



Upper Thames River Conservation Authority

Property Assessment Project

April 2009

UPPER THAMES RIVER
CONSERVATION AUTHORITY



Acknowledgements

The Property Assessment Plan was developed by a core group of staff from the Upper Thames River Conservation Authority that formed the Property Assessment Team:

Tracy Annett – Land Use Planner
 Terry Chapman – Geographic Information Systems (GIS) Specialist
 Brad Glasman – Coordinator, Conservation Services
 Chris Harrington – Coordinator, Planning and Research Unit
 Jennifer Howley – Coordinator, Conservation Areas
 Linda Nicks – Hydrogeologist
 Cathy Reeves – Aquatic Biology Technician
 Steve Sauder – Communications and Marketing Specialist
 Alex Shivas – Coordinator, Lands and Facilities
 Philip Simm – Geographic Information Systems (GIS) Specialist
 Tara Tchir – Ecologist and Project Manager
 Ian Wilcox – General Manager
 Karen Wilkie – Lands and Facilities Resource Technician

Thanks also to all the staff of the Upper Thames River Conservation Authority who shared their expertise in developing and editing this Property Assessment Plan.

Executive Summary

The Upper Thames River watershed is approximately 3,482 square kilometres, of which 15% is developed, 72% is in agriculture and 13% is in natural cover (Table 1). The Upper Thames River Conservation Authority (UTRCA) has acquired approximately 5,967 hectares of land (approximately 1.7% of the watershed). The majority of these lands were acquired for flood control, in the absence of a comprehensive and strategic land securement program for natural heritage. Pressures of development, competition for resources and the scale of the watershed means that an updated, proactive, and strategic approach is needed to evaluate the land parcels the UTRCA currently owns, to ensure that they meet the UTRCA's mission and goals.

The UTRCA's Property Assessment Team developed five land management categories that reflect the goals of the UTRCA Strategic Plan. These categories include: 1) Terrestrial and Aquatic Natural Heritage Systems, 2) Natural Hazards, 3) Ground (Source) Water, 4) Recreation and Culture (Public Benefits), and 5) Aggregate.

Thirty-four landscape criteria were developed for all five management categories to evaluate all land parcels in UTRCA ownership. Out of the 301 land parcels owned by the UTRCA, 278 (92%) were determined to be core conservation parcels to the UTRCA.

UTRCA Property Assessment Project

The next steps of the Property Assessment Project will be to:

1. Establish a natural heritage cover target for the watershed.
2. Review the remaining 23 parcels to determine their importance in furthering the UTRCA's conservation objectives (and natural heritage cover target).
3. Develop a targeted map of parcels that will achieve the UTRCA's mission and goals.
4. Develop appropriate implementation and funding strategies for all parcels based on the information gathered about each land parcel.
5. Develop management plans for core conservation parcels identified for UTRCA ownership.

Once the strategic natural heritage approach is complete, the UTRCA will have up to date information that will allow a quick and effective response to development pressures and land securement opportunities when they arise, and to better decide which projects should not be pursued. The result will be a more proactive approach, although opportunity will always play a role.

Table 1. Summary of Upper Thames River watershed and land parcels currently owned by UTRCA

Characteristic	Watershed	UTRCA Properties
Total Area	3482 sq km	59.6 sq km (2% of watershed)
Agriculture	2507 sq km (72% of watershed)	17.1 sq km (29% of UTRCA properties)
Natural Heritage	Total: 453 sq km (13% of watershed)	Total: 37.6 sq km (63% of UTRCA properties)
- Upland areas (thickets, forests, prairies)	Upland: 303 sq km (8.7% of watershed)	Upland: 16.5 sq km (27% of UTRCA properties)
- Riparian meadows	Riparian/ Meadow: 98 sq km (2.8% of watershed)	Riparian/ Meadow: 3.6 sq km (6% of UTRCA properties)
- Wetlands (open and wooded)	Wetland: 52 sq km (1.5% of watershed)	Wetland: 17.5 sq km (29% of UTRCA properties)
Developed / Urbanized	522 sq km (15% of watershed)	4.9 sq km (8% of UTRCA parcels)
Number of Parcels	~ 165,254	301
Number of Core Conservation Parcels (results from this study)	To be determined	278

Table of Contents

Acknowledgements	i
Executive Summary	i
Table of Contents	iii
List of Appendices	iii
List of Figures	iii
List of Tables	iv
List of Maps	iv
1.0 Project Background	1
1.1 Rationale for Property Assessment Project	1
1.2 Regional Context	1
1.3 History of Land Acquisition	1
1.4 Project Management	5
1.5 Terminology	5
2.0 Vision for the Property Assessment Plan	11
2.1 UTRCA Strategic Plan	11
2.2 Vision Statement of the Property Assessment Plan	11
2.3 Guiding Principles of the Property Assessment Plan	11
2.4 Management Categories and Goals	12
3.0 Land Parcel Classification (Methods and Results)	13
3.1 Determine Parcel Ownership (Step 1)	14
3.2 Develop Landscape Criteria (Step 2)	14
3.2.1 Principles of Landscape Ecology	14
3.2.2 GIS Modeling	16
3.3 Evaluate UTRCA Parcels (Step 3)	17
3.3.1 Objective 1: Identify Core Conservation Land Parcels of Importance to the UTRCA	17
3.3.2 Objective 2: Land Parcels Needing Further Analysis	17
4.0 Conclusion and Next Steps	33
5.0 Glossary	35
6.0 References	37

