

Comments from the Impact Assessment Agency of Canada (the Agency) on Webequie Supply Road Draft Terrestrial Wildlife Study Plan – November 6th, 2020

#	Study Plan Section	Tailored Impact Statement Guidelines (TISG) Section ¹	Context	Required Action for Proponent
TW-01	<p>Section 3.2.2 “The Project Team will consult and engage with Indigenous communities throughout the assessment process, and specifically the aquatic component with focus on those species for consumption or where use may have Indigenous cultural, social or economic importance.... As such, Indigenous communities will have the opportunity to provide input and feedback during the following steps of the EA and more specifically the assessment of the aquatic environment as outlined in this study plan”</p> <p>Section 4.2 “..... This will entail consideration of the elements of environmental, health, social and economic well-being, across a spectrum of VCs, that communities identified as being valuable to them. In the context of subject VC (aquatic environment)....”</p>	Editorial comment	There is information provided in Sections 3.2.2 and 4.2 of study plan that is related to the aquatic VC rather than terrestrial wildlife.	Information on the aquatic VC should be removed from the terrestrial wildlife study plan and be included in the fish and fish habitat study plan. Provide detail in the study plan as it relates to terrestrial wildlife.
TW-02	<p>Section 1.1.1 Spatial Boundaries “The spatial boundaries to be used in the EA will be refined and validated through input from federal and provincial government departments and ministries, Indigenous groups, the public and other interested parties. Spatial boundaries will be defined considering the appropriate scale and spatial extent of potential effects of the Project; community knowledge and Indigenous Knowledge; current or traditional land and resource use by Indigenous communities; exercise of Aboriginal and Treaty rights of Indigenous peoples, including cultural and spiritual practices; and physical, ecological, technical, social, health, economic and cultural considerations.”</p>	Section 7 – Baseline Methodologies (Including 7.1, 7.2, 7.3, 7.4)	<p>It is unclear if Indigenous groups and the public were engaged with and provided an opportunity to provide input on the spatial boundaries defined in Section 1.1.1 of the revised study plan.</p> <p>If this engagement has not yet occurred, more detail is necessary to demonstrate how this opportunity will be provided to Indigenous groups and the public, and how the information they provide will be taken into account in the definition of the spatial boundaries, as per the requirement in Section 7.4.1 of the TISG.</p>	<p>Provide details to demonstrate how and when Indigenous groups and the public have been or will be engaged in defining the spatial boundaries for the project.</p> <p>Provide details on the timeline for engagement relative to the project workplan, including engagement relative to the schedule for baseline work, and in consideration of the project team’s timeline for the development of the Impact Statement.</p>
TW-03	<p>1.1.1 Spatial Boundaries “Project Footprint (PF) – is the identified areas of direct disturbance (i.e., the physical area required for Project construction and operation). The PF is defined as the 35 m right-of-way (ROW) width for the WSR and temporary or permanent areas needed to support the Project, including laydown/storage yards, construction camps, access roads and aggregate extraction sites.</p>	7.4.1 Spatial boundaries “...Provide a rationale for boundaries of the project study area, local study area, and regional study area for each valued component and indicate how the above objectives were met in establishing the boundaries. For biophysical valued components, spatial boundaries should be defined	<p>It is unclear how the objectives for establishing study areas were taken into consideration in determining the proposed study area boundaries.</p> <p>The study plan does not show how LSA, and RSA boundaries are justified, nor does it provide documentation of the rationale for choices.</p>	Provide rationale for the study area boundaries for each VC and demonstrate that they have met the objectives laid out in Section 7.4.1 of the TISG.

