CATFISH CREEK CONSERVATION AUTHORITY

Mission Statement
"To communicate and deliver resource management services and programs in order to achieve social and ecological harmony for the watershed"

A Full Authority meeting is to be held on
Thursday, June 13, 2024 at 10:00 a.m.

Meeting Location:
The meeting will be conducted in the CCCA Boardroom

A G E N D A

1) Welcome / Call to Order ..... Morgaine Halpin

2) Land Acknowledgement

3) Adoption of Agenda

4) Disclosure of Pecuniary Interest

5) Disclosure of Intention to Audio / Video Record Meeting

6) Adoption of Minutes of:

   a) Full Authority Meeting FA 04/2024 (May 9, 2024) 3-7
   b) Land Management Committee Meeting LM 01/2024 (May 9, 2024) 8-10
   c) Health and Safety Committee Meeting HS 01/2024 (April 18, 2024) 11-12

7) Business Arising from Minutes

8) Public / Special Delegations

9) Reports:

   a) Reports FA 33-36/2024 - Monthly Staff Reports 13-17
   (Peter Dragunas, Gerrit Kremers, Al Bradford, Brittany Bell)

   b) Report FA 37/2024 - May Summary of Revenue & Expenditures 18-19
   (Susan Simmons)

   d) Report FA 38/2024 - Accounts Paid 20
   (Susan Simmons)

   e) Report FA 39/2024 - Maple Syrup Summary Report 21-26
   (Susan Simmons & Al Bradford)

f) Report FA 40/2024 (Peter Dragunas) - Catfish Creek Channel Sounding 27-30

g) Report FA 41/2024 (Dusty Underhill) - Port Bruce Riverine and Coastal Floodplain Mapping Information Session 31

h) Report FA 42/2024 (Dusty Underhill) - Draft Watershed-based Resource Management Strategy 32-87

i) Report FA 43/2024 (Dusty Underhill) - Approved Section 28 Regulations Applications 88-89

j) Report FA 44/2024 (Dusty Underhill) - A.D. Latornell Conservation Symposium 90

k) Report FA 45/2024 (Dusty Underhill) - July Full Authority Meeting 91

10) General Manager / Secretary-Treasurer's Report 92
(Dusty Underhill)

11) Unfinished Business

12) Chairperson's / Board Member's Report

13) Notice of Motions / New Business:

14) Correspondence:

a) Copied:
- Brandi Walter and Leslie Rich - Conservation Ontario's comments on the "Proposed Regulatory Changes under the Planning Act Relating to the Cutting Red Tape to Build More Homes Act, 2024 (Bill 185): Removing Barriers for Additional Residential Units" (ERO# 019-8366) 93-97
-Brandi Walter and Leslie Rich - Conservation Ontario's comments on the "Review of proposed policies fo a new provincial planning policy instrument" (ERO# 019-8462) .. 98-104
-Ben and Lina Vandevyvere - Letter of Appreciation 105

b) Not Copied:
- Correspondence Register for May, 2024 106-109

15) Closed Session

16) Next Meeting of the Full Authority: August 15, 2024

17) Termination

MINUTES OF THE MEETING OF THE
CATFISH CREEK CONSERVATION AUTHORITY

Thursday, May 9, 2024 **Meeting #04/2024**

PRESENT:

Paul Buchner	Chairperson	Township of South-West Oxford
Arthur Oslach	Member	Town of Aylmer
Scott Lewis	Member	Township of Malahide
Morgaine Halpin	Vice-Chairperson	Municipality of Central Elgin

STAFF:

Dusty Underhill	General Manager / Secretary-Treasurer
Susan Simmons	Financial Services Coordinator
Al Bradford	Conservation Area Supervisor
Peter Dragunas	Water Management Technician
Brittany Bell	Communications/Program Support Assistant

ABSENT:

Gary Clarke	Member	City of St. Thomas
Gerrit Kremers	Resource Planning Coordinator	

OTHERS PRESENT:

Rob Perry	Reporter, the Aylmer Express

WELCOME / CALL TO ORDER:

Chairperson Buchner welcomed everyone and called the meeting to order at (10:00 a.m.).

ADOPTION OF AGENDA:

Motion # 44/2024 M. Halpin A. Oslach CARRIED

THAT, the Agenda for the May 9th, 2024, Full Authority meeting be adopted as circulated.

DISCLOSURE OF PECUNIARY INTEREST AND THE GENERAL NATURE THEREOF:

No one had a pecuniary interest to disclose at this time.

DISCLOSURE OF INTENTION TO AUDIO / VIDEO RECORD MEETING:

The Chairperson asked for disclosures of intentions to audio or video record the meeting. No one indicated any such intentions at this time.

ADOPTION OF MINUTES:

Motion # 45/2024	A. Oslach	M. Halpin	CARRIED

THAT, the Minutes of Full Authority Meeting #03/2024 (April 11, 2024), be adopted as circulated.

BUSINESS ARISING FROM MINUTES:

No one reported any outstanding business to discuss from the previous Minutes.

PUBLIC / SPECIAL DELEGATIONS:

None

REPORTS:

Reports FA 24 to FA 27/2024 – Monthly Staff Reports, were presented, discussed, and resolved.

Motion # 46/2024	M. Halpin	A. Oslach	CARRIED

THAT, Staff Reports FA 24 to FA 27 for the month of April, 2024 be noted and filed.

Report FA 28/2024 – April Summary of Revenue and Expenditures, was presented, discussed, and resolved.

Motion # 47/2024	S. Lewis	A. Oslach	CARRIED

THAT, Report FA 28/2024 (April Summary of Revenue & Expenditures), be noted and filed.

Report FA 29/2024 – Accounts Paid, was presented, discussed, and resolved.

Motion # 48/2024	M. Halpin	S. Lewis	CARRIED

THAT, Accounts Paid totaling $152,886.89, be approved as presented in Report FA 29/2024.

Report FA 30/2024 – 2024 Budget and Levy Re-Approval was presented, discussed, and resolved.

Motion # 49/2024 S. Lewis A. Oslach CARRIED

THAT, the 2024 Catfish Creek Conservation Authority Budget totalling $1,766,342.24 be adopted as presented;

AND THAT, the 2024 Municipal General Levy in the amount of $442,474.36 be approved as amended.

Member's Name	Municipality	CVA Apportionment %	Yes	No
Scott Lewis	Township of Malahide	36.8620%	X	
Morgaine Halpin	Municipality of Central Elgin	27.9653%	X	
Arthur Oslach	Town of Aylmer	25.5975%	X	
Gary Clarke	City of St. Thomas	6.1215%		
Paul Buchner	Township of South-West Oxford	3.4537%	X	

Report FA 31/2024 – Conservation Ontario Council Meeting, was presented, discussed, and resolved.

Motion # 50/2024 S. Lewis A. Oslach CARRIED

THAT, the information outlined in Report FA 31/2024, be noted and filed.

Report FA 32/2024 –Summer Employment Programs was presented, discussed, and resolved.

Motion # 51/2024 S. Lewis M. Halpin CARRIED

THAT, the Full Authority acknowledge receipt of the information on the 2024 Summer Employment Programs as outlined in Report FA 32/2024.

Report FA 33/2024 –Southwestern Regional Envirothon Competition was presented, discussed, and resolved.

Motion # 52/2024 A. Oslach M. Halpin CARRIED

THAT, Report FA 33/2024, be noted and filed.

GENERAL MANAGERS REPORT:

- Met with Ian Begg and Phil in regard to the creation of a promotional video focused on drone footage taken of the Springwater Conservation Area Day Use Area and East Campground.
- Reviewed the Lake Erie Action plan meeting materials for the April 3, 2024 meeting.
- Completed the April Full Authority Agenda and Source Protection Authority agenda package.

- Completed a consultation for the CCCA's insurance program and upgraded the program to the necessary required coverages to properly protect the CCCA.
- Attended a Southwestern Region General Managers meeting at the GRCA where status of watershed stewardship and watershed health monitoring services and implementation of O. Reg. 41/24 was discussed. I led a discussion on the progress of Watershed Based Resource Management Strategy, the Conservation Areas Strategy and how people have built Indigenous connections and engagement contacts.
- Attended Conservation Ontario's Annual General Meeting.
- Working towards seeking Indigenous Engagement in regard to some of our mandated objectives. Mr. Gerry Richer has been a great advocate for the Conservation Authority and is trying to assist in the creation of relationships with local indigenous communities on behalf of the CCCA. I have connected with Lauren Jones from Oshweken, Wildlife and Stewardship Manager, Lands and Resources Six Nations of the Grand River Elected Council.
- Held a monthly staff meeting to address any concerns issues etc. and give the group a chance to have discussion as a whole. These meetings will continue on a monthly basis assisting in keeping open lines of communication and keep everyone on the same page in regard to projects, works completed or works top be completed.
- Held a Health and Safety meeting to discuss annual procedures, approve minutes and approve any new business before the 2024 Camping season.
- Completed the Section 39, 2023-2024-year end report for MNRF and submitted it before the April 26th, 2024 deadline.
- Started preparing reports etc. for the May Land Management Committee meeting and discussing necessary changes required moving forward.
- Renewed Forestry Pesticide license.
- Completed my renewal of my small drinking water system certification.
- Continual work on the Conservation Areas Strategy, Watershed Strategy, and Land Inventory.
- Completed the initial application for SCP Employer Sponsor Application through Metis Nation of Ontario in regard to getting Logan Belanger's wage subsidized for his work term.
- Worked with staff to plan and approve an Eclipse viewing day. Roughly 99 vehicles attended the Springwater East campground for viewing.
- Progressively working through the CCCA annual insurance package to assure we have the proper coverages we require. As soon as I hear back from the broker in regard to getting appraisals done I can start retaining quotes on whatever the broker may not be able to provide an adequate appraisal on.
- Met with staff at the OPC to discuss and implement the 2024 workday and to get the Path of Honor Agreement signed for another two year period.
- Started compiling the Tourism Relief Fund final submission.

Motion # 53/2024 S. Lewis A. Oslach CARRIED

THAT, the Copied Correspondence and Correspondence Register for April, 2024, be noted and filed.

Motion # 54/2024	A. Oslach	M. Halpin	CARRIED

THAT, the Full Authority adjourn to Closed Session at 10:27 a.m.

Motion # 55/2024	S. Lewis	M. Halpin	CARRIED

THAT, the Full Authority rise with report at 10:30 a.m.

NEXT MEETING / TERMINATION:

The next meeting of the Catfish Creek Conservation Authority will be held on Thursday, June 13, 2024, commencing at 10:00 a.m.

Motion # 56/2024	S. Lewis	A. Oslach	CARRIED

THAT, the Full Authority be terminated at 10:33a.m.

General Manager / Secretary –Treasurer

Authority Chairperson

MINUTES OF THE MEETING OF THE CATFISH CREEK CONSERVATION AUTHORITY LAND MANAGEMENT COMMITTEE

Thursday, May 9, 2024 **Meeting #01/2024**

The Land Management Committee Meeting of the Catfish Creek Conservation Authority was held at the Catfish Creek Conservation Authority Administration Building.

PRESENT:

Scott Lewis	Committee Member	Township of Malahide
Arthur Oslach	Committee Member	Town of Aylmer
Paul Buchner	Authority Chairperson	Township of South - West Oxford
Morgaine Halpin	Authority Vice-Chairperson	Municipality of Central Elgin

STAFF:

Dusty Underhill	General Manager / Secretary-Treasurer
Susan Simmons	Financial Services Coordinator
Al Bradford	Conservation Area Supervisor
Brittany Bell	Communications/Program Support Assistant

ABSENT:

Gary Clarke	Committee Chairperson	City of St. Thomas

WELCOME / CALL TO ORDER:

Authority Chairperson Paul Buchner welcomed everyone and called the meeting to order at (9:56 a.m.) in Chairperson Clarke's absence.

LAND ACKNOWLEDGMENT:

The CCCA recognized that the land on which we gather is in the traditional territory shared between the Haudenosaunee confederacy, the Anishinabe nations, and the Attiwonderonk Neutrals.

ADOPTION OF AGENDA:

Motion #LMC 01/2024	M. Halpin	A. Oslach	CARRIED

THAT, the Agenda for the May 9, 2024, Land Management Committee meeting be adopted as circulated.

DISCLOSURE OF PECUNIARY INTEREST:

No one had a pecuniary interest to declare at this time.

DISCLOSURE OF INTENTION TO AUDIO / VIDEO RECORD MEETING:

The Committee Chairperson asked for disclosures of intentions to audio or video record the meeting. No one indicated any such intentions at this time.

PUBLIC / SPECIAL DELEGATIONS:

None

REPORTS:

Report LM 01/2024 –Wildlife Co-Management Program, was presented, discussed, and resolved.

Motion #LMC 02/2024	S. Lewis	A. Oslach	CARRIED

THAT, the members recommend to the Full Authority that the proposed Wildlife Co-Management Program for 2024-2025 be approved as presented in Report LM 01/2024.

Report LM 02/2024 –YHNA Controlled Hunt, was presented, discussed, and resolved.

Motion #LMC 03/2024	A. Oslach	M. Halpin	CARRIED

THAT, the Land Management Committee recommend to the Full Authority that a controlled hunt be authorized at the Yarmouth Natural Heritage Area in 2024 in accordance with the terms and conditions in Report LM 02/2024.

Report LM 03/2024 – Elgin Clean Water, was presented, discussed, and resolved.

Motion #LMC 04/2024	M. Halpin	A. Oslach	CARRIED

THAT, Report LM 03/2024, be received as information at this time.

Report LM 04/2024 – Off-Season Camping, was presented, discussed, and resolved.

Motion #LMC 05/2024	S. Lewis	M. Halpin	CARRIED

THAT, the Land Management Committee recommend to the Full Authority that the proposed Off-Season Camping extension be approved as presented in Report LM 04/2024; and further,

THAT, staff bring a detailed plan to the Full Authority at a later meeting.

Report LM 05/2024 – Campground Registration Software, was presented, discussed, and resolved.

Motion #LMC 06/2024	A. Oslach	M. Halpin	CARRIED

THAT, Report LM 05/2024 be received as information; and further,

THAT, the Land Management committee recommend to the Full Authority that staff pursue new reservation software and updated quotes; and further,

THAT, staff report their findings and seek approval for a new camping reservation software system at a later Full Authority Meeting.

Report LM 06/2024 – Day Camps, was presented, discussed, and resolved.

Motion #LMC 07/2024	S. Lewis	A. Oslach	CARRIED

THAT, the Land Management Committee receive Report LM 06/2024 as information.

Report LM 07/2024 – Electrical Services- Springwater Campground, was presented, discussed, and resolved.

Motion #LMC 08/2024	M. Halpin	S. Lewis	CARRIED

THAT, the Land Management Committee receive Report LM 07/2024 as information.

UNFINISHED BUSINESS:
None

COMMITTEE CHAIRPERSON'S / COMMITTEE MEMBER'S REPORT:
None

CORRESPONDENCE:
None

NOTICE OF MOTIONS / NEW BUSINESS:
None

CLOSED SESSION:
None

TERMINIATION:

Motion #LMC 09/2024	M. Halpin	S. Lewis	CARRIED

THAT, the meeting be terminated at (11:11 a.m.).

_____ _____

General Manager / Secretary - Treasurer Committee Chairperson

MINUTES OF THE MEETING OF THE CATFISH CREEK CONSERVATION AUTHORITY HEALTH AND SAFETY COMMITTEE

Thursday, April 18, 2024 **Meeting #HS 01/2024**

PRESENT:

Gerrit Kremers	Employee Representative (Chairperson)
Brittany Bell	Employee Representative (Secretary)
Al Bradford	Employee Representative
Dusty Underhill	Management Representative

WELCOME AND CALL TO ORDER:

The Chairperson of the Conservation Authority Health and Safety Committee welcomed everyone and called the meeting to order at 9:07 a.m.

ADOPTION OF AGENDA:

The Committee reviewed and approved the Minutes as amended from the September 13, 2023 Health and Safety Committee meeting as circulated, and approved the Meeting Agenda as circulated.

BUSINESS OUT OF MINUTES:

4 Inspection Reports: Review Recent Inspection Reports

The Employee Representatives reviewed the Inspection Reports completed to date with the Committee. All reports were current and up to date.

5 Appointment of Health and Safety Committee Tasks

The Committee assigned the following tasks to Health and Safety Employee Representatives: Catfish Creek Conservation Authority staff, Thom Polland was assigned Fire Extinguisher inspections.

6 Personal Protective Equipment: Review of Existing Compliance and Future Requirements

The Committee reviewed current Personal Protective Equipment Protocols in regards to safety boots and requiring CSA green triangle patch.

7 Review and Update Employee Equipment Training Forms to Ensure Safe and Proper Use

The Committee discussed adding Equipment SOP's to the Operations Training Manuals.

8 Review Safety Labels for Cleaning Products

The Committee discussed the implementation of the new WHIMIS labels purchased for chemical bottles. Employee Representatives stated the new labels were working well.

9 Review of Injury/Incident Reports

The Committee reviewed and discussed Injury/Incident reports that had taken place since the last Health and Safety meeting.

NEW BUSINESS:

1 **2024 Green Safety Books have arrived**
2 **Money drop off procedures for Gate Staff will be reviewed**

ADJOURNMENT:

There being no further business to be discussed, the meeting was terminated at 9: 51 a.m.

Brittany Bell, Employee Representative

Gerrit Kremers, Employee Representative

Dusty Underhill, Management Representative

Al Bradford, Employee Representative

REPORT FA 33/2024: To The Full Authority

FROM: Peter Dragunas, Water Management Technician

SUBJECT: April Monthly Staff Report

DATE: **June 3, 2024**

Water Management Technician

Current Activities:

- Meeting with Malahide Township, Elgin County and CCCA staff to present the revised *Port Bruce Riverine and Coastal Floodplain Mapping,* TRUE Consulting, April 2024 Project No. 2882-021 and outline the next steps concerning implementation.
- All-inclusive reexamination of the mapping and applicable governing materials of the aforementioned report.
- Continuous: Maintaining the Catfish Creek water quantity (flows) database and analysis for seasonal flows (flood and low water).
- Continuous: Monitoring for watershed seasonal flows (low and or high) to verify and issue Watershed Condition Statements.
- Continuous: Monitoring Lake Erie weather patterns and water levels for Lake Erie Watershed Condition Statements. Assessments for wind induced storm surge and subsequent shoreline flood conditions.
- Current updates and documentation of the CCCA mandated Water and Natural Hazard Programs, to better identify and represent conditions within the Authorities administrative boundary.
- Assessment of quantitative and qualitative adjustments for the Ontario Low Water Program forecasting and warning tools.

Upcoming Activities:

- Update all Water Management related documentation of the CCCA mandated Programs.
- Continue with monitoring of Lake Erie shoreline storms for storm surge and wave uprush conditions.
- Continue with Compilation of the CCCA Water Management Programs/Documents for the 2024 Conservation Authority mandated program target.
- Low Water Response of physical and numeric information compilations for CCCA drought monitoring.
- Other Duties as required

Recommendation:

THAT, Staff Report for the month of May 2024, be noted and filed.

Peter Dragunas
Water Management Technician

REPORT FA 34/2024: To Full Authority

FROM: Gerrit Kremers, Resource Planning Coordinator

SUBJECT: May Monthly Staff Report

DATE: June 5, 2024

Resource Planning Coordinator

Current Activities:

- Completed reforestation tree planting local private landowner property, creating an additional 5 acres of forested habitat;
- Picked up, sorted and delivered 2024 tree planting orders to watershed residents;
- Attended the Hydro One Technical Advisory Committee online meeting with neighbouring Conservation Authority staff and members of other agencies, for a local project;
- Participated in planning pre-consultation meetings with member municipalities and private landowners looking to conduct work within adjacent lands of a natural hazard feature;
- Met with landowners to promote tree planting and stewardship projects on their private lands;
- Participated in an online webinar with Invasive Species Centre about invasive phragmites and potential grant opputunity;
- Partcipated one day at the 2024 Water Festival, leading a station about wise water use;
- Held various site meeting with landowners to discuss CA policies, S.28, in regards to future development activities on their property;
- Updated CCCA section 28 administrative forms and website to comply with mandates of O.Reg 41/24;
- Met with local Drainage Superintendents in regards to planned drainage works within the watershed;

Upcoming Activities:

- Update the CCCA Planning and Regulations Policy and Procedure Manual;
- Planning pre-consultation meetings with member municipalities and private landowners looking to conduct work within adjacent lands of a Natural Hazard Features;
- Complete first sounding of Catfish Creek through Port Bruce;
- Continue to monitor on-going s.28 work permits and associated work permit conditions;
- Process s.28 work permit applications pursuant to the Conservation Authorities Act;
- Review *Planning Act* applications and comment on natural hazards pursuant to the *Conservation Authorities Act.*

Recommendation:

THAT, Staff Report for the month of May, 2024, be noted and filed.

Gerrit Kremers
Resource Planning Coordinator

REPORT FA 35/2024 : To The Full Authority

FROM: Al Bradford, Conservation Areas Supervisor

SUBJECT: May Monthly Staff Report

DATE: **May 31, 2024**

Conservation Areas Supervisor

Current Activities:

- Both the office & schoolhouse ramps are almost completed for final inspection
- Completion of the accessibility ramp at schoolhouse by Victoria Day Weekend was met so the ramp could be utilized by an event held at the school house, there are a few minor items that need to be completed prior to final inspection
- Ceiling repair inside of the schoolhouse is on the radar to be patched & painted
- Took stock of cleaning supplies for beginning of camping season
- Operations Staff worked hard to complete Whites Mill painting prior to opening (both women/mens & laundry rooms were painted
- Tree trimming was completed through the majority of both east and west campgrounds, some additional trimming will be done throughout the season
- Orientation day for May was a success for our first time running this (kudos to Brittany Bell for taking lead on the organization) Thom and I assisted throughout the day as well and ended the day with a tour through the campgrounds for all the staff
- I have put the permit for potential dump station in the Day Use for transient campers on hold as I look further into legislation required for this
- Our Trout derby we had one winner of the 1out of 3 tagged fish in Springwater Pond
- My Assistant Thom worked on getting items posted on Gov Deals of old surplus items not being used
- Still seeking quotes or possible funding on material for our bridges in SPW Forest as they are becoming a serious hazard & plan for repairs this spring
- Still seeking proper information for a quote for Fall Arrest system on the live roof as this is required to safely work (I have contacted Steelway and have been waiting on a reply)
- Continue to meet and coordinate work with Uplink Communications to ensure everything is making progress where it needs to be, moving forward with WIFI throughout the park & dayuse areas
- Key West Gates to came in to move the kiosk out inline with the bollards
- Routine picnic table repairs are being completed as needed
- Prepared for Kids First Day
- Continued to clean ditches out throughout Day Use to keep water flowing instead of building up in areas
- Day Camps have been advertised and we are currently taking bookings for a July & Aug week long camp here at Springwater CA which will provide outdoor/environmental learning
- Water samples were submitted and results were submitted to Southwestern Public Health for Intent to supply, water samples have been started on a weekly basis now until Thanksgiving weekend
- Both Thom Polland and myself have completed our Small Drinking Water Course
- Had our Public Health inspection of the Concession Booth for rentals for the summer, they did suggest looking at a new counter as the current one may not pass compliance for next season
- We are going to look at painting, minor repairs and hope to price a new counter for

potentially later this year or next year

- Operations team planted dogwoods in our bio swale through our East Campground
- 17 memorial Sycamore trees were planted at the OPC in conjunction of maintaining the Path of Honor
- Completed 2 open air burns here at the CA (mainly brush, wood debris)
- Started work on replacing markers on site posts that were not present
- Attended my monthly Conservation Area Workshop Committee meeting
- Completed our extra hydro disconnect on sites (will be interesting to compare 2023 to 2024 monthly bills)
- Would like to acknowledge my Operations Team for their hard work for getting things ready for the season

Upcoming Activities:

- Awaiting dryer vent to properly installed at Whites Mill so its vented to the exterior of the building
- Dead limb removal as required throughout the campground
- Ongoing Trail Maintenance at our different CA's, Yarmouth Track, Archie & Springwater planned for June-Oct (mowing, cutting back branches, bench repairs)
- WJ Roofing will be installing a new steel roof on the Pavilion washroom on the east Campground later in June
- Continuing to taking delivery of firewood so we can ensure we have our wood cribs stay stocked for the 2024 season
- Seeking additional staff to complete there Food Handlers Course
- Ensuring we are prepared for events for June (VanFest) & July
- Daily operations
- Actively looking for grants or funding that would assist with bringing upgrades to our Conservation Areas

Recommendation:

THAT, Staff Reports for the month of May, 2024, be noted and filed.

Al Bradford
Conservation Areas Supervisor

REPORT FA 36/2024: To Full Authority

FROM: Brittany Bell, Communications/Program Support Assistant

SUBJECT: May Monthly Staff Report

DATE: **May 31, 2024**

Communications/Program Support Assistant

Current Activities:

- Seasonal camper administration
- Maintained social media channels and posted entertaining content
- Submitted magazine article for Summer InElgin about our trail systems
- Monitoring CCCA website inquiries
- Catfish Creek Conservation Authority administrative duties
- Researched grant opportunities
- Booked Springwater Conservation Area facility rentals
- Training new gate staff
- Met with couples looking to book weddings at the schoolhouse, pavilions and Audreys Place Pavilion for 2024
- Springwater Conservation Area Campground Admin
- Marketing for the Trout Derby and Kid's First Day
- Marketing for upcoming events at Springwater
- Desiging virtual flip books for the Trail Guide and Maple Syrup Program Guide which readers can view on social media channels and our website
- Admin Preperation for Events taking place at Springwater this season
- Met with numerous individuals that were interested in booking their event at Springwater
- Held Kid's First Day which saw a total of 106 attendees, ran the Concession Booth for the day

Upcoming Activities:

- Catfish Creek Conservation Authority administrative duties
- Maintain social media channels and post entertaining content
- Monitor CCCA website inquiries
- Springwater Conservation Area camping administration
- Conservation Ontario Communications Meeting
- Planning for upcoming events
- Attend Conservation Ontario's Monthly Communications Meeting

Recommendation:

THAT, Staff Report for the month of May, 2024, be noted and filed.

