ECCC – CWS – April 22, 2021: Preliminary Analysis of Conservation Risk of Federally Listed SAR for GTA West and Bradford Bypass Projects

Document has 3 sections: Summary, Federally Listed SAR Species List by Project, Species of Concern Summaries

Purpose: To provide an analysis (based on the best information and data available) on the potential conservation risk for federally listed species at risk in relation to the proposed GTA West and Bradford Bypass Projects that are currently being considered for designation by the Impact Assessment Agency of Canada (the Agency).

Key messages:

- The critical habitat of three terrestrial species at risk may be impacted by the proposed GTA West Project. In particular the crossing at the Humber River is likely to impact the critical habitat of the western chorus frog if not properly mitigated.
- There is no critical habitat for any species at risk that may be impacted by the proposed Bradford Bypass.
- Impacts to species at risk critical habitat can possibly be mitigated but more information is required. If the Agency decides to not recommend designation for the project, it will be important that mechanisms are in place under the provincial EA process to ensure there is an appropriate mitigation strategy for the project to avoid and reduce effects on species at risk, most critically for the Western Chorus Frog and Red-Headed Woodpecker.
- A key consideration for the GTA West project is to protect unprotected portions of critical habitat for two species (Western Chorus Frog and Red-Headed Woodpecker).

Summary

This analysis represents the best advice from ECCC-CWS (given short timeframes and available data) to the Impact Assessment Agency of Canada on the conservation risk for Federally listed Species at Risk (SAR) for the proposed GTA West and Bradford Bypass Projects.

The majority of Species At Risk Act (SARA)-listed species that exist in the GTA West and Bradford Bypass Project areas are also listed under Ontario's *Endangered Species Act* (ESA), with the exception of the Western Chorus Frog.

Preliminary analysis indicates that:

- three terrestrial species at risk that may be impacted by the proposed GTA West Project have final critical habitat[1] found within the project footprint.
- none of the species at risk that may be impacted by the proposed Bradford Bypass have critical habitat found within the project footprint.

[1] Critical habitat is the habitat necessary for survival or recovery of a SARA-listed species that is identified in a recovery strategy or action plan for the species.

The three species with critical habitat that may be impacted by the GTA West project are:

(i) Western Chorus Frog (not listed under provincial ESA[2]),
(ii) (ii) Red-headed Woodpecker (listed as special concern under the ESA[3]) and
(iii) (iii) Rapids Clubtail (listed under ESA).

While the Wood Thrush is currently listed as Threatened under SARA, and does not receive ESA protection (listed as Special Concern under the ESA[4]), a recovery strategy has not yet been produced, and therefore critical habitat has not yet been identified (see summary table below).

The Western Chorus Frog is not listed under the ESA, and the Red-headed Woodpecker is listed as Special Concern, the habitat protections of the ESA will not apply to these two species. It appears that the proposed crossing at the Humber River may be located within locally significant habitat of the Western Chorus Frog.

From a federal species at risk perspective, the application of appropriate mitigation measures, and considerations for both Projects under the existing requirements – e.g., it needs to comply with Ontario's environmental assessment legislation, the Ontario *Endangered Species Act*, the federal *Species at risk Act* and the *Migratory Birds Convention Act* - could mean that the additional benefit of a federal impact assessment may be marginal; but only in the event that the province requires that the above issues be addressed for the GTA West Project; and that the proponent provides the mitigation and offsetting that may be required beyond provincial requirements for the Western Chorus Frog and Red-headed Woodpecker.

Should this proceed as a provincial-led project, and appropriate mitigation measures are not established (e.g. elevating the road design to avoid effects on the Western Chorus Frog at the proposed crossing for the Humber River), this may result in the Minister being called to exercise his authority under SAR.

Irrespective of whether the project isassessed provincially or federally, the project must comply with SARA requirements and the Minister ECCC has the authority (with or without a petition) under s. 80 and s.61. to protect species. Key consideration for the GTA West project is to protect unprotected portions of critical habitat for two species (Western Chorus Frog and Red-Headed Woodpecker).

