

November 5, 2019

Friends of Simcoe Forests Inc.
c/o Bob and Mary Wagner
2928 Horseshoe Valley Road West
Phelpston, Ontario, L0L 2K0

**Re: Peer Review of Compensation Planting Plan, Proposed Environmental Resource Recovery Center, 2976 Horseshoe Valley Road West, Springwater, Ontario
Prepared by GHD**

Dear Mr. and Mrs. Wagner:

Dougan & Associates (D&A) was retained by Friends of Simcoe Forests Inc. in March 2017 to complete a peer review of the terrestrial resources information contained within the report *Scoped Environmental Impact Study, Proposed Environmental Resource Recovery Center, Springwater, Ontario* prepared by GHD Ltd. (November 17, 2016).

This peer review applied Dougan & Associates standard approach for reviews of natural heritage planning reports, which focuses on whether the EIS adequately reflects relevant protocols and interpretation as required under the Provincial Policy Statement (OMMAH 2014) and its guiding documents, such as the Natural Heritage Reference Manual 2nd Ed. (OMNR 2010), Significant Wildlife Habitat Technical Guide (OMNR 2000), and other provincial references, as well as the Simcoe County Official Plan (2007) and other local documents, including the Simcoe County Forest Plan (2011) and the Simcoe County ONE SITE – ONE SOLUTION (2016) document. D&A peer review authors also completed a site review on May 3, 2017 to review existing conditions on the site, have reviewed an updated report titled *Amended Scoped Environmental Impact Study, Proposed Environmental Resource Recovery Center, Springwater, Ontario* prepared by GHD Ltd. (February 1, 2019), and related updated documents, and have prepared an affidavit based on our review of the original and amended scoped EIS.

This letter details our review of the report *Compensation Planting Plan, Proposed Environmental Resource Recovery Center, 2976 Horseshoe Valley Road West, Springwater, Ontario*, also by GHD, which describes habitat compensation work proposed to mitigate impacts associated with development of the *Environmental Resource Recovery Center (ERRC)*, as proposed in the amended scoped EIS.

GOALS AND OBJECTIVES OF THE COMPENSATION PLANTING PLAN

The primary objective of the compensation planting plan is stated to be *“to increase contiguous forest habitat, enhance native species biodiversity, and provide habitat for regionally rare species.”* Additional objectives include:

- Detail mitigation of the vegetation and habitat removal associated with the ERRC facility development, including both the tree/forest removals and displacement of regionally rare species.
- Achieve afforestation at a 2:1 ratio to “expand and/or enhance the contiguous woodland feature, focusing on areas that are as close to the Site as possible (within 5 km), and in location(s) that enhance or increase the available interior forest habitat of the larger contiguous Copeland Forest feature.”

MAJOR COMMENTS

In our review of the Compensation Planting Plan document (hereafter referred to as the “CPP”), D&A have identified the following major inadequacies and/or inconsistencies in the report:

1. Significant Wildlife Habitat

- The Amended EIS acknowledged the presence of four SWH types in the Study Area, namely: “Bat Maternity Colonies”, “Amphibian Breeding Habitat (Woodland)”, “Woodland Area-Sensitive Bird Breeding Habitat” and “Species of Conservation Concern”. D&A also notes that “Woodland Raptor Nesting Habitat” may be present, but the surveys conducted by GHD are inadequate to determine presence/absence.
- Compensation for impacts to Bat Maternity Colony habitat, Woodland Area-Sensitive Bird Breeding Habitat, and Woodland Raptor Nesting habitat may be possible at the Orrock Creek Tract, however this would only be achieved once the proposed compensation areas are reforested and have aged sufficiently. This compensation site alone does not, however, offer adequate area to compensate for the proposed area of impact at the Freele Tract.
- The Museum Tract may provide some suitable compensation habitat for Bat Maternity Colonies and Woodland Area-Sensitive Bird Breeding Habitat, but only after several decades (*i.e.* 30 to 40 years or more) have passed since it is currently being prepared as habitat for Kirtland’s Warbler, an Endangered species. This species requires early successional Jack Pine forest from 5 to 23 years of age (Bocetti *et al.*, 2014), a habitat type not present on the Freele Tract site. In addition, the Museum Tract is very unlikely to offer direct compensation for the loss of “Amphibian Breeding Habitat (Woodland)”, since there doesn’t appear to be any wetlands nearby, let alone those that support Spotted Salamanders.