Brittany Bell
Communications/Program Support Assistant

REPORT FA 37/2024 : To The Full Authority
FROM: Susan Simmons, Financial Services Coordinator
SUBJECT: Summary of Revenue & Expenditures
DATE: May 31, 2024

SUMMARY OF REVENUE

for the period ending May 31, 2024

	2024 Budget	2024 To Date	Difference	2023 To Date
MNRF Provincial Grants	$ 41,215.00	$ -	$ (41,215.00)	$ -
Other Provincial Grants	$ 42,206.78	$ 19,819.71	$ (22,387.07)	$ 30,132.20
Federal Grants	$ 138,710.18	$ -	$ (138,710.18)	$ 90,766.01
Employment Program Grants	$ 15,000.00	$ 13,386.37	$ (1,613.63)	$ -
Municipal General Levies	$ 442,474.36	$ 252,060.61	$ (190,413.75)	$ 350,064.09
Donations/Sponsorships	$ 30,929.35	$ 17,844.70	$ (13,084.65)	$ 22,435.80
Conservation Areas Revenue	$ 727,649.00	$ 482,683.47	$ (244,965.53)	$ 470,536.80
Maple Syrup Revenue	$ 41,080.00	$ 46,187.52	$ 5,107.52	$ 61,461.47
Bank Interest Earned	$ 15,000.00	$ 7,197.87	$ (7,802.13)	$ 7,589.84
Legal Inquiries/Permit Applications	$ 5,000.00	$ 1,345.15	$ (3,654.85)	$ 3,398.25
Watershed Stewardship	$ 8,300.00	$ 39,985.00	$ 31,685.00	$ 10,354.80
Revenue from Other C.A. Lands	$ 13,546.00	$ 13,105.28	$ (440.72)	$ 13,412.59
Other Revenue	$ 1,700.00	$ -	$ (1,700.00)	$ -
Contract Services	$ -	$ -	$ -	$ -
Environmental Education	$ 6,753.61	$ 1,670.27	$ (5,083.34)	$ -
Vehicle & Equipment Rental Recoveries	$ 29,000.00	$ 17,913.20	$ (11,086.80)	$ 569.54
Previous Year Surplus (Deficit)	$ 9,204.92	$ 9,204.92	$ -	$ 1,716.73
Income Appropriation from Special Reserves	$ 17,100.00	$ -	$ (17,100.00)	$ -
Income Appropriation from General Reserves	$ 181,473.04	$ -	$ (181,473.04)	$ -
APPROPRIATION FROM RESERVES ADJUSTMENT	$ -	$ -	$ -	$ -
	$ 1,766,342.24	$ 922,404.07	$ (843,938.17)	$ 1,062,438.12

DONATIONS/SPONSORSHIPS	2024 Budget	Received To Date	Difference
Annual Report	$ 1,000.00	$ 1,000.00	$ -
Environmental Education	$ 2,000.00	$ 460.00	$ (1,540.00)
EESS ELP	$ 5,400.00	$ -	$ (5,400.00)
Commemorative Forest	$ 300.00	$ 240.00	$ (60.00)
Springwater Forest Trails	$ 9,829.35	$ 5,458.25	$ (4,371.10)
Archie Coulter C.A. Trails	$ 2,200.00	$ 488.10	$ (1,711.90)
YNHA	$ 2,200.00	$ 548.35	$ (1,651.65)
Trout Program	$ 1,000.00	$ 2,000.00	$ 1,000.00
Maple Syrup Festival	$ 4,000.00	$ 7,650.00	$ 3,650.00
Ontario Police College Path of Honour	$ 3,000.00	$ -	$ (3,000.00)
TOTAL Donations/Sponsorships	**$ 30,929.35**	**$ 17,844.70**	**$ (13,084.65)**

REPORT FA 37/2024 : To The Full Authority
FROM: Susan Simmons, Financial Services Coordinator
SUBJECT: Summary of Revenue & Expenditures
DATE: May 31, 2024

SUMMARY OF EXPENDITURES

for the period ending May 31, 2024

	2024 Budget	2024 To Date	Difference	2023 To Date
MANDATORY PROGRAMS				
1 RISK OF CERTAIN NATURAL HAZARDS (Corporate Service:	$152,975.78	$ 67,855.99	$ (85,119.79)	$ 67,070.27
2 FLOOD FORECASTING & WARNING	$274,434.00	$ 154,183.80	$ (120,250.20)	$ 118,292.22
3 DROUGHT AND LOW WATER RESPONSE	$17,732.88	$ 7,068.56	$ (10,664.32)	$ 6,204.90
4 ICE MANAGEMENT	$25,797.86	$ 11,068.96	$ (14,728.90)	$ 10,256.01
5 INFRASTRUCTURE (Dam)	$24,766.80	$ 12,073.20	$ (12,693.60)	$ 10,685.85
6&7 ACT REVIEWS & PLAN REVIEW	$3,267.81	$ 1,184.34	$ (2,083.47)	$ 1,789.16
8 ADMININSTRATING & ENFORCING THE ACT (Section 28)	$46,949.19	$ 21,533.36	$ (25,415.83)	$ 19,479.07
9-11 CONSERVATION AND MANAGEMENT OF LANDS	$86,900.35	$ 32,378.76	$ (54,521.59)	$ 33,565.54
12 WATER QUALITY (PGMN & PSMP)	$9,366.44	$ 3,534.28	$ (5,832.16)	$ 5,830.95
13 SOURCE PROTECTION	$6,267.78	$ 1,351.41	$ (4,916.37)	$ 2,561.44
SUB TOTAL: MANDATED PROGRAMS Expenditures	**$648,458.89**	**$312,232.66**	**-$336,226.23**	**$275,735.41**
OTHER PROGRAMS AND SERVICES				
WATERSHED STEWARDSHIP	$19,877.23	$ 17,616.06	$ (2,261.17)	$ 11,785.04
EDUCATION PROGRAMS	$16,253.61	$ 2,601.91	$ (13,651.70)	$ 223.14
SPECIAL PROJECTS	$9,200.00	$ -	$ (9,200.00)	$ 5,332.98
C.A. DEVELOPMENT PROJECTS	$176,904.18	$ 36,387.56	$ (140,516.62)	$ 119,055.03
OTHER CAPITAL PROJECTS	$23,381.00	$ 16,394.50	$ (6,986.50)	$ -
MAPLE SYRUP PROGRAM	$45,080.00	$ 31,917.93	$ (13,162.07)	$ 79,858.53
SPRINGWATER CONSERVATION AREA	$751,867.53	$ 208,427.91	$ (543,439.62)	$ 170,178.79
VEHICLE & EQUIPMENT OPERATIONS	$75,319.80	$ 62,274.91	$ (13,044.89)	$ 50,958.02
SUB TOTAL: OTHER PROGRAMS Expenditures	**$1,117,883.35**	**$375,620.78**	**-$742,262.57**	**$437,391.53**
AMORTIZATION	$ -	$ -	$ -	$ -
APPROPRIATION TO SPECIAL RESERVES	$ -	$ -	$ -	$ -
APPROPRIATION TO GENERAL RESERVES	$ -	$ -	$ -	$ -
APPROPRIATION TO RESERVES ADJUSTMENT	$ -	$ -	$ -	$ -
GRAND TOTAL	**$ 1,766,342.24**	**$ 687,853.44**	**$(1,078,488.80)**	**$ 713,126.94**

Susan Simmons

Susan Simmons,
Financial Services Coordinator

REPORT FA 38/2024 : TO THE FULL AUTHORITY

FROM: Susan Simmons, Financial Services Coordinator
SUBJECT: Accounts Paid
DATE: May 31, 2024

VENDOR	CHQ #	TOTAL	EXPLANATION
CBSC Capital Inc.	online	$ 859.30	photo copier lease
Waste Connections of Canada Inc.	online	$ 629.60	campground maintenance
Aylmer Home Hardware Building Centre	31774	$ 121.17	campground maintenance
Elgin Feeds Ltd.	31775	$ 146.89	campground maintenance
Integrity IT Services	31776	$ 352.56	computer\network support
J-Aar Materials Limited	31777	$ 700.54	campground maintenance
Mobile Vintage Repairs and Engineering	31778	$ 717.22	equipment maintenance
Paul Fody	31779	$ 6,463.60	Accessability Ramp project
SGS Canada Inc.	31780	$ 96.06	campground maintenance
St. Thomas Rent-All	31781	$ 271.20	Accessability Ramp project
De Lage Landen Financial Services Canada Inc.	online	$ 111.87	postage meter rental
Buttonbush Farm	31782	$ 750.00	Malahide municipal roadside tree program
Medlyn Custom Services	31783	$ 169.50	equipment maintenance
Springwater Mills Ltd.	31784	$ 847.50	firewood for resale
Eastlink	online	$ 243.65	gauges
Telus Mobility	online	$ 453.87	mobile phones
Hydro One	online	$ 1,531.09	operations centre, campground, and gauge
Aylmer Home Hardware Building Centre	31785	$ 25.72	campground supplies
Buttonbush Farm	31786	$ 113.00	commemorative forest trees
Canadian Tire	31787	$ 437.10	campground supplies
Checkers Cleaning Supply	31788	$ 2,248.15	campground supplies
Dowler-Karn Limited	31789	$ 3,592.22	equipment and vehicle fuel
Durand, Chris	31790	$ 350.00	website management
Glenbriar Bottled Water Co. Ltd.	31791	$ 214.60	water cooler service
H. Broer Equipment Sales & Service Inc.	31792	$ 162.48	equipment maintenance
Hyde Park Equipment Ltd.	31793	$ 367.12	equipment maintenance
Integrity IT Services	31794	$ 617.27	computer\network support
J-Aar Materials Limited	31795	$ 716.87	campground maintenance
K&K Locksmiths	31796	$ 942.98	campground supplies
Kettle Creek Conservation Authority	31797	$ 122.48	Watershed Stewardship - Farm Show Cost
Key West Gates Inc.	31798	$ 813.60	campground maintenance
Koolen Electric	31799	$ 2,797.58	campground maintenance
London Quality Dairy and Wholesale	31800	$ 161.10	store product for resale
M Live Bait Wholesale	31801	$ 135.60	store product for resale
Ontario Hose Specialties Limited	31802	$ 420.92	equipment maintenance
Passport Labs, Inc	31803	$ 8.40	mobile parking app fee
Paul Fody	31804	$ 18,717.32	Accessability Ramp project
Printers Plus	31805	$ 542.38	office supplies
R Safety	31806	$ 46.21	campground supplies
Silverthorn Landscape Supplies	31807	$ 67.80	campground maintenance
Springwater Mills Ltd.	31808	$ 847.50	firewood for resale
Uplink Communications Inc.	31809	$ 678.00	Accessability Ramp project
		$ 49,612.02	

RECOMMENDATION:

THAT, Accounts Paid totalling **$49,612.02** , be approved as presented in Report FA 38/2024

Susan Simmons

Susan Simmons,
Financial Services Coordinator

Report FA 39/2024 : To The Full Authority

FROM: Susan Simmons, Financial Services Coordinator
Al Bradford, Conservation Areas Supervisor

SUBJECT: 2024 Maple Syrup Program Summary

DATE: May 31, 2024

PURPOSE:

To summarize the 2024 Springwater Conservation Area Maple Syrup Program.

DISCUSSION:

The Springwater Maple Syrup Program consists of the following components: Environmental Education, Maple Syrup Festival, and Maple Syrup Retail Sales.

Environmental Education:

The Maple Syrup Education Program was jointly delivered by staff of the Jaffa Environmental Education Centre (JEEC) who covered the sugar bush and maple tree tapping component. The CCCA covered the history of syrup production at the Sugar Shanty location.

Education Programs were provided during the months of February to April and were attended by students from the Thames Valley District School Board (TVDSB), and 3 separate elementary school programs.

Festival:

The Festival ran for two (2) weekends and throughout the week of March Break for a 9 Day Festival, with the assistance of many community volunteers.

The Pancake House was in operation both weekends, and during the March Break. The Pancake House Operators for 2024 were Davenport Public School, CMHA, and the Friends of Springwater. The Operators were required to apply for a Special Events Food Permit from the Elgin-St. Thomas Health Unit.

Special Attractions for 2024 included Natural Resources Day and Emergency Services Day. There were no expenditures for common special attractions for this year's Festival, which was mentioned by some disappointed guests. This may account for lower attendance and a busier than average Pancake House.

Sponsorships totalled $7,650.00 for the Festival in 2024. A copy of the Sponsor Recognition Poster is attached.

The following documents are attached for your reference:

- •Festival Poster
- •Sponsor Recognition Poster
- •Final attendance and revenue figures
- •Total sales of maple syrup products

RECOMMENDATION:

THAT, the 2024 Maple Syrup Financial and Statistical Summaries be received as information at this time; and further,

THAT, staff be directed to undertake a detailed operational and financial review of the program in consultation with the Jaffa Environmental Education Centre to determine any efficiencies and improvements for 2025.

Susan Simmons
Financial Services Coordinator

Al Bradford
Conservation Areas Supervisor

SPRINGWATER CONSERVATION AREA

SPRINGWATER MAPLE SYRUP FESTIVAL

Adults $9.00 | Children $5.00

WHEN	**MAR 9 - MAR 17, 2024 | 10 AM – 3PM**
WHERE	**8079 SPRINGWATER RD., AYLMER, ON ACROSS FROM THE CCCA ADMIN OFFICE**

Pancake House | 10AM - 2PM | Cash ONLY

Special Attraction Days

MAR 9 & MAR 10

- **Natural Resources Day**

MAR 13

- **Emergency Services Day**

MAR 15

- **Elgin County Library Maple Story Time**

MAR 16

- **Maple Baked Good Vendors**

NEW THIS YEAR! Hike to MAPLE MOUNTAIN!

Wagon Rides | Activity Centre | Blue Bird Houses for purchase

CATFISH CREEK CONSERVATION AUTHORITY

An annual tourism festival by Catfish Creek Conservation Authority

www.catfishcreek.ca | 519-773-9037 | springwater@catfishcreek.ca

SPRINGWATER MAPLE SYRUP FESTIVAL

Thanks it's generous Sponsors!

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CATFISH CREEK CONSERVATION AUTHORITY
SPRINGWATER CONSERVATION AREA
MAPLE SYRUP PROGRAM
FINANCIAL ANALYSIS

	2018	2019	2020	2023	2024
REVENUE					
School Groups	$ 13,743.00	$ 12,276.00	$ -	$ 9,810.00	$ 5,931.00
Tours	$ 1,628.00	$ 1,997.00	$ -	$ 1,503.00	$ 1,458.00
Admissions	$ 17,779.73	$ 15,518.58	$ 6,901.47	$ 21,465.48	$ 14,606.19
Facility Rental	$ 1,946.90	$ 1,415.93	$ 707.96	$ -	$ 1,902.65
Maple Syrup Products	$ 29,982.19	$ 25,147.39	$ 11,578.90	$ 28,858.93	$ 22,008.67
SubTotal (Revenue Generated)	**$ 65,079.82**	**$ 56,354.90**	**$ 19,188.33**	**$ 61,637.41**	**$ 45,906.51**
Grants	N/A	N/A	N/A	$ 41,828.00	$ 5,062.00
Sponsorships	$ 8,500.00	$ 10,700.00	$ 11,650.00	$ 6,100.00	$ 7,650.00
TOTAL REVENUE	**$ 73,579.82**	**$ 67,054.90**	**$ 30,838.33**	**$ 109,565.41**	**$ 58,618.51**
EXPENSES					
Advertising	$ 1,203.46	$ 738.02	$ 462.02	$ 3,556.75	$ 1,060.24
Building & Equipment Maintenance	$ 196.02	$ 196.00	$ 198.00	$ 119.18	$ -
Operating Expenses	$ 4,309.66	$ 1,428.77	$ 2,692.77	$ 17,914.99	$ 2,310.57
Resaleable Supplies	$ 22,652.97	$ 16,622.36	$ 10,846.67	$ 21,028.73	$ 10,046.34
Special Attractions	$ 1,800.00	$ 1,784.96	$ 1,242.48	$ 3,900.00	$ -
Vehicle/Equipment Rentals	$ 3,651.66	$ 3,914.75	$ 1,913.09	$ 782.02	$ 2,235.16
Wages & Benefits	$ 28,179.94	$ 23,409.22	$ 19,478.78	$ 32,556.86	$ 16,200.58
TOTAL EXPENSES	$ 61,993.71	$ 48,094.08	$ 36,833.81	$ 79,858.53	$ 31,852.89
NET INCOME	**$ 11,586.11**	**$ 18,960.82**	**$ (5,995.48)**	**$ 29,706.88**	**$ 26,765.62**

	5 Year Avg.
$248,166.97	$49,633.39

CATFISH CREEK CONSERVATION AUTHORITY
SPRINGWATER CONSERVATION AREA
MAPLE SYRUP PROGRAM
YEARLY STATISTICS

ATTENDANCE	2018	2019	2020	2023	2024	5 Year Avg.
General Admissions	1889	1630	663	1925	1351	
Childrens Admissions	1372	1136	549	1470	941	
Total Festival Admissions	**3261**	**2766**	**1212**	**3395**	**2292**	**2585**
Average Daily Attendance	**251**	**213**	**303**	**377**	**255**	**280**
School Tours	1527	1364	0	1090	659	
Cost Per Student	$9.00	$9.00	$9.00	$9.00	$9.00	
Other Tours	180	219	0	167	141	

PRODUCT SALES	2018	2019	2020	2023	2024
4 Litre	118	94	59	75	63
2 Litre	123	101	46	75	47
1 litre	360	313	91	267	171
500 ml.	234	145	39	220	153
250 ml.	149	104	32	143	127
Maple Butter	150	168	318	176	120
Maple Leaves (3 pack)	1258	0	318	1208	953
Maple Leaves (5 pack)		656	N/A	N/A	N/A
Maple Candles - 540 ml	N/A	N/A	N/A	23	8
Maple Candles - 110 g	N/A	N/A	N/A	38	47
Maple Leaf Sucker (singles)	393	261	188	1141	547
Maple Candy Tins	118	70	N/A	N/A	N/A
Maple Chocolate Truffles	1878	2090	1520	1842	1154
Maple Caramels	1107	1259	892	2030	N/A
Maple Leaf Hard Candy	1213	1585	1612	1705	1044
Lollipops	2928	2438	2700	1724	2349
Maple Toffee	N/A	N/A	N/A	N/A	1613
Colouring/Activity Books	N/A	58	244	177	143

MAPLE SYRUP PRODUCED	2018	2019	2020	2023	2024
4 Litre	12	0	0	0	0
2 Litre	8	10	0	0	0
1 litre	4	4	0	0	0
500 ml.	0	3.5	0	0	0
250 ml.	0	0.5	0	0	0
* #s have been converted to litres	24	18	0	0	0

REPORT FA 40/2024: To The Full Authority

FROM: Peter Dragunas, Water Management Technician

SUBJECT: Catfish Creek Channel Sounding

DATE: June 4, 2024

PURPOSE:

To update the Full Authority on the results of the June 3, 2024, Catfish Creek channel sounding at Port Bruce.

DISCUSSION:

Please find attached maps for the July 2023 and June 2024 Catfish Creek Channel Soundings at Port Bruce.

At the time of the July 2023 survey, the Lake Erie water level at Port Bruce was verified at the Environment Canada, Lake Erie water level station #12400 at Port Stanley.

The recorded Lake Erie water level at the time of the sounding (2024) was 1.163m (3.82ft) above the Chart Datum (CD) of 173.5m. Comparing the July 2023 sounding to June 2024 sounding Lake Erie water level is up by 0.05m (0.16ft). Since the Catfish Creek Channel Sounding data and information is evaluated relative to CD, the lake levels do not affect the bathymetric results and are included for information purposes only.

The July 2023 sounding identifies three persistent areas of deposition along with an additional ephemeral area for 2024. The first zone is located at the northern reach of the sounding area, the second is just south of the Imperial Street bridge, the third is at BeeLine trailer park, and the 2024 ephemeral area is located immediately north of the harbour breakwall at the southern outlet end of Roccabore Bay.

The Roccabore Bay depositional area can be rationalized by the 2023, 2024 mild winter weather, lack of lake ice coupled with winter storm wave swells which transport lake sediment into the northern margins of the harbour at the southern outlet of Roccabore Bay. This lake sediment, combined with the natural winter season riverine sediment transport collide in this area which equalizes (deeper and larger cross sectional area) the sediment transport forces allowing the sediment to precipitate out of suspension.

Similar to the July 2023 sounding the June 2024 results identify a variable thalweg depth from North Erie Marina to Lake Erie. As usual a short segment at North Erie Marina exhibits a deeper dependable thalweg, who's connectivity with a seasonally moderate depth thalweg at Levis Street is interrupted by a lesser depositional zone at the BeeLine trailer park.

The soundings recognize that the Catfish Creek at Port Bruce is in morphological equilibrium (*Port Bruce Sedimentation Study,* Riggs Engineering Ltd., May, 2012), meaning the eroded sediment transported by the creek is ultimately removed by the creek out to Lake Erie. This is apparent since the Catfish Creek is maintaining a similar thalweg in June 2024 as it did in July 2023.

It is anticipated that the aforementioned sediment depositional zone volumes may decrease as channel water levels rise and flows increase over the wetter fall season. The increased flows are anticipated to flush and distribute some of the grounded sediment more evenly over the study area as the sediment migrates out to the lake. This will relieve the depositional zones of excess sediment and conceivably reduce the probability of ice jamming in these continued zones of deposition.

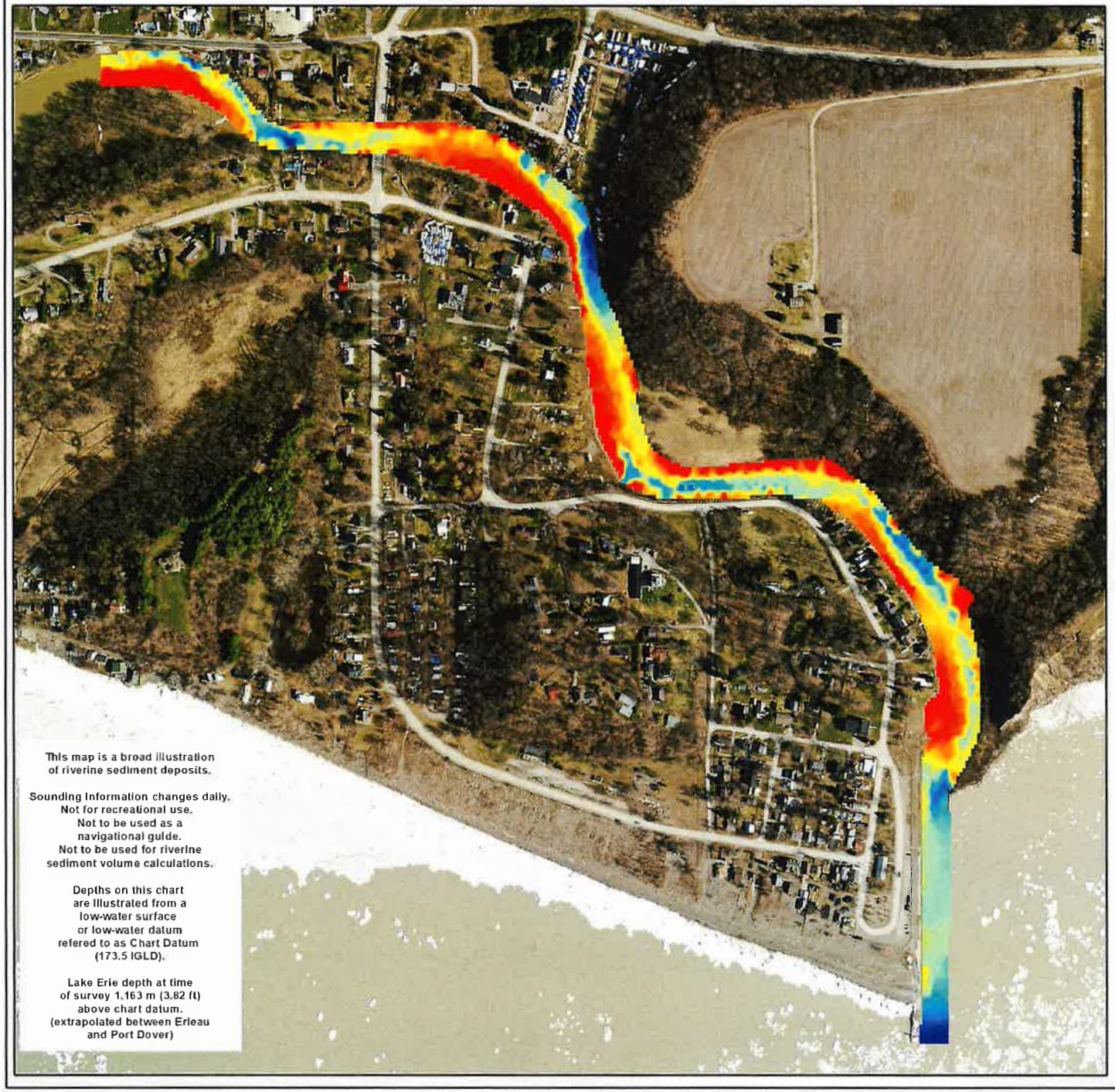
Thalweg Rationalization

Due to the mild and drier 2023, 2024 winter season there was a lesser amount of freeze thaw cycles, and generally lower than average winter season flows which provided a lesser opportunity for the channel to scour and consequently transport and deposit sediment in the creeks lower reaches. The continued natural depositional areas (inside bends, wider and deeper channel areas) along with the channels transport zones (narrower, straighter with less depth) within the Hamlet of Port Bruce identify the channels morphological equilibrium allowing the channel to maintain a suitable hydrological conveyance resulting in a characterized thalweg within the lower reaches of the Catfish Creek within Port Bruce.

RECOMMENDATION:

THAT, the channel sounding observations described in Report FA 40/2024, be received as information at this time.

Peter Dragunas,
Water Management Technician



This map is a broad illustration of riverine sediment deposits.

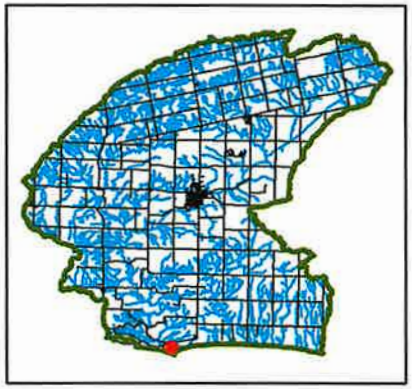
Sounding Information changes daily.
Not for recreational use.
Not to be used as a navigational guide.
Not to be used for riverine sediment volume calculations.

Depths on this chart are illustrated from a low-water surface or low-water datum refered to as Chart Datum (173.5 IGLD).

