



INTERIM WETLANDS PROCEDURE DOCUMENT

FOR THE IMPLEMENTATION OF S. 28 OF THE CONSERVATION AUTHORITIES ACT AND O. REG. 155/06



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List of Housekeeping Amendments

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Introduction and Preamble

This document presents the Niagara Peninsula Conservation Authority's (NPCA) implementation procedure for those parts of Section 28 of Ontario's Conservation Authorities Act and the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation", (Ontario Regulation 155/06 [O. Reg. 155/06]) that pertain to wetlands. Additionally, the NPCA is completing a review and policies for the administration of Ontario Regulation 155/06. On March 18, 2022, Report FA-10-22 was received by the NPCA's Board of Directors. The purpose of Report FA-10-22 was to provide the Board with an overview of the completed Phase 1 review of the "NPCA Policy Document: Policies for the Administration of Ontario Regulation 155/06 and the Planning Act" (May 1, 2020, consolidation), and the Phase 2 workplan for completing the updated Policy Document and new Procedural Manual. The report identified immediate technical analysis required to support policy development in Phase 2, and the need to develop interim guidance documents until such time as the Procedural Manual is approved, including creation of an interim Wetlands Procedure Document.

Interim to the completion of the Procedural Manual, staff have identified the need to develop a Wetlands Procedure Document that will outline the process and study requirements for the identification, evaluation, study, protection and enhancement of regulated wetlands. This interim document is to be read in conjunction with the NPCA Interim Section 28 Environmental Impact Study Guideline (May 9, 2022).

This document is intended to provide NPCA staff, the Board of Directors, municipal staff, developers and the public with the specifications and references with which the Authority will further the conservation, restoration and management of wetlands within its jurisdiction through NPCA work permits. Although this document speaks specifically to wetlands as features, readers should be aware that wetlands are associated with other hazards, such as flooding and hazardous (unstable) soils. These hazards are also regulated by Ontario Regulation 155/06 and their review will be incorporated into the decision making of NPCA.

If you are considering developing in an area that may contain wetlands, it is highly recommended that you visit NPCA's Planning and Permitting website at: <https://npca.ca/services/permits>, and contact the NPCA Watershed Planner identified as overseeing files within your municipality. NPCA staff will be able to assist you with your proposed project and the use of this document.

2.0 Definitions

The following definitions will be used for the purpose of this procedural manual.

Area of Interference (other areas):

- a) Means the areas adjacent to wetlands where development could impact the hydrologic function of the wetland are referred to as areas of interference. The areas of interference are considered to be a regulated area under the Ontario Regulation 155/06. The area of interference differs, depending on the classification of the wetland: For Provincially Significant Wetlands or wetlands greater than 2 hectares, the area of interference can be up to 120 metres from the boundary of the wetland.
- b) For wetlands less than 2 hectares the area of interference is 30 metres

Buffer:

Means a naturally vegetated area of land located adjacent to regulated features and bordering lands that are subject to development or site alteration.

Conservation of Land:

Means the protection, management, or restoration of lands within the watershed ecosystem for the purpose of maintaining or enhancing the natural features and hydrologic and ecological functions within the watershed.

Dynamic Beach:

Means an area of inherently unstable accumulations of shoreline sediment along the Great Lakes-St. Lawrence River system and large inland lakes, as identified by provincial standards, as amended from time to time. The dynamic beach hazard limit consists of the flooding hazard limit plus a 30 m dynamic beach allowance.

(Erosion) Hazard:

Means the loss of land, due to human or natural processes, that poses a threat to life and property. The erosion hazard limit is determined using considerations that include the 100-year erosion rate (the average annual rate of recession extended over a one hundred year time span), an allowance for slope stability, and an erosion/erosion access allowance.

Five Tests:

Means the five tests of Subsection 3(1) of Ontario Regulation 155/06 and includes the control of flooding, erosion, dynamic beaches, pollution, and conservation of land.

(Flooding) Hazard:

Means the inundation, under the conditions specific below, of areas adjacent to a shoreline or a river or stream systems and not ordinarily covered by water:

- a) Along the shorelines of the Great Lakes-St. Lawrence River System and large inland lake, the flooding hazard limit is based on the one hundred year flood level plus an allowance for wave uprush and other water related hazards;
- b) Along river, stream and small inland lake systems, the flooding hazard limit is defined as the one hundred year flood.

Hydrologic Function:

Means the functions of the hydrological cycle that include the occurrence, circulation, distribution and chemical and physical properties of water on the surface of the land, in the soil and underlying rocks, and in the atmosphere, and water's interaction with the environment including its relation to living things. The Southern Ontario Wetland Evaluation System (OWES) states "it must be recognized that many non-hydrological functions of a wetland depend, in part on the wetland's hydrological setting and that changes in the basin beyond the boundaries of the wetland could have an effect on the ecological value of the wetland".

Pollution:

Means any deleterious physical substance or other contaminant that has the potential to be generated by development in an area to which a regulation made under Section 28 of the Conservation Authorities Act applies.

Wetlands:

The Conservation Authorities Act defines a wetland as an area that:

- a) is seasonally or permanently covered by shallow water or has a water table close to or at its surface,
- b) directly contributes to the hydrological function of a watershed through connection with a surface watercourse,

- c) has hydric soils, the formation of which has been caused by the presence of abundant water, and
- d) has vegetation dominated by hydrophytic plants or water tolerant plants, the dominance of which has been favoured by the presence of abundant water,

but does not include periodically soaked or wet land that is used for agricultural purposes and no longer exhibits a wetland characteristic referred to in clause c) or d).