2. Species at Risk

- Eastern Wood-Pewee and Wood Thrush habitat at the Freele Tract was never mapped. Therefore, it isn’t clear how much of their habitat will be negatively impacted by the proposed facility footprint and its associated noise and disturbance, and whether the replacement habitat would fully compensate for the loss. Regardless, neither of the compensation sites have the potential to provide suitable replacement habitat for these Species at Risk, at least not until several decades of growth have passed and the habitat becomes more compatible with their habitat requirements. Furthermore, the Museum Tract will be actively managed for Kirtland’s Warbler for at least the next 20 years, if not for the long term. Assuming it is allowed to naturally succeed to a mixedwood community after this time, only then will it be able to have any potential as compensation habitat.
- Compensation for Eastern Whip-poor-will habitat impacts has not been incorporated into the CPP, likely because GHD doesn’t believe any such habitat exists at the Freele Tract.

3. Vegetation

- Transplantation is only proposed for one locally significant plant species; details of transplant site selection and monitoring plan are insufficient to determine if the monitoring and management for False Sunflower will result in the long-term survival of the transplanted species.
- Vegetation community types to be created as part of the CPP are not the same as the vegetation community types to be destroyed and/or degraded at the Freele Tract, with no rationale provided for this choice. In addition, the proposed Kirtland's Warbler habitat to be created at the Museum Tract is entirely different than the habitat which will be disturbed, either directly or indirectly. Neither compensation site will provide comparable habitat to the FODM5 / FOD5-1 vegetation community which is the dominant vegetation community where the ERRC facility will be located.

DETAILED COMMENTS

In addition to the major comments summary, D&A staff have other comments that support or supplement our major comments, organized according to the sections and pages of our March 22, 2019 affidavit.

Significant Wildlife Habitat

Comment 30, page 7, 8: "Bat Maternity Colonies" SWH

- Limits of "Bat Maternity Colonies" SWH was not defined or mapped; it is unclear if proposed development will negatively impact this SWH
- **CPP analysis:**
 - Compensation for any lost habitat would only occur once the proposed compensation areas are reforested and are of sufficient age to provide the features necessary for bat maternity colonies. Furthermore, it isn't even clear whether the Kirtland's Warbler habitat being created at the Museum Tract, *i.e.* Jack Pine forest from 5 to 23 years of age (Bocetti *et al.*, 2014), will be allowed to undergo natural succession and mature afterwards, or whether it will end up undergoing another round of habitat management for the species.

Comment 31, page 8: "Amphibian Breeding Habitat (Woodland)" SWH

- The presence of Spotted Salamander egg masses in ponds north and SE of the proposed facility trigger SWH designation. The area considered SWH includes a 230 m woodland buffer around the wetland. This is consistent with Petranks (1998): "Salamanders of the United States and Canada": "*Protecting and preserving a 200- to 250-m radius of deciduous forest around vernal ponds are essential for maintain healthy populations of spotted salamanders.*"
- The amended EIS does not indicate how the proposed undertaking will negatively impact SWH.
- According to our calculations:
 - The North wetland buffer overlaps with 11% (0.50 ha) of the proposed facility footprint. If the 120 m adjacent lands to the SWH are also included, it overlaps with 74.7% (3.40 ha) of the proposed facility (Figure 1).
 - The Southeast wetland buffer overlaps with 400 m of the proposed access road. If the 120 m adjacent lands are also included, it overlaps with 555 m of the proposed access road (Figure 1).

