Draft Carruthers Creek Watershed Plan Overview

Presentation to Council, Town of Ajax
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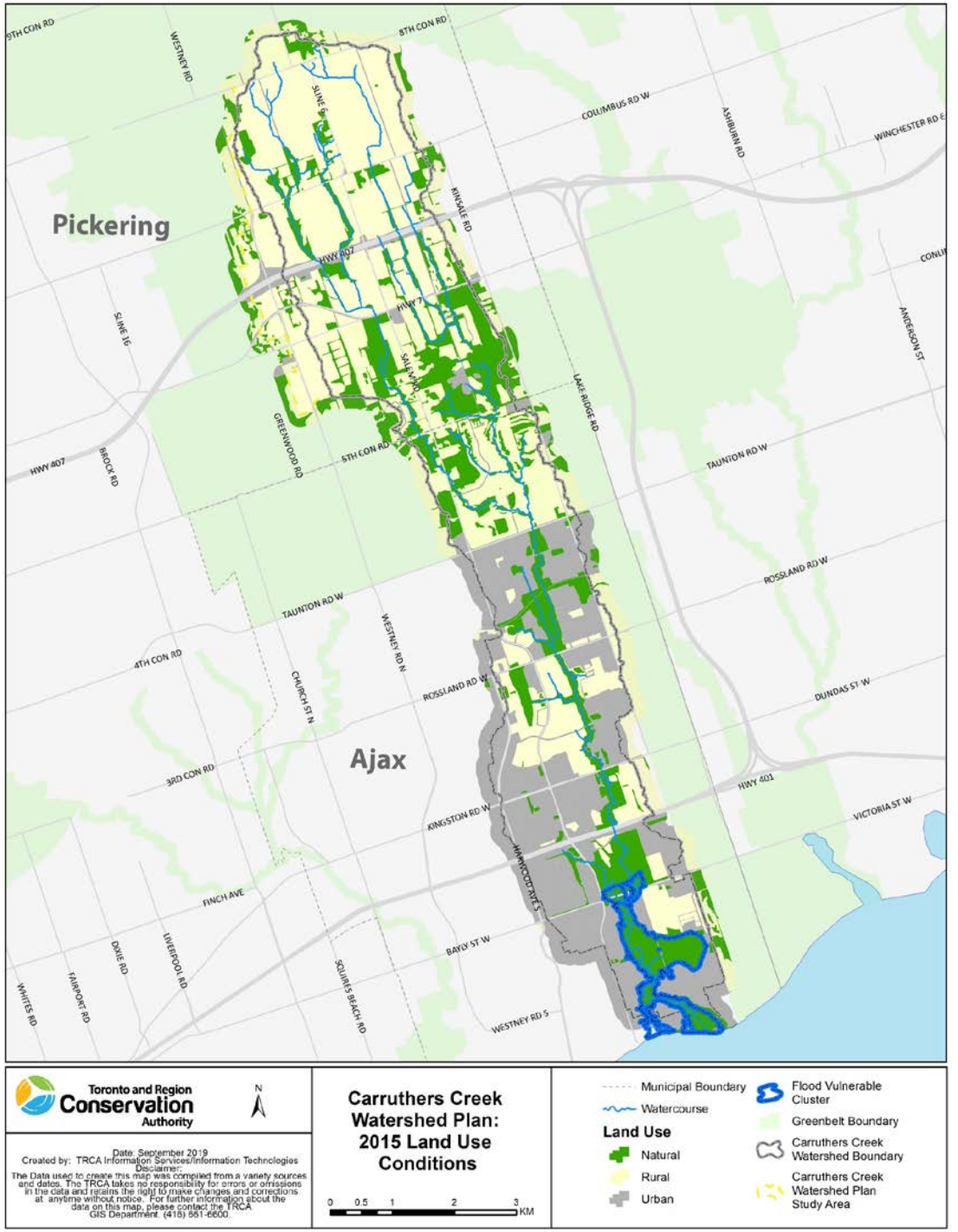
Project Introduction

- Multi-year collaborative process between TRCA and the Region of Durham, in consultation with Town of Ajax and City of Pickering:
  - Watershed characterization (existing conditions)
  - Scenario modelling and analysis
  - Management framework

- Draft Carruthers Creek Watershed Plan was posted online for public review on March 13, 2020.

