



Environmental Impact Statement:
OPA and Re-zoning of 820, 870, 940 and 1030 Huntmar Drive

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1. Introduction

This report and attached EIS Form constitute an Environmental Impact Statement (EIS) for the City's proposed change to the Natural Environment Area (NEA) designation boundary and associated re-zoning on the properties at 820, 870, 940 and 1030 Huntmar Drive. Under the City's Official Plan and Council-approved policies, official plan amendments and applications for re-zoning within or adjacent to features of the City's natural heritage system require preparation of an Environmental Impact Statement, according to the City's EIS Guidelines (2010). In this case, the changes proposed by the City in the re-zoning and OPA do not include physical development or site alteration. Consequently, the potential environmental impacts of the project are minimal, and the EIS Guidelines permit the submission of a *scoped EIS* in support of the application.

2. Background

On June 25, 2008 City Council adopted the Comprehensive Zoning By-law 2008-250, affecting all properties within the City of Ottawa. An appeal was received from Richcraft Homes Ltd. regarding 13 ha of land located at 820, 870 and 940 Huntmar Drive. In order to resolve this appeal, a revised zoning boundary between the RU- Rural Countryside zone and EP3-Environmental Protection subzone 3 was proposed by staff on the basis of site-specific investigations. However, in the opinion of staff, the change to the zoning boundary was significant enough to warrant an Official Plan amendment. Further to this, the Agriculture and Rural Affairs Committee has recommended that Council direct staff not to forward the Zoning By-law amendment to Council until such time as an Official Plan amendment has been processed and the Official Plan amendment by-law rises to Council.

The proposed amendment would result in approximately 7.1 hectares of land being re-designated from Natural Environment Area to General Rural Area. The Natural Environment Area designation applies to land having a high environmental value as assessed through federal, provincial, and municipal studies. The intent of the General Rural Area designation is to provide a location for agriculture and for those non-agricultural uses that due to their land requirements or the nature of their operation would not be more appropriately located within urban or village locations.

3. Proposed Application

The proposed OPA and zoning change would re-designate 7.1 ha of land from Natural Environment Area, with an EP3 zoning, to General Rural Area, with an RU zoning (Figure 1). No physical development or site alteration is proposed. No immediate, physical change in land use is proposed, although the re-zoning would change the permitted land uses.

3.1. NEA and General Rural Land Uses

Under Policies 3.2.2 (3 – 4) of the Official Plan, land uses in NEAs should not, “adversely affect the natural characteristics of the area...” They could include, “open air recreation; scientific, educational, or conservation uses associated with the features of the environmental area; existing agriculture operations; or forestry as defined by the Forestry Act.” The designation also allows, “a single-detached dwelling and accessory buildings... on lots

existing as of the date of adoption of this Plan, where the lot fronts on an existing public road, and where a dwelling is permitted in the zoning by-law.”

Under Policies 3.7.2 (3 – 4) of the Official Plan, as modified by OPA 76 (Comprehensive Official Plan Review), the General Rural Area is intended to, “accommodate a variety of land uses that are appropriate for a rural location and a limited amount of residential development where such development will not preclude continued agricultural and non-residential uses.” These land uses could include:

- Agricultural uses, forestry and conservation, and natural resource management activities;
- Residential uses on existing lots of record and on new lot created by severance as provide for by this plan;
- Animal boarding, breeding, and training facilities, including stables;
- Bed and breakfast establishments;
- Open space;
- Cemeteries.

Actual land uses are regulated through the Zoning By-law. Table 1 lists the permitted land uses under the EP3 and RU zoning. Additional uses added by the proposed re-designation and re-zoning are highlighted in grey.

Table 1. Permitted Land Uses under EP3 and RU Zoning

Permitted Land Uses	
EP3 Zoning	RU Zoning
<ul style="list-style-type: none"> • Environmental preserve and education area; • Forestry operation; • One detached dwelling on a lot fronting on a public street; • A home-based business; • An accessory building or structure associated with a detached dwelling or a home-based business, but located no further than 60 m from the detached dwelling. 	<ul style="list-style-type: none"> • Agricultural use; • Animal care establishment; • Animal hospital; • Artist studio; • Bed and breakfast, subject to a limit of 10 guests; • Cemetery; • Detached dwelling; • Equestrian establishment; • Environmental preserve and educational area; • Forestry operation; • Group home, subject to a limit of 10 persons; • Home-based business; • Kennel; • Converted retirement home, subject to a limit of 10 persons; • Secondary dwelling unit.

In addition, an RU designation permits one severance application per lot, subject to the normal severance requirements.

The proposed change to the land use designation and zoning would increase the range of permitted uses, the intensity of permitted uses, and the potential footprint of permitted uses. However, all of the new commercial uses, with the exception of agriculture, would require the submission of a new development application and would trigger the requirement for another environmental impact statement specific to that application.

4. Scope of the EIS

The City of Ottawa EIS guidelines provide the following, guiding principle:

At a minimum, the EIS must demonstrate that the proposed development or site alteration will have no negative impacts on the values or ecological functions for which the triggering environmentally significant lands or natural heritage features have been identified (p. 10).

4.1. EIS Triggers

The City has identified the following EIS triggers within 120 m of the area intended for re-designation and rezoning:

- The South March Highlands NEA;
- Significant Woodland;
- Significant Wildlife Habitat (Hazeldean Escarpment);
- Potential habitat for endangered or threatened species;
- South March Highlands Provincially Significant Wetland.

4.2. Project Activities

There are no specific development or site alteration activities associated with the OPA and rezoning application. The proposed OPA and rezoning would increase the range of permitted uses, the intensity of the permitted uses, and the potential footprint of the permitted uses.

The majority landowner of the affected property, Richcraft Homes, has indicated that they intend in the future to apply for an extension of the urban boundary to include this property, with the further intention of developing it as an urban subdivision. However, such an extension of the urban boundary can only be done through the Comprehensive Official Plan Review process. The City conducted a Comprehensive Review in 2009 (OPA 76), at which time none of the subject properties were added to the urban area or included in the original recommendations by City staff for addition. The urban boundary provisions of OPA 76 are currently under appeal to the OMB.

If the subject properties were to be added to the urban area in the future, any consequent development applications would trigger the requirement for a new environmental impact statement. The impacts of potential expansion of the urban boundary and any potential, future subdivision development lie beyond the scope of this EIS, but are discussed under Cumulative Effects.

4.3. Cumulative Effects

The City’s EIS guidelines require the consideration of cumulative environmental impacts from existing or foreseeable future development. In this case, the subject property lies immediately adjacent to the Terry Fox Drive extension, currently under construction. In addition, the land lying across Terry Fox Drive from the subject property, within the urban boundary, is designated and zoned for future residential development. This application must be evaluated in the context of both of those projects.

4.4. Scope of the EIS

This environmental impact statement will consider: (a) whether the EP3 or the Rural land use designation is more consistent with the current condition of the affected land; (b) if the expanded land uses permitted under the re-zoning are consistent with protection of the ecological values and functions for which the EIS triggers are identified as significant. As part of the evaluation, the EIS will consider the interactions and cumulative impacts of the potential land uses with the construction of Terry Fox Drive and future development of the lands within the urban boundary.

Table 2. EIS Triggers and other Potential Ecological Values and Functions
(Identified in accordance with the City of Ottawa EIS Guidelines 2010)

EIS Trigger	Ecological Values and Functions
South March Highlands NEA	Natural Environment Systems Strategy (NESS) values with score of moderate or greater: <ul style="list-style-type: none"> • Common vegetation community/landform representation; • Rare vegetation community/landform representation; • Endangered, threatened and rare species; • Vegetation community/landform diversity; • Seasonal wildlife concentrations; • Hydrological features; • Condition of natural area. Provincial Candidate Life Science ANSI Evaluation <ul style="list-style-type: none"> • Representative example of escarpment slope vegetation; • Representative example of rock barren vegetation; • Protected from significant human disturbance by rough terrain.
Significant Woodlands	As per the criteria in the City of Ottawa Official Plan:

	<ul style="list-style-type: none"> • Mature stands of trees 80 years of age or older; • Interior habitat more than 100 m inside the edge of a forest patch; • An adjacent surface water feature.
Significant Wildlife Habitat	<p>Escarpment habitat:</p> <ul style="list-style-type: none"> • Potential for support of significant vegetation communities; • Potential for seasonal concentration areas (<i>e.g.</i> reptile hibernacula).
Significant habitat of endangered or threatened species	<p>Potential significant habitat for endangered or threatened species, as identified by the Ministry of Natural Resources or other studies.</p> <ul style="list-style-type: none"> • Butternut; • Bobolink; • Blanding's turtle; • American ginseng; • Whip-poor-will; • Chimney swift; • Loggerhead shrike; • Grey fox; • Rusty-patched bumble bee.
South March Highlands Provincially Significant Wetlands	Biological, Hydrological, Socio-economic and Special Features.