¹ Refer to complete sections of TISG for more context

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	<p>Local Study Area (LSA) - is identified as the area where most effects of the Project are likely to be measurable; therefore, along the PF, the LSA will be the focus of data collection to characterize existing environmental conditions. The LSA for most valued components will extend or buffer approximately 1 km from the supply road ROW boundary, and 500 metres (m) from the temporary or permanent supportive infrastructure.</p> <p>Regional Study Area (RSA) – encompasses the area outside of the LSA used to measure broader-scale existing environment conditions and provide regional context for the maximum predicted geographic extent of direct and indirect effects of the Project (e.g., changes to downstream surface water quality or changes to socio-economic conditions such as regional employment and incomes). Cumulative effects of the Project in combination with past, present, and reasonably foreseeable developments are typically assessed at this larger spatial scale. The RSA is defined as extending approximately 5 km from the LSA boundary.</p> <p>For the purposes of the wildlife study plan, the PF, LSA and RSA have been used for the focal species identified. The Study Area has been adjusted for Moose (<i>Alces alces</i>), which now encompass the PF, LSA and an RSA, which has been extended a further 19.5 km either side of the standard RSA boundary. Figure 2 presents the standard spatial boundaries for the majority of the wildlife valued components.</p> <p>The study areas were selected to characterize existing environmental conditions and predict the direct and indirect changes from the Project on the subject valued component on a continuum of increasing spatial scales from the Project Footprint to broader, regional levels. The preliminary selection of study areas also considered the physical and biological properties of the valued component and related evaluation criteria.”</p>	<p>using an ecosystem centered approach for the project study area, local study area, and regional study area, as wetlands and eskers are features that are likely to be most effected. Ecoregion boundaries or their derivatives should not be used since the Project occurs on, near and across ecoregion boundaries. See Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012 for more guidance on determining spatial boundaries.²⁴ ... Delineate spatial boundaries (i.e., regional study area, local study area, and project study area) to meet the following objectives:</p> <ul style="list-style-type: none"> a. range of land cover types should be representative of the defined spatial extent; b. the spatial pattern of the land cover types should be well distributed across the defined spatial extent (e.g., revise if one or more land cover types is concentrated in one sub-area and uncommon in other parts of the area); and c. low to moderate rate of change in the prevalence of one or more land cover types with increasing distance from the (i.e., to use land cover patterns to constrain the distances within which comparisons should be made)... <p><u>For Species valued components:</u> The local study area should correspond to the project study area plus a buffer defined with objectives a-c above. Use simulation modeling to help define a buffer that captures objectives a-c for each species or species group...”</p>		
TW-04	<p>1.1.1 Spatial Boundaries “Regional Study Area (RSA) – encompasses the area outside of the LSA used to measure broader-scale existing environment conditions and provide regional context for the maximum predicted geographic extent</p>	<p>22. Cumulative effects assessment “...identify and justify the spatial and temporal boundaries for the cumulative effects assessment for each valued components selected. The boundaries</p>	<p>The RSA is not of an adequate spatial scale to capture cumulative effects, nor does it include many of the sources of cumulative effects to be considered in Section 22 of the TISG.</p>	<p>Adjust the area for identifying cumulative effects to meet the requirements in Section 22 of the TISG and provide details to demonstrate how requirements have been met.</p>

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	of direct and indirect effects of the Project (e.g., changes to downstream surface water quality or changes to socio-economic conditions such as regional employment and incomes). Cumulative effects of the Project in combination with past, present, and reasonably foreseeable developments are typically assessed at this larger spatial scale. The RSA is defined as extending approximately 5 km from the LSA boundary.”	for the cumulative effects assessments may differ for each valued component considered and must not be constrained by jurisdictional boundaries: <ul style="list-style-type: none"> o the cumulative effects spatial boundaries will generally be larger than the boundaries for the Project effects alone, and may extend beyond Canada’s jurisdiction; and o temporal boundaries must include an appropriate baseline and should look at all potential effects throughout the lifecycle of the Project, including decommissioning and abandonment...” 		
TW-05	1.1.2 Temporal Boundaries “Baseline data collection for all biophysical valued components will be provided for a minimum of two years, unless specified otherwise. Temporal boundaries spanning more than one year will enable accounting for annual or seasonal variations (e.g., the effects of storms on migration, delays in the onset of spring conditions, or early snowfalls).”	7.4.2 Temporal boundaries “...Baseline data collection for all biophysical valued components is to be provided for a minimum of two years, unless specified otherwise. Temporal boundaries spanning more than one year will enable accounting for variation due to irregular events (e.g., masting events, storms on migration, late snowfalls).”	The text in Section 1.1.2 of the study plan appears to be drawn from the TISG. It is unclear whether this text is a presentation of the proponent’s actual plan. Details are required on how the requirements of the TISG will be implemented.	Provide detail to demonstrate how the requirements of Section 7.4.2 of the TISG will be implemented.
TW-06	2.1. Methodology “As part of the human health assessment, some mammal species will be tested for metal concentrations in locally harvested and routinely consumed Country Foods. The integration of the findings of the Country Foods Assessment into the human impact assessment will inform impacts associated with changes in the social determinants of health, including traditional food security and connectiveness to the land;” 2.7. Criteria and Indicators “Based on the TISG, input from MECP and ECCC, and the results of field and desktop studies to date, the following species have been identified as criteria for assessing the effects of the Project on terrestrial wildlife: › Moose; › American Marten; and	Section 9. Baseline conditions – Human health “...provide baseline contaminant concentrations in drinking water and in the tissues of country foods (traditional foods) consumed by Indigenous groups and local communities. For game animals, the proponent is expected to work with local Indigenous groups to gather tissues samples, as appropriate; • describe the consumption of country foods (traditional foods) outside of the commercial food chain, including food that is trapped, fished, hunted, harvested or grown for consumption, medicinal purposes or has cultural value ...”	The project effects on terrestrial wildlife will be assessed based on three select mammal species: moose, American marten and non-SAR bat. However, it remains unclear whether the mammal country food species tested for metal concentrations will also be limited to these three species, or will include other species that are commonly consumed by Indigenous groups and local communities, such as caribou, beaver, rabbit, otter, and muskrat. Additionally, the scope of the tissue contaminant study is limited to an investigation of metals. The study plan does not provide rationale for why other COPCs that may affect country food quality have been excluded from the scope of tissue sampling. .. If sampling occurs close to the	Provide detail to demonstrate how the following information will be included in the Country Foods Assessment: (i) all potential country food species that are identified through Indigenous engagement and field surveys, (ii) all potential COPCs from baseline-associated emissions, and (iii) all potential transport pathways of the COPCs into country foods (e.g., atmospheric deposition). Should a country food assessment be deemed unnecessary for any country food species and for any COPCs, or should certain transport pathways of the COPCs into country foods be deemed inoperable, provide a detailed rationale/explanation for such exclusions.

