Table of Contents

List of Tables
List of Figures
List of Maps
References

Section 1: Abstract and Acknowledgements	
Nature for Niagara's Future	1-1 - 1-2
Acknowledgements	1-3 - 1-4
Fig. 1 : Final Scenario Performance Relative to Science Thresholds	1-2
Fig. 2: Final Scenario Performance Relative to Baseline Comparator	1-2
Section 2: Executive Summary	
Fig. 3: Study Area Map	2-1
Need for the Project	2-2
The Natural Heritage Areas Inventory	2-2 - 2-3
The Process:	
Vision Statement	2-3 – 2-4
Goals	2-4
Guiding Principles	2-4
Organizational Structure	2-4 - 2-6
Methodologies	
Consensus- based Approach	2-6 – 2-7
MARXAN	2-7 – 2-9
Project Funding	2-9
Project Results and Recommendations	2-9 – 2-11
Fig. 4 : Final Scenario Performance Relative to Science Thresholds	2-10
Fig. 5: Final Scenario Performance Relative to Baseline Comparator	2-11
Conclusion	2-11
Report Format	2-11 – 2-12
Section 3: Socio-Political Constraints	
Introduction	3-1 - 3-3
Conservation Lands	3-3 – 3-4
Aggregate Lands	3-4
Agricultural Lands	3-4 – 3-5
Urban Lands	3-5
Cultural Lands	3-5 – 3-6
Section 4: Constraints Decisions	
Table 1: Constraints Decisions	
Section 5: Target Setting	
Introduction	5-1
Identifying Objectives and Setting Targets	5-2 - 5-3
Concept of Distribution	5-3

Types of Ecological Objectives/Targets Fact Sheet lay-out

Section 6: Target Fact Sheets

Fact Sheet: Biodiversity Representation
Table 2: Biodiversity Surrogates
Fig. 9: Cumulative Biodiversity Representation Performance Relative to Science Thresholds
Fig. 10: Cumulative Biodiversity Representation Performance Relative to Baseline Comparator
Map: Biodiversity by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – **Forest Cover** Fig. 13: Forest Cover Habitat Performance Relative to Science Thresholds Fig. 14: Forest Cover Habitat Performance Relative to Baseline Comparator Map: Forest Cover by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – **Forest Interior** Fig. 15: Interior Forest Habitat Performance Relative to Science Thresholds Fig. 16: Interior Forest Habitat Performance Relative to Baseline Comparator Map: Forest Interior by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – **Forest Patch Size** Table 3: Forest Patch Size Statistics Fig. 17: Forest Patch Size Performance Relative to Science Thresholds Fig. 18: Forest Patch Size Performance Relative to Baseline Comparator Map: Forest Patch Size by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – Forest Age Class

Fact Sheet: Ecological Function: Course Scale Habitat – Forest Proximity of Patches

Fact Sheet: Ecological Function: Course Scale Habitat – **Wetland Cover** Fig. 23: Wetland Cover Habitat Performance Relative to Science Thresholds Fig. 24: Wetland Cover Habitat Performance Relative to Baseline Comparator Map: Wetland Cover by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – **Wetland Patch Size** Fig. 25: Wetland Patch Size Performance Relative to Science Thresholds Fig. 26: Wetland Patch Size Performance Relative to Baseline Comparator Map: Wetland Patch Size by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – Wetland Proximity of Patches

Fact Sheet: Ecological Function: Course Scale Habitat – **Riparian Cover** Fig. 21: Riparian Cover Performance Relative to Science Thresholds Fig. 22: Riparian Cover Performance Relative to Baseline Comparator Map: Riparian Cover within 30m of Watercourses by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – Adjacent Upland Cover

Fig. 11: Adjacent Upland Cover Performance Relative to Science Thresholds Fig. 12: Adjacent Upland Cover Performance Relative to Baseline Comparator Map: Adjacent Upland Cover for Wetlands by Soil Landscape

Fact Sheet: Ecological Function: Course Scale Habitat – **Other Habitat Types** Fig. 19: Other Unique Habitat Types Performance Relative to Science Thresholds Fig. 20: Other Unique Habitat Types Performance Relative to Baseline Comparator

Fact Sheet: Ecological Function: Course Scale Habitat – Remoteness

Fact Sheet: Ecological Function: Fine Scale Habitat

Fact Sheet: Hydrologic Function – Surface Water – **Forest Cover** Fig. 29: Forest Cover Surface Water Performance Relative to Science Thresholds Fig. 30: Forest Cover Surface Water Performance Relative to Baseline Comparator Map: Forest Cover by Watershed Planning Areas

Fact Sheet: Hydrologic Function – Surface Water – **Wetland Cover** Fig. 41: Wetland Cover Surface Water Performance Relative to Science Thresholds Fig. 42: Wetland Cover Surface Water Performance Relative to Baseline Comparator Map: Wetland Cover by Watershed Planning Areas Map: Wetland Cover by Subwatershed

Fact Sheet: Hydrologic Function – Surface Water – Riparian Area Cover
Fig. 39: Riparian Cover Performance Relative to Science Thresholds
Fig. 40: Riparian Cover Performance Relative to Baseline Comparator
Map: Riparian Cover within 30m of Watercourses by Watershed Planning Areas