5. Methodology

Preparation of the environmental impact statement involved the following tasks:

1. Examination of 1976, 2008 and 2010 aerial photography.
2. Four site visits to assess the vegetation communities on site, their condition, and their apparent history of land use:
 - a. May 10, 2010;
 - b. July 13, 2010;
 - c. September 2, 2010;
 - d. September 7, 2010.
3. Review of background materials and related studies, especially:
 - a. Terry Fox Drive Extension CEAA Screening Report (Dillon 2009);
 - b. Natural Environment Systems Strategy for the Regional Municipality of Ottawa-Carleton (RMOC 1997);
 - c. Natural Heritage Information Centre's Natural Areas Report for the South March Highlands Candidate ANSI;
 - d. Carp River Subwatershed Study;
 - e. Natural Environment Assessment: South March Highlands Conservation Forest (Brunton 2008);

- f. Natural Environment Area Boundary in South March Highlands Special Study Area (Brunton 2004);
 - g. South March Highlands Study Area: Natural Environment Assessment (1992);
 - h. COSEWIC Status reports for relevant species at risk (not available for Loggerhead Shrike, but Recovery Strategy available);
4. Receipt and review of public comments and information.

The fieldwork did not include a detailed plant inventory. Such an inventory would be necessary for an application involving a physical development or site alteration. In this case, the purpose of the field work was to determine the type and condition of the vegetation communities on site, and to assess which zoning was most appropriate for them. Similarly, a detailed wildlife inventory was not conducted, but would be required for a physical development or site alteration.

6. Site Description and Observations

6.1. Site Description

The subject properties lie along the boundary of the South March Highlands and the Carp River Valley, north of Huntmar Drive. The Carp River runs from east to west across the central section of the properties. The land adjacent to the river is relatively flat, with a wide floodplain. Sections of the floodplain support meadow marsh vegetation. North of the Carp River, the land rises gradually to the foot of the Hazeldean Escarpment, which runs east to west across the properties. The Hazeldean Escarpment constitutes the surface trace of the underlying Hazeldean fault, and it is marked by a well-defined change in topography and surficial geology. The escarpment rises abruptly from south to north, climbing approximately 30 m over less than 100 m on its steepest slopes (Figure 1).

South from the foot of the escarpment, the surficial geology consists of relatively flat Palaeozoic sedimentary rocks overlain by clay soils of the Carp River valley and floodplain. North from the foot of the escarpment, the surficial geology consists primarily of Precambrian metamorphic rocks, covered in shallow till soils or pockets of organic soils (especially in wetland areas) with abundant exposed rock outcrops: *i.e.* the South March Highlands. The different soils reflect the extent of inundation during the post-glacial period, approximately 12,000 years ago, when the Ottawa Valley was occupied by a shallow sea (the Champlain Sea). Higher areas of the South March Highlands were not flooded, while the adjacent lowlands and low areas within the South March Highlands received depositions of marine silt and clay (Figure 2).

Figure 2 shows Precambrian bedrock extending south of the Hazeldean Escarpment. This reflects the downward slope of the Hazeldean Fault from north to south, which extends the subsurface section of the Precambrian bedrock south beyond the actual surface trace.

The Hazeldean Escarpment is not continuous across the properties. A break occurs in the center section of the property, where the main ridgeline bends slightly north before continuing east. A second, larger break – known locally as “The Saddle” – occurs east of the property, where the Champlain Sea once inundated a low-lying area, leaving behind a pocket of silt and clay (Figures 1, 2 & 3). Both breaks in the escarpment are accompanied by clear changes in vegetation. The two breaks are connected across the property by a valley with deeper till and

clay soils, creating an outlying rock knoll. The low-lying area of clay and silt is drained by a straightened watercourse, which drains south, under Terry Fox Drive, and then through the subject properties to the Carp River (Figure 3). The form of the watercourse changes along its length, from a wet swale near Terry Fox Drive, to an incised and eroded ditch through pasture land, and finally to a broad wet meadow near the Carp River.

Figure 1 shows the alignment of Terry Fox Drive as a curved line to the east of the area proposed for rezoning. Although it does not appear on the 2008 aerial photography, the road is currently under construction, creating a physical barrier between the subject property and areas of the South March Highlands to the east. The areas east and north of Terry Fox Drive lie within the urban boundary, and the section immediately across Terry Fox Drive from the subject property is designated for residential development and zoned DR – Development Reserve.

The proposed OPA and re-zoning would change the land use from Natural Environment Area/EP3 to General Rural/RU on two sections of the property (Figure 1). The eastern section lies in the area of the rock knoll, within the geological boundary of the South March Highlands and within the boundary of the South March Highlands Candidate ANSI (Figure 1). The new, proposed boundary for the eastern section would lie approximately 125 m from a small section of the provincially significant South March Highlands Wetland Complex. The western section also lies within the current mapped boundary of the South March Highlands Candidate ANSI, but south of the Hazeldean Escarpment itself, in the floodplain of the Carp River (Figure 1).

The boundaries of the vegetation communities identified in Figure 3 do not conform to the proposed new zoning boundary, because they are determined for different purposes and using different criteria. The delineation of the vegetation communities occurred through this EIS. The community boundaries are based upon a number of ecological criteria, including dominant vegetation cover, maturity of the community, geology, soils, topography and aspect. The delineation of the zoning boundary was intended to reflect land use and condition – historical and current. Where the proposed zoning boundary bisects a vegetation community, such as Communities 2b, 4 and 6, it implies that the portion of the community proposed for RU zoning is more disturbed by historical and current land use than the portion proposed for EP zoning.

6.2. Site Visits

6.2.1. May 10, 2010

As shown in Figure 4, the May 10, 2010 site visit focused on the slope of the Hazeldean Escarpment in the eastern section of the property. The steeper sections of the slope support a mature forest of sugar maple and bur oak (Figure 3, Community 2a). Two gently sloped areas of the escarpment support extensions of the old-field and pasture vegetation community that dominates the valley south of the escarpment (Figure 3, Community 1).

6.2.2. July 13, 2010

The July 13, 2010 site visit again focused on the Hazeldean Escarpment, for the purpose of delineating the lower boundary of the slope (Figure 4). The visit included the full length of

the site, although Figure 4 only shows the eastern section. The visit confirmed the presence of a mature forest on the central and western sections of the escarpment (Figure 3, Community 2a & c), and it identified a red maple swamp adjacent to the Carp River in the western section of the site proposed for re-zoning (Figure 3, Community 8).

6.2.3. September 2, 2010

The September 2, 2010 site visit focused on the top and rear of the rock knoll occupying the majority of the eastern section of the site (Figure 4). The purpose of the visit was to assess the type and condition of the vegetation communities, and to look for evidence of past land use. The visit revealed the rock knoll to be dominated by a patchy woodland of small elm and white ash, with an overall cover of approximately 50 – 60%, and an understory of common buckthorn. The herbaceous vegetation is dominated by non-native vegetation typical of old pasture land: timothy, cow vetch, butter and eggs, Virginia creeper (Figure 3, Community 4). Native rock barren species are sparse.

The steep north slope of the rock knoll supports a mature, deciduous forest community, similar to that along the south slope – but somewhat less steep and dry (Figure 3, Community 2b). The valley behind the rock knoll contains a mature, shade tolerant forest of sugar maple and bur oak (Figure 3, community 6). The largest trees, near the west end of the valley, exhibit a spreading, “open canopy” form, indicating that they matured in an open environment, such as a pasture, without competition from adjacent trees. This evidence is consistent with the remains of a split rail fence running north from the Carp River valley, across the west end of the knoll, through the valley behind the ridge, and up to the edge of the main ridgeline. A ceramic insulator nailed to a post at the north end of the fence line suggests that it once supported an electric cattle fence (Figure 5).