An agreement between federal and provincial governments to ensure such considerations are given may be required to provide assurances.

[2] The debate among experts over the genetic classification of chorus frogs in Ontario led the committee on the Status of Species at Risk in Ontario (COSSARO) to assess Western Chorus Frog as a single population in Ontario, and classified it as not at risk under the ESA (COSSARO 2009) vs COSEWIC assessing the Great Lakes/St. Lawrence-Canadian Shield population as being at risk and the Carolinian population being not at risk.
[3] The Red-headed Woodpecker was already assessed by COSSARO as a species of special concern when the ESA took effect in 2008 and is currently up for reassessment.

PLACEHOLDER- Humber river water crossing

INSERT PICTURE

Species List Summaries:

Proposed GTA West (preferred route 250m wide analysis) Species List[5]

Common Name	SARA Status	ESA Status	SARA Critical Habitat Unit (Final/ Proposed/ Candidate) * CH occurs where the Biophysical Attributes are found	**Confirmed** (C) - SARA CH or NatureServe – Ontario Natural Heritage Information Center, 2019[6] or **Potential** (P) Presence *Preliminary List	Ability to mitigate:(easy, medium, hard) Considering factors such as: avoidance, timing, exclusion fencing, challenges in habitat restoration/enhancement/offset, species mobility, proximity to other similar habitat	Conservation Risk: potential jeopardy to the survival and recovery of species **considering ESA and Prov EA (low, medium, high)**
Amphibians						
Jefferson Salamander[7]	END	END		C	H (Breeding Habitat) M (All other Habitat)	L
Western Chorus Frog[2] (Great Lakes St. Lawrence / Canadian Shield)	THR	Not at Risk	Final (Additional Draft CH)	C	H (Breeding Habitat) E (All other Habitat)	H (see below for details)
Reptiles						
Eastern Milksnake	SC	Not at Risk		C	E	L
Eastern Ribbonsnake	SC	SC		C	E	L
Snapping Turtle	SC	SC		C	M (Wetland Habitat)	L

[5] The species list was developed based on the information provided in the GTA West Project: Response to the Impact Assessment Agency of Canada Request #3 and the Bradford Bypass Project: Response to the Impact Assessment Agency of Canada Request #3 prepared by the Ontario Ministry of Transportation, with additional species added based on a CWS preliminary analysis.
[6] Additional data sources including the Ontario Breeding Bird Atlas would likely increase the number of species for which there is a confirmed presence (C).

[7] Species has been re-assessed Endangered by COSEWIC

					E (All other Habitat)	
Invertebrates						
Rapids Clubtail	END	END	Final	C	H	M (see below for details)
Yellow-banded Bumble Bee	SC	SC		C	E	L
Plants						
Butternut	END	END		C	M	L
Mammals						
Little Brown Myotis	END	END		P	H (Hibernacula) E (Breeding)	L
Northern Myotis	END	END		P	H (Hibernacula) E (Breeding)	L
Tri-coloured Bat	END	END		P	H (Hibernacula) E (Breeding)	L
Migratory Birds						
Red-headed Woodpecker	THR[8]	SC	Final	C	M	M (see below for details)
Bank Swallow	THR	THR		C	M	L
Barn Swallow	THR	THR		C	M	L
Bobolink	THR	THR		C	E	L
Eastern Meadowlark	THR	THR		C	E	L
Eastern Wood-Pewee	SC	SC		P	M	L

[8] Species has been re-assessed Endangered by COSEWIC. Uplisiting under SARA to Endangered status is anticipated in May 2021.

