

LOCAL PLANNING APPEAL TRIBUNAL
Case No. L190595, MM190020 – Freymond Lumber Quarry

WITNESS STATEMENT OF
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Prepared for:
No Place for a Quarry

Regarding: *Freymond Lumber Quarry Level I & II Natural Environment Technical Report (NETR) (Craig, 2016); Pale-bellied Frost Lichen Survey Report (Riverstone Environmental Solutions Inc., 2017a); and supplementary information contained in related documents and/or correspondence*

1.0 Introduction

- 1.1 This **“Witness Statement”**, dated May 17, 2021, has been prepared by Karl R. Konze, in consideration of the appeal as referenced above.
- 1.2 This Witness Statement outlines my qualifications and background, the nature and extent of my firm’s involvement with the property that is subject to the appeal, the issues which I expect to address in the Hearing, and the opinions which constitute my evidence before the Local Planning Appeal Tribunal.
- 1.3 This Witness Statement includes the following attachments:
- (a) a copy of my Curriculum Vitae (Appendix A)
 - (b) a copy of my signed Acknowledgement of Experts Duty (Appendix B)
 - (c) a list of documents that I may reference in my verbal evidence (Appendix C).

2.0 Qualifications

- 2.1 B.Sc. (Hons.) in Biological Sciences from University of Guelph (1992).
- 2.2 Senior wildlife ecologist with Dougan & Associates, Ecological Consulting Services. I have been continuously engaged in the environmental consulting field since 1999.
- 2.3 A significant proportion of my consulting experience is based on the completion of natural heritage planning studies, site inventories and assessments, environmental impact statements

for development applications, implementation of natural heritage plans, and monitoring of the outcomes of those plans.

- 2.4 I regularly undertake wildlife inventories and assess wildlife habitats in support of the above. My project experience encompasses key wildlife groups including birds, amphibians, reptiles, and invertebrates.
- 2.5 In addition to field-focused wildlife consulting, I have worked on policy related studies focused on the assessment of Significant Wildlife Habitats, and their protection.
- 2.6 I am routinely involved in interpreting and applying the Endangered Species Act (2007) and its Regulations as they apply to Threatened and Endangered 'Species at Risk'.
- 2.7 At Dougan & Associates I have regularly been retained to conduct peer reviews of natural heritage planning and impact studies, including those in support of applications under the Aggregate Resources Act, and I have previously provided expert opinions at the Ontario Municipal Board and Local Planning Appeal Tribunal.
- 2.8 A more detailed description of my professional experience, including additional relevant project experience, is contained in my attached *curriculum vitae* (Appendix A).

3.0 Summary of Opinions

3.1 Summary of opinion on the Natural Environment Levels 1 and 2 Technical Report:

- 3.1.1 In my opinion, the field surveys conducted in support of the proposed quarry were mostly out-of-date at the time of the submission in 2016 and are even more out-of-date now, in 2021. Additional field surveys should be conducted to ensure that the data accurately reflects the current state of the natural heritage features and functions present within the licence area and on adjacent lands.
- 3.1.2 Some field surveys conducted in support of the quarry proposal were deficient. That is, they:
 - a) did not follow standard survey protocols,
 - b) did not dedicate sufficient time to adequately survey all areas of suitable habitats,
 - c) were not the primary focus of the survey visits, and/or
 - d) were conducted under less-than-ideal weather conditions.
- 3.1.3 Given the deficiencies noted above, additional Species at Risk (i.e., species designated "Special Concern", "Threatened" or "Endangered") may be present on or adjacent to the licence area but are as yet undiscovered.
- 3.1.4 Significant Wildlife Habitat (SWH), as defined by the Provincial Policy Statement, was not adequately identified, assessed or interpreted. Additional SWH is present based on the NETR data. Further, SWH should be reassessed according to the current Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E, using current field survey data.
- 3.1.5 Insufficient information on monitoring is provided in the NETR.
- 3.1.6 Given the deficiencies noted above, the conclusions included in the NETR are inaccurate or unsupportable.

3.2 Summary of opinion on the Pale-bellied Frost Lichen Survey Report:

- 3.2.1 Additional surveys should be undertaken within and beyond the proposed licence area to address data gaps.
- 3.2.2 A more rigorous survey methodology should be applied to help capture other potential occurrences. The methodology should be approved by an expert (such as Troy McMullin, lichenologist based at the Canadian Museum of Nature). The Ontario Ministry of Environment, Conservation and Parks should also be consulted on further surveys and survey methodology.
- 3.2.3 More assessment should take place on the adequacy of a 100 m regulated area given the large area proposed to be affected by quarry activities.
- 3.2.4 Prior to quarry approval the status and proposed protection of Pale-bellied Frost Lichen at the site should be reviewed by an expert (such as Troy McMullin, lichenologist based at the Canadian Museum of Nature).

3.3 Summary of opinion on the overall proposed quarry application:

- 3.3.1 Based on the opinions above, I believe that the proposed quarry application has not adequately demonstrated that it:
 - a) Meets the current Natural Environment Report Standards under the Aggregate Resources Act, that *"no existing natural feature will be negatively impacted"*.
 - b) Is compliant with the Endangered Species Act (Government of Ontario, 2007), or
 - c) Is consistent with policies 2.1.2, 2.1.5 and 2.1.8 of the Provincial Policy Statement (OMMAH, 2020).
- 3.3.2 On the basis of identified deficiencies, I believe the proposed quarry application should not be approved.

4.0 **Background**

- 4.1 Dougan & Associates was retained by Eric Gillespie (Eric Gillespie Professional Corporation), on behalf of No Place for a Quarry in October 2020 to peer review the natural resource information contained in the 2016 Freymond Lumber Quarry Level I & II Natural Environment Technical Report (NETR) prepared by Robin Craig in November 2016, in support of an Aggregate Resources Act of Ontario (ARA) application and Official Plan amendment. The purpose of the review was to prepare comments on the adequacy of the Technical Report with regard to the inventories of natural heritage resources in support of the proposed quarry, the potential impacts of the proposed quarry, and the proposed approaches to avoid or mitigate such impacts. The scope of the peer review was broadened shortly thereafter to cover additional documents and correspondence made available by the proponent relevant to the application.

5.0 **Opinion Evidence**

- 5.1 My evidence will address information contained in the Freymond Lumber Quarry Level I & II Natural Environment Technical Report, prepared by Robin Craig (November 2016), the Pale-bellied Frost Lichen Survey report, prepared by RiverStone Environmental Solutions Inc. in July 2017, the letter response to peer review comments related to fish habitat, prepared by

RiverStone Environmental Solutions Inc. on December 14, 2017, as well as miscellaneous information contained in related documents and/or correspondence.