3.0 Environmental Impact Study Primer

The mandate of the NPCA relative to wetlands emerges from the following legislative sources:

- i) The Authority's legislated responsibilities under the Conservation Authorities Act R.S.O. and Regulations there to;
- ii) The Authority's responsibilities to represent Provincial interests regarding Natural Hazards as outlined in the Provincial Policy Statement, 2020, and further, as a responsibility delegated to the CA by the Ministry of Environment, Parks and Conservation (MECP);
- iii) Being a "public body" under the Ontario Planning Act, the NPCA is to be notified of specified planning and development applications and proposals, and the Authority may comment on these relative to its mandate.

Through s. 28 of the Conservation Authorities Act, Conservation Authorities regulate development and activities in or adjacent to river or stream valleys, Great Lakes and inland lakes shorelines, floodplains, watercourses, hazardous lands and wetlands. They do so to ensure that flooding, erosion, dynamic beaches, pollution or the conservation of land are not affected (the five tests). They also regulate the straightening, changing, diverting or interfering in any way with the existing channel of a river, creek, stream, watercourse or for changing or interfering in any way with a wetland.

4.0 Legislation – The Conservation Authorities Act and Ontario Regulation 155/06

Section 28 of Ontario's Conservation Authorities Act establishes an Authority's jurisdiction over wetlands, as defined in the Act, within its regulatory watershed. Section 21.1 (1) 1. of the Act further establishes the "mandatory programs and services that are required by regulation". Sections 2 (1)(d) and (e) and 5 of Ontario Regulation 155/06 thus prohibit development in and around and change or interference in any way with a

wetland. Sections 2 (2) and 2 (3) provide for regulatory limits and related mapping products. Lastly, Sections 3 and 4, and 6 through 8 then establish the conditions that must be met such that the NPCA may temporarily or permanently grant permission to develop in or alter a wetland.

4.1 What is an EIS?

Section 28 (10) and (11) provides for general exceptions to the provisions of the NPCA's regulation. Therefore, Ontario Regulation 155/06 does not apply to: the use of water for domestic or livestock purposes; the rightful use of water for municipal purposes; the functions of any board or commission of the provincial government; nor does it apply to the rights and powers under the Electricity Act and the Public Utilities Act. Permission is also not required by the Authority for activities approved under Ontario's Aggregate Resources Act.

4.2 Natural Hazards

Where additional hazards exist on a site such as flood hazards or unstable soil or slope hazards, other applicable policies ("NPCA Policy Document: Policies for the Administration of Ontario Regulation 155/06 and the Planning Act", Niagara Peninsula Conservation Authority, 2018, as amended) shall also be addressed. The contents of this wetland policy document shall be interpreted in direct reference to and aligned with the contents of the NPCA's above noted primary policy document.

5.0 Types of Wetlands

As defined by the Province of Ontario under the Ontario Wetland Evaluation System (OWES), there are four types of wetlands, which include bogs, fens, swamps and marshes. Within the NPCA's watershed swamps are the most common, generally characterized as slough forest swamps. Further description of these four wetlands can be found in Appendix A.

6.0 Importance of Wetlands

Wetlands are an essential natural resource. In Southern Ontario, wetlands are an integral component of the ecology. They are amongst the most biologically diverse ecosystems on Earth.

"Wetlands provide functions that have both ecosystem and human values. From an ecosystem perspective these include primary production, sustaining biodiversity, wildlife habitat, habitat for species at risk, maintenance of natural cycles (carbon, water) and food chains. From a human perspective, wetlands provide social and economic values such as flood attenuation, recreation opportunities, production of valuable

products, improvement of water quality and educational benefits.” (source: Draft: Guidelines to Support Conservation Authority Administration of the “Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation” MNR/Conservation Ontario Section 28 Peer Review and Implementation Committee, April 21, 2008)

Wetlands can have a wide range of functions, including moderation of water flow by absorbing significant amounts of surface runoff and then:

- i. Either slowly releasing it, even significantly later during drier periods; and,
- ii. Transferring water into the groundwater system.

Wetlands contribute to the maintenance of water quality by filtering and capturing pollutants, sediments, soil-bound nutrients, etc. Wetlands, in the Southern Ontario context, are a significant support for flora and fauna (plants, trees, fish and wildlife).

Wetlands are vital to the health of the environment and crucial for maintaining the diversity of animal and vegetation species. Wetlands contribute to economic, cultural and social well-being by ensuring a healthy environment and providing people the opportunity to enjoy and appreciate its qualities.

The appropriate maintenance and management of wetlands will contribute to community sustainability into the future. Sound wetland management leads to a healthy environment, and healthy communities.

Wetlands can only be appropriately managed through awareness, political resolve and the collective, cooperative efforts of public agencies, private sector interests and residents. The effective management of wetlands requires a shared responsibility among all of the communities and constituents within the Niagara Peninsula Conservation Authority’s jurisdictional area.

7.0 Wetlands and Areas of Interference Functions

Wetlands retain waters during periods of high-water levels or peak flows (i.e., spring freshet and storm events) allowing the water to be slowly released into the watercourse, infiltrate into the ground, and evaporate. As well, wetlands within the floodplain of a watercourse provide an area for the storage of flood waters and reduce the energy associated with the flood waters. Table 1 provides wetland function examples.

Table 1: Wetland function examples

Broad Function Type	Broad Functional Group	Functions
Hydrologic	Water Regime	• Erosion control • Contribution to ground water discharge • Contribution to groundwater recharge • Maintenance of local water balance • Conveyance and flood attenuation function • Contribution to living things
	Biogeochemical	• Carbon/organic sequestration and storage • Nutrient and organic export • Water quality functions (including excess nutrient and other contaminant removal) • Contribution to living things
Ecological	Habitat for Flora and Fauna and Biological Productivity	• Habitat for flora and fauna that contribute to biodiversity and ecological integrity, including but not limited to; ○ Breeding bird habitat for area-sensitive species ○ Breeding habitat for amphibians ○ Breeding habitat for colonial species ○ Winter wildlife habitat ○ Habitat for concentrations of migratory species ○ Habitat for vegetation communities of interest ○ Fish and fish habitat ○ Areas with diverse vegetation communities • Serving to promote ecological connectivity; • Provisions of significant habitats (including species of concern) and significant communities within the watershed.

