Site Evaluation

Resource Capabilities and Constraints

The Canada Land Inventory (CLI) data from 1995[29] provides a breakdown of the landscape in terms of capability for recreation, waterfowl production, ungulate production, forestry and agriculture.

In terms of recreation, the CLI indicates that the camping area, day-use section and part of the forest south of the pond have the "natural capability to engender and sustain moderate total annual (outdoor recreation) use based usually on dispersed activities". Land features contributing to this area include superior views, opportunities for angling and interesting water-land relationships suitable for hiking, nature study or aesthetic inspiration. The southern half of Springwater Forest and Jaffa Tract is identified as lacking the natural and significant features yet has the natural capability to support low total annual use based on dispersed activities and is suitable for viewing upland wildlife.

The same inventory (CLI) classified land in terms of capability for waterfowl production, ungulate production, forestry and agriculture. The Springwater area is classed for ungulate production with only slight limitations from poor soil fertility or soil moisture. There is a severe limitation for waterfowl production due to the poor distribution of marshes or basins. The most favourable areas, as expected, are in the vicinity of the reservoir, Bradley Creek, and its tributaries.

For agriculture, most of the property, except of the southeast part of the forest, has severe limitations restricting the range of crops, requiring special conservation practices, or both. Inherent limiting factors of this land are again low soil fertility and low moisture holding capacity. The southeast portion of the study area exhibits very severe limitations restricting the capability to produce crops primarily due to poor drainage.

For forest production, Springwater Forest is generally classified with only minimal limitations to timber growth in some cases. In isolated locations, excessive or deficient moisture and low nutrient levels diminish the area's capability for forestry.

Compared to some outdoor recreation areas, Springwater cannot sustain a high level of use because of resource constraints. However, despite a relatively low ranking for outdoor recreation as outlined above, Springwater can accommodate thousands of visitors annually. The beach cannot handle as many people as Port Stanley, Port Bruce or Port Dover, and the campground and beach is relatively small compared with Fanshawe.

Patterns of land use have been established at Springwater for a considerable period of time. Fortunately, environmental degradation as a result of resource overuse does not appear to be a serious problem. On the other hand, there are areas of concern within the Conservation Area of forest. There are many examples of the resource management issues to be deal with at Springwater. One example is the ongoing critical comments on water quality and quantity that have been made by visitors. A second example is wildlife species such as the beaver have significantly diminished in number with only one beaver seen in 2020. A final example is the clear cutting of the 2 hectare plots in 1979 that stirred up

[29] Conceptualized in the early 1960s by the Department of Forestry and Rural Development (later the Department of Energy, Mines and Resources), the CLI was a federal-provincial project that lasted from 1963 to 1995 and produced maps which indicated the capability of land to sustain agriculture, forestry, recreation and wildlife. https://open.canada.ca/data/en/dataset/0c113e2c-e20e-4b64-be6f-496b1be834ee

controversy that lingers today. The following section more fully explains these issues, and others, and outlines management policies to effectively deal with them.

Development and Management Issues

One of the most important management issue related to outdoor recreation is the carrying capacity of the area. Generally, the amount of use sustained by Springwater appears to be at an environmentally acceptable level. However, the Conservation Area could even accommodate more visitors, particularly for camping and day-use activities such as picnicking and swimming. As CCCA balances the environment and the economy in decisions related to conservation lands[30], it is important to determine when the deterioration of the resource base has been excessive.

Carrying Capacity

In the recreational context, carrying capacity can be described as the level of recreation which an area can sustain without an unacceptable degree of deterioration in the character and quantity of the resource or the experience. An "unacceptable degree of deterioration" obviously depends on the perception of the individual. The definition of what is acceptable becomes a subjective decision rather than a technical or scientific decision. Even if research can show how areas and experiences will change with various levels of use and management practices, someone must still decide what changes are acceptable.

In terms of the campground, staff must decide if it is acceptable that ground cover under trailers will be reduced if allowed to remain on site for the full season. In terms of trails, some sections become compacted and expose tree roots and as a result the trail should be relocated or protected with wood chips to manage the exposed root issue.

Recreational activities carried out at Springwater have a certain level of impact on the resources supporting them but the difficult task is to establish how much use is acceptable to a majority of people. The Ontario Recreational Survey provided a series of recreation facility space standards which helped determine acceptable levels of facility use. Table 10 below identifies the capacity of various activities and related facilities at Springwater.

Table 10: Activity Allocation

Activity	Facility	Space Standard	Capacity (People)
Swimming	450 sq m	1 person / 3.4 sq m	130
Picnicking (day-use area)	15 tables	6 people per table	90
Overnight Camping	40 sites	Max 6 people per site	240
Group Camping	3 fields	200 people per site	600
Seasonal Camping	150 sites	Max 6 people per site	900
Trails	9.7 Km	31 persons per kilometer	300
			Total = 2260

Relating the above table to historic attendance figures for Springwater, swimming was identified as a potential concern due to overuse with poor water quality being an indicator of excessive use. As a result, periodic tests are conducted by South-Western Public Health and available on their website[31].

