

CHAPTER 5

MANAGEMENT ZONES

The inventory and analysis that is outlined in Chapter 4 formed the basis for determining the management zones. The TRCA used this information to refine the definitions of the management zones and to define the level of acceptable use within each zone.

Given the current pressures of urbanization that are affecting the condition of natural cover throughout the TRCA's jurisdiction, it is paramount to approach the management of any natural area in a way that addresses that particular site in the larger regional context. By implementing the following system of management zones, it is hoped that a consistently effective and cautious method will steer natural habitat in the Toronto region towards a condition that possesses a high degree of resilience in what is becoming an environment that is ever more hostile to the persistence of effective natural systems with intact native ecology. Increasing the total natural cover at each site, and thus across the entire region, is an effective route for enhancing the resilience of the system.

The four management zones for the Cold Creek Conservation Area are Nature Reserve, Natural Environment, Restoration, and Public Use. These management zone definitions are originally from the Ontario Provincial Parks – Planning and Management Policies, Provincial Parks Branch, 1976 and respect provincial policy perspectives by identifying ESAs and ANSIs as automatic candidates for inclusion in the Nature Reserve Management Zone, where maximum protection is afforded.

5.1 MANAGEMENT ZONE DEFINITIONS

The four management zones for the Cold Creek Conservation Area are defined as follows:

Nature Reserve:

Existing natural cover supporting Species of Concern or Vegetation Communities of Concern, and interior habitat portions of the “targeted natural system” where the natural system is fully functioning at all levels. (The patch size and shape are providing maximum habitat interior and the surrounding matrix exerts completely natural, positive influences).

Natural Environment:

Existing and targeted natural cover within the “targeted natural system” which does not currently meet the criteria of the Nature Reserve Zone.

Restoration:

Primary Restoration: Lands within the Nature Reserve Zone that have been designated for active restoration to achieve the full potential of the “targeted natural system”.

Secondary Restoration: Lands within the Natural Environment Zone that have been designated for passive restoration (ecological succession) to achieve the full potential of the “targeted natural system”.

Public Use:

Areas with existing or potential recreational and educational uses, facilities, or services.