Access to Community 7, to the northeast of the rock knoll, was limited by construction of Terry Fox Drive.

6.2.4. September 7, 2010

The September 7, 2010 site visit also focused on the vegetation communities on and behind the rock knoll (Figure 4). The purpose of the visit was to look more closely at Vegetation Community 4 (Figure 3) in order to identify any sub-communities or obvious ecological boundaries. None were found. There does not appear to be a distinct boundary between Community 1 on the lower slopes of the escarpment and Community 4 on the rock barrens; the change between the two communities is gradual, appearing to reflect the increasingly shallow soils near the top of the knoll. The most obvious ecological boundary occurs along the top of the north slope of the knoll, where the old pasture vegetation on top of the knoll gives way to the dense, shade tolerant, deciduous forest on the slope and in the adjacent valley (Communities 2 & 6).

6.3. Wildlife Observations

Incidental wildlife observations suggested that the site supports a typical, but very diverse faunal community. Meadow, old-field and forest interior bird species were present on the property. Turkey vultures and red-tailed hawks were observed soaring along the escarpment. Large mammal observations included white-tailed deer trails and scat, signs of black bear

foraging, a porcupine den, and coyote and/or fox dens. Garter snakes were observed basking on rock outcrops on the knoll. Leopard frogs were observed in the wet areas of the active pasture near the Carp River, and an American toad was observed on the south escarpment.

The presence of garter snakes on rock outcrops immediately adjacent to the Hazeldean Escarpment suggests the presence of hibernacula on its rocky slope, indicating that it likely provides significant, seasonal wildlife habitat.

Bird observations during the July 13th site visit included a bobolink in the active pasture adjacent to the Carp River. Bobolink is a threatened species both nationally and provincially, and its habitat received protection under Ontario's Endangered Species Act 2007 on September 29, 2010.

6.4. Historical Photography

Figures 5 and 6 compare aerial photography from 2008 with aerial photography from 1976. Although the 1976 aerial photography has a lower resolution, it clearly shows the extent of agricultural land use 35 years ago. Communities 1 and 7 appear in active agricultural use, probably as pasture land. The 1976 aerial photography also appears to show cattle trails within the boundaries of community 4, especially on the east and west sides of the rock knoll.

6.5. Significant Features and Functions

The review of background material and the site visits identified seven significant ecological features and functions, including the five EIS triggers initially identified.

- South March Highlands NEA/Candidate ANSI
- Significant Woodlands
- Significant Wildlife Habitat
- Significant Habitat of Endangered and Threatened Species
- South March Highlands Provincially Significant Wetland
- Watercourse
- Provision of landscape connectivity.

6.5.1. South March Highlands NEA/Candidate ANSI

The current, proposed boundary of the South March Highlands Candidate Life Science ANSI crosses the subject properties, roughly following the Hazeldean Escarpment (Figure 1). The current NEA boundary is intended to follow the boundary of the Candidate ANSI, subject to final confirmation by site-specific investigations. It follows closely the original NEA boundary suggested by Dan Brunton in his 1992 NEA study. The Candidate ANSI has been identified as a potentially significant life science area on the basis of three criteria: a regionally significant landform, consisting of the Hazeldean Escarpment and Precambrian bedrock within a predominantly limestone – clay plain landscape; a low level of disturbance from past human land uses; and, a high diversity of native vegetation communities and species, especially along the slope and summit of the Hazeldean Escarpment.

Site investigations revealed that the sections of the property proposed for re-designation and re-zoning only partially meet the criteria for which the Candidate ANSI and the NEA were

identified. The western section clearly falls outside the geological and ecological boundary of the South March Highlands, although it has ecological significance for other reasons (see below). The eastern section of the property lies north of the Hazeldean Escarpment, within the geological boundary of the South March Highlands. However, this section of the escarpment consists of a rock knoll, which is disconnected from the main ridge line of the Hazeldean Escarpment. Because of its isolation from the main ridge, and because of the ease of access from the Carp Valley, the rock knoll and the valley behind it have experienced a high level of past disturbance from cattle grazing. This disturbance is reflected by the dominance of the rock knoll vegetation by non-native, meadow and old-field plant species – including highly aggressive and invasive species, such as swallow-wort and common buckthorn (Figure 3, Community 4). The south and north slopes of the rock knoll, in contrast, still support the mature sugar maple and bur oak community representative of the escarpment (Figure 3, Community 2a & 2b). It has likely survived because the steep slope prevented the kind of historical access that cattle enjoyed to the top of the rock knoll.

6.5.2. Significant Woodlands

The eastern section of the property meets the criteria for significant woodland, forming a contiguous part of a larger forest containing mature tree stands in excess of 80 years old, interior forest habitat and adjacent surface water features. Two criteria are met on the section of the property proposed for re-designation and re-zoning. Community 2a (Figure 3), on the south slope of the rock knoll, certainly exceeds 80 years in age. In fact, the large size of the trees, the dominance by shade-tolerant species, the all-age canopy structure, the presence of large standing dead trees and downed coarse woody debris, suggest that this stand may meet the definition of “old-growth forest”. The rock knoll also lies adjacent to a watercourse, which provides a seasonal or permanent water source for wildlife – although, currently, its use appears limited mainly to cattle (Figure 3). The eastern section of the property proposed for re-zoning does *not* provide interior forest habitat; the patchy canopy on the top of the rock knoll do not provide the necessary deep cover and shade. However, the valley behind the rock knoll (which would retain the NEA and EP3 designations) does provide interior forest.

6.5.3. Significant Wildlife Habitat

The eastern section of the property provides significant wildlife habitat, in accordance with the criteria in the MNR’s Natural Heritage Reference Manual. The forest community on the south slope of the rock knoll, Community 2a (Figure 3) appears significant in the region both for its own maturity and for the provision of specialized habitat – in this case, a significant number of large “cavity trees”, which have the potential to provide nesting and den opportunities for a wide range of species, including bats. The slope itself almost certainly supports hibernacula (winter group hibernation sites) for the garter snakes observed on the outcrops on the top of the knoll.

The red maple swamp in the western section of the property provides potential spring breeding habitat for woodland amphibians (Figure 3, Community 8).

Brunton (1992) identifies the pasture and old field habitats (Figure 3, Communities 1 & 3) below the Hazeldean Escarpment as a seasonal concentration area for wintering raptors. The habitat characteristics of these communities do not appear to have changed since that

assessment. However, this area lies outside the portion of the property proposed for re-zoning.

6.5.4. Habitat of Endangered and Threatened Species

The Ontario Ministry of Natural Resources is responsible for identifying and designating *habitat* for endangered and threatened species under the Endangered Species Act, 2007 (ESA) and *significant habitat* for endangered and threatened species the Provincial Policy Statement 2005 (PPS).

The OMNR can identify and protect habitat under the ESA either through species-specific regulations (*regulated habitat*) or by application of a general habitat definition in site-specific investigations (*general habitat*). Not all endangered and threatened species currently have habitat protection under the ESA, although that situation will change on June 30, 2013, when habitat protection will automatically extend to all provincially listed endangered and threatened species.

The OMNR can identify significant habitat for endangered and threatened species under the PPS through site or area-specific investigations. Protection for significant habitat during land use planning is then provided by the Provincial Policy Statement, which prohibits development or site alteration in the significant habitat of endangered and threatened species. The OMNR advises that *regulated habitat* under the ESA is not necessarily intended to qualify as *significant habitat* under the PSS. However, it also recommends that all *general habitat* identified under the ESA be considered *significant habitat* under the PPS. The City of Ottawa Official Plan recognizes both regulated and general habitat as significant habitat under the PPS. Significant habitat under the PPS can also include areas that do not currently qualify for habitat protection under the ESA, subject to confirmation by the OMNR.