- Public consultation, including in-person Open House, will resume once state of emergency is lifted by all levels of government.



Plan Organization

- The draft Carruthers Creek Watershed Plan is divided into nine sections:

	Section	Description
1	**Introduction and Background**	Overview of rationale and policy basis for watershed planning, the local context and considerations and key partners and stakeholders.
2	**Water Resource and Natural Heritage Systems**	Describes the key components of the Water Resource System and Natural Heritage System, including a description of how each system was delineated.
3	**Existing Watershed Conditions**	Also known as watershed characterization, describes the current conditions of the watershed organized into four themes: the Water Resource System, Natural Heritage System, Water Quality and Natural Hazards.
4	**Future Watershed Conditions**	Describes the three future land use scenarios that were modelled to predict the response of the watershed and associated implications.
5	**Management Framework**	Outlines what needs to be done to protect, enhance and restore the watershed's health. Organized into goals, objectives, indicators and management recommendations.
6	**Monitoring and Evaluation**	Describes the monitoring program that will evaluate implementation progress.
7 - 9	**Maps, Glossary and References**	Contain supporting resources.

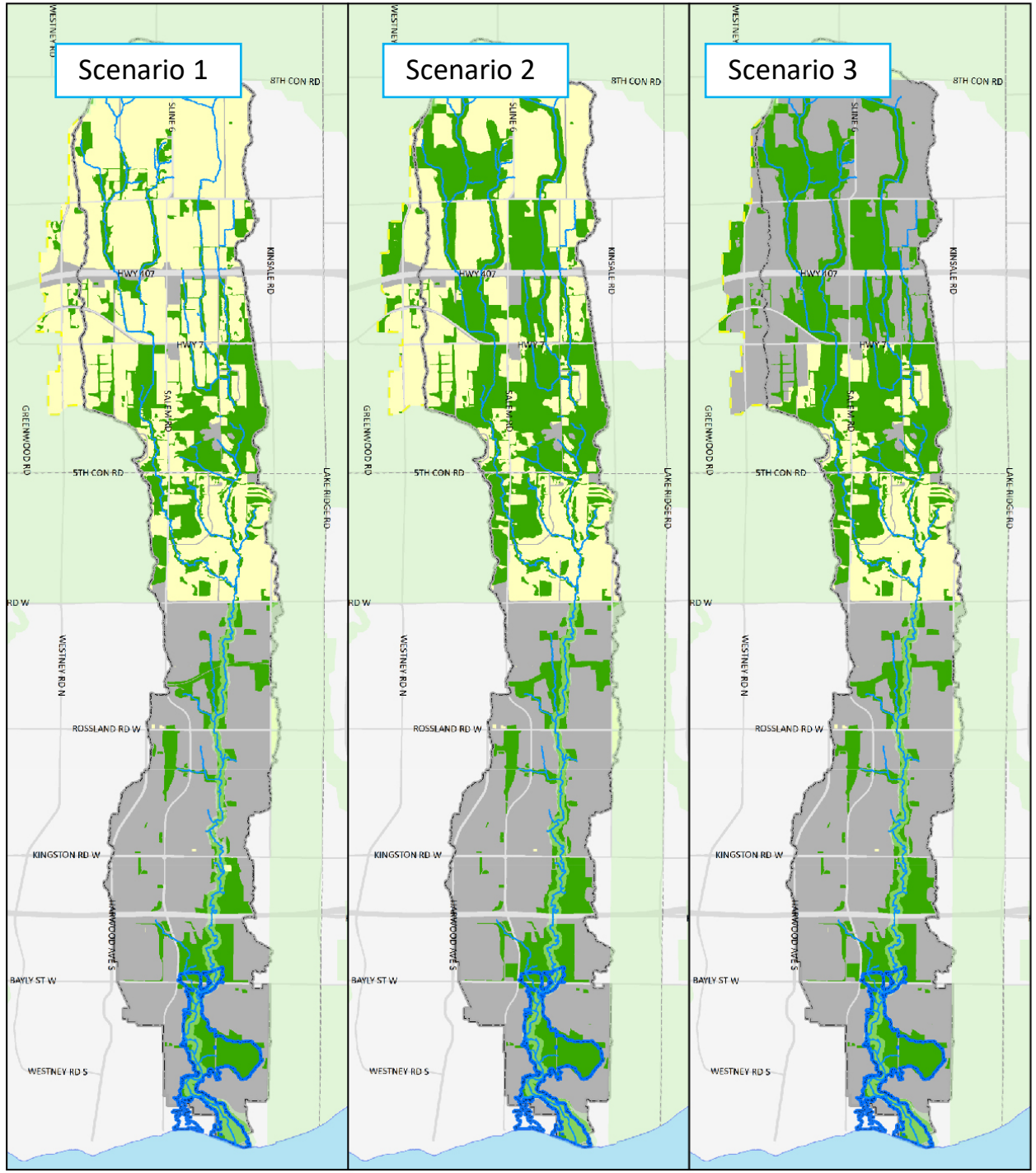
Existing Watershed Conditions

- Based on the technical assessments completed by TRCA, there are four key issues in the watershed:

Key Issue	Description
Water Resource System	The aquatic ecosystem is sensitive and near the level of land use development it can sustain long-term (without additional and improved mitigation).
Natural Heritage System	There is not enough natural cover, or good quality habitat, needed to maintain ecosystem resilience (i.e. capacity to respond to change) due to changing land use patterns and climate change.
Water Quality	Is impaired within the watershed, requiring improvements to stormwater management.
Natural Hazards	The flow of water through the watershed is out of balance and there are flooding and erosion issues.

Future Watershed Conditions

Scenario	Description
Scenario 1 (+ Official Plan)	Assumes all lands south of the Greenbelt are developed up to 2031 approved Official Plans. Provides insight into how watershed conditions will likely change as approved Official Plans are implemented.