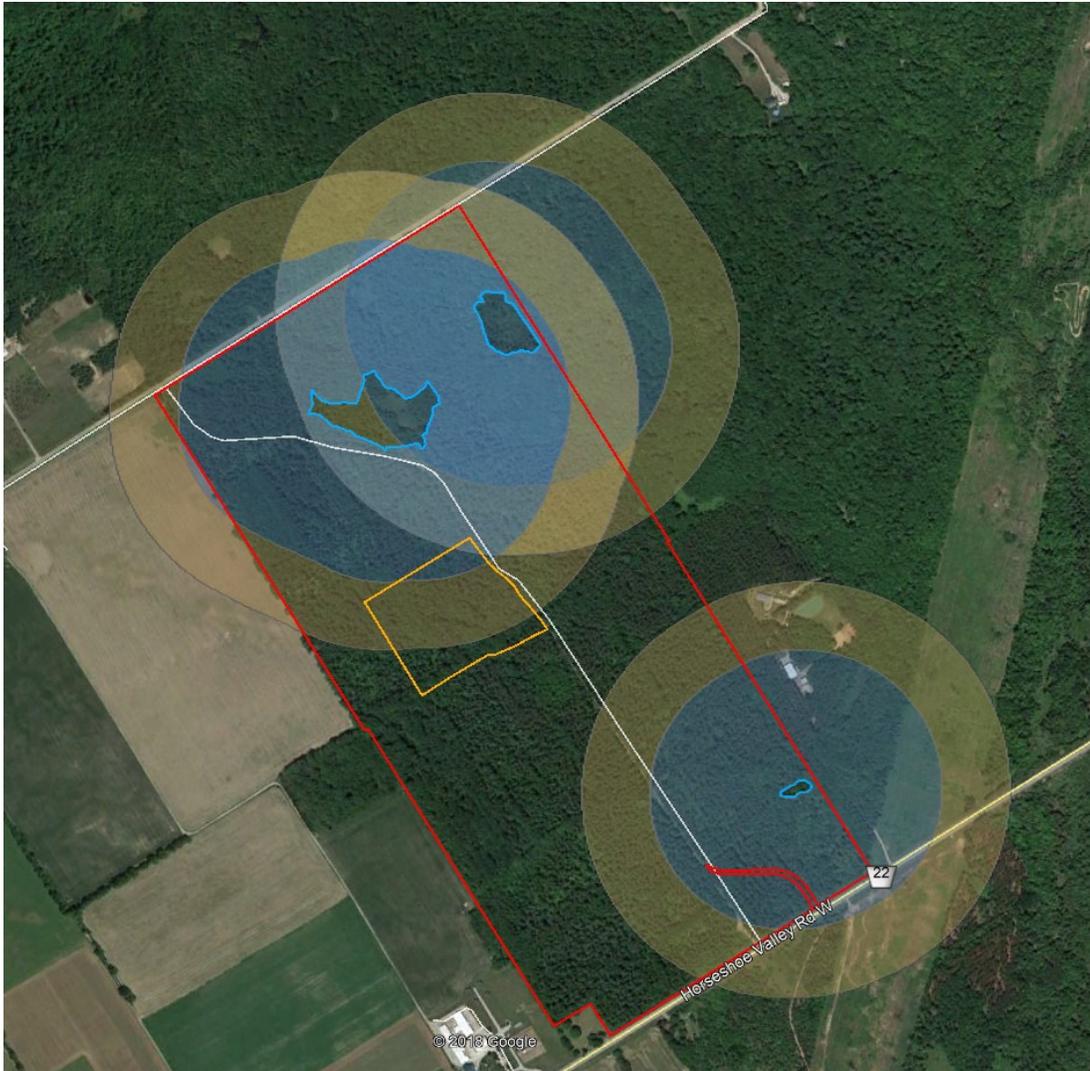


Figure 1: Amphibian Habitat Analysis at Freele Tract (by D&A)

- According to Petranka (1998): “Mature deciduous forests with vernal ponds offer optimal habitats for this species, but local populations also inhabit coniferous and mixed coniferous-deciduous forests.”
- **CPP analysis:**
 - Although there is wetland habitat adjacent to the proposed Orrock Creek North Tract compensation site, there is no data provided to demonstrate that it supports breeding habitat for Spotted Salamanders and is considered SWH. Therefore, it isn’t clear whether the proposed restoration would ever be able to compensate for the foraging habitat lost at the Freele Tract. Besides, it would easily take half a century or more before the reforested habitat was mature enough to provide suitable foraging habitat for the species. It also seems likely that the sandy soils present would tend to diminish its suitability for the species.
 - As for the proposed Museum Tract compensation site, there are apparently no wetlands nearby, let alone any suitable for Spotted Salamanders.