[30] https://www.catfishcreek.ca/wp-content/uploads/2019/06/CCCA-2019-2023-Strategic-Plan.pdf
[31] https://www.swpublichealth.ca/en/community-health/beaches.aspx

In recent years it has become apparent that land and water use upstream from the reservoir has a stronger influence on water quality than excessive swimming activity but testing should still be done. Studies have shown that disease-causing bacteria populations do increase with swimming. Deposition of human wastes and litter into the water are potentially hazardous, particularly for young children.[32] Use of the reservoir by waterfowl can contaminate the water with bacteria. Fortunately, no positive results for e-coli were found in 2019 and 2020 and bacterial levels have been substantially lower than the maximum levels considered safe for water contact recreation.

For all other activities at Springwater, use appears to be at an environmentally acceptable level. Concerns identified earlier regarding trail use and ground cover disturbances in the campground should be dealt with using one of the following methods of environmental impact reduction:

1. Restrict Use
2. Eliminate the use temporarily, allowing the area to recover
3. Use cultural methods (fertilizer and water) to revive the resource
4. Change the design of the area/facility to change use pattern
5. Make areas (e.g. campsites) more artificial, reducing the impacts on the surrounding natural elements

The above strategies are utilized in the chosen development concept explained in the next section. For example, new campsites will have gravel pads on which trailers/RV's must be placed and reducing the impact on surrounding vegetation. Another example is ensuring some areas remain group camping allowing the ground cover to recover after each event. A final example is closing unacceptably small sites to create a few larger sites.

Forest Management

CCCA had an agreement with the Ministry of Natural Resources (MNR) signed in 1964 for a period of 40 years to manage approximately 149 hectares of land, including all of the Jaffa Tract and most of the Springwater Forest. The Ministries goal in managing the forest was to produce a sustained yield of hardwoods while protecting the sensitive and significant areas of the site and continuing to provide opportunities for extensive recreation and outdoor education.[33]

For example, after commencing the timber harvesting schedule in 1979, public outcry against the cutting of the mature forest was so strong that it forced a suspension of the logging schedule. This opposition caused MNR to reassess its approach to managing the forest. To help with the decision-making process, Ian Macdonald's Botanical survey was conducted in 1981. This study helped to determine the significance of the flora, the diversity of species and the success status of the regeneration within the clean cut areas. Naturalists expressed concern that the Carolinian elements of the forest might have been replaced by a maple-beach bush which seems to be the case today.

More recently the CCCA Board of Directors makes decisions around the management of the forest where they have indicated a desire to preserve the forest. The preservation of this area is recognized not only for aesthetic reasons, but for the biological and ecological uniqueness of this Old Growth

[32] Wall, G. and C. Wright. The Environmental Impact of Outdoor Recreation. University of Western Ontario, Dept. of Geography Publications Series No. 11., 1977. P.30.
[33] Ontario Ministry of Natural Resources, Aylmer District. Draft Policy Statement For Springwater Forest and The Jaffa Tract. Aylmer, Ontario. 1977. P.15.

Carolinian Forest. The preservation approach is directly associated with the potential revenue in lumber sales and its ability to raise funds to complete capital projects in the Conservation Area and forest. The Authority has taken a more pro-active management approach such as implementation of projects resulting from grants, donations and user fees. Project such as boardwalks, fishing platforms, signage and additional trail loops resulted from federal infrastructure projects and local donations in 2012 such as the Palmer Estate[34] that resulted in the construction of the Springwater Forest Trail Boardwalk. A more detailed inventory of projects is found in Table 1.

An operating plan that deals with the forestry issues was prepared in 1996 by the Catfish Creek Conservation Authority. The Plan titled: *Springwater Forest and the Jaffa Tract Interim Operational Land Management Plan – Final Report, 1996*, clarifies and documents the roles and responsibilities of the various agencies involved with the Springwater Forest and Jaffa Tract. An updated "Operating Plan" that deals with the current forestry issues such as Ash and Beach disease should be prepared as soon as possible. An update Operating Plan would resolve, for example, the suggestion of the types and extents of trade-offs to be agreed upon to manage the forest for the perpetuation of significant natural features versus a sustained yield of hardwoods. The willingness to pay for use by a visitor will be subject to their aesthetic experience when walking in Springwater Forest. Public benefit must be enhanced rather than compromised, and appropriate management techniques and policies must be identified and implemented to achieve the stated goals and objectives.

Water Management

Springwater Reservoir and Bradley Creek both suffer from three sources of water quality impairment. These include recreational usage of the reservoir, nutrients from upstream farming activities, and urban runoff/discharge from the Town of Aylmer. Water levels in Springwater Reservoir regularly fall in late July and August as water is used to irrigate the surrounding fields. When the water level falls the concentration of various pollutants (e.g. Nutrients) within the reservoir increases and causes the formation of algae which impairs water quality. A bubbler system was installed and operates during the peak temperatures to limit water quality impairment. As above, fortunately no positive results for e-coli were found in 2019 and 2020 and bacterial levels have been substantially lower than the maximum levels considered safe for water contact recreation.

Springwater Reservoir is also gradually filling up with sediment as identified in a report completed by MacLaren Engineers in 1988. Heavy sediment loads continue to be deposited in the basin and average water depths are slowly decreasing as seen in Table 4 above. A decision will have to be made whether or not to dredge the reservoir or examine alternative sources for swimming as the Reservoir will eventually transform into a wetland unless dredging activities are carried out.

