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Woodland Ecology: Mangament Plan Final
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Mission Statement:

The aim of this management plan is to at minimum maintain the current balance of natural habitat and land use in University Village Park (UVP). The large green space is important for sports and other activities, while the forested areas give park-goers a sense of experiencing a truly natural park since the tall trees hide the urban development behind them. Ideally, additional forested area will be added in the coming years to provide a larger habitat. Lastly, efforts should be made to connect UVP with W.E Hamilton Park via a nature corridor to help provide safer passage to animals between the two parks.

Description and History of the Site:

UVP is a park with a total area of 6 hectares located in Guelph Ontario (Coordinates: 43°30'59"N 80°13'54"W), and is maintained by the city of Guelph and the Grand River Conservation Authority. The remaining 2.8 hectares is covered by grass, a sandy area used for a baseball diamond, a paved area for parking, a gravel pit for playground equipment, a sandy walking path, and a small community food forest. The north, east, and west sides of the park are flanked by a housing, while the south side of the park ends with a 2-lane road which separates it from the adjacent Hanlon Creek Park. With only a road separating the two parks, small animals would have no trouble moving between them.

The general climate of the area is cold and temperate, with an average annual temperature of 6.6°C and an annual average rainfall of 904 mm.[1] UVP is part of the Hanlon Creek Watershed, which has undergone significant changes since 1991. Since 1991, some of the forests and meadows were converted to residential buildings. The area contains 31 rare species of plant, as well as 78 locally significant bird species and 6 provincially rare bird species.[2] The soil throughout the park would be considered loamy, and there are no streams or bodies of water in the park. There are bird nests and some squirrel dens throughout the forested areas. The age of the trees in the forest appears quite diverse: with few large trees, many medium sized trees, and some smaller trees, making this a even aged stand. The canopy cover is not complete, as a fair amount of light makes its way to the ground. This encourages the growth of small grasses and weeds on the forest floor. Additionally, in terms of slope, UVP resembles an inverted dome - where the edges of the park are higher than the centre. Therefore, water runs down along these hills down into the middle area. There are some water drains in place already in the south area of the park.

A sketch of the park area can be found below (Figure 1). The expansion of the park for tree growth is limited to the current park area since it is surrounded on most sides by urban development; however, trees could be planted in the large green space as long as it does not interfere with the baseball playing area.

Values:

Environmental Protection / Wildlife: With the reduction in forest cover in the area since 1991, it is important to maintain the current forested areas so that the plant and bird species habitat will not be impacted. Since the forested areas are not very thick, they can be considered edge forests. There is currently evidence of wind damage to some of the large trees in the area, so

planting some saplings in the immediate future would provide some buffer for wind throw while also providing more habitat for animals in the park for years to come.

Recreation / Nature Appreciation: The forested areas provide recesses of shade in an otherwise open park, allowing for children to cool down after playing on the park equipment or during a baseball game. In addition, UVP is part of the Hanlon Creek Trail (see Figure 2) which is popular with bike riders, dog walkers, hikers, and students so there is a fair amount of foot traffic in the area.

Objectives:

Section 5.1

Objective	Importance (1-5)
Environmental Protection	5
Forest Products	1
Investment	1
Recreation	5
Wildlife	4
Nature Appreciation	3

Section 5.2 Property Level Objectives

Environmental Protection. The first of the most important objectives, environmental protection is important as this park acts partially as a nature corridor between W.E Hamilton park, just west of the Stone Road mall, and Hanlon Creek Park to the southeast (see Figure 2). Hanlon Creek Park then connects to larger areas of forest and wetlands, so University Village Park provides an important connection between the two areas.

Forest Products. The park area does not have enough trees to generate any significant revenue from wood products, so this objective is not important.

Investment. The area will likely increase in value over time, especially because it is in a prime location (by the mall, university, and some high schools), and it is enclosed by urban development. Ideally, this property will not be sold to make room for more housing. For this management plan, this objective is not important.

Recreation. The second of the most important objectives, recreation is what draws people to the area; either to use the baseball diamond, take kids to the playground, or students walking through the park to get home or to school.

Wildlife. It is imperative to preserve the forest habitat so that the species of birds and mammals continue to live and visit the UVP. Species diversity is important in maintaining an ecosystem.

Nature Appreciation. Having an area of forest so close to where children play can encourage them to explore their surroundings and learn about nature. The Community Food Forest in the northern section is also a good way for children (and adults) to appreciate nature by taking an active role and caring for some plants in the Community Food Forest.

Section 5.3 How will I achieve these objectives?

To achieve the property level objectives of Environmental Protection, we must first address the lack of complete canopy cover. The light that filters through the canopy allows for the development of weeds and grasses which take valuable resources away from the forest. To address this, release treatments (e.g. weeding and cleaning) should be undertaken at least every year.

Next, we must address damage from wind throw, which is evident on some trees I surveyed (e.g. broken branches). I expect damage from wind throw to be a common occurrence, since the forested areas are not deep enough to have a true interior. A potential solution would be to plant more trees to increase the size of the forest. As can be seen on the sketch map (Figure 1), the forest is only on the west of the sand walking path so planting trees on the opposite side of the walking path would help reduce wind throw in the long term. However, this is where the objectives of recreation and environmental protection are at odds: ideally, we would like to plan a large number of trees on the east side of the path but because of most of that area is taken up by a baseball field we are restricted to planting trees only adjacent to the walking path. In this case, I think that the city more highly values the area for recreational activities so only a thin row of trees would likely be planted. The new trees by the walking path would also require diligent pruning so that the branches do not impede the movement of pedestrians and cyclists. The time involved for planting saplings and having them make a positive impact would be a long term goal of more than 20 years.

