

Policies for the Administration of  
Ontario Regulation 177/06



Development, Interference with Wetlands and Alterations  
to Shorelines and Watercourses

## **Appendix H**

### **North Bay-Mattawa Conservation Authority Environmental Impact Study Guidelines**



**NORTH BAY-MATTAWA  
CONSERVATION AUTHORITY  
ENVIRONMENTAL IMPACT  
STUDY GUIDELINES  
*FINAL REPORT***

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**NORTH BAY-MATTAWA CONSERVATION AUTHORITY  
ENVIRONMENTAL IMPACT STUDY GUIDELINES**

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Appendix A – EIS Requirements

**NORTH BAY-MATTAWA CONSERVATION AUTHORITY  
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## **1.0 Introduction**

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The North Bay-Mattawa Conservation Authority (NBMCA) has jurisdiction over 2,800<sup>2</sup> km of area in northeastern Ontario, based on identified watersheds within the Lake Nipissing and Ottawa River Basins. The NBMCA responsibilities related to the *Ontario Conservation Authorities Act* provides that the Conservation Authority (CA) may make regulations, policies, guidelines, etc. applicable to the area under its jurisdiction to prohibit, regulate, restrict, or give permission for certain activities in and adjacent to watercourses and wetlands.

The NBMCA also provides environmental advisory services in review of development proposals and applications to its member Municipalities. The NBMCA has established these Environmental Impact Study (EIS) Guidelines to assist the Municipalities, development proponents and CA staff as it relates to the requirements of an EIS.

The EIS is intended to guide the review process and establish a clear set of parameters to be evaluated prior to and during a development process, as part of a permit application and for Member municipalities in preparing Official Plans, and other policy documents or guidelines.

### **1.1 PURPOSE OF AN EIS**

The NBMCA has prepared a Wetland Policy which guides when an EIS is required. Within the context of the NBMCA's Wetland Policy, an EIS is a process that addresses the potential impacts of site specific development activity on wetlands and in their adjacent lands

The Ontario Conservation Authorities Act defines development as:

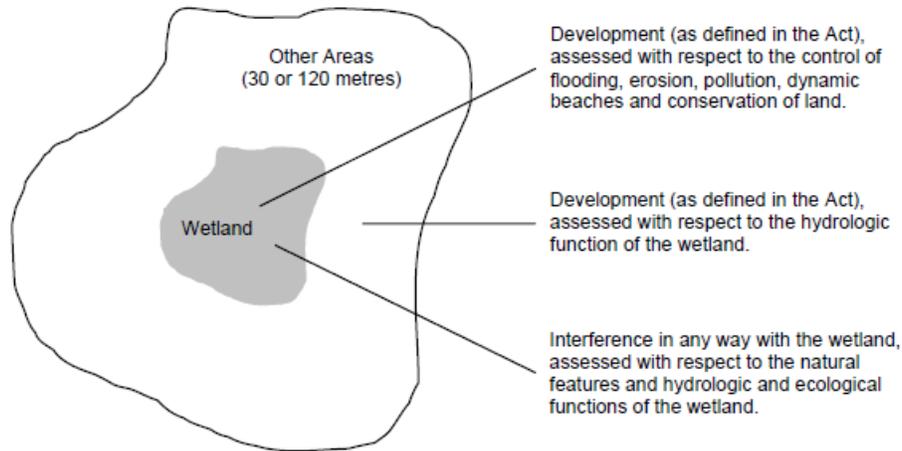
- i) The construction, reconstruction, erection or placing of a building or structure of any kind;
- ii) The change to a building or structure that would have the effect of altering the use or potential use of the building or structure, increasing the size of the building or structure or increasing the number of dwelling units in the building or structure;
- iii) Site grading; and,
- iv) Temporary or permanent placing, dumping or removal of any material, originating on the site or elsewhere.

The requirement for an EIS may be triggered by a development application on lands within or adjacent to a wetland as displayed on Figure 1. The NBMCA will classify types of development and site alteration process into a "minor" or "major" category as defined in Appendix A and will generally consider minor development or site alteration proposals in conjunction with the issuance of a Development Interference with Wetlands and Alteration to Shorelines and Watercourses Permit.