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	› Non-SAR Bat”		community, consider which activities may contribute other COPCs to baseline contamination. For instance, dust, diesel particulate matter and polycyclic aromatic hydrocarbons from diesel power generating facilities and community road traffic could deposit onto soil/vegetation that other country foods, such as terrestrial wildlife, may consume.	
TW-07	<p>Section 2.2 “Information to characterize existing conditions for terrestrial wildlife and their habitat for the Project will draw upon the following secondary sources: › Indigenous Knowledge information obtained through consultation with Indigenous communities”</p>	<p>Section 8.10 Terrestrial wildlife and their habitat “...describe the historic and current use of terrestrial wildlife as a source of country foods (traditional foods) or where use has Indigenous cultural importance (e.g., black bear, caribou, deer, moose, beaver, arctic fox, fisher, wolverine, rabbits, marten, muskrat, and otter); • describe the use and harvesting of fur-bearing species and whether its harvesting has Indigenous cultural importance; ...”</p>	It is unclear how Indigenous communities will be engaged with, to meet the requirements in Section 8.10 of the TISG. The timing of this engagement is unclear.	<p>Provide detail to describe where existing information on elements that have Indigenous cultural importance are being sourced and how Indigenous groups will be engaged to meet the requirements in Section 8.10 of the TISG.</p> <p>Describe what engagement with Indigenous groups has been done in the development of the study plans, and/or any planned engagement with Indigenous groups on the study plan, particularly in relation to those Indigenous groups that would need or wish to provide Indigenous knowledge during baseline studies.</p>
TW-08	<p>2.3. Survey Site Selection “Survey site selection focused on sampling of the lands proximal to the selected conceptual routes, that make up the proposed PF, LSA and RSA. After much consideration, it was determined that developing a stratified computer driven sampling model was not an appropriate method to determine survey sites at this stage of the study. This decision was based on the fact that field work had already been completed in 2019, and a preliminary proposed corridor and alternative conceptual routes for further consideration and analysis in the EA had been identified, as detailed in the ToR and Detailed Project Description.</p> <p>Instead a more focused approach was used to fully capture data along the identified conceptual routes, and known rare habitat types, to support the effects assessment. For example, an increased sampling effort was applied to upland habitat, since only 6.28% of the LSA is considered upland forest type, of which 0.33% is deciduous, 0.51 % mixed, and 5.44% conifer. The site selection process was done by reviewing existing aerial/LiDAR and satellite imagery,</p>	<p>7.1 Methodology “... If the baseline data have been extrapolated or otherwise manipulated to depict environmental, health, social and/or economic conditions within the study area, modelling methods must be described and must include assumptions, calculations of margins of error and other relevant statistical information. Models that are developed should be validated using field data from the appropriate local and regional study areas. Ensure baseline data is representative of project site conditions. If surrogate data from reference sites are used rather than site-specific surveys, the proponent should demonstrate that the data are representative of project site conditions...”</p> <p>7.2 Sources of baseline information</p>	The site selection approach does not show a quantitative use of existing data and does not appear to include random selection, an important and fundamental principle of survey design. Section 2.3 does not describe which VCs the text applies to. The survey designs applied in subsequent sections appear to not always reflect the description in the section.	<p>Describe which VCs are relevant to the text in Section 2.3 of the study plan or defer to the VC-specific sections of the study plan.</p> <p>Additional actions: Existing data are valuable and should be used to help determine what additional sampling is required to meet the stipulations of the TISG. As indicated in 7.2 of the TISG, modeling of existing data should be used to identify sampling needs. The results of this modeling should be shown to demonstrate the existing gaps and show how additional sampling will address those gaps.</p> <p>Improving the representivity of sampling is important but the site identification approach described in the plan does not appear to include a random selection element. If random selection is not part of the site selection process, then there is the potential for biased sampling, for violation of modeling assumptions, and invalid error</p>

