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Urban Scenario: An environmental condition where ecological habitat is present within an urban area and has specific characteristics to distinguish itself from other scenarios.

Project Overview

The project aims at sampling different urban scenarios within the context of Winnipeg to understand their potential for supporting urban wildlife. This information could provide a valuable framework for urban designers when determining specific strategies that allow for the coexistence of humans and wildlife in urban areas. Research to date has involved analyzing the spatial attributes of each scenario, understanding the ecological components present, and noting observed wildlife activity.

The second phase of the project will occur this coming year when wildlife cameras are used to observe wildlife in the selected urban scenarios. Information about activity patterns concerning human activity will be analyzed as well as species frequency and the overall adaptability of each urban scenario.

Methods

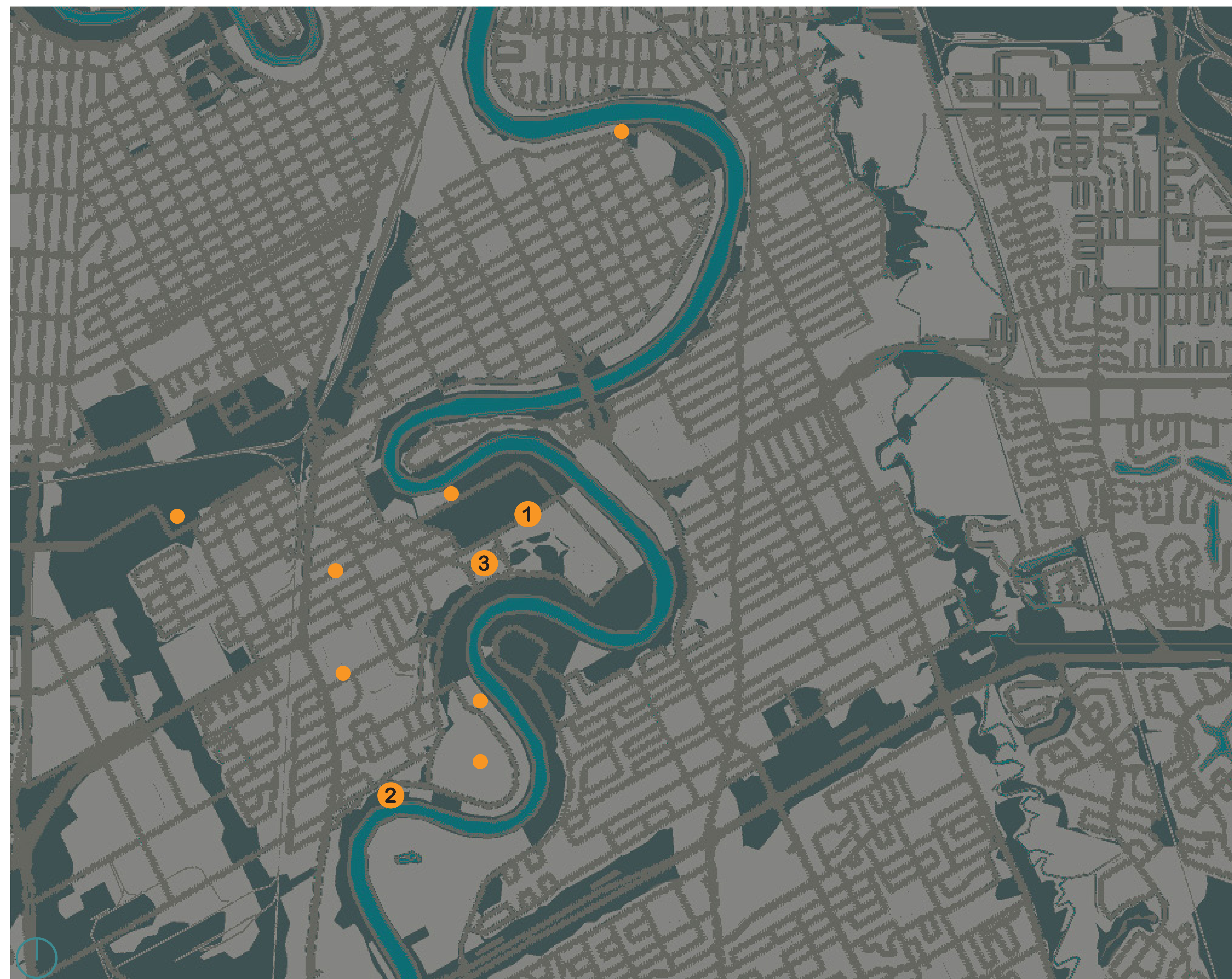
The neighbourhood of Fort Garry was chosen for its variety of urban scenarios that provide stable conditions for observation and have consistent characteristics. With the selected scenarios, analysis of spatial conditions was then documented by drawing 10m x 5m transects of a specific site (white dashed box) within each scenario. This can be seen in the plan and section in each of the scenarios presented below, where spacing, density, and species are documented. The next step of the project will include deploying wildlife cameras (camera traps) in the ten urban scenarios to observe urban wildlife over the period of a year. Additional cameras will be placed in other locations outside this neighbourhood to sample different urban scenarios.

