

**Sandy Lake Study Area: Habitat and Corridors – Terrestrial and aquatic; HGNP and Charrette maps**  
Karen Beazley, May 3, 2023

Note: Excerpts from RFP (black text; emphasis added) with associated points and questions (green text)

### 3.3 Land Suitability: Mapping and Analysis

- Species at Risk Habitat
  - **Delineate, assess and inventory habitat** for Species at Risk. Verify modelling through biophysical survey as required.

Q. Presence-**absence data** are needed to conduct reliable modeling, yet are notoriously difficult to obtain, especially for SAR. Existing species occurrence data in NS are insufficient for producing reliable desktop studies, especially for SAR. Field studies will be needed and should be conducted in ways that produce reliable presence-absence data. For example, wood turtle has been confirmed on the site, but systematic surveys are needed for reliable presence-absence data for this species on the site. Studies have shown that an average of seven separate surveys of the same location are needed to confirm absence for this species. With fewer surveys, absence data should not be considered valid. How will you conduct biophysical surveys in ways that will produce reliable presence-absence data for all potential SAR on the site?

Furthermore, even if species are not located on the site, it might represent suitable **habitat** for species recovery. The aims of all SAR recovery plans are to increase the populations and distributions of the species, which requires conservation of suitable habitat, regardless of whether it is currently occupied by the few individuals remaining. How will you determine whether the site contains suitable habitat for recovery of SAR?

- Landscape Connectivity
  - Review the **Halifax Green Network Plan**, specifically the objectives outlined in Section 4.1.3.1 and 4.1.3.3, to determine if any **Important and Essential corridors have been identified in the study areas.**

Using GIS Layers and biophysical surveys, **identify, assess and inventory any wildlife corridors within the study areas that allow for movement locally and at a regional scale.**

Q. The Halifax Green Network Plan identifies both Important and Essential corridors in the Sandy Lake study area. These are somewhat conceptual in terms of their placement within the site and represent the need for corridors on the site to contribute to a larger network of corridors for restoring and conserving wildlife connectivity in the region. The Wildlife Corridor Charrette Report identifies more suitable locations for the corridors. Corridors are of higher value or more functional when they connect protected areas and other core habitat areas together at a regional scale. For example, corridors through the Sandy Lake site should be delineated to help assemble a connection between BMBLC and Sackville River and beyond into NS interior (i.e., Walter Regan WPA). The aim is to maintain the integrity of the protected and other core habitat areas and allow for seasonal and annual movements and dispersal of wildlife, as well as emigration and immigration, which are important to genetic health and population persistence over time. The site is deemed “essential” by the HGNP, meaning that it is the only opportunity for landscape level connectivity based on spatial considerations beyond the Sandy Lake site and sub-watershed boundary.

The extent of the study area must be well beyond the Sandy Lake site and should be determined based on the phenomenon in question (i.e., identifying wildlife corridors between this site and other key areas,

at the regional scale). Some key areas are well beyond the site and the sub-watershed boundary. How will you assess and identify wildlife corridors in the context of the larger regional-scale wildlife corridors? How will you determine which areas are key for wildlife connectivity and from where to where the corridors are meant to connect (e.g., corridors for what and from where to where)?

- Complete an analysis of open **space that would need to be maintained to preserve the use of the areas as wildlife corridors.**

Q. How will you do this? And how will you determine corridor widths? Widths for wildlife corridors should be based on zone of influence (ZOI) and corridor habitat requirements for affected species, ecological processes, and geographical characteristics of the area, as well as the types of adjacent land uses and land cover (i.e., 1000 m or more according to HGPN for essential corridors; 6000 m ZOI for black bear in residential areas). Commonly used narrow buffer widths (30-50 m; 100 m) have been based solely on run-off, erosion and water-quality considerations and are wholly inadequate for wildlife corridor widths for most species.

### 3.3.2 Recommendations

- **Identify habitat, open spaces and other features that should be preserved and recommend mitigation and remedial measures to reduce the impact of potential development.**

Q. **Mitigation and remedial measures** will be needed to reduce the impact of any development on habitat and open space (e.g., wildlife corridors). Unless new development is limited to very small pockets and carefully planned to avoid bisecting the site, roadway and other mitigation measures should include under- and over-passes with associated fencing (as over-under passes are ineffective without fencing either side of it). How will you determine which measures will be most effective?

#### **Recommendation option:**

Overall, given the important wildlife and other biophysical land suitability values associated with the site, both locally and for its role at a landscape and regional network scale, it seems most likely that development cannot occur without significant negative impacts. A valid recommendation option arising from assessment of Sandy Lake and other sites within the study must be '**no development**'. This option is provided for in the RFP and I urge you consider it as a valid one.