Both the western and eastern sections of the property contain potential habitat for provincially endangered and threatened species, and lie within 120 m of confirmed habitat for endangered and threatened species (Table 3). Bobolink was observed in the active pastureland (Community 3) during the July 13th site visit, and a large butternut was observed in one of the north extensions of the old field & pastureland (Community 1). A more intensive plant survey would likely identify additional butternut. Blanding's turtle has been photographed in the red maple swamp (Community 8) in the eastern section of the property and reported adjacent to the residence in Community 9 (Figure 3). Given the close proximity to other documented sightings, it must be considered as confirmed. Whip-poor-will has been reported calling in breeding season from the main ridge line of the Hazeldean Escarpment (Community 5a, 5b). Given the distinctive call and the high suitability of the habitat, this report must also be considered credible. Suitable whip-poor-will habitat may also occur in Communities 1 and 4. Suitable habitat for chimney swift occurs in Communities 2a-c and 6, in the form of large cavity trees, and they should also be considered at least possible. American ginseng has been documented adjacent to the property, and suitable habitat occurs on site in Communities 2a-c and 6. However, given the history of grazing on site, the likelihood of it remaining seems low. Suitable habitat also exists on site for loggerhead shrike in Community 1, but that species has not been reported from the Ottawa region for several years, and Ottawa is not identified in the recovery strategy as critical habitat. Similarly, although Ottawa lies within the historical range of grey fox and suitable habitat exists on site, no recent reports of the species exist for the area. Finally, the subject property provides suitable habitat for rusty-

patched bumble bee. However, the latest COSEWIC assessment and status report for that species concludes that it has likely been extirpated from all but one site in south-western Ontario (Pinery Provincial Park).

Two federally threatened species have the potential to occur within or adjacent to the affected sections of the property (Table 3). Golden-winged warbler has been reported intermittently from thicket swamps in the vicinity of the subject property, and since suitable habitat occurs within 120 m of both the western and eastern sections proposed for rezoning, they should be considered as possible in Communities 1 and 8. Because it is a migratory bird, it is protected under the Federal Species at Risk Act on both private and public property. Western chorus frog has been identified in red maple swamps along the alignment of Terry Fox Drive, and it should be considered possible in the red maple swamp in the western section of the property (Community 8).

In addition to the above endangered and threatened species, several species of concern have been reported from the general area of the South March Highlands. Species with potential habitat on or adjacent to the western and eastern sections of the property proposed for rezoning include eastern milksnake (probable), snapping turtle (probable), monarch butterfly (confirmed), and cerulean warbler (possible). Eastern wolf has recently been reported from the South March Highlands. However, given the frequency with which coyotes or coyote-domestic dog hybrids are mis-reported as this species, the report must be considered non-credible until substantiated by expert evidence.

Table 3. Potential Habitat for Endangered and Threatened Species within and adjacent to the Subject Properties

Species	Provincial Status	Federal Status	Habitat Protections	Likelihood of Occurrence
Whip-poor-will	Threatened	Threatened (listed, not protected)	ESA: general habitat SARA Federal Migratory Bird Act	Present
Blanding's turtle	Threatened	Threatened	ESA: none (anticipated June 30, 2013)	Present
Bobolink	Threatened	Threatened (listed, not protected)	ESA: general habitat Federal Migratory Bird Act	Present
Butternut	Endangered	Endangered	ESA: none (anticipated June 30, 2013)	Present

Chimney Swift	Threatened	Threatened	ESA: general habitat SARA Federal Migratory Bird Act	Moderate
American Ginseng	Endangered	Endangered	ESA: none (anticipated June 30, 2013)	Low
Loggerhead Shrike	Endangered	Endangered	ESA: regulated habitat SARA Federal Migratory Bird Act	Very low
Grey Fox	Threatened	Threatened	ESA: none (anticipated June 30, 2013)	Very low
Rusty-patched bumble bee	Endangered	Endangered (listed, not protected)	ESA: general habitat	Very low
Golden-winged Warbler	Special Concern	Threatened	ESA: none SARA Federal Migratory Bird Act	Moderate
Cerulean Warbler	Special Concern	Threatened (listed, not protected)	ESA: none Federal Migratory Bird Act	Moderate
Monarch	Special Concern	Special Concern	ESA: none	Present
Milksnake	Special Concern	Special Concern	ESA: none	High
Snapping turtle	Special Concern	Special Concern	ESA: none	High
Western Chorus Frog	Not at Risk	Threatened	ESA: none	Moderate

6.5.5 South March Highlands Wetland Complex

The eastern portion of the property proposed for rezoning lies approximately 125 m from the mapped boundary of a small unit of the provincially-significant South March Highlands Wetland Complex (Figure 1). Examination of aerial photography by both the City of Ottawa

and the Mississippi Valley Conservation Authority suggests that the feature actually lies approximately 30 m farther south than mapped, bringing the proposed rezoning within the 120 m adjacent lands of the wetland, as defined in the Official Plan (Figure 3).

6.5.6 Watercourses

A small section of the watercourse that crosses north – south through Community 3 falls within the portion of the eastern section of the property proposed for re-designation and re-zoning (Figure 3). The watercourse is named “Carp River Tributary 2” in the Terry Fox Drive CEAA Screening Report (Dillon 2009). The watercourse lacks a distinct channel for much of its length and does not provide fish habitat. However, it does provide habitat for amphibians and likely provides a water supply for wildlife in the immediate vicinity. Cattle from the active pasture in Community 1 currently have access to the watercourse and have caused significant disturbance and erosion.

The Carp River flows from east to west across the subject properties, within the boundaries of Communities 1 and 3. It supports a warm-water fish community. The banks of the Carp River through Community 1 (active pasture) have suffered damage from unrestricted cattle access.

6.5.7. Landscape Connectivity

Both the eastern and western sections of the property proposed for rezoning should be considered as part of a significant landscape movement corridor for wildlife along the edge of the Hazeldean Escarpment (Brunton 1992). Site visits revealed deer trails along the base of the escarpment, and signs of foraging by black bears on the top of the escarpment. The property also provides a natural link between the South March Highlands – particularly the previously discussed, low area of silt and clays soils known as “The Saddle” – and the Carp River floodplain. The Saddle, in turn, provides a link through the escarpment to the provincially significant South March Highlands Wetland Complex, while the Carp River floodplain provides a link to the Carp Hills NEA.

7. Cumulative Impacts

7.1. Urban Development

The properties proposed for re-designation and re-zoning lie immediately adjacent to the extension of Terry Fox Drive, currently under construction. The area east and north of Terry Fox Drive from the subject properties lies within the urban boundary (Figure 7). The Official Plan designates the area immediately opposite the subject properties as General Urban, and the Zoning By-law identifies it as “development reserve”. The area is intended for residential subdivisions. A 25 m corridor of Major Open Space runs from northwest to southeast along the First Line Right of Way across the development land, linking the main ridgeline of the Hazeldean Escarpment in the rural area to a large Urban Natural Feature, surrounding the Kizell Wetland, imbedded in the development lands. This corridor may not necessarily remain forested during development.

The development planned inside the urban boundary will eliminate the natural habitat within the Development Reserve lands, and it will isolate the subject properties from the Urban

Natural Feature surrounding the Kizell Wetland. The 25 m corridor of Major Open Space extending through the Development Reserve land to the Kizell Wetland is too narrow to provide an ecologically meaningful link for wildlife.

7.2. Terry Fox Drive

When completed in 2011, the current phase of Terry Fox Drive will consist of two active traffic lanes and a road bed for two additional lanes. The road bed will be elevated, the road will be fully lit by streetlamps, and traffic volumes will be high. Terry Fox Drive will pose a significant obstacle to wildlife movement between natural areas inside and outside the urban boundary, until such time as the land inside the urban boundary is developed and no longer provides suitable habitat for many wildlife species.

The Terry Fox Drive extension passes through the area of the Hazeldean Escarpment known as The Saddle (see 6.4.5 Landscape Connectivity). This low-lying area appears to provide a natural landscape corridor between the South March Highland Wetland Complex and the Carp River floodplain, especially for wildlife with limited mobility, such as amphibians and turtles. Terry Fox Drive does not entirely block this movement corridor, but severely constrains it. The road eliminates the most accessible route, around the east and south sides of the rock knoll in the eastern section of subject properties. It maintains a secondary route, through the small valley between the rock knoll and the main ridge line.

Losses and degradation of natural landscape connectivity can significantly reduce the long-term viability of wildlife populations. Fragmentation of wildlife habitat isolates wildlife populations, which can lead to overall population declines, loss of genetic diversity, and greatly increased risk of extirpation (local extinctions). The threat increases for species with other risk factors, such as naturally small and scattered populations, low natural mobility, and low reproductive rates. Blanding's turtle provides an excellent example of such a species, and the City of Ottawa is currently funding a study to evaluate the impacts of Terry Fox Drive on the population in the South March Highlands.