Grasshopper Sparrow	SC	SC		P	E	L
Wood Thrush	THR	SC		P	M	L

Bradford Bypass (based on right of way 100m wide analysis) Species List[9]

Common Name	SARA Status	ESA Status	SARA Critical Habitat Unit (Final/ Proposed/ Candidate) * CH occurs where the Biophysical Attributes are found	**Confirmed** (C) - SARA CH or NatureServe – Ontario Natural Heritage Information Center, 2019[6] or **Potential** (P) Presence *Preliminary List	Ability to mitigate:(medium, hard) Considering factor such as: avoidance, timing, exclusion fencing, challenges in habitat restoration\enhancement\offset, species mobility, proximity to other similar habitat	Conservation Risk: potential jeopardy to the survival and recovery of species **considering ESA and Provincial EA, (low, medium, high)**
Amphibians						
Jefferson Salamander	END	END		P	H (Breeding Habitat) E (All other Habitat)	L
Western Chorus Frog[2] (Great Lakes St.Lawrence / Canadian Shield)	THR	Not at Risk		P	H (Breeding Habitat) E (All other Habitat)	L (M if there is important presence confirmed along route)
Reptiles						
Blanding's Turtle	THR	THR		P	H	L
Eastern Milksnake	SC	Not at Risk		P	E	L
Snapping Turtle	SC	SC		P	M (Wetland Habitat) E (All other Habitat)	L

[9] The species list was developed based on the information provided in the GTA West Project: Response to the Impact Assessment Agency of Canada Request #3 and the Bradford Bypass Project: Response to the Impact Assessment Agency of Canada Request #3 prepared by the Ontario Ministry of Transportation, with additional species added based on a CWS preliminary analysis.

Plants						
Butternut	END	END		P	M	L
Mammals						
Little Brown Myotis	END	END		P	H (Hibernacula) E (Breeding)	L
Northern Myotis	END	END		P	H (Hibernacula) E (Breeding)	L
Tri-coloured Bat	END	END		P	H (Hibernacula) E (Breeding)	L
Migratory Birds						
Red-headed Woodpecker	THR	SC		C	M	M
Bank Swallow	THR	THR		C	M	L
Barn Swallow	THR	THR		C	M	L
Black Tern	NAR	SC		C	M	L
Bobolink	THR	THR		C	E	L
Chimney Swift	THR	THR		P	M	L
Eastern Meadowlark	THR	THR		P	E	L
Eastern Whip-poor-will	THR	THR		P	M	L
Eastern Wood-Pewee	SC	SC		P	M	L
Henslow's Sparrow	END	END		P	E	L

Least Bittern	THR	THR		C	M	L
Louisiana Waterthrush	THR	THR		P	M	L
Wood Thrush	THR	SC		P	M	L
Yellow Rail	SC			C	M	L

Species of Concern Summaries:

Western Chorus Frog (GLSLCS)[2] - HIGH risk

SUMMARY

- The footprint of the proposed GTA West Project overlaps the Humber River watershed, which is an area with a high density of Western Chorus Frog occurrences, and has been formally identified as critical habitat (habitat necessary for the survival or recovery) of the species
- Considering the importance of the area for Western Chorus Frog and the potential impacts of the project, in conjunction with the lack of a requirement for provincial permitting under the ESA, there is a risk that the GTA West project could impede the ability to meet the federal recovery objectives for the species
- It is possible that with sufficient mitigation, this risk could be reduced however further analysis is required

Background

The Western Chorus Frog (WCF) is a small frog. It measures about 2.5 cm in length weighs about 1 g. The Western Chorus Frog occupies lowland habitats with an open or discontinuous canopy (e.g., clearings, damp meadows, fallow lands, shrublands) in Southern Ontario and Quebec, where slight depressions in topography allows the formation of wetlands (e.g., marshes, swamps, ponds) that generally dry out in summer. In Canada, the species has suffered from ongoing losses of habitat and breeding sites and isolation of remaining habitat patches due to suburban expansion and alteration in farming practices.

Potential Impact of GTA highways on the Species

The footprint of the proposed GTA West highway overlaps the Humber River watershed, which is an area with a high density of Western Chorus Frog occurrences as well as final critical habitat for the species. Extant populations/metapopulations of this species are relatively rare in the Greater Toronto Area, and the cluster of occurrences along the Humber River and its tributaries likely represents an important stronghold for the species in a landscape dominated by urban and agricultural development. Roads can directly remove and fragment habitat, and impact water quality (road salts).