5.2 I will refer to Provincial legislation and policies as applicable, as well as correspondence associated with the proposed undertaking.

5.3 **Freymond Lumber Quarry Level I & II Natural Environment Technical Report**

5.3.1 Review of Existing Background Information

Tri-colored Bat (*Perimyotis subflavus*) was designated Endangered on June 15, 2016 and should have also been discussed in the NETR to ensure that it will not be negatively impacted.

5.3.2 Existing Site Conditions

Text in Section 3.1 states that “Detailed natural heritage information was collected on the 33.3 ha proposed to be licenced (Figure 2).” However, resources on adjacent lands to the licenced area should have also been considered per section 2.1.8 of the Provincial Policy Statement (OMMAH, 2020). This is defined in the Natural Heritage Reference Manual (2nd Ed., 2010) as lands within 120 m of the proposed development or site alteration (OMNR, 2010).

5.3.3 Field Study Methods

5.3.3.1 Except for some additional bat survey work conducted in October 2015, the data used to support this proposal was not current (i.e., collected within the past 5 years) when the NETR was submitted in November 2016 and is certainly not current now in 2021. Most field data was collected between April 2009 and April 2010.

5.3.3.2 I have several concerns regarding how the field data was collected; standard protocols were not always followed.

- a) Amphibian Call Surveys - Amphibian call surveys were not conducted according to accepted standard protocols (i.e., BSC, 2009) although incidental observations were recorded. All survey visits ended before the protocol’s evening survey window had even opened, i.e., surveys must start at least one-half hour after sunset. Also, air temperature on the third visit was below the accepted minimum under the protocol (BSC, 2009).
- b) Raptor Nesting Surveys - Regarding the raptor nesting survey conducted on April 24, 2009, given that this was not the only area of focus during the 2-hour survey, it seems unlikely that all 33 ha + adjacent lands could have been adequately searched.
- c) Breeding Bird Surveys:
 - i. Given that the study area (i.e., licence area + 120 m adjacent lands) is approximately 66.4 ha in size, it is unlikely that that the 1.5 hour spent surveying birds on May 30, 2009 was adequate in duration to accurately record all individuals, and possibly all species, present.
 - ii. Breeding bird surveys should not be conducted more than five hours after sunrise (i.e. after 10:27 a.m.) (Cadman et al., 2007), therefore approximately two-thirds of the May 30, 2009 survey was conducted too late in the morning.

- iii. Text on page 10 indicates that “Stick nests were searched for and noted if encountered” during the May 30 and June 30 breeding bird surveys. However, given that the tree leaves would have been fully out on these dates, searching for stick nests (i.e. raptor nests) would have been largely ineffective, given that the primary focus of the survey at that time would have been on small songbirds.

d) Reptiles:

- i. According to the text in Section 4.5, evidence of turtles was searched for on two dates in June (June 29 & 30, 2009). However, these dates are at the very end of the turtle nesting period in Ontario (OMNRF, 2015a; Harding, 1997; Johnson, 1989). In addition, only part of the survey time was devoted to this task during each visit, thereby limiting the chances of adequately documenting nesting turtles.
- ii. The NETR text states that “Snakes were searched for on all survey dates.” However, there is no mention of how snakes were searched for, and it is unclear whether the effort was adequate. Unless snake searches were the primary objective of the survey visit, the “searches” were probably superficial. Observing snakes incidentally is not the same as conducting dedicated surveys. The NETR text did not define how the searches were conducted and over what extent of the proposed licence area.
- iii. Based on the information contained in Table 1 on page 9, the weather conditions were also generally unsuitable to detect snakes (i.e., conditions were overcast and/or misty); even if the weather conditions were acceptable, the duration of the survey visits was too short to adequately detect snakes over such a large area, especially when snakes were not the sole purpose of the site visit. Only on September 2, 2009 were the weather conditions acceptable and the survey length adequate based on standard protocols.

- e) Insect Surveys - The temperatures during the 2009 survey visits, especially during the peak survey period between late June and early July, were likely too cold to accurately document the full complement of butterflies and odonates (i.e., damselflies and dragonflies) present in the study area (Hall et al., 2014).

5.3.4 Field Study Results

5.3.4.1 The field data utilized in the NETR is not considered current (i.e., collected within the past 5 years). Most field data was collected between April 2009 and April 2010. Field conditions may have changed since the surveys were conducted and new, potentially significant species (i.e., Species at Risk) may have taken residence in the interim period. Reliance on outdated data calls the conclusions into doubt.

5.3.4.2 No Ecological Land Classification mapping was included in the NETR; the only reference is that the site is all in Ecosite ES27.1 as per Chambers et al. (1997). The study should have included documentation to at least the ELC Community Series level or ideally to Vegetation Type level. This is important to understanding the cover, soils and moisture regimes that currently exist.

5.3.4.3 As noted above, the amphibian call surveys were not conducted according to an accepted standard protocol. Nevertheless, the results presented and discussed in Section 5.5.3 indicate that the central pond qualifies as Significant Wildlife Habitat (SWH) based on my

interpretation of the Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E (OMNRF, 2015b), and would merit consideration for protection.

5.3.4.4 According to text in NETR Section 5.5.4, the reason only six species of butterflies and three species of damselflies and dragonflies were documented was because the site is forested. This could partially explain the results, but it may more likely be attributed to the cool temperatures and limited survey effort, especially during the peak period of diversity between late June and early July. I believe that additional visits conducted under warmer conditions would have yielded a more representative list.

5.3.4.5 Text in Section 5.5.5 indicates that reptiles, including turtles and snakes, were searched for on all visits, but none were encountered. However, these statements should be qualified by the fact that the turtle and snake searches were not the primary focus of the surveys. In addition, no information was provided describing how the snake searches were undertaken, and the adequacy of the surveys is therefore questionable.