Process

Initially, the project began by compiling news articles of wildlife sightings in the city from the past five years geographically onto a map. This information helped determine species patterns, high-frequency areas, as well as the types of wildlife that could potentially be observed. This formed the basis for identifying where the study area would be and what types of sites might produce the best results. After the urban scenarios were chosen, they were then analyzed for their spatial qualities in terms of vegetation, topography, and proximity to built form, as well as, wildlife activity.

Discussion

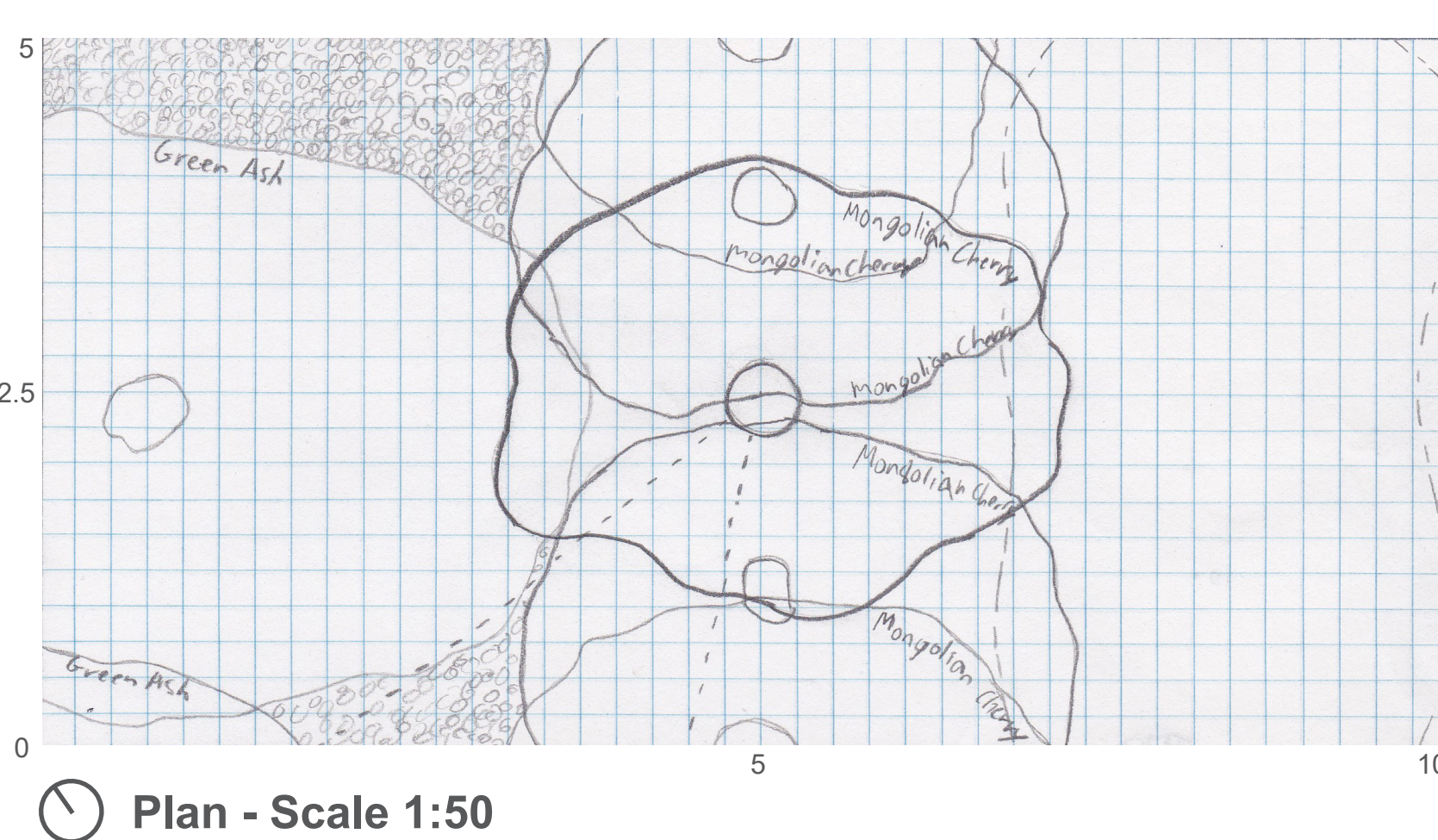
Three out of the ten selected urban scenarios are presented below, each one represents a specific environmental condition that can be found throughout Winnipeg. The initial study of the three scenarios has inferred them to be successful conditions that provide a necessary foundation for interaction between humans and wildlife to occur. However, after a full year of camera observation, quantitative data based on frequency numbers and patterns will largely define each scenario's potential to support urban wildlife in a human-oriented environment.