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	<p>the results from ongoing vegetation/habitat classification, along with other background information, and consultation undertaken to date. These data sources were then used to establish locations for survey sites based on the professional opinion of EA biologists to ensure a stratified sampling of all habitat types with adequate distribution across the LSA and RSA were captured, as well as a suitable number of sample locations within known rare habitat types and areas that may be potentially directly impacted by the Project.</p> <p>This selection process was conducted prior to all SAR field studies that were conducted in 2019, and those planned for 2020. As such, sample locations have been selected to ensure adequate representation in the PF, LSA, and RSA for the proposed WSR and supportive infrastructure (e.g., aggregate extraction areas, laydown areas, construction camps, access roads, etc.) with the goal of determining any potential variation between the study areas, as well as the variation between discrete habitats found therein. Species area curves will also be used to make a final determination of whether sampling has been effective in capturing the potential species present within each site.”</p>	<p>“... Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options.”</p>		<p>estimates. Each will impair the reliability of analysis and the extrapolation of results.</p>
TW-09	<p>2.5. Data Analysis/ Abundance and Distribution Modelling “Correlative species distribution models (SDMs) will be developed to provide quantitative descriptions of species distributions within the project study areas based on associations between observational data and species-specific environmental predictors determined through review of existing literature. These will be further refined with point count, acoustic, and aerial survey data from the 2019 and 2020 field programs. Where sufficient field data are available, species abundance models (SAMs) will be used to quantify indices of abundance or density, rather than occurrence. The combination of these models will be used to identify key habitat factors for species of interest, where data are sufficient to validate the model (Milsom et al., 2000, Morrison et al., 2006). When possible, model data will be used to develop predictive maps on species distribution and abundance. These maps will also be used to predict population responses to the development of the Project and inform future monitoring requirements.”</p>	<p>7.2 Sources of baseline information “... Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options...”</p> <p>8.10 Terrestrial wildlife and their habitat</p>	<p>Species distribution models may not be appropriate to describe highly mobile groups (e.g. terrestrial large mammals) at the scale of the projects. Analyses should focus on identifying abundance and movements within and through the study areas.</p>	<p>Provide further detail to proposed analyses to demonstrate the ability to meet the requirements in Section 8.10 of the TISG regarding abundance and movement.</p>

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		<p>“The Impact Statement must:</p> <ul style="list-style-type: none"> • identify wildlife species, other than avian species, of ecological, economic or human importance (particularly to Indigenous peoples), within the study area (including moose, rabbit, beavers, otters, muskrat, and frogs), that are likely to be directly or indirectly effected and describe each species: <ul style="list-style-type: none"> o biodiversity³⁶, distribution and location; o abundance³⁷ and population status; o life cycle; o seasonal ranges, migration and movements; o habitat requirements; and o sensitive periods (e.g., seasonal, diurnal and nocturnal)...” 		
TW-10	<p>2.6.1.1. Survey Methodology “In support of the coordinated federal-provincial environmental assessment process, a winter aerial survey was conducted in February 2018, with the objective of inventorying Moose and Moose wintering habitat, as well as the presence of Gray Wolf, Canada Lynx (<i>Lynx canadensis</i>), Fisher (<i>Martes pennanti</i>), American Marten (<i>Martes americana</i>), River Otter, Red Fox (<i>Vulpes vulpes</i>), Beaver and Snowshoe Hare. Additionally, other SWH wildlife habitat was identified, such as cliffs, caves and habitats with bat maternity roost qualities. The resulting survey plan consisted of 59 transects oriented in the north-south direction, which varied in length between 37 and 51 km (refer to Figure 3). The survey totalled 2,666 km flown and 5,800 square kilometres covered. This survey provided coverage across all proposed alternative conceptual corridors for the WSR (at the time).”</p>	<p>7.2 Sources of baseline information “... Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options...”</p> <p>8.10 Terrestrial wildlife and their habitat “... Collect wildlife data to represent the following temporal sources of variation:</p> <ul style="list-style-type: none"> • among years; • within and among seasons (e.g., spring dispersal, breeding, late summer/fall migration and swarming, hibernation); and • within the 24 hour daily cycle. Rare species require more survey effort to detect than common species, and this needs to be accounted for in survey design by increasing the number and duration of surveys...” 	<p>The restricted timeline of data collection (February) can result in poor estimations of temporal patterns and temporal variation.</p>	<p>Provide detail to demonstrate how the temporal sources of variation requirements in Section 8.10 will be met.</p>
TW-11	<p>2.6.4.1. Survey Methodology “Acoustic surveys were conducted at four survey stations (BAT1 to BAT4; Figure 10) along the preliminary proposed corridor for the WSR, of which three (3) were positioned in close proximity to candidate maternity roost habitats. The fourth was positioned along a river with the intention of detecting</p>	<p>8.10 Terrestrial wildlife and their habitat “... Collect wildlife data to represent the following temporal sources of variation:</p> <ul style="list-style-type: none"> • among years; • within and among seasons (e.g., spring dispersal, breeding, late 	<p>The study plan describes the deployment of recorders at four sample locations, three at potential maternity roosts and one in a potential movement corridor. Deployments are for less than a month during the summer. Very few details are provided about the 2020 survey design. It is unclear if</p>	<p>Provide detail to demonstrate that proposed survey designs will meet the requirements in Section 8.10 of the TISG.</p>

