO AVAILABILITY OF PLANT SPECIES AND ACCESS TO PLANT HARVESTING SITES AND ACTIVITIES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change to availability of plant species and access to plant harvesting areas and activities</td>
<td>✔️</td>
<td>✔️</td>
</tr>
</tbody>
</table>

**Direction:** Adverse. The clearing of vegetation within the PDA during construction will result in the removal of plant species of interest to Aboriginal communities and plant harvesting sites resulting in a decrease in the availability of plant harvesting areas relative to baseline conditions. The removal of upland vegetation communities is not predicted to threaten the long-term viability of a vegetation community type in the RAA, including the LAA. Patterns of access to harvesting areas in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road. Access changes may affect harvesting sites located southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake.

**Magnitude:** Moderate. The removal of plant species of interest to Aboriginal communities and plant harvesting sites within the PDA, and changes in patterns of access to harvesting sites are predicted to alter plant harvesting activities in the LAA without threatening the long-term viability of vegetation communities.

**Geographic Extent:** LAA. Removal of plant species of interest to Aboriginal communities and plant harvesting sites will be confined to the PDA. Patterns of access to harvesting areas in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road may alter harvesting activities southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake. Dust deposition on plants will extend approximately 30 m into the LAA.

**Timing:** N/A. Seasonal aspects are not expected to alter the characteristics of the residual effect on a change to the availability of plant species and access to plant harvesting areas and activities.

**Frequency:** Continuous. The decrease in the availability of plant species and plant harvesting sites, and changes in patterns of access to harvesting sites (located southwest of the PDA and along the shoreline of the Southwest Arm of Kenogamisis Lake) are predicted to occur continuously throughout the life of the Project.
**Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use**

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Operation</td>
</tr>
<tr>
<td><strong>Duration:</strong> Long-term. Within the PDA the decrease in the availability of plant species and/or plant harvesting sites will extend beyond active closure. Beyond the PDA, the decrease in access to harvesting sites (located southwest of the PDA and along the shoreline of the Southwest Arm of Kenogamis Lake) will be medium term, extending throughout construction, operation, and active closure.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reversibility:</strong> Irreversible. During post-closure, it is predicted that access to the PDA will be partially restored (exceptions include the vehicular access to the open pit, WRSA and TMF) and GGM will incorporate plant species of interest to Aboriginal communities where appropriate and technically feasible during rehabilitation. It is expected that effects on harvesting sites will be reversed following the completion of rehabilitation during active closure, except in the footprint of permanent Project components such as the open pit.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Ecological and Socio-economic Context:</strong> Typical. Plant species of interest to Aboriginal communities and/or plant harvesting sites are considered to be typical to the PDA and abundant within the LAA and RAA.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Operation</td>
</tr>
<tr>
<td>Change to availability of fish species and access to fishing areas and activities</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**Direction:** Adverse. Access restrictions and infilling of watercourses containing fish will result in the loss of availability of potential areas for fishing within the PDA resulting in a decrease in the availability of potential fishing areas relative to baseline conditions (although fishing potential within the PDA is limited and habitat that is altered or lost is limited and will be offset by creating new habitat within the Goldfield Creek realignment). Patterns of access to fishing areas in the LAA may be altered by the closure of Lahtis Road and restrictions to watercourses potentially used to access the PDA. These changes are predicted to result in a decrease in access to areas for fishing located southwest of the PDA (although this area may be accessed via Goldfield Road), in the Southwest Arm Tributary, and along the shoreline of the Southwest Arm of Kenogamisis Lake.

**Magnitude:** Low. The removal of areas for fishing potential within the PDA and reduced access to areas for fishing beyond the PDA is not predicted to reduce the ability to fish since overall, there will be no net loss of areas for fishing as a result of the Project, and more than half of the fish habitat that will be altered or lost is comprised of golf course pond and poor quality habitat such as roadside ditches and ephemeral drainage areas. Effects on sustainability and productivity of fish populations within the LAA and RAA are not anticipated.

**Geographic Extent:** LAA. The closure of Lahtis Road and restrictions to watercourses potentially used to access the PDA could result in a decrease in access to fishing areas in the LAA (e.g., use of the Southwest Arm Tributary or Southwest Arm of Kenogamisis Lake). However, the removal of potential fishing areas will be confined to the PDA.