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## Introduction

Figure 1: Wetlands and other Areas



*\*Source: Draft Guidelines to Support Conservation Authority Administration of the “Development, Interference with Wetlands and Alteration to Shorelines and Watercourses Regulation” (April 21, 2008)*

An EIS may be completed as an objective assessment for development proposals taking place in other areas whereby the development is assessed with respect to the hydrologic function of the wetland.

Interference to a wetland is assessed with respect to the natural features and hydrological and ecological functions of the wetland. The EIS assesses whether the proposed activity might reasonably be expected to change the biological and physical characteristics and/or integrity of an area and to what extent. Where environmental impacts are identified, the EIS will recommend ways to avoid, mitigate and/or reduce these environmental impacts. The EIS allows various alternatives to be considered by evaluating the changes that would occur as a result of the development.

Development within a Provincially Significant 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. Consideration of development within a PWS shall be provided for docks, municipal trails, public parks, conservation or restoration projects and existing approvals previously granted and municipal infrastructure provided it is going through an Environmental Assessment process. During the review of these exemptions it must be demonstrated to the satisfaction of the Conservation Authority that the control of flooding, erosion, pollution or the conservation of land will not be affected and the interference on the natural features and hydrologic and ecological functions of the wetland has been deemed to be acceptable by the Conservation Authority. These exemptions are contained within the North Bay-Mattawa Conservation Authority Wetland Policy.

*Note: The completion of an EIS does not necessarily ensure that an application will be approved.*

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## **2.0 Steps in the EIS Process**

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In order to submit an EIS in a timely manner, the following steps will occur in consultation with the CA:

- i) Consult with NBMCA staff at the conceptual planning stage to determine if the proposal is major or minor;
- ii) Consult with NBMCA staff at the conceptual planning stage to determine if the proposal is within a PSW or within a NPSW and/or other areas as shown on Figure 1 to determine the scope of the EIS;
- iii) Prepare a Terms of Reference (TOR) with input from NBMCA staff and local Municipal staff and any relevant agency (e.g. MNR, DFO, etc.) which is to be approved prior to starting the field work;
- iv) Ensure all applicable legislation and or regulations are considered before initiating the EIS;
- v) Document existing site conditions, including any wetland or other features (on-site verification by NBMCA staff may be required);
- vi) Describe the proposal in detail;
- vii) Assess the impact of the proposal for the immediate and long term;
- viii) Document any activities to be avoided and controls required to ensure the proposal meets with the NBMCA's requirements;
- ix) Prepare monitoring strategies; and,
- x) Prepare and submit the EIS report as part of an Application Submission.

The more detailed description of these steps is provided in the following sections.

### **2.1 APPLICABLE AREAS**

The areas to which these guidelines would apply are Evaluated Provincially Significant Wetlands (PSW), Evaluated Not-Provincially Significant Wetlands (NPSW) and Unevaluated Wetlands and other areas. The EIS for wetlands should look at the following depending if it is in or adjacent to (i.e. other areas) a wetland as identified in Figure 1:

- i) Designated Natural Heritage Features;
- ii) Habitat of Endangered or Threatened species;
- iii) Fish habitat;
- iv) Significant Wildlife Habitat;
- v) Flood and erosion hazards of streams and valleylands;
- vi) Flood and erosion hazards of dynamic beaches;

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- vii) Significant groundwater discharge and recharge areas; and,
- viii) Areas of Source Water protection.