One of the most critical factors for effective water management is co-operation among landowners in the Bradley Creek drainage basin. In 2020, a grant application was submitted to the Federal Government where CCCA requested $60,000 for the implementation of cover crops on 330 acres and the establishment of a 1900m grassed waterway. CCCA also applied for the associated soil and water sampling which helps quantify the optimal nutrient application for the two participating farms. CCCA also proposed to test some various cover crops and other best management practices to determine an efficient approach to reducing Phosphorous without limiting the profit of the business. The project did

[34] https://www.catfishcreek.ca/wp-content/uploads/2019/10/2012-Annual-Report.pdf

not receive funding but the project plan is complete and should be submitted to future grant funding opportunities.

The amount of water for irrigation purposes could also be examined through a research project of actual takings versus permitted takings under the Permit To Take Water (PTTW) program.[35] CCCA is not funded by the Province to implement water quantity research in the context of PTTW or Ontario Low Water response. This may or may not change with anticipated changes to the Conservation Authorities Act[36].

Wildlife Management

Although there is moderate potential for wildlife production in the Forest, there are several restrictive factors such as its closed tree canopy which restricts shrub and ground cover growth forcing the ungulates and other mammals to migrate beyond the Conservation Area and Springwater Forest. The quality of the water resources in the Forest restrict waterfowl population increases and definitely limits sportfish production. Reservoir drawdown periods such as in low flow conditions may also have a negative effect on wildlife such as fish, reptiles, and amphibians.

From a Natural heritage perspective, Springwater Forest provides a significant amount of interior habitat as outlined in the 2018/19 Elgin County Natural Heritage System Study[37].

In order to sustain wildlife populations, the following management strategies should be implemented:

1. Planting wildlife shrubs such as Nannyberry and Highbush cranberry that provide food and shelter for a variety of species
2. Discourage the development of additional forest trails
3. Implement a water quality improvement project upstream of the reservoir on Bradley Creek tributaries
4. Realize the importance of dead trees in the forest for the benefit of a variety of wildlife species such as woodpeckers, owls and opossums.
5. Do not permit hunting within the Conservation Area or Springwater Forest
6. Consider the benefits and disadvantages of trapping for Muskrat and Racoon within the Conservation Area and Springwater Forest
7. Include a comprehensive wildlife management policy in any updated Forest Management Plan for Springwater Forest

Archeology

All designated archeological sites in the province are protected by Part IV of the Ontario Heritage Act which determines priorities, policies and programs for the conservation of archaeological resources determined to have cultural heritage value. Among other provisions, the act makes it illegal for anyone but a licensed archaeologist to knowingly disturb an archaeological site. This means that unless you are

[35] https://www.ontario.ca/page/guide-permit-take-water-application-form

[36] Environmental Registry of Ontario. Modernizing conservation authority operations - Conservation Authorities Act. April 5, 2019. https://ero.ontario.ca/notice/013-5018

[37] https://www.elgincounty.ca/wp-content/uploads/2019/08/Elgin-Natural-Heritage-Systems-Study-Information-1.pdf

a licensed archaeologist, it is illegal for you to dig an archaeological site or dive on a shipwreck to record its condition or remove and keep artifacts[38].

Enforcement of regulations is the critical factor in preserving sites for the future. The public must realize the significance of maintaining sites as they are without human disturbance. Conservation Authority staff, if they are not aware of the exact location of the Downpour Site within Springwater, should be informed and efforts made to initiate an informal system of periodic checking of the site to ensure that unauthorized digging is not occurring. The Authority should also continue its working relationship with the Aylmer Malahide Museum and Archives to help gain a full understanding of the significance and quality of the site. Finally, education programs relating the artifacts in the Miller and Gray Collection could be implemented to help future generations increase their understanding of the history of the Springwater. As per the original forest management polices, it is anticipated that the site and a suitable buffer will not be disturbed by logging activities. For the purpose of this Master Plan, this concept will be extended to other activities, and the location will not be published on maps as this would only serve to make the site more susceptible to exploitation.

Other Planning Considerations

Springwater falls across jurisdictional boundaries of two official plans, Central Elgin and the Township of Malahide. The Central Elgin Official Plan[39] is the planning document affecting land use and development on property west of Springwater Road, while the Township of Malahide Official Plan[40] applies to property east of Springwater Road. Planning policies in each plan are very similar. Both have sections on conservation that emphasize proper management and maintenance of natural areas indicating that any development in areas of exceptional scenic or recreational value and geographic or environmental significance should be regulated so that its impact will not detract from the natural environmental character of the area. Specifically, for Central Elgin, good forestry practices as defined in the Forestry Act should be adhered to and all tree removal should be done in accordance with the Elgin County Woodlands Conservation By-Law.

The day-use area and Springwater forest are designated as conservation lands, hazard lands, locally significant woodlands between 10 and 20Ha, provincially significant woodlands greater than 20Ha, significant wetlands, and an Area of Natural and Scientific Interest (ANSI) life science. The West side Springwater Road in the seasonal campground is designated as natural hazard, natural heritage, wooded area and a former waste site (Closed in 1952, Class B5, and low potential for impact on humans) near the administration office.