5.3.5 Level 1 – Natural Heritage Features

5.3.5.1 According to text in the NETR Section 6.2.1.7, background information from the Ontario Reptile and Amphibian Atlas (ORRA) indicated *“that Eastern Hog-nosed Snakes have been reported south and west of the site.”* My review of the ORAA mapping confirms that it has been recorded south of the site, possibly as close as 1.3 km away. ORRA mapping also indicates that this species has been recorded southeast of the subject lands, possibly within 5 km. The NETR concluded that *“there isn’t any Eastern Hog-nosed Snakes or their habitats on or within the 120 m of the site”,* stating that *“No toads, the snakes preferred food, and no hog-nosed snakes were found during field surveys or have been observed on the site or adjacent to the site by property owner, Mr. L. Freymond.”*

According to *The Snakes of Ontario* (Rowell, 2012), *“Eastern-Hog-nosed Snakes feed primarily on toads, and to a lesser extent, other anurans, including American Bullfrogs (Lithobates catesbeiana), Green Frogs (Lithobates clamitans), Northern Leopard Frogs (Lithobates pipiens) and Gray Treefrogs (Hyla versicolor)”*, the latter of which were documented calling in the woodland. It also mentioned that since toads do not metamorphose until later in the summer, *“...Red-backed Salamanders (Plethodon cinereus) and Spring Peeper (Pseudacris crucifer) may, therefore, be significant components of the diet of young snakes. (Michener and Lazell, 1989).”* (Rowell, 2012). Twenty to thirty Spring Peepers were documented from the Central Pond in 2009, and 10 – 20 again in 2010. Eastern Red-backed Salamanders were not mentioned in the NETR, but they are regarded as *“the most common woodland salamander over most of the Great Lakes region.”*, inhabiting deciduous, coniferous, and mixed woodlands (Harding, 1997), which are present in the study area. It is unlikely that this common salamander species is absent from the property. Therefore, food sources for Eastern Hog-nosed Snake are likely present and the habitat could support the species.

Finally, stating that the proponent has not documented this provincially “Threatened” snake species is not adequate justification for assuming its absence. In my experience, incidental observations of cryptic snake species are not an acceptable substitute for dedicated survey visits, under optimal weather conditions, in appropriate seasons, by qualified wildlife ecologists. This is critical when Threatened or Endangered species are known for the vicinity.

5.3.5.2 NETR Section 6.6 states *“The County of Hastings has not designated any SWHs therefore OMNRF criteria contained in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E (OMNRF, 2015) (SWHCS) were used to determine significant wildlife habitat that may be on or adjacent to the site.”* However, the NETR then applies the older Significant Wildlife Habitat Technical Guide (OMNR, 2000) to justify why the *Amphibian Breeding Habitat (Woodland)* SWH type was not present. This is problematic since these documents are based on very different approaches to identifying SWH. Using the SWHCS, the number and types of amphibians documented at the central pond would qualify it *“plus a 230 m radius of woodland area”* around it, to be designated SWH for *Amphibian Breeding Habitat (Woodland)* and would merit protection under the Provincial Policy Statement (PPS). If the two south-east ponds had been adequately surveyed for amphibians using accepted protocols, they too may have merited designation as SWH.

5.3.5.3 Common Milkweed, a common host plant for Monarch butterfly (designated *“Special Concern”* in Ontario and Canada) was documented from scattered locations along the forest edge and eastern boundary of the site, however text in Section 6.6.3.12 concluded that *“there is no Monarch significant wildlife habitat on or within 120 m of the site.”* This appears to be justified by the statement that *“no evidence of Monarch use was found on the milkweed”* and only one Monarch, considered to be a migrant, was observed. However, unless multiple visits are made to the milkweed colonies between the middle of June and beginning of September, the period of greatest abundance in the mixed forest region in Ontario (Hall et al., 2014), and plants closely inspected for eggs or larvae, evidence of use can easily be overlooked. Given the fact that only two visits occurred during this period, neither of which were suitable to document butterflies, and no text was included that described how Monarch presence was investigated, it is not valid to conclude that no Monarchs were present. In general, survey conditions to document insects were less than ideal, reducing the likelihood that Monarchs would be detected. Given annual variability in Monarch abundance in Ontario, conducting more intensive new surveys could confirm their presence on the site.

5.3.6 Proposed Development

5.3.6.1 More information describing the Rehabilitation Plan should have been provided in the Natural Environment Technical Report. It is difficult to assess long-term impacts without it. Since the NETR predates the site plans, it should be updated to reflect the present plans.

5.3.7 Level 2 – Impact Assessment and Mitigation

5.3.7.1 In Section 8.1.2, the NETR concludes that *“there will be no negative impacts to significant Eastern Wood-Pewee habitat.”* The statement assumes that Eastern Wood-Pewee prefers nesting along forest edges and will automatically inhabit new edges created through progressive quarrying activity. This reasoning is simplistic and not supported by scientific literature from similar situations elsewhere. Eastern Wood-Pewees do not nest exclusively along forest edges; they also regularly inhabit the interior portions of forests (Watt et al., 2017; Hounsell, 1989). They prefer intermediate and mature-aged stands with little understory vegetation, and generally occupy the mid-canopy layer (OMECP, 2019). According to NETR Figure 2, Eastern Wood-Pewees were only documented from the northeastern corner of the licenced area. Therefore, if the forest habitat elsewhere in the licence area was not suitable Eastern Wood-Pewee habitat prior to extraction, the creation of an edge will not necessarily make it suitable, especially when the new edge will be directly adjacent to an active quarry, with associated dust, noise, and visual disturbance. The NETR should acknowledge that there will be an absolute loss of forest cover available for Eastern Wood-Pewees following extraction. Should the quarry be

approved, the occurrence and abundance of the Eastern Wood-Pewee (along with all other breeding birds) should be regularly monitored over the life of the quarry to determine whether the species is utilizing these new forest edges as predicted by the proponent.

- 5.3.7.2 The Natural Environment Technical Report does not recommend a specific monitoring program for the terrestrial environment. It references the Hydrogeological Investigation Report (MTE, 2016) which recommended a mitigation and monitoring program to ensure that there are no negative impacts on the quality and quantity of water flowing from the site, and therefore no negative impacts to fish or fish habitats.
- 5.3.7.3 According to Robin Craig's 2017 response to the County's peer review, performance monitoring will take place for five years. It recommends that all disturbed areas be surveyed annually for the presence of six potential invasive plant species; to be eradicated if found. There is no indication how long the annual surveys will take place. There should be a comprehensive ecological monitoring program added to an updated NETR.