## **2.2 CONSULT AT AN EARLY STAGE**

Ideally, when a development proposal is at its initial planning stages and one or more of the above triggers are potentially impacted, the proponent should approach the NBMCA to screen the proposal to determine if an EIS may be necessary. In determining if an EIS is required, CA staff may carry out a site visit. The advantage of the pre-consultation includes:

- i) The proponent will develop an understanding of the CA review process, timelines, and additional background work required to support the application prior to initiating the process;
- ii) The NBMCA will have an opportunity to preview and screen the proposal at a conceptual stage and may be able to offer helpful suggestions to simplify the review process and/or improve the potential for the proposal to be accepted/approved;
- iii) The proponent can consider conceptual alternatives that may avoid or simplify the scope of the EIS; and,
- iv) Early dialogue with the CA can avoid having to backtrack at later stages and may assist in realizing an expeditious timeline.

## **2.3 TERMS OF REFERENCE (TOR)**

Prior to undertaking an EIS, it is desirable for a TOR to be established in consultation with NBMCA, as this will chart the direction the study should take. The TOR would determine the scope of the EIS and the range of issues that would need to be evaluated by the proponent and their consultant and subsequently the NBMCA. There are two types of EIS's that may be applicable for consideration of a development proposal and early consultation will determine the appropriate level.

### **2.3.1 Full EIS**

A full EIS will normally be required as part of a development process, when it is within a PSW or within 120 metres of a PSW or any major development applications in a NPSW or unevaluated wetland. An EIS is also required for large-scale projects, such as plans of subdivision or quarry/pit applications. Due to the larger scale of these developments and/or the greater potential for impacts to occur, they will normally require collection and analysis of a larger amount of information. Development within a wetland is PSW is generally prohibited as outlined in section 1.1 above. Development within a NPSW or unevaluated wetland may be permitted where in the opinion of the conservation authority the control of flooding, erosion, dynamic beaches, pollution or the conservation of land will not be affected. Applications for interference within a wetland will require an EIS. A full EIS will be completed using the format described in Section 3.

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**2.3.2 Scoped EIS**

A Scoped EIS is often used to assess the potential impacts of minor development such as single-lot severances within other areas of a NPSW or other areas as described in Figure 1. Several of the components listed in Section 3 may be removed during consultation with the NBMCA.

**2.3.3 No EIS**

In some cases (e.g. minor variance or deck permit) the requirements for a scoped EIS may be waived by the NBMCA if it is determined by NBMCA staff at the outset that the development will not have a negative environmental impact.

**2.3.4 EIS Responsibilities**

The proponent of a development has the financial responsibility to fulfill the requirements established by Federal and Provincial Legislation, the NBMCA and the Municipality for an EIS. The EIS will contain recommendations that discuss whether or not the impacts of the proposed development are acceptable or not and measures to maintain or enhance the natural heritage features, hazards and functions of the site. Through this process, it is expected that development proposals may be modified to reduce impacts. The EIS will be reviewed for technical accuracy, the extent of impacts and if the proposal is deemed to be acceptable, needs to be modified or is rejected. It is expected that the EIS will be prepared by qualified persons, for example:

- i) If boundaries of a Provincially Significant Wetland are required to be confirmed, then the assessor must be certified as a wetland evaluator by the Ministry of Natural Resources (MNR)
- ii) If a flooding/floodplain analysis is required, it must be completed by a qualified water resources engineer (P.Eng)
- iii) If a hydrogeological assessment is required, it must be completed by a qualified hydrogeologist (P.Geo).

NBMCA staff and the applicant should determine the minimum professional qualifications required for completion of the EIS during pre-consultation and establishment of the Terms of Reference. Each professional contributing to an EIS must demonstrate qualifications relevant to the scope of the assessment by submitting his or her resume with the final EIS report.

**2.3.5 EIS Scope - Minor and Major Proposals**

The scale, type and locational context of development is a factor in determining if an EIS is required, or not, and the scope of the EIS. The NBMCA will review the proposal with the following parameters, listed below, to determine the scope of the EIS.

- i) Whether or not and how the development affects the control of flooding;
- ii) Implications relative to erosion and unstable soils;

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- iii) Effects relative to pollution;
- iv) impacts to dynamic beaches;
- v) Conservation of land and
- vi) Interference in any way.