Conservation Lands are the areas of exceptional scenic and recreational value and geographic and environmental significance and should be preserved and/or developed in order to maintain their inherent environmental and scenic values. Any development in areas of exceptional scenic or recreational value and geographic or environmental significance should be regulated so that its impact will not detract from the natural environmental character of the area[41].

[38] http://www.mtc.gov.on.ca/en/archaeology/archaeology.shtml
[39] Central Elgin Official Plan https://www.centralelgin.org/en/business-development/official-plan.aspx Version Referenced: March 2013
[40] http://www.malahide.ca/official-plan-0 Version Referenced: September 2013
[41] http://www.malahide.ca/official-plan-0 Version Referenced: September 2013. p.44

Hazard lands have uses limited to agriculture, conservation, horticulture, nurseries, forests, wildlife areas, parks and other outdoor recreational activities[42]. Woodlands are identified as protected from incompatible land uses and Central Elgin has indicated they shall promote reforestation and naturalization in all private and public lands where appropriate.

A Life Science ANSI in Springwater is defined as largely coincident with other natural heritage features such as significant woodlots and significant valley lands, and fall within the Natural Heritage designation in the Land Use schedules.

Wetlands include swamps, marshes, bogs and fens. They are lands that are seasonally or permanently covered by shallow water and lands where the water table is close to or at the surface. Wetlands have hydric soils and hydrophytic or water tolerant plants. All wetlands are designated as Natural Heritage on the Land Use schedules. The wetlands in and around Springwater Forest and Conservation Area are classed as Provincially Significant wetlands.

Zoning

One of the most useful management tools in any Master Plan is zoning. Springwater can be divided into four zones which detail slightly different levels of development, management practices, and types of activities allowed. The four zones are:

1. Access/service Zone
2. Interpretive Zone
3. Natural Environmental Zone
4. Recreational Zone.

Access Service Zone

This zone consists of the entrances, roads, entrance control facilities, parking, concession booth, store, administration office and workshop complex.

There are currently three types of road surface within Springwater: asphalt, gravel and dirt. Generally no additional roads are scheduled to be developed at this time with the exception of an additional lane at the entrance planned for 2021. Entrance control facilities to the seasonal campground are not suitable and are also scheduled for upgrade in 2021. Springwater does have a parking problem on weekends and the day-use area should be considered for parking to reduce the on-road parking.

Change rooms and washroom facilities are adequate with only interior alterations and maintenance required. All facilities are to be made accessible during any renovation or reconstruction projects[43].

The administration office and concession booth will undergo preventative maintenance. The campground store is unsuitable and the construction of a new gatehouse/visitor centre is planned for 2021. No changes to speed limits and parking policies are anticipated.

Interpretative Zone

The interpretive zone consists of the schoolhouse, Maple Syrup building, arboretum and dam. Recreational activities in this zone are passive and include hiking, picnicking, wildlife viewing and other nature based activities.

[42] Township of Malahide Official Plan http://www.malahide.ca/official-plan-0 Version Referenced: September 2013. p. 62
[43] https://www.ontario.ca/page/accessibility-in-ontario

The schoolhouse has been equipped with access for customers with disabilities and is used as a meeting place for various community groups, school events such as Envirothon, and large gatherings such as weddings.

Development of the arboretum is ongoing and there are plans to augment a section of the arboretum from group camping to new campsites that can be reserved.

Springwater Dam has been included within the interpretative zone as it provides the Authority with an excellent opportunity to explain the purposes and operation of a dam. Additionally, in 2021, the weather station from Port Bruce will be moved to the dam area providing additional education opportunities regarding water and weather monitoring.

Recreational Zone

This zone is comprised of the east and west campgrounds, beach, picnic areas, playgrounds, volleyball court, and other open spaces. A wide variety of active and passive recreation occurs in this zone including athletics, picnicking, and swimming.

A variety of different development will occur over the life of this Plan to enhance the quality of experience for each visitor and fulfil the Objectives for the Conservation Area.

Natural Environment Zone

The Natural Environment Zone is the largest area and consists of Springwater Forest, Jaffa Tract, and Springwater Reservoir. These areas are relatively undisturbed sites and illustrate the natural environment at work. The only developments proposed in this zone involve trail improvements and interpretative markers. Recreational activities will be limited to hiking, nature appreciation, cross country skiing, snowshoeing, dog walking, and mountain biking

Land Acquisition

Springwater Conservation Area, Forest and Jaffa Tract contain several interesting and significant natural features. Within the property boundaries, a variety of outdoor recreational opportunities are provided as the Conservation Authority has made a substantial effort to meet the needs of the area residents while protecting and managing the resources in an environmentally sound manner. However, there are certain parcels of land adjacent to Springwater that would be beneficial to the Authority to acquire to achieve the strategic goals outlined by CCCA and this Master Plan. Map 14 shows the four properties targeted for acquisition.