Scenario 2 (+NHS)	Assumes same development as Scenario 1, but includes the enhanced Natural Heritage System (NHS). Provides insight into how watershed conditions will likely change with increased consideration of additional natural cover.
Scenario 3 (+Potential Urban)	Assumes post-2031 development in the headwaters of Carruthers Creek, outside the enhanced NHS. Provides insight into how watershed conditions will likely change if potential full growth is approved in the watershed.



Future Watershed Conditions

		Scenario 1 (+OP) (Compared to Current Conditions)	Scenario 2 (+NHS) (Compared to Scenario 1)	Scenario 3 (+ Potential Urban) (Compared to Scenario 1)
Water Resource System	% change	↓ -6%	= +1%	↓ -12%
Natural Heritage System	% change	= +1%	↑ +7%	↑ +6%
Water Quality	% change	It is difficult to draw a conclusion on the percent change for water quality solely.		
Natural Hazards	% change	= -2%	= 0%	↓ -77%

Legend

Green Up Arrow: >+5% change
Indicates watershed conditions improve from a hydrologic or ecological perspective

Equal Sign: 0 to +5% or 0 to -5% change
Indicates a roughly equal comparison from a hydrologic or ecological perspective

Yellow Down Arrow: -6% to -10% change
Indicates watershed conditions deteriorate from a hydrologic or ecological perspective

Purple Down Arrow: >-10% change
Indicates watershed conditions significantly deteriorate from a hydrologic or ecological perspective

Overview of Management Framework

GOAL 1

Land Use

Achieve sustainable land use and infrastructure development patterns to protect, enhance and restore water quality and maintain stable water balance.

OBJECTIVE 1
Minimize the impacts of land uses through sustainability policies and the use of low impact development and green infrastructure.

Indicators:
Report on implementation of sustainable development policies/standards

OBJECTIVE 2
Install and upgrade stormwater infrastructure using best available technologies to reduce runoff; resulting in improved water balance and water quality.

Indicators:
Report on the status of stormwater management

OBJECTIVE 3
Manage the risks of natural hazards through appropriate mitigation measures and restoration.

Indicators:
Reduce number of flood vulnerable structures and roads

OBJECTIVE 4
Encourage the use of agricultural best management practices to minimize agricultural runoff and improve rural land stewardship.