Lake Erie depth at time of survey 1.163 m (3.82 ft) above chart datum. (extrapolated between Erieau and Port Dover)

CATFISH CREEK CONSERVATION AUTHORITY

Port Bruce
June 3, 2024
Sounding



Feet

9+
8
7
6
5
4
3
2
1
0

N

Data Sources: NRVIS, DFO, CCCA
CCCA GIS
June 3, 2024

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. Catfish Creek Conservation Authority (CCCA) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

This map is a broad illustration of riverine sediment deposits.

Sounding Information changes daily.
Not for recreational use.
Not to be used as a navigational guide.
Not to be used for riverine sediment volume calculations.

Depths on this chart are illustrated from a low-water surface or low-water datum refered to as Chart Datum (173.5 IGLD).

Lake Erie depth at time of survey 1.11 m (3.63 ft) above chart datum. (extrapolated between Erieau and Port Dover)

Port Bruce
July 10, 2023
Sounding

Feet

9+
8
7
6
5
4
3
2
1
0

N

Data Sources: NRVIS, DFO, CCCA
CCCA GIS
July 10, 2023

This map should not be relied on as a precise indicator of routes or locations, nor as a guide to navigation. Catfish Creek Conservation Authority (CCCA) shall not be liable in any way for the use of, or reliance upon, this map or any information on this map.

REPORT FA 41/2024 : To The Full Authority

FROM: Dusty Underhill, General Manager / Secretary-Treasurer

SUBJECT: Port Bruce Riverine and Coastal Floodplain Mapping Information Session

DATE: June 3, 2024

PURPOSE:

The purpose of this report is to provide an overview of the public information session being held regarding the Port Bruce Riverine and Coastal Floodplain Mapping Information Session.

DISCUSSION:

On May 29, 2024 CCCA staff met with staff from The Township of Malahide and The County of Elgin in regard to the new Floodplain Mapping that was completed in Port Bruce. Immediately following the meeting, the Floodline Study was uploaded to our Webpage and the link was disseminated throughout the Port Bruce area by the Port Bruce Rate Payers Association.

The upcoming public information session on the flood study represents a significant milestone in community engagement and flood management efforts. By providing stakeholders with access to valuable insights, the session aims to foster collaboration and empower the community to address developmental flood-related challenges effectively. The session will aim to disseminate information derived from the flood study, enhancing public understanding of flood risk factors. By encouraging dialogue, the session simply seeks to inform the community. This session underscores the CCCA's, The Township of Malahide and the County of Elgin's commitment to transparency in flood management efforts, ensuring that stakeholders and the community at large are aware and informed.

CCCA staff have reached out to Pat Prodanovic from TRUE Engineering to assist in providing a presentation to make the public at large aware of the new mapping and to explain how it was developed. It should be noted that when conducting these mapping studies, the Provincial Government provides the guidelines in regard to what must be adhered to well completing such a study. On July 10, 2024 a Public Information Session is planned to be held at the Malahide South Fire Station at 7355 Imperial Road from 1:30pm-3:30pm. Conservation Authority staff and municipal and county staff will be on hand for the session as well as Pat Prodanovic who completed the mapping updates.

RECOMMENDATION:

THAT, Report FA 41/2024 be received as information at this time.

D. Underhill

Dusty Underhill
General Manager / Secretary-Treasurer

REPORT FA 42/2024 : To The Full Authority

FROM: Dusty Underhill, General Manager / Secretary-Treasurer

SUBJECT: Draft Watershed-based Resource Management Strategy

DATE: April 16, 2024

PURPOSE:

To seek approval to provide the draft Watershed-based Resource Management Strategy (Strategy) for consultation to our member municipalities, local Indigenous communities and the general public.

DISCUSSION:

Ontario Regulation 686/21 under the Conservation Authorities Act requires Conservation Authorities to complete a Watershed-based Resource Management Strategy by December 31, 2024. The Strategy is intended to ensure that the CCCA's programs and services respond to local watershed issues and reflect our legislated mandate. A six-week review period is proposed from June 17, 2024 to July 26, 2024 during which municipalities, local Indigenous Communities, and the public can consult and provide comment on the Draft Strategy.

The goal of the Strategy is to design and deliver cost-effective programs and services that protect people and property from natural hazards and climate change impacts, protect municipal drinking water sources, conserve nature, and provide opportunities for outdoor recreation and education across the CCCA watershed. The Watershed Strategy framework begins with setting guiding principles and objectives which reflect the issues of the watershed. These were obtained from our new Ten Year Strategic Plan. The watershed is characterized through a summary of existing science-based studies and information.

The main audiences for the Strategy are members of the Board and senior staff at participating municipalities, as funders of the CCCA's programs. The regulation lays out the required components of the Strategy in which CA's have to adhere to.

The required components of the Strategy are summarized below;

1. Guiding principles and objectives that inform the design and delivery of the CCCA's mandatory programs and services;

2. A summary of existing technical studies, monitoring programs and other information on the natural resources the CCCA relies on within its area of jurisdiction or in specific watersheds that directly informs and supports the delivery of the CCCA's mandatory programs and services (s.12(4) paragraph 2);

3. A review of the CCCA's mandatory programs and services for the purposes of determining if they comply with the mandatory programs and services regulation. Performing an assessment of the effectiveness of the delivery of Category 1 programs; identifying actions and risk mitigation to address identified issues/risks that limit the effectiveness of delivery. A cost estimate for the implementation of those actions must

be included (i.e., supporting Category 1, 2 and/or 3 programs to support mandatory program delivery) (s.12(4) paragraph 3,i,ii, iii);

4. The Strategy may include both Category 2 and 3 programs and services provided by the CA, where the agreement which provides for the delivery of these programs or services permits the inclusion of these programs or services in the Strategy (s.12(5),12(6), 12(7)), or they are cost recoverable and don't require Municipal Funding;

5. A process for periodic review and updates to the Strategy by the CCCA, including procedures to consult with stakeholders and the public during these periodic reviews (s.12(4) paragraph 4).

The draft Strategy has been included as for review by the Authority. The Strategy builds on the CCCA's Strategic Plan, Programs and Services Guide, and other resources.

The draft Strategy will be posted on the CCCA's website throughout the review period. A summary of comments received and a revised Strategy will be presented to the Board for approval following the review period.

The draft Strategy has been prepared with existing staff resources and the recommendations are anticipated to be implemented with current program budgets and no financial implications.

RECOMMENDATION:

THAT, Report FA 42/2024 Draft Watershed-based Resource Management Strategy be received as information;

AND THAT, the Catfish Creek Conservation Authority direct staff to undertake consultation on the draft Strategy from June 17, 2024 to July 26, 2024;

AND THAT, the Catfish Creek Conservation Authority send a letter to participating municipalities, and local Indigenous Communities to advise them of the consultation period on the draft Strategy.

Watershed-based Resource Management Strategy

Approved by Board of Directors:
Effective Date:
Motion No:

Land Acknowledgment:

We would like to take this time to recognize that the land on which we gather is in the traditional territory shared between the Haudenosaunee (ho - din - oh - show - knee) confederacy, the Anishinabe (ah - nih - shih - nah - bai) nations, and the Attiwonderonk Neutrals. First Nations people have longstanding relationships to the land, water and Southwestern Ontario and we are thankful for the opportunity to live, learn and share with mutual respect and appreciation.

Contents

Acknowledgments and Authors:

The Catfish Creek Conservation Authority (CCCA) would like to thank Conservation Ontario for the guidance documents that were provided to assist in fulfilling the requirements of the Mandatory Watershed-based Resource Management Strategy (Strategy), other Conservation Authorities for draft content and the Conservation Authorities Act and its regulations.

The authors of the CCCA Strategy are Peter Dragunas, Water Management Technician and Dusty Underhill, General Manager/ Secretary - Treasurer.

Thank you to everyone who took the time to contribute to the Strategy through public consultation that occurred from June 17, 2024 to July 26, 2024 with final review and approval from the CCCA Board of Directors on August 8, 2024.

1.0 INTRODUCTION

1.1 Purpose

The purpose of the Watershed Based Resource Management Strategy is to assist the Catfish Creek Conservation Authority (CCCA) with developing or improving the delivery of programs and services and their efficiencies and their effectiveness in supporting Mandatory Category 1 Programs.

As part of the Strategy, each Conservation Authority (CA) across the province will develop guiding principles and objectives that inform the design of our programs and services. This document is a summary of information the CCCA can rely upon to directly inform and support program and service delivery, and identify any issues and risks which may limit the delivery of Category 1 programs/services, including actions to address such risks. As such, the Strategy may be used as a management and communications tool with the CCCA's member municipalities, all levels of government, and members of the community to identify actions and Category 2 and 3 programs and services that are recommended to support the delivery of mandatory CA programs and services if necessary. It provides a mechanism to update CCCA's Programs and Services Inventory and to identify where opportunities exist for improving and/ or maintaining watershed health.

To understand the environmental health of the Catfish Creek watershed and the Lake Erie tributaries within CCCA's jurisdiction all environmentally natural and developed artificial components within the watershed require consideration. The CCCA administrative area is comprised of many natural and urbanized elements, from agriculture to municipal to old growth forest, water resources and recreation all of which are comprised of individual ecosystems, together they make-up the watershed bionetwork.

1.2 Goal

The goal of the Strategy is to design and deliver cost effective programs and services that protect people and property from natural hazards and climate change impacts, protect municipal drinking water resources, conserve nature, and provide opportunities for outdoor recreation and education across the watershed. By considering the interconnectedness of the above noted components, this approach helps in achieving holistic and effective management of water resources and associated ecosystems.

1.3 About CCCA

The CCCA was established under Order in Council on February 23, 1950 by request from the Town of Aylmer and Malahide Township. Conservation Authorities protect, restore and effectively manage impacts on Ontario's water resources such as lakes, rivers, streams and groundwater. Conservation Authorities develop programs that protect natural heritage and habitats and promote watershed stewardship practices that lead to healthy watersheds. The CCCA is a local not for profit organization located in southwestern Ontario who implements programs and objectives to;

1) Protect life and minimize property damage from natural hazards and climate impacts,

2) Improve and protect the ecological health of the Catfish Creek watershed's increasing biodiversity, habitat connectivity, and natural cover,

3) Curate an appreciation and create equitable access to nature,

4) Ensure our Conservation Lands are protected and enhanced,

5) Operate a sustainable, fiscally responsible and adaptable organization.

1.4 Legislative Background

Proclaimed provisions within the Conservation Authorities Act (CAA) and accompanying regulations establish requirements for Mandatory Programs and Services (see Section 21.1 of the Act https://www.ontario.ca/laws/statute/90c27#BK29 and Ontario Regulation 686/21 (O.Reg 686/21) https://www.ontario.ca/laws/regulation/210686).

O.Reg. 686/21 sets out the Mandatory Programs and Services, which must be delivered by all Conservation Authorities in Ontario. Subsection 12(1)3 of the regulation requires all Conservation Authorities to prepare a WBRMS in accordance with subsections 12(4) through (9).

Proclaimed provisions within the Conservation Authorities Act and accompanying regulations establish a requirement for Transition Plans including a Program and Service Inventory and Agreements for Programs and Services (Category 1: Mandatory Programs and Services, Category 2: Municipal Programs and Services Provided on Behalf of a Municipality, Category 3: Programs and Services Advisable by the Conservation Authority). The Strategy may include both Category 2 (municipal - s21.1.1) and Category 3 (other - s21.1.2) programs and services provided by the CA, where the agreement which provides for the delivery of these programs or services permits the inclusion of these programs or services in the Strategy. The CCCA currently only has Category 1 Mandatory Programs and Services and Category 3, Other Programs and Services. The CCCA's Category 3 programs are cost recoverable or paid in full by monies not acquired from municipal levy such as grants, reserves and cost recovery.

2.0 VISION, MISSION, CORPORATE VALUE, STRATEGIC PILLARS, NEXT STEPS

2.1 CCCA's Strategic Plan 2024-2034 (Guiding Principles and Objectives)

In 2023 the Board of Directors approved a Strategic Plan to guide the CCCA from 2024-2034. The new ten (10) year Strategic Plan builds on previous successes and accomplishments, while moving the CCCA forward so we can modernize how staff operate. This will allow staff to be more responsive to changing watershed conditions and economic factors.

The strength and success of the CCCA has been the emphasis on local community involvement. The conservation movement has been a movement of, by and for the people over the past 75 years. We strive to create and implement programs to further the conservation, restoration, development, and management of the natural resources of the Catfish Creek watershed.

2.1.1 Our Vision:

Harmony between the social and ecological needs of the watershed of present and future generations.

2.1.2 Our Mission:

To communicate and deliver resource management services and programs in order to achieve social and ecological harmony for the watershed.

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2.1.3 Our Corporate Values:

1. Committed; We are committed to conservation and work every day to improve the health and function of the Catfish Creek watershed, and to provide sustainable outdoor recreation opportunities and customer service that the community expects from us.
2. Creative; We are creative in our solutions and we understand the challenges of today's economy. We are committed to be creative and adaptive in our business solutions to ensure we are a sustainable organization for years to come.
3. Compassionate; We are compassionate towards landowners and we understand both their interests and those of a changing environment. We will continue our great history of working with landowners to find solutions that work for all parties.
4. Proud; We are proud of the Catfish Creek Conservation Authority and dedicating ourselves to the protection of the watershed. We will work hard to increase natural spaces so that future generations can also be proud of the watershed.

Please refer to https://www.catfishcreek.ca/about-us/publications/ to view the 2024-2034 Catfish Creek Conservation Authority Strategic Plan in its entirety.

3.0 GOVERNANCE/JURISTICDTION

3.1 Conservation Authorities Act (CAA)

The Conservation Authorities Act was created by the Ontario Provincial Legislature in 1946 to ensure the conservation, restoration and responsible management of hydrological features through programs that balance human, environmental and economic needs. The Act authorizes the formation of Conservation Authorities on a watershed basis.

The purpose of the Conservation Authorities Act is to provide for the organization and delivery of programs and services that further the conservation, restoration, development and management of natural resources in Ontario watersheds.

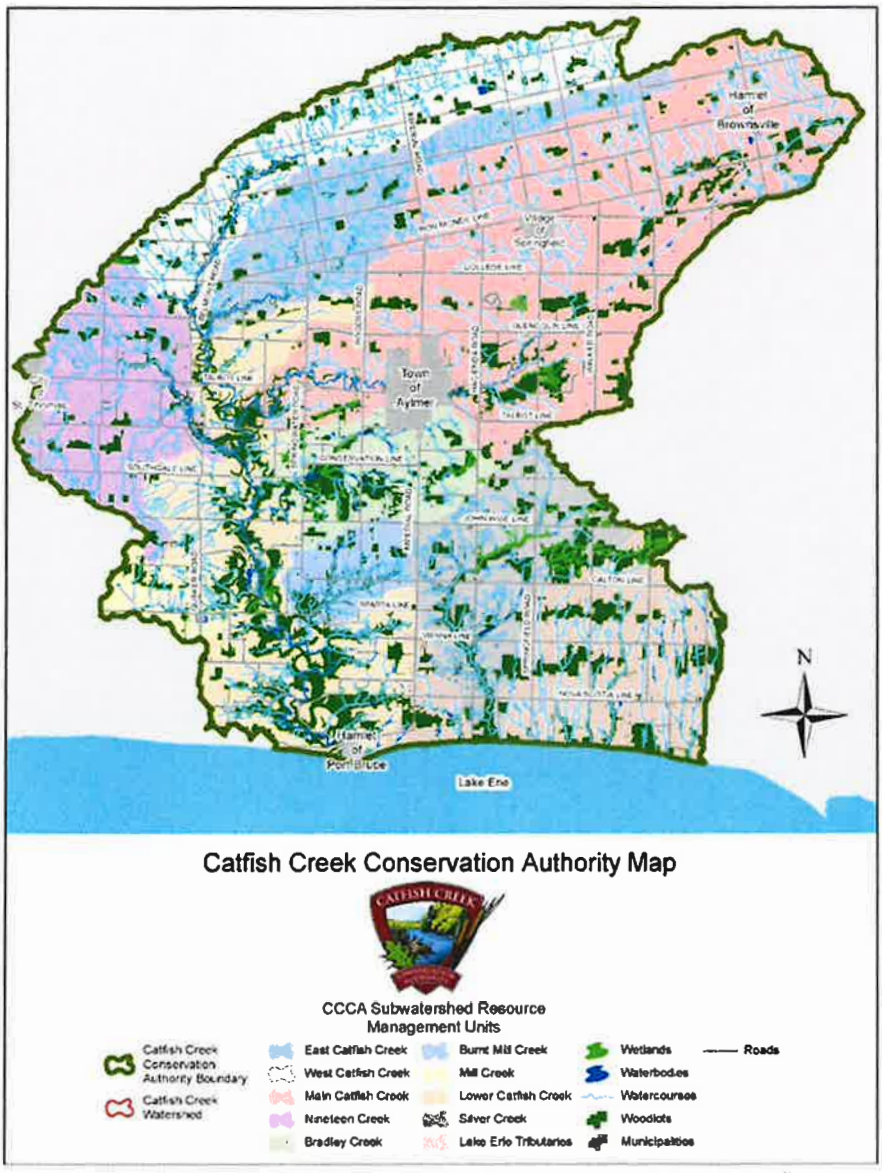
The CCCA was formed under The CAA by Order in Council on February 23, 1950. Ted Clement, Walter Curtis and Stu McBrien wanted an Authority, which would find water. The Town of Aylmer and Malahide Township petitioned the Minister of Public Works to form an Authority on Catfish Creek. At the time there were six member municipalities including the Town of Aylmer, the Village of Springfield, Townships of Malahide, Dereham, South Dorchester and Yarmouth. Today the CCCA watershed encompasses all or portions of the Town of Aylmer (100%), The Township of Malahide (82%), The Township of Southwest Oxford (8%), The Municipality of Central Elgin (40%), and The City of St Thomas (4%).

3.2 Clean Water Act

The Catfish Creek Source Protection Plan was approved on September 19, 2014 and came into effect on January 1, 2015. The Ontario government passed the Clean Water Act in 2006 to implement some of the recommendations of the Walkerton Inquiry. The Act ensures communities protect their municipal drinking water supplies through prevention by developing collaborative, watershed-based source protection plans based on science. The Act created source protection areas and source protection regions. A source protection region can have one or more source protection areas. The Act also created

a local multi-stakeholder source protection committee for each region. These committees identify significant existing and future threats to their municipal drinking water sources and develop plans to address those threats. The CCCA watershed has one municipal drinking water system in the village of Brownsville in the Township of South-West Oxford. The system has two wells that provide water to about 500 people. The Elgin Area Primary Water Supply System also provides municipal water to a number of communities in the watershed, including the Town of Aylmer, Port Bruce and Copenhagen both in the Township of Malahide. The CCCA Source Water Protection Assessment Report can be viewed at; https://www.sourcewater.ca/en/source-protection-areas/Catfish-Creek-Source-Protection-Plan.aspx#gsc.tab=0.

3.3 Jurisdiction



(CCCA Sub-watershed Resource Management Units Map 1)

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The Catfish Creek watershed is located in the heart of the Carolinian zone in southwestern Ontario. The CCCA administrative boundary is divided into ten sub-watershed management units (CCCA Sub-Watershed Resource Management Units Map 1). Catfish Creek and its tributaries drain an area of approximately 490 square kilometres in Elgin and Oxford counties. The Catfish Creek and seven of the encompassing sub-watershed management units enters Lake Erie at Port Bruce. Much of the land of the watershed is used for agriculture. The City of St. Thomas and the Town of Aylmer are the major urban areas, with other settlements in Malahide such as Springfield and Port Bruce. The Town of Aylmer, the City of St. Thomas, the Township of Malahide, the Township of South-West Oxford, and the Municipality of Central Elgin are our participating municipalities. The total population in the watershed as of 2023 was an estimated 22,000.

3.3.1 Town of Aylmer

Centrally located in the Catfish Creek basin, Aylmer is a charming small town found in Elgin County in Southwestern Ontario. The Town of Aylmer is the largest urban municipality in the CCCA watershed. There are 7,695 residents in Aylmer, with an average age of 40.6. Males make up 48.2% of the population, while females account for 51.8%. Locals under 14 years old represent the largest age group in Aylmer (1,560 individuals), followed by those aged over 65 (1,550 people). Typically, urban centers face a number of challenges with regard to protecting water quality in developed landscapes. Municipalities in the watershed have developed policies for the treatment of stormwater. Requirements are consistent with the concepts and technological requirements established by the Province through its stormwater management quality guidelines and planning and design manual. The Town of Aylmer is also faced with the challenges of promoting the principals/benefits of stormwater management with existing (or retrofitting) infrastructure in older urban areas.

The Town of Aylmer's Official Plan provides guidance for the physical development of the Town through the establishment of land use designations and development policies while having regard to relevant social, economic, and environmental issues for the planning period of 2011 to 2031, though policies will be reassessed every five years in accordance with the Planning Act. In more specific terms, the purpose of The Town of Aylmer's Official Plan is to provide a policy framework, which encourages growth and prosperity in Aylmer while preserving and enhancing the Town's unique small town character.

3.3.2 City of St. Thomas

St Thomas is located in the heart of Southwestern Ontario in beautiful Elgin County. Surrounding St. Thomas are numerous picturesque towns, lakeside villages and historic hamlets, each with their own unique charm. St Thomas is a quick hop from London, Ontario and the shores of Lake Erie. There are 42,840 residents in St. Thomas, with an average age of 43.0. Males make up 48.3% of the population, while females account for 51.7%. Locals over 65 years old represent the largest age group in St. Thomas (9,115 individuals), followed by those aged under 14 (7,155 people). A small (eastern) portion of the City of St. Thomas is within the watershed. The area is over 80 percent developed with a mixture of residential, commercial and industrial land uses. The final remaining parcel (agricultural land) in the watershed is designated for residential development and is currently proceeding by plan of subdivision on full services. The $7-billion Volkswagen electric vehicle battery manufacturing plant is currently being built at an industrial park area in St. Thomas. The structure will cover an area of roughly 370 acres, equivalent to the size of more than 210 soccer or football fields. The site is approximately eighty percent (80%) in the CCCA watershed.

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3.3.3 Township of Malahide

The Township of Malahide is located on the north shore of Lake Erie. The Township is directly linked to Canada's major transportation artery, Highway 401, with exchanges on Imperial Road (Hwy 73), Belmont Road (Hwy 74), Dorchester Road and Putnam Road. There are 9,310 residents in Malahide, with an average age of 37.9. Males make up 51.1% of the population, while females account for 48.9%. Locals under 14 years old represent the largest age group in Malahide (2,180 individuals), followed by those aged over 65 (1,450 people). The Township of Malahide encompasses 67% of the total land area within the watershed. The Official Plan emphasizes the predominant use of land in the Township will be related to agricultural activities. Policies have been developed to permit agriculture-related uses and compatible secondary land uses throughout the Township.

The policies and land use designations included in The Municipality of Malahide's Official Plan were prepared to guide development in the Township of Malahide for the twenty-year period between 2009 and 2029. In addition, every five years, the policies of the Official Plan are reviewed for their effectiveness and future utility. Background data is also updated at this point. For the most part, the Official Plan emphasizes that the predominant use of land in the Township will be related to agricultural activities. Several policies have been incorporated in the Official Plan for the specific purpose of preserving highly productive farmland for agricultural purposes. The Official Plan has also identified lands, which would be the most appropriate for non-farm development. These lands are adjacent to existing built-up areas and are designated as settlement areas for varying levels of growth and development. In all cases, historical communities and local urban areas have been identified and recognized as settlement areas in their Official Plan.

3.3.4 Township of Southwest Oxford

South-West Oxford is a township located within Oxford County. There are 7,585 residents in South - West Oxford, with an average age of 39.4. Males make up 51.4% of the population, while females account for 48.6%. Locals under 14 years old represent the largest age group in South - West Oxford (1,595 individuals), followed by those aged over 65 (1,260 people). A small portion of the County of Oxford is within the Catfish Creek watershed. The County is responsible for the preparation of Official Plan policies and for the appraisal of any proposed amendments. Oxford County Council through the Community and Strategic Planning Department develop land use strategies to help guide development of the member municipalities. Individual municipalities are responsible for the approval and enforcement of the Zoning By-law provisions, in this case all lands within the Corporation of the Township of South-West Oxford.

The Township of South-West Oxford comprises the extreme northeast quadrant of the watershed and corresponds to the headwaters of the main branch of Catfish Creek. Dominated by rural agricultural land uses, this area is designated 'Agricultural Reserve' in the County's Official Plan. The primary use permitted within this designation is farming, including general farming, animal or poultry operations, cash crop farming, nurseries, and agricultural research, together with agricultural residential uses required for the farm and farm buildings and structures necessary to the farming operation. Secondary uses include agricultural commercial/ industrial, resource extraction (sand and gravel), and protection of environmentally significant features.

3.3.5 Municipality of Central Elgin

Central Elgin is a township located in Elgin County on Lake Erie. There are 13,745 residents in Central Elgin, with an average age of 45.3. Males make up 50% of the population, while females account for 50%. Locals over 65 years old represent the largest age group in Central Elgin (3,155 individuals), followed by those aged 55 to 64 (2,490 people). The Municipality, consistent with directives in the Provincial Policy Statement- 2005, promotes efficient development in designated growth areas. The municipality is striving to ensure that necessary infrastructure and public services are in place to encourage future development to only proceed on full services (water/sewage). The designated growth priority areas are located outside the watershed. Expansion within the communities of Sparta (no municipal services) and New Sarum (partial services) is limited to minor infilling/ lot creation for single-family residential building lots.

3.4 Governance

The CCCA is governed by a Board of Directors, which is formed by a member from each of our member municipalities. Proportion of representation is based on population of the member municipalities located within the CCCA watershed. The CCCA Board of Directors is comprised of five members, which fulfills our legal requirement under the CAA. An Agricultural Representative can be appointed at any time under the Ministers Discretion.

- Township of Malahide one (1) member
- Town of Aylmer one (1) member
- Municipality of Central Elgin one (1) member
- Township of Southwest Oxford one (1) member
- City of St Thomas one (1) member

4.0 WATERSHED CHARACTERIZATION

4.1 Climate of Elgin County

The Catfish Creek watershed, situated on the north shore of Lake Erie, has a geographic location, which provides a more temperate climate compared to other parts of Southern Ontario. The temperate climate denotes moderate, even precipitation throughout the year, summers that are warm to hot and humid and freezing temperatures in winter. Winters are mild compared to the rest of Ontario due to the watersheds southerly location and the moderating effect of Lake Erie. Map 4 shows the location of precipitation monitoring stations in the watershed.