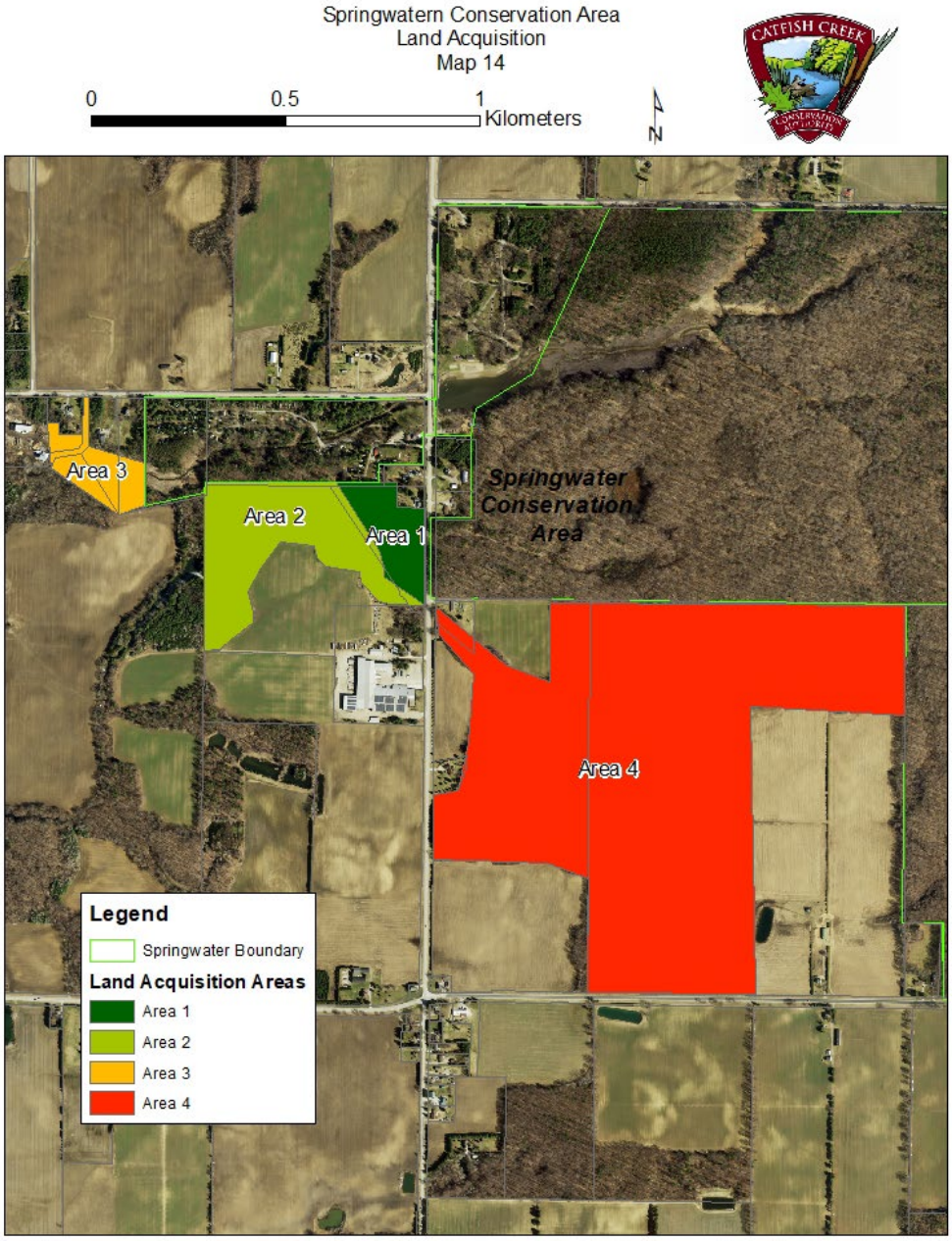
For its present size, Springwater Conservation Area has developed much of the available areas for camping with the ability to add more campsites in different sections of the campground. There are no large sections capable of supporting a new campground area, however some of the group camping areas have been identified since early Springwater Master Plans as formal campsites.

Campsites could be developed within the Mill Pond trail section however a balance between the plants and the augmentation of a favoured nature trail needs to be considered against the economic gains. In addition, some of the natural aesthetics from existing seasonal sites may be jeopardized.

Springwater is not set up as a commercial campground where campground arrangements of campsites and recreational facilities take up as much space as possible. Rather, Springwater is a Conservation Area where the focus is on camping, recreation, and the preservation of the environment. A major attraction to Springwater is the lack of overcrowding. As there are limited new camp site opportunities, a possible solution to expand is through the purchase of adjacent properties.

The following four properties were originally identified in the 1983 and 1990 Master Plans. Descriptions of these properties, along with Map 14 are reproduced from previous Master Plans. If it is in Authority's interest to expand facilities, then it is recommended that consideration be given to the purchase of these properties.

