



Achieving Net Gains through Ecological Offsetting

Guidelines for site-specific ecological offsetting proposals and plans.

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Nottawasaga Valley
Conservation Authority

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1.0 Introduction

The Nottawasaga Valley watershed contains a diverse and interconnected system of natural features. Within this system, wetlands play an important role in terms of the services they offer to both humans and the natural environment. Wetlands directly and indirectly support a wide range of land uses, and provide invaluable services for landowners, businesses, and numerous other stakeholders throughout the watershed, including maintaining healthy drinking water, providing flood and climate change mitigation functions, providing diverse recreational opportunities, and ensuring that native plants and wildlife have the necessary space to thrive. Maintaining all of these important natural services must be balanced with the current development pressures that the watershed is experiencing, and will continue to experience moving forward.

Population growth, and resulting urbanization, presents a challenge for the protection and enhancement of wetlands throughout the watershed. In addressing this challenge, one concept that is gaining momentum is the establishment of policies which outline an approach to 'compensation' or 'offsetting' for the loss of natural assets, which may include wetlands. Such policies promote an alternative approach to ensuring 'no net loss', and are regularly structured to promote overall 'net gains' of natural features on the landscape. This concept assigns a responsibility to compensate, where appropriate, for the value and function of lost natural features, thereby ensuring important functions are maintained and enhanced on the landscape. In keeping with this principle, Nottawasaga Valley Conservation Authority (NVCA) has formalized an approach to ecological offsetting. This guideline aims to ensure that further losses of regulated natural heritage features within the Nottawasaga Valley watershed are highly limited and, where appropriate, met with equal or greater gains in area, value, and function.

It's important to note that by instituting a formal offsetting policy, NVCA is not promoting or supporting an increase in removal of wetlands and associated natural features throughout the watershed. On the contrary, and like many other Conservation Authorities (CAs), NVCA has historically accepted informal offsetting as a mitigation measure for wetland loss on an ad hoc basis. The intention of this formal offsetting policy is to ensure that, moving forward, wetland offsetting is conducted using standardized criteria and metrics. To accomplish this, natural features must be assigned a standardized value, and natural feature losses must be quantified on a project-specific basis. Furthermore, proponents must be able to clearly understand when offsetting is available to them as a tool for obtaining regulatory approvals. There are limits to offsetting and it is recognized that certain natural heritage features may be irreplaceable. Offsetting will not be considered for features that contain rare vegetation communities as defined by the Natural Heritage Reference Manual (MNR, 2010) as well as bogs or fens.

Instituting and implementing a formal policy for wetland and ecological offsetting is a solutions-based approach that will increase consistency and efficiency in the review of development applications. NVCA's policy strives to set a standard of prioritizing avoidance, minimization, and mitigation of impacts, prior to considering offsetting as an option. When projects are considered eligible for offsetting, the process must always

be scientifically defensible, and planned and implemented by qualified professionals. Offsetting is a long-term, adaptive, and co-operative process undertaken by multiple stakeholders, including developers, landowners, municipalities, NGOs, and regulatory agencies.

Note: This document should be read in its entirety to ensure an understanding that the requisite assessments of project eligibility and policy conformity are the primary considerations contained within. Additional information contained within, including a discussion of potential 'costs' associated with offsetting, are considered a secondary component of the process. Finally, and consistent with provincial policy, nothing within this policy is intended to limit the ability of existing agricultural uses to continue.

2.0 Policy Context & Applicability

2.1 Offsetting Policy Context

The *Conservation Authorities Act* (the *Act*) provides CAs with the mandate to develop programs and policies to conserve, restore, develop, and manage the watershed's natural resources. Under the *Act*, CAs may prohibit development within wetlands or adjacent areas where development could interfere with ecological and hydrologic functions of a wetland. However, in certain cases, a CA may grant permission for development in such areas if, in its opinion, the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected by the development.

NVCA administers and enforces Ontario Regulation 172/06 under Section 28 of the *Act*. Staff at NVCA review development applications using the [Planning and Regulations Guidelines](#), approved by NVCA's Board of Directors in August 2009 (or its successor). These guidelines support staff in the implementation of the Section 28 Regulation, including Section 4.7.4, which directs staff with regard to development and interference within (and adjacent to) wetlands. Present direction stipulates that, in general, development and interference is not permitted within a wetland or within 30m of wetland. A few exceptions are provided, including development undertaken for conservation purposes, or for public infrastructure and various utility works undertaken through an Environmental Assessment process or under other strict conditions.

