

# **Conservation Areas Strategy**

For the lands owned and operated by the Catfish Creek Conservation Authority

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

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

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# 1. Introduction

### 1.1 Purpose

Subsection 9(1)1 of Ontario Regulation (O.R.) 686/21 sets out the required (mandatory) components of the Conservation and Management of Lands program and service area for all Conservation Authorities (CA). As outlined in subsection 9(1)1, each CA is required to prepare a Conservation Area Strategy (CAS) on or before December 31, 2024. The required components of the Strategy are further outlined in subsection 10(1) of the regulation. While these components must be included in Catfish Creek Conservation Authority (CCCA) CAS, the framework / formatting of the CAS was determined by senior staff of the CCCA.

As defined under Ontario Regulation 688/21 of the Conservation Authorities Act, "conservation area" means land owned by an authority.

The objective of the CAS is to ensure there is a documented and current set of objectives to inform decisionmaking related to the land the CCCA owns or controls. As part of the regulatory requirements, the Conservation Area Strategy will inform the mandatory CA Land Inventory, through establishing land use categories for the lands the CCCA owns or controls. Currently, the CCCA has been operating under the 1980's Land Management and Conservation Area Management Plans.

This document has been structured to meet the regulatory requirements related to the development of the CCCA's CAS. The required components of the CAS are summarized below;

- 1. Overarching objectives (as determined by the CA) which will inform CA decision-making related to the lands it owns or controls, including decisions related to policies for the acquisition and disposition of these lands. (s.10(1) paragraph 1),
- Identification of the programs and services (Category 1 "mandatory, Category 2 "municipal" and Category 3 "other") that are provided on CA-owned and controlled lands, including the sources of financing for these programs and services. (s.10(1) paragraph 2)
- 3. Where the CA considers it advisable to achieve the overarching objectives outlined in the Strategy, an assessment of how the CA-owned and controlled lands may:
  - i) Augment any natural heritage located within the CA's jurisdiction (s.10(1) paragraph 3i);
  - ii) Integrate with other provincially or municipally owned lands or other publicly accessible lands and trails within the CA's jurisdiction (s.10(1) paragraph 3ii)
- 4. The establishment of land use categories for the purpose of classifying lands in the mandatory CA "land inventory". These categories are to be based on the types of activities that are engaged in on each parcel of land, or other matters of significance related to the parcel (s.10(1) paragraph 4).
- 5. A process for periodic review and updates to the Strategy by the authority, including procedures to consult with stakeholders and the public during these periodic reviews (s.10(1) paragraph 5).

# 2. Catfish Creek Conservation Authority

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

- 1) Protect life and minimize property damage from natural hazards and climate impacts,
- 2) Improve and Protect the ecological health of the Catfish Creek watershed increasing biodiversity, habitat connectivity, and natural cover,
- 3) Curate an appreciation and create equitable access to nature,
- 4) Ensure our Conservation Lands are protected and enhanced,
- 5) Operate a sustainable, fiscally responsible and adaptable organization.

As our watershed population continues to grow, pressure on natural spaces for recreation, mental health, and passive use will continue to rise exponentially. The CCCA will undertake master plans for its properties to ensure sustainability and increase revenue potential. Conservation lands play a pivotal role in safeguarding biodiversity, preserving ecosystems, and ensuring the sustainability of natural resources. These protected areas serve as sanctuaries for countless species of plants and animals, providing them with vital habitats where they can thrive without the threat of human interference. By maintaining healthy ecosystems, conservation lands contribute to crucial ecological services such as clean air and water, carbon sequestration, and pollination, which are essential for human well-being. Additionally, these preserved landscapes offer invaluable opportunities for scientific research, education, and recreation, fostering a deeper understanding and appreciation of the natural world. Moreover, conservation lands serve as buffers against the impacts of climate change, helping to mitigate the loss of biodiversity and the degradation of ecosystems caused by factors such as habitat destruction, pollution, and deforestation. Therefore, the preservation and effective management of conservation lands are paramount in ensuring the long-term health and resilience of our watershed and all its inhabitants.

### 2.1 Mission

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

## 3. Our Conservation Areas

The CCCA owns 23 different land parcels throughout its jurisdictional boundary. 7 Conservation Areas, 5 Managed Forests, and 11 properties that hold Provincial Significance such as wetlands and/ or rare and endangered plants and animals.

Having a wide array of programs and recreational opportunities within our conservation areas offers numerous benefits for both people and the environment. The CCCA encourages public engagement and participation in all of our conservation efforts. When people have opportunities to experience and enjoy the natural world through activities such as hiking, birdwatching, camping, and guided tours, they develop a stronger connection to nature

and a greater appreciation for its value. This connection often leads to increased support for conservation initiatives and a sense of responsibility for protecting these areas.

Interpretive programs, nature walks, and workshops can help visitors learn about local ecosystems, wildlife habitats, conservation challenges, and sustainable practices. By increasing environmental literacy and awareness, these programs empower individuals to make informed decisions and take actions that support conservation both within and beyond the protected area.