An EIS Matrix table is listed in Appendix A. It is important to understand the class of development to determine if an EIS is required and then the scope. Two classifications of development have been identified:

Minor Development

Minor development may include the following:

- i) Single family dwelling
- ii) Single family dwelling on an existing lot of record may be reviewed on the basis of context;
- iii) Expansion of existing dwelling units such as decks, small additions, patios, pools, septic systems, non-habitable accessory buildings; and
- iv) Private docks.

**NOTE:** i, ii, and iii are not permitted in a PSW

The scope of the EIS should be determined based on the distance between the development and the wetland. These minor permits may not require an EIS provided that best management practices are implemented, and it is outside of the wetland. It is noted that the Conservation Authority should ask for an EIS if there is any question that the development or site alteration is located in other areas as shown on Figure 1 and may cause a hydrologic impact.

Where there are hydrological impacts to the function of a wetland, or the proposal is within a wetland then a scoped EIS may be required. If the proposed development requires an application subject to the planning Act (Zoning by-law amendment, Official Plan amendment or Minor Variance) a scoped EIS will be required.

Major Development

- i) Development that is not minor. This may include industrial or commercial proposals, residential with more than 1 unit, commercial docks, large additions or expansions, site alteration and aggregate applications.
- ii) Plans of subdivision;
- iii) Other (such as agriculture and peat, infrastructure, etc.).

These major developments typically require multi seasonal field work which will be determined at the Pre-consultation meeting. As part of this process the existing features and functions must be documented in order to mitigate impacts.

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Agricultural use:

A Permit is required for Regulated activities (e.g. creation of a pond, removal of wetland vegetation and/or filling of a wetland to establish arable land and construction of a barn or structure. An EIS may be required if there is a potential impact on the interference with a wetland or watercourse, flooding, erosion or impact to dynamic beaches.

Peat Extraction:

The CA may request an EIS to address the interference in any way with the wetland and the control of flooding, erosion, pollution and effect on dynamic beaches and/or the conservation of land.

**2.3.6 Area Exemptions**

The requirements to complete an EIS will not apply to the following:

- i) A natural-occurring wetland which is less than 0.5 ha in area and is not:
  - 1. Part of a Provincially Significant Wetland; or;
  - 2. Located within a floodplain or riparian community; or;
  - 3. Part of a provincially or municipally designated natural heritage feature, a significant woodland, or hazard land; or;
  - 4. A bog, fen; or;
  - 5. Fish habitat; or;
  - 6. Confirmed habitat for a provincially or regionally significant species as determined by the MNR or as determined by the municipality; or;
  - 7. Part of an ecologically functional corridor or linkage between larger wetlands; or;
  - 8. Part of a groundwater recharge area; or;
  - 9. A groundwater discharge area associated with any of the above.
- ii) Wetlands which have been created as a result of the creation of a SWM facility.

## **3.0 EIS Report**

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The following guidelines should be used when completing an EIS report.

### **3.1 PROPERTY INFORMATION**

Basic information on the property must be included at the beginning of the report. This includes:

- i) Owner's name;
- ii) Location of the property (municipal address, legal description, roll number, and municipality and,
- iii) Existing land uses.

### **3.2 DESCRIPTION OF THE ENVIRONMENT**

The report should provide a description of the existing environment, features and functions and existing conditions in order to provide a baseline. The existing environment should include linkages between natural features. This section will summarize and synthesize existing background documents (e.g. hydrogeological, geotechnical studies, etc.). The level of detail required will vary based on the type of EIS. For a Full EIS, the description should include a brief introductory overview that establishes the environmental setting for the proposed project relative to any known significant natural heritage features and natural hazards, followed by more detailed discussion of the various environmental components. A scoped EIS will focus on hydrologic function of the wetland.

#### **3.2.1 Location Map(s), Site Specific and Regional Context**

A map that clearly illustrates the key features associated with the site will be required to accompany every EIS. It should include a key map to show the subject site's location in relation to the surrounding major roads and other landmarks. The use of aerial photography as a base for the natural environment map is strongly encouraged. For a scoped EIS as determined at pre-consultation, iii and iv may not be required.

The map(s) will:

- i) