

# **Conservation Advisory Board Meeting Agenda**

Thursday, April 8, 2021



A Healthy Watershed for Everyone



A Healthy Watershed for Everyone

# Notice of Meeting Conservation Advisory Board

Thursday, April 8, 2021

### 4:00 p.m.

### This meeting will be held by WebEx videoconference.

The meeting can be viewed live on HCA's You Tube Channel: <u>https://www.youtube.com/user/HamiltonConservation</u>

1.	. Chairman's Remarks			
2.	2. Declaration of Conflict of Interest			
3.	Approval of Agenda			
4.	Delegations			
5.	Member Briefing			
	5.1. 2020 Ann	ual Report	– Peck	
6.	Chairman's Report on Board of Directors Actions		– Topalovic	
	CA 2104	2021 Reservation Service –		
	CA 2105	Westfield Heritage Village Accession and Deaccession Lists		
7.	Approval of Minutes of Previous Meeting			
	7.1. Minutes –	Conservation Advisory Board (February 11, 2021)	– Topalovic	
8.	Business Arisi	ng from the Minutes		

### 9. Staff Reports/Memorandums

### Reports for Recommendation

9.1. Christie Lake Dam & Valens Lake Dam Public Safety Risk Assessments and Valens Lake Dam Safety Review – Bastien

### Memorandums to be Received

- 9.2. Saltfleet Wetland Design Verbal Update
- 9.3. Fifty Point Pond Fishery and Wetland Project Design
- 9.4. Water Quality Monitoring Results
- 9.5. Natural Heritage Offsetting Policy Discussion Paper
- 9.6. Conservation Area Experiences Update Verbal Update

#### 10.New Business

- 11.Next Meeting Thursday, June 10, 2021 at 4:00 p.m.
- 12. Adjournment

- Peck – Oaks – Polap / VanOpstal
- Peck
- Costie

# **ANNUAL REPORT 2020** Hamilton Conservation Authority

Hamilton Conservation Authority

A Healthy Watershed for Everyone

Our **Vision** - where we want to be

A healthy watershed for everyone

### Our **Mission** - what we do

To lead in the conservation of our watershed and connect people to nature



### **TABLE OF CONTENTS**

Message from HCA's Board Chairman and HCA's CAO	3
Organizational Excellence	5
Water Management	8
Natural Heritage Conservation	11
Conservation Area Experience	14
Education and Environmental Awareness	17
Message from the Hamilton Conservation Foundation	20

# Message from HCA's Board Chairman and CAO

As we all know, 2020 was one of the most unusual years on record for HCA. While our start to the year was fairly typical, the global COVID-19 pandemic brought a number of new challenges to our organization. After an initial closure, we maintained essential operations and business services, gradually reopened, and hosted a non-stop stream of visitors to our wonderful outdoor green spaces.

Despite these difficulties, we managed to accomplish initiatives in all of our strategic plan areas. Our diligent focus on the strategic priority area of Organizational Excellence paid dividends. It didn't occur with the timing and circumstances we had planned but we did it!

We embodied our corporate values by embracing new technology, promoting teamwork and providing solution-oriented approaches, all while using our available resources responsibly. With these combined efforts, we safely and successfully adapted our operations to meet these challenges and maintained our full workforce at HCA, which was a top priority.

We all had to adjust to new working procedures, protocols, PPE and virtual meetings and communications. For some staff, this also required setting up office space at home.

Staff from every division and department played an important role: our Conservation Areas Services, Capital Projects, Watershed Planning & Engineering, Millgrove Works Yard and main office for our administration and support services.

To say that people were glad to get back to nature when we reopened is an understatement. Visitors embraced our conservation areas, beaches, trails, parks and other facilities in a way that none of our long-term staff has ever seen in their careers. In our view, a silver lining of this very stressful pandemic is that people are reconnecting with nature.



Our conservation lands are the green lungs of our big, industrial city. We have more than 11,000 acres of woods, 145 km of trails, fields, streams, wildlife and plant life under HCA's care and protection. After this year, we have seen just how vital these spaces are and that protection is for the health of our community. We will continue promoting our vision of a healthy watershed for everyone.

Ontario's 36 conservation authorities were created over 60 years ago to address concerns regarding the poor state of the natural environment and the need to establish programs based on watershed boundaries for natural resource management. We continue to bring the local watershed science and information into the decision-making process to ensure that Ontario's communities are protected. We help steer development to appropriate places where it will not harm the environment or create safety risks for people.

As the year drew to a close, the Province introduced changes to the Conservation Authorities Act with a few initial legislative amendments taking immediate effect. We will continue to work with the Province to develop updates that make sense at the local level and protect our watershed.

While it has certainly been one of the most challenging years any of us can remember, we sincerely thank everyone for your confidence and support to pull us through. We are tremendously proud of our staff efforts this year and are pleased to share this annual report and our accomplishments as we continue to work and live alongside the pandemic.

Councillor Lloyd Ferguson HCA Board Chairman

Lisa Burnside

Lisa Burnside HCA CAO

Hamilton Conservation Authority

A Healthy Watershed for Everyone



# **Organizational Excellence**



- HCA social media feeds at all-time highs for followers
  - Facebook Page: 18,859 likes
  - Instagram Followers: 10,258
  - Twitter Followers: 8,275
- 800 Photo Contest submissions received from our visitors for the annual Photo Contest
- \$13 million in operating revenue collected
- 60% of revenues self generated
- While events, group rentals and film shoot revenues were impacted due to the pandemic, our top 3 self generated revenue sources of gate admissions, marina operations and camping fees offset most impacts by year end









Organizational Excellence is focused on ensuring corporate and financial viability and the HCA's relevance in the community.

### 2020 Highlights

- Successfully maintained essential operations during pandemic closure and all permitted programs and services through the gradual reopening phases of the ongoing pandemic.
- Supported a dynamic work culture, safety, professional development and effectiveness of staff through:
  - Providing interview skills training to enhance legal and best practices to effectively find and hire staff that will contribute to the overall success of HCA.
  - Undertaking Indigenous Awareness training to develop staff understanding of the Indigenous communities/people, create opportunities for staff to learn about the cultural values, traditions, beliefs, and history of the communities within our region.
  - Seconding an internal staff member to coordinate the implementation of the recommendations flowing from the 2019 safety audit to improve HCA's health and safety management system and processes and positively impacting HCA's overall health and safety culture.
- Communicated the importance of our green spaces, watershed management role and emphasized our mission and vision statements with opinion articles in the Hamilton Spectator. These communication pieces outlined our visitor experience during the pandemic and addressed critical concerns with legislative changes to the Conservation Authorities Act.
- Completed 25 photoshoots for stewardship, ecology, the Foundation, and our conservation areas to communicate both internally and externally about what HCA does and why.
- Increased access to information and services by redesigning the websites of the HCA and Westfield Heritage Village to give them a new look and create an improved user experience for visitors.
- Managed a record-setting amount of social media comments and questions on all social media channels in regards to pandemic closures, gradual reopening, and Spencer Gorge reservations while maintaining an above average response rate
  - 190,000 views and almost 42,000 clicks were received by Google Ads alone for the Spencer Gorge reservation system.
  - Almost 50% increase in membership passes sold and set a new record for passes sold in a year. This speaks to the appreciation of our conservation areas and nature during the pandemic.
- Updated advertising campaigns, social media messaging, new graphics and in-area signs to reinforce the importance of health and safety during the pandemic, including trail etiquette, physical distancing while hiking and appeals to leave no trace behind by packing out garbage.

- Streamlined policies to enhance business service delivery, including:
  - An updated Pandemic Policy and creation of COVID-19 safety plan to continue our business operations.
  - In cooperation with Conservation Ontario, implemented and tracked new timing changes to streamline our regulatory process to meet the provincial commitment of increasing housing supply in Ontario while decreasing HCA permit approval timelines. These changes strive to more effectively serve our clients and improve permit approval efficiencies.
- Undertook additional steps to modernize the HCA records system which included:
  - Digitizing of historical records to PDF format with optical character recognition to allow for searching documents by keyword, significantly improving the efficiency of staff research.
  - Undertaking physical records inventories to refine the retention schedule.
  - Centralizing of a records storage area for appropriate storage and control and better protection from potential damage due to water seepage, mould and other elements.
- Collaborated and shared services and expertise through numerous forums and working groups with neighbouring conservation authorities and other partners, including the virtual Latornell Conservation Symposium and Conservation Areas Workshop. HCA staff participated, presented and assisted with the organization of the events.



# Water Management

- 92 permits were issued in total
- 15 Major Permits were issued
- **40%** of Major Permit applications were processed within the 63-day service target in our Client Service Standards
- 77 Minor Permits were issued
- 62% of Minor Permit applications were processed within the 42-day service target in our Client Service Standards
- 17 flood forecasting and warning messages
- 8 sites monitored for water levels
- **10** sites monitored for precipitation
- 4 sites monitored for snow pack





Water Management is undertaken to protect the watershed for people, property, flora and fauna, and natural resources through flood and erosion control, water quality programs, low flow augmentation and adaption strategies to adapt to changing climatic conditions.

#### 2020 Highlights

- Continued work on flood plain mapping for the Stoney Creek Numbered Watercourses, Battlefield Creek and Stoney Creek.
- Declared first Level 1 Low Water Advisory since 2016 when three-month precipitation totals were below 80% of long-term averages, and/or when 30-day average stream flows were below 70% of the minimum average summer month flow. Watershed Planning & Engineering staff made corresponding adjustments to dam outflows to balance reservoir levels and stream flows.
- Continued our partnership with the Halton-Hamilton Source Protection Region with the following highlights for 2020:
  - Deployed social media posts to commemorate the 20th year since the Walkerton drinking water tragedy, and to reiterate the importance of watershed-based planning.
  - Renewed Memorandum of Agreement for the Source Protection Management Committee, ensuring continued strong governance for the Halton-Hamilton Source Protection Program.
  - Completed Lake Ontario and groundwater vulnerability assessments and draft policies to manage risks from oil pipeline spills.
  - Presented to the Association of Municipalities of Ontario board about road salt impacts, the legislative framework, and best practices.
- Undertook Public Safety Assessments for Valens Lake dam and Christie Lake dam areas, partially funded through the Provincial Water and Erosion Control Infrastructure funding program.
- Monitored water quality in Spencer, Chedoke, Ancaster and Borer's Creeks as a part of ongoing work with the City of Hamilton and partners on the Hamilton Harbour Remedial Action Plan (HHRAP). This work included completing an annual monitoring report and submitting this report to HHRAP, the City of Hamilton and the Ministry Environment, Conservation and Parks. Flow gauges have been installed at the Lower Spencer Creek and Lower Chedoke Creek sampling locations, to allow for more accurate loading estimates in the future.

# Water Management

- 2
- Continued to invest in monitoring programs and networks, including assessing impacts of nutrient and sediment loading through:
  - Provincial water quality and groundwater quality monitoring completed for six surface water sites and seven groundwater sites.
  - Annual Rothsay water quality sampling program assessing and confirming no water quality issues regarding effluent discharges to the watercourse and Christie Lake.
  - Annual City of Hamilton water monitoring projects including groundwater well inspections at 85 wells, groundwater well water quality sampling at 33 wells, and erosion site monitoring at 22 sites.
- Continued stewardship programs for restoration projects including:
  - Installed 4 stormwater LID features that collectively have the capacity to divert over 280,000L of stormwater from combined sewers.





# **Natural Heritage Conservation**

- 1,900 Hazard trees removed and 500 trees were pruned by HCA forestry staff from conservation areas and rental properties for safety and tree health
- Through completion of the update to Ecological Land Classification at Fifty Point, ecology staff identified:
- **236** plant species, representing 16% of the regional flora
- Some interesting species found include
  Giant Ragweed and
  Rattlesnake Master
- Through completion of Seine Netting at Valens Lake, ecology staff identified:
- **8** different fish species from the 591 that were netted, with Pumpkin Seed and Largemouth Bass being the most common
- **62** Common Carp were also identified, following the 2018 carp die-off
- 2 species of crayfish; Calico and Northern clearwater





Natural Heritage Conservation is the conservation, restoration and enhancement of watershed natural areas and ecology.

### 2020 Highlights

- Implemented and invested in the further development of the Saltfleet Conservation Area to offset the impacts of climate change:
  - Continued work with the consultant to complete the wetland design for one wetland in the Stoney Creek watershed and one wetland in the Battlefield Creek Watershed. These designs will be used to obtain agency approvals in 2021 and for tendering for construction.
  - Received \$50,000 in funding from the Friends of the Greenbelt Foundation towards the Saltfleet wetland project to assist with the cost of studies required to finalize the design.
  - Undertook archaeological surveys required towards finalizing design plan for the establishment of the first two wetlands with additional work planned for 2021.
  - Completed an ecosystem services valuation and business case in collaboration with the Greenbelt Foundation. The completed study notes that the Saltfleet project provides flood mitigation, recreation, biodiversity, carbon sequestration water quality and nutrient regulation through the creation of the wetlands. The study concludes that "Even by conservative estimates, this natural infrastructure capital investment would pay for itself and would provide additional value beyond grey infrastructure alternatives".
- Carried out invasive species control and removal strategies in our watershed, including:
  - Sprayed over 13 acres of Phragmites at Lower Spencer Creek, Valens Lake, Westfield and Eramosa Karst with a contractor, making a big dent in our fight to reduce the amount of this invasive species.
  - Picked and removed two truckloads of Dog Strangling Vine from Lower Spencer, Fletcher Creek and Borer's-Rock Chapel to stop this invasive species from spreading. The pods are similar to milkweed and seed easily through the air.
  - Initiated trail-based invasive species surveys at Westfield Heritage Village, Saltfleet, Felker's Falls and Borer's-Rock Chapel Conservation Areas for accurate mapping and prioritization for future invasive species removals.
- Continued and expanded aquatic and terrestrial monitoring programs to assess watershed health:
  - Completed electrofishing surveys at 22 sites, 13 of the annual sites and most of the Year Two sites as well as two additional historical Redside Dace sites.
  - Completed benthic surveys in 13 annual sites.
  - Installed 12 temperature loggers in Spencer Creek Watershed.