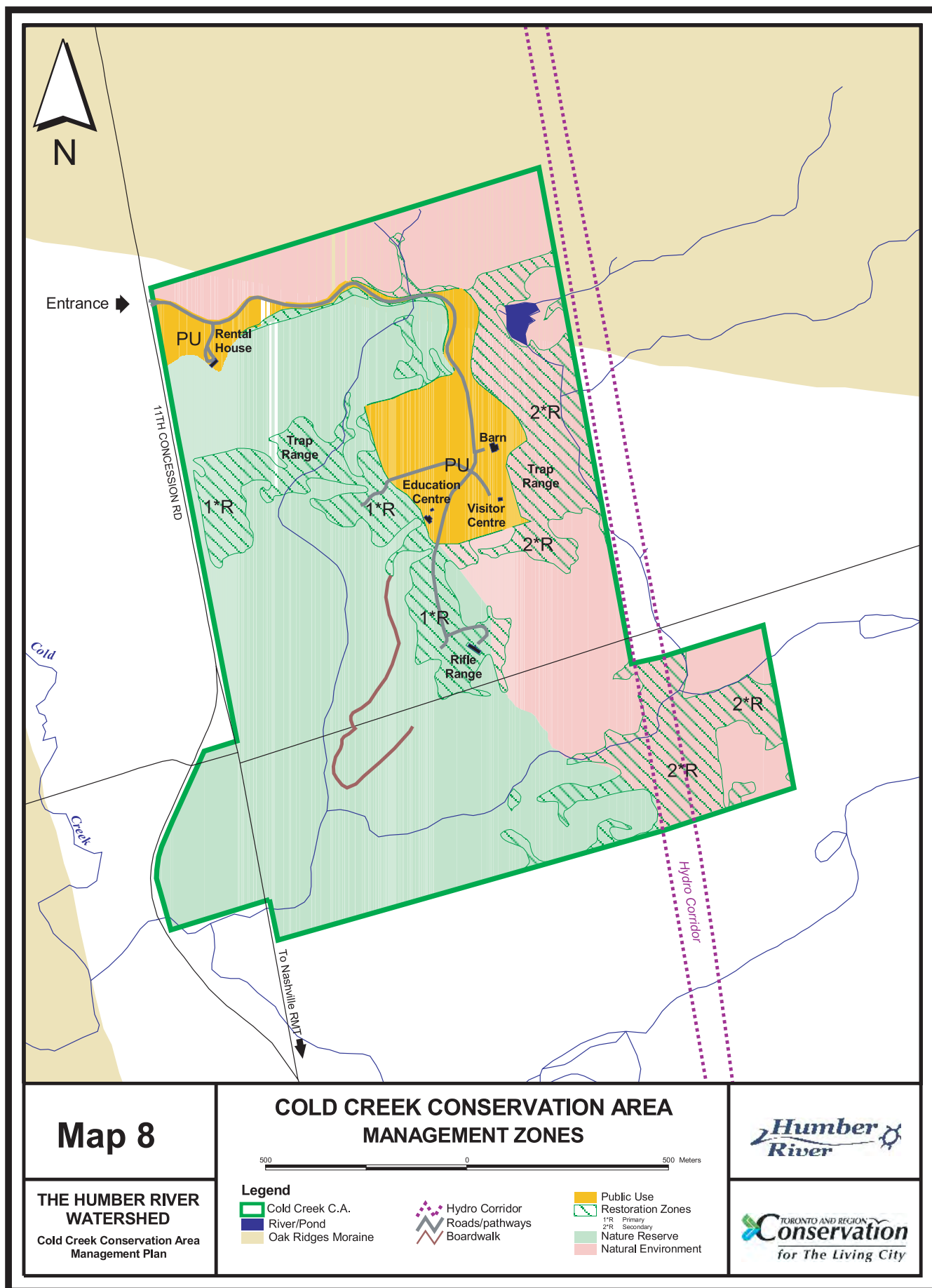
5.2 DETERMINING THE MANAGEMENT ZONES

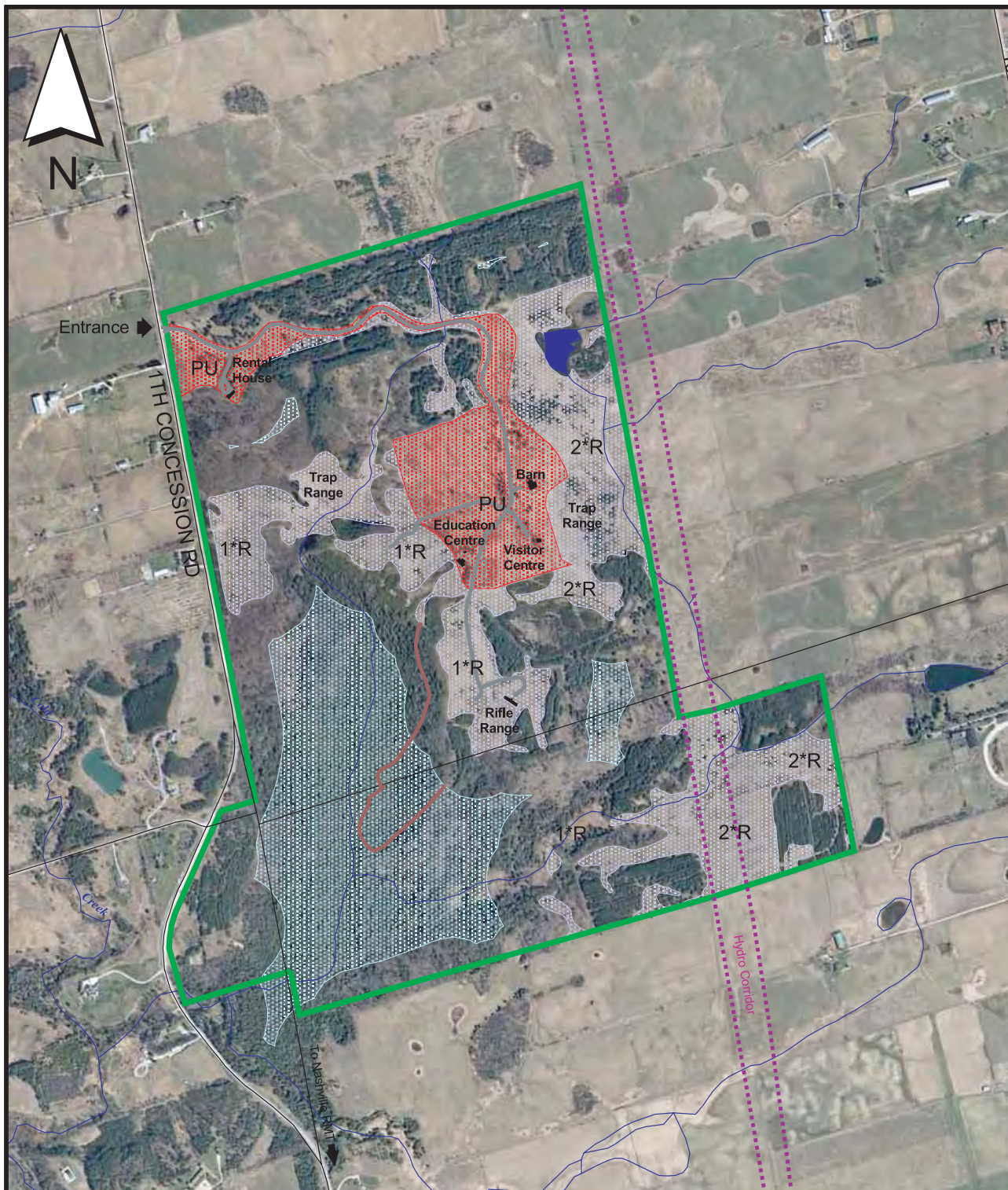
Cold Creek Conservation Area presents an excellent opportunity for the first-time implementation of the management zone strategy based on TRCA's Terrestrial Natural Heritage Approach discussed in Chapter 4. The topography and distribution of existing natural cover is such that it is a relatively simple task to identify the four zones within the site. The fact that, as of 2002, there exists a highly-detailed inventory of fauna, flora and vegetation communities for CCCA further simplifies the task of identifying the boundaries of the four management zones. Finally, pre-existing provincial designations within the site (ESAs, ANSIs, classified wetlands) help steer decisions in designating the management zones.