To achieve the property level objectives of Wildlife, we need to look at creating and maintaining a nature corridor between the parks. In particular, W.E Hamilton Park and UVP. The issue would be that Stone Road is a busy street with lots of vehicular and pedestrian traffic thanks to the mall on the north side and the plaza on the south side. So, rather than create a nature corridor down the busy street (which would follow the Royal Recreational Trail on Figure 1), we could create green space west of UVP towards Scottsdale drive to connect to an area of green space already established, and then follow Scottsdale drive north to W.E Hamilton Park (see Figure 3 for the proposed route). From the Google Earth Image, you can see that there appears to be a path behind the plaza, but the trees and green area here are fenced backyards so they do not allow easy transit for flightless mammals. I would propose using some of the lot space of the plaza to make a more seamless nature corridor. Since Stone Road is a busy street, I would also recommend signage for drivers to be cautious of animals crossing the street. Ideally, I think this would take less than 5 years to complete, but a project like this would need to get approval and funding from the city so it might be much longer.

To achieve the property level objective for Nature Appreciation, I think that the Community Food Forest is already a step in the right direction. I would add more picnic benches to encourage people to eat outside, whether it be beneath the sun or beneath the shade of an oak tree. Of course, if more benches are being added more garbage cans should be added to in an effort to reduce litter in the forest.

Figure 1. A sketch of the UVP area, highlighting significant areas of forest as well as urban development.

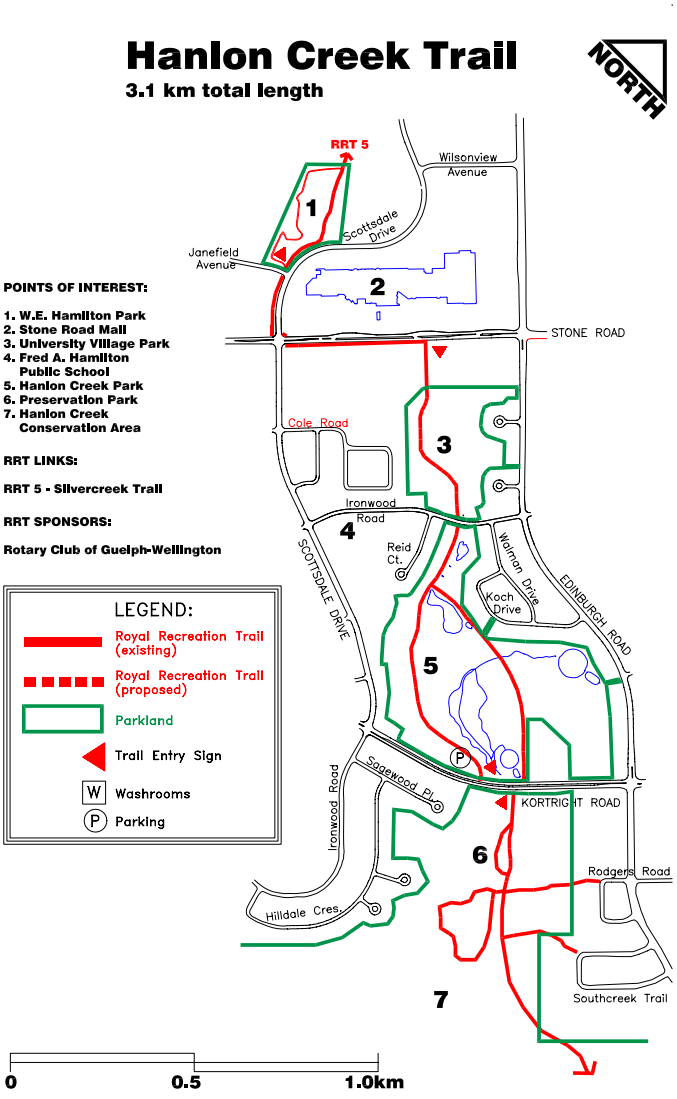

Figure 2. Map of UVP as part of the Hanlon Creek Trail.[4]

Figure 3. Proposed route for a nature corridor to connect W.E Hamilton Park with UVP and the rest of the Hanlon Creek Watershed.

Sources:

1. University Village Park, Guelph ON. Google Earth. https://earth.google.com/web/@43.51658343,-80.23171921,335.25489205a,732.3602683d,35y,0h,0t,0r

2. "Climate Guelph". *Climate Data*. Online: https://en.climate-data.org/north-america/canada/ontario/guelph-881/

3. *City of Guelph Natural Heritage Strategy Phase 1: Terrestrial Inventory Design and Defining Locally Significant Natural Areas*. Guelph: Dougan and Associates, 2005. Online: http://guelph.ca/wp-content/uploads/NHS_Ph-1-finalreport.pdf

4. Hanlon Creek Trail Map. City of Guelph. Online: https://guelph.ca/wp-content/uploads/map_HanlonCreekTrail.pdf