# **Natural Heritage Conservation**

- Carried out the annual Salmon Spawning Survey on Lower Spencer Creek. Additional time was spent on this years program monitoring fish migration and water levels due to drought conditions.
- Added four more EMAN (forest health) plots, completing the set-up of all 40 total allotments to monitor for tree health, invasive species, tree regeneration and ground vegetation.
- Continued work on regeneration surveys to inform future tree plantings and invasive species removal.
- Enhanced natural heritage features with tree plantings across our watershed including:
  - Planted 30 trees at Christie Lake, contributing to re-forestation and shade in the public picnic areas.
  - Volunteer planting at Valens Lake Conservation Area with Trees for Hamilton 120 trees and shrubs planted by McMaster medical students and staff.
  - Volunteer planting at Fifty Point Conservation Area supported by the Hamilton Oshawa Port Authority (HOPA). Volunteers from HOPA and Trees for Hamilton helped plant 345 shrubs and 300 beach grasses along the shoreline.



- **1,000,000+ people visited** HCA's owned and managed conservation areas
- 8,100+ reservations successfully made for Spencer Gorge pilot reservation system and the area safely hosted over 22,000 visitors
- PANDEMIC IMPACTS:
- 45% increase in nightly camping at Valens Lake's campground
- 8,900 people purchased an HCA Membership Pass which is a new annual record
- Conservation areas with beaches reached full capacity on approximately 12 midday weekend occasions
- Fifty Point won Hamilton Spectator Reader's Choice Award for Best Marina

### **Conservation Area Experience**









## **Conservation Area Experience**

Conservation Area Experience is the provision of high quality, diverse conservation areas that promote outdoor recreation, health and well-being and strengthen public awareness of the importance of being in or near our conservation areas.

#### 2020 Highlights

- Completed and adopted an updated Valens Lake Conservation Area Master Plan as well as management plans for Beverly Swamp, Fletcher Creek Ecological Preserve, and the Lafarge 2000 Trail.
- Undertook preliminary work to update the Fifty Point Master Plan including installing trail and vehicle counters in the conservation area to collect attendance data and undertaking ecological surveys.
- Implemented 8-week pilot reservation service for Spencer Gorge Conservation Area as a result of COVID pandemic and to evolve visitor management for the area. This site preparation for the reservation included:
  - Undertaking entrance and area improvements at Tew Falls, including a new gatehouse, auto gate and sliding gate as well as new steel picket safety fencing at Dundas Peak.
- Implemented new visitor experience programs at Westfield Heritage Village as a result of COVID pandemic with Six Spot Tours for safe visitor experience as well as a new limited outdoor event called Fireflies and Fairy Dust which sold out in one day. Despite the pandemic, 141 volunteers at Westfield donated over 4,000 hours towards programs.
- Once the Fifty Point marina was permitted to reopen in May, the marina remained full through the season and saw 48 boats on the waiting list. Throughout the Fall, Fifty Point hosted three film shoots and a few boaters/campers were asked to participate. Experienced first ever mid-day closures during the summer when parking lots filled.
- With the cancellation of events, Christie Lake completed many area improvements such as painting and installing additional docks, trail improvements and handled large visitor numbers for the trails, beach areas and experienced a large increase in horseback riders.
- Valens Lake broke many records for camping and day use and remained very busy into November. Successfully operated the camp store through a take out window. Experienced first-ever mid-day closures during the summer when parking lots filled.
- Dundas Valley experienced increased hikers, bikers and equestrians and required security support for numerous parking lot locations to help control traffic. One of the busiest weekends of the year was in November, far surpassing the traditional Thanksgiving weekend.

# **Conservation Area Experience**

- Invested in projects to enhance and expand recreation experiences, including:
  - Secured site safety for Chippawa Trail Silos with potential future works under consideration working with a public group interested in restoration.
  - Replaced 85 feet of boardwalk at Eramosa Karst and carried out trail improvement.
  - Replaced 109 sections of boardwalk on the Dofasco Trail with new wood for a total of 1,200 feet in 2020, approximately 2/3 of the total boardwalk is completed to date.
  - Installed new drinking water well and central water treatment system at Westfield Heritage Village Conservation Area.
  - Continued construction work on Valens Cabins with underground services installation (water, sewer, hydro), and exterior and interior work underway.
  - Resurfaced Little Squirt Works splash pad & Easy River ride during facility closure due to COVID to comply with Public Health requirements.
  - Completed new event parking for Hermitage Ruins, including tree plantings supported by the Ancaster Lions Club, and added two new memorial benches.
- Worked with partners and HCA representatives on committees and councils which helped prepare the draft 10-year Strategic Plan for the Cootes to Escarpment Ecopark System. This Plan will be released for public input and subsequent release in 2021.



# **Education and Environmental Awareness**



- 22 volunteer events hosted
- Volunteers planted over 800 new plants
- 600+ pounds of garbage collected and removed at the Annual Rail Trail Cleanup
- Virtual environmental education program topics
   created for plants, soils, worms and vermiculture, complete with experiments and complementing worksheets
- Hamilton is a Bee City now HCA stewardship and education programs were recognized in supporting pollinator habitats with the City of Hamilton receiving recognition as a Bee City. The designation and YouTube video showcases the collective efforts of individuals, organizations, and the municipality in supporting wild bee populations.







# **Education and Environmental Awareness**



Education and Environmental Awareness is the opportunity to provide outdoor learning experiences for students, teachers and the community, increasing knowledge and awareness of the value of our environment and heritage.

### 2020 Highlights

- Created online learning resources for the public to use at home during the initial pandemic lockdown in spring, including:
  - Over 25 "Nature at Home" interactive activity sheets, interpretive information and colouring sheets for independent use in the backyards and local parks or during a walk in the neighbourhood to learn more about the natural environment.
  - Over 10 "History at Home" activity sheets and virtual tours at Westfield Heritage Village, for parents and teachers to find out what life was like 200 years ago. Not only are people using the program at home, but also to conduct their own self-guided tours.
- Hosted six sold-out birdwatching hikes in the Dundas Valley and Valens Lake Conservation Area. Hikes were led by DVCA Conservation Area Technician and bird expert, James Lees. The variety of birds spotted included warblers, Blue-Winged Teals, Sora Rails, sparrows, Greater Yellowlegs, robins, blackbirds and even a Bald Eagle soaring in the sky.
- Created an Outdoor Education Guidebook to provide teachers with new school programming opportunities. This created an opportunity whereby HCA education staff could program either directly on the school site, or virtually stream programming, for primary, junior, intermediate and senior students along with digital media experiences.
- Environmental Education staff worked with Mohawk College Broadcasting, Television and Communications Media students to create videos and streamed programming for primary, junior, intermediate and senior students. Weekly livestream sessions will further expand available programs and will be an invitation for students to ask questions about biology, ecology, geology and other topics.
- Enhanced stewardship programs for both urban and rural areas through the Hamilton Watershed Stewardship Program, including:
  - Assisted with the organization of the Sharing Experiences Workshop, a biennial one-day capacity building workshop for individuals and community groups interested in creating positive environmental change. There were 108 participants, which included representation from 27 youth and 49 different organizations.
  - Installed a habitat feature for Barn Swallows (Species at Risk).
  - 52 volunteers worked on stewardship projects to enhance 5 acres of natural areas by clearing invasive species.
  - Created 2 acres of forest habitat through the planting of over 1,400 trees.
  - Enhanced 330m of watercourse and created 1.8 acres of riparian habitat through livestock restriction projects.
  - 3 landowners recognized with the Watershed Stewardship Award.
  - Decommissioned 6 abandoned water wells within the City of Hamilton.

### **Education and Environmental Awareness**



- Supported community participation and volunteer group coordination with two clean up events:
  - Hosted the 2nd Annual Rail Trail Clean Up where 31 volunteers helped collect over 40 bags of garbage. Some unusual finds included shopping carts, a dresser, bed spring & mattress and kitchen tiles.
  - Aviva Insurance volunteers came out to the busiest section of Confederation Beach Park and dedicated four hours to help clean up litter. In the heat and sun, these dedicated volunteers collected nine bags of garbage and five bags of recycling.
- Promoted the connection between environmental health and human wellness through the Healthy Hikes campaign to encourage residents to step into nature at our conservation areas.



# **Message from the Hamilton Conservation Foundation**

#### Who we are

The Hamilton Conservation Foundation helps protect and enhance natural and cultural legacies by raising and stewarding funds for the Hamilton Conservation Authority.

The Foundation raises funds in three key areas:

- Acquiring and Protecting Environmentally Sensitive Land
- Teaching Children About Nature
- Celebrating Cultural Heritage

### Hamilton Conservation FOUNDATION Your nature • Your legacy

#### 2020 at a glance

Although it was a more challenging year, the Foundation contributed just under \$400,000 to support Conservation Authority programs and projects in 2020, including:

- Outdoor Environmental Education –\$103,538
- Dofasco 2000 Boardwalk Restoration –\$101,500
- Eramosa Karst plantings \$71,229
- Saltfleet Conservation Area Wetland Restoration Project -\$68,759

HCA staff support the initiatives of the Foundation in many ways, including making donations totaling approximately \$4,000 through payroll deduction and one-time gifts.

#### New Initiatives in 2020

- With HCA Marketing staff, created an in-house video for the Foundation, thanking donors and to help with donor engagement.
- With a grant from Canada Summer Jobs, initiated a project to catalogue all tribute benches across the watershed in order to have a better way of locating them and to identify locations for future benches.













Hamilton Conservation Authority

A Healthy Watershed for Everyone

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24

# HAMILTON CONSERVATION AUTHORITY

### **Conservation Advisory Board**

### **MINUTES**

### February 11, 2021

Minutes of the Conservation Advisory Board meeting held on Thursday, February 11, 2021 at 4:00 p.m. by WebEx videoconference.

PRESENT:	Maria Topalovic - in the Dan Bowman, Joanne Di Maio Duke O'Sullivan	Chair Lydia Cartlidge Cynthia Janzen Wayne Terryberry	
REGRETS:	None		
STAFF PRESENT:	Rondalyn Brown, Lisa Burnside, Grace Correia, Gord Costie, Matt Hall, Bruce Harschnitz, Peter Lloyd, Neil McDougall, Scott Peck and Jaime Tellier		
OTHERS:	None		

### 1. Chairman's Remarks

The Chair called the meeting to order and welcomed everyone present.

### 2. Declaration of Conflict of Interest

The Chair asked members to declare any conflicts under the HCA Administrative Bylaw. There were none.

### 3. Approval of Agenda

The Chair requested any additions or deletions to the agenda. There were none.

CA 2101	MOVED BY: Dan Bowman	
	SECONDED BY: Joanne Di Maio	

THAT the agenda be approved.

CARRIED

### 4. Delegations

There were none.

### 5. Member Briefing

#### 5.1. Overview of Bill 229 - Protect, Support and Recover from COVID 19 Act (Budget Measures Act) - Schedule 6 - Conservation Authorities Act

Lisa Burnside provided a presentation outlining key legislative changes as well as amendments to some initially proposed changes and advised that Conservation Authorities have just received guidance on how to apply for exemptions.

2

Wayne Terryberry inquired about feedback from local MPP Donna Skelley. Lisa commented that she had a good conversation with MPP Skelley about impacts the changes will have locally. Lisa highlighted that HCA's conservation area operations are funded by non-levy dollars. The discussion focussed on programs that are funded by municipal levy and the relatively small provincial contribution to HCA's overall budget.

Joanne Di Maio asked about communication with other CA's and Conservation Ontario for regular updates on the activities of the working group. Lisa responded that HCA staff are in contact with them, however the working group members have had to sign confidentiality agreements and cannot speak about the nature of the discussions until the regulations are released. HCA, other stakeholders and the public will be able to provide comments at that time.

Dan Bowman commended Lisa and staff for their leadership through the Conservation Authorities Act changes, commending their efforts to keep the members apprised so they are aware of the issues.

Dan also inquired about the impacts of the removal of the powers to expropriate from the legislation. Lisa advised that HCA has not used the powers recently. It was used in the 1960's and 1970's for the creation of the Valens and Christie Lake reservoirs, and for a portion of Spencer Gorge. Scott Peck added that while not used recently, the change to the legislation is a loss of that tool.

Maria thanked Lisa for the presentation and echoed Dan's comments regarding keeping members updated on the CA Act changes.

### CA 2102 MOVED BY: Cynthia Janzen SECONDED BY: Wayne Terryberry

THAT the presentation entitled Overview of Bill 229 – Protect, Support and Recover from COVID-19 Act (Budget Measures

### Act) – Schedule 6 – Conservation Authorities Act be received for information.

### CARRIED

### 6. Chairman's Report on Board of Directors Actions

### CA 2020 Lafarge Trail, Fletcher Creek and Beverly Swamp (Valens Area) Management Plans

Maria advised the members that the Lafarge Trail, Fletcher Creek and Beverly Swamp (Valens Area) Management Plans were approved by the Board of Directors at the November meeting.