In addition, wetlands retain and modify nutrients, chemicals and silt in surface and groundwater thereby improving water quality. This occurs temporarily in the plants of the wetland but long term in the organic soils.

Wetlands provide a variety of hydrologic functions. Over 60 potential hydrological functions such as flood water attenuation and groundwater recharge were identified for wetlands when the MNDMNRF was developing the OWES. Confirmation of many of these functions requires hydrological experts and field studies by qualified hydrologists.

Upon creating the OWES a final analysis determined that five hydrological functions were selected for inclusion in the OWES evaluation based on the general agreement on the nature of the function, the importance of each function, and the relative ease of assessment of the function by non-hydrologists.

The functions selected are:

- (1) flood attenuation

- (2) the retention and modification of nutrients and other elements in surface water and via groundwater discharge— i.e. water quality improvements;
- (3) the long-term storage of atmospheric carbon
- (4) shoreline erosion control and
- (5) groundwater recharge.

8.0 Development and Interference

There are three ways in which Ontario Regulation 155/06 addresses wetlands and areas of interference (Figure 1):

- 1) Development within the wetland boundary (section 2.1 (d) of the Regulation):

To be regulated, the activity must meet the definition of development. Applications for development must be assessed with respect to the five “tests” outlined in the Conservation Authorities (control of flooding, erosion, pollution, dynamic beaches and the conservation of land). Generally, an Environmental Impact Study (EIS) is required to ensure there will be no adverse impact on the hydrologic and ecological features and functions of the wetland.

- 2) Development within the “area of interference” (section 2.1 of the Regulation):

To be regulated, the activity must meet the definition of development and be assessed with regard to interference with the hydrologic function of the adjacent wetland, including areas within 120 m of a Provincially Significant Wetland (PSW) and wetlands greater than 2 hectares in size, and 30 m from a wetland less than 2 hectares in size. Hydrologic functions include both water regime and biogeochemical processes. If a measurable hydrologic impact to the wetland is predicted then the development must be assessed with respect to the five “tests” outlined in the Conservation Authorities Act (control of flooding, erosion, pollution, dynamic beaches and the conservation of land). Although not illustrated in Figure 1, Regulated areas can extend beyond the 120m and 30m distances if the activity is deemed to have a measurable impact on the hydrologic function of the wetland.

- 3) Interference with wetlands (section 5 of the Regulation):

To be regulated, the activity must occur within the wetland boundary and must constitute interference in any way with the wetland. An example of an activity that does not strictly meet the definition of “development” and could represent interference is vegetation removal. Interference is interpreted as any anthropogenic act or instance which hinders, disrupts, degrades or impedes in any way the natural features or hydrological and ecological functions of a wetland.

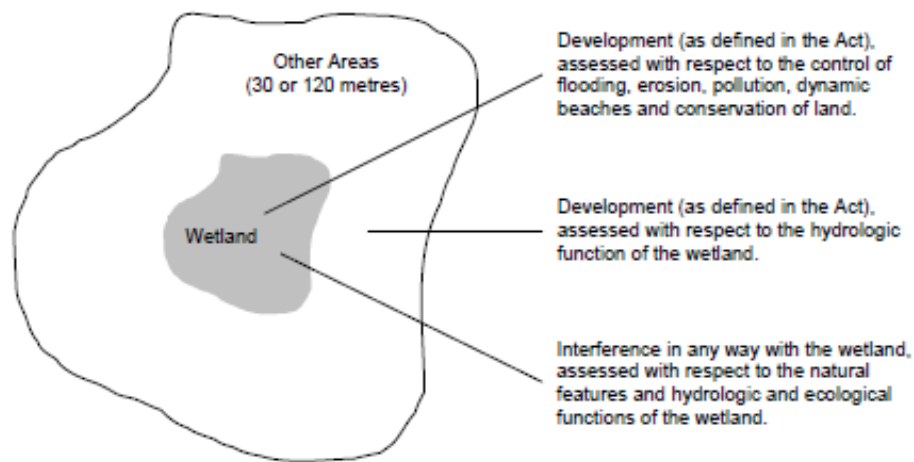


Figure 1: Three Ways through which the Conservation Authorities Act and individual Conservation Authority Regulations Address Wetlands and Other Areas (i.e. Areas of Interference), (Source: Guidelines to Support Conservation Authority Administration of the “Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation”, Ministry of Natural Resources/Conservation Ontario, April 21, 2008)

Removal, filling, dredging, or changing the hydrologic regime of wetlands (e.g., ponds or drains) can result in reducing the capacity of wetlands to retain water. This can result in higher flows in watercourses with resulting increases in flooding and erosion. As well, with no ability to retain water, the ability to recharge the aquifer is reduced, and the hydrologic cycle is modified.

Development in wetlands has the potential to interfere with many of the natural features or ecological functions of wetlands. Development may remove or impact wildlife species and their habitat, degrade or remove natural vegetation communities and impair water quality and quantity in both surface and groundwater. As a result, development within wetlands can impact conservation of land.

Many wetlands form on organic soils and, as a result, when reviewing development within a wetland, the soil composition should be reviewed. Where the soils are organic, Section 7 of the NPCA Policy Document, which deals with hazardous lands, should also be reviewed and considered in the decision making. Pollution from development (e.g., sedimentation) has the potential to interfere with the wetland. Any runoff to a wetland must demonstrate no negative impact to the feature and function.