General weather patterns in this region consist of four seasons. Winter is generally considered to have temperatures lower than zero degrees Celsius, beginning in December and lasting until late February or early March. Spring lasts approximately two months, followed by four months (June to September) of summer and two months of autumn (Sanderson, 1998). The average annual temperature is about 7.5 degrees Celsius to 8.5 degrees Celsius. Extreme temperatures in this region have been known to reach as low as -32 degrees Celsius in January and as high as 38 degrees Celsius in July (Table 1).
Lake Erie moderates the climate in this region by absorbing heat from the sun during the summer months and releasing it slowly throughout the winter months. Winds coming across the lake are

generally warmer than the land in winter and cooler in summer, thereby moderating the air temperature over the Catfish Creek watershed, adding to a longer frost-free growing season in the lowland plains.

Table 1: Temperature Characteristics Within The Catfish Creek Watershed

Location	Temperature	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Culloden Easey	Daily Average (°C)	-6.3	-5.2	-0.1	6.5	13.5	18.4	20.8	19.8	15.4	9.1	3.1	-3	7.7
	Standard Deviation	2.9	2.9	2.1	1.6	2.2	1.3	1.1	1.2	1	1.4	1.6	2.8	
	Daily Maximum (°C)	-2.9	-1.6	3.9	11.2	19	23.9	26.4	25.2	20.5	13.5	6.4	0.1	
	Daily Minimum (°C)	-9.8	-8.9	-4.1	1.8	8	12.9	15.2	14.3	10.3	4.6	-0.2	-6.1	
	Extreme Maximum (°C)	15	18	23	29	32	36	37	36	33	25	20.6	18	
	Extreme Minimum (°C)	-30	-28	-23	-13	-4	1	6	1	-2.2	-7.8	-15		
Port Stanley	Daily Average (°C)	-5.5	-5.2	0	6.1	12.4	17.2	20	19.4	15.6	9.4	4.1	-2	7.6
	Standard Deviation	2.7	2.7	1.9	1.4	1.6	1.2	0.8	1.1	0.9	1.7	1.4	2.7	1
	Daily Maximum (°C)	-1.7	-0.9	4.1	10.6	17.6	22.2	25.2	24.6	20.8	14.2	7.7	1.5	12.2
	Daily Minimum (°C)	-9.4	-9.5	-4	1.6	7.2	12.2	14.7	14.1	10.4	4.5	0.4	-5.4	3.1
	Extreme Maximum (°C)	14.4	13	21	27.2	31.7	34.4	34.4	33.9	31.7	25.6	20	15.5	
	Extreme Minimum (°C)	-32.8	-32	-27.2	-16.7	-5	-0.6	3.3	0	-2.2	-8.3	-18.9	-31.7	
St. Thomas WPCP	Daily Average (°C)	-4.8	-3.7	1	7.4	13.8	18.6	21	20.2	16.1	10	4.1	-1.8	8.5
	Standard Deviation	2.7	2.6	1.9	1.4	2.1	1.3	1.1	1.3	0.8	1.5	1.4	3	1
	Daily Maximum (°C)	-0.9	0.6	5.6	12.9	19.9	24.5	26.8	25.8	21.5	15.1	7.8	1.7	13.4
	Daily Minimum (°C)	-8.6	-7.9	-3.7	2	7.8	12.6	15.2	14.6	10.7	4.9	0.3	-5.3	3.5
	Extreme Maximum (°C)	14.5	18.5	24.5	29.5	32.5	38	37	34.5	32.5	26	21.5	18.5	
	Extreme Minimum (°C)	-31	-30	-23.5	-16	-3	1	6	0	-2	-7	-13.5	-27.5	
Westminster TWC WPCP	Daily Average (°C)	-6.3	-5.7	-0.1	6.7	13.2	18	20.7	19.7	15.5	9.2	3.3	-2.8	7.6
	Standard Deviation	2.9	2.7	2.1	1.6	1.9	1.3	0.9	1.1	1	1.8	1.5	2.5	1.2
	Daily Maximum (°C)	-2.7	-1.8	4	11.8	19.1	23.8	26.5	25.4	20.8	14	7	0.6	12.4
	Daily Minimum (°C)	-9.9	-9.7	-4.2	1.6	7.3	12.1	14.7	14	10.1	4.4	-0.3	-6.1	2.8
	Extreme Maximum (°C)	13.9	14	24	29	31.7	37	37	35	32.5	29.4	22.2	18.5	
	Extreme Minimum (°C)	**-32.2**	-30.6	-27	-13	-5.6	-1.1	3.3	1	-3.9	-9.4	-13.5	-28.9	
London A	Daily Average (°C)	-6.3	-5.5	-0.3	6.3	13	18	20.5	19.5	15.3	9	3.1	-3	7.5
	Standard Deviation	2.8	2.9	2.3	1.7	2.1	1.4	1.1	1.2	1.1	1.7	1.6	2.7	0.8
	Daily Maximum (°C)	-2.4	-1.4	4.2	11.6	19	23.8	26.3	25.2	20.9	14	6.9	0.6	12.4
	Daily Minimum (°C)	-10.1	-9.7	-4.7	1	7	12.1	14.6	13.7	9.6	4	-0.7	-6.5	2.5
	Extreme Maximum (°C)	16.7	17.8	24.8	29.4	32.4	**38.2**	36.7	37	34.4	30	24.4	18.5	
	Extreme Minimum (°C)	-31.7	-29.5	-24.8	-12.2	-5	-0.6	5	1.5	-3.3	-11.1	-18.3	-26.9	

Annual average precipitation in the watershed is generally between 950 millimetres to 1,075 millimetres. A majority of winter precipitation falls as rain.

Precipitation is quite evenly distributed throughout the year, although the intensity, duration and frequency of precipitation are quite different among the seasons. The accumulation of snow in the winter months prolongs the effects of precipitation, as infiltration is delayed until a thaw. Spring thaw often brings long, low intensity rainfall and when coupled with the melting snow can make the spring season appear to be constantly wet and overcast. The summer often brings short, high intensity rainfalls with high evapotranspiration rates, which makes precipitation appear to be infrequent and less than the other seasons. As seen in Table 1: Temperature Characteristics Within the Catfish Creek Watershed, Figure 1: Normal Average Precipitation and Temperature for Catfish Creek Watershed, and Table 2: Precipitation Patterns within the Catfish Creek Watershed, precipitation amounts are quite evenly distributed throughout the year despite seasonal perception rates in this region.

The water requirements for human and environmental purposes over the course of the year are quite variable. The demands on climate to replenish the streams and groundwater aquifers are often not met during the summer months, while the winter and spring seasons often see a surplus of water for the watershed.

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Figure 1: Normal Average Precipitation and Temperature for Catfish Creek Watershed

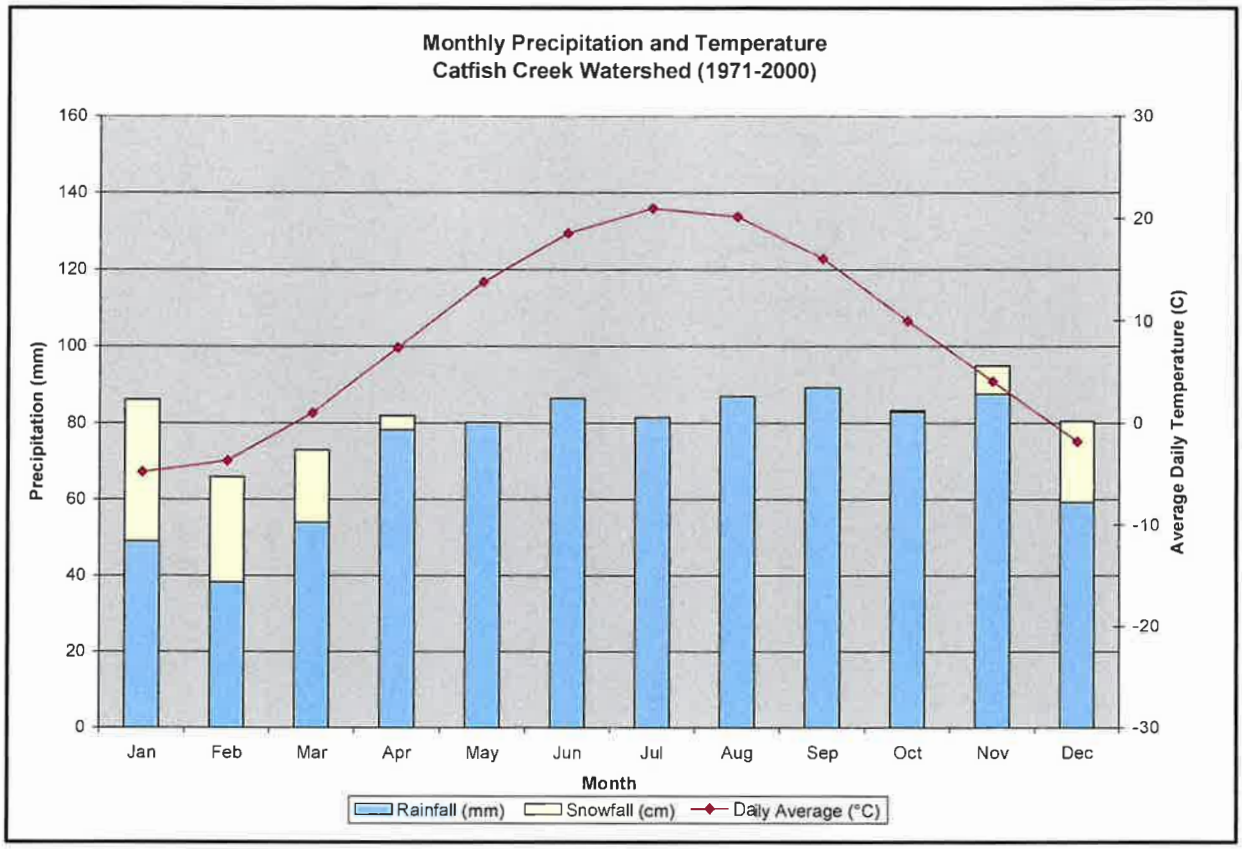

Table 2: Precipitation Patterns With in the Catfish Creek Watershed

Location	Precipitation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Aylmer Ont Hydro	Rainfall (mm)	49	38.2	53.9	78.2	80.1	86.4	81.4	86.9	89.2	82.9	87.6	59.2	872.9
	Snowfall (cm)	37	27.7	19	3.7	0	0	0	0	0	0.3	7.4	21.2	116.3
	Precipitation (mm)	86.1	65.9	72.9	81.9	80.1	86.4	81.4	86.9	89.2	83.2	95.1	80	988.8
	Extreme Daily Rainfall (mm)	80	45.6	29.2	47.8	45.2	53.4	79.6	65.2	75.4	67	60.6	40	
	Extreme Daily Snowfall (cm)	20.2	29	16.4	11.4	0	0	0	0	0	2.5	12	19.4	
	Extreme Daily Precipitation (mm)	80	45.6	36.2	47.8	45.2	53.4	79.6	65.2	75.4	67	60.6	42	
Culloden Easey	Rainfall (mm)	36.8	31.2	59	84.9	84.2	94.7	95.3	90.7	101.5	86	92.8	56	913.1
	Snowfall (cm)	43.7	28.8	22.9	5.3	0.2	0	0	0	0	0.9	13.5	39.1	154.4
	Precipitation (mm)	80.5	60	81.9	90.2	84.4	94.7	95.3	90.7	101.5	87	106.4	95.1	1067.7
	Extreme Daily Rainfall (mm)	54.4	52.6	62	51.8	60.4	116	68.4	88.4	58.8	68.4	63.6	38.8	
	Extreme Daily Snowfall (cm)	30	19	20	12	5	0	0	0	0	6	17	25	
	Extreme Daily Precipitation (mm)	54.4	52.6	62	51.8	60.4	116	68.4	88.4	58.8	68.4	63.6	38.8	
Westminster TWC WPCP	Rainfall (mm)	25.6	29.5	56.7	71.1	76.9	85	84.6	100.6	93.3	74.2	87	51.8	836.2
	Snowfall (cm)	46.3	33.7	18.6	4.9	0	0	0	0	0	1.2	9.6	38.4	152.7
	Precipitation (mm)	71.9	63.1	75.3	76	76.9	85	84.6	100.6	93.3	75.4	96.6	90.2	988.9
	Extreme Daily Rainfall (mm)	47.4	49.7	37.1	54.6	52.6	**93**	72.9	75	52.4	45	43	39.9	
	Extreme Daily Snowfall (cm)	32	**51**	17.5	14.5	1	0	0	0	0	6	26	40	
	Extreme Daily Precipitation (mm)	47.4	51	37.1	54.6	52.6	**93**	72.9	75	52.4	45	43	40	
	Extreme Snow Depth (cm)	51	**60**	22	14	0	0	0	0	0	5	6	51	
London A	Rainfall (mm)	31.1	29.1	53.8	73.8	82.6	86.8	82.2	85.3	97.7	74.9	73.7	47	817.9
	Snowfall (cm)	52.6	38.1	28.6	9.2	0.3	0	0	0	0	2.7	19.7	51.1	202.4
	Precipitation (mm)	74.2	60	78.4	82.2	82.9	86.8	82.2	85.3	97.7	77.6	91.1	88.6	987.1
	Extreme Daily Rainfall (mm)	45	58.8	43.2	66.4	58.2	82.8	63	69.9	89.1	56.9	56.5	45.6	
	Extreme Daily Snowfall (cm)	32.5	30	27.4	21.8	5.8	0	0	0	0	15.7	40.6	57	
	Extreme Daily Precipitation (mm)	46	58.8	44.2	66.4	58.2	82.8	63	69.9	89.1	56.9	56.5	45.6	
	Extreme Snow Depth (cm)	69	47	43	20	0	0	0	0	0	13	51	70	

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4.1.1 Catfish Creek Precipitation

Climate change is overarching and influences resource issues. Changes to precipitation patterns, including storm intensity and frequency, temperature patterns (especially as they apply to snow accumulation, winter ice formation, and melt), and wind patterns all influence on-the-ground conditions. As hydrologic inputs change, the changes to flooding and low water (drought) conditions will follow. More intense rain events will increase the risk of flash floods. This is particularly true in urban areas where the land is impervious, and drainage is dependent on local storm sewers and their capacity to handle the event flow and their rate of discharge to local streams will determine flood risk. Changes to storm frequency can lead to longer periods of dry conditions, which is of concern for several municipal water supplies, as well as for the many residents who rely on private wells.

4.1.2 Catfish Creek Conservation Authority Natural Hazards

A fundamental resource management concept is to first understand the local conditions and the natural processes affecting a natural resource in order to choose a suitable planning and management approach.

The following is a list of natural hazards, which have affected or may affect the CCCA:

- Flooding hazards, lake and riverine
- Lake and riverine ice conditions
- Wave uprush, lake
- Storm surge, lake
- Dynamic beaches, lake
- Lake shore stability
- Riverine bank erosion
- Slope stability, lake, riverine and inland

Development shall generally be directed, in accordance with guidance developed by the province (as amended from time to time), to areas outside of:

a) hazardous lands adjacent to the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes which are impacted by flooding hazards, erosion hazards and/or dynamic beach hazards;
b) hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards; and
c) hazardous sites.

Development and site alteration shall not be permitted within:

a) the dynamic beach hazard;
b) defined portions of the flooding hazard along connecting channels (the St. Mary's, St. Clair, Detroit, Niagara and St. Lawrence Rivers);

c) areas that would be rendered inaccessible to people and vehicles during times of flooding hazards, erosion hazards and/or dynamic beach hazards, unless it has been demonstrated that the site has safe access appropriate for the nature of the development and the natural hazard;
d) and a floodway regardless of whether the area of inundation contains high points of land not subject to flooding.

4.1.3 Human-Made Hazards

Development on, abutting or adjacent to lands affected by mine hazards; oil, gas and salt hazards; or former mineral mining operations, mineral aggregate operations or petroleum resource operations may be permitted only if rehabilitation or other measures to address and mitigate known or suspected hazards are under way or have been completed.

Sites with contaminants in land or water shall be assessed and remediated as necessary prior to any activity on the site associated with the proposed use such that there will be no adverse effects.

Planning authorities should support, where feasible, on-site and local re-use of excess soil through planning and development approvals while protecting human health and the environment.

4.1.4 Flooding and Erosion

Managing the risk associated with flooding and erosion is one of the primary roles of the CCCA under the Conservation Authorities Act. The CCCA monitors and predicts flood flows and water levels year-round, operate one flood control structure and relay flood messages to local municipalities and emergency management officials. This information is used to keep people out of harm's way in advance of potential flood and erosion events.

4.1.5 Flood Management Activities of Conservation Authorities

Undertake floodplain mapping, modelling, and monitoring streamflow, rainfall and snowpack. Regulate development in flood prone areas in cooperation with municipalities and the Province. Provide planning support and advice to municipalities to minimize flood impacts and issue warnings. If able to, acquire important floodplain lands and flood vulnerable structures.

The CCCA brings added protection and benefits with our foundational watershed management activities, which include watershed-scale monitoring, data collection management and modelling, watershed-scale studies, plans, assessments and strategies, and watershed-wide actions including stewardship, communications, and outreach and education activities. For more information on our Flood Management efforts please see our Flood Management Manual at https://www.catfishcreek.ca/about-us/publications/.

4.1.6 Ice Management

Historically the Catfish Creek Conservation Authorities (CCCA) administrative area has predominantly been subject to ice jam induced flooding. Therefore, the CCCA administers the Catfish Creek Conservation Authority Ice Management Plan. This plan is considered a live document and is revised/updated as required; it is not a guarantee to prevent any future flooding within CCCA's administrative area.

The purpose of the Ice Management Plan is to provide the Conservation Authority, its member municipalities Emergency Coordinators and any applicable government agencies the basic and recommended tools during flooding within the CCCA administrative area. All agencies public or private who are likely to be involved with flood emergencies must be aware of their agency responsibilities at times of emergency response due to flooding. Additionally, watershed residents who have been warned/notified of Flood Watch or Flood Warning watershed conditions must assume the responsibility to safeguard their personal safety and belongings. It is highly recommended that residents pay close attention during their fall/ winter preparations that properties and belongings are flood proofed.

The Ontario Ministry of Natural Resources & Forestry is the provincial agency responsible for flood emergencies. Within the CCCA administrative boundary, this role is assigned to the CCCA, and staff are tasked with the responsibility for alerting member municipalities and applicable agencies of possible flooding within its administrative area.

An internal Flood Operations Plan has been compiled to provide a systematic procedure for the Authority Flood Co-coordinator and staff to consult during flood emergencies. The flood operations manual can be found at https://www.catfishcreek.ca/about-us/publications/.

A minimum requirement of the Flood Management Program necessitates that the Flood Operation Plan be reviewed annually or additionally if required.

The Conservation Authority is not responsible for notifying individual citizens of the watershed. This responsibility lies with the applicable municipal Emergency Coordinator. It is this position who has responsibility to ensure the notification of its citizens.

Understanding of Catfish Creek channel hydraulics and Port Bruce local knowledge has identified that keeping the channel flowing within Port Bruce during break-up is an effective method of reducing flood damage due to ice jams. A component of the Ice Management Strategy is for Malahide Township to contract equipment on standby (icebreaker and/or dragline) to help keep the channel clear of ice jams, principally in the area of Rocabore Bay and the Harbour. Provided Lake Erie ice does not plug Port Bruce Harbour, this would provide in-channel ice flow unobstructed passage to Lake Erie.

4.1.7 Drought or Low Water Response

The Ontario Low Water Response (OLWR) was developed to ensure provincial preparedness, to assist Government Agencies in the co-ordination and to support local response in the event of low water and drought conditions.

The Ontario Government announced that there was no provincial funding available for OLWR for 2019 or beyond, consequently the Catfish Creek Conservation Authority formally terminated the program but by default maintained the monitoring of water flows within the Catfish Creek.

Under the amended Conservation Authorities Act, Ontario Regulation 686/21, Mandatory Programs and Services the OLWR has been restored and;

3. (1) An authority shall provide programs and services to support its functions and responsibilities to facilitate drought and low water forecasting and warning as set out in subsection (2).

(2) The authority's functions and responsibilities with respect to drought and low water forecasting and warning mentioned in subsection (1) are the following:

1. Maintaining information on surface water hydrology and the areas within the authority's area of jurisdiction that are vulnerable to drought or low water events.

2. Maintaining a stream flow-monitoring network that, at a minimum, includes stream flow gauges available as part of the provincial-federal hydrometric network and, where the authority considers it advisable, includes additional local stream flow gauges.

3. Monitoring of weather and climate information, snow surveys and water levels and flows utilizing local, provincial and federal data sources.

4. Analysis of local surface water hydrologic conditions related to risk of drought and low water events.

5. Gathering information to determine when low water levels exist within the authority's area of jurisdiction and initiating and maintaining the appropriate response to confirmed low water levels in accordance with the document entitled Ontario Low Water Response, dated March 2010, and available on request from the Ministry of Northern Development, Mines, Natural Resources and Forestry, as amended from time to time.

6. Communications to inform persons or bodies that the authority considers advisable of the potential or actual impact of drought and low water events in a timely manner.

7. Provision of ongoing information and advice to persons and bodies mentioned in paragraph 6 to support,

i. emergency and drought or low water activities during a drought or low water event, and,

ii. documentation of drought and low water events.

The CCCA historical/ existing OLWR plan is and was based on current legislation and regulations. The Authority has presently reviewed and updated the Low Water Response Plan to assure it complies with the current Section 28 regulations.

CCCA will be reinstating all applicable committees/ teams relative to low water response. Historically a Provincial Low Water Level Response Task Force was formed to coordinate an inter-ministry response to low water levels and to make recommendations for sustained management of low water conditions. Through this the OLWR plan recognizes the partnership between provincial government agencies and local authorities that sustainable environmental management must be approached at all levels of government, agriculture, recreation and special interest groups to maintain beneficial access to water.

The province provides overall direction and coordinates policies, science and information systems. In extreme circumstances the province, has in the past, provided support where local declarations of an emergency have been made.

At the local level, applicable agencies are directed to collect information, interpret policy and deliver programs to minimize the effects of low water condition levels. The three condition levels are Level I (10% voluntary conservation), Level II (20% voluntary conservation) and Level III (Conservation, Restriction and Regulation).

Precipitation and streamflow indicators are used to determine the OLWR condition level for watersheds. Guidelines/thresholds for these indicators are provided in the OLWR manual along with the procedure to determine when a watershed moves from one level into another. Agency roles and responsibilities for each level are also identified within the manual, Ontario Low Water Response, 2010. For more information on the CCCA's Ontario Low Water Response, please see https://www.catfishcreek.ca/about-us/publications/.

4.2 Water Resources/ Management

Water management is a truly important program of the Catfish Creek Conservation Authority. It involves various characteristics of surface and groundwater management, relating to water quality and quantity. Other programs within CCCA, Ministry of the Environment, Conservation and Parks (MOECP), local municipalities, and Ministry of Natural Resources and Forestry (MNRF) are associated with the CCCA Water Management Program. In order to sustain water quantity to an acceptable recognized quality, co-operation amongst the aforementioned agencies is necessary (Catfish Creek Conservation Authority, Watershed Plan, Draft No.1 April, 1983).

The Authorities jurisdictional boundary was defined at the inception of the Authority. Today the Authority manages, in principal, the waters within the hydrological boundaries of the Catfish Creek watershed, coupled with a small number of adjacent Lake Erie tributaries.

Flood control, source water protection, surface water and ground water recharge, wetland area protection, surface and groundwater quality and quantity are all components of the current CCCA Water Management Program. Future significance is expected on each of these, through assorted government funded programs, administered through Conservation Authority advancements, particularly in water quality and quantity.

4.3 Benefits

If natural ecosystems are maintained and degraded ecosystems are rehabilitated, then the areas resources can be naturally managed. Natural ecosystems manage our natural resources by regulating the areas environment through the extent and variety of the regions flora and fauna. A diverse flora ecosystem will minimize the impact of not only extreme weather but also normal weather patterns by reducing the erosion effect of rain on areas not covered by vegetation and increasing infiltration in areas, which have vegetation cover.

Environmental nature-based solutions can help to:

- Sustain (clean) water supplies by increasing the water infiltration and storage capacity of wetlands/soils and the recharge of aquifers.
- Mitigate drought by releasing water from natural storage features, including soil and groundwater, surface water and aquifers.
- Prolong the life of reservoirs by reducing siltation.

At high rainfall storm intensities, a percentage of the rainfall flows directly off the land into a watercourse and while some penetrates the soil, where plants may take it up. A portion moves in the soil towards rivers and streams and another fraction penetrates deeper into the ground, replenishing groundwater. Steady release of water stored underground and in wetlands serves to maintain river flows long after rainfall events. These ecosystem services regulate the impacts of rainfall events and directly moderate the supply of water in the basin.

In conjunction with these water flows, the condition of the water in the system may vary dramatically. In a high rainfall event where a catchment has degraded land, the run-off water may have very high turbidity from eroded soils and pollutants that have washed off the land. This results in siltation of water storage systems and increased costs to water treatment systems. Water that penetrates the ground or is held on floodplains and wetlands allows much of the silt and pollution to be deposited or removed. Water passing through the soil or wetlands is cleaned by physical and biological processes and requires less treatment to reach potable and or recreational quality. The quality of a catchment therefore directly affects water quality.

Nature-based solutions can help to:

- Treat polluted water from point and non-point sources by trapping and/ or containing sediments, pollutants in sediments, soils and vegetation (filtration and chemical conversion).
- Protect groundwater from contamination by removing sediments, heavy metals and other pollutants.
- Relieve pressure on existing water treatment infrastructure through bio retention and infiltration.
- Improve the quality of wastewater, e.g. using constructed wetlands alone or in conjunction with conventional wastewater treatment plants.

(UN Environment-DHI, UN Environment and IUCN 2018. Nature-Based Solutions for Water Management: A Primer.)

