

2.0 Existing Conditions

2.1 Natural Environment

The existing natural environment features of the Kanata Lakes NEA include a mix of forested areas, wetlands, bedrock outcrops and a stormwater pond. Figure 1 demonstrates the variety of vegetation communities within the Kanata Lakes NEA. The following natural environment information was gathered principally from three documents:

- *Kanata Lakes Study Area Natural Environment Assessment (Brunton 1992) (i);*
- *Shirley's Brook and Watts Creek Subwatershed Study (Dillon 1999) (ii); and,*
- *a Review of Campeau Lands within the South March Highlands Conservation Lands (F.F. Slaney & Company Ltd. 1978).*

As part of the larger Carp Ridge and South March Highlands Area, the Kanata Lakes study area provides a complex series of habitats that are unusual for the City of Ottawa (i). The majority of the general area has been impacted to some extent by human disturbances such as logging since the 1800s, cattle grazing (primarily north of the Nepean–Arnprior Railway line), and agriculture (cropland west of Goulbourn Forced Road). In 1870 much of the area was also impacted from what is known as the “Great Fire” (i).

The Kanata Lakes area is characterized by upland vegetation that transitions abruptly to wetlands in depressional areas. The flora and fauna are dominated by a high number of southern species with a slight northern influence (i). The majority of the 500 flora species found within the Kanata Lakes area are typical or common in the Region (Brunton 1992). The exceptions are those species that are considered to be northern species and a few uncommon or rare southern flora (i). Furthermore, 108 of the 500 species are considered to be non-native and are associated with the railroad and Goldbourn Forced Road (i).

The most common vegetation type is the early successional upland deciduous forest. This community has a long history of disturbance due to fires, logging, agricultural development (i). Marshes are common in the vicinity of the Beaver Pond and along inputs to the pond, especially from the west. The vegetation communities of particular natural history interest in our study area include late succession deciduous forest, late succession mixed forest, bedrock outcrops and wetlands.

2.1.1 Late Succession Deciduous Forest

This sugar maple, American beech and yellow birch forest is common on the north side of the Beaver Pond, approximately 300 metres east of Goulbourn Forced Road and extending to the parking lot northeast of the Beaver Pond, and the northwest portion of the study area. These communities are generally represented by the dry-fresh sugar maple-beech deciduous forest (Community 7) on Figure 1. The forest is bordered by early successional deciduous forests to the west, generally to the north, south of the Nepean–Arnprior Railway line (Community 9), and lowland deciduous communities (Community 8) adjacent to the

meadow marsh. This area represents a portion of the natural area 'K4' identified in Dillon (1999).

This natural area provides a high forest coverage, with several area-sensitive breeding birds reported by Brunton (1992) including scarlet tanager, ovenbird, American redstart, black-and-white warbler, veery, pileated woodpecker, barred owl and ruffed grouse. The forests are linked to the adjacent natural areas via remnant woody vegetation and wetlands (ii). These natural areas provide a wildlife corridor which enable birds and other wildlife to penetrate away from the core South March Highlands and Carp Hills natural areas, and inland from the Ottawa River via smaller natural areas to the northeast (ii). The portion of the forest between the Beaver Pond and the Nepean-Arnprior Railway line, including adjacent early successional forests, represents the south portion of the Trillium Woods Natural Environment Area proposed by Brunton (1992).

As with many of the other natural areas, there is generally low human disturbance and little site fragmentation. Cattle grazing and other agricultural activity have had little impact on the more mature forests. Brunton (1992) noted that these areas appeared to be missed or lightly impacted by the fires of 1870. The ironwood and black cherry associations are generally located north of the Nepean-Arnprior Railway line, however common associate tree species in our study area include white ash, red oak and basswood. Another late successional deciduous forest is located in the west portion of the study area, with fingers extending for a maximum of approximately 600 metres to the east towards Goulbourn Forced Road. This west area is in the same general location as the natural area 'K1' identified in Dillon (1999). This west area, including adjacent early successional forests, represents the West Block Natural Environment Area proposed by Brunton (1992).

Several rare flora species were reported in the mature forests by Brunton (1992). Plants still considered regionally significant (RMOC 1998) included maidenhair spleenwort, hairy woodrush, downy rattlesnake-plantain, white vervain, burreed sedge, showy orchis, virginia spring beauty and long-spurred violet. Wildlife of interest reported by Brunton (1992) as likely breeding in the deciduous forest included pileated woodpecker and barred owl, the latter considered 'possibly rare' by Brownell and Larson (1995). Slaney (1978) recorded 23 species of mammals in the general study area between 1975 and 1978 including the southern flying squirrel, which is considered rare to uncommon in Ontario, regionally rare and a species of concern on a provincial basis.