**Timing:** N/A. Seasonal aspects are not expected to alter the characteristics of the residual effect on a change to availability of fish species and access to fishing areas and activities.

**Frequency:** Continuous. The loss of fishing potential within the PDA and altered access to areas for fishing beyond the PDA is predicted to occur continuously throughout the life of the Project.
### Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Duration</td>
<td>Medium-term. The removal of areas for fishing potential within the PDA and altered access to areas for fishing beyond the PDA is predicted to extend throughout construction, operation, and active closure altering access through the PDA.</td>
</tr>
<tr>
<td></td>
<td>Reversibility</td>
<td>Reversible. Access through the PDA will be restored following active closure.</td>
</tr>
<tr>
<td></td>
<td>Ecological and Socio-economic Context</td>
<td>Typical. Areas for fishing are considered to be limited within the PDA including golf course ponds and poor quality habitat such as roadside ditches and ephemeral drainage areas. Areas similar to Goldfield Creek and Southwest Arm Tributary are abundant within the LAA and RAA.</td>
</tr>
</tbody>
</table>
### Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
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<td>Construction</td>
<td>Operation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CHANGE TO AVAILABILITY OF HUNTED AND TRAPPED SPECIES AND ACCESS TO HUNTING AND TRAPPING AREAS AND ACTIVITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change to availability of hunted and trapped species and access to hunting and trapping areas and activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Direction:** Adverse. During construction, clearing of the PDA is anticipated to result in a loss of wildlife habitat, including hunting and trapping areas identified by Aboriginal communities that will reduce but not eliminate opportunities for hunting and trapping relative to baseline conditions. Patterns of access to hunting and trapping in the LAA may be altered by access restrictions to the PDA, including the closure of Lahtis Road. Access changes may affect hunting and trapping areas located southwest of the PDA (however this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake.

**Magnitude:** Moderate. The removal of wildlife habitat, including hunting and trapping areas identified by Aboriginal communities within the PDA and alteration of patterns of access is predicted to reduce but not eliminate opportunities for hunting and trapping relative to baseline conditions. The loss of habitat is not predicted to affect the long-term persistence or viability of wildlife in the RAA, including the LAA.

**Geographic Extent:** LAA. The decrease in access to hunting and trapping areas and activities will extend into the LAA because of the access restrictions to the PDA, including the closure of Lahtis Road. However, the removal of areas for hunting and trapping will be confined to the PDA.

**Timing:** N/A. Seasonal aspects are not expected to alter the characteristics of the residual effect on a change to availability of hunted and trapped species and access to hunting and trapping areas and activities.

**Frequency:** Continuous. The loss of hunting and trapping within the PDA, and altered access to areas for hunting and trapping beyond the PDA (locations southwest of the PDA and along the shoreline of the Southwest Arm of Kenogamisis Lake), are predicted to occur continuously throughout the life of the Project.
Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>Duration</strong>: Medium-term. Changes in patterns of access to hunting and trapping areas will extend throughout construction, operation, and active closure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Reversibility</strong>: Irreversible. As predicted in Chapter 13.0 (wildlife and wildlife habitat VC) some wildlife habitat will be restored through the implementation of the Closure Plan (See Appendix I for the Conceptual Closure Plan), however other wildlife habitats, particularly those that are associated with wetlands and forest habitats will have some irreversible loss of habitat within the PDA. With respect to access, the residual effect is reversible as access through the PDA will be restored after active closure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Ecological and Socio-economic Context</strong>: Typical. Areas for hunting and trapping are considered to be abundant within the LAA and RAA.</td>
</tr>
</tbody>
</table>
### Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction</td>
<td>Direction</td>
</tr>
<tr>
<td>Operation</td>
<td>Adverse</td>
</tr>
<tr>
<td>Closure</td>
<td></td>
</tr>
</tbody>
</table>

**Change to Cultural or Spiritual Practices, Sites or Areas**

- Change in access to cultural or spiritual practices, sites or areas.

**Magnitude:** Moderate. Continued use of the LAA for cultural and spiritual practices, sites and areas will still be possible, but due to changes to access conditions to sites in the LAA located southwest of the PDA (although this area may be accessed via Goldfield Road), and along the shoreline of the Southwest Arm of Kenogamisis Lake, continued use of these areas may entail a greater level of effort. The residual environmental effect will alter but not eliminate the ability to use the LAA for cultural and spiritual practices, sites and areas.