5.3.8 Rehabilitation

- 5.3.8.1 The minimal 2016 NETR rehabilitation recommendations were revised by R. Craig in response to comments from the Township's peer reviewer, which largely form the notes on the 2018 Rehabilitation Plan (MHBC 2018b). This plan will be reliant on a species-poor assemblage of only four tree species and a native/non-native grass-legume mix, relying heavily on post-extraction invasion of more diverse forest species from surrounding lands. The lands currently support 18 tree species according to NETR data. Notably Ironwood (*Ostrya virginiana*), a tree species favoured by the Endangered Pale-bellied Frost Lichen (Environment Canada, 2016) found on the site, is not included in the proposed rehabilitation plan. The seed mixture for the proposed Phase 1 meadow/log storage industrial area is similarly lacking in herbaceous species diversity adequate to support diverse insects and pollinators. There is no direction given on the establishment of the ponds and their vegetation to facilitate use by amphibians. In my opinion this species-deficient approach will provide greater risk for invasives establishment and the net result will be a large area of impoverished forest and habitat in general.
- 5.3.8.2 By the time extraction activities finish, the perimeter of the extraction area will be defined by 30 –45 m sheer walls with single 5 m wide benches. This will result in a loss of local wildlife habitat connectivity in the area by creating a dead-end, isolated block with the opening facing into the existing lumberyard facility. These impacts are neither identified nor discussed in the NETR.
- 5.3.8.3 The stormwater management pond proposed to be created directly east of the Phase 1 extraction area will be separated from most forested lands to the west by the haul route. Amphibians and other small wildlife species attracted to this pond will likely suffer regular mortality accessing it throughout the operational life of the quarry and possibly rendering the pond a population sink. The rehabilitation plan does not identify or address this risk.
- 5.3.8.4 The construction of a haul route during Phase 1 extraction through Phases 3 and 4 (to access Phase 2) will create an unnecessary source of disturbance to the wildlife inhabiting these forested areas. According to the notes in the Rehabilitation Plan, this haul route road will be present for up to 27 years.

5.3.8.5 The NETR and subsequent 2017 letter from R. Craig do not give an adequate description of recommended natural heritage monitoring. Rehabilitation efforts should be monitored annually for the life of the quarry to determine their success in terms of restoration of forest cover, plant species and habitat functions. Faunal surveys should include breeding birds, reptiles and amphibians, as well as butterflies, damselflies and dragonflies. Standardized survey protocols should be employed.

5.3.8.5 Monitoring should also take place on adjacent lands to the extraction phases. This should include the same groups of wildlife monitored in the extraction areas. Special attention should be focused on documenting the occurrence and abundance of the Eastern Wood-Pewee.

5.3.9 Conclusions

5.3.9.1 The NETR concluded that “No Provincially significant wetlands, habitats of endangered or threatened species, or significant Areas of Natural and Scientific Interest (ANSIs) are found on or within 120 m of the site.” However, this statement was discredited when Pale-bellied Frost Lichen (*Physconia subpallida*), a provincially Endangered species, was documented on an Ironwood tree in the proposed licence area in April 2017. Given other deficiencies in the NETR field surveys listed above, it is possible that additional Threatened or Endangered species could be present on or adjacent to the licence area.

5.3.9.2 The NETR concludes that the only provincially significant feature present on or within 120 m of the site was Significant Wildlife Habitat (SWH) for Eastern Wood-Pewee. However:

- a. Based on information provided in the NETR and applying the most current provincial guidance document (i.e., Significant Wildlife Habitat Criteria Schedule for Ecoregion 5E), I believe that SWH is present for *Amphibian Breeding Habitat (Woodland)*.
- b. Given deficiencies in the NETR study, it is possible additional Significant Wildlife Habitat may be present within or 120 m of the proposed licence area.

5.3.9.3 Given the new information provided in Robin Craig’s response to the Galloway Greer peer review, a revised Natural Environment Report should be submitted based on more current data.

5.4 **Pale-bellied Frost Lichen Survey Report**

5.4.1 RiverStone Environmental Solutions Inc. was retained to conduct a Pale-bellied Frost Lichen (*Physconia subpallida*) surveys in the spring of 2017 following comments from the Ontario Ministry of Natural Resources and Forestry. Pale-bellied Frost Lichen is designated as Endangered in the official Species at Risk in Ontario (SARO) list provided in Ontario Regulation 242/08 under the Endangered Species Act, 2007 and so, the species and its habitat require protection (Government of Ontario, 2007). Following two days of survey effort, Pale-bellied Frost Lichen was documented from one location in the proposed licensed area with a total of two thali recorded. Subsequently, the habitat around the Pale-bellied Frost Lichen was given a regulated protection zone following subsection 28.2(2) of O. Reg. 242/08.

5.4.2 Approach and Methods

5.4.2.1 Despite two days of survey effort, there were large areas of the proposed licence area that were apparently not surveyed. This included areas that would be potential habitat for Pale-bellied Frost Lichen based on ELC mapping provided by RiverStone. Riverstone also stated

that technical difficulties prevented all surveyed locations from being recorded; it would still be helpful to show these missing areas or carry out a makeup survey based on a grid of survey transects and tree sampling.

- 5.4.2.2 I believe that a more systematic survey approach (i.e., linear transects opposed to a wandering route) and targeting Ironwood trees could have resulted in fewer gaps in coverage and less likelihood that other thali of Pale-bellied Frost Lichen were missed. In my opinion more intensive studies on the proposed licence area and within 120 m adjacent lands are warranted.
- 5.4.2.3 Adjacent lands (i.e., 120 m outside of the proposed licence area) were not surveyed for Pale-bellied Frost Lichen, although they will likely be subject to microclimate change if the forest is cleared within the proposed licence area. The Recovery Plan for this species (Environment Canada, 2016) indicates that the species is vulnerable to microclimate changes. Lichens are poikilohydric organisms (i.e., not able to regulate their uptake or loss of water) and dependent on an atmospheric supply of moisture and organic nutrients from precipitation, dew, or fog, therefore lichens are particularly sensitive to micro-climatic changes (Esseen and Renhorn, 1998; Kivistö and Kuusinen, 2000). Pale-bellied Frost Lichen is also dependent on old-growth and interior forest conditions that provide the necessary moisture conditions (i.e. higher levels of humidity) and moderate-to-high levels of shade, as indicated in the Recovery Strategy (Environment Canada 2016). The site and adjacent lands should therefore also be more rigorously surveyed to better understand the local extent of the species, to avoid contravention of the Endangered Species Act, 2007.