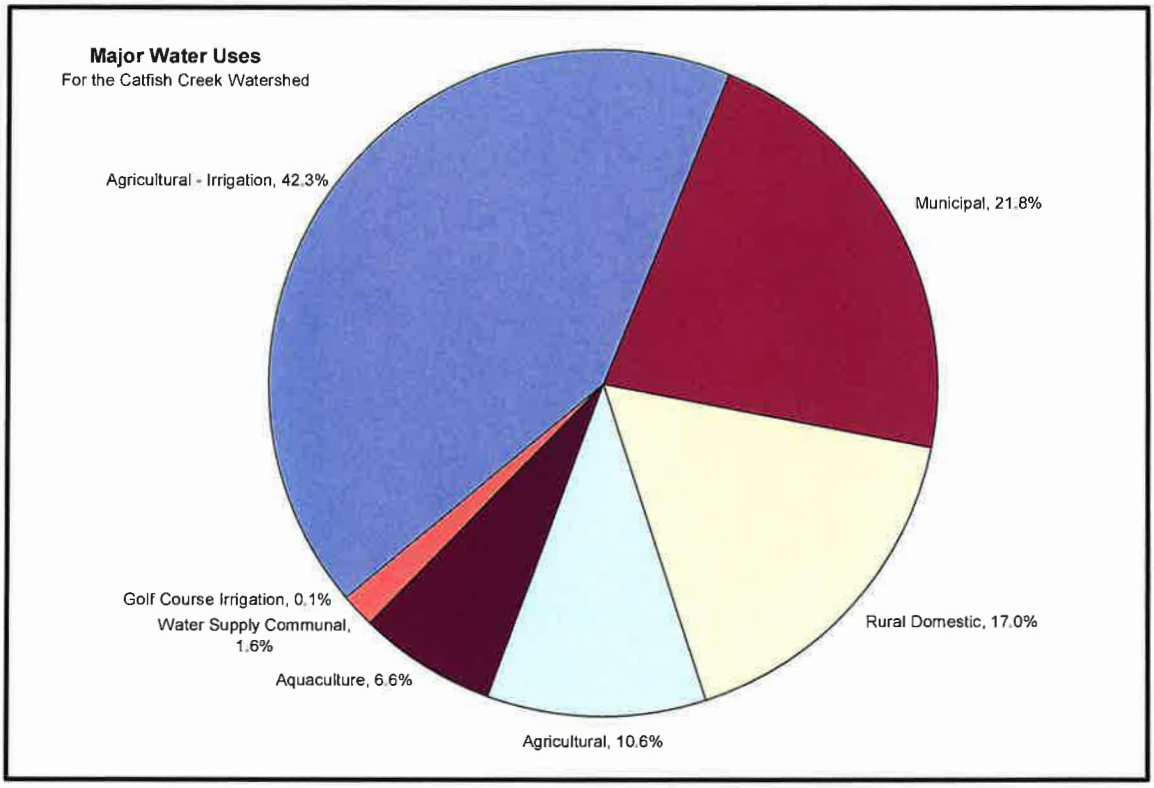
5.0 WATER USE INVENTORY

This section is a summary of the water uses within the Catfish Creek watershed for 2005 as found in a report entitled "Water Use in the Catfish Creek Watershed" (Wong and Bellamy, 2005). Water use estimates are broken down into four subgroups: Municipal Supply, Agricultural, Un-serviced Population and Other Permitted Takings (larger than 50,000 L/day). The water use estimates were determined using the best available data, including Census of Population, Census of Agriculture, municipalities, and the Permit to Take Water (PTTW) database. A phone survey of the permit holders was completed to refine water use estimates based on their records, with a 50 percent response rate. The analysis of all water use data identified the water uses and percentages within the basin.

Table 3:Total Water Use Comparison (in cubic metres)

	Water Use Category	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
1	Agricultural - Irrigation						637,750	1,275,500	637,750					2,551,000
2	Municipal	103,960	97,260	105,440	91,940	120,160	115,240	141,280	114,560	115,090	104,000	89,980	118,050	1,316,950
3	Rural Domestic	87,160	78,720	87,160	84,350	87,160	84,350	87,160	87,160	84,350	87,160	84,350	87,160	1,026,200
4	Agricultural	40,150	36,260	40,150	38,850	40,150	38,850	94,770	94,770	93,470	40,150	38,850	40,150	636,560
5	Aquaculture	33,800	30,530	33,800	32,710	33,800	32,710	33,800	33,800	32,710	89,975	32,710	33,800	397,920
6	Water Supply Communal	6,630	5,610	6,790	6,570	7,370	6,890	8,040	8,280	7,620	7,870	6,970	6,960	97,540
7	Golf Course Irrigation					1,180	1,140	1,180	1,180	1,140	1,180			7,000
	TOTAL	271,700	248,380	273,340	254,420	289,820	916,930	1,641,730	977,500	334,380	330,335	252,860	286,120	6,033,170

Figure 2: Major Water Uses on an Annual Basis in Catfish Creek Watershed



5.1 Municipal Water Supply

Municipal water use is the supply of water provided through a central distribution system operated by a municipality. Municipal water use includes urban domestic use, whether indoor or outdoor, and includes uses for industrial, commercial, institutional or other uses that rely on municipalities for their water supply.

Brownsville (approximately 500 residents) has the only groundwater source for municipal water takings in the Catfish Creek watershed. All other municipalities receive their water from Lake Erie from either primary or secondary water systems from an intake in Lake Erie off Port Stanley. These communities include Aylmer (approximately 2,600 residents), and smaller communities in both Central Elgin and Malahide Townships. Municipal water use totalled 1.3 million cubic metres in 2004 in this region.

5.1.1 Groundwater Use

Groundwater and surface water are vital resources for the livelihood and recreation of constituents and visitors of the Catfish Creek watershed. Area residents use groundwater as the primary source of potable water, which is categorized as un-serviced domestic water use. Un-serviced domestic water use is described as; all water for domestic indoor and outdoor residential applications, not on a municipal water distribution system. Generally, un-serviced domestic water use is established within rural communities and private landowners that take water from private wells.

The rural population in the Catfish Creek watershed is estimated at 22,000 and draws 1.0M cubic metres of groundwater per year. Groundwater is also the source of water for a community in the northern region of the watershed and draws more than 33 000 cubic metres of water per year (Water Use in the Catfish Creek Watershed, September 2005 Draft, Amanda Wong, Samuel Bellamy, Grand River Conservation Authority).

A draft report of the Catfish Creek groundwater (Groundwater Resources of the Catfish Creek Conservation Authority and Kettle Creek Conservation Authority) study has been completed in partnership with Ontario Geological Survey (OGS).

5.1.2 Surface Water

Areas not utilizing un-serviced water systems for domestic water use are linked to a municipal water supply system, which obtains water from Lake Erie through the Elgin Area Primary Water Supply System. Municipal water use is described as; a supply of water that is provided through a central distribution system operated by a municipality and includes; indoor or outdoor urban domestic use, industrial, commercial and institutional and other applications that rely on municipalities for their water supply.

The proximity to Lake Erie provides easy access to municipally serviceable water supplies to the southern regions of the watershed. Municipal water use totals 1.3M cubic metres per year for this region (Water Use in the Catfish Creek Watershed, September 2005 Draft, Amanda Wong, Samuel Bellamy, Grand River Conservation Authority).

5.1.3 Combined

Various water uses for agricultural operations such as livestock watering and irrigation, may use a combination of groundwater or surface water from municipal drainage ditches, ponds, or natural channels. Since inexpensive and reliable water sources are fundamental to an agricultural economy such as exists in the Catfish Creek watershed, the Authorities ground and surface water base flow capacities must be maintained year-round to facilitate the agricultural surface water applications.

5.1.4 Agricultural Water Use

Agricultural water use was divided into two categories livestock/farming operation water use and crop irrigation water use. This division was based on the information available for the two categories, as well as the differing water requirements for each use throughout the year. Water use for livestock and other farming operations are generally year-round takings, as opposed to crop irrigation, which only occurs

during the summer growing season. Other farming operations considered in this water use category include greenhouse operations.

Livestock water demands were estimated using a water use coefficient for daily water requirements and the number of livestock in the watershed. The volume of livestock and other year-round agricultural water requirements, excluding irrigation water, is relatively small, accounting for 0.7 million cubic metres per year.

Crop irrigation is the application of supplemental water onto cropped fields when natural precipitation is insufficient. The estimation of irrigation water requirements were completed using the irrigated area estimation from Census of Agriculture information and a demand model, estimating an average number of irrigation events likely to occur in the watershed per growing season. This demand model (GAWSER), bases the irrigation water requirements on soil moisture content, and averaged four irrigation events per year, for the CCCA watershed. The irrigation demand model only considers irrigation events meant for maintaining soil moisture at adequate levels for plant growth. Irrigating for climate control, such as spring irrigation to protect against frost, was not considered in this exercise. To determine a possible breakdown of the source of irrigation water, the Permit to Take Water database was consulted. It was determined that from the 239 agricultural irrigation sources, 138 were supplied by groundwater and 101 were supplied from surface water, producing a 58 percent, 42 percent split, respectively. Irrigated crops in this watershed may include tobacco, ginseng, potatoes and vegetables, and the water requirements for all irrigation activity accounts for 2.6 million cubic metres per year.

5.1.5 Use of Irrigation

The use of irrigation in the watershed is not extensive, and is generally only applied onto specialty crops such as vegetables, sod, fruit and root crops such as tobacco, potatoes and ginseng. It is rare that other crops are irrigated unless the growing season is particularly dry.

The use of irrigation is concentrated mostly in the Norfolk Sand Plain area in the southeast portion of the watershed where there is a higher percentage of specialty crops grown in well-drained soils. Irrigation for agriculture in the Catfish Creek watershed is concentrated in the summer months of July and August with some exceptions earlier or later in the growing season. The concentration of these large water takings during warmer and often dryer periods and in a limited area poses problems to water quantity in both groundwater and surface water sources.

5.1.6 Un-serviced Domestic Water Use

Un-serviced domestic water use is all water uses for domestic (indoor and outdoor residential water use) use that are not on a municipal distribution system. Generally, these are rural communities and water could be taken from private wells. The estimation of un-serviced domestic water use was based on population estimates and per capita water use rates for rural residents.

Rural domestic per capita water use has traditionally been much lower than urban domestic use. While the actual rate varies depending on a large number of factors, 160 litres per day was assumed to be the rural domestic per capita water use rate (Vandierendonck and Mitchell, 1997). It should be noted that a large percentage of this water is likely returned to the shallow groundwater system via septic systems. This water use is assumed relatively constant throughout the year. The rural population in the Catfish Creek watershed is estimated to be 17,500 and draw 1.0 million cubic metres of water per year.

5.1.7 Other Permitted Water Takings

For water uses in the watershed that did not fall into the three previously mentioned categories (municipal, agricultural and rural un-serviced), the Ministry of the Environment (MOE) Permit to Take Water database was used. The MOE requires any person taking greater than 50,000 litres of water on any day of the year (animal watering, domestic usage and firefighting excluded) to apply for a PTTW. This generally includes many industrial and larger commercial operations, as well as many agricultural water requirements, such as irrigation.

A phone survey of the water takers in the Catfish Creek watershed was completed in the summer of 2005 (June to August), to get better estimates or actual volumes of water use by each user. The survey generated responses from two of the four permits (50 percent response rate) to refine the estimates of their water uses. Where no data could be obtained from the user, adjustments were made based on seasonality of the water takings. For instance, golf course irrigation is likely to occur only during the months of May through October, while commercial water uses are year-round water takings. These adjustments were included where available in the calculation of the water use estimate for large permitted water takings.

The total volume of water takings for all these permits in 2005 was 0.5 million cubic metres, with golf courses taking the bulk of this volume at 0.4 million cubic metres and communal water supplies for just less than 1.0 million cubic metres per year.

5.1.8 Water Control Structures

The CCCA operates one water control structure for flood attenuation and recreation, the Springwater Dam.

6.0 HABITATS AND WILDLIFE

6.1 Forestry and Reforestation

Programs within Catfish Creek Conservation Authority may well be measured and classified in order of significance, however, to administer a watershed effectively all curriculum need to be interconnected and addressed collectively. This involves characterizing terrestrial and aquatic resources sequentially to assist in connecting entire environmental assets, relating to mandated programs within CCCA, and government agencies associated with the CCCA Watershed Management Plan.

As outlined in the Water Management component "Flood control, source water protection, water recharge, wetland area protection, surface and groundwater quality and quantity are all components of the current CCCA Water Management Program." Increased significance and awareness is anticipated on each of these, particularly in water quality and quantity, which links with the forestry management element, *Water Management, CCCA Watershed Management Plan, 2006.*

The Forest Management program of the Catfish Creek Conservation Authority predominantly focuses on Authority owned lands including selected woodlot management consultation services for municipally owned woodlots and private lands within the watershed. Forest cover (Map 2) within Catfish Creek Conservation Authorities administrative boundary is largely located along incised valley slopes, flood plains and wetland areas in the southern section of the watershed and is estimated at 14.4% (17,500

acres, 7, 000 ha). The forested areas are protected to a significant degree by the tree bylaws of Elgin and Oxford Counties.

Map 2: Forested Areas Within Catfish Creek Watershed

The foundation of the CCCA Forest Management Program focuses on the retention of existing forest cover and reforestation of priority water management areas, with the purpose of benefiting the aquatic and terrestrial environment, watershed resource base, constituents and visitors. Included in these areas are soil and slope regulated highly erodible land, marginal/poor agricultural land, water retention and discharge areas. By recognizing and focusing on these areas, the Authority understands their value in achieving the objectives of accompanying Authority programs by providing erosion control, groundwater recharge/discharge areas, fish and wildlife habitat.

Trees (and other vegetation in the catchment), intercept rainfall and increase infiltration, thus moderating both run-off into the river system and storage of water in the soil. The ability of soils in forest areas to store water and release it through seepage, transpiration and evaporation helps to regulate the water supply in the catchment.

Establishing or conserving forests (and promoting other sustainable land use activities in the watershed) can help to improve water quality. Forests improve water quality by reducing sediment in water bodies and trapping or filtering other water pollutants.

Forests and areas with good vegetation cover can moderate extreme events by reducing the likelihood or frequency of elevated water conditions, landslides and mudflows, which can cause extensive damage to infrastructure and inhabited areas.

Use of riparian buffers to maintain water quality in streams and rivers is a forest and conservation management best practice in many countries and is mandatory in some areas. Riparian buffers are vegetated, often forested, areas ("strips") next to streams, rivers, lakes and other waterways protecting aquatic environments from the impacts of surrounding land use.

The CCCA will incorporate the following strategies and initiatives in an integrated forestry program:

a) Programs and restoration efforts will be coordinated and focused, consistent with approved, applicable agency plans and studies (e.g. *'Elgin Stewardship Strategy', CCCA Watershed Plans, Source Water Protection Plans);*
b) Prepare, monitor, review and update forest management plans/activities on Authority owned properties;
c) Assist private landowners with reforestation and management of forests throughout the watershed (e.g. landowner extension, information transfer, technical assistance);
d) Assist municipalities to ` protect, manage and expand forest cover (e.g. Municipal Woodlot Management, Roadside Tree Planting, County Tree-Cutting By-laws);
e) Continue the acquisition of prioritized environmentally sensitive areas; and,
f) Develop partnerships for program delivery and education (volunteers, service clubs, scouting groups, funding sources).

The Authority offers limited woodlot management services to landowners of private woodlots through the preparation of Managed Forest Tax Incentive Plans (MFTIP), renewals and approvals of plans prepared by other accreted individuals. Reforestation assistance is offered by the Authority on a first-come first-served basis, and is paid for through grants, reserves and fee for service (cost recoverable).

Technical and workforce assistance for reforestation is available from the Authority upon request, for areas requiring a minimum of 500 trees. An additional program initiated by the CCCA, the Municipal Woodlot Management Program is designed to assist with managing municipally-owned lands by providing comprehensive woodlot management and reforestation services for these areas on a fee for service basis.

6.1.1 Riparian Zones

Riparian buffers help to maintain water quality in waterways by protecting streams from non-point source pollution (e.g. surrounding agricultural activities). Riparian vegetation cover provides a barrier between sediments, and pollutants such as nitrates and phosphates, washed from the land and water bodies. Temperature moderation from shading creates an important aquatic habitat, especially for fish and insect life, providing protection from extreme temperatures. During flood events, riparian vegetation slows run-off by absorbing excess water, reducing peak flow and helping to mitigate potential flood damage downstream. Some studies show that riparian buffers can help to reduce the amount of sediment reaching streams by as much as 80 percent.

6.1.2 Wetlands

The definition of wetlands is very broad but normally refers to shallow vegetated water bodies, swamps and marshes or areas that may periodically be dry, varying in size from a few square metres to many square kilometres. The water regulation services provided by wetlands are often cost-competitive and more sustainable than those provided by conventional infrastructure solutions, at the same time providing a wide range of socioeconomic co-benefits. Wetlands contribute to water quality through their natural ability to filter effluents and absorb pollutants. Microorganisms in the sediment and vegetation in the soil help to break down many types of waste, eliminating pathogens and reducing the level of nutrients and pollution in the water. There is a limit to the amount of pollution wetlands can

absorb, however. If this tipping-point is reached, their ability to treat pollution may be greatly reduced until they are restored to health, which can be a difficult and lengthy process.

Protecting, restoring or constructing wetlands can help to provide clean water for ecosystems, harvesting biomass, drinking water needs and other uses. The ability of wetlands to store large amounts of water and release it slowly plays a key role in the natural regulation of water quantity during periods of drought and flooding. Wetlands also trap sediments and thus reduce their downstream transport.

Wetlands can 'slow' flood waters, reducing potential flood damage downstream, and increase resilience to storms, thereby avoiding potential damage to grey infrastructure and human lives. In periods of drought, they can function as 'retention basins', providing water through slow release of stored water. The retention capacity of different types of wetlands varies and needs to be evaluated individually.

Constructed wetlands are created artificially with the aim of simulating the hydrological processes of natural wetlands. They function as biological wastewater treatment 'technologies', either supplementing or replacing conventional treatment plants. They are often used for nutrient pollution control (and thus reduction of eutrophication risk) of various wastewater streams (domestic wastewater, grey water, urban wastewater from sewerage).

Constructed wetlands can also be used to reduce flow velocity, remove nutrients and sediments and mitigate surface run-off from agricultural and livestock fields, as well as in urban areas. Their main water management benefits include reduced downstream pollution, improved water quality and flood and drought regulation. (UN Environment-DHI, UN Environment and IUCN 2018)

6.1.3 Tall Grass Prairie

In Ontario, tallgrass prairies were historically found in the southwestern part of the province, particularly in the Elgin County to Windsor Essex Region and along the shores of Lake Erie. However, due to agricultural expansion, urbanization, and other land use changes, the tallgrass prairie ecosystem in Ontario has been severely reduced, and much of what remains is fragmented and degraded.

The tallgrass prairies in Ontario were once home to a diverse array of plant and animal species, including tall grasses like big bluestem and Indian grass, as well as wildflowers such as blazing star and prairie clover. Wildlife such as grassland birds, and small mammals also depend on these habitats for food and shelter. Tallgrass prairies provide important habitat for pollinators such as bees, butterflies, and other insects. Many prairie wildflowers rely on pollinators for reproduction, and healthy pollinator populations are essential for maintaining ecosystem functioning and supporting agricultural productivity.

The deep root systems of tallgrass prairie plants help to store carbon in the soil, contributing to carbon sequestration and helping to mitigate climate change. The dense network of roots in tallgrass prairies helps to improve soil structure, prevent erosion, and increase water infiltration, leading to healthier soils and improved water quality. Tallgrass prairies act as natural water filters, trapping sediment and pollutants and helping to regulate water flow and prevent flooding.

Efforts to conserve and restore tallgrass prairies in Ontario are underway, with organizations like the CCCA and Nature Conservancy of Canada working to protect remaining patches of native prairie habitat and restore degraded areas. These efforts often involve initiatives such as controlled burns, native

grassland plantings, and invasive species removal to help restore the ecological integrity of these important ecosystems.

Despite the challenges of conserving tallgrass prairies in Ontario, there is growing recognition of their ecological significance and efforts to protect and restore them for future generations to enjoy and benefit from. Overall, tallgrass prairies are important ecosystems that provide a wide range of ecological services and support diverse plant and animal communities. Protecting and restoring these habitats is essential for maintaining biodiversity, supporting ecosystem health, and mitigating the impacts of climate change.

6.1.4 Description

Ecosystem integrity may be defined as "the ability to support and maintain a balanced, integrated, and adaptive community of organisms having a species composition, diversity and functional organization comparable to those of natural habitats within a region" (Karr, J. R. and D. R. Dudley. 1981. *Ecological Perspectives On Water Quality Goals*. Environmental Management 5: (55-68).

Located in the Carolinian Forest Ecosystem; early descriptions (circa 1837 - 1851) suggest that the forests were mostly hardwoods, combined with a southern species component. The region was mottled with white pine stands on well-drained soils, sugar maple and beech dominated the better-quality soils, while soft maple, elm and oak savannas colonized the sand plains. Mixed stands of white cedar, eastern hemlock, white pine, soft maple and yellow birch established on poorer-quality soils.

Development within Catfish Creek watershed is largely agricultural with small urban pockets speckling the landscape. The importance of agriculture within Catfish Creek to the local economy is clear, but the effect that agriculture has on forest ecosystems requires paramount attention and investigation. Suitability of soils for agriculture led to a rapid decline of the forested lands; by 1860 60% of Elgin County forests were depleted and by 1910, only 10% remained. Today with an aggressive reforestation program 17% of Catfish Creek watershed has a forest component, located along watercourses, valley lands or in areas of poor drainage that are privately, municipal, authority and provincially owned.

7.0 GENERAL LAND USE

7.1 Agricultural Sector Distribution

Agriculture is a large part of the Catfish Creek watershed, as 84 percent of the land area is designated and used for agricultural purposes. Both livestock and agricultural crops are prominent practices, with 70 percent overall in cropped agricultural land. There are a total of 14,400 head of cattle, 40,000 heads of swine and 290,500 heads of poultry across the watershed. The majority of crops grown in the watershed are corn (36.5 percent), soybean (31 percent) and grains (12 percent).

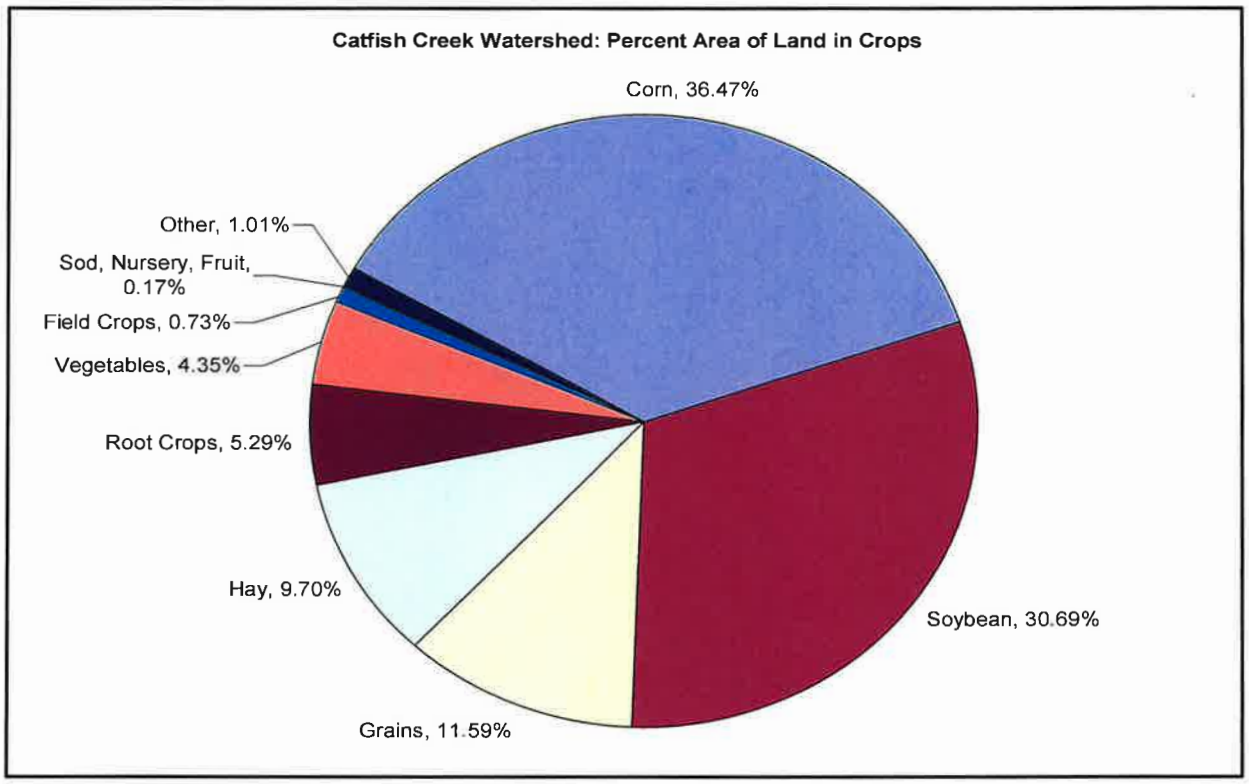


Figure 3: Percent Area of Land used for Agriculture (by crop)

7.1.1 Cropping Characteristics in the Catfish Creek Watershed

Agricultural crops in the Catfish Creek watershed are typical to south western Ontario. Corn and soybean are the highest in land area, with grains and hay as the next largest in land area. Vegetables and root crops, however, make up a large percentage of land relative to the rest of south western Ontario, due to the location of ideal soils of the Norfolk Sand Plain. Vegetables and root crops generally have smaller field sizes and higher water requirements than other row crops. Root crops such as tobacco and potatoes were substantially higher in the southern Catfish area, with 88 percent of all hectares of root crop reported in this area. Overall, root crops comprised 11 percent of the cropped land area in the lower Catfish, while only occupying 1.1 percent of the upper Catfish. All other crops were in similar or greater quantities in the upper Catfish.

7.1.2 Livestock

Livestock farming in the Catfish Creek watershed is fairly high considering the small size of the watershed. The Upper Catfish Creek has the majority of livestock with large intensive farms, which could pose problems to the downstream reaches for nutrient loadings. Swine farms are prominent in number and are found mostly in the Upper Catfish Creek, averaging over 1,100 pigs per farm. Poultry is also much more intensive in the upper Catfish, with double the number of farms and head of poultry found on these farms, averaging 5,600 per farm. Approximately 75 percent of the farms in the upper Catfish reported raising cattle, accounting for 84 percent of the total number of cattle found in the entire watershed. Cattle in the upper Catfish average 102 per farm (Table 3).