Diverse recreational opportunities also attract a broader range of visitors, including families, outdoor enthusiasts, and tourists, thereby promoting inclusivity and accessibility. This diversity helps to foster a sense of community and shared stewardship among people from various backgrounds and interests.

Recreational activities within conservation areas contribute to local economies by attracting visitors who spend money on accommodations, dining, and other services. This economic benefit can help generate revenue for conservation efforts and support local businesses and communities.

The presence of diverse programs and recreational opportunities enhances the value of conservation areas by promoting active lifestyles, environmental stewardship, fostering community engagement, educating the public, supporting local economies, and providing opportunities for people to connect with nature in meaningful ways.

# 4. Management of Authority Owned Lands

Through the completion and implementation of Conservation Area Management Plans, the CCCA continues to financially offset the Category 1 Mandatory Programs and Services, well balancing revenue production with the effective management our Conservation Areas. Management Plans will be updated and include accessibility and natural heritage protection to balance pressures caused by increased demand for natural spaces, which will be informed by public input.

# 5. Land Acquisition and Disposition Policy

In updating the CCCA's Land Securement and Disposal Polices in 2020, guidance was sought from the Land Securement Strategy documents of member municipalities and other Conservation Authorities. In addition, the work of CCCA staff members and Board members was greatly appreciated.

The land securement policies further CCCA's mission by providing the basis and direction for securing interests in land, through purchases, donations, conservation easements and other methods primarily to achieve our primary mandate to protect life and minimize property damage from flooding and erosion, and to ensure conservation lands are protected and enhanced. Secondary priorities for land securement include improving the ecological health of the watershed and curating an appreciation for nature.

Land is eligible for disposal if the land has partial, limited or no provincially significant features. Disposition of provincially significant features is generally prohibited by the policy.

Please see https://www.catfishcreek.ca/about-us/publications/.

# 6. Guidelines for Conservation Land Management

The CCCA lands are divided into three categories, Conservation Areas, Managed Forests, and Other Properties.



Figure 1: CCCA Owned and Controlled Lands

# 7. Conservation Authority Properties

The Catfish Creek Conservation Authority owns and manages 23 properties strategically located throughout the watershed totaling 535 hectares. Even though all CA owned lands are considered protected areas, the following list of properties are highlighted as the more significant ones on the landscape,

### 7.1 Conservation Areas

### 1. Archie Coulter Conservation Area:

The Archie Coulter Conservation Area (ACCA) was purchased by the Catfish Creek Conservation Authority in 1979 and is located within the lower reaches of Catfish Creek in the Municipality of Central Elgin. This location provides excellent water and land management opportunities and is one of the prime reasons why the 53 ha. property was purchased.

A Master Plan was developed and approved for the ACCA in 1983 containing twelve Management Objectives for the property ranging from rehabilitation and restoration to recreational opportunities. Most of the original goals and objectives for the ACCA have been achieved making it one of the most beautiful natural areas in the watershed.

#### 2. Brown Conservation Area:

The Brown CA is a property consisting of flat valley grasslands, marsh wetlands, treed river bank, wooded and unwooded valley rim areas. The Brown CA has been an area of environmental restoration over the years for the CCCA. Valley grasslands, and grass waterways were planted around a newly created wetland feature provided by Ontario Power Generation and Ducks Unlimited.

3. Ivan Steen Conservation Area:

This park boasts a lit baseball diamond, disc golf course, a full size soccer pitch, tree arboretum, a paved walking trail leading over two scenic footbridges, and the perfect hills for tobogganing in the winter. Is it owned by the CCCA but is municipally operated by the Town of Aylmer.

#### 4. Springwater Conservation Area:

The Springwater Conservation Area and adjoining Springwater Forest has been referred to as one of the 'Jewels' of southwestern Ontario. The environmental significance and importance of the Springwater Forest has been documented in the Natural Heritage/Feature Section of this Report.

The 37 hectares comprising the Springwater Conservation Area provides an array of environmental, cultural, and recreational significance and benefits to the watershed.

### 5. Ward McKenna Conservation Area:

Ward McKenna was acquired to provide protection for the sensitive and ecologically important species present. The Town of Aylmer and the CCCA work together to maintain this green space in a highly urbanized area. Named after one of CCCA's founders and managed in conjunction with the Town of Aylmer the Ward McKenna Conservation Area promotes biodiversity. The CCCA manages invasive species removal and provides hazard tree removal along the existing trail throughout the property. Due to Ash Tree removal from the Emerald Ash Borer the canopy is considerably open. The CCCA in conjunction with the Canadian Chestnut Council utilize this site to add species diversity and to reintroduce the American Chestnut to the watershed well providing a green space for people to enjoy.

#### 6. Tisdale Conservation Area:

Located immediately East of the Archie Coulter Conservation Area, the Tisdale Conservation Area provides Natural Heritage features, a recently planted 17-acre Native Tallgrass Prairie and incised valley lands leading to the banks of the Catfish Creek. As a recently acquired property plans are underway to create trail connectivity between the Archie Coulter Conservation Area for passive day use recreation only.