5.4.3 Results

- 5.4.3.1 As discussed later in the Recommendations section, more accurate locations for Pale-bellied Frost Lichen occurrence should be shown in Figure 1.
- 5.4.3.2 According to Comment 70 in the September 2018 Operation Plan, *“Prior to development or site alteration within the identified Pale-bellied frost lichen regulated habitat the licensee shall consult with the province and obtain an authorization under the Endangered Species Act if required.”* However, according to the “Schematic” included in the Operation Plan, the 100 m regulated habitat around the single tree where Pale-bellied Frost Lichen was found extends into the Phase 1 and 3 extraction areas. According to my calculations, approximately 8.42% of the regulated area falls within the Phase 1 extraction area, and 9.39% falls within Phase 3. Further consultations with the Ontario Ministry of Environment, Conservation and Parks (OMECP), and potentially further searches will need to occur prior to approval being granted.
- 5.4.3.3 It is unclear whether the 100 meter regulated area (Subsection 28.2(2) of O. Reg. 242/08) has ever been demonstrated as adequate to protect this species under similar quarry conditions. Notably, a 200 meter buffer is also suggested to protect the forest interior conditions required by the species (Environment Canada 2016). Given the proposed 30 – 50 m deep quarry excavation and elimination of forest cover proposed in the site plans, there will likely be significant changes to soil moisture, humidity and light penetration of any remaining canopy, especially given exposure to prevailing winds from the southwest. Dust from quarry operations may also negatively impact Pale-bellied Frost Lichen. All of these potential impacts should be identified and addressed for the remaining forest, including adjacent lands outside the licence area (120 meters).

5.4.3.4 The Freymond Quarry site plan will need to be revised, including after additional surveys take place. The current site plan indicates that the Phase 1 and 3 extraction areas extend into the 100 m regulated area around the Pale-bellied Frost Lichen, thereby contravening subsection 28.2(2) of O. Reg. 242/08 under the Endangered Species Act.

5.4.4 Recommendations

5.4.4.1 Further surveys for Pale-bellied Frost Lichen should take place to ensure no gaps in site coverage and that all occurrences have been documented and protected. This is also important because the licensed areas that are not undergoing immediate extraction may continue to be managed as a forest reserve and undetected lichen specimens could potentially be impacted by forest management activities.

5.4.4.2 Survey methodology and protection buffers should be approved by experts such as Troy McMullin, lichenologist based at the Canadian Museum of Nature. This should take place prior to any additional surveys.

5.4.4.3 If licenced areas that are not undergoing extraction continue to be subject to forest management activities, the forest management plan should be updated to reflect the presence and required protection of the Pale-bellied Frost Lichen.

5.4.4.4 If the quarry development moves forward, a monitoring program should be established to help provide clarity to the effectiveness of established habitat protection regulation (Subsection 28.2(2) of O. Reg. 242/08).

5.4.4.5 The need for additional surveys should be discussed with OMECP and it should be determined whether an Overall Benefit Permit is required under S.17(2)(c) of the Endangered Species Act.

The evidence and opinions presented in this witness statement are based on information available to me up to May 17, 2021. Any material submitted to me after this date may result in modifications to my opinions.

Prepared in Toronto, Ontario

Submitted May 17, 2021 by:



Karl R. Konze, B.Sc.
Senior Wildlife Ecologist
Dougan & Associates

Appendix A

CURRICULUM VITAE OF KARL R. KONZE



Karl Konze B.Sc.
Senior Wildlife Ecologist

Project Manager

Karl has 37 years of experience in identification of birds, amphibians, reptiles, mammals, damselflies & dragonflies, and butterflies across Ontario. Karl specializes in field ornithology and has applied these birding skills throughout Ontario, as well as in Saskatchewan, Nunavut, and Hawaii. Karl has worked with D&A for 21 years, and in addition to conducting wildlife assessments, he now directs the work of wildlife sub-consultants and manages selected natural heritage planning, monitoring and peer review studies.

Karl's expertise encompasses seasonal wildlife surveys, wildlife habitat assessments, identification of Significant Wildlife Habitat, 'Species at Risk' (SAR) legislation and regulations, wildlife monitoring (*i.e.* developing plans, conducting surveys, and reporting), ecological research, peer review input, OMB witness testimony, Migratory Birds Convention Act, and the development of lists of regionally significant wildlife. He also has an excellent knowledge of the various wildlife inventory and monitoring protocols (*e.g.*, SAR-specific, Ontario Breeding Bird Atlas, Forest Bird Monitoring Program, Marsh Monitoring Program, etc.).

Karl is involved in all aspects of the life of a project, including: background review, field assessments, data analysis, report writing, review of mapping products, quality control, client liaison, & budget administration.

EDUCATION

- 1992: B.Sc. (Hons.) University of Guelph

Continuing Education:

- 2018: St. John Ambulance STD First Aid- CPR A-AED
- 2016: Ontario Reptile & Amphibian Survey Course (Georgian Bay Islands N.P., ON)
- 2013: Regulatory Changes to ESA & FWCA Consultant Information Session (Mississauga, ON)
- 2013: Ont. End. Species Act Conference (Toronto)
- 2012: Ministry of Natural Resources' Bat Maternity Colony Training (Peterborough, ON)
- 2010: Social Marketing and Chelonian Sustainability Workshop (Toronto, ON)
- 2010: GIS Course (Conestoga College)
- 2009: Symposium on Bird Conservation in Urban Areas (Toronto, ON)
- 2006: University of Guelph Fern Workshop and Dragonflies & Damselflies Workshop (Guelph, ON)
- 2004: Linking Landscapes Symposium (Toronto)
- 2003: Ecological Land Classification Course (Turkey Point, ON)

CAREER EXPERIENCE

Prior to working with D&A, Karl worked as a research consultant and project coordinator for federal, provincial and NGO agencies engaged in wildlife management. Karl has also worked as a Bird Expert/Guide at Point Pelee N.P. every spring since 1993.

Areas of Expertise

- Surveys for: birds, 'Species-at-Risk', reptiles & amphibians, damselflies & dragonflies & butterflies
- Wildlife & "Significant Wildlife Habitat" Assessment
- Impact Assessment & Mitigation
- Wildlife Monitoring Plans & Studies
- Support for Peer Reviews & Hearings
- Mapping Support & Air Photo Interpretation

SELECT PROJECT EXPERIENCE

OMB/LPAT Hearing Support & Peer Reviews, CEAA Panel Review

- Misc. SWS Impact Study Peer Reviews (PR) (Milton)
- CNR Intermodal Facility PR, CEAA Hearing Testimony (Milton)
- Hidden Quarry LPAT (Rockwood)
- Friends of Simcoe Forests OMB (Phelpston)
- Hardy Rd/Telephone City Agg PR & OMB (Brantford)
- Acton Quarry Peer Review (Halton)
- Dundas Business Park OMB (Hamilton)
- Flamborough Quarry Peer Review (Hamilton)
- Oak Ridges Moraine OMB (Richmond Hill)
- CEAA Screening and Impact Assessment for Red Hill Creek Expressway (Hamilton).