Maria also informed the members that the Board of Directors Annual General Meeting was postponed until June and therefore, the Chairs and Vice Chairs of the Board of Directors, Conservation Advisory Board, and Budget & Administration will remain the same until then.

### 7. Approval of Minutes of Previous Meeting

- 7.1. Minutes Conservation Advisory Board (October 8, 2020)
- CA 2103 **MOVED BY: Joanne Di Maio SECONDED BY: Lydia Cartlidge**

THAT the minutes of the October 8, 2020 Conservation Areas Advisory Board meeting be approved.

### CARRIED

### 8. Business Arising from the Minutes

There was none.

### 9. Staff Reports/Memorandums

9.1. 2021 Reservation System – Spencer Gorge Conservation Area

Gord Costie presented a summary of the report and answered the members' questions.

3

Joanne Di Maio inquired about the ongoing use of the reservation fee as part of the pilot. She commented that Conservation Halton allows members to make reservations free of charge and also can provide for same day reservations.

4

Gord advised that the reservation fee, paid by HCA membership pass holders, assists with recovering costs associated with operating the reservation system and for security staff. Parking and admission remain free for members and up to five passengers in their vehicle. Gord further added that Credit Valley Conservation is also applying a reservation fee for its reservation system in 2021 for cost recovery. This is also consistent with the HCA camping reservation system in effect at Valens Lake and Fifty Point campgrounds. Lisa advised members that the fee helps ensure those that have made reservations honour that booked time slot as there were many days when the reservations were full and other visitors were not able to book a time slot. Members Doug Bowman and Cynthia Janzen expressed their support and importance for the fee to ensure the reservation is taken seriously, citing an example of back country permits in Algonguin with no cancellation fee being misused. Gord added the experience was the same when we did not have reservation fees at our campgrounds. Lisa added that staff will continue to review potential throughout the season for any marketing or communication strategies for pass holders, which could include reduced fees, on week days should there be capacity within the reservation system.

Gord shared that staff are exploring options to offer same day reservations, such as a later cut off time for making reservations. The purpose of the cut off time is to discourage visitors without reservations coming to the area, causing traffic congestion.

Cynthia inquired about any consideration for employing the reservation system year-round. Gord responded that there is uncertainty about future visitation pressures, but that a 6-month reservation system is the next logical step. Staff are monitoring visitation trends closely.

Dan Bowman inquired about the financial impact of implementing the reservation system, Neil McDougall advised that it has impacted revenues for Webster and Tew Falls, but that it has been a worthwhile investment to manage visitation pressures in the area.

Dan also inquired about any abuse of reservation time slots, or vandalism to the infrastructure. Gord shared that people have been respectful of their timeslots. Gord commented that a reservation also entitles the visitors to visit any of our other Conservation Areas for the remainder of the day. He also added there has not been any vandalism to date. He believes the visitors and community respect the professional infrastructure that has been put in place.

Cynthia Janzen inquired about the status of community relations with Greensville residents. Gord responded that staff continue to liaise with the community through

the Ward Councillor and noted the undeniable improvement in traffic and pedestrians in the community with the pilot reservation system for the fall.

Lisa Burnside added that the report for 2021 has been shared with Councillor VanderBeek and reviewed with the City waterfall motion working group and both were supportive.

5

Maria acknowledged all of the staff efforts that have gone into the pilot and thanked everyone for their contributions to the discussion.

### CA 2104 MOVED BY: Wayne Terryberry SECONDED BY: Duke O'Sullivan

THAT the Conservation Advisory Board recommends to the Board of Directors THAT:

WHEREAS the COVID-19 pandemic continues to drive and reshape HCA Conservation Area operations, visitor attendance levels, and visitor management strategies;

WHEREAS the former Shuttle Bus service based out of Christie Lake was effectively removed as a visitor management measure for the Spencer Gorge Conservation Area due to the COVID-19 pandemic measures and operational challenges;

WHEREAS the pilot 2020 reservation system for Dundas Peak, Tew Falls, and Webster Falls operations for the fall colour season, was highly successful in controlling and regulating the number of visitors, reducing vehicle traffic and congestion within the nearby community;

WHEREAS staff were directed to evaluate the effectiveness of the pilot reservation system and report back regarding its ongoing potential during the regular operation system in 2021;

THEREFORE, be it resolved THAT staff be directed to implement the following recommendations outlined in the report titled "2021 Reservation Service – Spencer Gorge Conservation Area";

Recommendation #1 - THAT the reservation system continue as an extension of the 2020 fall pilot program during the main operating season allowing staff the opportunity to further evaluate the effectiveness of a longer reservation service period; and further

Recommendation #2 – THAT the 2021 reservation system for Spencer Gorge Conservation Area continue to operate 7 days a week for a 6-month period extending from May to November, with specific dates to be determined by staff, and further

Recommendation #3 - THAT staff continue to monitor and evaluate the effectiveness of a full main operating season reservation area service at the Spencer Gorge Conservation Area regarding its ongoing potential to be a permanent part of operations to address parking and visitor management for the area.

### CARRIED

### 9.2. Westfield Heritage Village Accession and Deaccession Lists

Rondalyn introduced Peter Lloyd to present the report. Peter presented the report, advising that the accession list is historically short due to the pandemic limiting donations. Peter reviewed the list and provided descriptions of each item. All of the items meet Westfield's criteria for donations. One criterion is that the item must relate to the Westfield Heritage Village. Peter highlighted Robert Lewis Stevenson novels and a collection of Toronto, Hamilton, & Buffalo Railway (TH&B) tickets, which directly relates to a TH&B locomotive that is on-site at Westfield.

The Chair commented that the members would appreciate seeing the items in person. Peter commented that the tickets will be under display glass in the village.

### CA 2105 MOVED BY: Dan Bowman SECONDED BY: Joanne Di Maio

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Westfield 2020 Artifact Accessions List as noted in the February 11, 2021 Accession report be accepted as the artifacts to be added to the Westfield Heritage Village Conservation Area and the Hamilton Conservation Authority collection.

### CARRIED

### 9.3. <u>2020 Visitor Attendance – Verbal Update</u>

Bruce presented on visitor attendance estimates for 2020, in comparison to 2019, noting increases in visitation at many areas despite the closure of the conservation areas from the middle of March until the middle of May and cancellation of all large events due to the Covid-19 pandemic, as well as the implementation of the pilot reservation system for Spencer Gorge. Wild Waterworks was also closed for the season as a result of the pandemic. Day use visitation at many areas, including Christie Lake, Confederation Beach Park, Dundas Valley, Fifty Point and Valens Lake, remained high throughout the year. Overall, HCA hosted 1,350,000 visitors in 2020, approximately 36,500 more than in 2019.

#### CA 2106 MOVED BY: Cynthia Janzen SECONDED BY: Duke O'Sullivan

THAT the verbal update on the Conservation Areas Experiences Update be received as information.

### CARRIED

### **10.New Business**

There was none.

### **11.Next Meeting**

The next meeting of the CAB is scheduled for Thursday, April 8, 2021 at 4:00 p.m., location to be determined.

### 12. Adjournment

On motion, the meeting was adjourned.

7


A Healthy Watershed for Everyone

# Report

TO:	Conservation Advisory Board
FROM:	Lisa Burnside, Chief Administrative Officer (CAO)
RECOMMENDED BY:	T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Planning & Engineering\
PREPARED BY:	Jonathan Bastien, Water Resources Engineering
MEETIING DATE:	April 8, 2021
RE:	Christie Lake Dam & Valens Lake Dam Public Safety Risk Assessments and the Valens Lake Dam Safety Review

#### STAFF RECOMMENDATION

THAT the Conservation Advisory Board recommends to the Board of Directors:

THAT the Public Safety Risk Assessments for Christie Lake Dam and Valens Lake Dam and the Dam Safety Review for Valens Lake Dam be received;

THAT the recommended public safety risk reduction measures contained within these reports be approved by the Board of Directors for implementation within appropriate time frames determined by HCA staff;

THAT the Board of Directors approve the risk tolerance level (Moderate) that was adopted in the Public Safety Risk Assessments;

THAT the Board of Directors approve the implementation of recommended public safety risk reduction measures to reduce all identified High-risk hazards to at least Medium risk; and,

THAT the recommended dam safety remedial measures contained within the Valens Lake Dam Safety Assessment be approved by the Board of Directors for implementation within the suggested time frames.

#### BACKGROUND

The HCA is required to undertake public safety assessments and dam safety assessments for the Valens Lake and Christie Lake dams. This report highlights the recent work completed by HCA staff and the hired consultants to address these requirements.

#### **STAFF COMMENT**

#### Public Safety Risk Assessments - General

The objective of Public Safety Risk Assessments (PSRA) is to identify the potential hazards associated with the dam related to public safety, assess the level of risk associated with the potential hazards and recommend risk reduction measures to mitigate the potential hazards.

A PSRA was previously completed for both Christie Lake Dam and Valens Lake Dam by Exp Services Inc in 2015. Exp Services Ltd recommended that the PSRAs be reviewed and amended as necessary, specifically whenever physical changes are implemented that may affect public safety, and at least every five (5) years.

In 2020, D.M. Wills Associates Limited was retained to completed updated PSRAs for both dams.

For the updated PSRAs, a Moderate HCA risk tolerance level was adopted. This was consistent with the 2015 PSRAs and with the Ministry of Natural Resources & Forestry's 2010 Risk Assessment Tool. Additionally, D.M. Wills Associates Limited has advised HCA staff that the Moderate risk tolerance appears to be appropriate for HCA, based on their understanding of these dam sites and the practices of other similar dam owners.

Knowledge of known public activity and interaction with safety hazards was gained through information provided by HCA Christie Lake and Valens Lake Conservation Area staff as well as on-site observation of anecdotal evidence.

D.M. Wills Associates Limited identified a number of opportunities where the modification / replacement of existing public safety measures or the addition of new public safety measures has the potential to reduce the Risk Level (RL) for some activities and component areas.

If the recommended risk reduction measures are implemented, no High-risk hazards would be remaining. It should be noted that additional, and more restrictive, public safety measures would be needed if HCA decided to reduce all identified risks to Low risk. According to D.M. Wills Associates Limited, it is likely that access to the dams would need to be completely restricted in order to achieve this target, and even then, some risks may remain at a Medium risk level.

50% external funding, through the Ministry of Natural Resources and Forestry's (MNRF) Water & Erosion Control Infrastructure (WECI) program, is expected to be available for most (if not all) recommended measures. That said, the MNRF WECI program has limited funds available each year, and it is anticipated that multiple years would be required to secure this external funding for all eligible measures. It is suggested that additional required funding be sourced from annual HCA Capital Works budgets.

It was recommended that the public safety risk reduction measures should generally be implemented following a staged approach. The purpose of following a staged approach is to demonstrate due diligence while balancing other factors such as cost and need.

The process for the staged approach can be summarized as follows:

- 1. Implement the recommended new / revised public safety measures.
- 2. Monitor and keep records of the types of activities and frequency of those activities being undertaken by members of the public within each component area.
- 3. Review the information at the time of the next PRSA (5 years) to determine if the public safety measures that were previously implemented have been effective.
  - a. If the previously implemented public safety measures have been effective, continue the monitoring and review cycle as described above.
  - b. If the previously implemented public safety measure have not been effective, implement additional / revised public safety measures and continue the monitoring and review cycle described above.

Notwithstanding the above, if a significant public safety issue is identified during the monitoring and record keeping phase, the HCA may choose to implement additional public safety measures sooner than the next PRSA in order to demonstrate due diligence and enhance public safety at the dam. The effectiveness of these public safety measures would then be considered as part of the next PRSA.

#### Public Safety Risk Assessments – Findings for Christie Lake Dam

Members of the public generally have access to portions of all component areas. The dam and the areas up and downstream are popular places to visit and recreate due to the presence of the Christie Lake Conservation Area and its proximity to larger population centres.

Based on the information provided / collected, public activities at various times of the year are expected to consist of:

- . Fishing from boat.
- . Boating (under power)
- . Canoeing/kayaking/rowing.
- . Ice fishing.
- . Paddle boarding.
- . Fishing from shore.
- . Walking.
- . Climbing.
- . Camping.
- . Picnicking.
- . ATV / dirt biking.
- . Hiking.
- . Skiing.
- . Snowshoeing
- . Driving.
- . Biking.
- . Swimming/diving.
- . Accessing electrical equipment.
- . Accessing mechanical equipment.
- . Skateboarding on weir structure.
- . Horseback riding.
- . Tobogganing.
- . Playing in Darnley Cascade.

In general, the public safety hazards identified at the site include:

- . Rapidly increasing water levels.
- . Rapidly increasing flows
- . Strong currents or undertows.
- . Presence of spillway with sluicegate.
- . Presence of spillway with stoplogs.
- . Presence of overflow spillway or dam.
- . Presence of discharge valve/pipe.
- . Steep or slippery banks.
- . Falling from height > 3 m.
- . Pinching or crushing.
- . Thin ice.
- . Changing flow/depth may result in stranding.
- . Floating debris.
- . Unsecured mechanical/electrical equipment.
- . Unsecured or exposed live electrical conductors.
- . Inadequate guardrails/handrails for public.
- . Open holes or tripping.
- . Wind / rough water.
- . Unstable masonry/concrete walls and floors.

For Christie Lake Dam, there are currently a number of public safety measures in place including, public safety signage, a seasonal public safety boom, a safety buoy, fencing, railings, a security system, security patrols and operational controls.