Comment 32, page 9: “Woodland Area-Sensitive Bird Breeding Habitat” SWH

- The Amended EIS did not define or map the limits of this SWH type within the Study Area. According to the SWHCS for Ecoregion 6E, *“interior forest habitat is at least 200 m from forest edge habitat”*; the majority of the site qualifies as SWH.
- Contrary to Policy 2.1.5 of the PPS, the Amended EIS also did not acknowledge that the proposed development, located roughly in the centre of the Study Area, would partially eliminate and therefore negatively impact the SWH. In fact, they conclude on page 30 that *“The development of the ERRC will not result in a negative impact...”*
- **CPP analysis:**
 - According to our calculations, 18.90 ha of forest interior habitat (*i.e.* forest habitat 200 m away from the forest edge) would be lost as a result of the proposed facility footprint. If the facility doubled in size later, the amount of forest interior lost would be about 23.65 ha.
 - Of the two compensation sites being proposed, only the Orrock Creek North Tract site would be able to provide any compensation for this loss. The Museum Tract compensation site location is surrounded by railroad tracks, Anne Street, and Snow Valley Road, eliminating any possibility of forest interior habitat creation. Reforestation of the Orrock Creek North Tract site would result in an increase of 9.85 ha of forest interior habitat, which is still only 52.1% of the forest interior habitat lost.

Comment 33, pages 10, 11: “Special Concern and Rare Species” SWH

- The Amended EIS acknowledged that two ‘Special Concern’ Species at Risk were documented in the Study Area: Eastern Wood-Pewee and Wood Thrush.
- However, the exact habitats occupied by the species were not mapped or adequately identified. According to the SWHCS for Ecoregion 6E, *“The area of the habitat to the finest ELC scale that protects the habitat form and function is the SWH, this must be delineated through detailed field studies. The habitat needs to be easily mapped and cover an important life stage component for a species e.g. specific nesting habitat or foraging habitat.”*
- Since the Amended EIS did not map or provide detailed habitat information for the two bird species, it is not possible to determine adequately whether the proposed development will not negatively impact the species or its habitat. As a result, it is not clear whether the EIS findings comply with Policies 2.1.5 and 2.1.8 of the PPS.
- **CPP analysis:**
 - Neither of the compensation sites have the potential to provide suitable replacement habitat for these Species at Risk, at least not until several decades of growth have passed and the habitat becomes more compatible with their habitat requirements. Furthermore, the Museum Tract will be actively managed for Kirtland’s Warbler for at least the next 20 years, if not for the long term. Assuming it is allowed to naturally succeed to a mixedwood community after it becomes overmature for Kirtland’s Warbler, only then will it have any potential as compensation habitat.

Comment 34, pages 11, 12: “Woodland Raptor Nesting Habitat” SWH

- Three of the six indicator species were documented by GHD.
- According to the Amended EIS, *“Due to the observation of red-shouldered hawk and broad-wing hawk during field investigations, the Study Area was identified as candidate SWH for Woodland Raptor Nesting Habitat. During the 2017 leaf-off season, a stick nest survey was conducted to determine the presence or absence of nesting raptors.”*

- The completion of a single stick nest survey is not enough to conclude that the SWH is absent from the study area. Also, Barred Owl was apparently not targeted during the stick nest survey.
- **CPP analysis:**
 - Given the fact that the surveys were inadequate to determine if this SWH was present, it isn't possible to conclude whether the proposed facility footprint and its associated noise and disturbance will not negatively impact this SWH. However, of the two compensation sites, the Orrock Creek North Tract has the most potential to provide replacement habitat, after it has become a mature forest. The Museum Tract compensation site will be managed for Kirtland's Warbler, meaning it won't be suitable for at least several decades, and assuming it isn't subject to another round of habitat management. Furthermore, its close proximity to a number of roadways/railroads also lessens its attractiveness as suitable compensation habitat.

Comment 35, pages 12, 13: Adjacent Lands

- The amended EIS does not clearly address whether the proposed development will have negative impacts on Adjacent Lands.