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	<p>passing bats that might use this feature as movement corridor. Acoustic detection surveys were conducted between June 12, 2019 and July 5, 2019, for a total of 85 recording nights.”</p> <p>2.6.4.3. 2020 Bat Acoustic Surveys “Acoustic surveys for bats will continue in 2020 to augment data collection and account for annual and seasonal variation in bat activity, sample a wider breath of locations, further define potential travel corridors, and provide data to assess dispersion and migration patterns. Survey methodology followed in 2019 will be utilised during 2020 surveys. Habitats surveyed in 2019 will be resampled in 2020 for at least ten (10) suitable nights and an additional four (4) survey locations will be added in 2020 to augment existing information on local bat occurrence and sample possible movement corridors (i.e., watercourses) that link areas of highest maternity roosting potential.”</p>	<p>summer/fall migration and swarming, hibernation); and</p> <ul style="list-style-type: none"> • within the 24 hour daily cycle. Rare species require more survey effort to detect than common species, and this needs to be accounted for in survey design by increasing the number and duration of surveys...” 	<p>the requirements of Section 8.10 of the TISG will be met.</p>	
<p>TW-12</p>	<p>2.6.5.1. 2020 Acoustic Surveys “A total of 55 Song Meter SM4 Mini (Wildlife Acoustics Inc.) were deployed for the purpose of data collection. ARUs were deployed at 55 locations across representative habitats in April 2020. Batteries and sound cards of all 50 detectors were replaced in mid-late June of 2020. In mid-June, batteries and sound cards were replaced at each detector and a maximum of 50% of the detectors were moved to secondary supplemental locations and actively recorded for the rest of the avian/anuran breeding season, until the batteries or sound card capacity was exhausted. In total, approximately 75 survey locations were sampled through the core avian breeding season through remote ARU use. ARU locations are...”</p>	<p>7.2 Sources of baseline information “... The Impact Statement must provide detailed descriptions of specific data sources, data collection, sampling, survey and research protocols and methods followed for each baseline environmental, health, social and economic condition that is described, in order to corroborate the validity and accuracy of the baseline information collected... Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary</p>	<p>Further detail is needed with respect to sample size sufficiency, survey design and sample location to assess the study plan. It is also noted that a lack of random selection in the survey design can lead to impaired conclusions, as indicated in comment TW-08 of this table.</p>	<p>Provide detail to demonstrate that the sample size is sufficient to meet the requirements in Section 7.2 of the TISG and include details of sample site selection.</p>

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		sampling intensity and to quantitatively evaluate the effectiveness of design options ...”		
TW-13	<p>2.6.5.2. Acoustic File and Data Analysis “Data analysis methods will be clearly described and transparent (e.g., annotated scripts), extract the maximum information from the data, and be appropriate for the data and protocols.”</p>	<p>7.1 Methodology “... If the baseline data have been extrapolated or otherwise manipulated to depict environmental, health, social and/or economic conditions within the study area, modelling methods must be described and must include assumptions, calculations of margins of error and other relevant statistical information. Models that are developed should be validated using field data from the appropriate local and regional study areas. Ensure baseline data is representative of project site conditions. If surrogate data from reference sites are used rather than site-specific surveys, the proponent should demonstrate that the data are representative of project site conditions...”</p> <p>7.2 Sources of baseline information “... Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options...”</p> <p>Section 8.10 Terrestrial wildlife and their habitat “...Provide documentation and digital files for all results of analyses that allow for a clear understanding of the methods and a replication of the results (raw scripts or workflows are preferred in place of descriptive documentation)...”</p>	Further detail is required on the proposed analytical methods referenced in Section 2.6.5.2 of the study plan.	Provide detail to describe the planned analytical techniques that meet the requirements of Sections 7.1, 7.2 and 8.10.