2.1.2 Late Succession Mixed Forest

A small remnant sugar maple and Eastern hemlock forest is located adjacent to the south side of the marsh community associated with the inflow to the Beaver Pond (Community 10 on Figure 1). Brunton (1992) reported that undergrowth was sparse, composed primarily of sugar maple seedlings and a scattering of mature hardwood forest herbaceous species. Natural area 'K5', as defined in Dillon (1999), includes this mixed forest. The human disturbance and site fragmentation associated with this community is greater than the other natural areas. Younger mixed forests are located east of the First Line Road allowance and south of the meadow marsh (Community 3 on Figure 1).

As with the other late successional forests, the high quantity of snags and dying elms in the area provide nesting and perching sites for such species as the red-headed woodpecker

(Slaney 1978). This woodpecker is considered 'possibly rare' on a regional basis by Brownell and Larson (1995).

2.1.3 Bedrock Outcrops

Small areas of bedrock outcrops are scattered throughout the study area (Community 2 on Figure 1). The largest of these areas is approximately two hectares in size. Regionally significant plant species reported in this community by Brunton (1992) included rusty woodsia and maidenhair spleenwort. The natural area 'K3' identified in Dillon (1999) contains a couple of bedrock outcrops as delineated by Brunton (1992). The human disturbance and site fragmentation associated with this community is also greater than the other natural areas.

2.1.4 Wetlands

The wetland area running west of the Beaver Pond is the evolution of what was formerly a much wetter area but was significantly dewatered when the current Beaver Pond was constructed by digging a deeper pond.

The meadow marsh associated with the Beaver Pond is dominated by reed-canary grass with patches of cattails and purple loosestrife (Community 1 on Figure 1). Other species observed were willows, dogwoods, cut grass, jewelweed and Canada blue joint (Dillon 1999, Slaney 1978). Species of note identified by Brunton (1992) included green bur-reed and water-pepper, the latter is still considered regionally significant (RMOC 1998). Eggs belonging to the Blanding's turtle, the only regionally significant non-avian fauna reported by Brunton (1992) in the general study area, was reported by Slaney (1978). The open water portions of the Beaver Pond and adjacent marsh areas provide habitat for waterfowl.

Two small areas of the South March Highlands Provincially-significant wetland complex are located in the west portion of the study area, approximately 150 metres east of the Carp River and extending to the east to the First Line Road unopened road allowance. The vegetation communities within the designated wetland complex are a deciduous swamp and thicket swamp (Communities 4 and 11, respectively on Figure 1).

In addition to the wildlife observations specific to the above vegetation communities, other birds of interest that are reported as breeding in the early successional forests and meadows of the study area include Cooper's hawk, northern saw-whet owl and eastern bluebird. Although considered at risk in the past, both Cooper's hawk and eastern bluebird are no longer listed as vulnerable by COSEWIC, although Cooper's hawk is considered regionally rare by Brownell and Larson (1995). The northern saw-whet owl has no status of significance but has specific breeding and other habitat requirements.

The edges of the Beaver Pond were electrofished for the Terry Fox Drive Environmental Assessment Study (2000). Central mudminnows dominated this catch, although pumpkinseed, brook stickleback, fathead minnow and goldfish were also captured. An unnamed wetland located at Goulbourn Forced Road, upstream from the Beaver Pond was

also electrofished and several hundred central mudminnows were present (Dillon Consulting Limited, J.L. Richards & Associates Limited, 2000).

Fish observed by Dillon (1999) immediately downstream of the Beaver Pond dam included bluntnose minnow, creek chub and brook stickleback. The benthic invertebrate samples from the same station were dominated by caddisflies and black flies, which are considered to be pollution sensitive species (Dillon 1999). The Hilsenhoff Index score for the undeveloped site was 4.3 indicating good water quality with some degree of organic pollution likely. Water quality appeared to be poorer further downstream in the Kizell Drain and Watt's Creek.