### 7. Yarmouth Natural Heritage Area:

Located immediately to the north of the Catfish Creek Slope and Floodplain Forest site is a property owned and managed by the CCCA known as the Yarmouth Natural Heritage Area (YNHA). This 84 ha. tract of land was acquired through a donation from the County of Elgin in 1999 and is significant for its exceptional diversity of flora, fauna, and communities.

A Life Science Inventory completed by Harold Lee, Ecologist in 2001 identified 11 provincially rare or imperiled plant species, 24 regionally rare species, and 30 Carolinian species. Especially important is the section of Catfish Creek between the YNHA and the Catfish Creek Slope and Floodplain Forest is nearly all wooded and has suffered little land-use pressures.

The YNHA is being managed to preserve and restore the remaining fragments of forest cover and to reconnect corridors that would improve the landscape features for wildlife in this part of the watershed.

### 7.2 Managed Forests

The properties listed were acquired, beginning in the early 1960's by the Province and the CCCA. The majority of the properties were established (planted) and managed by the Province (MNR) on former developed agricultural lands throughout the watershed.

Active forest management is permitted within the listed properties and the MNR/CCCA have conducted numerous harvesting and tending operations since the inception of the original "Agreement Forest" program. The CCCA has now retained management and operations of all Authority forests/properties and continue to manage the same for a wide range of economic, social and wildlife benefits.

Past management (silviculture operations) have included regeneration harvests (commercial timber), stand improvement harvests (fuel wood) along with side branch pruning, wildlife enhancement (trees/shrub, brush piles, cavity tree protection) and passive recreational use (hiking, trail management, horseback riding) and exotic or invasive species management (buckthorn, garlic mustard removal).

Sustainable development and habitat protection will continue to be the predominant guiding principles for the properties within the Managed Forest Tax Incentive Program (MFTIP) in keeping with Authority Property/Watershed Management Plans.

### 1. Aylmer Tract:

A water recharge pond was dug in the middle of the property (for the Town of Aylmer) as it has a very high water table. Old home to the Trillium Railway forms the Southern property boundary. Natural regeneration of hardwoods is continuing (sub-canopy and open areas). Planted by MNR in the mid 1960's (former agricultural lands) and managed by the MNR until 1996. Operational and management activities included; crop tree pruning (1971, 1984, 1990), stand improvement cuts (thinning- 1984, 1990). A salvage cut (wind damaged trees) was completed by CCCA in 2003. 500 wildlife species are present. A open area plant was undertaken in (2003-2005) which consisted of extensive wind damage and blow down of White Pine, with dead Elm throughout.

2. Bromley Tract:

Property consists of some small open areas (meadows) throughout. Extensive invasive species, primarily Buckthorn, in the understory is present. Planted in 1980 (MNR-WIA #81-750) as White Pine/Black Walnut block, planting with White Spruce windbreak/ buffer along the West boundary. Property was purchased and managed by the CCCA in 1991, White Pine crop trees were pruned in 2002. Removal of dead pine and diseased walnut, along with stand improvement for fuel wood thinning was completed in 2003. Approximately 3000 seedlings planted in open areas in 2003. Property boundary maintenance and encroachment issues are ongoing.

### 3. Hawkins Tract:

Ash die back and cherry black knot can be found throughout the property. Small area in the centre (just North of the creek)- 5 acres has some large diameter Green Ash, a few large Soft Maple remain and good Hickory and White Pine has been planted. South side of creek- commercial harvest was conducted in 1986. Trees were marked in accordance with good forestry practices by MNR. Timber and fuelwood were also removed. Small open portions (2 acres) were planted with White Pine by MNR in the 1960's. North side of creek is an important wildlife area which was a past agricultural pasture which was planted by the MNR in 1962 and pruned/ thinned by CCCA '85-'90.

### 4. Brown Tract:

Catfish Creek flood-plain (seasonally wet throughout the property) with some small open areas (meadows) throughout. Some hiking/passive recreational use from adjacent senior's complex does occur on site. The property was purchased by the CCCA in 1976 with the primary use and objective to provide wildlife habitat and establish forest cover. Some open areas will be maintained for wildlife habitat. Extensive regeneration of hardwood seedlings and wildlife shrubs (natural and artificial) has occurred throughout.

### 5. Johnson Tract:

This compartment consists of three (3) five (5) acre parcels (P1, P2 and P3). Originally purchased by the CCCA in 1961 which consisted of former agricultural lands. Planted by the MNR under agreement in 1963 (also pruned by the MNR in mid-80's). Thinning operations were conducted in 1989, 1992 by MNR and a third thinning by CCCA (2nd row/selection) between 2002 and 2005 (material was utilized for fuelwood). W1 parcel of Johnson Tract is 36.37 acres and is an evaluated wetland (MNR- locally significant) and eligible/enrolled in the Conservation Land Tax Incentive Program. Originally purchased by the CCCA in 1961 as a natural water recharge area for ground water supply. Property was under agreement with and managed by the MNR until 1996. and no significant active forest management (regeneration/commercial timber removal) has occurred since the purchase. In 2020 the Johnson Tract was identified as a woodlot that required a regeneration cut to encourage new/natural regeneration and to salvage some of the remaining dead Ash trees throughout the stand.

