



May 14, 2024

Jim Harris  
Ward 8 Councillor  
City Council  
Barrie, Ontario, Canada  
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**Subject: Environmental impacts of removal of forest for an artificial turf field at Allandale Station Park**

Dear Councillor Harris, Members of the City Council of Barrie:

I am writing to provide scientific input on the proposed removal of forest for construction of an artificial turf field at Allandale Station Park, motion 24-G-111, on the council meeting agenda May 15, 2024.

I am a forest ecologist and climate change scientist at the University of California, Berkeley. When visiting family who live in the Minet's Point neighborhood, I have spent time in the forest in Allandale Station Park. A few days ago, my relatives told me of the proposed artificial turf field. To help inform your vote, I rapidly conducted a preliminary scientific assessment of potential environmental impacts:

**A. Potential Environmental Impacts**

**1. Loss of natural forest**

The park forest comprises part of the natural vegetation of the Lake Simcoe shoreline and the only natural forest on Kempenfelt Bay between downtown Barrie and Minet's Point. Natural vegetation such as this covers just 18% of the area of the Barrie Creeks sub-watershed, compared to 78% of the area in paved and built areas (Lake Simcoe Region Conservation Authority 2023).

**2. Loss of wildlife habitat**

Neighbors have observed red foxes and their young and abundant bird life living in the park forest. The presence of foxes raising their young indicates good habitat quality (Tolhurst et al. 2020). Also, the area includes a meadow established to provide habitat for bees and butterflies, essential for pollination of plants and food crops (Requier et al. 2023). The project would reduce these habitats.

**3. Damage to a peaceful natural place for people**

Scientific research documents how trees and biodiversity in urban areas improve the health and well-being of people by providing quiet green spaces and connection to nature (Nisbet et al. 2020, Hammoud et al. 2024). The project would damage this source of well-being for Barrie.

**4. Ecological disruption from noise and artificial light**

Scientific research shows that noise from people disturbs wildlife (Barber et al. 2010) and artificial lights disrupt wildlife behavior and health (Gaston et al. 2017). So, the proposed artificial turf field could disrupt or disperse wildlife from remaining parts of the park forest.

**5. Tree plantation not equivalent to natural forest**

The proposed offset plantations of trees would not serve the same ecological functions as the original forest. The tree lots would be more fragmented, more exposed to windthrow, and situated around a fenced field that would be a barrier to ecological connectivity, all resulting in lower habitat quality than the existing park forest (Haddad et al. 2015, Pfeifer et al. 2017, Torrenta et al. 2018).

**6. Carbon emissions exacerbate climate change**

The cutting of trees would release carbon dioxide in the near-term, exacerbating climate change in the decades-long period until planted trees might accumulate the same biomass as the original park

forest. So, the project would increase emissions at the very time when the world needs to cut emissions to avert severe risks of climate change to people and nature (IPCC 2023).

7. **Artificial turf generates microplastic pollution**

Plastic is the core material of artificial turf. Abrasion from routine use releases microplastic particles that pollute air and water, increasing risks to the health of people and ecosystems (de Haan et al. 2023).

**B. Inconsistency with Environmental Policies**

1. **Incompatible with City of Barrie Waterfront Strategic Plan Update**

As noted in the staff report (City of Barrie 2024), the project runs counter to Goal 4 “Protection and enhancement of waterfront ecologies.” Specifically, cutting remnant forest is the exact opposite of Action 4.1 “Retain and protect environmental features, including... the remnant deciduous forest communities associated with the former Lake Algonquin shoreline”, Action 4.3 “Protect and enhance wildlife habitat and enhance biodiversity in naturalized areas along the shoreline”, and Action 4.4 “Design heavily frequented areas along the waterfront to minimize negative impacts to the ecology” (City of Barrie 2023). The Waterfront Strategic Plan does not include or even mention the possibility of a new artificial turf field in Allandale Station Park.

2. **Incompatible with Lake Simcoe Protection Plan**

The project runs counter to the targets “Achieve a minimum 40 percent high quality natural vegetative cover” and “Achieve increased ecological health based on the status of indicator species and maintenance of natural biodiversity” (Lake Simcoe Region Conservation Authority 2009).

3. **Incompatible with Lake Simcoe Region Conservation Authority offsetting policy**

The proposed plantation to offset the loss of cut trees is inconsistent with the requirements to “Avoid - Prevent impacts from occurring by changing project location” or to demonstrate that offsetting is the “only viable option” (Lake Simcoe Region Conservation Authority 2021).

4. **Incompatible with Canada climate change commitment**

The near-term emission of carbon dioxide runs counter to the commitment by Canada, under the Paris Agreement of the U.N. Framework Convention on Climate Change (UNFCCC 2015), to cut national greenhouse gas emissions 80% by 2050 (Environment and Climate Change Canada 2016).

5. **Need for detailed environmental assessment**

Given the numerous potential environmental impacts, a detailed environmental assessment, in accordance with the Province of Ontario Environmental Assessment Act, R.S.O. 1990, would most effectively enable a fully-informed science-based decision by the City Council. The internal review proposed in the staff report (City of Barrie 2024) would be inadequate.

In summary, by cutting down part of the park forest and replacing it with an artificial turf field, scientific information indicates that the proposed project would reduce natural forest and the natural quality of an area that provides for the health and well-being of the people of Barrie. Furthermore, the proposed project is inconsistent with environmental policies of the City of Barrie, Lake Simcoe Region Conservation Authority, and the Government of Canada.

Based on this scientific information, **I recommend that City Council ask staff to find an alternative site and deny the current “Premium Synthetic Turf Multi-Use Sports Field Concept”**. Finding a site that does not require cutting and replanting trees would also reduce costs to the people of Barrie. An optimal solution would provide a new soccer field for youth and protect natural forest.

Sincerely,

Patrick Gonzalez

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