Further analysis would be required to understand the potential effects on the species in this area (including connectivity, metapopulation processes, etc.). Considering that large numbers of observations have been made to the north and south of the proposed route, the project would likely impact population connectivity within this core area. The presence of areas favourable to movements of the Western Chorus Frog between local populations and other appropriate habitats is crucial to the survival and recovery of the species. When movement habitat between ponds is destroyed, isolated local populations may remain, but they are at higher risk of disappearing. Occurrence data suggest there are additional areas in the project footprint that may be important for this species, and further analysis would be required to determine the likely impact of the proposed projects on the Western Chorus Frog.

In addition, occurrences of the Western Chorus Frog have been found in the vicinity of the Bradford Bypass, and further analysis and survey work would be required to determine whether the species would be affected by the proposed project.

Potential implications for survival and recovery
The current short and long term population and distribution objectives set by ECCC for Western Chorus Frog (GLSLCS) focus on maintaining viability of local populations and connectivity within metapopulations. Considering the importance of the area for Western Chorus Frog and the potential impacts of the project, in conjunction with the lack of a requirement for provincial permitting under the ESA, there is a risk that this project could impede the ability to meet the objectives (I.e. impede the recovery of the species). It is possible that with sufficient mitigation, this risk could be reduced however further analysis is required.

Ongoing work by COSEWIC to reassess this species using new genetic data, alongside work by ECCC to update the federal recovery strategy, may affect how the designatable units are considered by COSEWIC and COSSARO and how recovery of the species is defined in future.

Red-Headed Woodpecker - MEDIUM Risk

SUMMARY

- The footprint of the proposed GTA West highway crosses through two critical habitat units for the Red-Headed Woodpecker. Critical habitat is relatively rare in the GTA, and these two areas may represent important habitat for the species in a landscape dominated by urban and agricultural development
- While individuals and residences receive protection under federal SARA, critical habitat is not protected under the provincial ESA or SARA and it is not known whether a provincial environmental assessment will mitigate for impacts to habitat of this species
- Federal recovery objectives for the Red-Headed Woodpecker are not site-specific, therefore the risk that the project may pose to recovery of the species in Canada is difficult to assess and further analysis would be required to assess the significance of the area and refine the risk, as well as the ability to mitigate the risk

Background
The Red-headed Woodpecker (RHWP) is a medium-sized woodpecker weighing 56-91 g and reaching a total length of 19-24 cm. For breeding habitat, the Red-Headed Woodpecker typically occupies woodlots with less canopy cover, more coarse woody debris, and greater dead limb lengths. The species excavates large nesting cavities in decadent (dead/dying) trees/limbs for nesting. Nest fidelity of Red-headed Woodpecker may suggest that the frequency of cavity reuse varies across local populations. One of the main limiting factors for Red-headed Woodpeckers is likely decadent (dead/dying) trees/limbs. This type of tree is by its nature a short-lived resource, and a continuous supply is necessary for habitat to maintain its suitability for the species. In Canada, the Red-headed Woodpecker's breeds in southern Saskatchewan, southern Manitoba, Ontario and southwestern Quebec. In Ontario, it occurs south of Georgian Bay as well as in the Lake of the Woods Township and the Ottawa River Valley. Around 3000 individuals of Red-Headed Woodpecker breed in Ontario.

Potential Impact on the Species
The footprint of the proposed GTA West highway overlaps two areas within which there is final critical habitat for the species. Critical habitat is relatively rare in the Greater Toronto Area, and these 2 areas may represent important habitat for the species in a landscape dominated by urban and agricultural development. Further analysis would be required to understand the potential effects of the Project on the species in this area. The removal of a treed area eliminates, either in whole or in part, the ecosystem upon which the species relies for basic survival, including the elements of the habitat that are used for breeding, foraging, roosting and overwintering. If this activity occurs within critical habitat, at any time of year, the effects will be direct, and are certain to result in the destruction of critical habitat. Road construction result in the removal of soil and vegetation that produce insects consumed by Red-headed Woodpecker. The loss of soil and vegetation can also directly reduce the species' food supply by removing plant material that also forms an important component of the species' diet. If this activity occurs within critical habitat, at any time of year, the effects will be direct, and in most instances will result in the permanent destruction of critical habitat.