List of Appendices

Appendix A.	Description of the Final Natural Heritage Patch and Parcel Criteria for the Five Management Categories	A1
Appendix B.	Summary of the Final Natural Heritage Patch and Parcel Criteria for the Five Management Categories	B1
Appendix C.	The 34 Patch and Parcel Landscape Criteria met by each of the 41 UTRCA Property Parcels Needing Further Analysis	C1
Appendix D.	Rationale and Recommendations for the 41 UTRCA Property Parcels Needing Further Analysis	D1

List of Figures

Figure 1.	Example of the database associated with a land parcel	13
Figure 2.	Example of modelling one criteria (“property contains meadows”) in GIS ...	16
Figure 3.	Number of UTRCA property parcels that met each criterion	18
Figure 4.	Number of UTRCA property parcels that met between 0 to 34 criteria	18
Figure 5.	Adjacent Parcel Example – Golspie Swamp (portion)	19
Figure 6.	Parcel Criteria / Percent Core Conservation Land Area Review Example – Wildwood Conservation Area (portion near Harrington)	20
Figure A1.	Floodplain Lands - One Zone	A3
Figure A2.	Floodplain Lands - Two Zone	A4

List of Tables

Table 1. Summary of Upper Thames River watershed and land parcels currently owned by UTRCA	ii
Table 2. Amount of land acquired by UTRCA for each year from 1948 to 2008	1
Table 3. Number of UTRCA land parcels and net total UTRCA land area in each county	4
Table 4. Number and size of UTRCA land parcels in each of the 28 subwatersheds	4
Table B1. Summary of the final natural heritage patch and parcel criteria for the five management categories	B1
Table C1. Properties that met the 15 landscape parcel criteria	C1
Table C2. UTRCA property parcels that met the 19 landscape patch criteria based on patches	C2
Table C3. Summary of UTRCA property parcels that met the 34 patch and parcel landscape criteria (refer to Appendix B for column legend)	C3
Tables 8a.i - 8d.xvi (Appendix D). Property information tables for the 41 UTRCA parcels needing further analysis	D1

List of Maps

Map 1. The 28 Subwatersheds of the Upper Thames River Watershed	6
Map 2. Land Cover Map of the Upper Thames River Watershed	7
Map 3. Location of Upper Thames River Watershed with Respect to Floristic Zones of Rowe (1972) and Jalava <i>et al.</i> (1997)	8
Map 4. Components of the Natural Heritage System of the Upper Thames River Watershed	9
Map 5. Critical Habitat Components of the Natural Heritage System of the Upper Thames River Watershed	10
Map 6. Distribution of Property Parcels Owned by the Upper Thames River Conservation Authority	15
Map 7a. Distribution of the 301 UTRCA Land Parcels into Core Conservation Lands and Parcels Needing Further Analysis (City of London)	21
Map 7b. Distribution of the 301 UTRCA Land Parcels into Core Conservation Lands and Parcels Needing Further Analysis (Middlesex County)	22
Map 7c. Distribution of the 301 UTRCA Land Parcels into Core Conservation Lands and Parcels Needing Further Analysis (Oxford County)	23
Map 7d. Distribution of the 301 UTRCA Land Parcels into Core Conservation Lands and Parcels Needing Further Analysis (Perth County)	24
Map 8a. Distribution of the 41 Parcels Needing Further Analysis (City of London)	25
Map 8b. Distribution of the 41 Parcels Needing Further Analysis (City of London/ Middlesex County)	26
Map 8c. Distribution of the 41 Parcels Needing Further Analysis (Oxford County)	27
Map 8d. Distribution of the 41 Parcels Needing Further Analysis (Perth County)	28
Map 9a. Results of the Review of 41 Parcels Needing Further Analysis (City of London).	29
Map 9b. Results of the Review of 41 Parcels Needing Further Analysis (City of London/ Middlesex County)	30
Map 9c. Results of the Review of 41 Parcels Needing Further Analysis (Oxford County).	31
Map 9d. Results of the Review of 41 Parcels Needing Further Analysis (Perth County) ...	32
Map 10. Conservation Authorities Surrounding the Upper Thames River Watershed	34
Maps 8a.i - 8d.xvi (Appendix D). Property Information Maps for the 41 UTRCA Parcels Needing Further Analysis	D1