Watershed & Large-scale Natural Heritage Studies

- Milton Urban Expansion Area SWS (Milton)
- 16 Mile Cr. Subwatershed Update Study (Milton)
- Erbsville South Environmental Study (Waterloo)
- Barrie Secondary Plan (Barrie)
- Toronto ESA, PSA & ANSI Inventories (Toronto)
- Peel & Caledon Significant Wildlife Habitat Study
- Mt. Pleasant Subwatershed (SW) Study (Brampton)
- City of Guelph Natural Heritage Strategy (Guelph)
- Hespeler West & Forbes Ck SW Studies (Cambridge)
- Indian Creek SWS Subwatershed Study (Milton)
- Red Hill Creek Watershed Study (Hamilton)

Site Specific Wildlife Assessments & Surveys

- Maple Leaf Foods Species at Risk (Hamilton)
- Mayfield West Secondary Plan (Caledon)
- ORC Natural Heritage Study (Cambridge)
- Lyons Creek Wetlands Assessment (Welland)



Karl Konze B.Sc.
Senior Wildlife Ecologist

Project Manager

- Huron Natural Area Assessment (Kitchener)
- Rare Snake Surveys (Bruce Peninsula National Park)

Wildlife Research & Monitoring Studies

- Metrolinx/GO Transit Bobolink & Eastern Meadowlark Monitoring (Richmond Hill & Uxbridge)
- Biggars Lane Landfill Bat Surveys (Mt. Pleasant)
- Maple Leaf Foods Bobolink Monitoring (Binbrook)
- Agnico Eagle Mines Ltd. Bird Monitoring (Nunavut)
- Nestlé Waters Terrestrial Monitoring (Guelph & Erin)
- Milton Phase 2 & 3 Holistic Monitoring (Milton)
- City of Toronto Migratory Birds Study
- Impacts of Wind Turbines on Birds & Bats – Literature Review & Policy Input (Essex County)
- Hwy 401 Deer Monitoring Study (MTO)
- TRCA Urban Stream Crossing Guidelines (GTA)

Environmental Impact Studies/Assessments

- Kafco Homes EIS (Strathroy)
- 4597 Aurora Road EIS (Whitchurch-Stouffville)
- Northgate Business Park EIS (Burlington)
- Newmarket Islamic Centre EIS & TPP (Newmarket)
- U of G Turfgrass Institute EIS (Guelph)
- 471045 A Line EIS (Orangeville)
- Amaranth Estate EIS (Shelburne)
- Southeast Galt EISs (Cambridge)
- Regal Place Scoped EIS (Waterloo)
- Community Beaches EIA (Hamilton)

Environmental Assessments (EAs)

- Idlewood Creek Erosion EA (Kitchener)
- Bridges 33, 344, and 451 EA (Flamborough)
- Greenhill Ave. Storm Drainage EA (Hamilton)
- Dartnall Road and Rymal Road Class EA (Hamilton)
- Louis St. Laurent Creek Crossing (Milton)
- Waterdown Rd. Intersection (Burlington)

PROFESSIONAL ACTIVITIES (volunteer)

- Assistant editor of *Ontario Birds*, Journal of the Ontario Field Ornithologists (2011 – 2012)
- Species account author and reviewer for the Atlas of the Breeding Birds of Ontario (2006 – 2007)
- CVC 'Species of Conservation Concern' wildlife working group member (2004 – 2005)
- Remote field surveyor (James Bay & Hudson Bay) for Ontario Breeding Bird Atlas (2003 – 2004)

SELECTED PAPERS & PRESENTATIONS

Konze, K. 2012. Comet Darter (*Anax longipes*) – Another record from the Hamilton Study Area and a review of Canadian records. *The Wood Duck*. 65(9): 201 – 203.

Konze, K. 2011. Citrine Forktail (*Ischnura hastata*) – First documented record for the Hamilton Study Area. *The Wood Duck*. 65(3): 51 – 53.

Konze, K. 2011. Significant Wildlife Habitat. Invited Speaker at Principles of Landscape Ecology course, U of G, Nov. 23rd, 2011, Nov. 10th 2010, and Nov. 4th 2009.

Konze, K. 2009. Migratory Birds in the City of Toronto. Co-presenter at Symposium on Bird Conservation in Urban Areas, Toronto. November 19th, 2009.

Konze, K. 2009. Development of Criteria and Thresholds for Significant Wildlife Habitat in the Region of Peel & Town of Caledon. Invited Speaker at Ministry of Natural Resources' Planners Forum, September 22nd, Newmarket, 2009.

Konze, K. 2007. Long-eared Owl. Pg. 300 – 301, *In*, Atlas of the Breeding Birds of Ontario, 2001 – 2005 (Cadman *et al.*, 2007) xxii + 706 pp.

Konze, K. 2005. Current Wildlife Planning Issues in Ontario. Speaker: Restoration Ecology Pgrm., Niagara College, Apr. 8.

Coady, G., M. K. Peck, K. R. Konze and G. Binsfeld. 2005. An unusual ground nest of the Merlin. *Ontario Birds* 23(1): 15-19.

Peck, M.P. G. Coady, G. Binsfeld and K. R. Konze. 2004a. First Documented Nest Record of Pine Grosbeak in Ontario. *Ontario Birds* 22(1): 2 – 8.

Peck, M.P. G. Coady, G. Binsfeld and K. R. Konze. 2004b. First Documented Nest Record of Bohemian Waxwing in Ontario. *Ontario Birds* 22(1): 9 – 14.

Peck, M.P. G. Coady, G. Binsfeld, K. R. Konze, P.C. Hodgson, and S. Furino 2004. Ontario Breeding Bird Atlas expeditions yield additional information on Solitary Sandpiper nests. *Ontario Birds* 22(3): 120 – 124.

Konze, K. 2000. Point Pelee National Park (chapter revision), *In A Bird Finding Guide to Canada*, Revised. Ed. J. Cam Finlay. McClelland & Stewart Inc., pp. 209 – 212.

Konze, K. and A. Wormington. 2000. Point Pelee National Park and Vicinity Checklist of Birds. 10th ed.

Konze, K. and M. McLaren. 1997. Wildlife monitoring programs and inventory techniques for Ontario. OMNR, Northeast Science & Technology Manual, TM-009, 139 p.