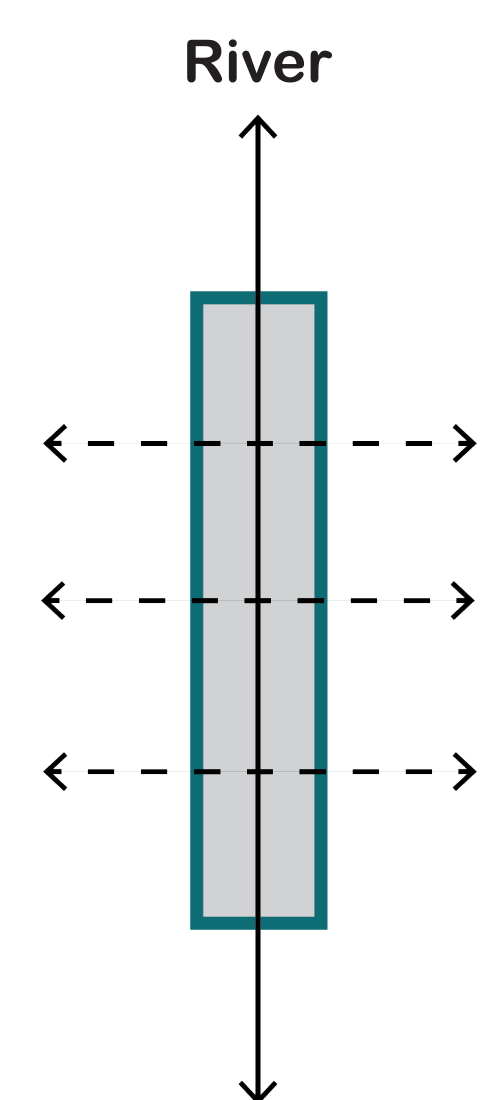
Urban Scenario 1

Vegetative Levee Corridor

This landscape condition separates two different areas of land, residential on one side and a golf course on the other by a 4m tall levee. A road adjacent to one side of the levee is an exposed access point to the vegetation. This corridor is often occupied by people using the multi-use path that goes along the levee. The scenario is very similar to raised railway corridors, like the levee, they too have dense vegetation on either side. An observed condition where both humans and wildlife are occupying the space at the same time is when the human is on the path and the wildlife is down to either side of the levee.



Species list: Fraxinus pennsylvanica Marsh., Prunus fruticosa
Ground Cover: Ground is hard packed with grass and other plants.