Our concerns re: Species at Risk

Comments 45, 46, page 15: Eastern Whip-poor-will

- We disagree with GHD that no suitable Eastern Whip-poor-will habitat is present in the study area. As a result, we believe it is premature to conclude that the proposed development would not negatively impact this Threatened species, at least before targeted surveys are conducted.
- **CPP analysis:**
 - Given the fact that no surveys to detect this species have been conducted, it is impossible to know how much of its habitat might be negatively impacted, and therefore how much would need to be compensated, if allowed.
 - Since Eastern Whip-poor-will is designated "Threatened" in Ontario, the species and its general habitat are automatically protected under the Endangered Species Act.
 - The General Habitat Description for Eastern Whip-poor-will recognizes three categories of habitat. (<https://www.ontario.ca/page/eastern-whip-poor-will-general-habitat-description#foot->*).
 - Category 1 = Nest and the area within 20 m of the nest. Nests are highly sensitive features and have the lowest tolerance to alteration.
 - Category 2 = The area between 20 m and 170 m from the nest or centre of approximated defended territory. Category 2 habitats are considered to have a moderate level of tolerance to alteration.
 - Category 3 = The area of suitable habitat between 170 m and 500 m of the nest or centre of approximated defended territory. Category 3 habitats are considered to have a high level of tolerance to alteration.
 - Exactly how much habitat requires protection, or alternatively, how much alteration is acceptable, isn't clear and depends on what impacts it might be subject to. The General Habitat Description goes on to state that hiking and non-motorized vehicle use of existing recreational trails, as well as small-scale selective removal of individual trees, are "generally compatible". In contrast, large scale development or other activities that result in significant alteration or clearing of vegetation, as well as indiscriminate application of pesticides within habitat, are "generally not compatible". It seems clear that the proposed facility should be considered a use that is not generally compatible.

- Given that Eastern Whip-poor-wills are usually found in areas with a mix of open and forested areas, such as savannahs, open woodlands or openings in more mature, deciduous, coniferous and mixed forests, suggests that reforestation of the Orrock Creek North Tract would likely result in a loss of potential Eastern-Whip-poor-will habitat, assuming the species was currently present. Reforestation would ultimately eliminate the openings it requires. At the very least, it wouldn't add any additional habitat. It is also debateable whether the reforestation geared at providing Kirtland's Warbler habitat at the Museum Tract compensation site will end up providing any additional suitable habitat for Eastern Whip-poor-will in the long-term. According to Sandilands (2010), *"The Whip-poor-will appears to avoid extensive areas of pure conifers (except for plantations), preferring young poplar-birch stands, successional areas, and hardwood and mixed-wood forests as mature as pole stage."* Also, *"Inhabited forests tend to be open with well-spaced trees and low canopy, or have small to medium sized openings."* According to the September 14, 2018 Tree Planting Site Plan, 151,900 trees will be planted in 52.6 ha of land, resulting in a density of 0.29 trees/m² (which is considered relatively dense). At the very least, preventing access by motorized vehicles will eliminate the risk of potential fatalities to any ground nesting Eastern Whip-poor-wills.

Comment 47, page 15: Jefferson Salamander

- Potential habitat for Jefferson Salamander was not surveyed for the species.
- **CPP analysis:**
 - Therefore, it is not known if the species is present and whether it would be negatively impacted by the proposed development. Also, compensation for this species isn't allowed under the Endangered Species Act.
 - If compensation was allowed, see comments on the "Amphibian Breeding Habitat (Woodland)" SWH.

Our concerns re: Vegetation

Comment 54, page 18: Locally Significant Plant Species

- GHD observed seven locally significant plant species during their field work, some of which are located in Ecological Land Classification (ELC) communities that will be disturbed by development. Locations are given only for False Sunflower (*Helianthus helianthoides*); the regional significance of the remainder of the regionally rare species is downplayed without reference to why the species may be widespread in Simcoe County. An understanding of the abundance and location of the remaining locally significant plants on the study site as well as references to support claims of non-significance would give a more quantified understanding of the impacts to these populations due to the proposed work. In the CPP, transplantation as a mitigation strategy, is only provided for False Sunflower.
- **CPP analysis:**
 - A transplanting plan is provided for False Sunflower (*Helianthus helianthoides*); the plan includes standard components of such plans such as timing of transplant work, details of dig and transplant receiver sites, and monitoring.
 - Transplant sites are noted to be *"similar to the species' existing location at the Freele Tract"*, however the vegetation data provided in Section 4.11 states that the portions of Orrock Creek North Tract outside the 1.6 ha anthropogenic sand barren is comprised of *"patchy open areas and young scots pine, with a minor component of native tree species"*. None of the habitats noted in the Amended Scoped EIS (2018) nor observed by D&A in our 2017

site visit match this description of habitat, therefore the transplant sites may not be adequate for the ecological needs of False Sunflower.

- The monitoring plan is not thorough enough to determine if the monitoring and management for False Sunflower will result in the long-term survival of the transplanted species. For example, the monitoring plan does not note if watering is recommended during the first year of establishment, nor at what point the >50% of transplant success rate needs to be determined to decide if supplemental seeding is needed. Also if seeding is required no monitoring protocol is provided for the seeded plants.