**Geographic Extent:** LAA. Access changes to cultural or spiritual sites or areas extend into the LAA (southwest of the PDA and along the shoreline of the Southwest Arm of Kenogamisis Lake).

**Timing:** N/A. Seasonal aspects are unlikely to alter the residual environmental effect on TLRU.

**Frequency:** Continuous. Access restrictions occur continuously throughout the life of the Project.

**Duration:** Medium-term. The decreasing the ability to undertake cultural practices in the LAA relative to baseline conditions will occur during construction, operation, and active closure.

**Reversibility:** Reversible. Residual effects are likely to be reversed after active closure as access to the PDA will be restored.

**Ecological and Socio-economic Context:** Atypical. Cultural or spiritual sites or areas are valued and important to the functioning of the community.
### Table 18-11: Summary of Project Residual Environmental Effects on Traditional Land and Resource Use

<table>
<thead>
<tr>
<th>Residual Effect</th>
<th>Activity</th>
<th>Residual Environmental Effects Characterization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Construction</td>
<td>Operation</td>
</tr>
<tr>
<td>Removal of cultural or spiritual sites or areas</td>
<td>✓</td>
<td>-</td>
</tr>
</tbody>
</table>

**Direction:** Adverse. Relative to baseline conditions, there would be a removal of cultural sites and areas in the PDA. LLFN confirmed there are a total of four “land use” sites within the PDA. GGM and LLFN have agreed upon a path forward for these sites. MNO reported a tent or temporary structure near the south shore of Mosher Lake and a route connecting Highway 11 with Mosher Lake, both conservatively assumed to be located within the PDA. Based on the layout of the PDA, Mosher Lake will remain accessible during all phases of the Project.

**Magnitude:** High. The residual environmental effect will eliminate TLRU at sites located within the PDA (LLFN “land use” sites and MNO land route and tent or temporary structure).

**Geographic Extent:** PDA. Construction activities that disturb cultural or spiritual sites are restricted to the PDA.

**Timing:** N/A. Seasonal aspects are unlikely to alter the residual effect on TLRU.

**Frequency:** Single event: the removal of cultural sites or areas in the PDA occurs once during Project construction.

**Duration:** Long-Term: Once removed, cultural sites or areas cannot be renewed and therefore extends beyond active closure.

**Reversibility:** Irreversible. Residual effects on sites in the PDA will be permanent and cultural sites are unlikely to return to baseline conditions after the activity ceases.

**Ecological and Socio-economic Context:** Atypical. Cultural or spiritual sites or areas are valued and important to the functioning of the community.

**NOTES:**

See Table 18-4 for detailed definitions.

✓ Residual effect anticipated.

- No residual effect anticipated.

1 GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.
18.5 **COMMUNITY SUMMARIES**

18.5.1 **Animbiigoo Zaagi'igan Anishinaabek**

Secondary source information and consultation input has confirmed that AZA TLRU practices include plant harvesting, fishing, hunting and trapping. AZA members fish in Longlac and Kenogamisis Lake and AZA reported that Elders drink water from Kenogamisis Lake and harvest a variety of game in the RAA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by AZA related to the harvesting of plants, fish, and wildlife, and the associated effects of development on the ability to access TLRU sites include:

- loss of plant harvesting sites
- loss of habitat for fish and wildlife species disturbance.

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific AZA fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.
Aroland First Nation

AFN confirmed that their full TK study is confidential, however they approved the use of a summary document to inform the Final EIS/EA. AFN TLRU practices in the RAA include hunting, fishing, trapping, gathering, travel routes, camp sites, cultural sites, habitation sites, and sites of traditional ecological knowledge. AFN identified traditional plants, fish and wildlife of importance to their diet, economy, and cultural, spiritual, and recreational activities. Through consultation with the CEA Agency, AFN members identified the following fish species of importance: whitefish, walleye, sucker, sturgeon, trout, dace, and minnows. Through consultation, moose hunting was also identified as important to AFN. AFN members use cultural areas, including travel routes, sacred areas, communal gathering areas, and habitation sites which may occur in the PDA, LAA or RAA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by AFN related to the harvesting of plants, fish, and wildlife, and the associated effects of development on the ability to access TLRU sites include:

- loss or contamination of plant species of importance including wild rice and weekah (assumed to be wike [sweet flag])
- loss and degradation of the quality of lands and resources for fish, wildlife and traditional purposes
- loss of access to/use of lands and resources for traditional purposes (e.g., snowmobile trails through the PDA [Lahtis Road]).