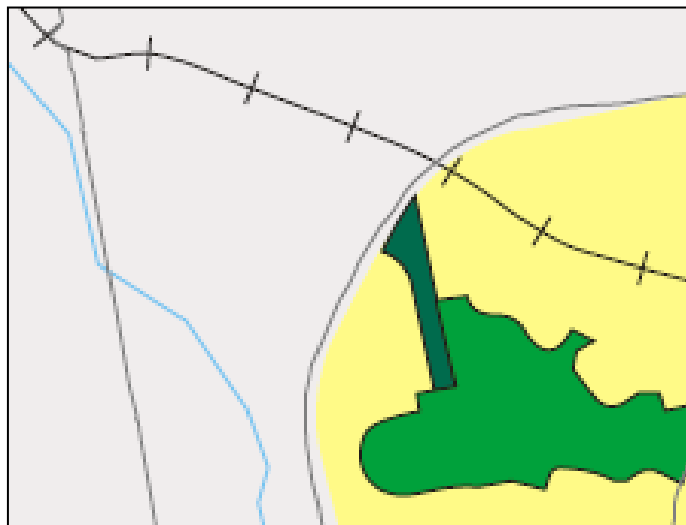


Figure 7. Urban Land Use Designations from Official Plan Schedule B
(yellow is General Urban, light green is Urban Natural Feature, dark green is Major Open Space)

In addition to reducing landscape connectivity, Terry Fox Drive will have direct effects on wildlife. Although the road design contains mitigation measures to reduce road kill, especially that of Blanding's turtle, some wildlife mortality will occur. Those impacts will decline as the area within Terry Fox Drive becomes developed, reducing the incentive for wildlife to cross the road. In addition, numerous studies have demonstrated reduced densities and changes in the composition of breeding bird populations adjacent to major roads in response to noise, with impacts extending from 250 m to 1500 m depending upon traffic volumes (Reijnen *et al.* 1995, U.S. Department of Transportation 2004). A 250 m impact zone on the west side of the Terry Fox Drive extension would include all of The Saddle and approximately half of the rock knoll on the eastern section of the subject properties.

7.3. Urban Expansion

The majority landowner in the subject lands, Richcraft Homes, has publically indicated their desire to have their properties brought into the urban boundary sometime in the future, for the purpose of urban residential development. An urban designation and urban development would drastically alter the nature of land uses on the subject property, and they would be inconsistent with protection of the existing features and functions of the current natural heritage system. Such a dramatic change in the urban boundary and associated land uses requires consideration and evaluation within the broad context of the Provincial Policy Statement 2005, considering all of the provincial interests identified therein. A re-evaluation of the urban boundary can only occur in a Comprehensive Official Plan Review. It cannot be considered within the much narrower scope of an Environmental Impact Statement.

8. Impact Assessment

As stated in the scope of the EIS, this environmental impact statement will consider if the expanded land uses permitted under the OPA and re-zoning from EP3 to RU are consistent with: (a) the current condition of the affected land; (b) protection of the ecological values and functions for which the EIS triggers are identified as significant. It should also consider other significant ecological values and functions not previously identified. Finally, it will consider the interactions and cumulative impacts of the potential land uses with the construction of Terry Fox Drive and future development of the lands within the urban boundary.

As previously discussed, the proposed OPA and re-zoning would only affect 7.1 ha of the subject properties. The zoning on the remainder of the properties would remain unchanged. However, the condition, natural heritage features and ecological functions of the remainder of the properties are relevant to the Environment Impact Statement.

8.1. Current Condition of the Affected Land

The RU zoning is intended to preserve the rural character of the landscape, and the permitted land uses are those that the City considers compatible with that character. The first question, therefore, with respect to rezoning of 7.1 ha from EP3 to RU, is whether the history and current condition of the affected land are consistent with a rural character.

Two sections of the properties are proposed for re-zoning (Figure 1):

- an eastern section, comprised primarily of the outlying rock knoll identified in the site description;
- a western section, comprised primarily of a red maple swamp adjacent to the Carp River.

In the eastern section of the property, in the area of the rock knoll, site investigations revealed that the escarpment vegetation on the south slope consists of mature, native deciduous forest (Community 2a, Figure 3). However, site investigations also revealed that the vegetation community on the top of the knoll is dominated by non-native, pasture and old-field species (Community 4, Figure 3). This contrasts with the community along the main ridge line, farther north (Community 5, Figure 3), which Dan Brunton (2008) identifies as regionally significant “rock barren” habitat. The vegetation on the top of the rock knoll is more consistent with Brunton’s (2008) description of “bedrock cultural thicket” habitat.

“Bedrock cultural thicket” is typical of old pastureland. Both inactive and active pastureland exist south of the rock knoll (Communities 1 & 3, Figure 3), and the presence of an old insulator on the split rail fence in Community 6 indicates that cattle once had access to the valley behind the knoll. Cattle access to the top of the knoll would have been possible from both its east and west ends, where the slopes are relatively gentle. This interpretation of the past land use is supported by the aerial photography from 1976, which appears to show pastureland and cattle tracks extending around and up the east end of the rock knoll, throughout the area of Community 4. The 1976 photography also appears to show cattle tracks behind the knoll, through sections of Community 6, as well as cleared pastureland or hay fields throughout most of present-day Community 7.

These findings are consistent with vegetation mapping in Figure 9 of Brunton’s 1992 NEA report. That report showed the east and west ends of the rock knoll dominated by scrub and thicket, the north and south slopes dominated by late successional deciduous forest, and the top of the knoll dominated by early successional deciduous forest. In contrast to the main ridgeline, where Brunton mapped large areas of rock outcrop, the report did not distinguish any bedrock outcrops on the outlying rock knoll (Brunton 1992). Similarly, Brunton did not include the rock knoll in his mapping of “outcrop and dry forest taxa” in Figure 3 of his 2004 report on the Natural Environment Area Boundary in the South March Highlands Special Study Area.

The findings are not consistent with Brunton’s 2004 report on the Natural Environment Area Boundary in South March Highlands Special Study Area. That report, which focused on lands to the east of the Terry Fox Drive road alignment, included most of the rock knoll within the recommended boundary of the South March Highlands NEA (Figure 8). However, that report was not supported by site inspection of the proposed boundary in the vicinity of the rock knoll.

The current trajectory of the vegetation community on the rock knoll is difficult to predict. However, the current domination of the herbaceous community by pastureland and old-field species, and the past history of pasture use, suggests that the seed bank in the soils on the rock knoll is also likely to be dominated by the same non-native species. Furthermore, the barrier of dense, shade tolerant deciduous forest in the valley behind the rock knoll reduces the opportunities for colonization by native, rock barren species from the rock barren community on the main ridge line. Finally, the City’s Forestry Department expects that dominant tree

species on the rock knoll, elm and white ash, will decline in the future due to the combined effects of Dutch Elm Disease and Emerald Ash Borer (Jason Pollard, Senior Forester, *pers. comm.*). Consequently, one would expect to see increased dominance by the invasive common buckthorn, as well as the other aggressive, invasive species, such as swallow-wort (dog-strangling vine), already present.

Overall, the condition of the eastern section of the subject property appears more consistent with a rural zoning and rural land uses than with an environmental protection zoning. Much of the area consists of old field and thicket, dominated by non-native vegetation. The vegetation in and around the rock knoll reflects a history of agricultural use, which aerial photography shows to be fairly recent (*i.e.* 1976). There is active pastureland adjacent to the rock knoll, and cattle access to the rock knoll is prevented only by the presence of an electrical fence.

In the western section of the property, the area proposed for rezoning lies outside the ecological boundary of the South March Highlands, south of the Hazeldean Escarpment. The South March Highland NEA is intended to reflect the boundary of the South March Highlands, and the use of the EP zoning is limited to NEAs, Provincially Significant Wetlands and Urban Natural Features.

On the basis of these observations and assessment, the condition of those sections of the property proposed for re-designation and re-zoning appears more consistent with a general rural designation and zoning than with an EP designation and zoning. Although the western section has other ecological values that must be protected, it does not meet the most basic criterion on which the South March Highlands NEA was identified: it lies outside the geological boundary of the South March Highlands. The eastern section – the rock knoll – partially meets the criteria for which the ANSI was identified: it lies within the geological boundary of the South March Highlands, and it supports a representative escarpment slope forest community. However, the rock knoll is isolated from the main ridge line, and the plant species dominating its top do not represent natural, rock barren vegetation. They reflect a recent history of use as pasture – a use that remains a viable option for the current tenant. Agriculture is not a permitted land use under EP3 zoning, but is permitted under the general rural designation and RU zoning.

8.2. Protection of Ecological Values and Functions

As previously discussed, the current application does not include physical development or site alteration. It cannot, therefore, cause any physical impacts on the ecological values and functions of the natural heritage system. This leads to the *prima facie* conclusion that protection of the natural heritage system is not relevant to the application. However, the re-designation and re-zoning increase the range, intensity and footprint of allowable land uses on re-zoned portions of the property, and this EIS must consider if those uses are consistent with protection of the natural heritage system.

Although this EIS is triggered by the proposed re-designation and re-zoning of very limited sections of the subject properties, the size, location and nature of those sections suggest that any proposed future development would necessarily extend beyond them. Furthermore, the impacts of development on the ecological values and functions of those sections cannot be properly assessed except in relation to the remainder of the property. Consequently, this EIS

and any future EIS necessarily require a broader look at the subject properties, including those areas not subject to the current OPA and rezoning.

The land uses permitted under the proposed re-designation and re-zoning would not change the intrinsic character of the landscape. The majority of the subject properties is already zoned RU. Furthermore, the topography of the properties provides its own protections, limiting certain potential land uses to less sensitive areas. In the eastern portion of the properties proposed for re-zoning, the uneven terrain and shallow bedrock around the rock knoll appear unsuitable for such uses as a cemetery or an equestrian establishment, while also imposing difficult servicing challenges. In the western portion, development is prohibited by the City’s Official floodplain policies and the regulations of the Mississippi Valley Conservation Authority, regardless of the underlying land use zone. In addition, the land uses permitted under the RU zoning provide great flexibility in site planning, allowing design and modification to preserve or protect specific natural heritage features and functions. Overall, therefore, it seems likely that the new permitted land uses can be accommodated without negative impacts on the natural heritage system.

Nonetheless, any future development application on the subject properties will need to include an EIS that considers the potential impacts on the natural heritage features and functions identified through the current EIS. Such a study would need to: (a) inventory and assess in more detail the ecological values and functions identified in the current EIS; and (b) identify mitigation measures to protect them from negative impacts, in accordance with the Provincial Policy Statement and the Official Plan. Table 4 provides a list of the values and functions identified to date, and it suggests appropriate mitigation measures. This list should not be considered to be complete for the purposes of any future EIS, since changes in available information, planning policies and legal context may occur in the interim (e.g., changes in occurrence data or legal status of species at risk).

Table 4. Confirmed and Potential Ecological Values and Functions, with Recommended Mitigation Measures, for Evaluation in Future Development Applications and Environmental Impact Statements.

Ecological Value or Function	Underlying Natural Heritage System Feature	Recommended Mitigation Measures
Rock Knoll (Community 4)	<ul style="list-style-type: none"> • Candidate Life Science ANSI: landform • Potential habitat for endangered and threatened species: whip-poor-will, butternut • Significant woodland (adjacent interior forest habitat) 	<ul style="list-style-type: none"> • If possible, avoid vegetation clearing and physical development in Community 4 • If physical development is planned within Community 4, then minimize the footprint and extent of site alteration; maintain the basic landform • Minimize vegetation clearing or site alteration within 50 m of Communities 2b and 6, in accordance with the NEA buffer recommendations from Brunton (2008) • Maintain a 50 m naturally vegetated corridor along the Terry Fox Drive right of way, between Community 2b and the

		<p>watercourse in Community 3, in order to provide wildlife with access to the watercourse</p> <ul style="list-style-type: none"> • Survey for breeding whip-poor-will by a qualified field biologist – recommended 1 year prior to development • If breeding whip-poor-will are identified on site, then consult with the Species at Risk Biologist for the Ministry of Natural Resources regarding requirements of the Endangered Species Act 2007 • Butternut survey and health assessment (if necessary) by a qualified Butternut Health Assessor – recommended 1 year prior to development – and preservation of retainable trees • No vegetation clearing between April 15 and July 31, unless a qualified biologist has determined that no bird nesting is occurring within 5 days prior to the clearing • Pre-clearing survey for active stick nests and cavity nests for any vegetation clearing between April 1 and April 15
Escarpment Forest – Community 2a	<ul style="list-style-type: none"> • Representative escarpment forest • Significant woodland (mature stand, interior habitat) • Significant wildlife habitat: seasonal concentration area for reptiles • Potential habitat for endangered and threatened species: chimney swift, American ginseng, butternut 	<ul style="list-style-type: none"> • No vegetation clearing, site alteration or physical development within Community 2a • No vegetation clearing, site alteration or physical development within 15 m of the top of Community 2a (protection of habitat) • No physical development within 30 m of the bottom of Community 2a (falling tree hazard)
Escarpment Forest – Community 2c	<ul style="list-style-type: none"> • Representative escarpment forest • Significant woodland (mature stand, interior habitat) • Significant wildlife habitat: seasonal 	<ul style="list-style-type: none"> • Maintain a 50 m naturally vegetated corridor along the foot of the escarpment forest, in accordance with the NEA buffer recommendations from Brunton and in order to maintain landscape connectivity

	<p>concentration area for reptiles</p> <ul style="list-style-type: none"> • Potential habitat for endangered and threatened species: chimney swift, American ginseng, butternut • Landscape connectivity: The Saddle to the Carp River floodplain; along the Hazeldean Escarpment. 	
Escarpment Valley (Community 6, portions of Community 1 and Community 7)	<ul style="list-style-type: none"> • Significant woodland (mature stand, interior habitat) • Potential habitat for endangered and threatened species: chimney swift, American ginseng, golden-winged warbler (Communities 6 and 7 only), butternut • Landscape connectivity: The Saddle to the Carp River floodplain; along the Hazeldean Escarpment. 	<ul style="list-style-type: none"> • No vegetation clearing, site alteration or physical development within Community 6. • Minimize vegetation clearing or site alteration within 50 m of Community 6, in accordance with the NEA buffer recommendations from Brunton (2008) • Maintain a 50 m naturally vegetated corridor along the edge of Community 5, between Community 6 and the buffer of Community 2c, in accordance with the NEA buffer recommendations of Brunton (2008) and in order to maintain landscape connectivity <p>For development in Community 1:</p> <ul style="list-style-type: none"> • Butternut survey and health assessment (if necessary) by a qualified Butternut Health Assessor – recommended 1 year prior to development – and preservation of retainable trees • No vegetation clearing between April 15 and July 31, unless a qualified biologist has determined that no bird nesting is occurring within 5 days prior to the clearing • Pre-clearing survey for active stick nests and cavity nests for any vegetation clearing between April 1 and April 15
Unnamed watercourse and the Carp River	<ul style="list-style-type: none"> • Protection of aquatic and fish habitat in the Carp 	<ul style="list-style-type: none"> • Provision and protection of a 3 m vegetated, riparian buffer from the top of bank of the watercourse and the Carp

	<p>River</p> <ul style="list-style-type: none"> • Potential habitat for threatened species: Blanding's turtle 	<p>River in any agricultural or pasture land;</p> <ul style="list-style-type: none"> • Exclusion of cattle from the riparian buffer along the watercourse and the Carp River; provision of pumped water • For any site alteration or physical development, provision of a 15 m setback from the top of bank of the unnamed watercourse • For any site alteration or physical development, provision of a setback from the Carp River consisting of the greater of the regulatory flood line, the geotechnical limit of hazard lands, 30 m from the normal high water mark, or 15 m from the existing top of bank
<p>Red maple swamp and associated thickets (Community 8)</p>	<ul style="list-style-type: none"> • Potentially significant wildlife habitat: breeding amphibians • Potential habitat for threatened species: Blanding's turtle, western chorus frog, golden-winged warbler 	<ul style="list-style-type: none"> • No vegetation clearing, site alteration or physical development within Community 8 <p>For development within 120 m of Community 8:</p> <ul style="list-style-type: none"> • Survey for breeding golden-winged warbler by a qualified field biologist – recommended 1 year prior to development • If breeding golden-winged warbler are identified on site, then consult with the Species at Risk Biologist for the Ministry of Natural Resources regarding appropriate habitat management • No vegetation clearing between April 15 and July 31, unless a qualified biologist has determined that no bird nesting is occurring within 5 days prior to the clearing • Pre-clearing survey for active stick nests and cavity nests for any vegetation clearing between April 1 and April 15
<p>Old Field/Pasture Mosaic (Community 1)</p>	<ul style="list-style-type: none"> • Potential habitat for endangered and threatened species: bobolink, butternut 	<ul style="list-style-type: none"> • Survey for breeding bobolink by a qualified field biologist – recommended 1 year prior to development • If breeding bobolink are identified on site, then consult with the Species at Risk Biologist for the Ministry of Natural Resources regarding requirements of the Endangered Species Act 2007 • No vegetation clearing between April 15