The policy context above provides the basic foundation for NVCA's offsetting guidelines. This guideline is prepared on the premise that, for the vast majority of development applications, NVCA's existing Planning & Regulations Guidelines do not presently allow for development and interference within a wetland or within 30m of a wetland. NVCA staff are tasked with ensuring that applications for development remain consistent with these policies. This represents an ongoing constraint for development proponents and NVCA's municipal partners. In the interest of working toward defensible solutions, and in order to meet the general intent of the *Act*, this guideline provides a potential alternative pathway to regulatory compliance. Also, it provides NVCA staff with an option to permit development within wetlands, subject to meeting strict criteria and subsequently preparing an offsetting plan which meets the standards of this guideline.

It is noted that recent changes to the *Act* include provisions that may oblige a CA to enter into an offsetting/compensation agreement in scenarios where a Minister's Zoning Order (MZO) is issued. The CA Act (Section 28.0.1 (24)) provides that a Conservation Authority that grants a permit for development that has been authorized by an MZO may enter into an agreement with the landowner; further (Section 28.0.1(25)) provides that the agreement may set out the requirements that must be completed to compensate for any ecological impacts that result from the development. These changes clearly demonstrate the importance of CAs developing policies pertaining to offsetting, and imply direction from the province with respect to the use of offsetting as a planning tool.

It is further noted that aspects of 'eligibility criteria' contained in this document are premised on the NVCA's role as a commenting agency to its member municipalities on matters of natural heritage-related policy conformity. Municipal and provincial land-use planning policies generally prohibit or discourage development within significant natural heritage features, often associated with wetlands and woodlands, unless, in certain cases, the proposal can demonstrate no "*negative impacts*" to these natural features and their associated functions. As discussed below, demonstrating consistency and conformity with applicable land-use planning policies is a key pre-requisite to determining proponents' eligibility for pursuing regulatory compliance through offsetting.

2.2 Project Policy Conformity

All proposals for development are subject to an objective assessment of consistency and conformity with relevant municipal and provincial-level planning policies. As the key pillar of NVCA's offsetting policy, no project will be considered eligible to conduct offsetting for wetland loss/encroachment without first demonstrating such. Planning policies develop and change over time, and consistency and conformity must be demonstrated with those policies in place at the time a project application is submitted. Applicable policy documents include (but are not limited to):

- Provincial Policy Statement (MMAH, 2020)
- The Growth Plan for the Greater Golden Horseshoe (MMAH, 2019)
- Oak Ridges Moraine Conservation Plan (MMAH, 2002)
- Niagara Escarpment Plan (NEC, 2017)
- County/Regional level Official Plan policies (e.g. Simcoe, Grey, Dufferin, Peel)
- Municipal level Official Plan policies
- NVCA Planning and Regulations Guidelines

In determining eligibility for offsetting, a project must be strictly consistent with the Provincial Policy Statement (PPS). To evaluate this, the proponent and/or the planning authority must retain a qualified ecologist to prepare an Environmental Impact Study (EIS), which will assess technical components of the project site and compare the results against relevant technical criteria. Among other things, the EIS will be expected to identify features and functions of 'significance', the presence of which will have direct bearing on a project's capacity to demonstrate consistency with the PPS.

In general, the PPS does not permit activities which would adversely impact significant features, e.g. Provincially-significant Wetland (PSW), Significant Woodland, Significant Wildlife Habitat (SWH), etc. In support of PPS policies, negatively impacting wetlands which are significant and/or which host significant features/functions will not be permitted, regardless of a plan to conduct offsetting. It is noted that a lack of formal designation of an applicable feature as 'significant' within relevant official planning documents does not equate to the absence of significance. The proponent is responsible for assessing feature significance in support of each application by applying site-specific data to relevant provincially-supported criteria. For example, in determining if an applicable regulated feature represents a Significant Woodland, the proponent would be expected to objectively apply the criteria outlined in Section 7.3 of the Natural Heritage Reference Manual (MNR 2010) and/or more specific criteria available for the local planning jurisdiction. Likewise, the presence/absence of SWH must be objectively evaluated on a site-specific basis by reviewing the criteria outlined in the Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E (MNR 2015).

In addition to the above discussion, NVCA's Planning & Regulations Guidelines may stipulate additional criteria that NVCA staff can review in determining a project's eligibility to conduct offsetting for wetland removal/encroachment. This document should be read in conjunction with NVCA's Planning & Regulations Guidelines. Further, nothing stated in this document will preclude applicants' responsibility to meet requirements related to natural 'hazards' which are regulated by NVCA.