Comments 52, 53, 55 pages 17, 18: Impacts to vegetation communities

- In the EIS the impact description for vegetation communities identifies that vegetation will be lost and that permanent alteration of wetland habitat may occur. Mitigation including enhancement and habitat offsetting is suggested but details of these measures are not provided.
- **CPP analysis:**
 - Vegetation community types to be created are not the same as the vegetation community types to be destroyed and/or degraded at the Freele Tract. The footprint of the proposed facility is largely within the vegetation community defined variably in the EIS as FODM5 and FOD5-1 (see Figure 4 in EIS); this community is described in the EIS as *"The canopy is dominated by sugar maple with red oak, American beech, and black locust (Robinia pseudoacacia) occurring in varying quantities throughout."* During D&A's 2017 site visit, this area was observed as having the richest flora of spring ephemeral plant species on the study area. FOCM6-2 (Dry-Fresh Red-Pine Naturalized Coniferous Plantation) appears to be the community with the next largest area of impact, although as impact areas by community type were not provided in the EIS, this is an estimate. The other vegetation community types to be directly impacted by the proposed works include Dry-Fresh Mixed Meadow (MEMM3) and Naturalized Coniferous Plantation (FODM6). The EIS also states that the *"Fresh-Moist Hemlock Hardwood Mixed Forest (FOMM6-2) may be indirectly affected by the proposed activities based on proximity to the proposed ERRC entrance off Horseshoe Valley Road"*.
 - A Red and White Pine dominated mixed forest is proposed to be created at the Orrock Creek North Tract, whereas, an early successional Jack Pine forest is targeted for the Museum Tract. The Red and White Pine dominated mixed forest may, over time, be of comparable character to the FOCM6-2 vegetation communities to be disturbed at the Freele Tract. No Jack Pine was observed by GDH or D&A at the Freele Tract site, therefore the proposed Kirtland's Warbler habitat is entirely different than the habitat which will be disturbed, either directly or indirectly. Neither site will provide comparable habitat to the FODM5 / FOD5-1 vegetation community which is the dominant vegetation community where the ERRC facility will be located.

Comment 58, page 19: Impacts to wetlands

- The emergency access road is very close to the SWMM2-1 community and within the 230 metre radius buffer for SWH recommended by MNRF to protect salamanders (Figure 1). Therefore, negative impacts to wetlands and ecological functions can be expected
- **CPP analysis:**
 - No compensation for the permanent alteration of wetland habitat at the Freele Tract is provided for within the CPP. Wetlands are not discussed in the CPP.

Our concerns re: Invasive and Predatory Species

Comments 60 – 63 pages 19,20: Invasive and Predatory Species

- In our view, there will likely be negative effects on local wildlife because of increases in populations of mice, rats, skunks, raccoons and coyotes, which are attracted to organic waste and other refuse and are predators for sensitive species such as ground-nesting area-sensitive forest birds.
 - Creation of habitat in other locations does not negate the potential for negative effects at the Freele Tract due to predatory and invasive species.

CONCLUSION

Based on our previous review, D&A believes that the GHD *Amended Scoped EIS* does not adequately characterize the study area, provide appropriate interpretation of policy, or discuss impacts and mitigation in sufficient detail. The basis of impacts for the Compensation Planting Plan is thereby flawed. We also believe that the Compensation Planting Plan does not adequately compensate for the impacts to the ERRC project site.

LIMITATION

The opinions in this letter report document are based on *the Compensation Planting Plan, Proposed Environmental Resource Recovery Center, 2976 Horseshoe Valley Road West, Springwater, Ontario* (GHD Ltd, February 1, 2018) and other documents referenced; opinions are subject to modification if revised documents are provided.

Sincerely,



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REFERENCES

Bocetti, C. I., D. M. Donner, and H. F. Mayfield. 2014. Kirtland's Warbler (*Setophaga kirtlandii*), version 2.0. In *The Birds of North America* (A. F. Poole, Editor). Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/10.2173/bna.19>

Petranka, J.W. 1998. *Salamanders of the United States and Canada*. Smithsonian Institution Press. Washington, D.C. 587pp.

Sandilands, 2010. *Birds of Ontario. Habitat Requirements, Limiting Factors, and Status (Nonpasserines: Shorebirds through Woodpeckers)*. UBC Press, Vancouver. 392 pp