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific AFN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.
18.5.3 Biigtigong Nishnaabeg

Consultation input from Biigtigong Nishnaabeg raised comments regarding health effects on wildlife, including moose and bears from the TMF (RoC; Appendix C3). In addition to consultation results, no TLRU information relevant to Biigtigong Nishnaabeg has been identified through a review of publicly available information. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses. The Project is expected to result in the reduction of habitat used by animals due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the RAA.

18.5.4 Biinijitiwaabik Zaaging Anishinaabek

During consultation, BZA requested information regarding fish species in Goldfield Creek as well as fish spawning activity. In addition to consultation results, no TLRU information relevant to BZA has been identified through a review of publicly available information. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific BZA fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

18.5.5 Bingwi Neyaashi Anishinaabek

During consultation, BNA provided comments about hunting areas identified around the Project and requested information regarding effects on swamplands in Geraldton; BNA also requested information regarding groundwater seepage and hydrogeology modelling and stated the importance of water treatment and controlling the release of contaminated water. In addition to consultation results, no TLRU information relevant to BNA has been identified through a review of publicly available information. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the...
LAA. Swamplands in Geraldton are outside the PDA and LAA. Effects are not predicted to extend beyond the LAA boundary, therefore swamplands located in Geraldton are not addressed in the Final EIS/EA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

### 18.5.6 Constance Lake First Nation

During consultation for the Project, CLFN requested information regarding effects on fish migration and spawning activities, including the Goldfield Creek and Southwest Arm Tributary drainages as well as potential effects on fish, wildlife and harvesting as a result of contamination resulting from the Project. CLFN also requested information regarding mitigation measures to manage water quality during Project activities and to address potential effects on fish habitat. In addition to consultation results, no TLRU information relevant to CLFN has been identified through a review of publicly available information. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific CLFN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

### 18.5.7 Eabametoong First Nation

A Project-specific TK study has confirmed that EFN TLRU practices include fishing, hunting, and cultural continuity. EFN member identified plant harvesting as important, in particular gathering blueberries within the LAA. Fishing is also important to EFN members as several species including northern pike, minnow, pickerel, and whitefish are reported to be harvested within the PDA. EFN members also noted the importance of fish spawning within the PDA. Hunting and trapping is important to EFN members’ way of life and reported a rabbit snaring site within the PDA. EFN define cultural and traditional practices as cultural continuity, which can include teachings, travelling, place-based stories and values, spirituality, burial sites, and subsistence activities such as plant and medicine gathering. Several sites of cultural continuity were identified within the LAA.
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and RAA. EFN provided comments regarding the effects of contamination on the landscape and that reduced access and availability of TLRU may have effects on cultural transmission. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by EFN related to the harvesting of plants, fish, and wildlife; cultural continuity; and, the associated effects of development on the ability to access TLRU sites include:

- change to plant harvesting in the LAA (e.g., dust on berries)
- loss of fish harvesting in the PDA
- loss of hunting areas in the PDA
- loss of access to/use of TLRU areas leading to a decreased time being spent on the land and transmission of knowledge.

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. EFN has identified subsistence sites in the PDA that may include fishing sites (EFN Knowledge and Use Study; Appendix J). The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

18.5.8 Ginoogaming First Nation

A Project-specific SIA study has confirmed that GFN TLRU practices include harvesting plants for food, medicine, and cultural purposes; fishing; hunting and trapping; and cultural practices. GFN members noted the importance of moose as a source of meat. Kenogamisis Lake was noted as important habitat for sweetgrass and for fishing and hunting. GFN members highlighted the importance of these traditional and cultural uses and their connection to the land for healing.
practices. GFN indicated that the decrease in the availability and access to fish, wildlife, and traditional plants could diminish the strong connection that GFN members have to the land and their traditional practices. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by GFN related to the harvesting of plants, fish, and wildlife; cultural practices; and, the associated effects of development on the ability to access TLRU sites include:

- loss of plant harvesting in the LAA (e.g., sweetgrass along the shores of Kenogamisis Lake).
- loss of fish harvesting in the PDA.
- loss of hunting areas in the PDA (e.g., loss of moose foraging habitat in the PDA).
- increased pressure on resources (e.g., hunting and fishing pressure from mine workers).