Fact Sheet: Hydrologic Function – Surface Water – **Headwater Catchment Cover** Fig. 31: Headwater Cover Performance Relative to Science Thresholds Fig. 32: Headwater Cover Performance Relative to Baseline Comparator Map: Upland Headwater Cover by Watershed Planning Area Map: Lowland Headwater Cover by Watershed Planning Area

Fact Sheet: Hydrologic Function – Surface Water – Largest Patch

Fact Sheet: Hydrologic Function – Groundwater – **Discharge** Fig. 27: Groundwater Discharge Area Cover Performance Relative to Science Thresholds Fig. 28: Groundwater Discharge Area Cover Performance Relative to Baseline Comparator Map: Groundwater Discharge: Coldwater System Cover

Fact Sheet: Hydrologic Function – Groundwater – **High Importance for Recharge (Fonthill Kame)** Table 4: Cover Infiltration Values Table 5: Cover Infiltration Values Fig. 35: Groundwater Recharge – High Importance Cover Performance Relative to Science Thresholds Fig. 36: Groundwater Recharge – High Importance Cover Performance Relative to Baseline Comparator

Map: Significant Groundwater Recharge Areas: High Importance Area Cover

Fact Sheet: Hydrologic Function – Groundwater – **Moderate Importance for Recharge** Fig. 37: Groundwater Recharge – Moderate Importance Cover Performance Relative to Science Thresholds Fig. 38: Groundwater Recharge – Moderate Importance Cover Performance Relative to Baseline

Fig. 38: Groundwater Recharge – Moderate Importance Cover Performance Relative to Baseline Comparator

Map: Significant Groundwater Recharge Areas: Moderate Importance System Cover

Fact Sheet: Hydrologic Function – Groundwater – Quality

Fig. 33: Groundwater Quality HVA Cover Performance Relative to Science Thresholds Fig. 34: Groundwater Quality HVA Cover Performance Relative to Baseline Comparator Map: Groundwater Quality: Highly Vulnerable Aquifer Cover

Section 7: The Learning Scenarios

Introduction	7-1
Scenarios descriptions	7-1 – 7-4

Maps

Learning Scenarios 1 and 2: Best 30% Over Best 50% of What's Left Learning Scenarios 2 and 3: Best 50% Over Best 60% of What's Left Learning Scenarios 2,3,4,5 and 6: Best 50% Over Best 60%, 70%, 80% and 90% of What's Left Learning Scenarios 3 and 4: Best 60% Over Best 70% of What's Left Learning Scenarios 4 and 5: Best 70% Over Best 80% of What's Left Learning Scenarios 5 and 6: Best 80% Over Best 90% of What's Left Learning Scenario 7: Ecological Functions Only Learning Scenario 8: Hydrologic Functions Only Learning Scenario 9: Biodiversity Representation Only Learning Scenarios 10 and 12: No Distribution of Targets at 50% and 80% Learning Scenarios 10,12,13,14 and 15: No Distribution at 50% Over No Distribution at 60%, 70%, 80% and 90% Learning Scenario 16: Urban Areas Prescribed Learning Scenario 17: Natural Cover Excluded in Urban Built Areas Learning Scenario 18: Natural Cover Excluded in Urban Areas and Greenfields Learning Scenario 19: No Distribution, No Meadows Learning Scenario: No Distribution at 80%, No Meadows, and Urban Areas Prescribed

Table 6: What if Scenario Comparisons- October 27Table 7: What of Scenario Comparisons-November 10

Section 8: Ancillary Mapping

Map 1: Natural Community Types from NAI ELC Mapping Map 2: Cumulative Abundance of Target Values Map 3: Urban, Agriculture, and Aggregates Matrix Map 4: Social Political Constraints and Costs

Section 9: Project Results and Recommendations

Key Messages	9-1
Identified Data Gaps	9-2

The Final Scenarios Baseline Comparator Fig. 6: Cumulative Final Scenario Performance Relative to Science Thresholds Map: The Baseline Comparator	9-2 – 9-3 9-3
Most Constrained Scenario Fig. 7: Cumulative Final Scenario Performance Relative to Baseline Comparator Map: The Most Constrained	9-4 - 9-9 9-4
Compromise Scenario Fig. 8: Cumulative Final Scenario Performance Relative to Area Captured Under Baseline Map: The Compromise	9-9 - 9-10 9-10
Table 8: Final Scenario Comparisons Table 9: Ecological Objectives Performance Summary Statistics for Final Scenarios	
Section 10: Appendices Table 10: Individual Target Achievements Relative to Science Thresholds	
Section 11: Appendices Glossary of Terms	
Section 12: Appendices Terms of Reference Scenario Development Team – Manual	
Section 13: Appendices Steering Committee Meeting Agendas	
Section 14: Appendices Steering Committee Meeting Minutes	
Section 15: Appendices Scenario Development Team Meeting Agendas	
Section 16: Appendices Scenario Development Team Meeting Minutes	