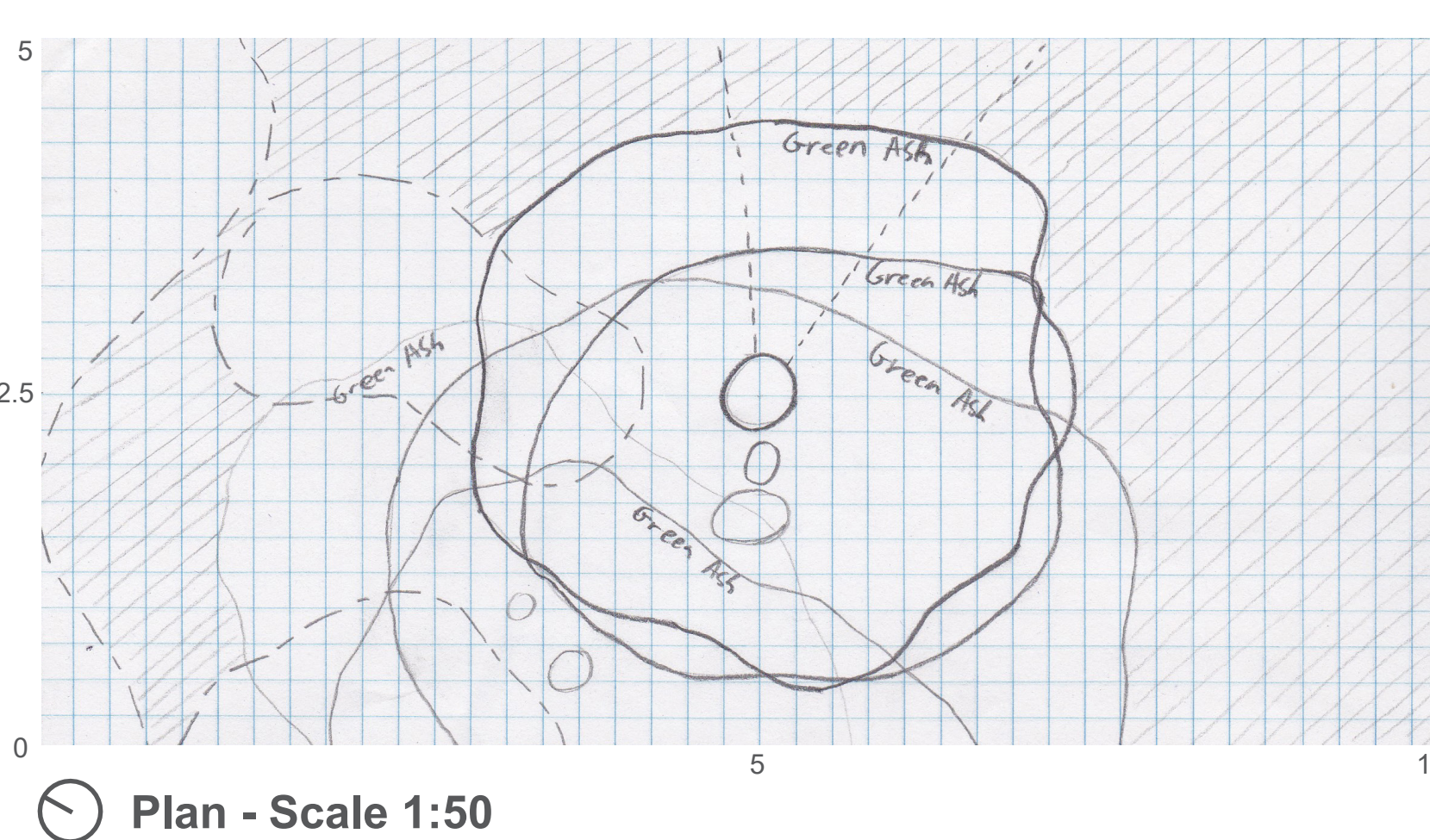


The levee corridor provides a connective link between the riparian river edge and the other areas of Fort Garry. Perpendicular to this is also a condition of permeability for wildlife to diffuse from one area to the other up and over the levee to go to either side. It provides a safe corridor for species movement instead of using the road.

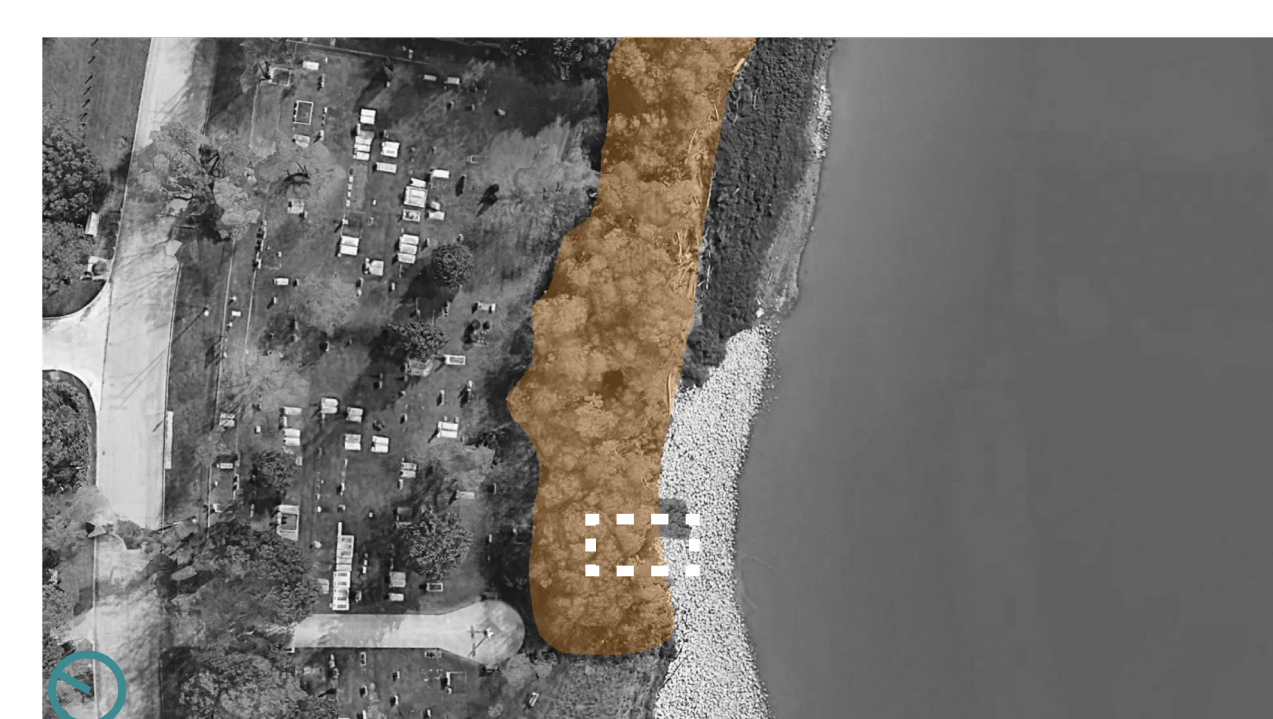
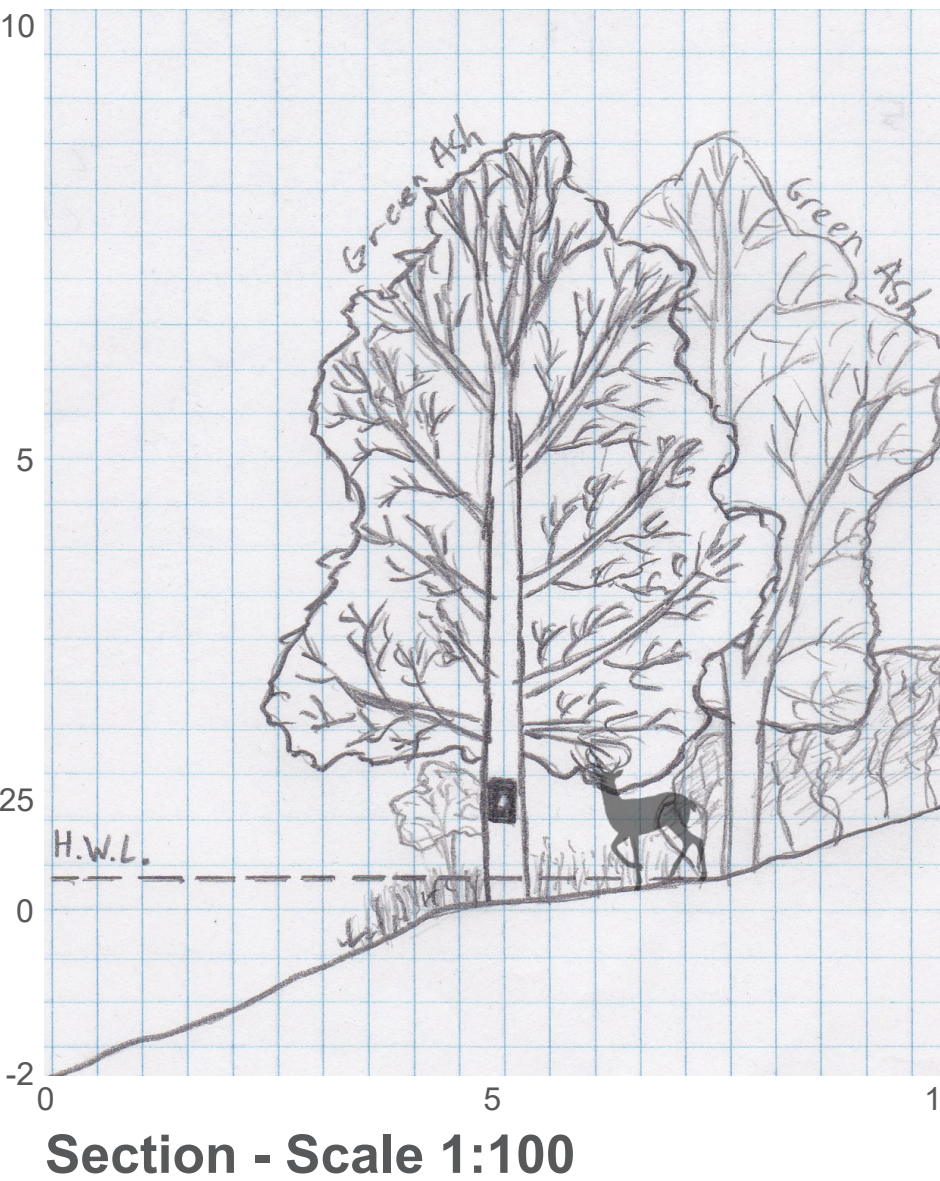
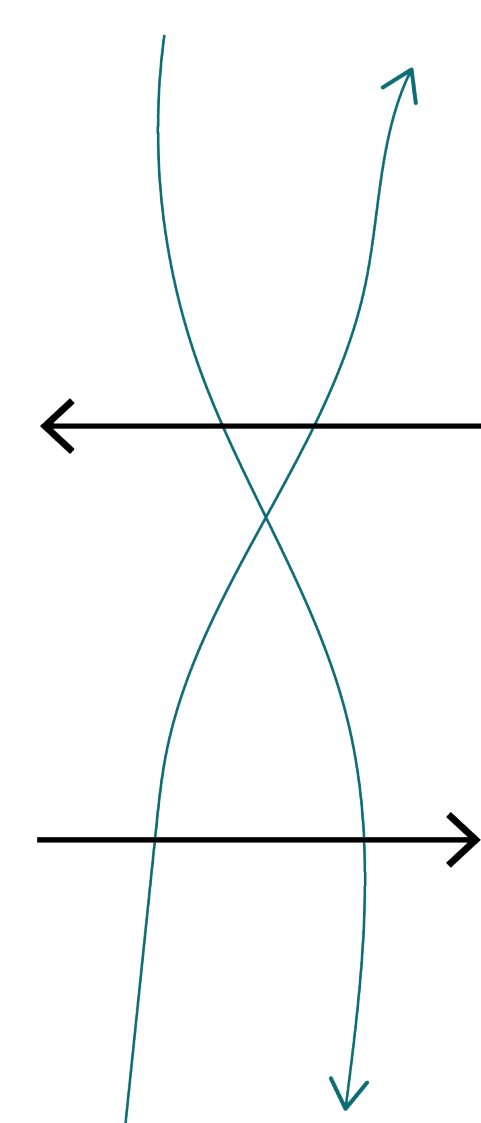
Urban Scenario 2