When accounting for the current public safety measures, the risk assessment of activities and hazards identified 17 High risks, 36 Medium risks and 6 Low risks.

If the recommended risk reduction measures are implemented, it is expected that there would be 0 High risks, 45 Medium risks and 14 Low risks.

The below Table1 summarizes the recommended public safety risk reduction measures, and estimated required budgets.

Priority No.	Category	Rec	ommendation No. and Description	Estimated Cost
1	Security Patrols	11.	Continue Security Patrols on a Random Basis	N/A
2	Security Patrols	12.	Document all Public Activities using CDA Form and a Spreadsheet	N/A
3	Darnley Mill Ruins	18.	Removal from Websites	N/A
4	Public Education	5.	Public Safety Warnings at Christie Lake Conservation Area Entrance	\$2,000
5	Fencing/Railings/Barricades	9.	Drop Inlet Structure Ladder Cover	\$6,500
6	Darnley Mill Ruins	19.	Cover for Steel Penstock	\$5,500
7	Darnley Mill Ruins	15.	Fencing Replacement/Improvement	\$24,800
8	Darnley Mill Ruins	16.	Small No Trespassing Signs (assume 15)	\$4,200
9	Darnley Mill Ruins	17.	Small Hazard Warning Signs (assume 15)	\$4,200
10	Public Safety Plan	20.	Prepare Public Safety Plan	\$5,000
11	Signage	2.	Small Signs Prohibiting Ice Activities (assume 25)	\$9,700
12	Signage	3.	Small Public Safety Signs on Left	\$1,200

Table1–Christie Lake Dam Recommended Public Safety Risk Reduction Measures

Priority No.	Category	Rec	commendation No. and Description	Estimated Cost
			Side of Emergency Spillway (3)	
13	Signage	4.	Medium Public Safety Signs at Darnley Cascade (assume 2)	\$3,900
14	Audible Danger Signaling Device	7.	Install Audible Danger Signaling Device (or implement noted alternate measure)	\$6,300
15	Video Surveillance	13.	Replace Security Camera(s)	\$6,300
16	Public Safety Boom	6.	Replace Public Safety Boom	\$188,500
17	Signage	1.	Large Public Safety Signs at Public Safety Boom Anchors (2)	\$5,500
18	Fencing/Railings/Barricades	10.	Railings Along Tops of Gabion Basket Retaining Walls	\$33,000
19	Operational Controls	14.	Update OMSS Manual	\$10,000
20	Fencing/Railings/Barricades	8.	Fencing Between Upstream Wingwalls and Public Safety Boom	\$33,000

#### Public Safety Risk Assessments - Findings for Valens Lake Dam

Members of the public generally have access to portions of all component areas. The dam and the areas up and downstream are popular places to visit and recreate due to the presence of the Valens Lake Conservation Area and its proximity to larger population centres.

Based on the information provided / collected, public activities at various times of the year are expected to consist of:

- . Fishing from boat.
- . Boating (under power)
- . Canoeing/kayaking/rowing.
- . Swimming.
- . Swimming/diving.
- . Skating.
- . Ice fishing.
- . Fishing from shore.
- . Walking.

- . Climbing.
- . Camping.
- . Picnicking.
- . Hiking.
- . Skiing.
- . Snowshoeing
- . Driving.
- . Biking.

In general, the public safety hazards identified at the dam include:

- . Rapidly increasing water levels.
- . Rapidly increasing flows.
- . Strong currents or undertows.
- . Presence of spillway with stoplogs.
- . Presence of discharge valve/pipe.
- . Submerged Underwater Structures.
- . Steep or slippery banks.
- . Falling from height > 3 m.
- . Thin ice.
- . Floating debris.

For Valens Lake Dam, there are currently a number of public safety measures in place including, public safety signage, railings, security patrols and operational controls.

When accounting for the current public safety measures, the risk assessment of activities and hazards identified 11 High risks, 22 Medium risks and 4 Low risks.

If the recommended risk reduction measures are implemented, it is expected that there would be 0 High risks, 25 Medium risks and 12 Low risks.

The below Table2 summarizes the recommended public safety risk reduction measures, and estimated required budgets.

Priority No.	Category	Rec	Estimated Cost	
1	Security Patrols	9.	Continue Security Patrols on a Random Basis	N/A
2	Security Patrols	10.	Document all Public Activities using CDA Form and a Spreadsheet	N/A
3	Public Education	6.	Public Safety Warnings at Valens	\$2,000

Table2–Christie Lake Dam Recommended Public Safety Risk Reduction Measures

Priority No.	Category	Rec	Recommendation No. and Description		
			Lake Conservation Area Entrance		
4	Public Safety Plan	12.	Prepare Public Safety Plan	\$5,000	
5	Fencing/Railings/Barricades	8.	Outlet Structure Railing Modifications	\$8,300	
6	Signage	1.	Small Signs Prohibiting Ice Activities in Headpond (4)	\$1,600	
7	Signage	2.	Small Signs for Headpond Component Area (4)	\$1,600	
8	Signage	3.	Small Signs for Dam Approaches (2)	\$800	
9	Signage	4.	Replace No Trespassing Sign Near Private Dwelling	\$400	
10	Signage	5.	Large Downstream Facing Public Safety Sign	\$1,100	
11	Fencing/Railings/Barricades	7.	Vehicular Gates on Dam Approaches	\$8,800	
12	Operational Controls	11.	Update OMSS Manual	\$10,000	

#### Dam Safety Review at Valens Lake Dam - General

A Dam Safety Review (DSR) is an independent and systematic review and evaluation of the design, construction, maintenance, operation, and management systems affecting dam safety. DSRs are to be reviewed and amended as necessary, and at least every ten (10) years.

A DSR for Valens Lake Dam was previously carried out by Acres International in 2004, and by Exp Services Limited in 2015. From 2016 to 2020, a series of groundwater monitoring wells were installed, and the ground water monitoring program was carried out. An analysis of the collected groundwater monitoring data was completed by AECOM in 2020 and raised concerns regarding the dam core and the presence of the toe drain.

In 2020, TULLOCH Engineering Inc. was retained to carry out an updated DSR for Valens Lake Dam. The updated DSR provided HCA with an independent and comprehensive assessment of the adequacy of the current Valens Lake Dam to meet or exceed the applicable dam safety requirements. In addition, the DSR assessed and

addressed the concerns raised by AECOM. Also, the updated DSR identified and categorized all dam safety issues that require remedial attention.

#### Dam Safety Review at Valens Lake Dam – Findings for Valens Lake Dam

In general, the Valens Lake Dam is in good condition and meets the requirements from CDA dam safety guidelines for its upstream and downstream slope stability.

The Hazard Potential Classification of Valens Lake Dam was confirmed as "Very High".

The available freeboards for both embankment crest and core were considered acceptable as per the updated survey data and hydrotechnical assessment.

TULLOCH's review of the borehole data by AECOM (June 2020) confirmed that the core of the Valens Lake Dam embankment consists of low permeable glacial till, which effectively control seepage through the dam. There is no concern regarding the absence of core material.

The presence of the toe drain was confirmed by assessing the piezometer responses and seepage analysis results, supported with the review of the as-built drawings and construction photos. The toe drain in the current condition performed well in lowering the phreatic line and keeping a dry and sound condition of the downstream slope.

The instruments at the dam site work properly except for the monitoring piezometer at BH-103. TULLOCH's field inspection and testing showed this piezometer was clogged.

There is standing water present at the toe swale. The ponding water has been reported consistently for the past five years since the last DSR (Exp Services Limited 2015). The ponding water in the current condition is not considered as a dam safety issue as the water was clear of any suspended solids and no sign of piping or sink hole were observed. TULLOCH recommends HCA keep monitoring any change of the ponding water at the toe swale during the routine inspection and maintenance program.

The concrete at the upstream intake structure is in good condition. Several random cracks and map cracks along the side walls of structure were evident. These cracks are considered insignificant for the safety of the structure. Routine monitoring of the concrete condition is recommended.

A monthly inspection frequency is considered suitable for the good condition of the dam. HCA should notify a qualified geotechnical engineer for further assessment if any sink hole, piping, or sign of seepage is encountered at the downstream slope.

The other recommendations are summarized below.

- Routine dam safety inspections (DSI) annually and an updated DSR as per OMS requirements.
- Seal animal burrows at downstream slope, if encountered.

- Readdress the riprap where riprap dislocation or bare slope is encountered at the upstream.
- Regularly remove shrub, bushes, tall plants from dam surface.
- Repair the local peeled paint and rust spots at the handrail.
- Update Operations, Maintenance and Security (OMS) manual, as well as the Emergency Preparedness Plan (EPP) manual

The below Table3 summarizes the recommended dam safety remedial measures, and estimated required budgets.

Component	Key Items	Objectives	Estimated Cost (2020 \$)	Priority	Comments
	Rehab BH-103 & verification test	Repair BH- 103 & Field testing to verify the performance	\$5,000	Within 1 – 2 years	BH-103 provides information for the phreatic level, which is an important factor for the slope stability.
Piezometers	Replace BH-103, material, installation, supervision, and reporting	Monitoring groundwater level below the downstream slope	\$15,000	Within 1 – 2 years	Required if BH-103 is not repairable. Suitable rig should be used for drilling on a sloped surface. Suitable filter should be installed to prevent the piezometer from clogging.
Upstream	Riprap repair	Local riprap dislocations	\$1,000	Within 5 years	Repairs are local.
Public Safety	Handrail rust repair	Local rust spot	\$500	Within 5 years	Repairs are not safety issue.
General	<ul> <li>Routine DSI and DSR.</li> <li>Seal animal burrows at downstream slope if encountered.</li> <li>Readdress the riprap where riprap dislocation or bare slope is encountered at the upstream.</li> <li>Regularly remove shrub, bushes, tall plants from dam surface.</li> <li>Repair the local peeled paint and rust spots at the handrail.</li> </ul>	Routine inspection, maintenance, dam safety assessment and document updates	HCA Staff	N/A	

Table3-Valens Lake Dam Recommended Dam Safety Remedial Measures

Update OMS and EPR				
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50% external funding, through the MNRF's WECI program, may be available for the BH-103 repair or replacement. It is suggested that additional required funding would be sourced from annual HCA Capital Works budgets.

#### STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

#### • Strategic Priority Area – Water Management

 Initiatives – Maintain and enhance our flood control infrastructure to address flooding and work to augment low flow conditions

#### AGENCY COMMENTS

N/A

#### **LEGAL/FINANCIAL IMPLICATIONS**

The estimated costs to implement the recommendations of the public safety assessments and the dam safety assessment have been detailed in this report. Staff will work to obtain funding through the MNRF's WECI program as appropriate as well as through the HCA budget process to fund these projects and to address the recommendations on a priority basis.

#### CONCLUSIONS

The public safety assessments and the dam safety assessments are completed to ensure public safety at HCA dams and to ensure the continued safety operation and maintenance of HCA dams. The recommendations contained in the reports have been reviewed by HCA staff and staff will work to implement the recommendations following a staged approach to address our due diligence requirements while balancing other factors such as cost and priority.



A Healthy Watershed for Everyone

# Memorandum

TO:	Conservation Advisory Board
FROM:	Lisa Burnside, Chief Administrative Officer (CAO)
REVIEWED BY:	T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Planning & Engineering
PREPARED BY:	Colin Oaks, Aquatic Ecologist Mike Stone, Manager of Watershed Planning, Stewardship & Ecological Services
DATE:	April 8, 2021
RE:	Fifty Point Conservation Area Wetland and Fisheries Enhancement Project Update

# BACKGROUND

In 2018, it was identified that the pond at Fifty Point Conservation Area was connected to Fifty Creek. This necessitated that the Rainbow Trout stocking that had traditionally occurred would no longer be permitted by the Ministry of Natural Resources and Forestry (MNRF). While Fifty Point provides a variety of angling opportunities to conservation area users including in the marina inlet and Lake Ontario, the loss of a stocked fishery in the pond was a concern as fishing is popular at Fifty Point and there was interest in continuing to provide fishing opportunities at the pond. HCA staff were given direction to undertake a project feasibility study for the work required to transition the Fifty Point pond to a self-sustaining fishery and update the board on those findings.

At the September 2020 Conservation Advisory Board meeting staff provided a project update to report on the fisheries and background data collection completed in 2019 to characterize existing conditions present in the pond. Attachment A contains a summary of the fisheries and bathymetry data collected. Through this work it was found that the pond supports a number of warm and cool water fish species, across different age classes. While some spawning and reproduction is occurring naturally, it was also determined that the absence of littoral (near shore) habitat and riparian buffers are a significant limiting factor to the productivity and sustainability of the pond fishery. In 2018 HCA also completed a Class Environmental Assessment (EA) study to examine potential solutions for flooding issues being experienced at the north end of the Conservation Area and adjacent lands associated with Stoney Creek Watercourse 11 (WC11) which traverses the park. The EA found that by diverting the upstream flow to the Fifty Point pond, some flooding relief could be achieved. The diversion creates the opportunity for the creation of a wetland adjacent to the Fifty Point pond and further creates the opportunity to create additional fish habitat as part of the wetland and within the pond.

To provide for an integrated design solution to address both the pond fishery and the WC 11 EA study's recommendations, a competitive bid process for design work was completed in 2020. The consulting firm Water's Edge was the successful bidder and was retained in 2020 to undertake detailed design for both the proposed wetland and pond fish habitat improvements,

#### **STAFF COMMENT**

Since the last update HCA staff have received preliminary designs for the project from Water's Edge and have had a chance to review and provide feedback. Figure 1 shows the current draft design based on HCA staff initial comments.