### 7.3 Other Properties

Other properties signify areas of Natural Heritage and biodiversity protection. Protecting areas of significance is crucial for several reasons.

Forests are home to a vast array of species, many of which are not found anywhere else. By preserving forests, we help protect this rich biodiversity and the complex ecosystems that depend on it. Many plants and animals rely on specific environments that are often threatened by human activities. By safeguarding these areas, the CCCA assists in maintaining biodiversity and preventing species extinction.

Forests play a key role in regulating the Earth's climate. They absorb carbon dioxide during photosynthesis and store carbon, which helps mitigate climate change. Deforestation contributes to increased carbon emissions and global warming. Conservation efforts help combat climate change by preserving forests, wetlands, and other carbon sinks that sequester carbon dioxide. This helps reduce the impacts of global warming and maintains environmental balance. Forests influence local and global water cycles. They help regulate the flow of water in

rivers and streams, maintain groundwater levels, and contribute to rainfall patterns. This can prevent issues like droughts and floods. Tree roots help stabilize soil and prevent erosion. Forests also contribute to soil fertility through the decomposition of leaves and other organic matter. These services are essential for human well-being and help sustain agriculture, industry, and urban areas. Beyond the direct benefits, forests offer ecosystem services such as pollination of crops, pest control, and air purification. Overall, forests are integral to both the environment and human society, making their protection essential for sustainable living and the health of our planet.

The work of conservation authorities in acquiring/ protecting these lands is vital for preserving natural resources, supporting biodiversity, and ensuring a sustainable future for both people and the environment. The following is a list of properties that the CCCA has acquired to support Natural Heritage and life sciences features such as rare and endangered species and provincially significant wetlands:

1.	Bossuyt Property	2.	Bradley Creek Property	3.	Cedar Bend Property
4.	Czakli Property	5.	Keszler Property	6.	Nineteen Creek Property
7.	Phillips Property	8.	Reynaert Property	9.	VanHooydonk Property
10.	Walcarius Property	11.	Matthys Property		

# 8. Conservation Lands Programs and Services

Conservation Lands: Category 1 Mandatory Programs and Services			
Section 29 Minister's Regulation Rules of Conduct in Conservation Areas Mandatory in accordance to CA Act; Reg. 688/21	Conservation areas regulations enforcement/compliance. Incurred legal expenses for regulation and compliance.		
Conservation Areas Mandatory in accordance to CA Act; Reg. 686/21 s.9(1)	Management and maintenance of three passive day use conservation areas (Yarmouth Natural Heritage Area, Archie Coulter and Springwater Forest, not the Campground) with recreational trails. Includes passive recreation, risk management program, hazard tree management, gates, fencing, signage, brochures, communications, pedestrian bridges, trails, parking lots, pavilions, roadways, stewardship, restoration, ecological monitoring, carrying costs such as taxes and insurance. Ivan Steen & Ward McKenna; existing agreements with The Corporation of the Town of Aylmer, for use of the Ivan Steen Conservation Area and Ward McKenna Conservation Area for public park space and recreational amenities which is maintained by The Corporation of the Town of Aylmer .		
Conservation Area Major Maintenance Mandatory in accordance to CA Act; Reg. 686/21 s.9 (2)	Major maintenance and capital improvements to support public access, safety and environmental protection such as pedestrian bridges, boardwalks, trails.		

Inventory of Conservation Authority LandsThe land inventory includes the following information: location as well as date, method and purpose of acquisition, land use. One -time project with updates as properties are acquired or disposed of.Mandatory in accordance to CA Act; 21.1(1)A strategy to guide the management and use of CA-owned or controlled properties including guiding principles, objectives, land use, natural heritage, classifications of lands, mapping, identification of programs and services on the lands, public consultation, publish on website. Updates of existing conservation area management plans.Land Acquisition and Disposition Strategy Mandatory in accordance to CA Act; Reg. 686/21 9 (1)A policy to guide the acquisition and disposition of land in order to fulfill the objects of the authority is to be created before the end of the Transition Period. The CCCA completed the Land Securement and Disposition Policy in August of 2020, Motion # 62/2020.Land Acquisition Areas (2) (5)CCCA operates one campground and its associated facilities, which generates our main revenue stream and offsets costs of mandated programs.CCCA Forests and Management Areas (not Conservation Areas)Management and maintenance of CA owned lands (will all be listed in the Land Inventory) Includes forest management, signage, gates, passive recreation, stewardship, restoration, ecological monitoring, carrying costs such as taxes and insurance.Land AcquisitionStrategic acquisition of environmentally significant properties following guidance from the land acquisition and disposal policy.Custor Programming in Conjunction with Thames ValleyAn annual Memorandum of Understanding is signed with Thames Valley District Schoolboard leasing a part of Springwater					
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ISSUES AND RISKS	Education Programming in Conjunction with Thames Valley Schoolboard ISSUES AND RISKS	An annual Memorandum of Understanding is signed with Thames Valley District Schoolboard leasing a part of Springwater Forest to the Jaffa Outdoor Education Center for an outdoor classroom. The Maple Program, Marsh Quest and Forest Festival are all ran in conjunction with Thames Valley District Schoolboard staff.			