When reviewing an application with respect to interference or development related to a PSW, the evaluation done under the OWES may be used as an information resource, because it identifies the features and functions of the wetland. It should be noted that when reviewing applications with respect to development under the

regulation, the significance of the wetland as determined by the OWES is not a reason to deny or approve the application. The application must be reviewed with respect to the five tests: control of flooding, erosion, pollution, dynamic beaches or the conservation of land. Many individual and cumulative hydrologic impacts to a wetland commonly occur within the catchment area of the wetland. It is important to consider the linkages between small wetlands and headwater areas, impacts of stormwater, and upstream constrictions to flow. Impacts to the hydrologic function of a wetland due to development within the “area of interference” may also result from changes in imperviousness/infiltration due to a removal or change in vegetation, soil compaction during construction, disruption, or alteration of groundwater flow paths due to underground construction, etc.

As part of the review of an application, the NPCA may request an EIS to address potential impacts to a wetland. An EIS is a mechanism for assessing impacts to determine the suitability of a proposal and the minimum buffer from development to ensure no negative impact on the wetland. The submission of an EIS does not guarantee approval of the works. An EIS must be carried out by a qualified professional, with recognized expertise in the appropriate area of concern and shall be prepared using established procedures and recognized methodologies to the satisfaction of NPCA. Please refer to the NPCA’s Interim EIS Guidelines for the Implementation of s. 28 of the Conservation Authorities Act and Ontario Regulation 155/06 (May 9, 2022) for more details on standard EIS requirements related to wetlands.

9.0 Wetland Boundary Delineation

As per NPCA Policy, Section 8.1.3.1, wetland boundaries are often found in areas of gradual ecological change, where changes in soil moisture results in transitions from upland to wetland plant species. The wetland boundary is established where 50% of the plant community consists of upland plant species (i.e. the percentage of area covered by upland plant species, not to the number of different upland plant species). Topography and soil data also provides guidance for where the wetland boundary should be drawn. Wetland boundary mapping is typically generalized from aerial imagery and other secondary source materials. Field visits by qualified biologists are required to accurately define the wetland boundary for development purposes. In cases where vegetation cannot be used for interpretation, such as instances where vegetation has recently been removed, soil sampling will be used to help determine boundaries.

10.0 Development within the Wetland Boundary

The Conservation Authorities Act defines development as: (a) the construction, reconstruction, erection or placing of a building or structure of any kind, (b) any change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or

structure or increasing the number of dwelling units in the building or structure, (c) site grading, or (d) the temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

Development within a wetland is prohibited unless in the opinion of the conservation authority, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land (also known as the 'five tests') will not be affected by the development.

It should be noted that when reviewing an application for 'development' under the Regulation, the significance of the wetland as determined by the OWES is not a reason to deny or approve an application. The application must be reviewed against the 'five tests'.

11.0 Rationale of Provincially Significant Wetland Scoring Criteria

To aid in identifying those wetlands that have value at a provincial scale, MNDMNRF has developed, and administers, the OWES. OWES is a science-based ranking system that provides a standardized approach to determining the relative value of wetlands.

High value wetlands are considered to be provincially significant and commonly are referred to as "Provincially Significant Wetlands" (PSW). The OWES consists of the ministry's technical manual that is used to evaluate the significance of wetlands, for land use planning purposes.

The methodology outlined in the OWES are the "evaluation procedures" referred to in Ontario's Provincial Policy Statement (PPS, 2020), issued under the authority of the Planning Act.

12.0 Evaluated Wetlands

NPCA Policy Section 8.1.2.1, Provincially Significant Wetlands

The majority of identified wetlands within the NPCA's watershed are classified as Provincially Significant Wetlands (PSWs). PSWs are wetlands which have been identified by the Province of Ontario using evaluation methodology established by the Province. PSWs are determined by a science-based ranking system known as the Ontario Wetland Evaluation System (OWES). This methodology features a standardized method of assessing wetland functions and societal values, which enables the Province to rank wetlands relative to one another. This information is provided to Conservation Authorities and municipalities to support decision-making. A wetland that has been evaluated using the criteria outlined in the OWES is known as an evaluated wetland. Refer to the OWES manual for additional details on the criteria for classifying wetlands.

NPCA Policy Section 8.1.2.2, Non-Provincially Significant Wetlands

The term non-provincially significant wetland is used to describe any evaluated wetland which does not meet the score to be considered Provincially Significant.

Evaluated **Provincially Significant Wetland (PSW)** are wetlands which have been evaluated, using evaluation procedures established by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNRF). Those wetlands that are identified by the MNDMNRF as a PSW will be classified under NPCA Policy as PSW and will be subject to the relevant Regulations and Policies under Ontario Regulation 155/06, and policies as established by the Province under the PPS, 2020 and this procedure.

The OWES scores wetlands based on four principal components: Biological, Social, Hydrological, and Special Features. Each component can receive a maximum score of 250 points, for a maximum score for any wetland of 1000 points. In order for a wetland to be considered Provincially Significant an overall score of 600 points is required. Alternatively, a wetland which scores 200 points for either the Biological or Special Features component is considered Provincially Significant.

In Southern Ontario, a PSW is any wetland that:

1. Achieves a total score of 600 or more points, or
2. Achieves a score of 200 or more points in either the Biological component or the Special Features component.

Wetlands which have been evaluated, using evaluation procedures established by the MNDMNRF, and determined by the MNDMNRF as not meeting the criteria of a PSW are classified as Non-PSW (also known as

Locally Significant Wetlands (LSW)) and will be subject to the relevant Regulations, Policies and Guidelines under Ontario Regulation 155/06 and this procedure.

In Southern Ontario, an evaluated **Non-Provincially Significant Wetland** is any wetland that scores below the threshold considered Provincially Significant, therefore, categorized as non-provincially significant wetlands, in recognition of the value which all wetlands provide.