Indicators:
Work with the agricultural community to track implementation of best management practices

GOAL 2

Water Resource System

Protect, enhance and restore the areas and features that make up the Water Resource System (including aquatic habitat) for ecosytem resilience and sustainabilty.

OBJECTIVE 1
Implement appropriate policies and programs that protect, enhance and restore the areas and features that comprise the Water Resource System.

Indicator:
Appropriate policy designations are in place for the Water Resourse System

OBJECTIVE 2
Promote aquatic habitat connectivity to faciltate native fish movement throughout the watershed.

Indicator:
Maintain, or improve, aquatic health rankings

GOAL 3

Natural Heritage System

Protect, enhance and restore the Natural Heritage System and urban forest within the watershed to improve ecosystem resilience and sustainability.

OBJECTIVE 1
Improve the quality and quantity of the Natural Heritage System across the watershed through ecosystem protection, enhancement and restoration, and implementation of relevant policies.

Indicators:
Increase total natural cover in the watershed

Appropriate policy designations are in place for the Natural Heritage System

OBJECTIVE 2
Ensure habitat exists for native terrestrial species to thrive throughout the watershed.

Indicators:
Maintain, or increase, the number and area of species and vegetation communities of concern

OBJECTIVE 3
Increase the urban forest cover within the developed portion of the watershed to improve social and environmental well-being.