2.3 Project Applicability

The following points are intended to provide clarity on the types of development applications which may be eligible for (or subject to) offsetting requirements for removal of regulated features. In general, and subject to other eligibility requirements discussed in this guideline, NVCA's policy for standardized offsetting is applicable to development applications which meet the following criteria:

- 'Major' development applications which require Planning Act approval, such as 'Plans of subdivision' and 'Site Plans', or as approved through a Minister's Zoning Order.
- Development applications on lands which are 'regulated' by NVCA, as per Ontario Regulation 172/06. This specifically includes wetland communities, and other natural communities (e.g. woodlands) which are 'regulated' for wetland interference, e.g. within a regulated wetland buffer.
- Development applications within designated settlement areas.

In general, NVCA's policy for standardized offsetting is not applicable to development applications which meet the following criteria:

- Development applications requiring 'minor' Planning Act approvals, such as requests for 'Minor Variance', as determined through formal pre-consultation with NVCA.
- Development applications which require no Planning Act approvals, but which require a permit under the Conservation Authorities Act, e.g. small-scale,

supported by existing zoning. Projects falling under this category should refer to NVCA's Planning & Regulations Guidelines for further direction.

- Development applications on lands which are not regulated by NVCA. However, outside of NVCA-regulated area limits, the principles contained within these guidelines may be used by individual municipalities to support decision making processes regarding ecological offsetting.
- Development applications outside of designated settlement areas [i.e. scenarios where relevant provincial policy would prohibit development in wetlands (key hydrologic features), precluding opportunities for offsetting].

Further to the above, it is noted that offsetting will generally not be considered retroactively applicable to draft-approved plans of subdivision, with the following potential exceptions:

- Where such projects require revisions (e.g. 'red-line' edits) which would propose an increase to the total extent of loss to applicable regulated features, i.e. loss of features which were not assessed or approved as part the initial approval.
- Where an updated EIS (or equivalent) is required as a condition of draft approval, and the results of such works identify applicable regulated features which were not identified in support of initial draft approvals.

Finally, applicability to municipal infrastructure projects, completed through an approved Environmental Assessment or otherwise, will be determined on a case-specific basis.

3.0 Preliminary Considerations for Developing a Strategy

If a proponent wishes to pursue offsetting, and the development application meets the general policy and eligibility criteria outlined in Section 2.0, the proponent will engage in a pre-consultation discussion with NVCA staff. By this stage, a project EIS will have been completed and submitted to NVCA for review in order to aid in offsetting pre-consultation discussions. Most importantly, the EIS will assess policy conformity based on the technical site-specific data.

If NVCA staff agree that the project conforms to applicable policy and meets applicable eligibility criteria, then the pre-consultation will proceed to a review of rationale, i.e. determining why impacting a regulated feature is warranted. Offsetting for removal of a regulated feature will not be permitted solely on the basis of convenience, increasing lot yield, or making an otherwise 'undevelopable' property (or section of a property) into a 'developable' property. Generally, the only acceptable rationale for pursuing offsetting will be the reasonable 'regularization' of a development envelope. If a property is too severely constrained by regulated features to facilitate a development, the proponent will be encouraged to pursue an alternative development scenario.

If, following review of technical materials and pre-consultation discussions, NVCA staff determine the application is eligible to pursue offsetting, it will be indicated whether the

proponent should move forward with preparing an offsetting strategy. An overview of the preliminary stages of developing a strategy are as follows:

- **Reviewing the Mitigation Hierarchy:** Determining if/how much offsetting is actually necessary.
- **Quantifying the Area of Loss:** Determining the extent of proposed impacts to the affected feature(s).
- **Calculating the Area of Gain:** Determining the overall net gain required to offset the overall loss of the original feature(s) and its function.
- **Identifying an Offsetting Path:** Determining what offsetting options are available within the given area and within a reasonable timeframe, and prioritizing preferred options.

These key aspects are discussed below on an individual basis.

3.1 Reviewing the Mitigation Hierarchy (Figure 1)

Avoidance of impacts is the first priority for any development proposal, followed by all reasonable efforts to minimize impacts. Rationale for an inability to avoid/minimize must be demonstrated through more than project efficiencies or practicalities. NVCA staff will actively participate in this portion of the pre-consultation, and may provide input on potential project alternatives.

Mitigation can often be accomplished by employing appropriate measures during the construction process to reduce impacts to an affected natural heritage feature. NVCA will require that development plans creatively explore opportunities to maximize the retention of natural features, instead of defaulting to their removal, even if removal may represent the more convenient option. Mitigation may also take the form of restoration, where a natural heritage feature must be temporarily impacted during the development process, but can be demonstrably rehabilitated post-development. Such is often the case where temporary impacts from site grading or construction staging can be reversed to ensure that the original function of the subject feature is restored or improved post-development.