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific GFN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

18.5.9 Long Lake #58 First Nation

A Project-specific TK Assessment has confirmed that LLFN TLRU practices in the RAA include gathering berries and plants for medicinal uses and firewood, hunting, trapping, camping, ceremonies, and teaching. Locally caught fish are an important part of LLFN members diet. The LLFN TK Assessment (Appendix J1) identifies four campsite or cabin areas in the PDA. In addition, comments from LLFN to the CEA Agency identified a heritage site “located within the proposed realignment of Highway 11”. During GGM and LLFN follow-up meetings on April 18 and 19, 2017
LLFN confirmed there are a total of four “land use” sites within the PDA. LLFN also confirmed that these are not sacred sites and further detail is confidential. The land use sites are in the same general locations as the campsite or cabin areas identified in the TK Assessment. GGM and LLFN have agreed upon a path forward for these sites. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by LLFN related to the harvesting of plants, fish, and wildlife; cultural practices; and, the associated effects of development on the ability to access TLRU sites include:

- loss of plant species in the LAA (e.g., loss of sweetgrass if water levels rise in Kenogamisis Lake).
- loss of fish harvesting in the PDA (e.g., walleye).
- loss of wildlife harvesting in the LAA.
- loss of access to sites and activities within the PDA (e.g., four campsite/cabin sites).

Where there is interest, GGM will provide opportunities to local communities for harvesting of plants for traditional purposes prior to construction. The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is not aware of specific LLFN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.
18.5.10 Marten Falls First Nation

Secondary source information and consultation results indicate that MFFN TLRU practices include traditional activities such as moose hunting. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by MFFN related to water quality, harvesting of wildlife and effects of development on the ability to access TLRU sites include loss of hunted species in the LAA such as moose.

The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

18.5.11 Métis Nation of Ontario

A Project-specific TKLU study has confirmed that MNO TLRU practices include hunting, fishing and gathering activities. MNO members have identified key plant species including ferns, berries (blueberries and raspberries), herbs, chanterelle and shaggy mane mushrooms, chaga mushrooms, and trees. Fish species of importance to MNO members include trout, northern pike, walleye, whitefish, and sturgeon. Fishing areas of importance are Kenogamisis Lake, Goldfield Lake, Magnet Creek, and Moser Lake. Important species that are harvested by MNO members include moose, deer, ruffed grouse, geese, and various duck species. Sacred areas, including those associated with harvesting, are important to MNO members. MNO reported a tent or temporary structure south of Mosher Lake and a route connecting Highway 11 with Mosher Lake, both located within the PDA. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance identified by MNO related to the harvesting of plants, fish, and wildlife; cultural practices; and, the associated effects of development on the ability to access TLRU sites include:

- loss of plant harvesting sites in the LAA including perceived contamination in areas near the Southwest Arm of Kenogamisis Lake
- loss of fishing in the PDA
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• reduction in the availability of hunted and trapped species in the LAA
• loss of access to land use areas and Kenogamisis Lake through Lahtis Road.

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. MNO has identified the Southwest Arm Tributary as a fishing site within the PDA (MNO TKLU Study; Appendix J3). The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

18.5.12 Pays Plat First Nation

A Project-specific Watershed study has confirmed that PPFN TLRU practices include harvesting plants, fishing, hunting, trapping, using trails and travel ways, and holding ceremonies. Of particular importance to PPFN members is wildlife populations including moose. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses.

Issues of importance related to the harvesting of plants, fish, and wildlife and effects of development on the ability to access TLRU sites include:

• loss of plant harvesting sites in the LAA
• loss of fishing in the PDA
• loss of hunting areas in the PDA (e.g., loss of moose foraging habitat in the PDA)
• loss of access to land use areas and Kenogamisis Lake through Lahtis Road.