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TW-14	<p>2.6.5.1. 2020 Acoustic Surveys “All ARUs were returned to their original position in late July and left at this location to record during the fall (August 1 through September 30, 2020) and during the winter (December 1, 2020 through March 31, 2021)”</p> <p>6. Reporting “The baseline wildlife and wildlife habitat data will be collected in the spring, summer and fall of 2020 and will be compiled into a Natural Environment Existing Conditions Report that will include data from the 2019 baseline studies. The overall baseline report is tentatively scheduled to be completed by December 2020.”</p>	<p>Section 8.10 Terrestrial wildlife and their habitat “...Collect wildlife data to represent the following temporal sources of variation: • among years; • within and among seasons (e.g., spring dispersal, breeding, late summer/fall migration and swarming, hibernation); and • within the 24 hour daily cycle. Rare species require more survey effort to detect than common species, and this needs to be accounted for in survey design by increasing the number and duration of surveys.</p> <p>Submit complete data sets from all survey sites...”</p>	<p>Based on the information found in Section 2.6.5.1 and Section 6 of the study plan, the baseline report is scheduled to be drafted prior to the completion of some of the baseline field studies, and as proposed will not provide a complete baseline for all species potentially impacted by the Project.</p>	<p>Confirm the timing of the baseline report and provide details to demonstrate how the report will provide a complete baseline for all species potentially impacted by the project, if the report is completed prior to data collection.</p>
TW-15	<p>2.6 Field Surveys (all surveys)</p>	<p>7.2 Sources of baseline information “...Baseline data must be collected in a manner that enables reliable analysis, extrapolations and predictions. Resulting data should be suitable for analyses to estimate pre-project baseline conditions, derive predictions of impacts, and evaluate and compare post-project conditions and at scales of within and across the Project, Local and Regional Assessment areas. Modelling methods, error estimates and assumptions should be reported (as per section 7.1). Modelling and simulations should be used early in the planning phase to estimate the necessary sampling intensity and to quantitatively evaluate the effectiveness of design options...”</p> <p>8.10 Terrestrial wildlife and their habitat “identify wildlife species, other than avian species, of ecological, economic or human importance (particularly to Indigenous peoples), within the study area (including moose, rabbit, beavers, otters, muskrat, and frogs), that are likely to be directly or indirectly effected and describe each species:</p>	<p>Not enough information is provided about the survey designs and their rationales to assess their adequacy in producing the required information.</p> <p>Justification should be provided for each type of survey to show that it is statistically valid and sufficient to document baseline conditions, quantify wildlife populations, evaluate relative use of different habitats or features, and predict and monitor effects.</p> <p>The project team must ensure the study designs are statistically valid and meet the specifications in Sections 7.2 and 8.10 of the TISG.</p>	<p>For each survey, provide detail on the rationales for decisions pertaining to scope, methodology, design, protocols, and data manipulation and analysis. Demonstrate (i.e., substantiation of the claim) in these rationales how the surveys meet the requirements of Sections 7.2 and 8.10 of the TISG in relation to these components.</p>

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		<p>o biodiversity³⁶, distribution and location; o abundance³⁷ and population status; o life cycle; o seasonal ranges, migration and movements; o habitat requirements; and o sensitive periods (e.g., seasonal, diurnal and nocturnal).</p> <p>For the species identified above, describe and quantify the habitat type, including its: function; location; suitability; structure; diversity; relative use, natural inter-annual and seasonal variability, and; abundance as it existed before project construction;</p> <p>Collect wildlife data to represent the following temporal sources of variation:</p> <ul style="list-style-type: none"> • among years; • within and among seasons (e.g., spring dispersal, breeding, late summer/fall migration and swarming, hibernation); and • within the 24 hour daily cycle. Rare species require more survey effort to detect than common species, and this needs to be accounted for in survey design by increasing the number and duration of surveys.” 		
TW-16	<p>2.7. Criteria and Indicators “The list of valued components identified to date include the following: Terrestrial Wildlife (subject of this study plan), including migratory birds”</p>	<p>8.9 Birds, migratory birds and their habitat “... the following groups of migratory and non-migratory birds should be considered as valued components: o forest birds; o raptors; o shorebirds; o waterfowl; and o bog/fen birds, and other wetland birds...”</p>	<p>The list of VCs provided in Section 2.7 of the study plan differs from what is specified in the TISG, particularly in relation to birds.</p>	<p>Ensure VCs are inclusive of those identified in accordance with the requirements of Section 8.9 of the TISG.</p>