Conservation Lands Program:

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

2. Funding for major trail improvements.

3. Aging infrastructure.

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

5. Invasive plants, animals, and pathogens may spread rapidly, outpacing management efforts and threatening the integrity of native ecosystems.

6. Ecosystem enhancement and regeneration.

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

8. Conservation lands often intersect with competing interests, such as agriculture, forestry, energy development, and indigenous rights.

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

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

# 9. Conservation Areas Strategy Objectives

Under the guidance of our CCCA 2024-2034 Strategic Plan five (5) Pillars were created to assist in guiding the delivery of our programs and services into the next decade. The five (5) Strategic Pillars were then used to develop underlying objectives to support the design of Conservation Area Programs and Services.

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

a) Habitat Restoration and Resilience: Implement habitat restoration projects to enhance the resilience of conservation areas to natural hazards and climate impacts. This may involve reforestation, wetland restoration, and other ecosystem-based approaches to increase the ability of habitats to withstand and recover from disturbances.

b) Sustainable Tourism and Recreation: Manage visitor use and recreation activities on our lands and in our conservation areas to minimize impacts on fragile ecosystems. Implement sustainable tourism practices and visitor education programs to promote responsible behavior and environmental stewardship/ knowledge.

c) Climate Adaptation Strategies: Develop and implement climate adaptation strategies tailored to the specific ecosystems and species found within conservation areas. This may include enhancing connectivity between habitats, creating wildlife corridors, and facilitating species migration in response to changing climate conditions.

2) Improve and Protect the ecological health of the Catfish Creek watershed increasing biodiversity, habitat connectivity, and natural cover.

a) Biodiversity Conservation: Promote the conservation of native species diversity within our lands and conservation areas by preserving and restoring diverse habitats, including wetlands, forests, grasslands, and riparian zones. This may involve implementing habitat restoration projects, controlling invasive species, and protecting critical habitat areas.

b) Riparian Zone Restoration: Restore and protect riparian zones along streams and waterways within our lands and conservation areas to improve water quality, stabilize stream banks, and provide essential habitat for aquatic and terrestrial species. This may involve reforestation, revegetation, and erosion control measures to enhance the ecological functions of riparian areas.

c) Forest Conservation: Protect and manage forested areas within our lands and conservation areas to maintain ecosystem services, such as carbon sequestration, soil stabilization, and wildlife habitat. This may involve sustainable forest management practices, and efforts to prevent deforestation and forest fragmentation.

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

a) Environmental Education and Outreach: Develop and implement environmental education programs to increase public awareness and appreciation of the natural world. Provide opportunities for hands-on learning experiences, guided nature walks, and interpretive programs that highlight the ecological significance of our lands and conservation areas.

b) Inclusive Outreach and Engagement: Ensure that outreach and engagement efforts are inclusive and accessible to all members of the community, including marginalized and underrepresented groups. This may involve targeted outreach efforts, translation services, and accommodations for individuals with disabilities.

c) Volunteer and Citizen Science Opportunities: Engage volunteers and citizen scientists in conservation efforts within the areas. Offer training and support for volunteers to participate in habitat restoration, wildlife monitoring, and other hands-on conservation projects that contribute to the health and vitality of the ecosystem.

4) Ensure our Conservation Lands are protected and enhanced.

a) Sustainable Land Management: Adopt sustainable land management practices such as controlled burns, and reforestation to maintain ecosystem health and resilience.

b) Monitoring and Research: Establish monitoring programs to track changes in biodiversity, ecosystem health, and climate patterns. Supporting scientific research within these areas can provide valuable insights for adaptive management strategies.

c) Sustainable Funding Mechanisms: Develop sustainable funding mechanisms to support conservation efforts, including government funding, grants, donations, ecotourism revenue, and public-private partnerships.

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

a) Fiscal Responsibility: Manage financial resources efficiently and transparently to support conservation objectives and to allocate funds to priority conservation needs based on evidence and stakeholder input.

b) Maximizing Impact: Conservation resources are often limited, so it's essential to make the most of every dollar spent. Fiscal responsibility involves careful budgeting and prioritization to ensure that funds are directed toward activities with the greatest potential for conservation impact.

c) Diversification of Funding Sources: Expand revenue streams and secure diverse funding sources to reduce dependency on any single funding stream. Develop sustainable income-generating activities within our conservation areas.

# 10. Natural Heritage

The CCCA area of jurisdiction is within The Great Lakes eco-region which spans Ontario and eight U.S. states. Located along the north shore of Lake Erie, it is part of the largest freshwater ecosystem in the world. The Great Lakes eco-region has the greatest diversity of species in Canada and is one of the most diverse eco-regions in North America in terms of ecological systems. (Comer *et al.*, 2003) This biodiversity reflects the variations in climate, terrain and altitude of the region in southern Ontario.

Biodiversity supports human societies ecologically, economically, culturally and spiritually. The global decline of biodiversity is now recognized as one of the most serious environmental issues facing humanity. (Environment Canada, 'Canadian Biodiversity Strategy', Ottawa, 1995)

CCCA Conservation Areas are also contained within the Carolinian Canada Life Zone, which biologically, represents Ontario's most threatened ecological region. Moreover, this region supports nearly 25 % of the total Canadian agricultural productivity. Given that agriculture is so interwoven into the landscape of this watershed, it may be considered to be part of the natural resources such as fresh water, air, forest, grasslands and wetlands.