2.1.5 Recent Observations

Field reconnaissance on November 29, and December 21, 2000 found general conformity with the vegetation units identified in the existing studies. A meadow marsh is present west of Goulbourn Forced Road in an area apparently identified as meadow/abandoned cropland by Brunton (1992). Disturbances through cattle grazing, other agricultural activities and residential activity were particularly low in the forested areas in the north portion of the study area, north of the Beaver Pond and north of the wetlands area west of the Beaver Pond. Sugar maple trees (diameter at breast height (dbh) in the range of 70 cm) are representative of the larger trees in the more mature forest. Many mature American beech trees are also present. There are a lot of snags which provide nesting cavities and other wildlife habitat. Good regeneration of balsam fir and white cedar was noted in some areas, and portions of the forest west of Goulbourn Forced Road will likely become reflected of mixed forest conditions rather than deciduous forest. These pristine forested areas have high aesthetic qualities and provide a variety of wildlife habitat. Wildlife observations during the field reconnaissance included white-tailed deer, red squirrel, gray squirrel, eastern cottontail and white-breasted nuthatch.

Disturbances associated with past agriculture and more recent residential developments are more noticeable in the south portion of the study area. The late succession mixed forest has been heavily impacted by recent residential development west of Walden Drive. Some larger bur oak (120 cm dbh) and white spruce trees remain among white cedar, sugar maple and balsam fir trees (maximum diameter of 30 cm dbh) immediately south of the marsh community, but much of the forest has been removed. Some remaining trees have been vandalized and a fire pit was observed. Regeneration of many species, including balsam fir, maple and beech, was generally good in the remaining forested area. The trail along the south side of the marsh and pond has been blocked by construction of a small forebay, although there appears to be an opportunity to reconnect the trail once construction is completed. Tree cutting was occurring at the time of the field survey in the forest east of Goulbourn Forced Road. Construction appeared to be extending to the south edge of the wetland marsh. On December 21 a backhoe was well submerged into the wetland vegetation.

To the west of Goulbourn Forced Road, disturbances associated with past cattle grazing and cultivation are reflected in a dominance of meadows and early successional forests. Wildlife usage in this area included a ruffed grouse and evidence of porcupine grazing. Pine trees

have been planted adjacent to the former agricultural fields, and hawthorn shrubs are regenerating in the fields.

The marsh and swamp wetland boundaries along the inflow to the Beaver Pond wetland west of the pond mapped in the existing studies appear to be generally accurate. The channel associated with the inflow to the pond is defined as an open watercourse approximately 150 metres west of the pond. West of this point the channel is less defined, with pockets of water among vegetation growing within the channel. A moderately defined channel extends into the meadow marsh from the newly constructed forebay off Walden Drive. There is no defined east-west channel west of the channel off the forebay. The meadow marsh appeared relatively dry, with firm footing in most areas. In addition to the reed canary grass, common cattails, purple loosestrife, joe-pye weed and willow shrubs were noted. West of Goulbourn Forced Road, a greater amount of woody vegetation is present in the wetland communities including red-osier dogwood and white cedar.

The eastern limits of the deciduous swamp boundaries delineated on the South March Highlands Wetland Complex mapping between the First Line Road allowance and the Carp River appear consistent with field observations. Red maple, yellow birch and black ash appear to be the most common tree species. The maximum size of the trees is in the range of 35 cm dbh, with most trees in the range of 15 - 20 cm dbh. As in the rest of the study area, the transition between wetland and adjacent upland habitat appears to be very abrupt. There appears to be some discrepancy between the location of the designated Provincially significant wetland communities closest to the Carp River and aerial photograph observations, although this area was not reviewed as part of the field reconnaissance.

2.2 Development

The development of the high-tech sector has caused Kanata to emerge as one of the fastest growing areas in the City of Ottawa. In the year 2000, Ottawa's new home market posted record sales, with the most new houses sold of any year in the last decade. Kanata and Nepean are capturing the largest share of sales according to monthly housing reports prepared by the Corporate Research Group for the Ottawa-Carleton Home Builders' Association (Brady 2000).

The area surrounding the Beaver Pond is in a time of transition. The development of the Marchwood-Lakeside Community, within which the study area is located, is expected to support a population of 15,000 to 20,000 people at the end of a 10 to 15 year development period and cover an area of 450 hectares (Brunton 1992).

There are five different landowners surrounding the Kanata Lakes NEA ranging from private landowners to land development corporations. Southeast of the Natural Environment Area, the Genstar development company established a residential community named Kanata Lakes. The remaining parcels of land adjacent to the Kanata Lakes NEA are currently undeveloped.