Figure 19: Land Acquisitions (Areas 1 – Area 4) (Map 14)



Area 1

Location	Lot 27 (part of), Concession 6, Central Elgin.
Size	4.45 Hectares
Ownership	Private Landowner
Access	Approximately 114 metres of the northern boundary touches White's Mill Campground. Springwater Road forms the eastern border while the high-water mark of a Bradley Creek tributary forms the western border.
Land Use	The area identified is the forested part of a larger 5.7 Hectare parcel. The remaining property has been cleared and consists of a 150 year old house and is not subject or suitable of purchase. A pine plantation with a small network of trails has been established by the landowner.
Physiography	Norfolk Sand Plain.
Topography	Generally flat to gently rolling, sloping southwesterly to a creek tributary. 70% valleyland and 30% tableland. A small incised valley has been formed by a stream running from the east to west through the middle of the property towards the tributary.
Soils	Oshetemo sandy load and eroded soils.
Hydrology	Well drained land. Streams have high spring and low summer discharge. East-west stream originates in Springwater Forest and has good water quality.
Vegetation	Healthy pine plantation with limited to moderate amounts of ground cover.
Historical	Pond in the north-west corner is the result of an earthen dam built in 1865.
Archeological	No features known.
Educational	If acquired, the property would serve to expand the interpretative program.
Aesthetics	Good
Summary	This area exhibits interesting biophysical and cultural features complementing those in Springwater. Acquisition would allow the implementation of water management techniques to protect this tributary of Bradley Creek. It would also allow for expansion of camping, recreational and interpretative facilities.
Estimated Cost	$300,000

Area 2

Location	Lot 28 (part of), Concession 6, Central Elgin.
Size	7.28 Acres.
Ownership	Private Landowner.
Access	Approximately 275 metres of the northern boundary touches southern Springwater. Vehicular access could be obtained using a farm road south of the property, or from using the 1865 earthen berm in the north-east corner of the property.
Land Use	Northwest portion of the property is scattered planted conifers, with the remaining section being wooded. This parcel is part of a land holding of 15.7 hectares of which 8.5 Hectares is arable land not the subject of the purchase.
Physiography	Norfolk Sand Plain.
Topography	Flat to gently rolling, sloping to the northwest and northeast. Small river valleys are situated parallel to eastern and western borders. 30% tableland and 70% valleyland.
Soils	Oshtemo sandy loam and eroded soils.
Hydrology	Well drained land. Spring along the eastern border has high spring volume but low summer volume and flows into Bradley Creek and the pond created by the earthen dam in 1865.
Vegetation	Deciduous / coniferous mix scattered with sumacs and planted conifers.
Historical	Pond at the properties northeast corner was created .
Archeological	No features known.
Educational	This property would serve to expand the interpretive program.

Aesthetics	Good.
Summary	This area exhibits interesting biophysical and cultural features complementing those in Springwater. Acquisition would allow the implementation of a proper water management techniques to protect this tributary of Bradley Creek, forest management, expansion of camping, recreational and interpretative facilities.
Estimated Cost	$500,000

Area 3

Location	Lot 27 (part of), Concession 6, Central Elgin.
Size	8.9 Hectares.
Ownership	Three private landowners.
Access	Eastern boundary of parcel touches western boundary of Springwater. There is road access from Southdale Road through the White's Mill property.
Land Use	The primary feature is a five-hectare marsh with water levels controlled by the White's Mill Dam. Water is used to irrigate fields to the south. A small mill operates immediately to the west. The pond today serves wildlife and water management functions. Private residences and a pine plantation are situated north of White's Pond.
Physiography	Norfolk Sand Plain.
Topography	Flat gently rolling, 80% valleylands and 20% tablelands. Incised valley of Bradley Creek has been flooded by the dam.
Soils	Mixed sand and silty clay loam north of Bradley Creek, eroded soils in the valleylands, Oshtemo sandy loam south of Bradley Creek and pond.
Hydrology	The marsh was created 150 years ago by damming Bradley Creek. The water level drops an average of .6 metres in summer due to irrigation with staff managing the dam to ensure enough water for aquatic species during low flow conditions. A stream enters the pond form the south. The pond's position on Bradley Creek and the dense growth of cattails makes it important for filtering excess nutrients.
Vegetation	A pine plantation exists in the northeast section. Mixed forest grows on slopes south of the pond. The river valley basin has a mosaic of emergent and floating cover types.
Historical	Grist mill built on White's Pond in 1867.
Archeological	Two sites are registered on Lot 27, Concession 6.
Educational	This property would serve to expand the interpretive program through the development of an interpretive trail around the pond where the following educational features could be identified such as the importance of the area for waterfowl and wildlife, diversity created by the edge effect of a marsh meeting the forest, and the historical value of the wetland for water retention.
Aesthetics	Good to very good.
Summary	Acquisition of this biologically and hydrologically significant area would permit further implementation of the CCCAs stewardship and water management programs. By properly managing the wetland area its water retention value will be secured. White's Pond helps to provide a more constant supply of water to Bradley Creek. Maintaining adequate water for irrigation is also important. Appropriate management techniques to minimise downstream erosion, protect wildlife habitats, and enhance the scientific and educational value of the area. Archeological features would be protected. Camping and recreational facilities can be expended into this area.
Estimated Cost	$600,000