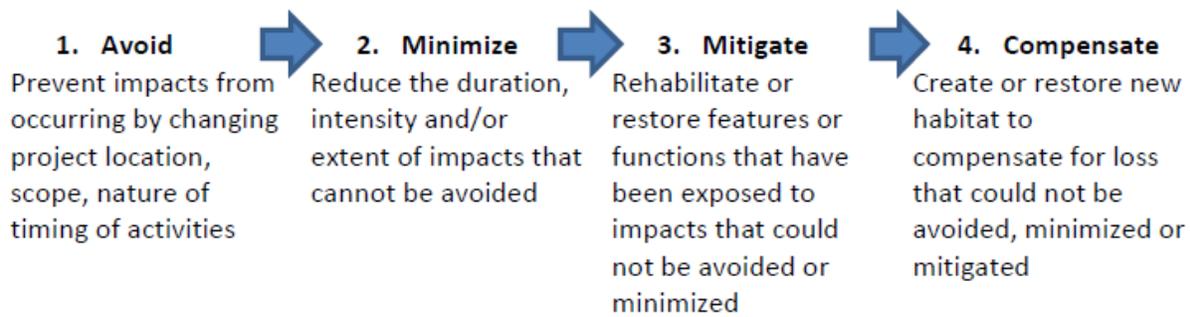


Figure 1 Mitigation Hierarchy¹

¹ Mitigation Hierarchy adapted from *Wetland Conservation in Ontario: A Discussion Paper*, MNRF, 2015

3.2 Quantifying the Area of Loss

In general, the *area of loss* (i.e. the total area of wetland that must be offset) is quantified by calculating the total area of the applicable feature(s) which will be directly and permanently removed for the purpose of the proposed project. This includes any and all activities associated with the project which will result in a direct loss of the original feature, including building and grading envelopes. The cumulative area of loss must be calculated for each relevant impacted feature.

3.3 Quantifying the Area of Gain (Offsetting Ratio)

The proponent will then determine the required '*area of gain*' for their specific project, a figure which is derived from calculating the *area of loss*, then applying a specified factor, the '*offsetting ratio*'. The *offsetting ratio* is applied to ensure that offsetting works result in an overall net gain, whereby the *area of gain* will meet or exceed the *area of loss*. For example, an *offsetting ratio* of 1:2 would dictate that the proponent is responsible for 'replacing' an area equivalent to twice the *area of loss*. Generalized offsetting ratios are provided in the table below for wetland communities and areas within 30m of a wetland, which are regulated for 'wetland interference'.

The *area of loss* and the appropriate *offsetting ratio* for each impacted feature will guide the proponent in determining the total *area of gain* for which they are responsible to compensate. The *area of gain* can dictate the spatial requirements for offsetting works, or assist in calculating an appropriate figure for offsetting through 'project sponsorship' (i.e. 'cash-in-lieu'), as discussed in Section 4.0.

Regulated Feature/Area	Offsetting Ratio	Rationale/Notes
Wetlands	1:2	In general, any permitted encroachment into wetland communities shall be offset at a minimum ratio of 1:2. The requirement to provide a net gain when conducting offsetting is an industry standard, premised on the idea of providing an overall improvement to a system in exchange for permission to remove a natural feature. The net gain concept is also reflective of the complexities, uncertainty, and time lags involved with this process. For example, by creating a surplus of wetland by area, a created wetland will have some built-in contingency in case portions of the built feature do not function as designed. Ratios for replacement of wetlands with a predominant cover of exotic species (e.g. <i>Phragmites australis ssp. australis</i>) may be subject to reduction as determined through consultation.
Wetland Setback (i.e. within 30m)	1:1	In general, any permitted encroachment into naturally-occurring upland vegetation communities within 30m of a wetland shall be offset at a ratio of 1:1. Other areas, such as 'cultural' settings, within the 30m minimum setback may be subject to same, as determined through consultation.

Example area of gain calculation:

Through a 'subdivision' development application, NVCA staff approve the removal of 1500m² of a wetland feature, and an additional 1000m² of mixed woodland within the 30m regulatory wetland setback area. The *area of loss* in this scenario is the sum of the 1500m² and 1000m² metrics. To offset and demonstrate a net gain, the respective offsetting ratios are applied to calculate the required *area of gain* as follows:

$$(1500\text{m}^2 \times 2) + (1000\text{m}^2 \times 1) = 4000\text{m}^2$$

In this scenario, the proponent would be responsible to provide an offset of 4000m² of wetland area, in order to demonstrate a net gain following the removal of 1500m² of wetland area and 1000m² of wetland setback area.