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TW-17	<p>2.7. Criteria and Indicators “Wildlife and other biodiversity elements are also captured by the assessment of upland, wetland, and riparian ecosystems (refer to the Vegetation Study plan). To complement the assessment of vegetation and wetland ecosystems, a filter approach is proposed to be applied by assessing effects to select several wildlife species. This filter level of assessment is important to understand effects on biodiversity that sometimes are distinct from effects on ecosystems and for which targeted mitigation actions at the species level may be required (e.g., listed SAR). The vegetation and wildlife and wildlife habitat assessments complement and interact with one another, with each assessment providing context for the other. Combined, the filter assessment will provide a holistic assessment of the potential effects of the Project on wildlife.</p> <p>Based on the TISG, input from MECP and ECCC, and the results of field and desktop studies to date, the following species have been identified as criteria for assessing the effects of the Project on terrestrial wildlife: › Moose; › American Marten; and › Non-SAR Bats.”</p>	<p>8.10 Terrestrial wildlife and their habitat “... identify wildlife species, other than avian species, of ecological, economic or human importance (particularly to Indigenous peoples), within the study area (including moose, rabbit, beavers, otters, muskrat, and frogs), that are likely to be directly or indirectly effected and describe each species: o biodiversity³⁶, distribution and location; o abundance³⁷ and population status; o life cycle; o seasonal ranges, migration and movements; o habitat requirements; and o sensitive periods (e.g., seasonal, diurnal and nocturnal). • For the species identified above, describe and quantify the habitat type, including its: function; location; suitability; structure; diversity; relative use, natural inter-annual and seasonal variability, and; abundance as it existed before project construction...”</p> <p>15.3 Terrestrial wildlife and their habitat (relevant to all requirements)</p>	<p>The planned exclusive focus on moose, marten and non-SAR bats seems unlikely to align with Sections 8.10 and 15.3 of the TISG. The rationale for excluding species is not clear and the text raises concerns that species exclusions may not be ecologically well founded (e.g. wetland coverage may not be a sufficient proxy for beaver, in part because all wetland types are not potential beaver habitat).</p> <p>More information and transparency is needed on the filter approach to assess its validity.</p> <p>More information is needed on how other wildlife species from Table 2, Section 2.6.1.2 and Section 2.6.5.1 of the study plan are well represented elsewhere.</p>	<p>Provide explanations in the study plan and demonstrate that the approach meets the requirements outlined in the TISG with respect to wildlife.</p>
TW-18	<p>2.8.2.1. Identification of Potential Environmental Effects “Potential effects of the Project on valued components will be determined by comparing baseline conditions to those expected to result from the construction and operation and maintenance of the Project.</p> <p>The assessment of potential effects to wildlife and wildlife habitat will include the characterization of baseline conditions in the project study area using both publicly available information on a regional scale and data obtained in the field or via desktop review on a local scale or site-specific basis.</p> <p>Effects to terrestrial wildlife as a result of the Project will consider the specific items contained in Section 15.4 of the TISG.”</p>	<p>13.1 Methodology “The assessment of the effects of each of the project components and physical activities, in all phases, must be based upon a comparison of baseline environmental, health, social and economic conditions and the predicted future conditions with the Project and the predicted future conditions without the Project. Predictions must be made on clearly stated assumptions and the Impact Statement must clearly describe how it has tested each assumption.</p> <p>The effects assessment should also set out the probability or likelihood of that effect occurring and describe the degree of scientific uncertainty related to the data and methods used.”</p>	<p>Based on the information provided on the methodology it is unclear how baseline conditions from the existing data sources and field surveys will be characterized, or what methodology will be used to estimate expected conditions as a result of the project.</p> <p>Based on the level of information provided it is unclear whether the requirements in Section 15.3 of the TISG will be adequately considered.</p> <p>The effects assessment must consider the effects of each of the project components (including, but not limited to, road corridor, access roads, and aggregate pits and quarries) and physical activities, in all phases, and be based on a comparison to the proposed baseline work.</p>	<p>Provide details of the proposed approaches and methods used to integrate the requirements from Section 13.1 and 15.3 of the TISG into the study plan.</p>