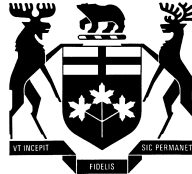
Konze, K. 1993 – 1998. The Annual Spring Migration Summary. Point Pelee National Park. Point Pelee, ON

AWARDS

Team member: 2009 Excellence in Planning Award in the Research/New Directions category, Ontario Professional Planners Institute for the *Peel-Caledon Significant Woodlands and Significant Wildlife Habitat Study*.

Appendix B

ACKNOWLEDGEMENT OF EXPERTS' DUTY



Ontario

Local Planning Appeal Tribunal
Tribunal d'appel de l'aménagement local

ACKNOWLEDGMENT OF EXPERT'S DUTY

Case Number	Municipality
L190595, MM190020	Township of Faraday

1. My name is Karl Konze. I live in the City of Toronto, in the Province of Ontario.
2. I have been engaged by or on behalf of No Place for a Quarry to provide evidence in relation to the above-noted LPAT proceeding.
3. I acknowledge that it is my duty to provide evidence in relation to this proceeding as follows:
 - a. to provide opinion evidence that is fair, objective and non-partisan;
 - b. to provide opinion evidence that is related only to matters that are within my area of expertise; and
 - c. to provide such additional assistance as the LPAT may reasonably require, to determine a matter in issue.
4. I acknowledge that the duty referred to above prevails over any obligation which I may owe to any party by whom or on whose behalf I am engaged.

May 17, 2021

Date.....

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Signature

Appendix C

LIST OF REFERENCE MATERIALS, DOCUMENTS AND CORRESPONDENCE REVIEWED

- BSC (Bird Studies Canada). 2009.** Marsh Monitoring Program Participant's Handbook for Surveying Amphibians. 2009 Edition. 13 pages. Published by Bird Studies Canada in cooperation with Environment Canada and the U.S. Environmental Protection Agency. February 2009.
- Cadman, M.D., D.A. Sutherland, G.G. Beck, D. Lepage, and A.R. Couturier (eds.) 2007.** Atlas of the Breeding Birds of Ontario, 2001 – 2005. Bird Studies Canada, Environment Canada, Ontario Field Ornithologists, Ontario Ministry of Natural Resources, and Ontario Nature, Toronto. xxii + 706 pp.
- Chambers, B.A., B.J. Naylor, J. Nieppola, B. Merchant and P. Uhlig. 1997.** Field guide to forest ecosystems of Central Ontario. Ontario Ministry of Natural Resources, Central Ontario Forest Technology Development Unit, North Bay. 200 pp.
- Craig, R.E. 2016.** Natural Environmental Levels 1 and 2 Technical Report. Freymond Lumber Ltd. Quarry, Faraday Township, Hastings County. November 2016. 33 pp + appendices.
- Craig, R.E. 2018.** Re: Response to the Technical Peer Review Comments. Letter report dated April 9, 2018. 8 pp.
- Environment Canada. 2016.** Recovery Strategy for the Pale-bellied Frost Lichen (*Physconia subpallida*) in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. 22 pp. + Annexes.
- Esseen, P. and Renhorn, K. 1998.** Edge effects on an epiphytic lichen in fragmented forests. *Conservation Biology* 12(6): 1307-1317.
- Government of Ontario. 2007.** Endangered Species Act, Statutes of Ontario (2007, c. 6). Retrieved from the ServiceOntario e-Laws website: http://www.e-laws.gov.on.ca/html/statutes/english/elaws_statutes_07e06_e.htm
- Grail Springs Retreat Centre for Wellbeing Inc. 2017.** Opposition letter dated July 5, 2017 from Madeleine Marentette (Grail Spring Spa) to Dawn Switzer, Clerk-Treasurer and Tax Collector, Township of Faraday. 8 pp.
- Greer Galloway Consulting Engineers. 2017a.** Technical Peer Review. Natural Environmental Levels 1 and 2 Technical Report. Proposed Freymond Lumber Ltd. Quarry. Letter report dated July 5, 2017. 3 pp.
- Greer Galloway Consulting Engineers. 2017b.** Peer review of MTE Consultants Inc. document entitled: Proposed Freymond Quarry, Final Level 1 and Level 2 Hydrogeological Investigation Report. Letter report dated August 4, 2017. 11 pp.
- Hall, P.W., C. D. Jones, A. Guidotti, and B. Hubley. 2014.** The ROM Field Guide to Butterflies of Ontario. Royal Ontario Museum, Toronto. 488 pp.
- Harding, J.M. 1997.** Amphibians and Reptiles of the Great Lakes Region. University of Michigan Press. Ann Arbor, Michigan. 378 pp.

- Hounsell, S.W. 1989.** Methods for assessing the sensitivity of forest birds and their habitats to transmission line disturbances. Ontario Hydro, Land Use and Environmental Planning Department, stations and Transmission Programs Group, Toronto, Ontario. 616pp.
- Johnson, B. 1989.** Familiar Amphibians and Reptiles of Ontario. Natural Heritage/Natural History Inc. Toronto, Ontario. 168 pp.
- Kivistö, L. and M. Kuusinen. 2000.** Edge effects on the epiphytic lichen flora of *Picea abies* in the middle boreal Finland. *Lichenologist* 32(4): 387-398.
- Lee, H., W. Bakowsky, J.L. Riley, M. Puddister, P. Uhlig and S. McMurray. 1998.** An Ecological Community Classification for Southern Ontario: A First Approximation. Southern Region Science and Technology Transfer Unit, Ontario Ministry of Natural Resources. Natural Heritage Information Centre, Peterborough, Ontario. Southern Region Site Region Planning, Ontario Ministry of Natural Resources. Terrestrial Ecosystems Branch, Ontario Forest Research Institute, Sault Saint Marie, Ont.
- Lewis, C.L. 2011.** Recovery Strategy for the Pale-bellied Frost Lichen (*Physconia subpallida*) in Ontario. Ontario Recovery Strategy Series. Prepared for the Ontario Ministry of Natural Resources, Peterborough, Ontario. vi + 24 pp.
- MHBC (MacNaughton Hermson Britton Clarkson Planning Limited). 2016.** Planning Justification Report & Aggregate Resources Act Summary Statement. Freymond Quarry. December 2016. 21 pp + figures and appendices.
- MHBC (MacNaughton Hermson Britton Clarkson Planning Limited). 2016.** Visual Impact Analysis Report. Reymond Quarry. December 2016. 3 pp + figures and appendices.
- MHBC (MacNaughton Hermson Britton Clarkson Planning Limited). 2018a.** Email correspondence from Brian Zeman (MHBC) to various staff at MOECC dated July 18, 2018.
- MHBC (MacNaughton Hermson Britton Clarkson Planning Limited). 2018b.** Revised ARA Site Plan drawing dated September 2018. Includes: Figure 1 (Existing Features), Figure 2 (Operation Plan), and Figure 3 (Rehabilitation Plan).
- MHBC (MacNaughton Hermson Britton Clarkson Planning Limited). 2018c.** Letter from Brian Zeman (MHBC) to Justin Harrow (Director of Planning, County of Hastings) and Dawn Switzer (Clerk – Treasurer & Tax Collector, Township of Faraday) dated December 20, 2018 and including the following documents:
- Tab A: Sign-off Letter from the Ministry of Natural Resources and Forestry, December 12, 2018
 - Tab B: Sign-off Email from the Ministry of the Environment, Conservation and Parks, July 19, 2018
 - Tab C: Sign-off Letter from the Department of Fisheries and Oceans, November 19, 2018
 - Tab D: Sign-off Letter from the Ministry of Tourism, Culture and Sport, November 18, 201
 - Tab E: Natural Environment Report County Peer Review Sign-off, June 27, 2018
 - Tab F: Water Resources Report County Peer Review Sign-off, August 31, 2018
 - Tab G: Traffic Report County Peer Review Sign-off, August 15, 2018
 - Tab H: Blasting and Noise Report County Peer Review Sign-off, December 7, 2018
 - Tab I: Noise Assessment prepared for Grail Springs Wellness Retreat, July 24, 2017
 - Tab J: Aggregate Resources Act objector response letter provided to Grail Springs Wellness Retreat, November 19, 2018
- MTE (MTE Consultants Inc.). 2016.** Proposed Freymond Quarry Final Level 1 and Level 2 Hydrogeological Investigation Report. December 1, 2016. MTE File No.: 33886-100. 31 pp. +figures and appendices.