4.0 Technical Considerations

At this stage, the proponent has determined that they are eligible to conduct offsetting, and has further quantified the *area of gain* that is required to appropriately offset the impacts of their project. The proponent must now determine which of the two primary offsetting paths will account for this gain. These options include:

- Proponent-led Offsetting
- Project Sponsorship Offsetting

The following section provides guidance on a variety of technical considerations for following each offsetting path.

4.1 Proponent-led Offsetting

NVCA's preferred approach is for a proponent to take the lead in planning and implementing their offsetting project(s). In this scenario, NVCA will serve to review and approve the proposed offsetting strategy including a review of the technical plans. The proponent will be responsible for all costs associated with the project, and may also be responsible for posting 'securities' if the project will involve a delay between removal of the original feature and creation of the new feature. A monitoring and maintenance component is required, which can be undertaken by a qualified consultant and reviewed by NVCA staff. Additional fees will be required if the proponent chooses to implement the project but have NVCA conduct the monitoring and maintenance component. Further specific technical considerations are outlined below.

4.1.1 Project Site Selection

NVCA maintains a set of standards for the selection and securement of appropriate locations for implementing offsetting works. The following parameters must be considered:

- **Land Ownership:** It is the preference of NVCA that proponent-led offsetting projects are undertaken on public lands to ensure the long-term security of the project. Where projects will be undertaken on private lands, portions of such lands may require conveyance to public authority or establishment of a conservation easement/agreement.
- **Geographic Location:** NVCA promotes a site-selection hierarchy, preferring that proponents seek out offsetting project sites which are as close as possible to the original impacted feature. Completing the offsetting works on the same property is ideal, provided that the property has the space to accommodate the required *area of gain*. Where this is not feasible, the proponent should strive to source a location that is within the same municipal jurisdiction, e.g. settlement area or township. Failing the above, a proponent should source a location which is contained within the same subwatershed as the feature proposed to be impacted.

- **Site-specific Suitability:** In addition to geographic location, it is imperative to select a project site which can physically accommodate the target feature type for creation. For example, topography and soil composition of a candidate site should be assessed to determine if these parameters will support the desired hydrologic condition and target vegetation communities. Existing cover of a candidate project site must also be evaluated before confirming if the site is appropriate. For example, one natural heritage feature cannot be removed to accommodate another (e.g. clearing a woodland to construct a wetland).
- **Replacement of Core Function:** While it may be difficult or impossible to immediately replace the ecological function associated with an impacted feature, the design of individual feature creation projects should have regard for replacement of core functions.

NVCA may be able to assist the proponent in the process of securing a project site; however, it should not be expected that NVCA will have candidate project sites readily available for prospective offsetting projects. Examples of previously-identified priority restoration areas within NVCA watershed can be reviewed in the watershed Fisheries Habitat Management Plan (NVCA 2009). Proponents are encouraged to review this report to identify priority areas where natural feature creation would provide maximum landscape-scale benefits to the watershed. The Fisheries Habitat Management Plan can be reviewed on [NVCA's website](#). To continue to increase the efficiency of the offsetting process, NVCA will strive to produce additional guidance documents to support the selection of potential project sites.

4.1.2 Design and Implementation

Proponent-led offsetting projects should focus on the following list of priority project types:

- **Wetland feature creation:** Creation of new wetland features on the landscape and/or expanding existing wetland features.
- **Marginal land conversion:** Assisted conversion of suitable lands into wetland features, such as the retirement and naturalization (e.g. tree planting) of wet, poorly-drained agricultural lands. **Note:** nothing in this policy is intended to suggest that NVCA encourages the conversion of active prime agricultural lands.
- **Riparian/Floodplain corridor naturalization:** Naturalization of degraded stream channels to support enhanced natural form and function, including integration of riparian wetland features and functions.
- **De-commissioning (or otherwise altering in a beneficial way) an 'online' pond:** Removal of a watercourse impoundment which serves to provide one or more of the following watershed benefits:
 - Re-establishment of natural channel form and functions, including opportunities for reformation of natural riparian systems with inherent flood storage benefits;

- Controlled transitioning of an online feature into an offline feature, where the resulting feature will be naturalized to incorporate wetland/riparian habitat functions.