Early settlement involved clearing forests for urban expansion, agriculture and forest products to help meet a growing demand for ship building material and lumber in Europe. The advancement of European settlers in the early 1800's initiated a continuous settlement pattern throughout the region. A grid-like pattern was created to accommodate human connections and land uses which includes roads, railways, hydro corridors, concessions and lot boundaries. The current location and alignment of the natural features that remain on the landscape mimic this pattern of human linkages.

#### Upper Branches/Catfish Creek Features:

Woodlots in the upper catchment areas of the watershed (north of Highway #3) that were retained tend to be located in the back portions of farms in the middle of concession blocks. This pattern is very prevalent in the northern portion of the watershed due to the level of gently rolling topography and fertile soil conditions within the Ekfrid clay plain. Lands in this area were easily accessible and woodlots were cleared with straight edges to accommodate the need for more acreage and larger agricultural equipment and implements.

The woodlots that remain are small and fragmented in comparison to the woodlands that once covered over 75% of the region. (*Oxford County Terrestrial Ecosystems Study*, UTRCA, 1997) Today, less than 11% of the watershed is forested (*Elgin County Landscape Strategy*, Elgin County Stewardship Council/MNR- Aylmer, 2004). Spatially this varies from about 8% in the Upper Catfish watershed to 19% in the Lower and other tributaries of Lake Erie.

In the upper portion of the watershed the major limiting factor that protected a few larger patches of forest cover was poorly drained soils. Regulatory controls relative to woodlot clearing has stabilized the loss of forest cover allowing stewardship initiatives to increase forest cover in portions of the watershed. Other disturbances such as logging, livestock, alien species introduction, tree disease/insect pest infestations and urban encroachment are still negatively impacting forest ecosystem form and functions.

It has been estimated that over 80% of the original wetlands have been drained in the upper reaches of the watershed. The Elgin Landscape Strategy has also identified a need to increase the wetland component in the headwaters of the watershed. The poorly drained soils within the low lying areas of the St. Thomas moraine may lend themselves to increasing the wetland component from the existing levels of less than 1%. The larger contiguous forests in this area include the 'East Aylmer Forest' which is a 103 ha. woodlot and includes a locally significant wetland. The 'North-East Glencolin Forest' is a 90 ha. woodlot with sections that exhibit wetland characteristics as well as containing rare plant species.

Typically the woodlots in this northern section of the watershed are comprised of climax-shade tolerant, deciduous species (Ash, Beech, Maple and Hickory). (MNR-FRI, 1978 and CCCA Conservation Reports, 1951)

Less than 1% of the forest cover is comprised of coniferous tree species the majority of which were established through various agency tree planting initiatives such as the MNR's 'Woodland Improvement Act' and the CCCA's 'Conservation Services Program. The dominant tree species that have been established over the last 30 years

include White Pine and White Spruce as block plantings in retired pasture fields and other marginal agricultural lands that were deemed to be impractical for active farming.

#### Lower Catfish and Lake Erie Tributaries:

The Natural Heritage Features in the southern half of the watershed (lower reaches of Catfish Creek and the tributaries of Lake Erie) reflect the contrasting quaternary geology and physiology. A large portion of the watershed is comprised of loamy/sandy soils associated with the Norfolk Sand Plain. The nature of the soils and the principal forces that shaped our landscape have created deeply incised valley systems throughout this area. The relatively well drained soils have allowed extensive land clearing to occur to the edge of the steep gully systems. As a result, most of the forest cover is found along steep valleys and associated flood plains. The linear nature of these ravines allows for good connectivity of ecological processes including wildlife movement and dispersal of flora and fauna.

This region exhibits a higher composition of rare Carolinian tree species such as Tulip, Sassafras, Oswego Tea, Blue Ash, Paw-Paw and Sycamore. The Sweet American Chestnut trees, that survived an outbreak of Chestnut Blight which decimated this once important species in the early 1900's, are persisting only as isolated, widely scattered trees. The remaining Chestnut trees are still very susceptible to the Blight and usually have a very short life span.

Although the majority of the woodlots south of Highway 3 can be characterized as "climax/tolerant hardwood's" (Maple, Beech and Ash), there is a higher component of mid-tolerant species such as Red Oak, White Oak, Basswood, Black Cherry and Ash. The southern portion of the watershed also exhibits a higher component of native deciduous trees such as White Pine and isolated stands of Eastern Hemlock.

Due to the prevalent sandy soil conditions in the southern portion of the watershed, private landowners and the Conservation Authority have established an extensive network of windbreaks (White Cedar and White Spruce) to help reduce the effects of wind erosion and to provide wildlife corridors throughout the watershed.

Although there is a general absence of large woodland patches that contain deep interior habitats (>100m from forest edge), a few remnant woodlots remain to provide valuable habitat for rare birds and plants. Examples of Carolinian Forests include Archie Coulter Conservation Area, The Tisdale Conservation Area, Calton Swamp, Springwater Forest, Yarmouth Natural Heritage Area and the Catfish Creek Slope and Flood Plain Forest.