#	Study Plan Section	Tailored Impact Statement Guidelines (TISG) Section ¹	Context	Required Action for Proponent
		15.3 Terrestrial wildlife and their habitat	<p>The requirement, and methodology to do so, of the predicted future conditions without the project is not addressed in the study plan.</p> <p>[Editorial: The study plan incorrectly references Section 15.4, rather than Section 15.3 of the TISG]</p>	
TW-19	<p>Section 3.1 Public Participation “The open houses will include display materials and handouts containing information on the Project, the EA study process, known existing environmental conditions, the results of studies that have been conducted to date; the development and evaluation of alternatives, including the rationale for use of criteria and indicators; the project schedule; and the results of the consultation program. The Webequie Project Team will be available to receive and respond to questions and have an open dialogue regarding the EA process. All comments received from the public engagement and consultation activities will be tracked (i.e., Record of Consultation) and considered by the Project Team with the objective that the public be provided meaningful opportunities to participate, including in meaningful discussions in the EA process.”</p>	Section 5 - Public Participation and views (including 5.1, 5.2)	<p>The study plan provides information about how the public will be provided with engagement opportunities (i.e. open house sessions that will occur). The study plan is unclear about where and how public perspectives and input, including community knowledge, will be integrated into and contribute to decisions including:</p> <ul style="list-style-type: none"> • scoping, development and collection of baseline information; • design of studies conducted as part of the impact statement phase; • plans for construction (including location of project components), operation, and maintenance; and follow-up and monitoring. 	<p>Provide details to demonstrate where and how public perspectives and input, including community knowledge, will be integrated into the assessment process and the project workplan, and will contribute to decisions regarding the Project, as per the requirements in Section 5 of the TISG.</p>

#	Study Plan Section	Tailored Impact Statement Guidelines (TISG) Section ¹	Context	Required Action for Proponent
TW-20	<p>Section 3.2.1 Communities to be included in the Assessment “The assessment of the terrestrial wildlife component will include the 22 identified Indigenous communities that are to be consulted as part of the EA process, as shown in Table 6 below....Based on these factors, the communities identified by WFN will be offered the deepest or intensive consultation/ engagement.”</p>	<p>Section 6 - Description of Engagement with Indigenous Groups (including 6.1, 6.2, 6.3)</p>	<p>It is unclear, based on the information provided in Section 3.2.1 of the revised study plan, whether all Indigenous groups listed in the Indigenous Engagement and Partnership Plan will be engaged at a level that will meet the requirements in Section 6 of the TISG.</p>	<p>Provide details to demonstrate that all Indigenous groups listed in the Indigenous Engagement and Partnership Plan will be engaged with and provided opportunities to:</p> <ul style="list-style-type: none"> • provide Indigenous knowledge during baseline data collection; • comment on the list of valued components and indicators; • inform the effects assessment and review its conclusions; and • inform the development of mitigation measures and follow-up programs.
TW-21	<p>Section 3.2.1 Communities to be Included in the Assessment “Communities marked with an asterisk are those whose Aboriginal and Treaty rights may be affected by the Project.”</p> <p>Section 3.2.4 Aboriginal and Treaty Rights “The Webequie Project Team will be engaging with Indigenous communities regarding potential impacts of the Project on the exercise of rights, and where possible, the project’s interference with the exercise of rights.</p> <p>... Webequie First Nation and the Project Team will discuss with Indigenous communities their views on how best to reflect and capture impacts on the exercise of rights in the EAR/IS. Should impacts on the exercise of Aboriginal and Treaty rights be identified, Webequie First Nation and the Project Team will work with Indigenous communities to determine appropriate mitigation measures to reduce or eliminate such impacts”</p>	<p>Section 19.2 - Impacts on the Exercise of Aboriginal and Treaty Rights</p>	<p>The study plan should demonstrate an approach for integrating impacts on rights considerations (changes to resource, access, and experience) into collection of baseline information and the effects assessment.</p>	<p>Describe the approach for identifying the potentially impacted rights of Indigenous peoples of Canada that are recognized and affirmed by section 35 of the <i>Constitution Act, 1982</i>, and for integrating the potential impacts on those rights into the collection of baseline information and the effects assessment.</p> <p>Include details to demonstrate when Indigenous groups will be engaged in identifying potential impacts on rights.</p> <p>Provide detail on the timeline for engagement relative to the project workplan. Include details about engagement relative to the schedule for baseline work and effects assessment, including the identification of mitigation measures to address impacts, in consideration of the project team’s timeline for the development of the Impact Statement.</p>

#	Study Plan Section	Tailored Impact Statement Guidelines (TISG) Section ¹	Context	Required Action for Proponent
TW-22	Wildlife and Wildlife Habitat Study plan	15.3 Terrestrial wildlife and their habitat “The Impact Statement must: <ul style="list-style-type: none"> • describe changes to insects, pollinating species in particular; ...” 	Section 15.3 of the TISG requires that changes to insects, pollinating species in particular, be described.	Provide detail to demonstrate that the requirement in Section 15.3 of the TISG relating to insects will be met.