The design includes the creation of a connecting channel from WC11 to Fifty Point pond through two wetland cells along the pond shoreline. The cells will be divided by the existing trail (location adjusted) to provide opportunities for users to view the wetland features. The wetlands will be constructed with variable depths to provide a biologically diverse habitat feature. This will provide additional spawning and rearing habitat for the fish in the pond, as well as additional habitat for other species of wildlife that are present at Fifty Point CA.

This design currently does not contain any proposed shoreline modifications outside of the proposed wetland cells, as it was identified additional soil sampling was needed to inform this portion of the design process. Following the production of this drawing Water's Edge staff and HCA staff met to discuss the next steps in the project, which will include the following:

#### Soil sampling

HCA staff through the Fifty Point Master Plan review have identified that a section of the proposed wetland location was formerly a staging area that contained a gravel pad from when the pond was excavated as part of Ministry of Transportation's use of the site as a borrow pit as part of the development of the QEW. Water's Edge has also identified the need for additional soils information to confirm the feasibility of using the extracted fill for

pond shoreline works. Water's Edge has been tasked with facilitating this and the works are expected to be complete this spring.

#### Linear Infrastructure

It has been identified that there is both water and electrical infrastructure running across the site from the Marina area to the boat storage area. HCA staff are confirming the location of on-site utilities, but staff expect that this infrastructure can be easily addressed during or prior to the construction phase of the project.

#### Public Outreach

Once the preliminary design is completed public outreach can move forward for the project. Staff are proposing to utilize the HCA website, social media and the "Bang the Table" platform to facilitate outreach on the proposed design. This consultation may also take place in conjunction with public consultation on the Fifty Point Master Plan.

#### Project Implementation

Once the soil sampling is completed Water's Edge will be able to provide the final complete preliminary design for HCA staff review and for public input. This will be followed by the final design and detailed construction designs, and project cost estimates. Subject to securing funds, the project is proposed for construction beginning in 2022.



Figure 1 Draft Preliminary Drawing from Water's Edge

### STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

- Strategic Priority Area Water Management
  - Initiatives Maintain and enhance our flood control infrastructure to address flooding and work to augment low flow conditions
- Strategic Priority Area Natural Heritage Conservation
  - Initiatives Maintain and enhance the natural heritage features of HCA lands and manage these lands on an environmentally sustainable basis
- Strategic Priority Area Conservation Area Experience
  - Initiatives Identify and act upon revenue generation/cost reduction and investment in visitor services opportunities in our conservation areas

#### AGENCY COMMENTS

Staff have identified that the project will need to be reviewed by the City to determine if a site alteration permit will be required.

DFO review will also need to be completed and input can be sought once the preliminary designs are completed. Staff expect DFO will support this project given its objective of improving fish habitat.

#### LEGAL/FINANCIAL IMPLICATIONS

Not applicable

#### CONCLUSIONS

HCA staff will continue to update the Conservation Advisory Board as this project progresses and final design drawings are prepared. Moving in the direction of being a self-sustaining fishery can provide conservation area guests with a desirable fishing opportunity while providing an overall net environmental gain through the creation of wetland and fish habitat.

# ATTACHMENT A

#### SUMMARY OF FIRSHERIES AND BATHYMETRY DATA

In the summer of 2019, the HCA contracted Natural Resources Solutions Inc. (NRSI) to sample the pond for fish and complete a bathometry survey. The fish were sampled using two different techniques. The shoreline habitat was sampled using a raft electro-fisher and the deeper waters were sampled with short set gill nets. The sampling captured a total of 227 fish and revealed the pond already contains at least 9 species of fish constituting both a warm water and cool water fishery Figure 1. The pond does appear to be dominated by 4 species of fish, 3 of which are considered game fish.



Figure 2 Percentage of total catch broken down by species from NRSI report

The Bathometry Study was conducted and reveals the ponds history as an abandoned borrow pit that filled with water. The northern section of the pond is mostly between 5 to 6m deep while the southern portion is approximately 7 to 8m deep with both sections having deeper holes, the maximum being up to 11.2m deep. The shallow habitat associated with shore is very narrow and only follows the outer parameter of the pond. The pond substrate was found to be mostly sand and silt with some noted larger substrates in the middle associated with the area of the bridge.



Figure 2 Pond contours and habitat features from NRSI report

Based on this information, the pond at Fifty Point CA does contain a natural fishery similar in structure to both Christie and Valens Reservoirs with Largemouth Bass (Micropterus salmoides) as the large predatory fish and then smaller Centrarchids" panfish" (Lepomis sp.) and Yellow Perch (Perca flavescens) as an additional game fish group. There are multiple year classes present which does indicate there is some successful spawning occurring within the pond and the fish are able to survive the winter below the ice. Common Carp are also present in the pond which could provide additional angling opportunities. It is noted that Carp are also likely having a negative impact on the ecology like the impacts they create at Christie and Valens Reservoirs



A Healthy Watershed for Everyone

# Memorandum

TO:	Conservation Advisory Board
FROM:	Lisa Burnside, Chief Administrative Officer (CAO)
REVIEWED BY	T. Scott Peck, MCIP, RPP, Deputy CAO/Director, Watershed Planning & Engineering
PREPARED BY:	Jonathan Bastien, Water Resources Engineering Chris Polap, Monitoring Technician Stacey VanOpstal, Monitoring Technologist
MEETING DATE:	April 8, 2021
RE:	HCA Water Quality Sampling Programs Overview

# BACKGROUND

The water quality sampling programs undertaken by HCA Water Resources Engineering staff provide essential information regarding the current state of water quality in key streams within the watershed. Maintaining these programs over extended periods of time has allowed HCA to assess important trends in water quality, including the overall improvements to water quality due to water quality enhancement measures or changes in water quality as a result of changes to land use and infrastructure operations.

In addition, the data and assessments provide valuable information to assist HCA and partners / others (Hamilton Harbour Remedial Action Plan (HHRAP), City of Hamilton, Ministry of Environment, Conservation & Parks (MECP), academia, development consultants) with their activities and decision making.

#### STAFF COMMENTS

Key ongoing HCA water quality sampling programs, including their main benefits, are:

• HHRAP Water Quality Sampling of Main Tributaries to Cootes Paradise, to support the Hamilton Harbour Remedial Action Plan – Water quality sampling by HCA staff identifies potential key sources of watercourse-delivered nutrient, sediment and *E. coli* inputs to Cootes Paradise and Hamilton Harbour, determines annual average concentrations and long term trends in watercourse water quality, assists in identifying appropriate remedial actions, and monitors the effects of implemented remedial actions. This information is also used by City of Hamilton for water quality review, and for infrastructure planning and implementation. The data collected also assists the HHRAP Cootes-Grindstone Water Quality Targets Sub-Committee in establishing water quality targets for Ancaster Creek, Borers Creek, Sulphur Creek, Chedoke Creek and Spencer. This information is also provided to academia and others for water quality modeling studies, integrated watershed studies and other water resource studies.

- Provincial Water Quality Monitoring Network (PWQMN) sampling, on behalf of the MECP and City of Hamilton – Sampling results are used by MECP, City of Hamilton, HCA, or others within integrated Sub-Watershed Studies, infrastructure and water quality improvement studies / projects, to assess of effectiveness of City sewer systems and to evaluate water quality within watershed report cards.
- Valens Lake *E. coli* sampling, to provide additional data to that collected by Hamilton Public Health Services at the beach area –This sampling determines the *E. coli* concentrations flowing into Valens Lake, at the beach area, and flowing out of the Lake, and assists in identifying sources of poor water quality.

Key findings from, and additional details regarding, these water quality sampling programs are provided in the sections below.

#### HHRAP Water Quality Sampling of Main Tributaries to Cootes Paradise

HCA has been involved with this water quality monitoring program in partnership with the HHRAP, MECP, and the City of Hamilton since spring of 2014. This monitoring program aims to understand water quality contributions from creeks flowing into Cootes Paradise Marsh and ultimately, Hamilton Harbour. Establishing non-point sources of water quality inputs to the marsh, such as contributions from creeks and tributaries, is an important step in reaching the delisting objectives for the marsh, which is presently an Area of Concern.

Since 2014, HCAs involvement in this water quality sampling program has steadily grown, in response to initial findings and HHRAP suggestions. Year-round bi-weekly grab samples and the addition of 5 new grab sample locations have brought the total number of analyzed samples from 77 (7 sites x 11 grabs) in 2014 to 286 (11 sites x 26 grabs) in 2021. The current 11 sites include 5 in Chedoke Creek, 4 in Ancaster Creek, 1 in Spencer Creek, and 1 in Borers Creek. In addition, water quality samples from up to eight larger storm events are collected at four ISCO automated samplers (2 in Spencer Creek, and 2 in Ancaster Creek).

For a short period of time in 2018, 4 temporary sites were added to assist in determining likely sources of a considerable increase in concentrations observed during early 2018. The decision to increase sampling of Chedoke Creek was made between members of the HHRAP Cootes-Grindstone Water Quality Targets Sub-Committee.

The HCA sampling program is not intended as real time monitoring of water quality nor as real time spill monitoring. However, in late 2018 HCA staff offered to assist the City of Hamilton by starting to review sampling results more promptly upon delivery. A potential spill is reported to the MECP Spills Action Centre if the most-recent sample results show significantly elevated concentrations well above the typical range of values for E. coli or total phosphorus, or if recent sample results show sustained concentrations near the top of the typical range of values. Hamilton Water staff involved with HHRAP are also directly notified.

After the end of each sampling year (April), HCA staff compile the data into an annual report, presented and circulated to the HHRAP Cootes-Grindstone Water Quality Targets Sub-Committee. Primary members of this subcommittee include the RBG, City of Hamilton, MECP, Environment Canada, Fisheries & Oceans Canada, as well HCA and Conservation Halton. The annual reports include identifying differences in average annual and seasonal concentrations across the 11 sample sites, between baseflow and storm event average concentrations, as well as seasonal trends. Long-term trend analysis is completed using available historical data from Royal Botanical Gardens (who undertook this sampling program prior to 2014).

The data collected to date indicates that two key watercourses supplying nutrient, *E. coli*, and sediment inputs to Cootes Paradise are Spencer Creek and Chedoke Creek. And two key parameters of concern are total phosphorus and *E. coli*.

Regarding Spencer Creek, annual average concentrations for baseflow samples and grab-sample storm samples are shown for total phosphorous and *E. coli* in Figure 1 and 2. Key findings to date for Spencer Creek are:

- Annual average concentrations (baseflow samples, grab-sample storm samples, and total samples) of total phosphorous and *E. coli* are improving
- There is considerable variability in annual average concentrations for grabsample storm samples for total phosphorous & *E. coli*, and annual average concentrations tend to be greater for grab-sample storm samples than for baseflow samples
- Total phosphorus and *E. coli* annual average concentrations for baseflow samples are nearing the targets of 0.03 mg/L and 200CFU/100 mL, respectively







Figure 2 - HHRAP Water Quality Sampling - Spencer Creek *E. coli* annual average concentrations for baseflow samples and grab-sample storm samples

Regarding Chedoke Creek, annual average concentrations for baseflow samples and grab-sample storm samples are shown for total phosphorous and *E. coli* in Figure 3 and 4. Key findings to date for Chedoke Creek are:

- Chedoke Creek has historically had high *E. coli* and total phosphorus concentrations. Chedoke Creek is known as a degraded creek and is a highly impacted system. These impacts include municipal infrastructure (sewer cross-connections and combined sewer overflows), urban runoff, and concrete channelization including sections of the watercourse that are buried underground
- Annual average concentrations (baseflow samples, grab-sample storm samples, and total samples) of total phosphorous and *E. coli* are well above targets
- There is considerable variability in grab-sample storm sample concentrations of total phosphorous & *E. coli*, both between individual samples and between annual average concentrations
- Annual average *E. coli* concentrations tend to be significantly greater for grabsample storm samples than for baseflow samples
- There was an increase in *E. coli* and total phosphorus concentrations in 2014 2018 (HCA's first year of sampling was 2014), compared to the previous reported levels by RBG. However, at the time there had been no definitive reason to believe there was a spill, given the degraded nature of Chedoke Creek and the variance in sampling location and approach.



Figure 3 - HHRAP Water Quality Sampling - Chedoke Creek total phosphorous annual average concentrations for baseflow samples and grab-sample storm samples



Figure 4 - HHRAP Water Quality Sampling - Chedoke Creek *E. coli* annual average concentrations for baseflow samples and grab-sample storm samples

#### Provincial Water Quality Monitoring Network (PWQMN)

The PWQMN is a long-term partnership program between HCA and MECP, which started in 2002. The surface water quality data provides long-term information about water quality conditions and trends.

HCA collects surface water quality samples at 6 stations across the watershed (see Figure 5), once per month from April to November.

MECP staff are responsible for the assessment of the sampling data, a copy of which is provided to HCA staff. The MECP provides data through an open data catalogue which can be found at: <u>https://www.ontario.ca/data/provincial-stream-water-quality-monitoring-network</u>. A sample of the available data is shown in Figures 6 to 9.



Figure 5 – PWQMN – Sampling Sites



Figure 6 – PWQMN – Spencer Creek Dundas phosphorus concentrations



Figure 7 – PWQMN - Spencer Creek Westover phosphorus concentrations



Figure 8 – PWQMN – Spencer Creek Dundas chloride concentrations



Figure 9 – PWQMN - Spencer Creek Westover chloride concentrations

Concurrently with the PWQMN program, in 2020 HCA restarted collecting *E. coli* samples at PWQMN stations, on behalf of the City of Hamilton. This *E. coli* sampling program had previously collected data between August 2002 and November 2017. This program is a beneficial partnership to provide focused *E. coli* tracking to the City while utilizing HCA monitoring services and expertise.