Although, the OWES for southern Ontario is designed to identify important wetlands on a provincial scale, all wetlands have value, both to society and intrinsically.

Other wetlands such as non-provincially significant wetlands are significant on a local scale and may be protected. These wetlands can include: (a) evaluated wetlands that have been identified as not provincially significant; and (b) partially evaluated and unevaluated wetlands that have been confirmed as wetland habitat and mapped using the ground-based OWES methodology or interpretations of remote-sensed imagery.

12.1 Current Process to Map and refine Evaluated Wetlands

Mapping

The Province of Ontario, through the MNDMNRF has identified, evaluated wetlands using OWES. Updated mapping can be found online via open data through the Land Information Ontario (LIO) website. LIO helps public and private organizations and individuals find, access and share geographic data. LIO also coordinates the collection of aerial photography for Ontario. It is noted that wetland files are open files and can be updated from time to time as new information becomes available.

Evaluated Wetland Boundary Refinement

Evaluated wetland boundary refinement requests are audited and approved by MNDMNRF. An example of a boundary refinement may include data gathered from site-specific field investigation by conservation authority staff or other qualified professionals. These are typically minor modifications. Examples might include a minor wetland boundary modification of a few square meters within a specific area of the property. These modifications generally relate to individual properties (although the regulation limit may impact several properties) and are identified as a result of the NPCA work permit (or municipal plan review) process. All evaluated wetland boundary revisions are subject to the MNDMNRF's review and approval of the OWES re-evaluation report.

It is required that the landowner retains the services of a third-party consultant qualified to undertake a re-evaluation of the current wetland boundary utilizing the OWES and that, the report shall be submitted to the

satisfaction of the MNDMNRF. The applicant should submit the report to MNDMNRF in accordance with provincial technical requirements.

Once the refinement has been audited, reviewed and approved by the MNDMNRF, NPCA staff will determine if the NPCA is able to support the revision of the wetland boundary refinement (if it is recommended) through internal NPCA consultation which may or may not include additional technical review and site inspections of the property.

If the refinement is approved by MNDMNRF, MNDMNRF mapping of evaluated wetland boundaries are revised and associated NPCA Regulatory Mapping is updated (NPCA internal layer and provincial OWES LIO layer). Then NPCA Planning or Permitting files involving the subject property move forward based on the revised wetland boundaries.

Please note that EISs may be submitted with a revised boundary which is under review by the MNDMNRF, however, NPCA Planning and/or permit approvals can only proceed following confirmation that the MNDMNRF is in support of proposed boundary refinements.

13.0 Unevaluated Wetlands

NPCA Policy, Section 8.1.2.3, Unevaluated Wetlands

Some wetlands within the watershed have not been evaluated and delineated under the OWES. In those instances, the following policies apply:

- a) Prior to development or site alteration on a property with an unevaluated wetland, a wetland evaluation shall be required prior to completion of an EIS if required, or the approval process, and approved by the MNDMNRF.
- b) Exceptions to (a) may be considered in cases where an appropriate natural buffer (as determined by the NPCA) is proposed between the NPCA staked wetland boundary and all site alteration and development (including grading), or small scale non-permanent development (such as small backyard sheds not requiring planning approval) which in the opinion of NPCA will have no negative impact on the ecological and hydrologic function of the wetland. These cases will only be considered for small-scale development through the work permit process, or through some minor variances where an appropriate buffer is maintained.
- c) Areas identified through natural areas inventories, EIS's or similar as Ecological Land Classification MAM, MAS, MAX, SWD, SWT, SWX, SAS, SAF, OAO, OAW, or other potential wetland indicator classifications shall identify the area as a potential unevaluated wetland subject to these policies.

Unevaluated wetlands are those that have not been evaluated using evaluation procedures established in the OWES. These wetlands could be mapped or unmapped and will be subject to NPCA Policies and this procedure. Please note that while not all wetlands within the NPCA's jurisdiction have been evaluated, all wetlands which meet the definition of a wetland under the Conservation Authorities Act are considered regulated features by the NPCA, until such time they have been evaluated, using evaluation procedures established by the MNMNR, at which time they will be managed in accordance with the policies and requirements relevant to their designated classification if applicable.

Unevaluated wetlands may be identified through review of available information such as Land Information Ontario (LIO), Ecological Land Classification (ELC), Environmentally Sensitive Areas (ESA) as identified by the Province, NPCA's Natural Areas Inventory (NAI), aerial photography interpretation, or site visits by qualified professionals. Additionally, mapping of unevaluated wetlands may be available from the Province of Ontario through projects such as the Great Lakes Shoreline Ecosystem (GLSE) project.

To collect appropriate data on the unevaluated wetland, an OWES evaluation may be required to define, identify and measure the wetland functions and values. This evaluation should be completed during the active growing season (May to October).

In order for an unevaluated wetland to be regulated by the NPCA it must meet the definition of a wetland as defined in the Conservation Authorities Act. Sufficient information must be collected by a qualified professional to demonstrate that the four components of the definition are met. Where a surface water connection between a wetland and surface watercourse is not apparent, it is assumed that a groundwater connection exists between them, unless there is information provided by the applicant and/or their consultant to the contrary.

The NPCA has several on-line reference materials and open data sources, to assist with determining if an area has unevaluated wetland, including:

- NPCA Explore Our Data Inventory: <https://gis-npca-camaps.opendata.arcgis.com/>
- Natural Areas Inventory Vol 1: https://npca.ca/images/uploads/board_files/NAI-Vol-1.pdf
- Natural Areas Inventory Vol 2: <https://npca.ca/images/uploads/common/NAI-Vol-2.pdf>
- ELC Community Class Service:
<https://gis-npca-camaps.opendata.arcgis.com/datasets/camaps::elc-community-class-series-1/explore>

13.1 Steps to Determine the Presence of Wetlands within the Project Study Area

The NPCA requires the following steps to be taken to determine if there is a wetland within the project study area.