		<p>and July 31, unless a qualified biologist has determined that no bird nesting is occurring within 5 days prior to the clearing</p> <ul style="list-style-type: none"> • Pre-clearing survey for active stick nests and cavity nests for any vegetation clearing between April 1 and April 15 • Butternut survey and health assessment (if necessary) by a qualified Butternut Health Assessor – recommended 1 year prior to development – and preservation of retainable trees
Active pasture land (Community 3)	<ul style="list-style-type: none"> • Potential habitat for threatened species: bobolink 	<ul style="list-style-type: none"> • Survey for breeding bobolink by a qualified field biologist – recommended 1 year prior to development • If breeding bobolink are identified on site, then consult with the Species at Risk Biologist for the Ministry of Natural Resources regarding requirements of the Endangered Species Act 2007 • No vegetation clearing between April 15 and July 31, unless a qualified biologist has determined that no bird nesting is occurring within 5 days prior to the clearing • Pre-clearing survey for active stick nests and cavity nests for any vegetation clearing between April 1 and April 15
Wetland values: biodiversity, hydrology, socio-economic, special features	<ul style="list-style-type: none"> • South March Highlands Wetland Complex (PSW) 	<ul style="list-style-type: none"> • None required. Remains zoned EP. Adequate protection provided by other recommended mitigation measures.

If implemented, the recommended constraints and mitigation measures appear sufficient to prevent negative impacts on the natural heritage features and functions of the lands proposed for re-designation and re-zoning, as well as those other portions of the subject properties not subject to the current application. These constraints would only apply to physical development; they would not apply to non-development land uses permitted under the General Rural designation and RU zoning, such as agriculture and forestry operations. Best Management Practices already exist for agricultural and forestry operations, and would be appropriate for application to the subject properties.

Significant habitat of endangered and threatened species receives the highest protection under the Provincial Policy Statement 2005: an absolute prohibition against development or site alteration. To ensure that no development or site alteration occurs on the portions of the subject properties proposed for re-zoning without an adequate survey for habitat of endangered and threatened species (as *per* Table 4), a holding symbol (“-h”) is recommended in conjunction with the new zoning. Removal of the holding symbol would require

submission of an OMNR-approved Species at Risk survey to the City of Ottawa demonstrating that the affected portions of the subject properties do not provide “significant habitat” for endangered and threatened species, in accordance with the PPS.

The recommended constraints and mitigation measures assume that the subject properties will remain within the rural area. Inclusion of the subject properties within the urban boundary would be inconsistent with the protection of their natural heritage values, and would necessitate a complete re-assessment and evaluation.

8.3. Mitigation of Cumulative Effects

As discussed in Section 7, the other significant environmental impacts on the subject properties come from the construction and operation of Terry Fox Drive and the proposed urban development within Terry Fox Drive. These are:

- Loss of landscape connectivity along the Hazeldean Escarpment and degradation of connectivity through The Saddle;
- Direct wildlife mortality from the operation of Terry Fox Drive;
- Indirect reductions in wildlife density and changes in the composition of wildlife populations due to traffic noise on Terry Fox Drive.

The proposed OPA and re-zoning should not contribute further to these effects, provided that the recommended mitigation measures are employed for any future site alteration or development under the General Rural land use and RU zoning.

With respect to landscape connectivity, although the land uses permitted under the RU zoning are more intense than those permitted under an EP3 zoning, they would not change the intrinsic character of the subject properties. As previously discussed, it should be recognized that the majority of the subject properties is already zoned RU and that such zoning and land use is compatible with the existing landscape connectivity. RU land uses should continue to allow a level of wildlife movement similar to the uses permitted under the EP3 zoning.

None of the new, permitted land uses would create any new hazards to wildlife, either individually or at a population level.

With respect to noise impacts, the allowable land uses would not create any new, permanent sources of significant noise. Forestry operations, which are already permitted under the EP3 zoning, can create short-term noise impacts. However, the recommended forest management technique for the harvestable portions of the subject properties (such as Community 6) is single-tree or group selection cutting. This management technique has a cutting cycle of 15 – 20 years, which means that any harvesting would be followed by 15 – 20 years of inactivity.

Although the potential impacts of any expansion of the urban boundary to include the subject properties lie beyond the scope of this EIS, the EIS can consider if the proposed re-designation and re-zoning would increase the likelihood of such an expansion. This likelihood can be assessed using the analysis from the last Comprehensive Official Plan Review (2009). This analysis is contained in Document 6 (“Urban Expansion Areas – Review of Candidate Areas”) of the staff report on Item 1 of May 11, 2009 Joint Meeting of the Agriculture and Rural Affairs Committee and the Planning and Environment Committee

(Agenda 3): Comprehensive Five-Year Review of the Official Plan – Public Meeting. The subject properties were identified in the analysis as “Candidate Area 2” and were not included in the staff recommendation for inclusion in the urban boundary. The evaluation methodology did not include the extent of NEA lands in candidate areas as a scoring and ranking criterion, but applied those lands as a potential development constraint when calculating net developable area. Therefore, the proposed re-designation would not have changed the scoring or ranking of the subject properties in the last comprehensive review, although it would have increased the preliminary assessment (*i.e.* subject to subsequent confirmation through the development review process) of developable area on the properties. If the next Comprehensive Official Plan Review follows the same methodology, then the proposed re-designation and re-zoning would not affect the likelihood of the urban boundary being extended to include the subject properties.

In summary, the proposed OPA and re-zoning should not contribute to the cumulative environmental effects of Terry Fox Drive and the adjacent urban development.

9. Summary and Conclusion

The proposed OPA and re-zoning appears consistent with the current condition of the subject property and its history of agricultural use. Under the Provincial Policy Statement and the City of Ottawa Official Plan, any future application for development or site alteration under the proposed RU zoning would need to be accompanied by an Environmental Impact Statement demonstrating no negative impact on the significant natural heritage resources on and adjacent to the properties. Table 4 provides a preliminary list of these natural heritage features, along with their ecological values and functions. Table 4 also contains recommended mitigation measures and constraints for consideration under any future site alteration or development. A holding designation (“-h”) is recommended to accompany the proposed RU zoning. The holding designation would require submission of an OMNR-approved Species at Risk survey to the City of Ottawa demonstrating that the affected portions of the subject properties do not provide “significant habitat” for endangered and threatened species, prior to issuance of any building permit or development application. If followed and respected, these mitigation measures and constraints should prevent any negative impact from the land uses permitted under the General Rural land use designation and RU zoning.

10. References

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11. Declaration

I hereby certify that the information contained within this EIS is accurate and complete, to the best of my knowledge. I acknowledge that incomplete or incorrect information may delay the development review process.

Dr. Nicholas Stow

Date

Appendix 1

Curriculum Vitae of the EIS Author

Dr. Nicholas Stow
B.A., B.Sc., Ph.D., EP

PROFESSIONAL EXPERIENCE

May 2009 to
Present

Senior Planner, Land Use and Natural Systems

City of Ottawa

Ottawa, Ontario CANADA

To provide leadership in natural heritage and environmental planning in the Land Use and Natural Systems Group.

1. To manage and coordinate subwatershed studies.
2. To support junior and intermediate planners in the preparation of environmental management plans.
3. To develop strategies, policies and tools for the identification and protection of Ottawa's natural heritage system, significant wildlife habitat, and habitat for species at risk (e.g Official Plan Policies, Environmental Impact Statement Guidelines, Wildlife Strategy).
4. To lead other environmental studies as required (e.g. wetland evaluations).
5. To support other Branches, Programs and Units as required.