- MTE (MTE Consultants Inc.). 2018.** Response to Township Peer Review Comments, August 4, 2017 Re: Level 1 and Level 2 Hydrogeological Investigation Report. Proposed Freymond Quarry. Letter report dated May 1, 2018. 25 pp. +figures and appendices.
- OMACP (Ontario Ministry of the Environment, Conservation and Parks). 2019.** Eastern wood-pewee. Queen's Printer for Ontario. Retrieved from: <https://www.ontario.ca/page/eastern-wood-pewee>. Published: July 18, 2014. Updated: May 3, 2019.
- OMMAH (Ontario Ministry of Municipal Affairs and Housing). 2020.** Provincial Policy Statement, 2020. 53 pp. Available at: <https://www.ontario.ca/page/provincial-policy-statement-2020>
- OMNR (Ontario Ministry of Natural Resources). 2010.** Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Ontario Ministry of Natural Resources. Second Edition. March 18, 2010. Available at: <https://dr6j45jk9xcmk.cloudfront.net/documents/3270/natural-heritage-reference-manual-for-natural.pdf>
- OMNRF (Ontario Ministry of Natural Resources and Forestry). 2015a.** Survey Protocol for Blanding's Turtle (*Emydoidea blandingii*) in Ontario. Species Conservation Policy Branch. Peterborough, Ontario. ii + 16 pp.
- OMNRF (Ontario Ministry of Natural Resources and Forestry). 2015b.** Significant Wildlife Habitat Criteria Schedules for Ecoregion 5E, January, 2015. 45 pp. Available at: <https://www.ontario.ca/document/significant-wildlife-habitat-ecoregional-criteria-schedules-ecoregion-5e>
- OMNRF (Ministry of Natural Resources and Forestry). 2018.** Letter report from Trevor Harris (District Planner, Bancroft District OMNRF) to Brian Zeman (MHBC) dated May 22, 2018 re: Application for Licence under the Aggregate Resources Act (ARA) Class 'A' Licence, Category 2 Quarry 2287 Bay Lake Road: Part of Lots 51 and 52, Concession W.H.R. Township of Faraday, County of Hastings. Letter was in response to information provided to OMNRF by MHBC on April 3, 2018 which contained a letter from R. Craig providing a response to OMNRF comments as well as RiverStone Environmental Solution Inc.'s Pale-bellied Frost Lichen Survey report. These documents were provided in response to the concerns raised by OMNRF in their April 3, 2017 letter.
- OMOEC (Ontario Ministry of the Environment and Climate Change). 2018a.** Letter from Thomas Guo (Hydrologist, OMOEC) to Paul Shalla (Aggregate Technical Specialist, Bancroft District OMNRF) dated May 31, 2018. 5 pp.
- OMOEC (Ontario Ministry of the Environment and Climate Change). 2018b.** Email from Thomas Guo (Hydrologist, OMOEC) to Brian Zeman dated July 19, 2018.
- RiverStone Environmental Solutions Inc. 2017a.** Pale-bellied Frost Lichen Survey. Freymond Quarry, Township of Faraday. July 2017. 4 pp. + figures and appendix.
- RiverStone Environmental Solutions Inc. 2017b.** Fisheries Information – Response to County Peer Review Comments (July 5, 2017) Freymond Quarry, 2287 Bay Lake Road, Faraday Township. Letter report dated December 14, 2017. 6 pp. + figure.
- Rowell, J.C. 2012.** The Snakes of Ontario – Natural History, Distribution, and Status. 411 pp.
- Watt, D. J., J. P. McCarty, S. W. Kendrick, F. L. Newell and P. Pyle. 2017.** Eastern Wood-Pewee (*Contopus virens*), version 2.0. In The Birds of North America (P. G. Rodewald, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.eawpew.02>

APPENDIX A



Ontario
Local Planning Appeal Tribunal
Tribunal d'appel de l'aménagement local

ACKNOWLEDGMENT OF EXPERT'S DUTY

Case Number L190595, MM190020	Municipality Township of Faraday
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May 17, 2021

Date.....

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Signature

APPENDIX B

Karl Konze, BSc, Senior Wildlife Ecologist

Karl has almost 30 years of experience in identification of birds, amphibians, reptiles, mammals, damselflies & dragonflies, and butterflies across Ontario. Karl specializes in field ornithology and has applied these birding skills throughout Ontario as well as in Saskatchewan and Hawaii. His expertise encompasses seasonal wildlife surveys, wildlife habitat assessments, wildlife monitoring, ecological research, peer review input and OMB witness testimony, and the development of regional significant wildlife species lists. He also has an excellent knowledge of the various protocols used in wildlife inventory and monitoring programs.

kkonze@dougan.ca; 519-822-1609