Livestock	Total Numbers			Average Number Per Farm			Per Hectare Farmed Land		
Sub-basin	Cattle	Pigs	Poultry	Cattle	Pigs	Poultry	Cattle	Pigs	Poultry
Lower Catfish	2,260	3,580	57,500	60	390	2,666	0.13	0.20	3.2
Upper Catfish	12,170	36,420	232,970	102	1186	5,557	0.54	1.61	10.3
All CCCA	14,430	40,000	290,470	80	790	4,110	0.33	0.91	6.76

Table 4:Total Head of Livestock (by sub-basin) in Catfish Creek Watershed

The highest nutrient values are found in the lower Catfish due to the greater amount of farmland in crops and in stream cumulative effects. In this area, approximately 25 percent of the total farmland is applied with manure over the year. There was considerably more farmland in root crops on sandy soils in this lower Catfish, which could require more organic material provided by manure applications. Runoff into the creeks and groundwater system could be an issue in lower Catfish area. Livestock can also introduce bacteria, as well as silt from the banks, directly into the waterways if proper fencing is not in place.

7.1.3 Agricultural Management Practices

Management practices include such activities as conservation tillage and grassed waterways, and are preventative actions against erosion into the waterways or chemical runoff. Across the watershed, to reduce the amount of sediment loading in the waterways, 34.7 percent of farms reported using grassed waterways, 5.7 percent use contour cultivation and 8.3 percent use strip cropping. The use of winter cover crops (42.5 percent) and the use of windbreaks or shelter belts (24 percent) has helped to prevent the removal of topsoil by wind. Crop rotation is the most widely used conservation practice at 61.2 percent of farms reporting. This increases the longevity, productivity and environmental quality of farmland by replacing nutrients into the soil.

7.1.4 Soils and Vegetated Land

Maintaining good soil structure and vegetation cover has benefits for farming on every scale, from large scale irrigation to rain-fed smallholder systems. Causes of soil degradation include deforestation, extensive cultivation on marginal land and improper cultivation practices such as poor manuring management, misuse of fertilizers, excessive irrigation, overgrazing and water erosion. As agriculture uses about 70 per cent of global water withdrawals and a large proportion of surface water pollution originates from agriculture, the potential benefits of improved water management in agriculture are enormous.

Low or zero-till systems, mulching, crop rotation and maintenance of vegetation cover (conservation agriculture) all contribute to good soil structure, improve water retention and drainage and reduce erosion and pollution of surface waters. Along with other structural and management interventions, these measures can help improve agricultural productivity, while also improving resilience to drought and flooding.

7.1.5 Mining and Aggregate Extraction

There are no open pit/mining operations currently licensed within the Catfish Creek watershed.

Currently, there are five areas licensed by the Ministry of Natural Resources and Forestry (MNRF) pursuant to the Aggregate Resources Act, relative to aggregate extraction within the watershed. All of the licensed operations are located in a small cluster along County Road 45 (John Wise Line) and Pleasant Valley Line in the Municipality of Central Elgin. The situation of these licenses is due to the localized surficial geology (sand and gravel deposits).

Two of the licenses are located on one property (Pleasant Valley Aggregates/Trout Farm) and have almost exhausted the material within the 55 hectare licensed area. Extraction did occur below the water table to a level of 178 metres above sea level (pit floor elevation). Extensive rehabilitation has occurred on this site to permit land uses which include passive recreation, aquaculture and a put-and-take/public fishing area.

The third license has been issued to a property immediately to the east of the above operation, on Lot: 26; Concession: 5; geographic Township of Yarmouth. The licensed area is 29 hectares with a proposed tonnage of 45,350 tonnes annually. Terms of the license will allow for extraction to proceed to a level of 180.3 metres above sea level, which is below the water table, however, no active extraction has been initiated to date.

On the north side of Pleasant Valley Line is the fourth license issued to North Shore Farming Company. The licensed area encompasses 19 hectares (annual tonnage of 150,000 tonnes) with a final pit floor elevation of 206 metres above sea level being above the water table.

The final active pit is 65 hectares in size and is licensed to Alisar Aggregates Inc. on John Wise Line. Extraction will be above the water table (pit floor elevation 198 metres above sea level) with an annual maximum tonnage of 300,000 tonnes.

Also of note, is the issuance of a 'way-side-permit' to The Township of Malahide to allow the use of sand material (total tonnage of 33,080 tonnes) for specific road projects within the municipality. Located on Lot: 7; Concession: 3 in the Township of Malahide, this authorization will permit the removal of a small "sand knoll" (well above the water table) with the final rehabilitation back to agricultural production.

8.0 WATERSHED CHALLENGES

The CCCA identified a number of challenges that may influence program priorities and services over the next several years. Challenges may include, but are not limited to:

8.1 Capacity Levels

Increases to conservation authority roles and responsibilities disproportionately impact smaller conservation authorities such as the Catfish Creek Conservation Authority with a very limited tax base within our area of jurisdiction to support mandatory program and service delivery. Variances in capacity affect the extent to which the CCCA can support hazard management policy objectives. Conservation Ontario and municipalities have repeatedly requested increases to provincial funding levels to conservation authorities, which have not been increased in well over 20 years.

8.1.1 Increased Development Pressure

If development continues at prevailing densities in the watershed, land will be consumed at an even faster rate than population grows, particularly in rural and suburban areas. This expanding footprint will put additional pressure on diminishing wildlife resources and their habitats, and has the potential to drive more plants and animals toward extinction.

8.1.2 Invasive Species

Invasive species are the second most significant threat to biodiversity, after habitat loss. In their new ecosystems, invasive species become predators, competitors, parasites, hybridizers, and diseases of our native and domesticated plants and animals.

8.1.3 Climate Change

Watersheds are affected by climate changes that are altering the quantity, quality, timing and distribution of water. The cumulative impacts of past land-uses, water withdrawals, and disturbances in a watershed are all exacerbated by climate changes.

8.1.4 Species at Risk

Ontario has the most species at risk in Canada, a number which has jumped by 22 per cent since 2009 (although no new species have been added to the Species at Risk in Ontario List since 2018) while approvals to impact species at risk have increased by 6,262 per cent in that same time frame.

8.1.5 Agricultural Runoff

When plant nutrients from synthetic fertilizers or organic fertilizers, decomposed crop residues, and agricultural waste products, such as wastewater from dairies, run off into fresh water, they speed up the eutrophication of water bodies.

8.1.6 Habitat and Biodiversity Loss

Biodiversity loss can have significant direct human health impacts if ecosystem services are no longer adequate to meet social needs. Indirectly, changes in ecosystem services affect livelihoods, income, local migration and, on occasion, may even cause or exacerbate political conflict.

8.1.7 Water Quality

Water quality degradation affects both aquatic life and human uses of water. For example, higher concentrations of nutrients may result in uncontrolled plant growth and reduce the amount of dissolved oxygen available for fish and other aquatic animals. They can also foster the growth of algae, some of which can cause health effects in humans and animals. Degraded water quality can also undermine economic activities such as fisheries, tourism and agriculture.

8.1.8 Floodplain Mapping

Mapping of floodplains and flood damage centres is critical to flood preparedness. With changing precipitation patterns, the return period for events of a given magnitude (e.g., 1:25 year or 1:100 year flood) is changing. Floodplain mapping needs to be updated accordingly, or in the case of some sub watersheds, needs to be assessed for the first time.

8.1.9 Erosion

In areas with expanding population, agricultural production, construction and urbanization as well as human activities soil erosion is a major problem. Soil erosion adversely hinders the growth of plants, agricultural yields, quality of water, and recreation. It is a key cause of degradation of soils as it occurs naturally on all lands.

8.1.10 Flooding

Flooding is considered the most significant natural hazard in Ontario in terms of death, damage and civil disruption and is the costliest type of natural disaster in Canada in terms of property damage.

8.1.11 Drought

Historically, periods of dry weather and low water levels, or drought, were relatively uncommon in Ontario occurring once every 10-15 years. However, in recent years, periods of drought are becoming more common, as the demand for water steadily increases and climate change impacts weather patterns and water availability.

8.1.12 Urbanization and Development

Rapid urbanization leads to increased impervious surfaces, such as roads and buildings, which can disrupt natural hydrological processes and increase runoff, leading to erosion, flooding, and water quality degradation.

8.1.13 Water Pollution

Pollution from various sources such as agricultural runoff, industrial discharge, and urban runoff can degrade water quality, impacting aquatic ecosystems and human health.

8.1.14 Resource Management Conflicts

Conflicts over the allocation and use of water resources among various stakeholders, including municipalities, industries, agriculture, and environmental conservation interests, can complicate watershed management efforts.

8.1.15 Data Deficiency and Monitoring

Limited availability of data on water quantity, quality, and ecosystem health, as well as challenges in monitoring and assessing watershed conditions, hinders effective decision-making and management.

8.1.16 Community Engagement and Education

Engaging and empowering local communities in watershed management efforts, as well as raising awareness about the importance of conservation and sustainable water use practices, are ongoing challenges.

8.1.17 Financial and Human Resources

Limited funding and capacity constraints within conservation authorities can restrict our ability to implement comprehensive watershed management programs and initiatives effectively.

Addressing these challenges requires integrated approaches that incorporate ecosystem-based management principles, stakeholder collaboration, adaptive management strategies, and innovative technologies to safeguard the health and resilience of watersheds for current and future generations.

9.0 OVERVIEW OF CCCA PROGRAMS AND SERVICES

A new categorization of CA programs and services was initialized through amendments to the Conservation Authorities act by the Province of Ontario. A Programs and Services Guide was created and within it Category 1, Mandatory, Category 2, Municipally Advised, and Category 3, Non-mandatory; advisable by CCCA. Category 1 Programs and Services are to be included in the WBRMS and Category 2, and Category 3 Programs and Services can also be included if agreements have been reached between the CA and its member municipalities. The CCCA supports Category 1 Mandatory Programs and Services and Category 3 Programs and Services. All Category 3: Other Programs and Services are all compensated via grants, reserves or fee for service work (cost recoverable).

Category 1: Mandatory Programs and Services Overview **Category 3: Other Programs and Services Overview**	
Program Area	**General Description**
Natural Hazard Management: Category 1 Mandatory Programs and Services Budget 2024 - $322,049.35	
Section 28 Permit Administration and Compliance Activities/ Enforcing and Administering the Act Mandatory in accordance to CA Act; Reg. 686/21 s.8	Reviewing and processing permit applications, technical reports, natural hazards studies, mapping and updates to regulation limits mapping. Site visits/ inspections, communication with applicants, agents, and consultants. Property enquires and legal expenses for regulations and compliance. Administering and enforcing sections 28, 28.0.1, and 30.1 of the act as required.
Review Under Other Legislation Mandatory in accordance to CA Act; Reg. 686/21 s.6	Input and review on a variety of different Acts including, The Aggregate Resources Act, Drainage Act, Environmental Assessment Act and The Ontario Planning Act. Subdivisions, consents and minor variances.
Municipal Plan Input and Review Mandatory in accordance to CA Act; Reg. 686/21 s.7	Provide technical information, advice, and policy support to municipalities on matters relating to Natural Hazards Policies (Section 3.1 under the PPS) with a focus on Official Plan and Official Plan Amendments. This includes, broad policy interpretation, transfer of data, information and science to municipalities, and provision of advice on matters relating to natural hazards policy to Ministry of Municipal Affairs and Housing.

Flood Forecasting and Warning Mandatory in accordance to CA Act; Reg.686/21 s.2, Reg. 686/21 s.3	Daily data collection and monitoring of local weather forecasts hydrometric stations, local water level forecasts and watershed conditions. Flood event forecasting, provincial watershed condition statements and inter agency communications in the event of a flood. Maintenance of flood forecasting equipment and annual meeting with applicable inter agency flood emergency coordinators.
Flood and Erosion Control Infrastructure Operation and Management Mandatory in accordance to CA Act; Reg. 686/21 s.5	Flood and erosion control infrastructure and low flow augmentation includes 1 dam.
Ice Management Services Mandatory in accordance to CA Act; Reg. 686/21 s. 4	Providing advice for ice jam prevention and mitigation through-out the winter season. Suggest equipment for ice mitigation and create/ update an Ice Management Plan.
Catfish Creek Channel Monitoring Mandatory in accordance to CA Act; Reg. 686/21 s. 2, s.3, s.4	Monitoring the Catfish Creek channel morphology changes at Port Bruce due to seasonal loading and/or scour by bathometric sounding the lower reaches of the Catfish Creek through Port Bruce.
Drought and Low Water Response Mandatory in accordance to CA Act; Reg. 686/21 s.3	Monitoring of surface and groundwater conditions and analysis of low water data for dissemination to irrigators, landowners and applicable government agencies. Technical and administrative support to regional advisors, and the CCCA's Irrigation Committee.
Natural Hazards Technical Studies and Information Management Mandatory in accordance to CA Act; Reg. 686/21 s.1(1)	Data collection and study of technical report designs to mitigate natural hazard. Development and use of systems to collect and store data and to provide spatial geographical representations of data.

Natural Hazards Communications, Outreach and Education Mandatory in accordance to CA Act; Reg. 686/21 s.2, s.3, s.4, s.5	Promoting public awareness of natural hazards including flooding, drought, and erosion. Social media services. Media relations. Natural hazards studies, mapping and updates to Regulation Limits mapping and data transfer to public, through web based map(s) showing Regulation Limits .
Core Watershed - based Resource Management Strategy Mandatory in accordance to CA Act; 21.1(1) 0. Reg. 686/21 12 (1) 3	Collate/compile existing resource management plans, watershed plans, studies, and data. Strategy development, implementation, and annual reporting. This project builds on previous Watershed Management Strategies.

ISSUES AND RISKS

Natural Hazard Management:

1. CCCA does not currently provide stormwater management review, due to the changes under the CA Act. Should direction change or clarification be provided by the Province, the Board might decide to reassess this decision to ensure that stormwater management is reviewed consistently across the watershed.

2. Conservation authorities are restricted by the Province from commenting on planning applications regarding natural heritage, as has been done under agreement with municipalities for several years. The health of natural heritage systems and features within the watershed could be negatively impacted without this regional, watershed based review.

3. Climate change could result in more frequent flooding and low water events resulting in the need for more rain gauges and stream gauges, computer models for flood forecasting, and demand for more staff time and resources.

4. Major maintenance for Flood and Erosion Control works could be required when no provincial funding is available; most of the flood and erosion control structures at LTC are not eligible for provincial funding due to the nature of the scoring matrix for funding.

5. Plans and Technical Studies require considerable staff time and/or outside expertise. Municipal/provincial/federal funds and municipal agreements are needed to support completion of technical studies or mapping projects.

6. Natural hazards can be highly complex and uncertain in terms of their occurrence, intensity, and impacts. This uncertainty makes it difficult to predict and prepare for events effectively.

7. An increase in natural hazards enforcement and complaints results in an increased demand for staff time. The ability to hire new staff is paramount but limited by funding shortfalls. 8. Rapid population growth and urbanization in hazard-prone areas increase the vulnerability of communities to natural hazards. Urbanization often leads to the development of infrastructure in high-risk areas, exacerbating the potential for damage and loss of life. 9. Effective coordination and cooperation among various stakeholders, including government agencies, NGOs, and the private sector. Political and institutional challenges, such as bureaucratic hurdles and conflicting interests, can hinder effective collaboration and decision-making. 10. Reliance on technology for hazard monitoring, early warning systems, and communication can introduce risks such as system failures, malfunctions, or cyber-attacks, which may compromise the effectiveness of response and recovery efforts.	
Provincial Water Quality and Quantity Monitoring: Category 1 Mandatory Programs and Services Budget 2024 – $9,366.44	
Provincial Water Quality Monitoring Network (PWQMN) and Provincial Groundwater Monitoring Network (PGMN) Mandatory in accordance to CA Act; Reg. 686/21 s.12	Through a partnership with the MECP, CCCA undertakes stream water quality monitoring at four sites. The Conservation Authority collects the water samples at the four sites, ten times per year and MECP is responsible for the laboratory analysis and data management. The results are made available to CCCA. The data is used to prepare watershed report cards and report on watershed health. It also helps prioritize the need for watershed restoration projects. CCCA has a long-standing partnership with the MCEP for groundwater level and water quality monitoring at 5 stations (2 sites) across the watershed. CCCA costs include data collection, shipping, minor equipment repairs/purchases, data management, and reporting. The Province funded the installation of the network and continues to fund equipment replacements. Information collected is helping to build a database on groundwater levels and groundwater quality and is used in the preparation of watershed report cards.
Integrated Water and Climate Station Mandatory in accordance to CA Act; Reg. 686/21 s.12 (2)	CCCA uses four MECP hydrometric stations to monitor flows and precipitation within the Catfish Creek Watershed
Water Quality and Quantity Monitoring Category 3: Other Programs and Services Budget 2024 – Funded by Self-Generated Revenue	
Surface Water Quality Monitoring Program	In addition to PWQMN, CCCA maintains nine benthic monitoring sites across the watershed. CCCA responds to local spills events at the request of MECP. Costs include sampling, analysis and reporting.

Watershed Report Card	Conservation Authorities report on local watershed conditions every five years. Measuring environmental indicator changes within the watershed, with a focus on Authority managed projects to evaluate efforts and track progress.

ISSUES AND RISKS

Provincial Water Quality & Quantity Monitoring:

1. Agencies often face constraints in terms of funding, personnel, and equipment for monitoring water quality and quantity. Limited resources can lead to gaps in monitoring coverage and frequency, hindering the ability to identify emerging issues and trends.

2. Ensuring the accuracy, reliability, and consistency of water quality and quantity data across different monitoring sites and time periods can be challenging. Factors such as sensor calibration, sampling techniques, and data interpretation practices can vary, affecting the comparability and usefulness of the data for decision-making.

3. Interpretation and usefulness of PGMN data to support CCCA programs (e.g. low water program, watershed report card).

4. Climate change is altering precipitation patterns, temperature regimes, and hydrological cycles, leading to shifts in water availability, quality, and distribution. Provincial monitoring programs must account for these climate change impacts and incorporate adaptive strategies to assess and mitigate associated risks effectively.

5. Maintaining and upgrading monitoring infrastructure, such as gauges, sensors, and laboratory facilities, is necessary to ensure the reliability and continuity of water monitoring efforts. However, funding constraints and technological obsolescence may hinder efforts to modernize and optimize monitoring systems.

6. Ensuring the sustainability of groundwater resources requires long-term monitoring efforts to track changes in groundwater levels, quality, and usage over time. However, maintaining continuity and consistency in monitoring activities over extended periods can be challenging due to funding uncertainties, institutional changes, and competing priorities.

7. Groundwater contamination from sources such as industrial activities, agriculture, and urban development poses significant risks to human health and environmental integrity. Provincial groundwater monitoring programs must prioritize the detection and assessment of contamination threats and implement mitigation measures to protect groundwater resources.

8. Adequate funding, personnel, and equipment are essential for conducting groundwater monitoring (PGMN) activities effectively. However, CAs may face resource constraints, which can limit the frequency of monitoring, the number of monitoring wells, and the analytical capacity of laboratories.

9. Groundwater systems are complex, heterogeneous, and dynamic, with interactions between geological, hydrological, and environmental factors influencing groundwater flow and quality.

Understanding and monitoring these dynamics require interdisciplinary approaches and advanced modeling techniques, which may pose challenges to the CCCA.

10. Ensuring the quality and consistency of groundwater monitoring data is essential for making informed decisions about groundwater management. However, challenges such as sensor calibration, sampling protocols, and data validation procedures can affect the reliability and usability of monitoring data.

Drinking Water Source Protection: Category 1 Mandatory Programs and Services 2024 Budget - $6,267.78	
Drinking Water Source Protection (DWSP) Mandatory in accordance to CA Act; Reg. 686/21 s.13 (1)1	Locally, CCCA disseminates information and provides advice to local municipalities to facilitate implementation of the Source Protection Plan and to identify local priorities for future updates to the Assessment Report and Source Protection Plan. CCCA is responsible for administering the Catfish Creek Source Protection Authority – governance, administration, meetings, reports and the delivery of other activities required by the Clean Water Act and its regulations.

ISSUES AND RISKS

Drinking Water Source Protection (DWSP): Regional and Local:

1. Insufficient funding, personnel, and technical expertise can hamper drinking water source protection initiatives. Limited resources may result in inadequate monitoring, enforcement, and implementation of best management practices, leaving drinking water sources vulnerable to contamination and degradation.

2. Keeping the science current (updated technical studies needed including issues identification, water budgets, wellhead protection areas, intake protection zones and vulnerability).

3. Protection of non-municipal systems (communal and private).

4. Challenges with implementation of the Source Protection Plan.

5. Delivery of an effective education and outreach program.

6. Program Coordinator has no supervisory role over local Source Protection Authority staff within regional staffing structure.

7. Urbanization, agricultural expansion, and industrial development can lead to land use changes that compromise drinking water sources. Increased impervious surfaces, deforestation, and soil erosion can impact water quality through sedimentation, nutrient runoff, and contamination from pollutants.

8. Climate change exacerbates existing risks to drinking water sources by altering precipitation patterns, temperature regimes, and hydrological cycles. Extreme weather events, such as floods, droughts, and storms, can impact water availability, quality, and infrastructure resilience, posing challenges for drinking water source protection efforts.

9. Invasive species and habitat loss can degrade ecosystem functions and impair water quality in drinking water sources. Invasive plants, algae, and aquatic species can disrupt natural ecosystems, alter nutrient cycling, and increase the risk of harmful algal blooms and waterborne diseases. 10. Drinking water sources can be contaminated by various pollutants from point sources (such as industrial discharge pipes) and non-point sources (such as agricultural runoff and urban stormwater). Contaminants may include pathogens, chemicals, heavy metals, and nutrients, posing risks to human health and the environment.	
Conservation Lands: Category 1 Mandatory Programs and Services 2024 Budget - $86,900.35	
Section 29 Minister's Regulation Rules of Conduct in Conservation Areas Mandatory in accordance to CA Act; Reg. 688/21	Conservation areas regulations enforcement/compliance. Incurred legal expenses for regulation and compliance.
Conservation Areas Mandatory in accordance to CA Act; Reg. 686/21 s.9(1)	Management and maintenance of three passive day use conservation areas (Yarmouth Natural Heritage Area, Archie Coulter and Springwater Forest, not the Campground) with recreational trails. Includes passive recreation, risk management program, hazard tree management, gates, fencing, signage, brochures, communications, pedestrian bridges, trails, parking lots, pavilions, roadways, stewardship, restoration, ecological monitoring, carrying costs such as taxes and insurance. Ivan Steen & Ward McKenna; existing agreements with The Corporation of the Town of Aylmer, for use of the Ivan Steen Conservation Area and Ward McKenna Conservation Area for public park space and recreational amenities which is maintained by The Corporation of the Town of Aylmer .
Conservation Area Major Maintenance Mandatory in accordance to CA Act; Reg. 686/21 s.9 (2)	Major maintenance and capital improvements to support public access, safety and environmental protection such as pedestrian bridges, boardwalks, trails.
Inventory of Conservation Authority Lands Mandatory in accordance to CA Act;	The land inventory includes the following information: location as well as date, method and purpose of acquisition, land use. One -time project with updates as properties are acquired or disposed of.

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CA Act 21.1(1) 0. Reg. 686/21 9 (3)	
Conservation Areas Strategy Mandatory in accordance to CA Act; 21.1(1) 0. 0Reg. 686/21 9 (1)	A strategy to guide the management and use of CA-owned or controlled properties including guiding principles, objectives, land use, natural heritage, classifications of lands, mapping, identification of programs and services on the lands, public consultation, publish on website. Updates of existing conservation area management plans.
Land Acquisition and Disposition Strategy Mandatory in accordance to CA Act; Reg. 686/21 s.9 (2) (5)	A policy to guide the acquisition and disposition of land in order to fulfill the objects of the authority is to be created before the end of the Transition Period.
Springwater Conservation Area	CCCA operates one campground and its associated facilities, generates our main revenue stream and offsets costs of mandated programs.
CCCA forests and management areas (not Conservation Areas)	Management and maintenance of CA owned lands (will all be listed in the Land Inventory) Includes forest management, signage, gates, passive recreation, stewardship, restoration, ecological monitoring, carrying costs such as taxes and insurance.
Conservation Lands Category 3: Other Programs and Services Budget 2024 - Funded by Self-Generated Revenue	
Land acquisition	Strategic acquisition of environmentally significant properties. Follow guidance from our land acquisition and disposal policy.
Private Land Stewardship Program/ Integrated	Work with property owners to implement Best Management Practices to mitigate flood and erosion hazards, improve and protect water quality, restore floodplains and river valleys, reduce nutrient contamination, restore and enhance wetlands to reduce flooding peaks and augment low flow, management of terrestrial non-native invasive species, protect groundwater, and improve aquatic species at risk habitat. Apply for and manage external funding, promote private land stewardship such as tree planting, wetlands and tall grass prairie plantings, outreach, provide technical advice and design assistance .
Tree Planting and Forestry Services	Site preparation, tree and shrub planting, and survival assessments, technical assistance, hazard tree abatement, link to funding programs to maintain form and function of watershed forest cover. CCCA Tree Planting

	Program allows property owners to purchase bare root native tree and shrub seedlings at a minimal cost. CCCA also provides full service tree planting to landowners. Administration of Malahide Roadside Tree Planting Program. Agreement with Town of Aylmer to manage Aylmer Woodlot.
Education Programming in Conjunction with Thames Valley Schoolboard	An annual Memorandum of Understanding is signed with Thames Valley District Schoolboard leasing a part of Springwater Forest to the Jaffa Outdoor Education Center for an outdoor classroom. The Maple Program, Marsh Quest and Forest Festival are all ran in conjunction with Thames Valley District Schoolboard staff.

ISSUES AND RISKS

Conservation Lands Program:

1. Complete Ecological Lands Classification (ELC) mapping and identify habitat of species at risk.

2. Funding for major trail improvements.

3. Aging infrastructure.

4. Signage updates required to address legislative and social needs.

5. Invasive species can outcompete native flora and fauna, disrupt ecosystem functions, and alter habitat structure and composition on conservation lands. Invasive plants, animals, and pathogens may spread rapidly, outpacing management efforts and threatening the integrity of native ecosystems.

6. Ecosystem enhancement and regeneration.

7. Engagement of volunteers to assist with Conservation Lands management.

8. Conservation lands often intersect with competing interests, such as agriculture, forestry, energy development, and indigenous rights. Conflicting land uses, resource extraction, and development pressures can lead to conflicts among stakeholders and challenges in achieving conservation goals while balancing socio-economic needs.