To apply the appropriate management zone to a particular area, TRCA staff reviewed, inventoried, analyzed and ranked the features and functions for the entire property. This information was mapped and it reflects the TRCA interpretation of ecological processes on the property.

As a first step, interior habitat, vegetation communities and species of concern, ESAs and ANSIs were identified on the property map. Any existing public use areas and infrastructure that did not coincide with the natural features described above were delineated. Next, an analysis at the landscape level, based on GIS information, was carried out using potential restoration areas to determine potential to increase the size and shape of interior habitat. Essentially, any area or infrastructure that is not included within the previously delineated public use area (either due to discontinued public use or close proximity to the existing interior habitat) was considered a candidate for potential restoration (e.g., the old rifle-range at the centre of the property). Potential restoration areas closest to the continuous forest block were designated as primary restoration areas. The results of this analysis were used to determine the Management Zones as shown on Map 8.

The boundaries of the various Management Zones delineated on Map 8 are approximate only. They relate to features such as the edges of woodlots, fields, hedgerows, as well as to roads and utilities.





Map 8A

COLD CREEK CONSERVATION AREA MANAGEMENT ZONES TARGETED SYSTEMS ANALYSIS - STEP 1



**THE HUMBER RIVER
WATERSHED**
Cold Creek Conservation Area
Management Plan

Legend

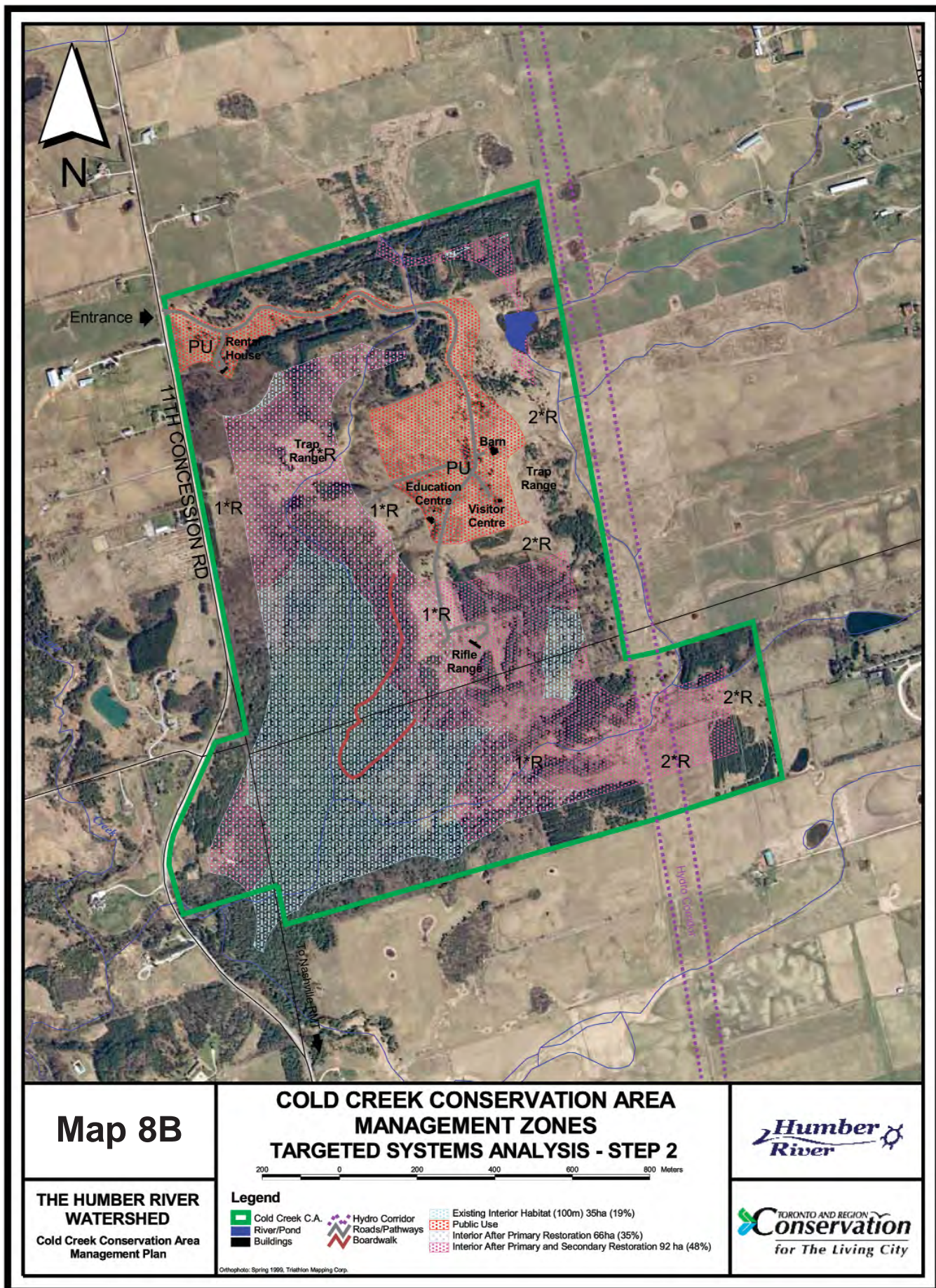
Cold Creek C.A.
 River/Pond
 Buildings

Hydro Corridor
 Roads/Pathways
 Boardwalk

Existing Interior Habitat (100m)
 Public Use
Restoration Potential
1*R - Primary
2*R - Secondary

Orthophoto: Spring 1999, Triathlon Mapping Corp.

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5.3 MANAGEMENT ZONES-PERMITTED ACTIVITIES