Once a location and project type has been established, the proponent is responsible for retaining a qualified professional for the design and implementation of the works. Design plans for a wetland will need to include considerations for grading/earthworks and pre- and post-construction water balance. It is important to demonstrate that a proposed project is viable in the long term from a hydrologic perspective, which should entail review by a qualified hydrogeologist. Landscaping consultants involved in project planning should be recognized and certified under the Ontario Association of Landscape Architects, Canadian Society of Landscape Architects, Ontario Professional Foresters Association, or equivalent.

NVCA and/or other agency permits may be required to support feature creation projects in certain sensitive/hazard areas, e.g. existing regulated areas. An engineering review may be required to ensure that proposed creation of a feature would not result in an increased risk associated with an existing natural hazard, particularly if a proposed project site would be located in a floodplain. NVCA will assist with identification of such requirements through the consultation process. Once an offsetting plan is approved by NVCA, implementation of the approved plan should be undertaken by qualified individuals. Depending upon scale and complexity, NVCA may require that an offsetting project reach a specific milestone of completion prior to removal of the original feature.

4.1.3 Monitoring and Maintenance

All proponent-led offsetting plans are expected to maintain their form and function for the long term. While it is unreasonable to monitor and maintain a feature in perpetuity, NVCA requires reasonable assurance that a created feature will function long term. Therefore, monitoring and maintenance should be expected to continue for at least five (5) years or until such time as the created feature has demonstrably reached a functional equilibrium.

A monitoring and maintenance plan will need to be prepared and approved by NVCA to support a proponent-led offsetting project. Two (2) years after installation of the planting materials, monitoring should verify a minimum 70% success rate for any original planted materials, with replacement plantings required for projects which fall short of this threshold. The proponent is solely responsible for ensuring that any failed planted materials are replaced. It is important to recognize that this may require financial obligations to the project beyond initial feature creation costs. Monitoring and maintenance must be carried out by qualified individuals. An annual monitoring and maintenance report shall be compiled which outlines the following:

- The monitoring efforts undertaken for each growing season for the five-year period;
- The names and qualifications of the individuals undertaking the monitoring;
- The general condition of planted materials, including a photographic log;

- An outline of any project deficiencies, and a list of steps taken to address the issues. This should include details on any additional planted materials required to supplement unsuccessful stock;
- A general assessment of the overall health and progress of the project.

The annual monitoring report shall be submitted to NVCA for review. Note that NVCA may reserve the right to inspect the finished project at specified milestones, which may necessitate the establishment of access permissions to private lands.

4.1.4 Administrative Considerations

In certain scenarios, the proponent may be required to provide a security payment and/or a 'letter of credit' to cover the projected cost of the offsetting project (or a portion thereof), potentially extending to the end of the monitoring period. The requirement for such a payment would be determined during the consultation process, and held in trust by NVCA until successful completion of the offsetting project. The amount of the security payment will be calculated using the same approach as would be used to calculate a 'cash-in-lieu' payment, as outlined in section 4.2. A security payment may not be required if the feature creation project is completed prior to removal of the original feature.

It is expected that NVCA will provide an advisory role during the course of the project, including planning, design, implementation, post-construction, and monitoring/maintenance. While the proponent will be responsible to hire a consultant/contractor for each of these stages, NVCA will provide comment throughout the process. This will ensure that projects are being planned and implemented in a manner that satisfies the original terms of the offsetting agreement. This agreement would address, but not limited to, such matters as: the description of the impacted feature (e.g. area and type of feature), agreed upon monetary amount, monetary payment phasing, and milestones associated with the payment(s).

4.2 Project Sponsorship Offsetting

An alternative approach to proponent-led offsetting is for the proponent to sponsor a qualified organization or agency to assume the responsibility of offsetting. This may include a qualified third party with demonstrable experience in wetland creation, such as Ducks Unlimited Canada, the Nature Conservancy of Canada, and/or NVCA itself. The expectation in this scenario is that the proponent provides a 'cash-in-lieu' payment to the party which would be responsible for implementing the works.

If the proponent will pursue this form of offsetting, the value of the cash-in-lieu payment will be determined based on the estimated cost of creating a wetland feature, the area of which would be equivalent to the calculated *area of gain*. Where cash-in-lieu payments are provided to NVCA, such funds will be specifically allocated to eligible in-house stewardship and restoration projects, as discussed further in this section. Once a proponent makes a cash-in-lieu payment, their responsibilities for offsetting are considered fulfilled.