Ownership of property abutting the Kanata Lakes NEA includes (See Figure 2):

- KNL
- Teron
- W. J. Richardson
- J & C Burke
- E.A.B. Management Co. Ltd.

To the north and south of the NEA the lands are owned by KNL. In the year 2000, Urbandale, Richcraft and Cardel formed a new company called KNL and bought 800 acres of land in the area from Genstar. KNL plans to develop 540 acres, with the remaining 360 acres left as green space for parks, nature trails, waterways and environmental lands. Development applications have been submitted to build six luxury model homes to create a "Street of Dreams" north of the Beaver Pond (Brady 2000).

The Kanata Lakes NEA is designated a natural environment area by Kanata's Official Plan. KNL presently owns the majority of the Kanata Lakes NEA with the exception of the City owned Beaver Pond. Approximately 85% of the land north of the Kanata Lakes NEA is designated Residential by Kanata's Official Plan. Portions of the property are designated Community Commercial, Institutional and Park & Open Space. Apart from the Beaver Pond which is zoned Open Space under the Marchwood-Lakeside By-law 167-93, the lands fall under the South March Township By-law 552 and are designated Marginal Resource (Restricted).

Teron Inc. owns 15.3 acres of land adjacent to the Kanata Lakes NEA. The property is located east of Goulbourn Forced Road and the north edge of the Teron property abuts the Kanata Lakes NEA. An amendment to the zoning by-law was approved in November 2000 which allows the development of 20 single family homes in a land condominium format. The Teron property is designated Medium Density Residential and Natural Environment Area by Kanata's Official Plan. The zoning is Residential Type 4B. A zoning amendment was approved in November 2000 to allow decreased density and fully detached dwellings.

W.J. Richardson, J&C Burke and E.A.B. Management Co. Ltd. own the private property west of First Line Road Allowance. The Richardson family runs an active farm fronting on Richardson Side Road (Brunton 1992). The property is currently outside the urban boundary but will be included when Terry Fox Drive is realigned. The lands are designated Marginal Resource (Restricted) by the City of Kanata's Official Plan and South March Township By-law 552. The lands are considered environmentally sensitive and single family residential uses, agricultural and forestry pursuits are permitted. The policy states that in response to an application to sever or subdivide areas, Council may decide to acquire such lands (s.4.4.1, City of Kanata OP).

Figure 2 shows ownership of the land surrounding the NEA. The planning policy is addressed further in Section 3.2.

2.3 Recreation

The Kanata Lakes NEA is of great value to the members of the surrounding community and draws from recreational users across Ottawa. The trail system is very close the Kanata Lakes

community and accessible from the Beaver Pond, two points on Walden Drive and a parking lot on Goulbourn Forced Road.

It is a popular recreational area with a network of natural and stone dust paths that weave throughout the area. The paths provide year-long enjoyment and are frequently used. Trail users cross-country ski, mountain bike, hike, run, walk, orienteer, bird watch, investigate natural history and enjoy photography on the trails. The Beaver Pond is also used for skating in the winter. If the City decides to permit skating, it is recommended that the inlet/outlet of the pond be fenced off as part of a risk management strategy. Water recreation such as boating, fishing and swimming is not encouraged in stormwater facilities for water quality/public health reasons. For safety reasons, it is recommended that motorized vehicles be excluded from the NEA.

Organizations actively using the NEA include the Ottawa Orienteering Club (have developed excellent maps), a mountain bike club (also have maps) and a ski club with signs and numbered trails on a map adjacent to Goulbourn Forced Road.

There are linkages to other parks and communities within the path network. The City would like the linkages maintained and this study provides opportunities for linkages to be preserved and enhanced. See recommendations in Section 3.4.

In June 1994, the National Capital Commission published a report titled Integrated Network of Pathways for the National Capital Commission (NCC). The objective of the report is to develop an integrated network of pathways in Ottawa and towards destinations outside the region to help bolster the symbolic significance of the National Capital. In subsequent reports the trails in the Kanata Lakes NEA are recognized as a potential east-west network and it is suggested that connections be provided from the Kanata Lakes NEA to Terry Fox Drive when it is extended (Dillon Consulting Limited, J.L Richards, 2000).

In 1996, the City of Kanata developed a cycling network plan. The plan recognized the value of involving the Natural Environment Areas in the cycling network. Goulbourn Forced Road was identified as a desirable place to develop a shared use off-road pathway with linkages to the cycling network.