9. Wildlife diseases, such as pathogens, parasites, and emerging infectious diseases, can spread rapidly among populations on conservation lands, causing mortality, population declines, and ecosystem disruption. Disease outbreaks may be exacerbated by factors such as habitat degradation, climate change, and wildlife-human interactions.

10. Recreational activities, tourism, and infrastructure development on conservation lands can lead to human disturbance, habitat degradation, and wildlife displacement. Overuse of trails, off-road vehicles, and camping sites can degrade sensitive habitats, disturb nesting sites, and stress wildlife populations.

Enabling Services: Category 1 Mandatory Programs and Services
Budget 2024 – $143,635.60

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Enabling Services Mandatory in accordance with CA Act, 21.1 (1) para 1. (iv)	Corporate Services are key services provided to all departments of the Conservation Authority, Board of Directors, member municipalities and the general public to enable LTC to operate in an accountable, transparent, efficient and effective manner. These general operating expenses and capital costs, permitted as Mandatory Program and Services under Part IV and Section 21.1 of the CA Act, are not directly related to the provision of a specific program or service that an authority provides (Ontario Regulation 402/22: Budget and Apportionment). Funding for these services are both municipally funded and self-generated. Administrative, human resources, operating and capital costs which are not directly related to the delivery of any specific program or service, but are the overhead and support costs of a conservation authority. Includes health and safety program, overseeing programs and policies.
Financial Services Mandatory in accordance to CA Act, 21.1(1) para 1. (iv)	Financial services ensures the wise use of funds and fiscal accountability. Ongoing vigilance is needed to ensure that the funding received from member municipalities, the provincial and federal governments, other partners, agencies and donors is used wisely for the betterment of the watershed region. It includes development of the annual budget, accounts payable and receivable, payroll, financial analysis, financial audit, administration of reserves and investments, asset management, financial reports for funding agencies, preparing and submitting reports to the Canada Revenue Agency, and administration of the benefits program. Also included under Financial Service is fundraising. As a non-profit registered charity, CCCA undertakes fundraising to support its conservation efforts. This includes: grant writing, direct requests to businesses and private donors, and fundraising campaigns. Annual budget, accounts payable and receivable, payroll, financial analysis, financial audit, administration of reserves and investments, financial reports for funding agencies, preparing and submitting reports to CRA, benefits program administration.
Legal Expenses Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	Costs related to agreements/ contracts , administrative by-law updates.
Governance Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	Governance is the overall framework for managing and decision making of the organization. Governance costs cover those required for operation and support of the Board of Directors, any associated Boards or Advisory Committees, and for the Office of Chief Administrative Officer/Secretary-Treasurer Supporting CA Boards, Advisory Committees, GM and Senior Management.

Communications and Outreach Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	Informing public of CCCA programs and projects through media, open houses, public meetings, website administration, responding to inquiries from the public, crisis communications .
Administration Building Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	Office buildings and workshop used to support CCCA staff, programs and services. Includes utilities, routine and major maintenance, property taxes.
Information Technology Management/ GIS Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	Data management, records retention. Development and use of systems to collect and store data and to provide spatial geographical representations of data.
Vehicle and Equipment Mandatory in accordance to CA Act, 21.1 (1) para 1. (iv)	A fleet of vehicles and equipment to support the work of the CCCA, including capital purchases, fuel, licenses, repairs and maintenance. Programs and projects are charged for the use of the vehicles and equipment .

ISSUES AND RISKS

Enabling Services:

1. Municipal funding required for capital costs.

2. Funding support for operational costs.

3. Self-generated funding is unpredictable.

4. Legal expenses are not consistent annually.

5. Future major maintenance or alterations to buildings and other equipment could result in increased costs.

6. Staff turnover, knowledge transfer.

7. Keeping current and acquiring technology to sustain program functions and to meet expectations.

8. E-Commerce/improved online customer service processes and tracking required.

9. Cyber security.

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10. Public expectations for Open Data. 11. Enhanced mapping, data, and analytical tools to facilitate faster, sound decision making. 12. Funds for purchase of necessary data products (i.e. Orthophotography).

To review our complete inventory of Programs and Services please see https://www.catfishcreek.ca/wp-content/uploads/2022/02/CCCA-Programs-Services-Inventory.pdf.

10.0 RISK ASSESSMENT AND MITIGATION EFFORTS

The issues and risks documented in this strategy have been identified and mitigation measures are as described. In most cases, the amount of funding required to mitigate the risks is "To be Determined (TBD)" as the issue may not arise or be able to be addressed in the foreseeable future, and may be outside of the review period for this document.

Mandated Programs and Services		
Issues and Risk	**Mitigation**	**Cost**
Natural Hazard Management		
CCCA does not currently provide stormwater management review for water quality, due to the changes under the CA Act. Should direction change or clarification be provided by the Province, the Board may decide to reassess this decision to ensure that stormwater management is reviewed consistently across the watershed.	Monitor requirements. If stormwater Management review re-introduced for water quality, requirement to hire engineer or retain engineering consultant.	TBD
Conservation authorities are restricted by the Province. Monitor requirements. The costs could be from commenting on planning applications regarding natural heritage, as has been done under agreement with municipalities for several years. The health of natural heritage systems and features within the	Monitor requirements.	TBD

watershed could be negatively impacted without this regional, watershed based review.		
Climate change could result in more frequent flooding and low water events resulting in the need for more rain gauges and stream gauges, computer models for flood forecasting, and demand for more staff time and resources.	Ensure staff efficiencies, budget for increased staffing. Equipment is covered under the Capital Asset Management Plan. Apply for grants for climate change resiliency when available.	TBD
Major maintenance for Flood and Erosion Control works could be required when no provincial funding is available.	Continue to regulate development to lessen need for control works. Continue regular maintenance of existing projects to identify upcoming maintenance requirements. Municipal support for future maintenance requirements.	TBD
Plans and Technical Studies require considerable staff time and/or outside expertise. Municipal/provincial/federal funds and municipal agreements are needed to support completion of technical studies or mapping projects.	Contribute to Special Projects Reserve when funds are available. Costs for Project Management should be built into the project when available.	TBD
An increase in natural hazards enforcement and complaints results in an increased demand for staff time. The ability to hire new staff is paramount but limited by funding shortfalls.	Ensure staff efficiencies.	TBD
Provincial Water Quality and Quantity Monitoring		
Long-term access to wells on private lands (landowner turnover).	Maintain communications. Ensure agreements are in place. Move or close wells if required.	TBD

Interpretation and usefulness of PGMN data to support CCCA programs (e.g. low water program, watershed report card).	Seek assistance from Province with interpretation. Move or close wells if required.	TBD
Drinking Water Source Protection		
Discontinuation or diminished provincial funding.	Lobby for continued provincial funding. The Province has an alternate funding mechanism proposed through regulation that could download the financial responsibility to the municipalities.	TBD
Keeping the science current (updated technical studies needed including issues identification, water budgets, wellhead protection areas, intake protection zones and vulnerability).	Lobby for provincial support for updated technical studies and the associated funding.	TBD
Protection of non-municipal systems (communal and private).	Lobby for provincial support and funding.	TBD
Challenges with implementation of the Source Protection Plan.	Encourage Source Protection Committee to review policy effectiveness. Increase focus for Education and Outreach.	TBD
Delivery of an effective education and outreach program.	Seek additional funding/staffing for new tools and increased outreach. Track effectiveness/of education campaigns through surveys, etc.	TBD
Program Coordinator has no supervisory role over local Source Protection Authority staff within regional staffing structure.	Program Coordinator involvement in the development of local work plan targets with local Source Protection Authority managers.	TBD

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Increased development impacting vulnerable areas and the number of potential threats.	Increase education for municipal leaders and staff to understand the significance of unsafe development. Update vulnerability studies.	TBD
Conservation Lands		
Complete Ecological Lands Classification (ELC) mapping and identify habitat of species at risk.	Budget staffing to undertake work.	TBD
Funding for major trail improvements.	Capital Asset Management Plan in place to anticipate and cover capital costs.	TBD
Aging Infrastructure.	Capital Asset Management Plan in place to anticipate and cover capital costs.	TBD
Signage updates required to address legislative and social needs.	Budget for work.	TBD
Invasive species inventory and management.	Budget staffing to undertake work. Grant proposals.	TBD
Ecosystem enhancement and regeneration.	Partnerships with municipalities Grant proposals Budget staff time.	TBD
Engagement of volunteers to assist with Conservation Lands management.	Implement an organized approach to a volunteer program.	TBD
Population growth and increased outdoor activity resulting in increased stresses on the Conservation Area and potential for visitor conflicts.	Budget for increased maintenance/repairs (Asset Management Plan). Increased staff presence on CA Lands.	TBD
Enabling Services		
Municipal funding required for capital costs.	Capital Asset Management Plan required to anticipate and cover capital costs.	TBD

Funding support for operational costs.	Regular budgeting process and implementation of a Board member budget sub-committee.	TBD
Self-generated funding is unpredictable.	Plan and budget on more reliable funding sources.	TBD
Legal expenses are not consistent annually.	The legal reserve fund increased to cover increasing legal action. Allocated when surplus funds are available.	TBD
Future major maintenance or alterations to buildings and other equipment could result in increased costs.	Capital Asset Management Plan in place to anticipate and cover capital costs, to be reviewed every 5 years.	TBD
Staff turnover, knowledge transfer.	Offer competitive salaries and benefits in a positive work environment. Maintain good records. Develop/maintain policies and procedures/ documents.	TBD
Keeping current and acquiring technology to sustain program functions and to meet expectations.	Ensure sufficient annual budget. Information Technology and Operations (IT and Ops) Review recommendations to assist in prioritizing technology upgrades and apply to budget cycle.	TBD
E-Commerce/improved online customer service processes and tracking required.	Include in future Business Plan/Budget.	TBD
Cyber security.	Cyber insurance. Budget for external Information Technology provider and staff training, as recommended in the IT and Ops Review.	TBD
Public expectations for Open Data.	Ensure staff time to develop platform.	TBD

Enhanced mapping, data, and analytical tools to facilitate faster, sound decision making.	T and Ops Review recommendations for dedicated GIS position.	TBD
Funds for purchase of necessary data products (i.e. orthophotography).	Capital Asset Management Plan in place to anticipate and cover costs.	TBD

11.0 REVIEW AND ASSESSMENT OF CCCA PROGRAMS AND SERVICES

The Strategy must be prepared on or before December 31, 2024. The Strategy is made available to the public on the Authority's website, or by other means the CA considers advisable, by December 31, 2024.

As a best practice, CCCA will post this on the established CA Governance Webpage (where certain other documents are required to be posted pursuant to O. Reg. 400/22). Once the Strategy is complete, the CCCA will notify the organizations and individuals who were engaged in the consultation process of the availability of the final Strategy. There is no legislative requirement to submit to the Province a confirmation of completion of the Strategy.

The Strategy will be reviewed every five (5) years or as required to enter into new Category 1,2, and 3 Programs and Services or to re-evaluate Category 1,2, or 3 Programs and Services the CCCA offers to its member municipalities.

12.0 INFORMATION SUPPORTING CCCA PROGRAMS

Ontario Regulation 686/21 requires this Strategy include a summary of existing technical studies, monitoring programs, and other information about the natural resources the Conservation Authority relies on within its area of jurisdiction or in specific watersheds that directly informs and supports the delivery of programs and services under section 21.1 of the CA Act.

CCCA's monitoring programs are described elsewhere in this document. Water level monitoring is accomplished through the flood forecasting and warning, low water response, and base flow monitoring programs and the Provincial Groundwater Monitoring Network. Water quality is monitored through the Provincial Water Quality Monitoring Network and local programs (benthic macroinvertebrate monitoring and local surface water quality monitoring programs).

In addition to its monitoring programs, CCCA relies on a range of technical resources to inform decision making. Some of these have been completed in-house and others have been contracted to consultants. The documents, computer models and mapping products need updated from time to time to address and respond to changes in land use, watershed conditions, the regulatory framework, and emerging issues. These resources are described in Appendix 2.

13.0 FUTURE INITIATIVES

Opportunities for growth, new programs, services and projects that benefit the watershed and its municipal partners can materialize at any time; these could be long-term or short-term initiatives. These

special projects may update existing studies and mapping, help address current and emerging issues, and/or assist with delivery of programs. Not only are there benefits to the health of the watershed, but the Conservation Authority benefits from heightened expertise, new resources, enhanced partnerships and use of the completed products. The program, services and projects could fall into any of the three categories permitted under the CA Act: mandatory, municipal or other (Category 1, 2 or 3, respectively). In addition, the projects could fall under any of the programs and services described in this Strategy, or be new initiatives

13.1 Watershed and Sub-Watershed Plans

Watershed and watershed plans take a holistic view of the entire hydrological system, considering the interconnectedness of land, water, and ecosystems within a defined geographic area. This integrated approach allows for more comprehensive and effective management of natural resources. By assessing the characteristics and vulnerabilities of watersheds and sub-watersheds, these plans can identify areas at risk of erosion, flooding, habitat degradation, pollution, and other environmental hazards. Understanding these vulnerabilities is essential for implementing targeted mitigation and adaptation measures. Watershed and sub-watershed plans help to reduce risks associated with natural hazards such as floods, droughts, and wildfires. By implementing measures such as green infrastructure, land use planning, and erosion control, these plans can enhance the resilience of communities and ecosystems to extreme events. They play a critical role in protecting water quality by identifying sources of pollution, implementing best management practices, and promoting sustainable land use practices. These efforts are essential for safeguarding drinking water supplies, supporting aquatic habitats, and preserving recreational opportunities. Watershed and sub-watershed plans provide a framework for long-term planning and management of natural resources. By setting goals, objectives, and action plans, these plans guide decision-making and resource allocation over multiple years and across different jurisdictional boundaries. Healthy watersheds and sub-watersheds provide a wide range of economic benefits, including clean water supplies, recreational opportunities, tourism revenue, and ecosystem services such as flood control and carbon sequestration. By investing in watershed planning and management, communities can protect these valuable resources and support sustainable economic development.

13.1.2 Updates to Mapping and Technical Projects

Accurate floodplain maps allow communities to assess the extent and severity of flood risks in a given area. By identifying flood-prone zones and vulnerable infrastructure, updated mapping enables better-informed decision-making for land use planning, emergency preparedness, and infrastructure development. Access to up-to-date flood hazard data helps residents, businesses, and local authorities understand areas at risk of flooding. This information allows communities to take proactive measures to protect lives and property, such as implementing building codes, evacuation plans, and floodplain zoning regulations.

Insurance companies rely on floodplain maps to assess flood risks and determine insurance premiums. Accurate mapping ensures that insurance rates reflect the actual level of risk, which can incentivize property owners to invest in flood mitigation measures and reduce financial losses from flooding events. Engineers and urban planners use floodplain maps to design and locate infrastructure such as roads, bridges, utilities, and drainage systems. Updated mapping allows for more precise engineering designs that consider flood risks, minimize exposure to hazards, and enhance the resilience of critical

infrastructure. Floodplain mapping helps identify environmentally sensitive areas, such as wetlands and riparian zones, which provide important habitat for wildlife and contribute to ecosystem health. Incorporating environmental considerations into floodplain management supports conservation efforts and promotes sustainable land use practices.

Up-to-date floodplain mapping is essential for risk assessment, community safety, insurance, infrastructure planning, environmental protection, regulatory compliance, climate change adaptation, and public awareness. Investing in accurate and reliable mapping data is critical for building resilient and sustainable communities that are better equipped to withstand and recover from flood disasters.

13.1.3 Public Engagement/ Consultation

As outlined in the regulation, all CAs are required to ensure stakeholders and the public are consulted during the preparation of the WBRMS in "a manner that the authority considers advisable". Further, CAs must ensure stakeholders and the public are consulted during the periodic review and update process for the strategy. The CCCA released the Strategy for our member municipalities, public and First Nations from June 17, 2024 to July 26, 2024. Letters will be provided to our participating municipalities, Indigenous Communities, and the public advising them of the consultation period.

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16.0 APPENDIX 2- INFORMATION SUPPORTING CCCA PROGRAMS

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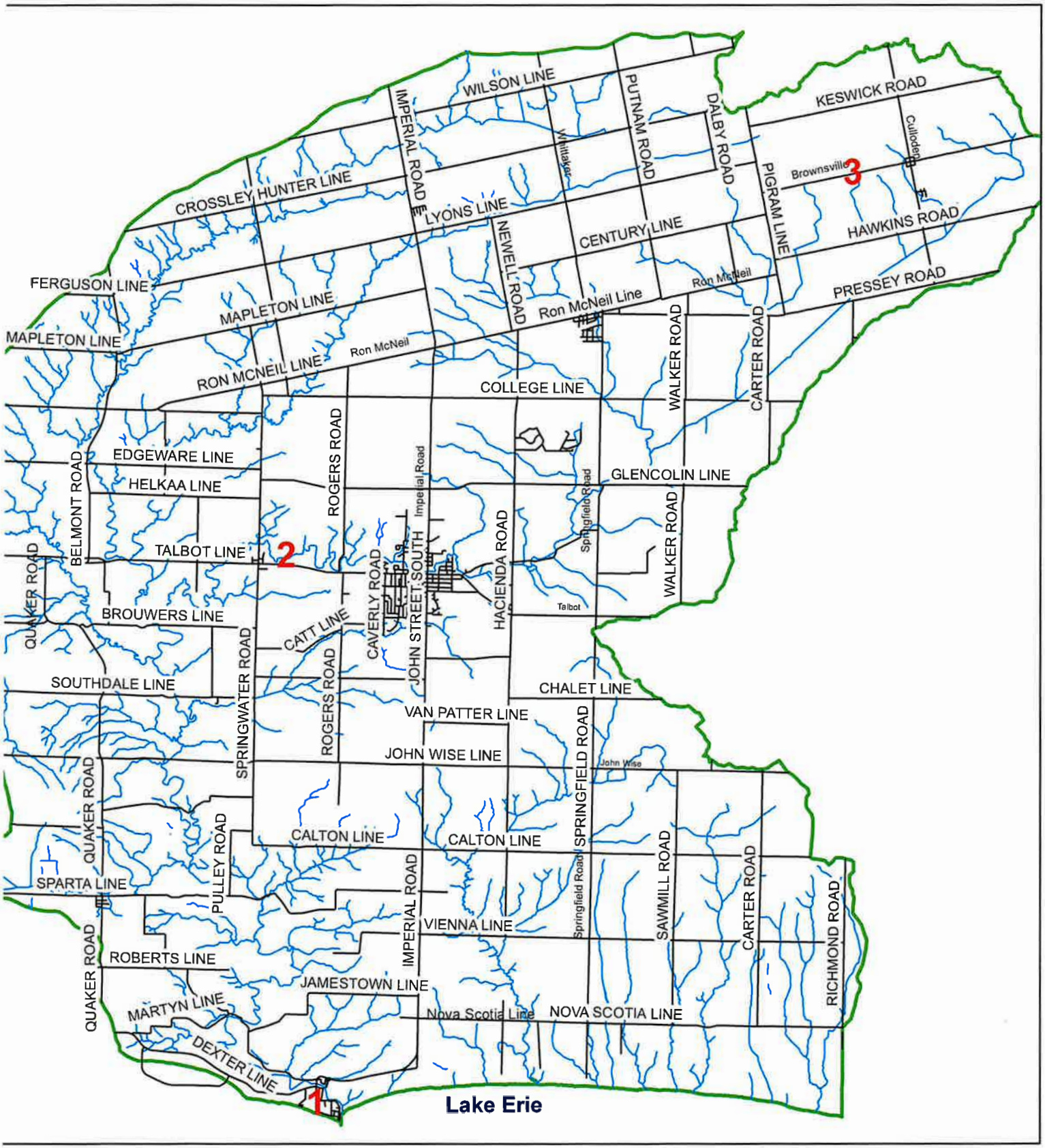
REPORT FA 43/2024	:	**To the Full Authority**
FROM	:	Gerrit Kremers, Resource Planning Coordinator
SUBJECT	:	Approved Section 28 Regulation Applications
DATE	:	June 5th, 2024

PURPOSE: To outline the 'Ontario Regulation 41/24: Prohibited Activities, Exemptions, Permits' applications approved by staff from April and May, 2024.

PERMIT NO.	LOCATION	PROPOSAL	DATE ISSUED
FR-03-24 (Site 1)	49276 Shalom Drive; Township of Malahide	* This proposal involves the construction of a covered porch and house addition adjacent to the north shore of Lake Erie; * Construction and site elevations will conform to geotechnical slope stability report by LDS Consultants Inc.;	April 12th, 2024
FR-04-24 (Site 2)	47442 Talbot Line; Township of Malahide	* This proposal involves the construction of a detached accessory structure to be used as a garage/shop; * Structure to be located according to site plan and maintain proposed setbacks;	May 22nd, 2024
FR-05-24 (Site 3)	Brownsville Road; Township of South-West Oxford	* This proposal involves directional drilling under a watercourse for the purposes of installing fiber optic cable conduit; * Construction to follow mud release contingency plan by Weber Contracting Ltd;	May 31st, 2024

RECOMMENDATION: THAT, the Full Authority receive the staff approved Section 28 Regulation Applications **Report FA 43/2024,** as information.

Gerrit Kremers, Resource Planning Coordinator



REGULATIONS REPORT MAP

June 2024

1 Work Permit Location

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REPORT FA 44/2024 : To The Full Authority

FROM: Dusty Underhill, General Manager / Secretary-Treasurer

SUBJECT: A.D. Latornell Conservation Symposium

DATE: May 22, 2024

PURPOSE:

To consider sending one (1) delegate to the Latornell Conservation Symposium.

DISCUSSION:

The 29th Latornell Conservation Symposium is being held at the Paramount Event Space from October 8 – 9, 2024 and registration opens up August 12, 2024. The cost is $450.00 +HST per person

Delegates can anticipate inspiring keynote speeches, informative field tours led by experts, engaging sessions, panel discussions, and interactive workshops. The Symposium provides valuable networking opportunities with peers, exhibitors, and the next generation of conservation professionals through the Student Poster Competition.

There are only two major Conservation Symposiums every year and it is an excellent opportunity for staff to expand their knowledge, and create a network of working relationships while doing so.

RECOMMENDATION:

THAT, the Full Authority authorize one delegate to attend the Annual Latornell Conservation Symposium on October 8-9, 2024.

D. Underhill

Dusty Underhill
General Manager / Secretary-Treasurer

REPORT FA 45/2024 : To The Full Authority

FROM: Dusty Underhill, General Manager / Secretary-Treasurer

SUBJECT: July 2024 Full Authority Meeting

DATE: May 15, 2024

PURPOSE:

To seek direction regarding the absence of a Full Authority meeting scheduled for July, 2024.

DISCUSSION:

The next Full Authority meeting is not scheduled until August 8th, 2024. In order to deal with any urgent business items and Accounts Payable for July in a timely manner, the Board needs to consider the following approvals.

RECOMMENDATION:

THAT, the Chairperson, Vice-Chairperson and General Manager / Secretary-Treasurer be authorized to discharge the Accounts Payable for July, 2024; and further,

THAT, the Personnel / Finance Committee be given the power to deal with any urgent business matters that may arise prior to the next Full Authority meeting.

D. Underhill

Dusty Underhill
General Manager / Secretary-Treasurer

General Managers Report to The Full Authority **DATE: May 2024**

Completed the Draft Water-based Resource Management Strategy, letter of dispersal for members and Indigenous consultation.

Completed Land Management and May Full Authority meetings

Sandy, our Intern completed the last three watershed report cards for 2013, 2018, 2023 and presented them to staff for approval. Sandy did an amazing job on these and staff were very happy with the outcome. When the 2028 Report Card is due, staff will have an easy transition to complete necessary updates etc. for completion of the 2028 Watershed Report Card.

Held a monthly staff meeting to discuss any concerns amongst staff. A monthly roundtable discussion opens up the table to proper communication and keeps everyone in the know. Any issues that arise between meetings, projects or updates are shared amongst staff to encourage healthy dialogue.

Completed the renewal of my Forest Pesticide License.

Arranged for a meeting with Elgin County Staff and Malahide staff to discuss the updates to the floodlines for Port Bruce. An information session was held in the CCCA Boardroom and a Public Consultation will occur later in July where residents who may have questions or concerns can have them addressed by Pat Prodanovic, of TRUE Consulting.

Assisted in the Career Launcher application process.

Met with Lauren Jones, Stewardship Coordinator for Six Nations Territory. We discussed current issues CA's are facing in regard to consultation and the lack of capacity provincially amongst Indigenous Communities to support these mandatory requirements.

Continual work on the Conservation Areas Strategy and updates to property management plans to support the work we currently do.

Submitted the Section 39 2024-2025 Year-Start Budget submission to MNRF.

Submitted the 2024 – 2025 Conservation Lands Tax Incentive Program information.

Attended a DFO Webinar, next phase of engagement to discuss fish and fish habitat restoration objectives and actions for the Lake Erie watershed.

Conservation ONTARIO
Natural Champions

May 10, 2024

Ministry of Municipal Affairs and Housing
Provincial Planning Policy Branch
777 Bay Street, 13th Floor
Toronto, ON M7A 2J3

RE: Conservation Ontario's Comments on the "Proposed Regulatory Changes under the Planning Act Relating to the Cutting Red Tape to Build More Homes Act, 2024 (Bill 185): Removing Barriers for Additional Residential Units" (ERO# 019-8366);

"Proposed Planning Act, City of Toronto Act, 2006, and Municipal Act, 2001 Changes (Schedules 4, 9, and 12 of Bill 185 - the proposed Bill 185, Cutting Red Tape to Build More Homes Act, 2024)" (ERO# 019-8369); and the,

"Proposed Changes to Regulations under the Planning Act and Development Charges Act, 1997 Relating to the Bill 185, Cutting Red Tape to Build More Homes Act, 2024 (Bill 185): Newspaper Notice Requirements and Consequential Housekeeping Changes" (ERO# 019-8370)

Thank you for the opportunity to comment on the proposed legislative and regulatory changes as part of "Bill 185, the proposed *Cutting Red Tape to Build More Homes Act, 2024*". Conservation Ontario is the network of Ontario's 36 Conservation Authorities (CAs). These comments are not intended to limit the consideration of comments shared individually by CAs.

To support the Province in reaching their goal to build more homes in a safe and expedited manner, Conservation Ontario offers two key recommendations from a natural hazard and source water protection perspective.

