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ABBREVIATIONS AND ACRONYMS II

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Abbreviations and Acronyms

ECCC	Environment and Climate Change Canada
EIS	environmental impact statement
IAAC	Impact Assessment Agency of Canada
LAA	local assessment area
LMOC	Lake Manitoba outlet channel
MI	Manitoba Infrastructure
PDA	project development area
PR	provincial road
ROW	right-of-way
SAR	Species at Risk
WMP	Wildlife Monitoring Plan

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EIS Guideline Reference: 7.4 Mitigation Measures

EIS Reference: Appendix 8B, Figure 8.3B-11; 8.3.6.2 Change in Habitat

Context and Rationale

Where mitigation measures are proposed for which there is little experience or questions as to their effectiveness, the EIS Guidelines require the proponent to clearly and concisely describe the potential risks and effects to the environment should those measures not be effective.

In the EIS, the proponent approximates a 7.8 percent loss (165.75 ha) of critical habitat for Red Headed Woodpecker in the LMOC PDA. Mitigation measures for the effects of the Project on Red-headed Woodpecker include retaining and erecting large diameter snags, where feasible/practical, that have potential to support red-headed woodpecker nests and erecting large diameter snags that have been cleared from the PDA along the ROW edges.

The EIS does not present a related discussion on the density and suitability of decadent trees within the LAA or the ability to undertake the practices described within the Project area such that there is alignment with the Red-Headed Woodpecker Recovery Strategy.

The effectiveness of erecting large diameter snags that have been cleared from the PDA along the ROW edges as mitigation for the loss of critical habitat for Red Headed Woodpecker in the LMOC PDA is not certain.

Understanding the baseline amount of large decadent deciduous trees per hectare in the LAA and an evaluation of the feasibility of the strategy to erect cleared snags is required to assess the effectiveness of the proposed mitigation measures and to assess the effects of the Project if the measures are determined not to be effective.

Information Requests

a) Estimate the number of suitable decadent trees in the LAA and quantify those that may be removed by construction in the PDA within Red-headed woodpecker critical habitat.

b) Describe planned steps to ensure the effectiveness of mitigation measures to protect Red-headed Woodpecker such as additional measures to retain standing snags and to reduce the likelihood of snags falling over.

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c) Given the potential uncertainty regarding the effectiveness of erected removed snags post-construction along new ROW edges as mitigation for loss of critical habitat for Red Headed Woodpecker:

   i. Assess and identify the likelihood of partial and complete failure of the proposed mitigation. Identify contingency measures to be taken if the mitigation is not functioning as planned.

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Clarification on Context and Rationale

The amount of *critical* red-headed woodpecker habitat (as identified in the species recovery strategy) potentially affected by the project development area (PDA) is 35.4 ha (Volume 3, Section 8.3.6.2). The estimate of 165.75 ha in the Context and Rationale refers to the amount of *modeled* red-headed woodpecker breeding habitat potentially lost within the PDA (Volume 3, Section 8.3.6.2).

a) The number of suitable decadent trees within the Local Assessment Area (LAA) has not been identified. Similarly, the number of suitable decadent trees within critical habitat for red-headed woodpecker that will be removed during Project construction is not known at this time. However, existing land cover data suggests that the Project will result in the direct loss of 1.7 ha of old growth (41-80 years) deciduous forest (Volume 3, Table 8.2-11), which suggests the potential loss of decadent trees may be minor. In addition, the majority of the Project within the critical habitat unit is limited to the Provincial Road (PR) 239 realignment, which involves upgrades to an existing municipal roadway where the number of decadent trees potentially removed is likely to be low. However, identification of biophysical attributes within critical habitat for red-headed woodpecker (i.e., decadent trees) may be completed during the 2020 Species at Risk (SAR) field survey program, which will be used to inform opportunities for retention or restoration. This information will be used to inform the red-headed woodpecker offset plan, which will be developed to support objectives and strategies identified in the proposed *Recovery Strategy for Red-headed Woodpecker (Melanerpes erythrocephalus) in Canada* (ECCC 2019).

b) The red-headed woodpecker mitigation and offset plan will identify objectives and methods designed to evaluate the effectiveness of mitigation measures that are applied, such as potentially retaining or erecting large diameter snags (IAAC-46). Measures to reduce the likelihood of snags falling over include adherence to best management practices (e.g., bolting structures to treated wooden posts or live trees; NRCS 2008). Overall, key mitigation measures will be monitored to determine the success of snag retention, including erected snags, using performance indicators (e.g., number of erected snags with cavities) and targets (e.g., number of suitable decadent trees per hectare). Monitoring methods and frequency will be described in the Wildlife Monitoring Plan (WMP). Adjustments to mitigation measures will be made as necessary within an adaptive management framework.

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c) Manitoba Infrastructure (MI) acknowledges there is some uncertainty associated with the proposed mitigation designed to maintain suitable decadent trees for red-headed woodpecker nesting. However, as stated in response to (b) above, the mitigation will be implemented within an adaptive management framework, which will provide opportunities to evaluate monitoring results that will be used to adjust and improve mitigation measures as required (also see response to IAAC-46). To clarify, there are other options available to create snags on the edge of the Project footprint. These contingency options include: topping, girdling, fungal inoculation, cavity creation (i.e., drilling artificial cavities into suitable trees), limbing (Bull and Partridge 1986; Lewis 1998; Kilgo and Vukovich 2014; Barry et al. 2017), and installation of nest boxes (McComb and Noble 1981) or polystyrene cylinders (Peterson and Grubb 1983). These and potentially other alternative mitigation options will be considered during the development of the offset plan in consultation with regulators, stakeholders, and Indigenous groups. Any adaptive measures implemented in offset plans will be evaluated as part of the Wildlife Monitoring Plan (WMP).

   The potential success or failure of the proposed mitigation related to erected snags will be addressed as part of the monitoring program, which will include field surveys to assess decadent tree (snag) status and nesting activity. As part of the adaptive management process, the ability of erected snags to meet the goals and objectives of the mitigation and offset plan will be evaluated. If erected snags are assessed as ineffective based on these criteria, other mitigation measures (i.e., contingencies as described above) will be identified and implemented as required.

References

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