MANAGE- MENT ZONE	AREA	PERMITTED INTENSITY OF USES	PERMITTED POTENTIAL ACTIVITIES	RESOURCE MANAGEMENT
Nature Reserve (NR)	91 ha 48%	None to Low Intensity	Local trails Nature viewing/ interpretation Research and photography Active restoration (None or minimum intrusion into interior habitat)	Environmental management projects that are designed to protect, enhance, or restore natural features, landforms, species or habitats. This includes forest tending, fish habitat improvement, and revegetation activities. Existing uses such as the swamp board walk will be permitted to remain. The extent of intrusion by trails into Nature Reserve Zone should be minimized. No horse riding will be permitted in this zone.
Natural Environment (NE)	39 ha 31%	Low Intensity	Local or inter-regional trails Hiking, skiing, bicycling on approved trails Supervised dog training areas Horseback riding on authorized trails Authorized public access points Low impact comfort stations Passive restoration	Environmental management projects as described for the NR Zone. All trails should be monitored to ensure that invasive species are not being spread throughout the area. Existing uses such as properly sited local trails (approved by TRCA staff), may remain in the Zone. However, as the need and opportunity arise, land may be renaturalized and trails relocated. The inter-regional trail will be subject to detailed trail routing studies being undertaken and field checked to identify the most appropriate route with the least impact.
Restoration (R)	42 ha 22%	None to Low Intensity	Primary Restoration (1*R) Same as NR Zone	This Zone will be allowed to evolve into Nature Reserve or Natural Environment Zones. This Zone will contain two types of restoration areas. Primary restoration areas are designated within the Nature Reserve Zone for active restoration to achieve the full potential of the “targeted natural system”. Secondary or passive restoration areas are located within the Natural Environment Zone and these are locations that require restoration or are undergoing ecological succession. Other management activities will be same as the NR and NE Zones.
			Secondary Restoration (2*R) Same as NE Zone	
Public Use (PU)	18 ha 9%	Low to Moderate Intensity	Local or inter-regional trails Sports field Day camping Nature interpretation centre Horticulture Animal sanctuary Supervised dog training areas Horseback riding on authorized trails Associated service buildings and parking areas	Resource management activities that are encouraged in the Public Use Zone include environmental management projects that are designed to protect, enhance, or restore natural features, landforms, species, or habitats. Wherever feasible, every attempt will be made to ensure that there is a net environmental enhancement within the Public Use Zone when activities are developed on the site.
		High Intensity	Restaurant Recreation/conference centre Associated service buildings and associated parking areas	

Table 6: Permitted Activities at Cold Creek Conservation Area

NOTE: The list of activities provides examples of the types of potential uses. This is not an all inclusive list.

The whole system of management zones should be seen as dynamic, with opportunities for the different zones within a site to evolve. The ideal from an ecological perspective would be for all zones to remain or evolve into Nature Reserve Zones. However, as the plan reaches maturity and the Nature Reserve potential has been adequately fulfilled (this should be a priority), Primary Restoration Zones can be managed for more permitted public use thereby, enhancing the immediate user experience. As more natural cover is restored to the quality of Nature Reserve Zones, some of the user restrictions may be relaxed since user influence and activity will be less concentrated, thus causing less impact.

A direct consequence of an increase in total natural cover on any site is the dissipation of human disturbance on the natural cover. Increasing natural cover results in an increased resilience of the natural system whereby a high biodiversity is more likely to persist; thus, improving user experience and presenting opportunities for a greater diversity of user activities. The expectation is that through modeling for a desired level of natural cover at a site, management will be able to envisage a greatly enhanced and improved user experience without deterioration in the natural system. Such a strategy has very positive implications for the quality of the natural system across the entire region.

5.4 ANALYSIS OF LAND USE

Once the new management zones were defined and mapped, they were compared, using a geographic information system application, to past and existing resource uses of the property.

a) Past and Existing Land Uses

As shown in Figure 6, currently about 79% (150 hectares) of CCCA can be considered as Natural Area. As well, 21% (40 hectares) of CCCA is considered as public use area, including a residential property, education centre, recreation areas and associated infrastructure.