Area 4

Location	Lot 1-3 (part of), Concession 5, Malahide Township.
Size	50 hectares.
Ownership	Private Landowner.
Access	Northern border touches the southern border of Springwater Forest.
Land Use	Forested land with scattered moist depressions. In the northwest corner along Springwater Road, the creek has been dammed up and used primarily for recreation. The forest has been selectively cut over many decades.
Physiography	Norfolk Sand Plain. A western extension of the Tillsonburg Moraine passes through the southernmost portion.
Topography	Gently rolling sand plain with incised stream valleys and swamp depressions. The southern portion presents a more extensive broad, wet, swampy basin with infrequent and small rises.
Soils	Granby sand throughout the central wooded portion (poorly drained). Well drained Oshtemo sand in the northwest corner. Eroded soil in the vicinity of the reservoir and a short distance upstream.
Hydrology	Significant water source area for Bradley Creek. Several wet depressions are situated between the low sand rises of the northern portion. A broad, wet, swampy basin exists in the southern forested portion. These moist depressions provide the water source for streams cutting shallow incisions across the area.
Vegetation	Dominant tree species include sugar maple, American beech, red oak, white oak, white ash, and black cherry. Shrubs include witch hazel, ironwood and flowering dogwood. Species characterization of the incised stream valleys include hemlock, basswood and wild ginger. Deciduous swamp communities in this area include silver maple, red maple, yellow birch and sedges. Among the rare species in this area are American chestnut, swamp white oak and rough leaf goldenrod.
Historical	No features known.
Archeological	No sites known.
Educational	This property would serve to expand the interpretive program through offering access to unique untouched areas of the Forest once a year.
Aesthetics	Moderately good. Forest cover is broken up into irregular patterns by scattered cropland. Dense vegetation growth limits viewing distance.
Summary	This significant area serves as an important source of water for Bradley Creek. It also includes several interesting and rare flora. It is not anticipated additional trails would be put through this area rather it be it be used for educational, community relations and water management purposes.
Estimated Cost	$2,000,000

Plan Implementation

Since the implementation of the 1983 and 1990 Master Plans, Springwater Conservation Area is considered to be largely developed. However, room for growth still exists. New proposals are offered in this Plan to increase the appeal of Springwater, raise the quality of recreational activities, and increase the services available to campers and visitors.

Guidelines from the 1983 and 1990 Master Plans are still applicable to the 2020 Master Plan and are used to direct the implementation of the various phases and proposals.

These guidelines include those for site design, landscape design, community relations and phasing in of development. Sections are also presented for maintenance, enforcement, management, and proposed acquisition of significant natural areas in the immediate vicinity.

Site Design Guidelines

Vehicular and pedestrian traffic moves through the Conservation Area using asphalt roads, gravel/dirt roads, paths and nature trails. Arteries receiving heaviest use that are currently surfaced with asphalt include the main campground road in the West Campground. The width of such roads should be maintained at 6.7 metres with 3.0 meters of vegetation pruned back on each side of the road. Secondary roads (e.g. the west campground road beyond the gabion bridge, east campground loops) should be a minimum of 4.5 meters, and if not asphalt, treated with calcium or some other dust inhibitor. Vegetation should be pruned back from each side at least 1.25m.

The main access road through Springwater Forest should have a maximum width of 2.45m with the same vertical clearance. Secondary forest trails (e.g. along the south edge of the pond) should be maintained at a width of 1.25m (maximum) with vertical clearance of 2.45m. Wood chips should be applied where tree roots become exposed. The Wheelchair Trail should be periodically treated with soil cement to maintain a relatively smooth surface.

Day-use and campground visitor parking lots should not be expanded or relocated. These parking facilities should be surfaced with gravel, periodically treated with a dust inhibitor and encompassed with barriers to restrict traffic movement onto grassed or natural areas.

Present directional patterns on roads (one-way or two-way) should be maintained. Generally no additional entrances, parking areas or roadways will be developed during the life of the Plan, except those for the new exit lane for the new entrance and visitor centre, and those associated with ingress and egress to the new campsites outlined in the Plan. The existing road around the new campsites proposed in Phase 1 will need to be enhanced. The wet areas in the middle and to the north of this new section will need grading and gravel to minimize impact on soils.

Visitors to the day-use picnic pavilion should be directed to park in the day-use parking lot and discouraged from driving across the grass to the shelter.

All campsites within the services campground sections will continue to have individual water and hydro hookups. Individual sewer hookups are not provided, although they are considered as part of future upgrades in the east campground. Gravel pads will be placed on all serviced sites that are used on a seasonal or transient basis. Each site will have a fire pit in a consistent location to prevent campfire burn marks on a given site. Each site will have a picnic table that is not affixed allowing it to move around the site and spread out soil compaction and disturbance of natural cover. Topsoil and grass seed will be applied to the group camping area to provide a more resilient and attractive surface.

Architectural Guidelines

Two types of structure designs prevail at Springwater. The administration building, sugar shanty, new visitor centre and existing picnic shelters are wooden structures, while other service buildings such as the washrooms, beach house and schoolhouse are constructed of brick. Any proposed structures to be built in the future can be constructed of wood, brick or steel as long as the designs and colours adequately blend in with their natural surroundings. For any refinishing work, consider the use of stains on wood components as opposed to colour paints.