Located at the extreme eastern edge of Malahide Township, Calton/Stewarts Swamp is the largest and most important wetland ecosystem in the watershed. The entire forest basin encompasses over 356 ha. and contains 13 individual wetlands ranging in size from 0.4 to 20 ha. The wetlands, which have been evaluated as being Provincially Significant, fulfill an important hydrologic function and provide critical habitat for a number of flora and fauna species. (Environmentally Significant Areas Report, CCCA- 1983) Public agencies now own a significant part of this woodland basin, (MNR- 40 ha.; CCCA 82 ha.) a large portion of which is managed as a Provincial Wildlife Management Area.

One of the CCCA properties supports the only known Canadian population of the Small Whorled Pogonia (*Isotria medeoloides*). This orchid is classified as endangered by both the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and the Committee on the Status of Species at Risk in Ontario/MNR (COSSARO). COSSARO's official designation has resulted in the species being regulated under Ontario's Endangered Species Act. (Small Whorled Pogonia Biological Inventory; CCCA/MNR- Aylmer, July 2001)

Contiguous to the CCCA Administrative Office, the Authority owns and manages a 160ha. portion of a 205 ha. woodlot, referred to as the 'Springwater Forest'. This area is one of Southwestern Ontario's best examples of a Carolinian Forest with "old-growth" characteristics. This woodlot has been designated by the Province as an 'Area of Natural and Scientific Interest' (ANSI) as well as encompassing over 33 ha. of Provincially Significant wetland complexes.

Located at the western edge of the Norfolk Sand Plain, the topography ranges from flat to gently rolling which supports mesic deciduous and mixed forest ecosystems. Although American Beech, Hard Maple, Oaks and White Ash form the main forest cover, a large number of White Pine (considered to be "super canopy trees") are scattered throughout the forest as well as American Chestnut, Tulip, Sassafras and several other Carolinian plant species. The area provides critical wildlife habitat for the Flying Squirrel, Pileated Woodpecker, Hooded Warbler, and the Acadian Flycatcher with several reports of the threatened American Badger.

The Catfish Creek Valley system from the outlet in Port Bruce to the Archie Coulter Conservation Area just south of Highway 3, provides outstanding vistas of flood plain terraces and forested valley slopes. At the "heart of the valley" is an area referred to as the 'Catfish Creek Slope and Floodplain Forest'. A unique 233 ha. portion of the valley has been designated an ANSI by the MNR and identified as Elgin County's only 'Carolinian Canada Signature Site'. The site supports 358 different species of plants, representing one-sixth of the total found in Canada including distinctive Carolinian trees. Also found on this site are five Provincially rare and threatened species of plants such as Blue-Eyed Mary and Oswego Tea. The Red Shouldered Hawk, Acadian Flycatcher and Louisiana Waterthrush are some of the rare birds that frequent this site. (Carolinian Canada 2014)



Figure 2: Natural Heritage

### 10.1. Species-at-Risk

The Catfish Creek Conservation Authority (CCCA) watershed is located within some of Canada's most heavily developed and altered landscapes. Carolinian Canada suggests there are over 125 species that are declared at risk and over 400 others are considered rare in Southwestern Ontario.

A review of the terrestrial and aquatic species at risk, as tracked by the Natural Heritage Information Center (MNR), lists over 82 records which are Rare, Threatened or Endangered in the Catfish Watershed. Earlier sections in this report have provided insights into some of the habitats the Authority owns as part of its Land Acquisition and Disposition Policy to purchase environmentally sensitive areas within the watershed.

Some of the rare species the CCCA is monitoring and actively managing for include the Acadian Flycatcher, Prothonotary Warbler, American Badger, Flying Squirrel, Small Whorled Pogonia, Green Dragon, American Ginseng, and several Carolinian Canada tree species including Blue Ash, Sycamore and American Chestnut.

The CCCA is also a partner in the development of a multi-species recovery plan for aquatic Species-at-Risk associated with coastal wetlands and inland tributaries of Western Lake Erie. The goal of the strategy is to *"maintain and restore ecosystem quality and function in the Essex-Erie region to support viable populations of fish species at risk in their current and former range."* (*Draft Essex-Erie Recovery Strategy*, January 2006)

The recovery planning exercise broadened awareness of two fish species (Eastern Sand Darter, Black Redhorse) which have historical populations in the Catfish Creek. Both species are considered Threatened in Canada and are the primary species the Authority is targeting stewardship initiatives toward. The strategy lists the following general threats and limiting factors specific to fishes and mussels within the study area: habitat loss/degradation; nutrient and sediment loadings; pollution; climate change; altered water flow/barriers and exotic species.

### 10.2. Natural Heritage Protection Strategies:

Carolinian Canada's '*Big Picture Project*' provides a macro level vision of a natural heritage system in this region. The *Elgin County Stewardship 'Landscape Strategy'* assesses the restoration potential of areas in the County that will help contribute to the vision. In order to improve ecological diversity, recent stewardship initiatives are more focused on reconnecting these and other "Islands of Green" to one another.