1. NPCA staff identify the presence of an unevaluated wetland through background information review, air photo interpretation and/or a site visit.
2. NPCA staff identify the wetlands to the applicant and may require that they retain a qualified professional to delineate/verify wetlands, which may require additional studies that will be scoped in consultation with the NPCA. Should a, b, c, d of the definition of Wetland be brought into question, site specific data collection will be required.
3. NPCA staff determine if a wetland evaluation is required based on available information (size, proximity to evaluated wetlands, known or assumed functions, etc.):
 - a. Yes – an OWES Evaluation is required
 - b. Yes – a scoped evaluation to complex the wetland is required (i.e., the unevaluated wetland is within 750 M of an evaluated wetland)
 - c. No – Proceed to consult with NPCA staff to complete a constraints analysis.
4. If a wetland evaluation is required consultation with the MNDMNRF is necessary to determine their requirements.
5. Following MNDMNRF wetland evaluation and approval, NPCA mapping is updated (NPCA internal layer and provincial OWES LIO layer)

Please note that if MNDMNRF decides that an evaluation is not required, the NPCA may still require further details and studies to address Ontario Regulation 155/06 and related policies.

14.0 Constraints and Opportunities

As part of an EIS, the biophysical analysis shall identify the significance of regulated features and areas, and their functions present in the study area and identify constraints and enhancement opportunities. Constraints within the study area may affect the developable area on the property. Enhancements are identified as opportunities that go beyond mitigating impacts, contributing to the long-term protection of the natural features. Enhancement opportunities have the objective of increasing the ecological integrity and resilience of existing regulated features and areas and their associated functions. Enhancement opportunities can range in

scope and scale. Opportunities and constraints of NPCA regulated features must be identified for the subject site. Please refer to Section 3.5 of the NPCA's Interim Section EIS Guideline (May 9, 2022) for further details.

15.0 Wetland Reconfiguration and Compensation

NPCA Policy, Section 8.2.2.8, Wetland Reconfiguration and Compensation for Non-Provincially Significant Wetlands

Where no reasonable alternative exists to locate a proposed development, site alteration or other activity outside of a non-provincially significant wetland (or adjacent land), the NPCA may require that an area of wetland be created to offset the disturbance that is greater than (in area and function) the area of wetland and adjacent land being disturbed. Any required wetland creation should be located in proximity to the area disturbed (at a minimum within the same watershed) or in an area to be determined by the Authority. All wetlands created under this policy will be added to the NPCA regulated area and identified on appropriate screening maps. The Authority may permit the reconfiguration of wetland boundaries provided:

- a) The wetland has been evaluated in accordance with OWES Protocol and approved by the MNDMNRF;
- b) The wetland (as evaluated in (a) above) is not a Provincially Significant Wetland under the OWES Protocol to the satisfaction of the MNDMNRF;
- c) The reconfigured wetland and proposed development will not have a negative impact on any species of concern, significant habitat types or species at risk;
- d) The reconfigured wetland and proposed development will not have a negative impact on the hydrological or ecological function of the wetland;
- e) A restoration plan for the reconfigured wetland is provided for review and approval;
- f) A multi-year monitoring program is required (minimum five years) to ensure the long-term establishment of the reconfigured wetland;
- g) A security deposit in an amount approved by the NPCA to establish the reconfigured wetland and ensure its establishment;
- h) An EIS is provided for review and approval to demonstrate conformity with Section 8.2.2.8;
- i) The applicant is required to enter into a restoration agreement with the NPCA that will be registered on the title of the property containing the reconfigured wetland that will provide the necessary details to implement Section 8.2.2.8; and
- j) Additional information, such as an EIS, hydrologic study, restoration plan and or other studies as required depending on site-specific characteristics.

Under current NPCA policy, Wetland Reconfiguration and Compensation for Non-Provincially Significant Wetlands is only considered where no reasonable alternative exists to locate a proposed development, site alteration or activity outside of a Non-Provincially Significant Wetland, and when the policy is implemented, NPCA staff aim to achieve a net gain to the natural system functions.

The following requirements must be submitted as part of an EIS to the satisfaction of NPCA staff in order for staff to consider a proposal for the reconfiguration or compensation of a non-provincially significant wetland, in accordance with NPCA Policy, Section 8.2.2.8: Please also refer to the Interim Section 28 EIS Guideline (May 9, 2022), for additional study and reporting requirements.

1. The geographic coordinates of the location where measures to compensate are proposed.
2. A small-scale site plan identifying the general location and boundaries of the location where the measures are proposed to be implemented.
3. Demonstration (conceptually) that the created wetland habitat will provide the same or greater capacity to produce the form and function of the wetland(s) to be relocated.
4. A detailed description of the compensation design and explanation of how those design measures will meet their objectives.
5. Detailed planting/restoration plans which include native species suitable for the ecosystem to be created, inclusion of habitat features (large woody debris, nesting boxes, etc.), native seed mix, identification of proposed planting density. Proposed methods must be based on best available practices with references to these standards and practices.
6. Compensation area(s) must be shown to be wetland creation (i.e., what was dry and upland is created into wetland and not enhancement of existing wetlands).
7. Grading/Engineering Plans/Erosion and Sediment Control Plans (Detail Design Drawing Packages indicating staging, sequencing, type and placement of controls during all phases of work).
8. Demonstrated long-term sustainable hydrologic inputs to the compensatory wetland(s) to ensure that the wetland(s) are viable and self-sustained given the current and future anticipated landscape.
9. A detailed description of the monitoring measures and targets that will be put in place to assess the effectiveness of the selected wetland design measures. The monitoring plan must include:
 - A. Targets and objectives shall be established to be met within the monitoring plan and agreed to by NPCA staff. The targets and objectives should be based on ecological and hydrological outcomes.
 - B. Anticipated risks must be accounted for with associated remedial management actions that shall be implemented if triggered.
 - C. Methods used to monitor, detect changes and trends are required to be identified and meet the satisfaction of NPCA staff.