1. **Protect people and property from natural hazards and protect sources of drinking water.** Amend Bill 185 to clarify that proposed expedited development (i.e., Additional Residential Units (ARU's), institutional uses and student housing, standardized housing,) and settlement area boundary expansions are excluded from hazardous lands and hazardous sites, areas where safe access through a natural

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hazard cannot be achieved, and where development should be restricted to protect the quality and quantity of drinking water supplies.

2. **Maintain legislation that enables councils and planning authorities to pass by-laws requiring pre-application consultation**; and allow time to complete the consultation process to enable planning authorities to make complete application decisions, prior to allowing applicants to appeal to the OLT.

In the context of increasing risks due to climate change and the reduced availability of commercial/home insurance products to mitigate financial risks and losses associated with the impacts of natural hazards, we ask the Province to strongly consider the above recommendations. This will **avoid siting development in areas where there is an increased risk to public health and safety and to property damage from natural hazards (e.g., flooding and erosion), and to ensure the ongoing protection of Ontario's sources of drinking water**. The following paragraphs elaborate on the above recommendations.

Enhancing the Framework for Additional Residential Units (ARUs)

This proposal would enhance the Minister's authority to make regulations that could remove elements of municipal zoning by-laws (e.g., maximum lot coverage, limits on bedrooms allowed per lot) for the purpose of facilitating the development of ARUs, such as basement suites.

Conservation Ontario understands the importance of increasing availability of residential units in existing and proposed residential neighbourhoods to achieve the shared goal of building 1.5 million homes in a safe and expedited manner. Equally important to increasing the supply of housing is maintaining the health and safety of people, property and infrastructure, while safeguarding the natural environment. Under the *Planning Act,* the Minister shall have regard to matters of provincial interest, including the protection of public health and safety. Where the Minister considers using the new regulation-making authority, due consideration must be applied to ensure ARUs are not located in areas susceptible to natural hazards and where safe access through the hazard cannot be achieved, in accordance with Provincial standards. Furthermore, the Province should consider the potential cumulative impacts of locating ARUs on existing lots, including increased needs for stormwater management and the potential for localized flooding during storm events, resulting from increased impervious surfaces.

Recommendation

Clarify the proposed Minister's regulation-making authority that would not allow the Minister to remove elements of municipal zoning by-laws that would direct ARUs outside of hazardous lands and hazardous sites and where safe access through the hazard is not achieved. Continue to empower municipalities to regulate lot coverage where there is a higher possibility that stormwater infrastructure could be overwhelmed.

"Use It or Lose It" Tools

Conservation Ontario supports the Province's proposal to enhance lapsing authority for approvals of draft plans of subdivision/condominiums and site plan control approvals. This proposal would help address outdated approvals that do not meet modern planning standards and would allow for the impacts of natural hazards to be reassessed upon lapsing. Natural hazards are dynamic and variable [especially in a changing climate] and the proposed tool would ensure that approvals reflect the current state of natural hazard features and associated risks; to reduce potential risks to public health and safety, and to property damage.

Municipal Pre-Application Process

The Province proposes to make municipal pre-application consultation voluntary at the discretion of the applicant and to allow an applicant to challenge complete application requirements to the Ontario Land Tribunal (OLT) once a fee has been submitted or pre-consultation has begun. This proposal will revoke the existing-time-limited window once a municipality rejects an application as not being "complete".

The pre-application process provides the applicant and municipality an opportunity to develop a comprehensive understanding of the site-specific application requirements for a project. Integrated pre-consultation with applicable regulatory agencies, such as CAs, is strongly encouraged as an effective process for scoping natural hazard technical studies that establish clear submission requirements. Pre-consultation also enables CAs, acting as Source Protection Authorities, to identify whether the proposal relates to a significant drinking water threat or its potential impact on any drinking water sources protected by a Source Protection Plan. Pre-application consultation frequently streamlines the applicant's time and resources needed for a complete application and ensures natural hazard and drinking water source protection constraints are appropriately addressed. Furthermore, reasonable time should be allowed to complete the consultation process, before allowing an applicant to appeal to the Tribunal.

Should this proposal be enacted and where CAs are not included in pre-application consultation, the opportunity to address natural hazard impacts or potential impacts on drinking water sources protected by a Source Protection Plan could be missed. This may result in further delays as these impacts will need to be addressed later in the process.

Recommendation

Maintain the ability for councils and planning authorities to pass by-laws requiring pre-application consultation; and allow time to complete the consultation process to enable planning authorities to make a complete application decision, prior to allowing an applicant to appeal to the OLT.

Expedited Approval Process for Community Service Facility Projects and Exempting Universities from the Planning Act

A new section of the *Planning Act* is proposed that will enable regulations to provide for the

non-application of any provision of the Act, or a regulation made under the Act, or for setting out restrictions or limitations, to prescribed classes of community service facilities that meet prescribed requirements. The proposal would apply to community service facilities, including an undertaking of a board defined under the *Education Act*, a long-term care home, and a hospital. Similarly, publicly assisted colleges and universities are proposed to be exempt from the *Planning Act* and planning provisions of the *City of Toronto Act, 2006* for university-led student housing projects on- and off-campus.

The Provincial Policy Statement, 2020 strictly prohibits institutional uses, including long-term care homes, hospitals, and schools, from being located in lands affected by natural hazards and where safe access through the hazard cannot be achieved. Any proposed regulatory exemptions or expedited approval processes must consider the Province's direction regarding natural hazards to ensure vulnerable populations or sensitive uses are not located in areas that pose an increased risk to life and property.

Recommendation
Amend the proposal to ensure any new regulation excludes institutional uses and student housing from hazardous lands and hazardous sites and where safe access through the hazard cannot be achieved, in accordance with provincial standards.

Facilitating Standardized Housing Designs

A new section of the *Planning Act* is proposed that will enable regulations to establish criteria to facilitate planning approvals for standardized housing. The proposed changes would only apply to certain specified lands and would identify elements of the *Planning Act* and/or *City of Toronto Act, 2006* that could be overridden and/or certain planning elements that could be removed if the criteria are met.

Conservation Ontario recognizes the importance of establishing an expedited process for undertaking development of standardized housing; however, it must be provided in legislation that these projects be excluded from hazardous lands and hazardous sites, and in areas where safe access through the hazard cannot be achieved. This would further expedite approvals by only including sites that are safe to develop from a natural hazard perspective.

Recommendation
Amend the proposed legislative change so that any new regulation include criteria that standardized housing shall not be permitted in lands affected by hazardous lands and hazardous sites, and where safe access through the hazard cannot be achieved.

Settlement Area Boundary Expansions

The Province proposes to allow applicants to appeal a municipality's refusal or failure to make a decision on privately requested official plan or zoning by-law amendments that would change the settlement area boundaries, outside of the Greenbelt Area. Conservation Ontario is concerned that proposals for settlement area boundary expansions would disregard or underestimate natural hazards, safe access, and sustainability of municipal

sources of drinking water; resulting in a lengthy appeal process initiated by municipalities or CAs.

Recommendation
That the proposal be amended to require expansion of settlement area boundaries to exclude hazardous lands and hazardous sites, lands where safe access through the hazard cannot be achieved, and where development should be restricted to protect the quality and quantity of drinking water supplies, in particular if impacting sustainability of municipal sources of drinking water.

Thank you for the opportunity to review and provide comments on Bill 185. Should you have any questions regarding the comments and/or recommendations in this letter, please contact Brandi Walter at bwalter@conservationontario.ca.

Sincerely,

Brandi Walter
Brandi Walter
Policy and Planning Liaison

Leslie Rich
Leslie Rich, RPP
Source Water Protection Manager

c.c. Conservation Authority CAOs / GMs

Conservation ONTARIO
Natural Champions

May 10, 2024

Ministry of Municipal Affairs and Housing
Provincial Land Use Plans Branch
777 Bay Street, 13th Floor
Toronto, ON M7A 2J3

RE: Conservation Ontario's comments on the "Review of proposed policies for a new provincial planning policy instrument" (ERO# 019-8462)

Thank you for the opportunity to comment on the "Review of proposed policies for a new provincial planning policy instrument." Conservation Ontario is the network of Ontario's 36 Conservation Authorities (CAs). These comments are not intended to limit the consideration of comments shared individually by CAs. This letter provides general comments on the proposed policies and Attachment 1 provides responses to the consultation questions provided in the Environmental Registry notice.

Conservation Authorities play a key role within Ontario's land use planning and development framework. As prescribed through the Mandatory Programs and Services Regulation (O. Reg. 686/21), CAs review and comment on applications and other matters submitted pursuant to the *Planning Act* to help ensure consistency with the natural hazard policies found within policy statements issued under section 3 of the *Planning Act,* as well as the protection of drinking water sources.

Conservation Ontario is pleased with the proposed references to CA roles in natural hazard management and mitigation (see 5.2(1)) and watershed planning (see 4.2(5)), as well as promoting collaboration between CAs, planning authorities and the Province (see Vision [wise use and management of resources]). The proposed change to policy 5.2(1) requiring planning authorities to collaborate with CAs (where they exist) to identify hazardous lands and sites to manage development in such areas, is particularly welcome.

CAs apply an integrated watershed management perspective through their plan review and permitting roles which considers local conditions, potential flooding and erosion impacts to upstream and downstream communities, and future management challenges. This perspective is informed by natural hazard mapping, modelling, and knowledge of local

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watershed conditions and ongoing/planned projects. This coordinated, scientific and hazard/risk-based approach used by CAs was strongly supported by Ontario's Special Advisor on Flooding in their 2019 report.

When planning for development in new or existing communities, the Province, planning authorities, and Conservation Authorities are required to work together to protect people, property and infrastructure from potential risks resulting from natural and human-made hazards. Conservation Ontario notes that language in the Vision section of the proposed PPS, 2024 is inconsistent with the proposed natural hazards policies (e.g., "mitigation" of risks associated with natural and human made hazards versus direction in policy 5.1.1 to direct development away from natural hazards where there is unacceptable risk to public health or safety or of property damage). To ensure a consistent approach with proposed policy 5.1.1 of the PPS, 2024, Conservation Ontario recommends the Vision section be amended to read "Potential risks to public health or safety or of property damage from natural hazards and human-made hazards, including the risks associated with the impacts of climate change, will be avoided, and where not possible, mitigated".

The provincial planning system has undergone significant changes in recent years, including several consultations on the replacement of the Provincial Policy Statement, 2020 and A Place to Grow: Growth Plan for the Greater Golden Horseshoe ("Growth Plan"). Upon issuance of the new PPS, planning authorities and CAs will require time to focus on implementation of updated provincial policy and legislation. To support successful implementation and increase consistency and certainty regarding planning outcomes, Conservation Ontario recommends the Province provide comprehensive implementation guidance for the proposed PPS in a timely manner. A list of the required implementation guidance is included in Attachment 1.

Ultimately, the efficacy of the proposed PPS policies hinges upon the ability to apply them through planning processes. For example, Bill 185 currently proposes amendments to the *Planning Act* to create regulations that provide for the non-application of any provision of the Act to community service facilities, including institutional uses. The Province is urged to ensure that applications involving institutional uses continue to be subject to the PPS such that the appropriate planning safeguards are in place to direct development outside of hazardous lands and hazardous sites, and areas where safe access through a hazard cannot be achieved. It is recommended that any proposed exemptions from the *Planning Act* and subsequently, the PPS, should be subject to the development being outside of a natural hazard area, where safe access can be achieved, and where no restrictions are required to protect the quality and quantity of drinking water supplies.

Thank you for the opportunity to provide comments on the "Review of proposed policies for a new provincial planning policy instrument" (ERO#019-8462). Comprehensive provincial policy must strike the appropriate balance on all matters of provincial interest. This balance will not only support the government's initiative to increase the supply and

diversity of housing in Ontario, but also provide for the continued protection of people, property and infrastructure from the impacts of natural hazards, drinking water sources, and natural spaces that support safe and healthy communities. Should this letter require any clarification, please contact Brandi Walter at bwalter@conservationontario.ca.

Sincerely,

Brandi Walter
Brandi Walter
Policy and Planning Liaison

Leslie Rich
Leslie Rich, RPP
Source Water Protection Manager

Attachment: Conservation Ontario's Feedback on the Proposed Policy Concepts and Proposed Wording for a New Provincial Planning Policy Instrument.

c.c. All Conservation Authorities' CAOs / GMs

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Attachment 1: Conservation Ontario's Feedback on the Proposed Policy Concepts and Proposed Wording for a New Provincial Planning Policy Instrument

Conservation Ontario offers the following responses to the consultation questions provided by the Ministry of Municipal Affairs and Housing (MMAH) on the Environmental Registry proposal. These responses should be read in conjunction with the general comments provided in Conservation Ontario's covering letter.

1. **What are your overall thoughts on the updated proposed Provincial Planning Statement?**
   - Conservation Ontario is pleased with the reference in the Vision section to the Province, planning authorities and CAs working together to mitigate potential impacts on development or risks to public health and safety associated with natural hazards, including the risks associated with the impacts of a changing climate.
   - In addition to the proposed references for collaboration and coordination with CAs, Conservation Ontario continues to recommend CAs be explicitly referenced in policy 6.2(1) as a part of the "coordinated, integrated and comprehensive approach...when dealing with planning matters". The integration of CAs throughout the proposed Provincial Planning Statement is a positive step forward to continue protecting people, property and infrastructure from potential impacts of natural hazards as well as protecting sources of drinking water.
   - Conservation Ontario notes that the Province is not proposing to carry forward policy 1.1.1(c) from the PPS, 2020 which emphasizes the need for healthy, livable and safe communities to avoid development which may cause environmental or public health and safety concerns. The development of safe and healthy communities and the protection and conservation of ecological systems and natural resources are identified as matters of provincial interest under section 2 of the *Planning Act.* As mentioned in the covering letter, the proposed Vision section states that "Potential risks to public health or safety or of property damage from natural hazards and human-made hazards, including the risks associated with the impacts of climate change will be **mitigated**" *(emphasis added).* This represents an unacceptable departure from the Province's commitment to directing development away from natural hazards; potentially increasing the risk to people and property. The Provincial "Understanding Natural Hazards" Technical Guide, identifies that prevention measures, including "good land use planning, development and management, and the regulation of hazardous lands and unsafe developments" is the first and most important step. The efficacy of this preventative approach was recently re-confirmed by the "Independent Review of the 2019 Flood Events in Ontario" as well as "Ontario's Flooding Strategy". A suggested revision is provided in the covering letter.

2. **What are your thoughts on the ability of updated proposed policies to generate appropriate housing supply, such as: intensification policies, including the redevelopment of underutilized, low density shopping malls and plazas; major transit station area policies; housing options, rural housing and affordable housing policies; and student housing policies?**
   - Section 5.1 in the proposed PPS, 2024 states that development shall generally be directed to areas away from hazardous lands and hazardous sites. The proposed PPS must ensure that, in accordance with the natural hazard policies (section 5.2) and water policies (section 4.2), intensification does not occur in hazardous lands or on hazardous sites, where safe access through the hazard cannot be achieved, or where development should be restricted to protect the quality and quantity of drinking water supplies.
   - CAs remain committed to working with the Province, Municipalities, and other partners in support of increasing the overall supply and diversity of housing types in Ontario while maintaining strong protections for public health, safety, and the environment.

3. **What are your thoughts on the ability of the updated proposed policies to make land available for development, such as: forecasting, land supply, and planning horizon policies; settlement area boundary expansions policies; and employment area planning policies?**
   - Existing policy 2.2.8.3 in the Growth Plan requires planning authorities to determine the feasibility of proposed boundary expansions based on the application of all policies within the Growth Plan. This includes ensuring that the proposed expansion would be planned and demonstrated to avoid, or if not possible, minimize and mitigate any potential negative impacts on watershed conditions and the water resource system, including the quality and quantity of water. Conservation Ontario continues to recommend this policy be brought forward into section 2.3.2 of the proposed Provincial Planning Statement (New Settlement Areas and Settlement Area Boundary Expansions) for "large and fast-growing municipalities." This inclusion would provide consistency with policies related to using the watershed as the meaningful scale for integrated and long-term planning.

4. **What are your thoughts on updated proposed policies to provide infrastructure to support development?**
   - Policies in section 4.2 encourage all municipalities and require large and fast-growing municipalities to undertake watershed planning to inform planning for several purposes, including planning for sewage and water services. Conservation Ontario is pleased with policies in section 4.2 that now encourage all municipalities to collaborate with applicable CAs when undertaking watershed planning. The proposed changes to the definition of watershed planning are further supported which relate watershed planning to the evaluation and consideration of impacts of a changing climate on water resources systems and clarify that the process can be

undertaken at many scales.

- A list of "large **and** fast-growing municipalities" is provided in Schedule 1 of the proposed PPS, 2024. Further to proposed policy 4.2, these municipalities would be required to undertake watershed planning to inform planning for several purposes. While Conservation Ontario notes that all municipalities are "encouraged" to undertake watershed planning, the requirement to do so would not capture smaller municipalities currently experiencing rapid growth. Such municipalities would benefit from undertaking watershed planning to inform how best to manage and plan for growth, rather than waiting until a time where they may meet the criteria to be designated a "large municipality," and mitigative options identified through watershed planning would be more limited.
- Conservation Ontario is pleased with the amendments to policy 3.6.8 ("planning for stormwater management") which provides direction related to minimizing, preventing or reducing increases in stormwater volumes. This direction is a positive addition and will ensure planning authorities have regard to increased volumes which may contribute to pluvial and fluvial flooding in developed areas from stormwater flows.
- Existing policy 3.2.7 of the Growth Plan has not been carried forward into the proposed PPS, 2024, which requires municipalities to develop stormwater master plans that are informed by watershed planning or equivalent, and examine / assess cumulative impacts to stormwater from development, including how impacts are exacerbated during extreme weather events. This policy is significant for mitigating impacts associated with a changing climate within Ontario's communities. Conservation Ontario recommends this policy be retained for large and fast-growing municipalities.
- Conservation Ontario supports the new proposed policy 2.3.2.2 that requires planning authorities to "identify a new settlement area only where it has been demonstrated that the infrastructure and public service facilities to support development are planned or available."

5. **What are your thoughts on updated proposed policies regarding the conservation and management of resources, such as requirements to use an agricultural systems approach?**
   - Conservation Ontario is pleased with the integration of CAs with respect to identification of hazardous lands and sites, and management of development in those areas.
   - As noted in comments on previous consultation about the PPS, Conservation Ontario supports the proposal to keep the natural heritage policies and related definitions analogous to those in the PPS 2020. Natural heritage features such as forests and wetlands play important roles in reducing flows, storing floodwaters, and mitigating drought. The natural heritage, water resource and natural hazard systems are inextricably linked, and coordinated protection of these systems is necessary to mitigate potential impacts associated with natural hazards, protect

drinking water sources, and provide access to green / open space which contribute to the development of safe, sustainable, and complete communities.

6. **What are your thoughts on any implementation challenges with the updated proposed Provincial Planning Statement? What are your thoughts on the proposed revocations in O. Reg. 311/06 (Transitional Matters - Growth Plans) and O. Reg. 416/05 (Growth Plan Areas)?**
   - Conservation Ontario continues to recommend that the Province provide comprehensive, up-to-date implementation guidance concurrently with the issuance of the updated Provincial Planning Statement. It is noted that the proposed policies are quite flexible and may result in additional Ontario Land Tribunal hearings without adequate interpretation support. Comprehensive and up-to-date guidance with ongoing implementation support from the Province would help to increase consistency and certainty regarding planning outcomes, resulting in more timely approvals.
   - Specifically, the Province should consider updating and/or finalizing the following: the Natural Hazard Technical Guides, the 1993 Watershed Planning Guidelines, the 2022 Subwatershed Planning Guide, and the Natural Heritage Reference Manual (and related guidance). Updated implementation guidance should include direction on planning for a changing climate, particularly with regard to natural hazard management, watershed/subwatershed planning, and stormwater management.

Catfish Creek Conservation Authority

We were camping with the Tri County Travellers on the weekend of April 27, 28, to help with the trout derby. Our grandson and his friend, both age 13, had a great time, fishing rain or shine. We were unable to take the trailer home on Sunday as it was a wet area we were parked in. So we came back on Monday afternoon when it was drier. We saw 'Eg' when we drove in and asked if we would be able to dump, and he assured us he would open. As we pulled in, Eg and his friend Al, I believe, came out and told us we had a flat tire on the trailer. After checking it out, we saw the steps were also knocked out of place. All of this was a real surprise as we saw nothing, heard nothing and felt nothing. Our friend, John Scott told us later that it was a culvert we had hit. Al and Eg told us they would get the jack and the impact wrench and fix the flat while we dumped. How kind of them to do this, as it was time they should be getting home to their families. Two very good men, whose help was truly appreciated. We enclose a donation as a way of thanking them.

Ben and Linda Vandevyvere

Ben Vandevyvere
Linda Vandevyvere

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Catfish Creek Conservation Authority
Correspondence Register – May 1 - 31, 2024

Date	Type	Agency	Topic
May 1, 2024	Email/ Response	MNRF	RE: CA S.39 2023-24 Year End Report
May 1, 2024	Email/ Response	OPC	RE: Path of Honour
May 2, 2024	Email/ Response	MNO	RE: Contract
May 2, 2024	Email/ Response	GRCA	RE: Availability Required for May Meeting
May 3, 2024	Email/ Response	Hybrid Utilities	RE: Treeplanting Site
May 3, 2024	Email/ Response	CO	RE: Final DRAFT CO Comments: ERO#019-8320 (Minister's Permit and Review Powers)
May 3, 2024	Email	MNRF	RE: Provincial Watershed Statement
May 6, 2024	Email/ Response	Reith and Associates	RE: Summer Additional Driver's
May 6, 2024	Email	LPRCA	Recommended phase out of free well water testing in the 2023 Auditor General's Report
May 6, 2024	Email/ Response	Malahide	RE: Schoolhouse Ramp Inspection
May 6, 2024	Email/ Response	CO	RE: 2024 Healthy Hikes is Here! 🌲 #MentalHealthWeek
May 6, 2024	Email/ Response	CO	RE: Final CO Comments: ERO#019-8320 (Minister's Permit and Review Powers)
May 7, 2024	Email	MNRF	RE: Updated Provincial Watershed Conditions Statement for Southern, Northeastern Regions, and Far North District - Surface Water Monitoring Centre, MNRF- May 7th, 2024, 12:00 PM
May 7, 2024	Email/ Response	CLTIP	RE: CLTIP Application for 2025 tax year
May 7, 2024	Email	MNRF	RE: WECI Program - 2024-2026 Call for

			Applications - DUE June 3, 2024
May 7, 2024	Email/ Response	CO	RE: Final DRAFT CO Comments: Bill 185 ERO Postings (019-8366, 019-8639, 019-8370)
May 8, 2024	Email/ Response	Hybrid Utilities	RE: Planting Agency Landowner Assignment
May 8, 2024	Email/ Response	LERMC	RE: Lake Erie Region Source Protection Committee Meeting (LERMC Invite)
May 8, 2024	Email	MNRF	RE: Provincial Flood Watch for Lake Erie Issued by the Surface Water Monitoring Centre - MNRF - May 8, 2024, 2:00 PM
May 8, 2024	Email	CO	RE: FINAL DRAFT CO Comments for updated PPS, ERO #019-8462
May 10, 2024	Email/ Response		RE: 24SCP9-01advance-payment-SCPclaim- Logan Belanger
May 10, 2024	Email	RRCA	RE: Media Release: RRCA Welcomes New General Manager
May 10, 2024	Email/ Response	CO	RE: Final CO Comments: ERO Postings for PPS, 2024 & Bill 185
May 10, 2024	Email/ Response	MNRF	RE: WECI Project Application Information Session
May 13, 2024	Email/ Response	Ontario Woodlot Association	RE: Upcoming Webinars & Day 2 of Woodlands Appreciation Week
May 13, 2024	Email/ Response	CRA	RE: Mail
May 13, 2024	Email/ Response	Elgin County	RE: Floodlines
May 13, 2024	Email/ Response	Malahide	RE: Floodlines
May 13, 2024	Email/ Response	Pat Prodanovic	RE: Port Bruce Floodline Consultation
May 14, 2024	Email/ Response	CO	RE: Modelling Study NrCan
May 14, 2024	Email/ Response	Elgin County	Port Bruce Floodline Study

May 14, 2024	Email/ Response	TRUE	Floodline Open House
May 15, 2024	Email/ Response	CO	GM Response Requested: Governance Accountability and Transparency Annual Tracking (2024)
May 15, 2024	Email	Quinte Conservation	William Taylor Early Career Research Board Fellowship
May 16, 2024	Email/ Response	City of St Thomas	City of St Thomas - Water Reclamation Facility Pump Station and associated Forcemain Municipal Class EA Notice of PIC#1
May 16, 2024	Email/ Response	MNO	MNO Workplace Grant Payable
May 17, 2024	Email/ Response	CO	General Managers'/Staff Leads Session: Conservation Land Inventory
May 19, 2024	Email/ Response	UTRCA	Likely in a Regulated Area
Lake Erie Action Plan (LEAP) ImplementatMay 21, 2024	Email/ Response	MNRF	RE: 2024-2025 Year Start S.39
May 22, 2024	Email	CO	FW: Next phase of engagement to discuss fish and fish habitat restoration objectives and actions for Lake Erie watershed
May 22, 2024	Email/ Response	MECP	RE: 2023 Catfish Creek Annual Progress Report Submission
May 22, 2024	Email/ Response	OPC	Tree Planting Workshop
May 22, 2024	Email	Oxford County	Public Notice Planning Act
May 23, 2024	Email/ Response	GRCA	LERMC Agenda - May 28, 2024
May 24, 2024	Email	MNRF	WECI Project Application Information Session - slide deck
May 27, 2024	Email	CO	Registration Link for CO-AMO Webinar
May 28, 2024	Email	CO	TIME SENSITIVE FW: New Closing Date -

			Environment and Climate Change Canada (ECCC) National Freshwater Science Prioritization Survey
May 28, 2024	Email/ Response	PBRA	Meeting with MT to discuss the Port Bruce Flood Mapping
May 28, 2024	Email/ Response	MNRF	RE: 2025 CLTIP Application
May 29, 2024	Email	CO	CA Communications: O. Reg. 41/24 Exceptions - SURVEY
May 30, 2024	Email/ Response	Hybrid Utilities	Re: Planting Agency Landowner Assignment
May 31, 2024	Email/ Response	CO	Lake Erie Action Plan (LEAP) Implementation Team Meeting (June 14th)
May 31, 2024	Email/ Response	CO	CA Annual Survey - 2023 Responses Requested