Potential Implications for Survival and Recovery
The current short and long term population and distribution objectives set by ECCC for RHWP include halting the decline in population and increase abundance to achieve a self-sustaining population and maintain or, where biologically and technically possible, increase the species' range and area of occupancy. Considering the lack of a requirement for provincial permitting under the ESA, there is a medium risk that this project could impede the ability to meet the objectives (I.e. impede the recovery of the species). It is possible that with sufficient mitigation, this risk could be substantially reduced however further analysis is required.

Rapids Clubtail – MEDIUM Risk

SUMMARY

- The footprint of the proposed GTA West highway bisects a critical habitat unit for Rapid's Clubtail along the Humber River
- Rapid's Clubtail has a very restricted distribution and is believed to exist at only five locations in Canada
- The federal recovery objectives aim to maintain existing populations. While without mitigation, the project could pose substantial risk to the ability to meet federal recovery objectives, the risk is reduced because the species receives protection under the provincial ESA. The extent of habitat protection at the site, the type of ESA authorization that would be required for the project, and the extent of mitigation that would be required need to be confirmed with the province of Ontario.

Background
The Rapids Clubtail is a small, dark-coloured dragonfly with a wing length of 25 to 27 mm. The Rapids Clubtail lives in clear, cool, medium to large rivers with wooded shorelines, gravel shallows, and muddy pools. Rapids Clubtail is believed to exist at five locations in Canada: the Humber River, Mississippi River, Thames River, Grand River and Nith River. Threats to survival and recovery include dam construction, shoreline alteration,

pollution, removal of shoreline forests, exotic predatory species, roadkill and climate change. Limiting factors include low population numbers, limited distribution and apparent sensitivity to specific habitat features.

Potential Impact on the Species
The footprint of the proposed GTA West highway overlaps with a critical habitat unit for Rapid's Clubtail. The critical habitat unit corresponds with the Humber River population of Rapid's Clubtail, and runs North-South across the entire width of the project footprint. Within the unit, critical habitat consists of the river (up the high water mark) and suitable habitat in adjacent forested areas within 200 metres of the high water mark. The proposed project has the potential to impact this species in one of its few remaining locations in Ontario.

Potential Implications for Survival and Recovery
The current federal population and distribution objective is to maintain existing populations and, where biologically and technically feasible, rehabilitate degraded habitat at previously known locations

The provincial ESA protects individuals and habitat for the Rapids Clubtail in Ontario and a habitat regulation has been published for the species. Federal critical habitat adopted the description of habitat found in the provincial regulation, although differences in application of the description may apply[10]. Based on available information, it is believed that the provincial habitat regulation under the ESA currently applies to this critical habitat site on the Humber River, and therefore conservation risk was assessed as Medium rather than High. However, the extent of habitat protection, the type of ESA authorization that would be required for the project, the and the extent of mitigation that would be required need to be confirmed with the province of Ontario.

Wood Thrush– LOW Risk

Background
The Wood Thrush is a medium-sized Neotropical migrant (bird), slightly smaller than the American Robin. The Canadian population of Wood Thrush is estimated at between 260,000 and 665,000 mature individuals. The threats and limiting factors for the Wood Thrush include habitat degradation and fragmentation due to development, therefore the proposed GTA West highway has the potential to impact the species. There is currently no Recovery Strategy for the species, and therefore critical habitat has not yet been identified. Given the broad distribution of the species it is likely that the population and distribution objectives and critical habitat would be at the landscape level rather than site focused.

[10] The provincial habitat regulation is dynamic and automatically in effect where the species occurs within the geographic area defined in the regulation. The habitat regulation applies at a site unit, there has been 5 years of documented non-use. Critical habitat was identified for specific sites within the recovery strategy based on observations from a set time period.