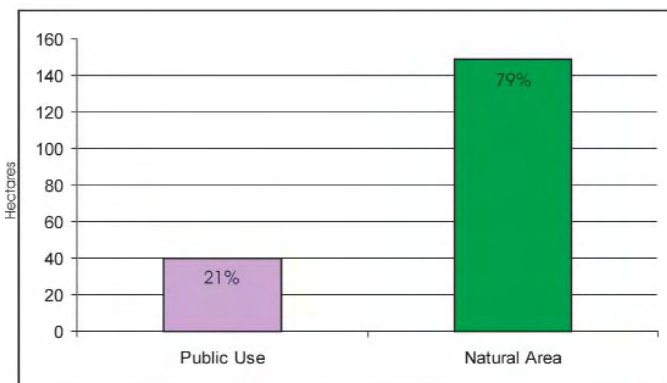


Figure 6: Past and Existing land Uses in CCCA

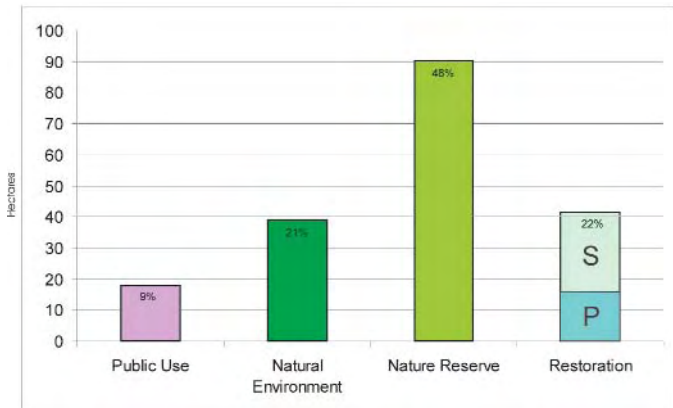


Figure 7: Proposed Land Uses

b) Proposed Land Uses

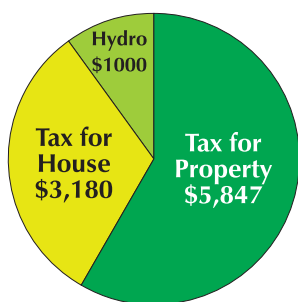
Once the proposed management zones for Cold Creek Conservation Area were defined, a geographic analysis was performed on the newly-zoned areas. As shown in Figure 7, almost 90 % or 171 hectares of the property has been zoned as Nature Reserve, Natural Environment, or Restoration. Permitted land uses in these areas will range from no formal public use to low intensity recreational and educational uses. This is in keeping with the Cold Creek Conservation Area Management Plan Advisory Committee's vision to ensure there is a balance between protection and enhancement of the natural resources of the property and public use of the lands, with the scales tipping in favour of nature.

In comparison to past and existing land uses, the land uses proposed within the Cold Creek Management Plan will result in the amount of natural lands increasing by approximately 10%. This will be achieved by implementing the recommendations related to the Restoration Zones (Primary 16 hectares and Secondary 26 hectares). The forest interior will almost double in size (existing 35 hectares to proposed 66 hectares). In terms of the entire property, the interior forest component will increase by 16% (existing 19% to proposed 35%). Eighteen hectares or 9% of the property has been dedicated to public use as compared to 40 hectares or 21% in the past. This is in keeping with the vision of protecting and enhancing the significant ecosystem in CCCA.

5.5 REVENUE GENERATING OPPORTUNITIES

Currently the CCCA is not formally open to the public. Visitors are permitted to park at the entrance and access the property for passive recreational uses. A portion of CCCA (270 acres) is presently leased to Humberlea Church of God for limited day time educational and recreational uses. This lease expires on December 31, 2002. The residence on-site is currently being leased on an annual basis.

Expenditures



Revenue

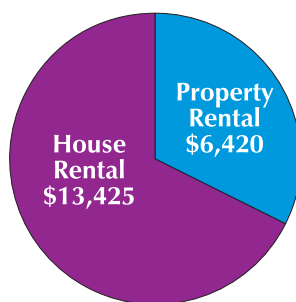


Figure 8: Revenues generated within Cold Creek Conservation Area 2001

The CCCA does incur costs such as taxes but very little revenue is currently generated through leases and agreements. Figure 8 illustrates the revenues and expenditures for the area based on 2001 actual totals. In 2001, property taxes amounted to \$5,847. Property taxes for the residences at the entrance and adjoining one acre property was \$3,180. Hydro costs for one year amounted to approximately \$1,000. Total revenues from leased areas within Cold Creek were \$6,420 from property rental and \$13,425 from house rental.

The current economic climate is one of continuing fiscal restraint in the public sector. The future public use, operation of facilities, and access to lands at CCCA will need to respond to these conditions. Reduced financial support by traditional funding sources for public use of



Sarracenia purpurea – pitcher plant (L1 species)
Photography by Jeremy Ind

Conservation Authority lands means new revenue generating initiatives and partnerships will need to be created to achieve the vision of a self-sustaining Cold Creek Conservation Area.

To help obtain self-sustaining revenues, consideration will be given to leasing some areas for exclusive use within the Public Use Zone. Some revenues will also be generated from licensing fees and short term rentals of the property by interested groups.

The TRCA must continue to ensure that any future uses are balanced and compatible with the protection and restoration of the natural heritage features of the site and the Humber River Watershed.



Grey Tree Frog

Photography by Rosemary Hasner