The Project is expected to result in the loss of plant harvesting sites within the PDA due to vegetation clearing and effects from dust deposition extending approximately 30 m from the PDA boundary. Fish habitat that is altered or lost will be offset by creating new habitat within the
Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific PPFN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur. The closure of Lahtis Road at Highway 11 will alter access to TLRU areas located adjacent to the PDA along the shoreline of the Southwest Arm of Kenogamisis Lake. GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation. The Project is expected to result in the reduction of wildlife habitat due to vegetation clearing in the PDA and sensory disturbance that may extend into the LAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

**18.5.13 Pic Mobert First Nation**

Through consultation, PMFN provided comments regarding Project effects on commercial traplines near Caramat Road, which is outside the RAA (RoC; Appendix C3). In addition to consultation results, no TLRU information relevant to PMFN has been identified through a review of publicly available information. As noted in Section 18.4.1.1, TLRU locations and activities were assumed to occur within the RAA, even if an Aboriginal community did not specifically identify these activities or site-specific uses. The Project is predicted to have no effects on the traplines identified by PMFN as they are outside the RAA.

Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

**18.5.14 Red Sky Métis Independent Nation**

Through consultation, RSMIN members provided comments regarding Project effects on fish habitat in Goldfield Creek (RoC; Appendix C3). In addition to consultation results, no TLRU information relevant to RSMIN has been identified through a review of publicly available information. Fish habitat that is altered or lost will be offset by creating new habitat within the Goldfield Creek realignment. A conservative approach will be taken, whereby a greater area of new habitat will be created than the area lost or altered. Overall, there will be no net loss of areas for fishing as a result of the Project. However, due to safety concerns, access to the PDA will be restricted during construction and continue through operation and active closure, resulting in the loss of availability of some fishing sites in the PDA and altered access to some fishing areas within the LAA. GGM is not aware of specific RSMIN fishing sites in the PDA, but acknowledges the potential for Aboriginal fishing to occur.
Overall, the Project is not expected to limit the availability of traditional resources within the LAA or RAA.

### 18.6 DETERMINATION OF SIGNIFICANCE

The Project may result in a reduced access to land and availability of resources for the pursuit of traditional activities such as plant harvesting, fishing, hunting, trapping, and access to cultural or spiritual sites. The PDA is in a previously disturbed area from historical mining, forestry, aggregate extraction, highway transportation, mineral exploration, residential and industrial land uses, and most TLRU sites were identified outside of the PDA. While access to the PDA will be limited for the lifetime of the Project, rehabilitation will be undertaken during closure and TLRU sites and areas within the LAA, except for Lahtis Road, will continue to be accessible during Project construction, operation, and closure.

The residual environmental effects from the Project on TLRU are determined to be not significant because they do not result in the long-term loss of availability of traditional use resources or access to lands relied on for traditional use practices or the permanent loss of traditional use sites and areas in the LAA and RAA. The ability of Aboriginal communities to maintain TLRU outside of the PDA will be maintained with some access changes, as GGM is committed to maintaining alternate access within the PDA to the Southwest Arm of Kenogamisis Lake during construction and operation.

This determination considered the environmental effects assessments for the vegetation communities VC (Chapter 12.0), fish and fish habitat VC (Chapter 11.0), wildlife and wildlife habitat VC (Chapter 13.0), heritage resources VC (Chapter 17.0), and land and resource use VC (Chapter 16.0), which conclude that residual environmental effects because of the Project are not significant. This determination also considered available TLRU and TK information.

### 18.7 PREDICTION CONFIDENCE

The prediction confidence assignment reflects the TLRU and TK information available through Project-specific TLRU studies, understanding of applicable mitigation measures, and reliance on assessments of other VCs of relevance to TLRU. While there is substantial information forming the basis of the assessment, given the qualitative and subjective nature of assessing TLRU, the views of Aboriginal communities may differ from the findings of this assessment. Therefore, the overall confidence in residual environmental effect and significance predictions for TLRU is moderate. As additional information continues to be shared through GGM’s ongoing consultation with local Aboriginal communities over life of mine, relevant TLRU information will be considered against the results of the Final EIS/EA and incorporated into Project planning as practical.
18.8 REFERENCES


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Ojibways of the Pic River First Nation. 2016. The Ojibways of the Pic River Aboriginal Title Area. 