4.2.1 Cash-in-lieu Value Calculation

It is important to note that the costs for the design and construction of wetland features can vary significantly, due to the multitude of variable parameters, such as project scale, type of wetland, planting densities, degree of earthworks, engineering requirements, type of herbaceous planting materials (e.g. plugs vs. seeds), etc. As such, there is inherent difficulty in accurately estimating true on-the-ground wetland creation costing. Upon request, NVCA will be available to provide project costing summaries to illustrate true examples of on-the-ground wetland feature creation costing.

Notwithstanding the complex nature of project costing, and in the interest of simplicity and consistency, this guideline provides a single cash-in-lieu value intended to reflect an estimated cost to create wetland features. The cash-in-lieu value prescribed by this guideline is **\$12/m²** or **\$120,000/ha**.

This figure is derived from a review of both internal and external wetland creation costing examples (LSRCA 2019; TRCA 2018), and is considered to be on the lower end of industry standard costs for construction of wetland features. This single value approach is intended to be inclusive of all potential costs associated with implementing wetland offsetting, including: planning/administration, design, construction, materials, monitoring, and maintenance of a created wetland feature. This value is subject to an annual inflationary increase, and subject to further review as needed to adapt to changes in costs associated with all noted variables in the feature creation process. Wetland construction costing examples can be provided to interested parties upon request.

Example cash-in-lieu costing calculation:

Through a subdivision development process, NVCA staff provide a conditional approval for the removal of 1500m² of a wetland feature, and an additional 1000m² of mixed woodland within the 30m regulatory wetland setback area. The *area of loss* in this scenario is the sum of the 1500m² and 1000m² metrics. To offset and demonstrate a net gain, the respective offsetting ratios are applied to calculate the required *area of gain* as follows:

$$(1500 \times 2) + (1000 \times 1) = 4000\text{m}^2 = 0.4\text{ha}$$

In this scenario, the proponent would be responsible to offset through the creation of 4000m² or 0.4ha of wetland area. If the proponent chooses to offset through sponsoring NVCA or an external party to conduct the works, the value of that cash-in-lieu payment for the above scenario would be:

$$(\$120,000/\text{ha})(0.4\text{ha}) = \mathbf{\$48,000.}$$

4.2.2 NVCA Strategic Use of Offsetting Payments

As previously noted, a proponent may designate NVCA as the party responsible for fulfilling their offsetting requirements. If a proponent makes a cash-in-lieu offsetting payment to NVCA, it is NVCA's responsibility to ensure that funds are administered appropriately, and in a way that aligns with NVCA's offsetting priorities.

NVCA will follow the standards contained in this policy guideline to the extent possible, to ensure that value and function of the lost feature is appropriately compensated for. At the advice of an internal, multi-disciplinary steering committee, funds received by NVCA through cash-in-lieu offsetting payments will be directed to one or more of the priority project categories as listed in Section 4.1.2 of this document. In addition, NVCA may allocate such funds toward the acquisition of lands with demonstrable potential to host future feature creation projects. Lands should ideally be located strategically to ensure that future restoration will provide landscape-level benefits (e.g. corridor connectivity, expanding areas of existing natural cover).

Land acquisition represents a unique but important option for allocation of funds, particularly when opportunities for direct feature creation are limited due to a lack of available project sites. Priority lands for acquisition, as outlined within NVCA's Land Securement Strategy, may present opportunities for enhancement through the creation of additional natural features. Through this approach, NVCA will strive to strategically secure a suite of readily-available opportunities for restoration and feature creation, on lands that are owned, managed, and protected by NVCA. Note that nothing in this policy is intended to suggest that NVCA promotes the conversion of active prime agricultural lands.

In all cases, NVCA will strive to administer any funds received through offsetting payments in a strategic and adaptive manner. Funds received through a cash-in-lieu payment may not be immediately directed towards a specific project, but held in trust until a suitable project opportunity presents itself. One such strategic use of offsetting funds may be the gradual use by NVCA's stewardship and forestry departments as 'seed' money for grant leverage on relevant wetland feature creation projects (where criteria for such granting programs permits the use of matching funds acquired through legal obligations). This means that funds from one single cash-in-lieu payment may be used to leverage additional funds for multiple projects with a wetland creation component. Likewise, funds received through multiple cash-in-lieu offsetting agreements may be applied cumulatively to one larger project.

As previously noted, appropriate portions of cash-in-lieu payments will be allocated to costs other than direct capital costs of a project. Generally, a portion of any offsetting payments would be reserved for monitoring and maintenance requirements, to ensure that created projects are functioning for the long term.