Indicator:
Increase total tree canopy in the watershed

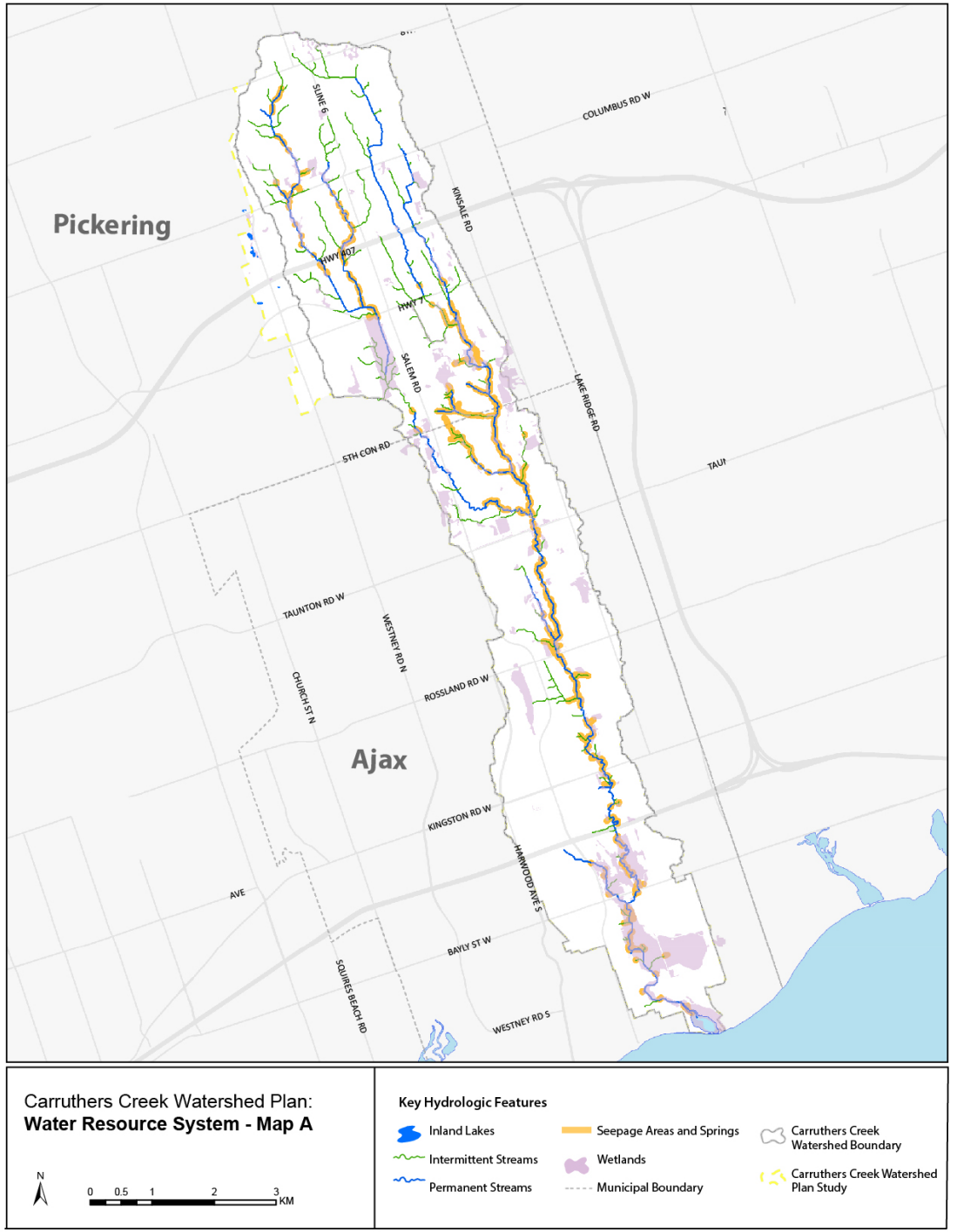
Management Recommendations

Water Resource System – Objective 1

2.1.1

The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection of the Water Resource System (map 1A and B) and its functions, by:

a. updating Official Plans and zoning bylaws to adequately protect the Water Resource System
b. assessing existing standards and guidelines for land use and infrastructure development to ensure they reflect current provincial policy direction to protect, enhance and restore the quality and quantity of water
c. avoiding development near key hydrologic features through the establishment of appropriate buffers
d. requiring the implementation of appropriate mitigation measures where avoidance of key hydrologic areas is not possible, in order to maintain hydrologic function