The City of Hamilton *E. coli* sampling program also enhances HCA's Watershed Report Cards, completed every 5 years. These report cards are part of the monitoring of the health of natural resources in our subwatersheds, to help provide a better understanding of local environmental issues, focus actions where they are needed the most and track progression over time. The City of Hamilton *E. coli* sampling program allows for future Watershed Report Cards to include an assessment of surface water quality in 5 additional sub-watersheds.

#### Valens Lake E. coli Sampling

Starting in November 2020, sampling has been used to monitor *E. coli* concentrations in the four main tributaries flowing into Valens Lake, at the beach area, and at the outlet channel to Valens Lake dam. This program was started in response to a MECP finding of 2020 *E. coli* illnesses with possible trace-back to Valens Conservation area.

Sampling is completed weekly in spring/summer and biweekly in fall/winter. However, the beach location is sampled 8 months of the year (September – April), as Hamilton Public Health Services samples the beach from late May to early September.

Results are compared to Provincial Water Quality Guidelines (PWQO) limits for recreational use. Downstream results are compared to upstream results to determine a net loss or gain in *E. coli* concentrations within the reservoir.

Samples have only been collected over the winter season to date, therefore more data is needed to allow for a fulsome assessment. But as shown in Figure 10 below, winter *E. coli* concentrations were consistently below the PWQO of 100 CFU/100 mL, with the exception of one sample in November from Inlet 1. The data is encouraging in that water inputs to the reservoir seem to have very limited bacteriological impact during the winter season. It is also noted that winter *E. coli* concentrations are generally lower flowing out of Valens Lake than at the tributaries flowing into the lake.



Figure 10 – Valens Lake E. coli Sampling – E. coli concentrations by date and site

# STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

#### • Strategic Priority Area – Water Management

- Initiatives Invest in programs to address the impacts of nutrient and sediment loading on watershed streams, creeks, rivers and receiving water bodies
- Initiatives Invest in our monitoring programs and networks to support our ability to track the impacts of climate change and changes in our environment, and inform our adaptation strategies
- Initiatives Work with the City of Hamilton, and our partners on the Hamilton Harbour Remedial Action Plan to address nutrient and sediment loading within the Hamilton Harbour Watershed

# AGENCY COMMENTS

N/A

# **LEGAL/FINANCIAL IMPLICATIONS**

N/A

#### CONCLUSIONS

The water quality program information has been provided to highlight the various sampling works undertaken and to highlight water quality information. This information assists the HCA in assessing watershed health and undertaking restoration works. It is also important information that is used to assess overall watershed health and it provides information to our partners and stakeholders such as the City of Hamilton, Hamilton Harbour Remedial Action Plan, Ministry of Environment, Conservation and Parks as the development industry.



A Healthy Watershed for Everyone

# Memorandum

TO:	Conservation Advisory Board
FROM:	Lisa Burnside, Chief Administrative Officer (CAO)
PREPARED BY:	T. Scott Peck, MCIP, RPP, Deputy CAO, Director, Watershed Planning & Engineering
MEETING DATE:	April 8, 2021

RE: Natural Heritage Offsetting Policy Discussion Paper

# BACKGROUND

On November 5, 2020, the Board of Directors approved the following motion:

#### "THAT the Board of Directors direct staff to review and develop natural heritage offsetting policy to be included in the Hamilton Conservation Authority's Planning & Regulation Policies and Guidelines document."

At the February 4, 2021 Board of Directors meeting a memorandum was provided to HCA Directors to detail the framework staff proposed to undertake this policy review and development as well as to detail the timing and agency consultation to be undertaken for this review.

The February 4, 2021 memo detailed that a Discussion Paper would be prepared to provide an overview of the issues at hand relating to offsetting policy and to provide a method to engage and communicate with our stakeholders and the general public regarding the development of a potential offsetting policy. The following timing was proposed:

- April 1, 2021 Discussion Paper presented to Board of Directors
- April 8, 2021 Discussion Paper presented to Conservation Advisory Board
- Mid April to June 2021 Discussion Paper circulated for agency review and public consultation
- Fall, 2021 Draft Final Offsetting Policy presented to Board of Directors

### STAFF COMMENTS

The attached Discussion Paper has been prepared and provides an overview as follows:

- 1. Background
- 2. Offsetting Definition in Context Biodiversity and Natural Heritage
- 3. Key Principles of Offsetting
- 4. Provincial Policy Review
- 5. Conservation Authorities Act and Regulation
- 6. Review and Analysis of Existing Offsetting Policy and Implementation Guidelines
- 7. Review of City of Hamilton and County of Wellington Official Plan policy
- 8. Review of existing Hamilton Conservation Authority Policy Framework relating to Natural Heritage
- 9. Offsetting Policy and Implementation Approach for Stakeholder and Public Input
- 10. Next Steps.

The intent of the Discussion Paper is to highlight the above noted information and to solicit stakeholder and public engagement and comments to help guide the development of natural heritage offsetting policy as directed by the Hamilton Conservation Authority Board of Directors.

Staff will circulate the Discussion Paper to the City of Hamilton, County of Wellington and the Township of Puslinch for consultation purposes. Further, the Discussion Paper will be made available on the HCA website and through social media to obtain stakeholder and public feedback. Consultation with our partner municipalities, stakeholders and the public will take place from mid April to the end of June, 2021.

# STRATEGIC PLAN LINKAGE

The initiative refers directly to the HCA Strategic Plan 2019 - 2023:

#### • Strategic Priority Area – Natural Heritage Conservation

 Initiatives – Promote sustainable development by working with the City of Hamilton on natural heritage issues and undertake the HCA plan input and review program

# AGENCY COMMENTS

Not applicable.

# **LEGAL/FINANCIAL IMPLICATIONS**

Not applicable.

#### CONCLUSIONS

The framework and timing proposed to develop a natural heritage offsetting policy and associated consultation has been detailed in this memo. The next step is to circulate the Discussion Paper to obtain feedback from our partner municipalities, stakeholders and the public. Comments received will help guide the development of natural heritage offsetting policy as directed by the Hamilton Conservation Authority Board of Directors.



A Healthy Watershed for Everyone

# Hamilton Conservation Authority Natural Heritage Offsetting Policy Development Discussion Paper

April 1, 2021



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2
# Hamilton Conservation Authority Natural Heritage Offsetting Policy Development Discussion Paper

# Table of Contents

- 1. Background
- 2. Defining Offsetting in the Context Biodiversity and Natural Heritage
- 3. Key Principles of Offsetting
- 4. Provincial Policy Review
- 5. Conservation Authorities Act and Regulation
- 6. Review and Analysis of Existing Offsetting Policy and Implementation Guidelines
- 7. Review of City of Hamilton and County of Wellington Official Plan policy
- 8. Review of existing Hamilton Conservation Authority Policy Framework relating to Natural Heritage
- 9. Draft Offsetting Policy Framework
- 10. Next Steps and Approach for Stakeholder and Public Input

Endnotes

References

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#### 1. Background

The Hamilton Conservation Authority (HCA) has initiated a review of its Planning & Regulation Policies and Guidelines (PRPG) document in regard to natural heritage offsetting. This review is being undertaken following a motion by the HCA Board of Directors at their November 5, 2020 meeting in response to a development proposal, where it was approved:

"THAT the Board Directors direct staff to review and develop natural heritage offsetting policy to be included in the Hamilton Conservation Authority's Planning & Regulation Policies and Guidelines document."

Additionally, in 2020, the Province continued with its review of the Conservation Authorities Act with significant changes approved. While regulations to implement numerous legislative changes to the Conservation Authorities Act have yet to be passed, mandatory permits for Ministerial Zoning Orders (MZO) were implemented effective December 8, 2020. Mandatory permits through MZO's provide direction regarding the requirement to enter into agreements relating to ecological compensation and the HCA has no policy or guideline direction in this regard.

HCA staff are guided in our review of municipally circulated land use planning applications and permit applications submitted pursuant to the HCA's *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation 161/06* by Provincial policy and technical guidelines, as well as the HCA Board of Directors approved Planning & Regulation Policies and Guidelines (PRPG) document (2011). The PRPG is a Board approved document, and staff are not able to deviate from the policy direction of this document without direction from the HCA Board of Directors.

HCA staff undertake reviews and updates of the PRPG to ensure policies reflect Provincial direction, current environmental issues and the health of the HCA watershed, and in order to ensure efficient and streamlined review processes for circulated and submitted applications. As noted, HCA currently has no policy or guideline direction related to natural heritage offsetting. Offsetting has emerged as an approach for compensating and/or replacing natural heritage features and functions that have been impacted by development projects or other activities. HCA notes over the past number of years, several Conservation Authorities have reviewed and implemented policies and approaches related to offsetting.

This Discussion Paper has been developed to consider natural heritage offsetting and how it may work within the context of the Hamilton Conservation Authority and our member municipalities. This Discussion Paper is intended to:

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

- 1. Define what offsetting means in the context of bio-diversity and natural heritage.
- 2. Detail the key principles of offsetting as well as recent work on this issue in Ontario.
- 3. Provide an overview of Provincial policy.
- 4. Provide an overview of regulations in the Conservation Authorities Act
- 5. Undertake a review of existing offsetting policy and documentation in Ontario with a specific focus on conservation authority experience.
- 6. Undertake a review City of Hamilton and Township of Puslinch Official Plan policy framework as it relates to offsetting, development and natural heritage.
- 7. Provide an overview of the existing policy framework relating to natural heritage conservation within the current HCA Planning & Regulation Policies and Guidelines document.
- 8. Provide a draft offsetting policy framework for agency and public comment based on the completed reviews noted above.
- 9. Outline next steps and approach for stakeholder and Public input to solicit engagement and comments to help guide the development of natural heritage offsetting policy for the HCA Board of Directors consideration.

# 2. Defining Offsetting in the Context of Biodiversity and Natural Heritage

The concept of offsetting is not new and has been reviewed and highlighted in various publications and jurisdictions as early as the 1970s. In reviewing the literature, reference is made to a variety of terms, including natural heritage offsetting, biodiversity offsetting and ecosystem offsetting, but in each case 'offsetting' is the key term used to describe situations where some form of compensation is provided to address negative impacts or harm to valued ecological features or functions as a result of development activity. "Simply put, it involves a transaction between development proponents and offset providers (e.g., landowners, land trusts, Indigenous communities) to compensate for harm to biodiversity at one site by creating, restoring or enhancing biodiversity elsewhere, generally on a "like for like" basis. At its core, biodiversity offsetting entails a trade-off: accepting harm on the condition that it is counterbalanced by beneficial actions so that in the end nature is no worse off – or ideally even better off"<sup>1</sup>.

In the Ontario Nature document titled "Key Issues in Biodiversity Offset Law and Policy, A Comparison of Six Jurisdictions, June 2015" it is noted that the most commonly cited definition is:

"Measurable conservation outcomes resulting from actions designed to compensate for significant residual adverse biodiversity impacts arising from project development after appropriate prevention and mitigation measures have been taken. The goal of biodiversity offsets is to achieve no net loss and preferably a net gain of biodiversity on the ground with respect to species composition, habitat structure, ecosystem function, and people's use and cultural values associated with biodiversity".<sup>2</sup>

Credit Valley Conservation (CVC) in their "Ecosystem Offsetting Guidelines, March 2020" states:

#### "Natural heritage offsetting is an approach to offset the adverse impacts of land use change on the natural heritage system through the creation or restoration of natural features."<sup>3</sup>

Toronto Region Conservation Authority (TRCA) in their "The Living City Policies, November 28, 2014" states:

# "Compensation – in the context of conservation and land use planning, compensation is defined as the replacement of lost/altered ecosystem services and functions".<sup>4</sup>

These definitions provide a helpful overview of offsetting for the purposes of this Discussion Paper. They reflect the common themes found in defining the concept, in that offsetting requires compensation for impacts to natural features and functions as a result of development, that offsetting is viewed as a last resort approach, and that where it is used the focus should be on no loss and preferably a net gain to the environment.

# 3. Key Offsetting Principles

Ontario Nature examined the concept of biodiversity offsetting between 2013-16, including conducting a series of stakeholder, expert and practitioner workshops, and producing the publications titled "Key Issues in Biodiversity Offset Law and Policy, A Comparison of Six Jurisdictions, June 2015" and "Biodiversity Offsetting in Ontario: Issues, accomplishments and future directions Summary of Ontario Nature's 2014 – 2016 Project, October 2016". Based on their review of offsetting from various jurisdictions these reports provide an overview of key principles to consider in the development of offsetting policy:

- 1. Adherence to the mitigation hierarchy
- 2. Limit to what can be offset
- 3. Landscape context
- 4. No net loss
- 5. Additional conservation outcomes
- 6. Stakeholder participation
- 7. Equity
- 8. Long-term outcomes
- 9. Transparency
- 10. Science and traditional knowledge

Building on these overarching principles, Ontario Nature through their completed workshops identified strong support for the following seven principles to be considered for offset policy:

- Offsetting should be set within a clear mitigation hierarchy. First, negative impacts should be avoided wherever possible. Second, any unavoidable negative impacts should be minimized to the extent possible. Offsetting would then offer a means to deal with residual impacts that cannot be addressed through avoidance or minimizing harm.
- 2. Offsetting should require achievement of an overall net gain.
- 3. Some sites, features and habitats should be off-limits to offsetting, based for example on vulnerability and irreplaceability. The "no-go" criteria should be informed by science and Aboriginal traditional knowledge.
- 4. In establishing equivalence, the offset must take into account not only quantity (size) but also quality with respect to the condition of both sites and their landscape context.
- 5. The outcomes secured through an offset should last at least as long as the project's impacts, and ideally in perpetuity.
- 6. The offset location should be based on desired conservation outcomes.
- The pricing of offsets should cover the complete costs of the delivery of the offsets (including costs of entering into an agreement, creation and maintenance of the offsets, monitoring and reporting).<sup>5</sup>

These key principles provide an important overview of the issues related to offsetting for consideration in the development of any proposed HCA offsetting policy.