Landscape Design Guidelines

Large open areas within the day-use section will be broken up into smaller units by means of mass tree and shrub planting of native deciduous and coniferous species. Future trees plantings between campsites should be discouraged due to the poor growth success and grass trimming difficulties. New tree plantings may occur as part of the development of new sites in order to create a natural separation between sites to minimize the movement of campers across sites.

Dead or fallen trees in all use areas should be removed for public safety and cut of for firewood if applicable based on type and quality of wood, and staff resources available. A hazard tree policy and monitoring program is in place and third party tree experts are brought in to cut any trees that are a safety concern or where staff do not have the equipment or experience to safely remove. A regular schedule of trimming and pruning planting trees should be developed and sustained.

Conservation Area signs should be maintained in good condition. Consider the replacement of all painted wooden signs with more durable painted steel signs.

Community Relations

Springwater Forest is one of the 16 life science Areas of Natural and Scientific Interest identified by the Ministry of Natural Resources and Forestry. As a result, the community relations and outdoor education programs highlight the important natural environment found at Springwater. The education programs identify and explain the facilities/activities offered at Springwater, the provincial and local significance of Springwater Forest, and the watershed management programs such as environmental monitoring.

Information is primarily shared via social media as it provides a cost effective and environmentally effective method to community programs, services and events to the public and stakeholders. Facebook is the most popular with over 4,400 followers, and Instagram (856) and Twitter (265) following respectively. The social media statics for 2020 are as follows:

Channel	**# impressions**	**# interactions**
Facebook	3412	349
Twitter	6637	135
Instagram	(n/a)	(n/a)
LinkedIn	1129	129

The development of the visitor's centre planned for 2021 will deliver on a Master Plan concept remaining from the 1985 Plan where demand for such a facility were warranted at the time, and even more so today with the increase in visitors. No other Conservation Area in Ontario with Springwater's degree of natural and historical significant is without an interpretative centre of some description. Such a facility serves to provide a focus and meeting spot for Interpretative Programs for Springwater and other Authority-owned lands, complementing the facilities provided at the Jaffa Outdoor Education centre offering a destination/stopover point for the large school groups currently using the trail system. Another focus is a general information centre for first-time visitors to Springwater Conservation Area and Forest.

Maintenance Guidelines

Appropriate maintenance techniques are essential for preserving the various facilities and resources provided in Springwater. The following maintenance guidelines are suggested for implementation:

Turf

During the operating season, maintain grass at a height of 6-8 cm depending on weather conditions. Fertilize, aerate and water areas that experience heavy summer wear and compaction. Apply topsoil and/or grass seed in damaged turf areas.

Trees and Shrubs

Periodically prune trees and shrubs adjacent to roadways and maintain a vertical clearance of 3.7 m. Remove all dead or diseased trees within the day-use, camping section and any trees that cause a hazard in relation to walking trails in Springwater Forest and the Jaffa Tract.

Signs

Maintain all signs in good condition. Consider the use of steel signs to replace traditional wooden signs. All new signs should have a coating that prevents graffiti permanently attaching to sign.

Garbage Disposal

Provide seasonal/weekly/monthly campers with one garbage bag per week and provide transient campers with one bag when they register with additional bags able to be picked up for those with longer stays. A garbage facility is available for seasonal use and security improvements to ensure compliance with large items being dropped off should be considered. During peak periods the maintenance staff will contact the disposal company when the bulk container is close to full.

Washroom Facilities

Maintain all washroom facilities at a high standard of cleanliness and meeting or exceeding recommendations from South-West Public Health[44].

Trails

Periodic checks of the trails system should be made by Springwater maintenance staff to prevent the accumulation of refuse, to check for fallen or hazard trees that jeopardize public safety, to replace or check for signage, and to maintain the condition of the trail itself at a high standard. Apply wood chips to portions of the trail where trampling has exposed tree roots or eroded soil sediments (e.g. along the trails immediately south of the pond).

Roads

To develop and implement a system of annual road maintenance within Springwater involving regrading of gravel, dust inhibitors, and patching or placing new asphalt as required.

[44] https://www.swpublichealth.ca/

Fencing

All boundary fencing will be maintained in a satisfactory manner and replaced with similar materials where required. New fencing along seasonal sites 1-5 is being considered for 2021.

Administration and Staffing

Administration of the Conservation Area capital projects will be conducted from CCCA Administration centre. Management of the day-to-day operations is headed by the Conservation Areas Supervisor with the assistance of Field Technicians, Park Technicians, Assistant Park Technicians and volunteers.

The Conservation Areas Supervisor is responsible for the year-round operation and maintenance of the Conservation Area such as snowplowing of the Admin centre, visitors centre and forest parking lot.

Enforcement

The Conservation Areas Supervisor responsible for all charges laid under the Conservation Authorities Act (Section 29). Other Authority personnel have a secondary enforcement role.

The list below indicates other individuals or organizations that can be called upon to keep a watch on and/or enforce the Conservation Authorities Rules and Regulations:

1. Ontario Provincial Police – Elgin Detachment
2. Conservation Officers (Ministry of Natural Resources and Forestry)
3. Private Security Firms

In case of fire, 911 should be called. The Township of Malahide fire station is located at John Wise and Imperial Road, with a 5.7 km distance to the Administration Office.