Senior Ecologist and Env. Sciences Team Leader

Jacques Whitford Stantec Limited

Ottawa, Ontario CANADA

May 2008 to
Feb 2009

To lead a seven person Environmental Sciences Team in the Ottawa office, and to provide land use, stewardship and natural heritage planning services to private sector and public sector clients in Ottawa and throughout Ontario.

1. To manage the Environmental Sciences team and market its services to public sector and private sector clients.
2. To provide professional leadership, direction, training and mentoring to junior and intermediate Environmental Sciences staff.
3. To participate in the strategic planning and business development activities of the Ottawa office and Central Region.
4. To provide Project Management on large and small projects, including contract management, budgeting and financial management, work planning and management, human resource management, and project monitoring.
5. To lead multi-disciplinary teams in land use, stewardship, and natural heritage planning at scales ranging from local site assessments to regional studies.
6. To provide comprehensive ecological expertise to land use and natural

heritage studies, including subwatershed studies, stormwater management studies, aggregate resource studies, waste management studies, and conservation planning studies.

7. To work with planners, engineers, geologists, hydrogeologists, soil scientists, air and noise scientists and other technical experts on a wide range of projects and studies, from comprehensive Federal Environmental Assessments to site-specific environmental impact statements.

8. To provide natural sciences expertise in the evaluation and conservation of terrestrial features and ecosystems, wetland features and ecosystems, riparian corridors, aquatic features and ecosystems, as well as wildlife and wildlife habitat.

9. To educate and advise public and private sector clients on stewardship opportunities, and to provide technical support and coordination for stewardship programs and projects.

10. To provide wetland evaluation services as a certified Wetland Evaluator under the Ontario Wetland Evaluation System (OWES).

11. To prepare permit applications for federal, provincial and municipal regulating agencies, including permits under Ontario Regulation 97/04 (Generic Regulation).

12. To provide leadership in the application of Geographic Information Systems (GIS) to land use and natural heritage planning in the Ottawa office and Central Region.

13. To maintain current knowledge of applicable research, legislation, land use planning and environmental policies in Ottawa, Ontario, and Canada.

14. As Senior Reviewer, to provide Quality Assurance and Quality Control on natural sciences methodologies, proposals, studies and reports, and to take leadership in innovation.

May 2005 to
Apr 2008

Senior Ecologist

Gartner Lee - AECOM

Ottawa, Ontario CANADA

To provide land use and natural heritage planning services to private sector and public sector clients in Ottawa and throughout Ontario.

1. To provide professional leadership, direction, training and mentoring to junior and intermediate Environmental Sciences staff.

2. To participate in the strategic planning and business development activities of the Ottawa office and Ontario Region.

3. To provide Project Management on large and small projects, including contract management, budgeting and financial management, work planning and management, human resource management, and project monitoring.

4. To lead multi-disciplinary teams in land use and natural heritage planning at scales ranging from local site assessments to regional studies.

5. To provide comprehensive ecological expertise to land use and natural heritage studies, including subwatershed studies, stormwater management studies, aggregate resource studies, waste management studies, and conservation planning studies.

6. To work with planners, engineers, geologists, hydrogeologists, soil scientists, air and noise scientists and other technical experts on a wide

range of projects and studies, from comprehensive Federal Environmental Assessments to site-specific environmental impact statements.

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11. To maintain current knowledge of applicable research, legislation, land use planning and environmental policies in Ottawa, Ontario, and Canada.

12. As Senior Reviewer, to provide Quality Assurance and Quality Control on natural sciences methodologies, proposals, studies and reports, and to take leadership in innovation.

Oct 2004 to
Apr 2005

Ecological Consultant

Stow Ecology - Sole Proprietorship

Ottawa, Ontario CANADA

As an independent consultant, I provided land use and natural heritage planning services to public sector clients. My main clients during this period were H2O Chelsea (a community-based water quality monitoring program) and the Park Establishment Branch of the Parks Canada Agency

1. Analysis and interpretation of water quality monitoring data (lake data, stream data, well data) from H2O Chelsea.

2. Preparation of the Year 2 Report for H2O Chelsea.

3. Preparation of a land cover map for the Greater Nahanni Park Ecosystem utilizing imagery and land classifications from the Canadian Centre for Remote Sensing in a GIS environment.

4. Compilation of a digital database of conservation values for the Greater Nahanni Park Ecosystem.

5. Conservation values mapping of the Greater Nahanni Park ecosystem.

6. Modeling of expansion options for the Nahanni Park Reserve, using the GIS-based SITES Ecoregional Planning Tool, conservation values mapping, and NRCan's Minerals and Energy Resource Analysis (MERA) report.

Jun 2003 to
Sep 2004

Wetland Biologist - Contract

Ontario Ministry of Natural Resources

Peterborough & Kemptville, Ontario CANADA

Working within the Wetlands Program of the Planning Branch, I provided guidance, advice and expertise on the mapping, management, protection and stewardship of wetlands in Ontario.

1. Provided policy, technical and ecological expertise in the use of the Ontario Wetland Evaluation System as a member of the MNR Wetland Evaluation Technical Team.
2. Provided business area support and ecological expertise to development of the Ontario Wetland Evaluation Information Management System.
3. Represented the Ontario Ministry of Natural Resources on interdepartmental and intergovernmental organizations and working groups, including the Great Lakes Wetland Conservation Action Plan (GLWCAP).
4. Conducted a review of wetland boundaries and complexes in the City of Ottawa for the Kemptville District Office.
5. Provided ecological expertise to the steering committee of the Southern Ontario Land Resource Information System (SOLRIS).
6. Managed the Lambton County Enhanced Wetland Mapping and Evaluation Project: a \$90,000 partnership between the Ministry of Natural Resources, the Rural Lambton Stewardship Network and the County of Lambton to test a remote-sensing and GIS-based system for mapping and evaluating wetlands.
7. Provided statistical and ecological analysis of a Wetland Rapid Assessment Technique developed by Ducks Unlimited Canada, and proposed for use by the District Municipality of Muskoka in its official plan.
8. Provided ecological expertise and recommendations regarding revision of the Provincial Policy Statement and supporting natural heritage documents.

May 1992 to
Aug 2000

Manager, Plant Ecology Laboratory

University of Ottawa

Ottawa, Ontario CANADA

While completing my B.Sc. and my Ph.D. in Ecology, I worked in the Plant Ecology Laboratory, beginning as a Research Assistant and finishing as the Laboratory Manager.

1. Administration of the Plant Ecology Laboratory.
2. Facilitation of undergraduate and graduate ecological research.
3. Maintenance of facilities and equipment.
4. Maintenance of long-term ecological experiments.

Apr 1990 to
Apr 1992

Constituency Assistant

Constituency Office of Evelyn Gigantes

Ottawa, Ontario CANADA

1. Represented the Minister at meetings, public events, and to Constituents.
2. Public consultation.
3. Media relations.
4. Prepared briefing notes for the Minister.
5. Conducted research on matters of public policy.

PROFESSIONAL DESIGNATIONS AND CERTIFICATIONS

1. Certified Canadian Environmental Practitioner (E.P)
2. Ontario Wetland Evaluator (Ontario Wetland Evaluation System)
3. Butternut Health Assessor

EDUCATION

- | | |
|-------------------------|---|
| May 1995 to
Jan 2003 | Ecology
Doctorate
<i>University of Ottawa</i>
Ottawa, Ontario CANADA |
| Sep 1991 to
Apr 1995 | Biology
Bachelors (Including Honours)
<i>University of Ottawa</i>
Ottawa, Ontario CANADA |
| Sep 1979 to
Apr 1984 | Sociology
Bachelors
<i>University of British Columbia</i>
Vancouver, British Columbia CANADA |

TRAINING

1. CEAA Environmental Assessment Training: Orientation to the Canadian Environmental Assessment Act (completed October 2004); Screenings under the Canadian Environmental Assessment Act (completed December 2004).
2. Ontario Wetland Evaluation System course (MNR 2004).
3. Temperate Wetland Restoration course (MNR 2003).
4. Wetland Plant Identification training course (MNR 2004).
5. Data Sensitivity Training Course (Natural Heritage Information Centre 2003)
6. ArcGIS
7. Mediation/conflict resolution (Alberta Ministry of Social Services).
8. Individual counselling (Alberta Ministry of Social Services).