# 4. **Provincial Policy Review**

Planning and regulatory policy developed by the HCA needs to account for and "be consistent with" the Provincial Policy Statement, 2020 (PPS). The introduction to Section 2.0 Wise Use and Management of Resources states "Ontario's long-term prosperity, environmental health, and social well-being depend on conserving biodiversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits".<sup>6</sup>

As it relates specifically to Natural Heritage, Section 2.1.2 of the PPS states "The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features".<sup>7</sup> Based on this, the overall policy direction as it relates to natural heritage is that of maintaining and restoring natural features, functions, biodiversity, linkages and water features. It does not speak to the removal of these features and it is important to note that the words compensation and offsetting do not appear in the PPS.

The PPS further states that development is not permitted in significant wetlands in Ecoregions 5E, 6E and 7E as well as significant coastal wetlands. The HCA is in Ecoregion 7E. For features such as significant woodlands, significant valleylands, significant wildlife habitat and significant areas of natural and scientific interest, development is not permitted unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions. This policy framework speaks to the protection of the feature with development only permitted when it is demonstrated that the natural features and functions would not be negatively impacted. While not stated in the PPS, and subject to municipal policy direction, it would be in these instances that natural heritage offsetting could be considered.

The Greenbelt Plan and the Niagara Escarpment Plan provide provincial direction as well regarding the natural heritage system of the Greenbelt as well as the natural and physical features of the Niagara Escarpment Plan. The policy direction of the Greenbelt Plan and the Niagara Escarpment Plan are included within municipal official plans and zoning by-laws to ensure conformity with these provincial documents. Any ecological offsetting policy proposed must meet the requirements contained in these documents.

# 5. Conservation Authorities Act and Regulations

In 2015 the Ontario government initiated a review of the Conservation Authorities Act and its Regulations. This review is on-going, and most recently, on December 8, 2020, the Province approved the Budget Measures Act (Bill 229) which included further changes to the Conservation Authorities Act, specifically Schedule 6 of that Bill details the changes to the CA Act. These changes confirm that natural hazards will remain a mandatory program for conservation authorities. The changes do impact natural heritage as a program area and the legislation dictates that an agreement between the conservation authority and its member municipalities is required to facilitate and cover the costs of such a program. The implementing regulations for these changes to the Conservation Authorities Act have not yet been developed and as such, the actual requirements related to these programs is not known. These requirements may have an impact on what would be included in an offsetting policy and specific requirements. As part of the changes to the Conservation Authorities Act, the province has included requirements related to mandatory permits and zoning orders. These changes are now in full force and effect. The following excerpts from the Conservation Authorities Act details the requirements relating to zoning orders and the mandatory requirement to issue permits. Section 28.1.2 (1) outlines that this requirement only applies for a zoning order issued for lands outside of the Greenbelt.

**"28.1.2** (1) This section applies to any application submitted to an authority under section 28.1 for a permit to carry out a development project in the authority's area of jurisdiction if,

(a) a zoning order has been made by the Minister of Municipal Affairs and Housing under section 47 of the *Planning Act* authorizing the development project under that Act;

(b) the lands in the authority's area of jurisdiction on which the development project is to be carried out are not located in the Greenbelt Area designated under section 2 of the *Greenbelt Act, 2005*; and

(c) such other requirements as may be prescribed are satisfied. 2020, c. 36, Sched. 6, s. 17."

Section 28.1.2 (3, 4) details that the permit is to be issued by the conservation authority.

**"28.1.2** (3) Subject to the regulations, an authority that receives an application for a permit to carry out a development project in the authority's area of jurisdiction shall issue the permit if all of the requirements in clauses (1) (a), (b) and (c) are satisfied. 2020, c. 36, Sched. 6, s. 17.

Same

(4) For greater certainty, an authority shall not refuse to issue a permit to carry out a development project under subsection (3) despite,

(a) the prohibitions in subsection 28 (1) and the fact that the development project may not meet the criteria for issuing a permit under subsection 28.1 (1); and
(b) anything in subsection 3 (5) of the *Planning Act*. 2020, c. 36, Sched. 6, s. 17."

The conservation authority may attach conditions to a permit to mitigate "any effects the development project is likely to have on the control of flooding, erosion, dynamic beaches or pollution or the conservation of land as well as any conditions or circumstances created by the development project that, in the event of a natural hazard, might jeopardize the health or safety of persons or result in the damage or destruction of property". It is noted that the proponent can request a Hearing before the Board of Directors or a review by the Minister if there are concerns regarding any conditions specified.

Section 28.1.2 (17, 18 and 19) provides direction regarding the requirement to enter into an agreement relating to ecological compensation for these mandatory permits.

**"28.1.2** (17) An authority that issues a permit to carry out a development project under this section shall enter into an agreement with respect to the development project with the permit holder and the authority and the permit holder may add a municipality or such other person or entity as they consider appropriate as parties to the agreement. 2020, c. 36, Sched. 6, s. 17.

(18) An agreement under subsection (17) shall set out actions or requirements that the permit holder must complete or satisfy in order to compensate for ecological impacts and any other impacts that may result from the development project. 2020, c. 36, Sched. 6, s. 17.

(19) No person shall begin a development project until an agreement required under subsection (17) has been entered into. 2020, c. 36, Sched. 6, s. 17.

This section of the CA Act directs that compensation shall take place and that an agreement must be entered into to set out the requirements of such compensation. This Discussion Paper is intended to highlight the issue of offsetting or compensation and the development of policy direction that would set a policy framework for offsetting in the HCA watershed. The changes to the CA Act by-passes this policy framework approach and speaks directly to implementation. In this regard, a proposed offsetting policy will need to include implementation guidelines to address the overall HCA policy approach as well as the direction of Section 28.1.2 of the Conservation Authorities Act. Implementation guidelines are to be used "only after the decision to offset has been made by the approval authority"<sup>8</sup> and would address as an example natural area function, natural area features, connectivity, planting and species composition, location of offset, replacement ratios and the principle of ecological net gain.

# 6. Review of Existing Offsetting Policy and Implementation Guidelines

The review of existing offsetting policy within this Discussion Paper focuses on policy that has been developed by conservation authorities. The following provides an overview of the policy approach at the Toronto Region Conservation Authority, Credit Valley Conservation and the Lake Simcoe Region Conservation Authority.

# Toronto Region Conservation Authority

TRCA's "Living City Policies" document (2014) provides a policy framework that includes opportunities for compensation when it is determined that it is not feasible to protect the full natural heritage system. The policies note that "if a natural feature itself cannot be protected, TRCA may recommend compensation. However, compensation is a management tool that should only be used as a "last resort", being an option only where federal, provincial and municipal requirements do not protect the feature, and

only after all other options for protecting the feature have been evaluated."<sup>9</sup> Further, "TRCA will always advocate first for the protection of natural features and the full Natural System. However, when planning or environmental assessments approval processes permit losses to the natural system, compensation can be a mechanism for replicating ecosystem services."<sup>10</sup>

The TRCA's policies highlight that an objective is to "advocate first that natural features should be protected in situ and that compensation should:

- Only be considered once the protection hierarchy has been applied avoid/minimize/mitigate first;
- Where feasible, take place in proximity to where the loss occurs;
- Be informed by current knowledge of TRCA's ecosystem and watershed strategies and any applicable municipal strategies;
- Strive for no loss of ecosystem services;
- Be carried out in a transparent and timely manner;
- Be based on an adaptive management approach incorporating monitoring and evaluation, where appropriate"<sup>11</sup>

In addition to this policy framework, TRCA also has "Guidelines for Determining Ecosystem Compensation, June 2018". This document guides the technical requirements for compensation after the decision to compensate per the above policies has been made.

# Credit Valley Conservation

CVC's "Ecosystem Offsetting Guidelines, March 13, 2020" outline that "the application of offsetting shall be consistent with relevant provincial, municipal and other approval authority natural heritage system planning policies, legislation and regulations. Offsetting may not be appropriate or permitted in all cases. Proponents are encouraged to consult the appropriate approval authority to discuss the applicability of ecosystem offsetting. These guidelines are intended to ensure offsetting activities remain a last resort and that all efforts for protection on site have been considered before contemplating removals."<sup>12</sup>

Offsetting is guided by a mitigation hierarchy as detailed in the CVC's "Ecosystem Offsetting Guidelines, March 13, 2020".



HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

The document specifically notes that "the goal of protection and ideally enhancement of the natural system and that the intent of this guideline is not to weaken this goal or diminish the ability to protect ecosystems in situ." <sup>13</sup> CVC specifically notes that the guidelines are only to be used after the decision to offset has been made by the approval authority. "Where avoidance and mitigation measures are not possible or financially feasible, offsetting may be considered where the approval authority deems it possible and the plan continues to conform with federal, provincial, municipal and conservation authority requirements. In addition, natural heritage features and areas may be impacted through the construction or expansion of infrastructure through the environmental assessment process – including other development-related activities requiring permitting pursuant to Section 28 of the Conservation Authorities Act."<sup>14</sup>

CVC's "Ecosystem Offsetting Guidelines, March 13, 2020" provide for their approach to offsetting as well as guiding the technical requirements for compensation after the decision to compensate has been made. This highlights the hierarchy mitigation approach and the need for alignment with municipal planning approaches and to be consistent with federal, provincial and municipal legislation, regulation and policies.

#### Lake Simcoe Region Conservation Authority

LSRCA's "Ecological Offsetting Policy, May 2019" provides for a similar approach for the mitigation hierarchy as follows:

1. Avoid - Prevent impacts from occurring by changing project location, scope, nature of timing of activities.

2. Minimize - Reduce the duration, intensity and/or extent of impacts that cannot be avoided.

3. Mitigate - Rehabilitate or restore features or functions that have been exposed to impacts that could not be avoided or minimized.

4. Compensate - Create or restore new habitat to compensate for loss that could not be avoided, minimized or mitigated.

The "Ecological Offsetting Policy, May 2019" notes that a goal of the LSRCA's Strategic Plan "is to support a safer, healthier and more liveable watershed through exceptional integrated watershed management. The development and implementation of an Ecological Offsetting Policy supports this goal by providing a consistent approach to natural heritage protection, enhancement and restoration throughout the watershed."<sup>15</sup>

LSRCA provides for prerequisites required for ecological offsetting as follows:

"Prior to the approval of any development application proposing compensation for the loss of wetland or woodland feature, the following conditions must first be satisfied

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

through an approved Environmental Impact Study (EIS), Natural Heritage Evaluation (NHE) or equivalent:

- Demonstrate conformity with applicable provincial, regional and local plans, including the Oak Ridges Moraine Conservation Plan, Greenbelt Plan, Growth Plan for the Greater Golden Horseshoe, Lake Simcoe Protection Plan, and Official Plans.
- ✓ Satisfy the "no negative impact test" for the loss of natural heritage feature to ensure consistency with the Provincial Policy Statement (PPS)
- ✓ Assess the impacts to natural heritage features such as wetlands, woodlands, and watercourses, as well as their associated vegetation protection zones.
- Demonstrate that the mitigation hierarchy steps of avoiding, minimizing and mitigating have been followed and that compensation is the only viable option to address impacts to natural heritage features
- ✓ Include a preliminary Ecological Offsetting Strategy (EOS) that describes, in concept, how the loss of natural heritage feature will be compensated for. This would include identifying the feature to be removed, location where it will be replaced and general principles for feature creation."<sup>16</sup>

Exceptions are provided where offsetting would not be required. These exceptions include agricultural uses, an accessory structure and single detached dwelling on an existing lot of record. These exceptions relate to existing permitted uses, small scale proposals development allowances for a lot of record. Exceptions are also permitted subject to criteria for small wetland and woodland features. Proposals that require approval under LSRCA's permit regulation (Ontario Regulation 179/06) and no approvals under the Planning Act are not subject to the Ecological Offsetting Policy.

The LSRCA's outlines that "An Ecological Offsetting Strategy (EOS) will be required where compensation is the only viable option to address impacts to natural heritage features. It will be the responsibility of the developer or proponent to develop and implement this EOS. The EOS must demonstrate how the loss of natural heritage feature will be compensated for and that this offset will result in a "net gain" of natural heritage features. Ecological offsetting compensation projects must be both feasible and completed within a reasonable timeframe, preferably prior to the removal of the original feature. The EOS must also include a monitoring component to ensure the successful installation of compensation projects."<sup>17</sup>

Like TRCA's and CVC's approach, the LSRCA's "Ecological Offsetting Policy, May 2019" document highlights their approach to offsetting and notes this can be considered when compensation is the only viable option to address impacts to natural heritage features. This highlights the hierarchy mitigation approach and the need to be compliant

with municipal planning approaches and with federal, provincial and municipal legislation, regulation and policies.