4.2.3 Payment Administration and Accountability

Details regarding offsetting project fund allocation may be made available upon request or through a location on NVCA's website dedicated to showcasing internally-administered offsetting projects.

4.3 Exemptions and Limitations

This document has been provided as a guideline for understanding eligibility requirements and technical standards for ecological offsetting. Notwithstanding the technical components listed in this guideline, there may be extenuating circumstances that afford exemptions from the standards discussed. Depending on each scenario, exemptions may be as simple as a reduction in the *offsetting ratio* used to calculate the required *area of gain*, or may be more substantive. Examples of extenuating circumstances include (but are not necessarily limited to) the following scenarios:

- Where a proponent proposes to offset, through design and creation, a feature of demonstrably higher quality or landscape-scale functionality than the feature proposed for removal, e.g. greater flood storage capacity, creation of significant wildlife habitat opportunities. In such scenarios, a potential resulting exemption may be an agreement to reduce the prescribed offsetting ratio, at the discretion of NVCA staff. With respect to wetland communities, offsetting can never result in an areal net loss (i.e. a ratio of less than 1:1).
- Where infrastructure projects must be implemented for the sole purpose of human safety. Depending on the circumstances, NVCA may waive part or all of the requirements for offsetting, provided that all attempts are made to mitigate impacts to affected natural heritage features.
- Where an isolated wetland feature measures less than 0.2 ha in overall area and provides no identifiable significant ecological or hydrologic functions (e.g. providing no connectivity functions, no significant wildlife habitat functions), NVCA may consider alternatives to direct wetland offsetting.
- Where a development proposes to remove a small portion (i.e. <0.2ha) of a much larger wetland unit. In extenuating circumstances, and if a proposal meets all eligibility criteria outlined in this document (and NVCA's Planning and Regulation Guidelines), NVCA may consider compensation through the implementation of strict policy protections for the remainder of a wetland feature, e.g. through application of a restrictive 'EP' zoning/designation. In general, this would require that the associated wetland feature does not already benefit from restrictive designations.
- With respect to wetland buffers, site-specific exemptions for offsetting may be achieved through buffer 'averaging' exercises, i.e. provision of buffer areas exceeding 30m to account for areas of minor encroachments into the 30m buffer width.

4.4 Adaptive Management and Review

It is the intention of NVCA that this guideline be reviewed on an ongoing basis, and refined as necessary. Revisions may be required periodically and for various purposes, such as (but not limited to): adjusting costing metrics associated with 'project-sponsorship offsetting', accounting for changes in land-use planning policies, reflecting new available science, or to suit other needs of the authority. Ecological offsetting is an evolving practice, and NVCA remains open to opportunities to improve this process,

which may include significant revisions to the guidelines outlined in this document. Any future changes to the document are not intended to negate the project-specific offsetting agreements which are entered into under this version of the guideline or subsequent revisions. Likewise, implementation of this guideline is not intended to negate project-specific offsetting agreements which the authority has previously entered into.

5.0 Summary and Conclusions

The guidelines contained in this document are intended to serve as a guide to determining eligibility for offsetting, and to provide standards for quantifying metrics associated with each potential offsetting project. These guidelines aim to ensure that losses of natural heritage features in NVCA watershed are met with an equal or greater gain in value and function. The purpose of this policy is to ensure that growth and development within the watershed can occur responsibly and not at the expense of the local natural heritage system. While ecological offsetting is viewed by NVCA as a tool of last resort, these guidelines aim to ensure that metrics associated with such situations are standardized for the benefit of all stakeholders. In dealing with this evolving concept, NVCA will strive to continue to develop and refine this tool based on ongoing consultation with member municipalities, the development community, and all other relevant stakeholders.

6.0 References

Lake Simcoe Region Conservation Authority (LSRCA). 2017. Ecological Offsetting Plan. 16pp.

Nottawasaga Valley Conservation Authority (NVCA). 2009. Fisheries Habitat Management Plan.

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Ontario Ministry of Natural Resources (OMNR). March 2010. Natural Heritage Reference Manual for Natural Heritage Policies of the Provincial Policy Statement, 2005. Second Edition. Toronto: Queen's Printer for Ontario. 248 pp

Ontario Ministry of Natural Resources (OMNR). January 2015. Significant Wildlife Habitat Criteria Schedules for Ecoregion 6E.

Toronto and Region Conservation Authority (TRCA). 2017. Wetland Water Balance Risk Evaluation.

Toronto and Region Conservation Authority (TRCA). 2018. Guideline for Determining Ecosystem Compensation (draft with costing examples; costing examples attached to this document for reference purposes).