To date, there are no detailed life sciences surveys which assess the current condition or health of the terrestrial ecosystems within Catfish Creek lands and conservation areas that can relate those conditions to the physical landscape. This is a significant deficiency in that in order to ensure biodiversity we must first address the need to accurately measure the condition of the watershed's natural heritage features.

Historically the CCCA has relied on regulatory and environmental planning measures to protect natural features, particularly water resources. In order to improve ecological bio-diversity within the watershed, the CCCA must continue to develop comprehensive environmental land use planning and regulatory policies. The CCCA will also assist all levels of government, member municipalities and the general public in the identification/mapping and protection of all terrestrial and aquatic ecosystems.

### 10.3. Natural Heritage Augmentation:

Conservation lands provide safe havens for native flora and fauna, preserving their habitats from encroachment by human development. This preservation ensures that the natural heritage within the jurisdiction remains intact and viable. By protecting diverse ecosystems within conservation lands, authorities can safeguard the biodiversity of

the region. This includes rare and endangered species, as well as maintaining healthy populations of plants and animals that contribute to the overall ecological balance.

Conservation lands and areas often provide vital ecosystem services such as clean air and water, carbon sequestration, and soil fertility. These services support the health and well-being of both natural habitats and surrounding human communities.

Many of our lands and conservation areas serve as living laboratories for scientists, educators, and students. By studying these preserved ecosystems, researchers can better understand natural processes, species interactions, and the impacts of human activities. This knowledge can inform conservation efforts and sustainable land management practices.

Opportunities for outdoor recreation and eco-tourism is highly sought after, allowing visitors to experience and appreciate the natural heritage of the region. This not only fosters a connection between people and nature but also generates economic benefits for local communities through tourism-related activities.

Conservation lands and areas can contribute to climate resilience by acting as buffers against the impacts of climate change. Well-managed ecosystems have greater capacity to adapt to changing environmental conditions, such as extreme weather events and shifting temperature and precipitation patterns.

River valleys often serve as natural corridors, allowing for the movement of wildlife between different habitats. This connectivity is essential for maintaining healthy populations and genetic diversity among species. Valley lands also play a vital role in regulating water quality and quantity. Riparian vegetation helps filter pollutants from runoff, stabilize stream banks, and regulate water flow, thus contributing to the overall health of aquatic ecosystems. Healthy valley lands can help mitigate the impacts of flooding by absorbing and slowing down floodwaters. Vegetation along riverbanks and floodplains acts as a natural buffer, reducing erosion and preventing damage to downstream communities.

# 11. Due Date & Publishing Requirements:

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

The CAS will be posted on the established CA Governance Webpage (where certain other documents are required to be posted pursuant to O. Reg. 400/22). There is no legislative requirement to submit the CAS to the Province. The Strategy will be reviewed every five years or as updates are required.

# 12. Implementation of the Conservation Lands Strategy:

The creation and adoption of the Conservation Lands Strategy is an important step in managing the lands owned by the CCCA and implementation of the strategy will be of the same importance. Resources will be required to meaningfully undertake implementation including;

1) Inform implementation by yearly work planning and annual budgetary processes.

2) Member municipality involvement will be required to support implementation and Conservation Lands Mandatory Programs and Services,

3) Other Conservation Authorities, environmental and social organizations to assist in implementation,

4) The general public and volunteers to participate in public consultation and CCCA volunteer programs.

Timelines for implementation will be medium-term, up to 5 years, with an aim to have implementation underway or completed by 2029 for the next review and update.

Section	Requirement	Section of
		the Strategy
10(1)1	Objectives established by the authority that will inform the authority's decision-	Section 5
	making related to the lands it owns and controls, including decisions related to	
	policies governing the acquisition and disposition of such lands.	
10(1)2	Identification of the mandatory and non-mandatory programs and services that are	Section 8
	provided on land owned and controlled by the authority, including the sources of	
	financing for these programs and services.	
10(1)3	Where the authority considers it advisable to achieve the objectives referred to in	Section 10.1,
	paragraph 1, an assessment of how the lands owned and controlled by the authority	10.2, 10.3,
	may,	10.4
	i. augment any natural heritage located within the authority's area of	
	jurisdiction, and	
	ii. ii. integrate with other provincially or municipally owned lands or other	
	publicly accessible lands and trails within the authority's area of	
	jurisdiction.	
10(1)4	The establishment of land use categories for the purpose of classifying lands in the	Section 6
	land inventory described in section 11 based on the types of activities that are	
	engaged in on each parcel of land or other matters of significance related to the	
	parcel.	
10(1)5	A process for the periodic review and updating of the conservation area strategy by	Section 11
	the authority, including procedures to ensure stakeholders and the public are	
	consulted during the review and update process.	
10(2)	The authority shall ensure stakeholders and the public are consulted during the	Section 12
	preparation of the conservation area strategy in a manner that the authority	
	considers advisable.	
10(3)	The authority shall ensure that the conservation area strategy is made public on the	Section 11
	authority's website, or by such other means as the authority considers advisable.	

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