



Cite as:

Watt, C., H. Brock, E. Balfour, and M. Veliz. 2023. Ausable Bayfield Watershed Report Card 2023. Ausable Bayfield Conservation Authority. Exeter, Ontario. 103 pp.

ISBN number: ISBN 978-0-9781887-4-0

Copies of this publication are available online at: abca.ca

Ausable Bayfield Conservation Authority
71108 Morrison Line, RR 3 Exeter, ON • N0M 1S5
519-235-2610 or 1-888-286-2610

Available in alternate formats upon request.

The Ausable Bayfield Conservation Authority (ABCA) acknowledges the original stewards of this land, the Haudenosaunee and Anishinaabe. We recognize the Huron Tract Treaty signed in 1827. We recognize that this territory was subject to the Dish with One Spoon wampum, under which multiple nations agreed to care for the land and resources including plants and animals, in peace. As shared stewards of this land and water, the ABCA is grateful to have the opportunity to work in this territory.

Staff of the ABCA took many of the photos except where credited otherwise.

The Forest Conditions aerial photo on Page 8 is by A. Moore.

The pitcher and water glass photo on Page 25 is by Daniel Holm, The Word & Image Studio.

The colourful cover crop photo on Page 30 is taken at GerardCornelisFarms Inc.



EXECUTIVE SUMMARY

Welcome to the Watershed Report Card 2023. We hope this report provides meaningful information for landowners and community groups to help protect and enhance the watersheds of the Ausable Bayfield Conservation Authority (ABCA) area.

Report cards are based on forest conditions, and surface water and groundwater quality, in 16 subwatersheds in the ABCA area. These subwatersheds include three Bayfield River subwatersheds, eight Ausable River subwatersheds, two Parkhill Creek subwatersheds, the Mud Creek subwatershed, and two smaller Lake Huron subwatersheds.

Compared with the previous Watershed Report Cards (2007, 2013, 2018), grades have remained steady for all indicators, and have ranged from A to D.

Water quality has remained steady for most subwatersheds. Grades ranged from A to D, with most of these subwatersheds receiving C grades.

Most subwatersheds received a D grade for forest conditions, indicating 'poor' conditions across much of the ABCA area.

Groundwater quality is generally very good throughout our area but some monitoring wells failed to meet the drinking water standard for nitrate and the guideline for chloride. Therefore, they received a 'less than A grade.'

When it comes to environmental improvement, thinking about your backyard creek, and its contributing watershed, is an important first step. Taking conservation action, as an individual and as a community, helps us to protect our biodiversity and respond to a changing climate.

These report cards help us to understand our local area better and to guide us in the following ways:

- **Save** natural areas that need protection,
- **Seed** areas with native plants, and
- **Steward** our working landscape.

Each subwatershed report card suggests conservation actions. When these actions are implemented together, they will have positive effects for our communities.



ACKNOWLEDGEMENTS

Principal Report Contributors: Ian Jean and Tim Cumming

Many individual and community actions noted in the Ausable Bayfield Watershed Report Card 2023 are facilitated by funding from our local member municipalities and the Ontario Ministries of the Environment, Conservation and Parks; Agriculture, Food and Rural Affairs; and Natural Resources and Forestry; and the federal departments of Fisheries and Oceans Canada; and Environment and Climate Change Canada.

Ausable Bayfield Conservation Authority (ABCA) would like to acknowledge the support of our partners in the provision of data used in grading the indicators presented in this Watershed Report Card:

Ausable Bayfield Maitland Valley Source Protection Region – GIS mapping

Environmental Systems Research Institute (ESRI) – Geographic Information Systems (GIS) mapping data

Land Information Ontario (LIO) – GIS mapping data

Ontario Ministry of Agriculture, Food and Rural Affairs – Land use and soil information

Ontario Ministry of the Environment, Conservation and Parks – Laboratory water quality analysis and GIS mapping data

Ontario Ministry of Natural Resources and Forestry – Species at risk and aerial photography Water Resources Information Program (WRIP) – GIS mapping

We would like to thank Renee Sandelowsky and Kate Monk for their insightful and thorough review of this Watershed Report Card.

Funding for the report cards, from our member municipalities, is gratefully acknowledged.



TABLE OF CONTENTS

Executive Summary	Page i
Acknowledgements	Page ii
List of Figures	Page iv
List of Maps	Page iv
List of Tables	Page v
Introduction	Page 1
Forest Conditions	Pages 6-8
Wetland Cover	Pages 9-10
Overwinter Vegetative Cover	Pages 11-12
Surface Water Quality	Pages 13-24
Groundwater Quality	Pages 25-28
Summary	Page 29
Next Steps	Pages 30-31
Subwatershed Report Cards	Pages 33-97
References	Page 98
Appendix A: Data used to determine watershed report card grades for surface water quality conditions throughout the Ausable Bayfield Conservation Authority (ABCA) area	Page 99
Appendix B: Species at risk in ABCA area (Ausable Bayfield Conservation Authority 2022, Ontario Ministry of Natural Resources and Forestry 2022).....	Pages 100-103



LIST OF FIGURES

Figure 1: Figure 1: Total phosphorus concentrations in the Ausable Bayfield Conservation Authority area. The dotted red line represents the Provincial Water Quality Objective (0.03 mg/L).	Page 16
Figure 2: <i>Escherichia coli</i> (E. coli) concentrations in the Ausable Bayfield Conservation Authority area. The dotted red line represents the Recreational Water Quality Guideline (200 cfu/100 mL).	Page 18
Figure 3: Benthic invertebrate Family Biotic Index (FBI) scores across all subwatersheds. A score of 1 represents a healthy watershed and a score of 10 represents a degraded watershed.	Page 20
Figure 4: Surface water chloride concentrations (mg/L) in the Ausable Bayfield Conservation Authority area.	Page 22

LIST OF MAPS

Map 1: Major watersheds and municipalities in the Ausable Bayfield Conservation Authority area.	Page 2
Map 2: Sixteen subwatersheds of the Ausable Bayfield Conservation Authority area.	Page 3
Map 3: Grade distribution of forest conditions in the Ausable Bayfield Conservation Authority area.	Page 8
Map 4: Grade distribution of wetland cover in the Ausable Bayfield Conservation Authority area.	Page 10
Map 5: Surface water quality monitoring sites in the Ausable Bayfield Conservation Authority area.	Page 14
Map 6: Distribution of surface water quality grades in the Ausable Bayfield Conservation Authority area.	Page 23
Map 7: Groundwater quality conditions at the 14 provincial monitoring wells in the Ausable Bayfield Conservation Authority area.	Page 27



LIST OF TABLES

Table 1: Watershed evaluation categories with associated indicators of environmental quality.	Page 4
Table 2: Forest condition indicator scoring and grading (adapted from Conservation Ontario).	Page 6
Table 3: Percentage of forest cover, forest interior, and streamside cover, their grades, and overall forest conditions grade for each subwatershed.	Page 7
Table 4: Surface water quality indicator scoring and grading (adapted from Conservation Ontario).	Page 15
Table 5: Overall surface water quality scoring and grading (adapted from Conservation Ontario).	Page 22
Table 6: Groundwater quality indicator scoring and grading for monitoring wells (adapted from Conservation Ontario 2017).	Page 26
Table 7: Groundwater monitoring wells in the Ausable Bayfield Conservation Authority (ABCA) area that received a 'less than A grade' for nitrate or chloride concentrations.	Page 27