#### Summary

TRCA's, CVC's and LSRCA's policies as highlighted above provide three current examples of conservation authority policy and best practice related to ecological offsetting. Each policy framework shares similarities in that offsetting should take place only after the approach has been endorsed by the approval authority, the mitigation hierarchy has been followed, offsetting should be considered as part of an overall planning approvals process with a no net loss and ideally a net gain in natural features approach and that, as a starting point, natural features should first be protected in situ.

It is also noted that the Nottawasaga Valley Conservation Authority has also developed a document for discussion titled "Achieving Net Gains through Ecological Offsetting, January 2019". This document provides for a similar approach as highlighted above through the TRCA, CVC and LSRCA.

In the development of this Discussion Paper, HCA staff have had discussions with other conservation authorities that do not have an ecological policy framework in place but have been involved in offsetting. In these examples, the projects generally are not site specific and have involved broader planning processes such as environmental assessments and municipal secondary plans. These broader studies have involved identifying core natural areas within a natural system and ensuring these features are maintained. Offsetting is only considered for natural features identified but outside of the core and linkage areas. Offsetting allows for these isolated features to be incorporated into the broader natural heritage system.

# 7. Review of City of Hamilton and County of Wellington Official Plan Policy

Local official plans are guided by the requirements of the Provincial Policy Statement specifically, as well as the policies of the Greenbelt Plan and the Niagara Escarpment Plan where they are in effect. As noted previously in this Discussion Paper, the overall policy direction of the PPS as it relates to natural heritage is that of maintaining and restoring natural features, functions, biodiversity, linkages and water features.

The City of Hamilton has an Urban Official Plan and Rural Official Plan in place. The City of Hamilton is the approval authority as it relates to natural heritage and applications considered for approval under the Planning Act. The policy direction of the plans notes that "provincial and local planning objectives for the Natural Heritage System focus on protecting, and restoring these features and natural functions as a permanent resource for the community."<sup>18</sup> The plans include goals "To protect and enhance biodiversity and ecological functions, and to achieve a healthy, functional

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

ecosystem."<sup>19</sup> It is important to note that there is no policy direction in these plans that specifically allows for offsetting.

In general terms, the City of Hamilton's Official Plans seek to protect and enhance core areas, natural heritage features and hydrologic features by not permitting development within these areas and by requiring buffer areas identified as vegetation protection zones. There are allowances in certain instances where development may be permitted provided there are no negative impacts on the feature or the ecological function. This would be demonstrated through the completion of an environmental impact study. The overall policy direction is that of protecting natural features and not permitting development. It would only be in the instances where development is permitted subject to the approved findings of an environmental impact study that offsetting could be considered. When the Official Plan policy of the City of Hamilton is considered, offsetting is not identified as an option.

The Township of Puslinch comprises a relatively small geographic area when considered in the context of the HCA overall watershed. However, the Township's area within the HCA watershed is incredibly important from a natural heritage, surface water, groundwater and wetland perspective. The headwater features of Spencer Creek and Fletcher Creek are in the Township of Puslinch.

Official Plan direction for the Township is included in the County of Wellington's Official Plan. The policy direction of this official plan is similar to the approach of the City of Hamilton in that development in certain features is prohibited, however, for some features development may be permitted subject to the completion of an approved environmental assessment. It is noted that the County of Wellington Official Plan does not contain natural heritage offsetting policy. As with the City of Hamilton, it may be in these situations that offsetting could be considered, however, like the comments above, offsetting may run counter to the intent to protect, maintain and restore natural heritage features per the official plan.

This process, if deemed acceptable, would need to be led by the municipality through a land use planning process. As noted, the City nor the County has no offsetting policies in place and the development of HCA natural heritage offsetting policy would best be developed, if that is deemed the desired course, so the City and County has the same approach, or at a minimum an approach that is not conflicting in this regard to natural heritage offsetting.

# 8. Review of existing Hamilton Conservation Authority Policy Framework relating to Natural Heritage

The "Planning and Regulation Policies and Guidelines, 2011" document is HCA Board of Director approved policy. This document guides staff in providing comments on

circulated planning applications and submitted permit applications. There is no allowance for natural heritage offsetting in this document. The policies and guidelines follow a similar approach to that of an official plan in that protection and maintenance of the natural feature is the goal. From this, development is not permitted in some cases or in other cases it may be permitted subject to the submission, review and approval of an environmental impact study showing that the features and functions of the natural feature will not be negatively impacted because of the development.

It is noted that based on the existing Memorandum of Agreement between the HCA and the City of Hamilton for the review of land use planning applications under the Planning Act, HCA provides technical review and input to the City in an advisory capacity. HCA relies on the PRPG document to inform its review of applications circulated by the City. However, the City is the approval authority on all land use planning applications, including for issues relating to natural heritage.

The PRPG document is also applied to HCA's review of permit applications submitted under HCA's *Development, Interference with Wetlands, and Alterations to Shorelines and Watercourses Regulation (O. Reg. 161/06).* Development proposals within regulated areas that are associated with watercourses, valleys, wetlands and the Lake Ontario shoreline require review and approval by the HCA. In considering such applications, HCA's policies consider the potential impacts of the proposed development on natural hazards and the environment.

# 9. Draft Offsetting Policy Framework

HCA could develop a natural heritage offsetting policy framework based on current examples and best practices, as reviewed and summarized in this Discussion Paper. Using other conservation authority examples and approaches as a guide, the following could be considered for the development of HCA's approach to Natural Heritage Offsetting Policy.

#### Introduction

If through a land use planning exercise or application, environmental assessment or an HCA Regulation permit application, it is determined that a natural feature cannot be protected, the HCA may accept offsetting. However, compensation is a management tool that should only be used as a "last resort", being an option only where federal, provincial and municipal requirements do not protect the feature, and only after all other options for protecting the feature have been evaluated in accordance with the mitigation hierarchy. While offsetting can be a mechanism to replicating natural features and the natural heritage system, the HCA will always advocate first for the protection of natural features and the full natural system.

#### HCA Natural Heritage Offsetting Policy Key Principles

- 1. Adherence to the Mitigation Hierarchy Offsetting should follow conventions for mitigation and offsetting by applying a hierarchical approach:
  - 1.1. **Avoid the impact -** Priority is assigned to designing development projects to avoid natural heritage features and negative impacts wherever possible
  - 1.2. **Minimize the impact -** Efforts to minimize and mitigate any unavoidable negative impacts must also be considered.
  - 1.3. **Compensate/offset for the impact** Offsetting could then offer a means to deal with residual impacts that cannot be addressed through avoidance or minimizing harm.
- Achievement of Net Gain Offsetting should be designed with watershed conservation objectives in mind, and to achieve an overall net gain to the natural heritage system. This is preferred over seeking a no net loss in the specific features affected by the development; an offset should achieve outcomes above and beyond results that would have occurred if the offset had not taken place.
- 3. **Offsetting has Limits** Some sites, features and habitats should be off-limits to offsetting. This will include certain natural heritage features and functions based on rarity, vulnerability and irreplaceability. In recognizing that offsetting has limits and will not be appropriate in some circumstances, offsetting should be informed by policy direction, science and Aboriginal traditional knowledge as available, as well as site and surrounding landscape context.
- 4. **Equivalency** The development of offsets and compensation must consider both the quantity (size) and quality of natural heritage features and functions in the context of the subject site(s) and surrounding landscape.
- 5. **Permanent Outcomes** The outcomes secured through an offset should support local and regional conservation objectives and should be designed to last at least as long as the project's impacts, and preferably in perpetuity as part of the natural heritage system.
- 6. Alignment with Municipal Policies and Approaches. Offsetting should preferably align with City of Hamilton and County of Wellington/Township of Puslinch Official Plans and approaches.
- Cost Recovery When considering natural heritage offsets, the complete costs of the delivery of the offsets should be recovered, including costs of entering into an agreement, project implementation, and longer-term maintenance and monitoring of the offsets.

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

#### Natural Heritage Offsetting Policy

To accept in instances where it has been demonstrated that development or infrastructure cannot fully protect a natural feature or any other component of the natural heritage system, offsetting of these natural features and functions be provided, and

That a decision to accept natural heritage offsetting be subject to:

- a) the Natural System not being protected by any other applicable federal, provincial, or municipal requirement(s);
- b) all other efforts to protect the Natural System being exhausted first, in accordance with the mitigation hierarchy;
- c) that it be guided by the municipality in consultation with the landowner;
- d) that it takes place at the appropriate level of the planning and development process for maximizing options for enhancement to the natural system, e.g. secondary plans, environmental assessments.
- e) In circumstances of mandatory requirement to issue a permit under Section 28.1.2 of the CA Act, specific guidelines will be developed and followed for ecological net gain.

Any natural heritage offsetting policy will require implementation guidelines. While such implementation guidelines have not been developed as part of this Discussion Paper, there are examples of such guidelines available. These examples would be used in the development of final HCA Natural Heritage Offsetting Policy and Implementation Guidelines.

#### 10. Next Steps and Approach for Stakeholder and Public Input

Natural heritage offsetting can be viewed as a potential benefit and management tool for the conservation of our natural heritage and it can be viewed as a slippery slope towards the loss of these natural heritage features and contrary to the approach to protect, enhance and restore features in place to ensure a healthy, biodiverse natural heritage system. The HCA knows there will be many viewpoints and approaches to this topic and we encourage you to provide your comments.

This Discussion Paper has been developed to highlight the issues involved and the approaches to natural heritage offsetting. It is intended to facilitate a review of this approach as it relates to natural heritage and to obtain input from our stakeholders and the public.

With the development of such policy, it will be important to ensure that the City of Hamilton and Township of Puslinch are engaged early in the process to ensure that any policy finalized has the support of the City of Hamilton and the Township of Puslinch and ideally, aligns with City and Township policy,

HCA wishes to ensure that anyone with an interest in this policy has the opportunity to provide input. The following questions are provided to help the HCA understand the approach and thoughts of our stakeholders and the public. Please do not feel restricted to answer only the questions, if you have additional thoughts and comments, please do not hesitate to provide your additional thoughts to the HCA.

- 1. What policies do you think should be put in place by HCA in regard to natural heritage offsetting?
- 2. Are there gaps or issues missed in the Discussion Paper that would help provide greater insight and direction relating to natural heritage offsetting policy?
- 3. Given that the Province has implemented mandatory permits through MZO which require offsetting, what should HCA do to conserve the natural heritage when such a permit is required?
- 4. An option for the policy is that any of our natural heritage offsetting policies or guidelines would be in line with the City of Hamilton and County of Wellington/Township of Puslinch approaches and policies. Therefore, decision related to offsetting would be led by the municipalities. What are your comments about this approach?
- 5. The Discussion Paper provides a draft policy framework in Section 9 that could be used by the HCA to finalize natural heritage offsetting policy. Does the framework approach provide adequate direction for protection of existing features and for offsetting as a natural heritage management tool?
- 6. Should the approach in the draft policy framework for offsetting be based on a "no net loss" or a "net gain" philosophy? What are your thoughts on preferred approach that makes it the best option?

Once comments have been received on the Discussion Paper, HCA staff will work towards finalizing the natural heritage offsetting policy for consideration by the Hamilton Conservation Authority Board of Directors. This is expected in the fall of 2021. The HCA thanks you for your interest in this proposal and look forward to receiving your comments.

With the exception of personal information, all comments received will become part of the public record.

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

#### Endnotes

- 1. Ontario Nature, Ontario Nature's Greenway Guide Series, Biodiversity Offsetting in Ontario: Issues, accomplishments and future directions. Summary of Ontario Nature's 2014-2016 Project, October 2016., 3
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- 3. Credit Valley Conservation, Ecological Offsetting Guidelines, March 2013., 1.
- 4. Toronto and Region Conservation Authority, The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority, November 2018., 153.
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- 6. Government of Ontario, Provincial Policy Statement, 2020, May 2020., 24.
- 7. Government of Ontario, Provincial Policy Statement, 2020, 24.
- 8. Credit Valley Conservation, Ecological Offsetting Guidelines, 1
- 9. Toronto and Region Conservation Authority, The Living City Policies for Planning and Development in the Watersheds of the Toronto and Region Conservation Authority, November 2018., 88.
- 10. Toronto and Region Conservation Authority, The Living City Policies, 88.
- 11. Toronto and Region Conservation Authority, The Living City Policies, 88.
- 12. Credit Valley Conservation, Ecological Offsetting Guidelines, 1
- 13. Credit Valley Conservation, Ecological Offsetting Guidelines, 7
- 14. Credit Valley Conservation, Ecological Offsetting Guidelines, 2.
- 15. Lake Simcoe Region Conservation Authority, Ecological Offsetting Policy, May 2017 (Revised May 2019)., 3.
- 16. Lake Simcoe Region Conservation Authority, Ecological Offsetting Policy., 5 and 6.

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

- 18. City of Hamilton, Rural Hamilton Official Plan, April 2014., C.2, 1 of 15.
- 19. City of Hamilton, Urban Hamilton Official Plan, September 2013, C.2, 1 of 9

HCA Natural Heritage Offsetting Policy Development – Discussion Paper – April 1, 2021

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Nottawasaga Valley Conservation Authority, Achieving Net Gains through Ecological Offsetting, Guidelines for preparing a site-specific ecological offsetting plan. Draft for Discussion, January 2019

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Toronto and Region Conservation Authority, Guideline for Determining Ecosystem Compensation (After the decision to compensate has been made), June 2018

https://www.oecd.org/environment/resources/Policy-Highlights-Biodiversity-Offsets-web.pdf