Condition: Riparian River Edge

A riparian river edge is present along the rivers here in Winnipeg, however, there are some locations where this isn't true. The edge can provide a continuous connective framework for wildlife between many different areas in the city through this system. Multiple species have been observed using this scenario but humans tend to be the least frequent as many locations along this condition are inaccessible. At times this scenario can be quite steep. As the river heights fluctuate, the space will become smaller or larger and can restrict species flow. The vegetation in this scenario is very rich in terms of diversity and spatial attributes.



Species list: Fraxinus pennsylvanica Marsh.,
Ground Cover: Ground is hard clay and grass.

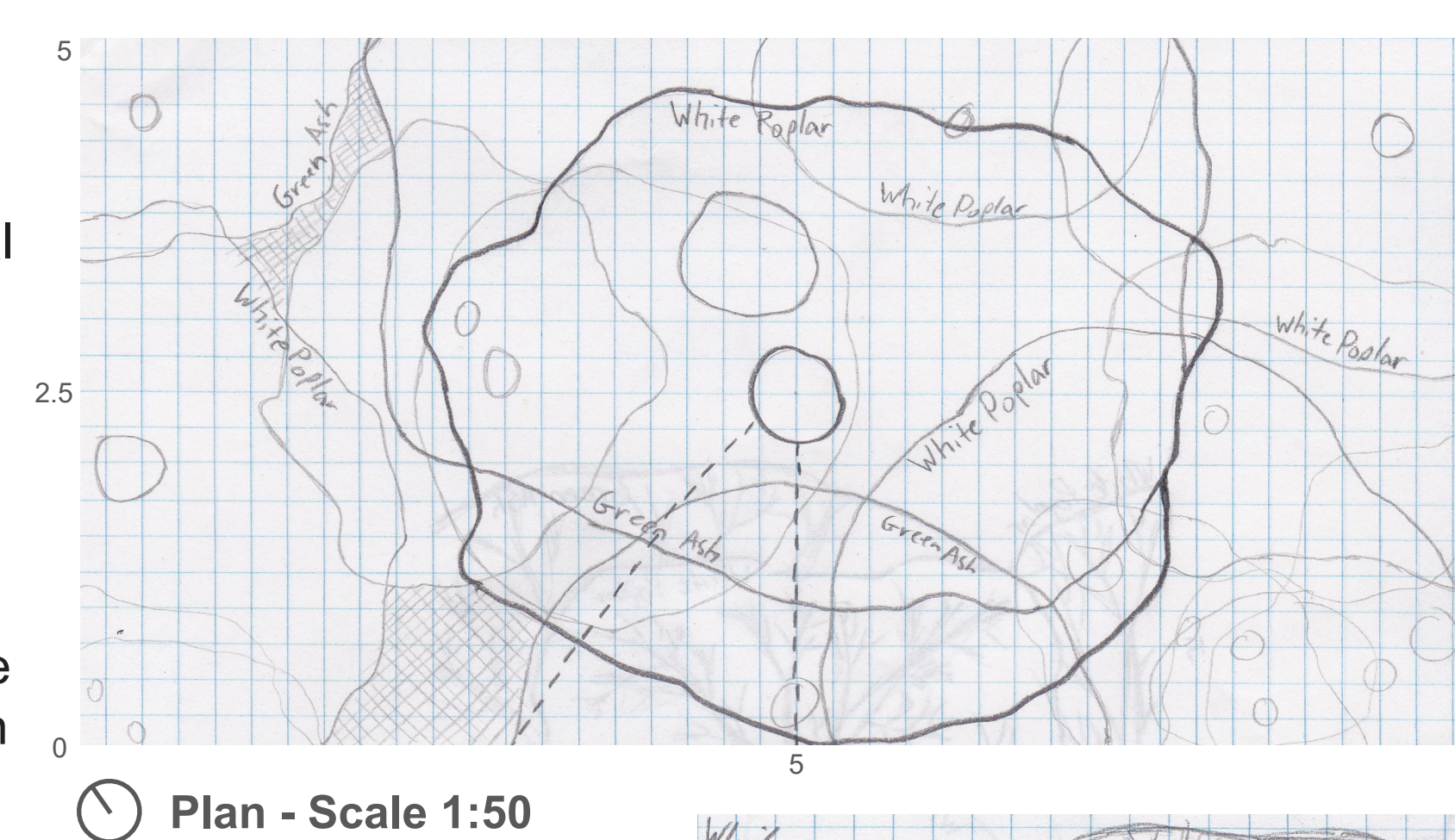


The river riparian edge functions like a passage similar to how a corridor can link different areas. Species can access and leave this condition at most places along the edge and can use it as a safe route to other habitats. It is generally the most secluded conditions within the city. The edge conditions on the land side tend to feather out in different densities, sometimes linking with other patches or corridors.