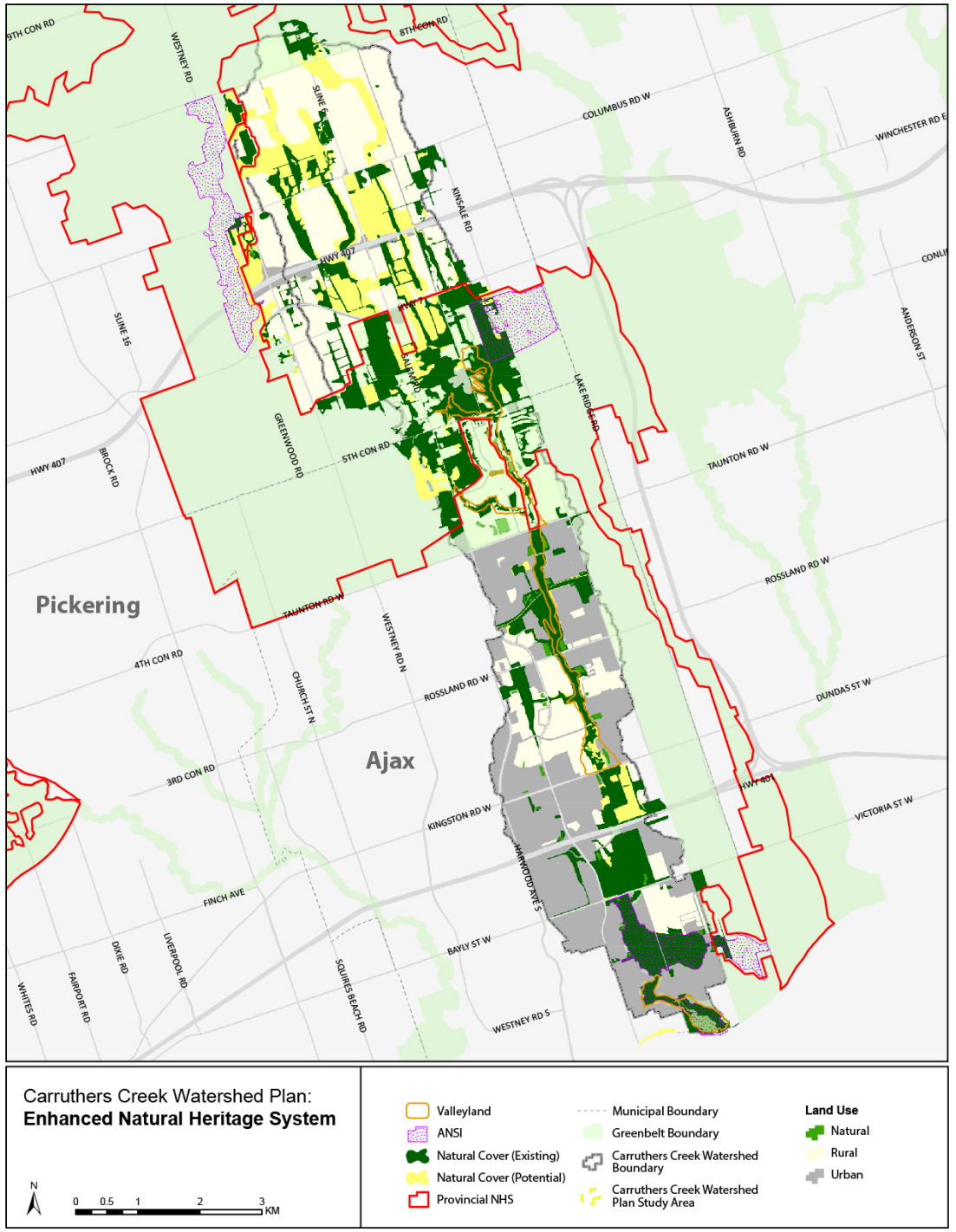
Management Recommendations

Natural Heritage System – Objective 1

3.1.1

The Region of Durham and lower-tier municipalities, in collaboration with TRCA, to ensure the protection, enhancement and restoration of a Natural Heritage System consistent with the goals and objectives of this watershed plan (map 2 for recommended NHS) by:

a. updating Official Plan policies and associated zoning bylaws to protect a municipally adopted enhanced Natural Heritage System
b. assessing existing standards and guidelines for land use and infrastructure development to ensure they reflect current provincial policy direction to maintain, restore or enhance the municipally adopted Natural Heritage System
c. avoid infrastructure development (i.e. buildings and structures) and minimize infrastructure linear feature crossings, in a municipally adopted enhanced Natural Heritage System
d. adopting municipal policies for ecosystem compensation, in accordance with TRCA's Guideline for Ecosystem Compensation, where development in a municipally adopted enhanced Natural Heritage System is unavoidable
e. applying a minimum 30 metre vegetation protection zone along features at the boundary of a municipally adopted enhanced Natural Heritage System to protect ecological function
f. requiring development and redevelopments be designed and approved to prevent encroachment into a municipally adopted enhanced Natural Heritage System.



Management Recommendations

Headwaters Management

1.1.3

If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, in accordance with Growth Plan policies, the Region of Durham, in collaboration with lower-tier municipalities and TRCA, to develop a Terms of Reference outlining requirements for further studies in support of subwatershed planning that includes, but is not limited to:

a. a hydraulic assessment
b. how natural hazards will be assessed and mitigated (i.e. the risk of flooding will not increase)
c. how the Natural Heritage System and Water Resource System will be protected, enhanced and restored
d. how water quality and quantity will be protected.

1.3.3

Implement appropriate flood mitigation measures for the Flood Vulnerable Cluster in the Town of Ajax, which could involve:

a. reopening, or initiating, a new environmental assessment to provide a more comprehensive list of alternatives to offset impacts associated with potential development in the headwaters
b. the application of regional control in the headwaters of Carruthers Creek, if developed and required by updated flood modelling.

2.1.4

If it is determined that a Settlement Area Boundary Expansion is required in the headwaters of Carruthers Creek, in accordance with Growth Plan policies, the City of Pickering, in collaboration with the Region of Durham, Town of Ajax and TRCA, as part of secondary planning to demonstrate through a subwatershed plan (or equivalent) that:

a. key hydrologic features will be protected
b. where avoidance of key hydrologic areas is not possible, appropriate mitigation measures are to be implemented to maintain downstream hydrologic function, and
c. there will be no negative or adverse downstream effects, such as increased flooding, erosion, or deteriorated water quality.

Questions