10. A description of the contingency measures and associated monitoring measures that will be put into place if the selected wetland design measures are not successful in meeting their objectives. This should include a monitoring plan that has, for example; five years of monitoring data that spans over a minimum of 10 years to show progressive and measurable success towards established objectives and targets. Monitoring reports including recommended and implemented actions should be submitted as agreed upon by the NPCA and to the satisfaction of NPCA based on fulfilling the Reconfiguration and Compensation Plan.
11. A detailed description of any anticipated adverse effects that could result from the implementation of the Reconfiguration and Compensation Plan. Any activity that requires permitting/authorization from NPCA and any other relevant agency must be included in the Plan.
12. The timeline for the implementation of the Reconfiguration and Compensation Plan.
13. Reasonably accurate estimate(s) of the cost of implementing each element of the Reconfiguration and Compensation plan.
14. If the implementation of the Plan requires access to lands, water sources or waterbodies that are not owned by the applicant, a description of the steps proposed to be undertaken to obtain the authorization(s) required for the applicant, to access the lands, water sources or waterbodies in question is required. It is the applicant's responsibility to provide this information with their application and to secure the necessary approval before the Reconfiguration and Compensation Plan is implemented.
15. Time lags between the adverse effects to the wetland(s) in question resulting from the proposed work and the benefits from the proposed wetland design measures – ranging from months to even years – may contribute to loss of contributing functions (e.g., hydraulic and ecologic). **Time lags should be avoided where possible by implementing the wetland design measures prior to carrying on the work that negatively affects or alters wetlands.** In exceptional circumstances when a time delay is unavoidable, NPCA will require the Reconfiguration and Compensation Plan to include measures that account for the time delay to make up for the lost wetlands and their functions. This generally will necessitate a greater replacement ratio of wetlands (e.g., for every unit of wetland destroyed, numerous units may be required as compensation. This ratio will be determined by NPCA staff).

Proposals for wetland reconfiguration or compensation will only proceed to an NPCA work permit if all the requirements noted in this section are provided to the satisfaction of NPCA staff. In some cases, NPCA staff may require additional information or technical study requirements based on the non-provincially significant

wetland and study area characteristics. NPCA work permits are subject to conditions that may be imposed by NPCA staff, including a security deposit from the applicant to ensure the works are carried out in accordance with the approved EIS and restoration agreement.

16.0 Conclusion

The "Interim Wetland Procedure Document for the Implementation of s. 28 of the Conservation Authorities Act and O. Reg. 155/06" presents the NPCA's implementation procedure for those parts of s. 28 of Ontario's Conservation Authorities Act and the "Development, Interference with Wetlands and Alterations to Shorelines and Watercourses Regulation", (Ontario Regulation 155/06) that pertain to wetlands.

The NPCA is completing a review and policies for the administration of Ontario Regulation 155/06. This document will guide staff's implementation of our current policies until such time that the NPCA Policy Document is updated, and the new Procedural Manual is approved. As part of the NPCA's policy review and Procedural Manual development, staff will continue to consult with stakeholders, partner municipalities and members of the public on the gaps to wetland policies identified through the Phase 1 policy review work. A final wetland procedure document will be included in the new NPCA Procedural Manual.

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Appendix A – Types of Wetlands

Bogs

Bogs are peat-covered areas or peat-filled depressions with a high-water table and a surface carpet of mosses, chiefly Sphagnum. The water table is at or near the surface in the spring, and slightly below during the remainder of the year. The mosses often form raised hummocks, separated by low, wet interstices. The bog surface is often raised, or, if flat or level with the surrounding wetlands, it is virtually isolated from mineral soil waters. Hence, the surface bog water and peat are strongly acidic and upper peat layers are extremely deficient in mineral nutrients. Peat is usually formed in situ under conditions of closed drainage and low oxygen levels.

Bogs may be treed or treeless but the tree cover does not exceed 25% and consists largely of black spruce (*Picea mariana*). Tamarack (*Larix laricina*) may be present but only in small numbers and usually only near the edge. For the OWES purposes, bogs may support more than 25% cover of live tall shrubs, typically stunted black spruce. Bogs are frequently characterized by a layer of ericaceous shrubs such as leatherleaf (*Chamaedaphne calyculata*). Although bogs are usually covered with Sphagnum, they also can support sedges such as few flowered sedge (*Carex oligosperma*) among others.

The following criteria can assist evaluators in the identification of a bog. They are listed in order of importance. If all the first 5 criteria are not met, then it is not likely that the wetland is a bog.

1. Raised peat hummocks are present.
2. The wetland is ombrotrophic, (i.e., dependent on atmospheric moisture for its nutrients)
3. There is low plant diversity (usually less than 14 species of vascular plants)
4. Few or no fen indicator plant species are present
5. Few or no tamaracks (*Larix laricina*) or eastern white cedar are present.
6. Low pH (often less than 4.7)¹
7. Tree cover does not exceed 25 %²

Fens

Fens are peatlands characterized by surface layers of poorly to moderately decomposed peat, often with well-decomposed peat near the base. Fen peats generally consist of mosses and sedges. Sphagnum, if present, is usually composed of different Sphagnum species than occur in bogs. There are two main fen types: nutrient rich fens typically are fed by groundwater and have a high pH. Nutrient-poor fens, such as those in moraine dominated landscapes, can occur in isolated depressions with less groundwater inputs and a lower pH (but not

as low as in bogs). Nutrient-poor fens usually develop in situations of restricted drainage where oxygen saturation is relatively low and mineral supply is restricted. Usually very slow internal drainage occurs through seepage down very low gradient slopes, although sheet surface flow may occur during spring melt or periods of heavy precipitation or if a major local or regional aquifer discharges into the wetland. Rich fens can develop directly on limestone rock where minerotrophic waters are emerging through constant groundwater discharge.