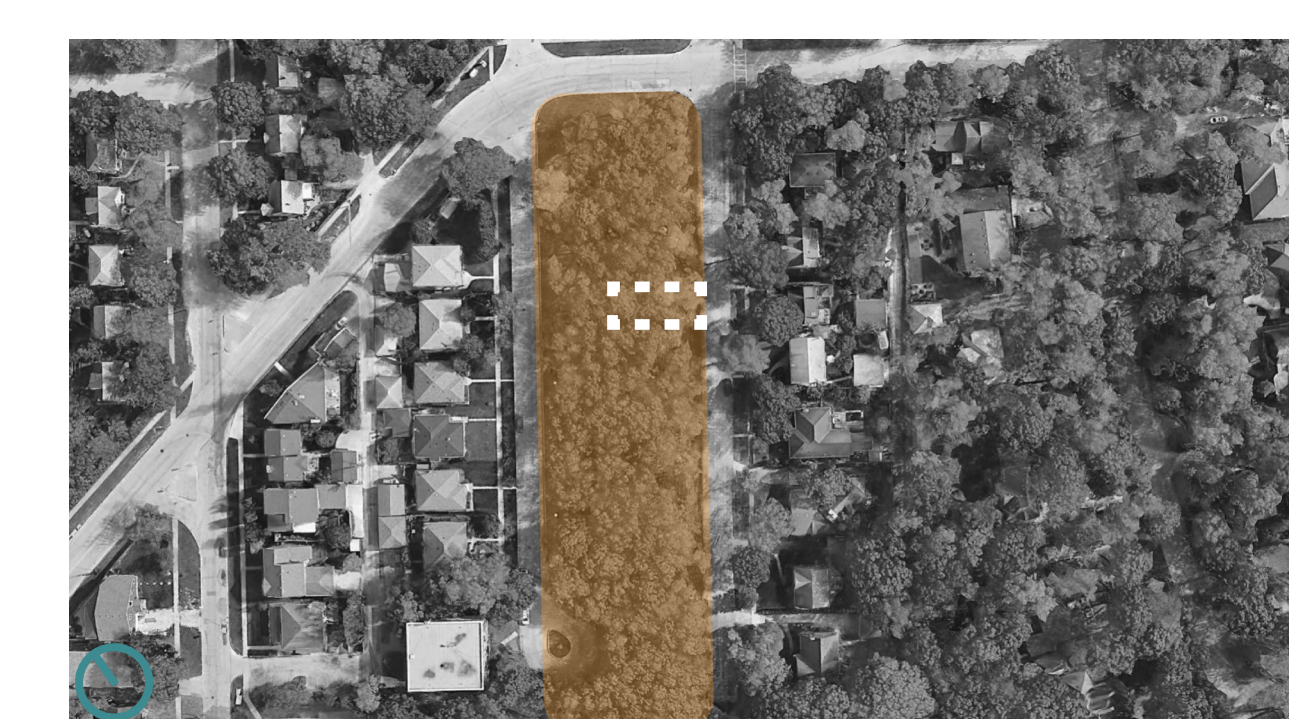
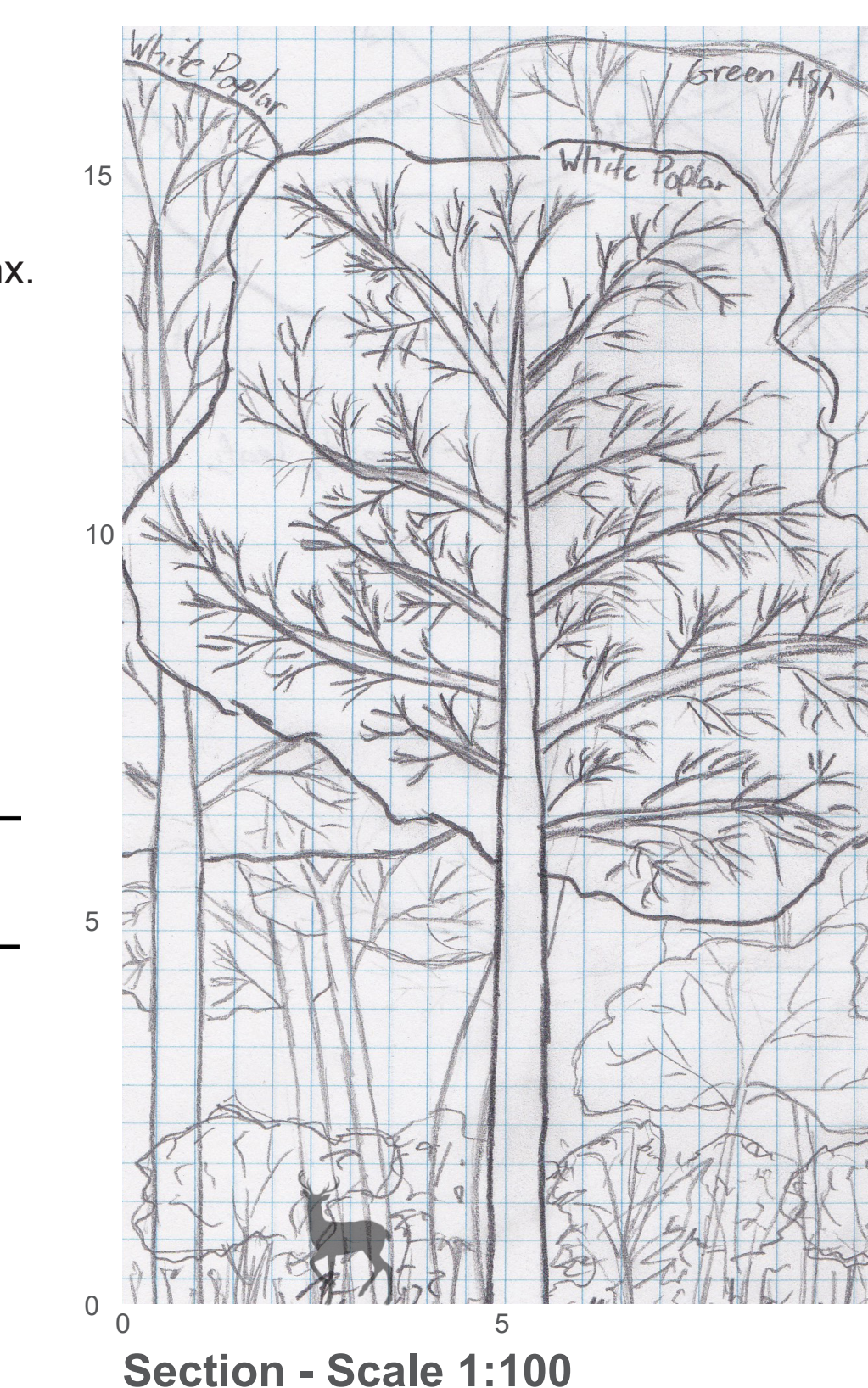
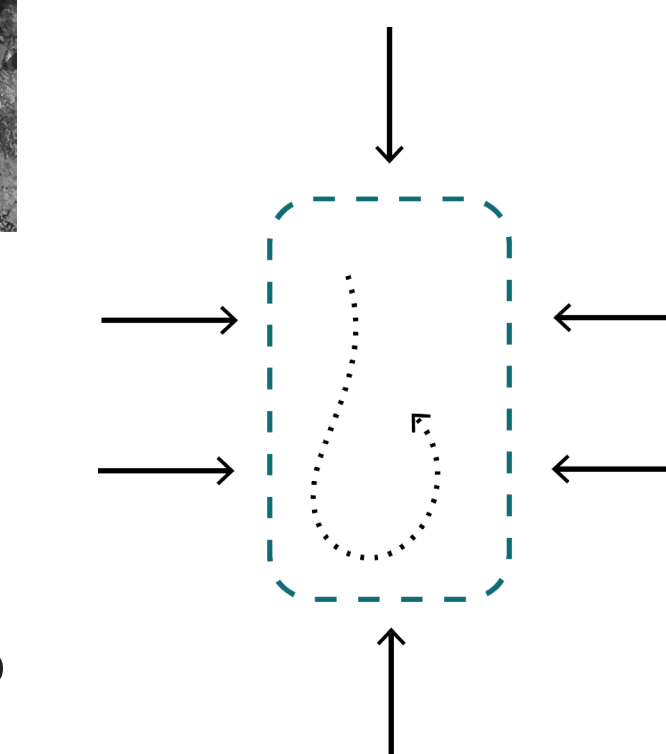
Urban Scenario 3

Suburban Forest Patch

The suburban forest patch is a dense forest flanked by residential streets and houses. This location provides shelter from anthropogenic dangers while becoming like a dwelling for local wildlife. This specific example is quite rich in its qualities for wildlife as it is larger than typical scenarios in terms of density and dimensions. Size comparison can be made by referencing the surrounding houses and lots. This scenario is host to many different species, a common interaction between humans and wildlife can be observed when people are walking their dog on small trails that intersect the patch.



Species list: Fraxinus pennsylvanica Marsh., Populus tremuloides Michx.
Ground Cover: Soft, leafy ground cover.



The scenario acts like a sponge by providing unlimited access points for wildlife to permeate into its core. A patch when used in conjunction with other patches and corridors become stepping stones for wildlife in urban environments. One end of this patch joins on to a recreation field, extending the benefit of this urban scenario. The opposite end of the patch across the street is another patch of similar size, together these patches strengthen the area.