Fens have a higher diversity of plants compared to bogs which typically have less than 14 species of vascular plants. The presence of fen indicator species is a key to identifying this wetland type. For example, several moss species with narrow pH tolerances are common in fens and, if the evaluator is able to identify them, can be used as fen indicators. Sphagnum species may form a mat in poor fens, however they can be absent from rich fens. Fens can be dominated by sedges and grasses, especially in rich fens. Low shrubs, e.g., sweet gale (*Myrica gale*) or ericaceous species can occur with the latter particularly common as a low shrub layer in poor fens. Sometimes there is a tall shrub layer that can exceed 25% cover, and this often includes stunted tamarack (*Larix laricina*) and eastern white cedar. There can be a sparse layer of trees, often of tamarack or eastern white cedar (*Thuja occidentalis*) and, in poor fens also black spruce (*Picea mariana*). Live tree cover can't exceed 25%. If live tree cover is greater than 25% then the area must be identified as a swamp even if fen indicator species are present.

"Peatland" is a general term for all types of peat-covered lands. Peat is defined as partially decomposed plant material that accumulates under saturated soil conditions.

Peatlands develop via an interaction of climate, hydrology, topography, chemistry and vegetation succession. A common method of describing peatlands is based on the degree to which the peatland receives groundwater as compared to only precipitation (Mitsch and Gosselink 2000):

1. Rich fens, also known as minerotrophic peatlands, are true fens that receive water that has passed through mineral soil and typically have a high groundwater level and occupy a low point or relief in a basin.
2. Poor fens, also known as mesotrophic peatlands, are intermediate between mineral-nourished (minerotrophic) and precipitation-dominated (ombrotrophic) peatlands.
3. True raised bogs, also known as ombrotrophic peatlands, have developed peat layers higher than their surroundings and receive nutrients and other minerals exclusively by precipitation.
4. Kettle Peatlands "Kettle" landforms are depressions in the landscape, e.g., topographic low areas on bedrock. In many cases, they have been formed as a result of glacial activity. Large blocks of ice broke off the edge of retreating ice lobes during the last glaciation and became covered by glacial outwash. When the ice melted, kettle holes were left in the outwash plains.

Many of these depressions became small lakes or ponds with limited outflow but many others have filled in with peat deposits and peatland vegetation. They are referred to as “kettle peatlands”.

5. In southern Ontario kettle peatlands are commonly found within features such as the Oak Ridges Moraine, Galt Paris Moraine and the Niagara Escarpment. Most are situated over calcareous materials and can range from rich to intermediate-poor fens.

Swamps

Swamps are wooded wetlands with 25% cover or more of trees or tall shrubs (see below for exceptions to the 25% woody vegetation rule).

In swamps, standing to gently flowing waters occur seasonally or persist for long periods on the surface. Frequently there is an abundance of pools and channels indicating subsurface water flow. The substrate is usually continuously waterlogged. Waters are circumneutral to moderately acid in reaction and show little deficiency in oxygen or in mineral nutrients. The vegetation cover may consist of coniferous and/or deciduous trees, tall shrubs, herbs and mosses. Many swamps are characteristically flooded in spring, with dry relict pools apparent later in the season. There is usually no deep accumulation of peat.

Swamps include both forest swamps (having mature trees) and thicket swamps (or shrub carrs). Thicket swamps are characterized by thick growths of tall shrubs such as willow species, red-osier dogwood, buttonbush and speckled alder. Both forest and thicket swamps have similar characteristics of water levels and chemistry. Both are assessed as “swamp” wetland type, but can be distinguished by the predominance of either “tree” or “shrub” form. Silver maple, hybrid soft maple, white elm, black/green ash and yellow birch are among the best indicators of a deciduous swamp while white cedar, eastern hemlock, tamarack and black spruce indicate conifer swamps. White cedar, eastern hemlock and yellow birch, however, also grow well in upland sites.

Marsh (includes Open Water Marshes)

Marshes are wet areas periodically inundated with standing or slowly moving water, and/or permanently inundated areas characterized by robust emergents, and to a lesser extent, anchored floating plants and submergents. Surface water levels may fluctuate seasonally, with declining levels exposing drawdown zones of matted vegetation or mud flats. Water remains within the rooting zone of plants during at least part of the growing season. The substratum usually consists of mineral or organic soils with a high mineral content, but in some marshes there may be as much as 2 m of peat accumulation. Waters are usually circumneutral to slightly alkaline and there is relatively high oxygen saturation.

Marshes characteristically show zones or mosaics of vegetation, frequently interspersed with channels or pools of deep or shallow open water. They include open expanses of standing or flowing water which are variously called ponds, shallow lakes, oxbows, reaches or impoundments. Marshes may be bordered by peripheral bands of trees and shrubs but the predominant vegetation consists of a variety of emergent non-woody plants such as rushes, cattails, bulrushes, sedges, grasses and herbs. Low shrubs such as sweet gale, red-osier dogwood, waterwillow, and winterberry may also occur. Where open water areas occur, a variety of submerged or floating plants flourish, such as stonewort (*Chara*), pondweeds, water-milfoils, waterweeds, bladderworts, coontails, tape-grass, water lilies, duckweeds and watermeals.

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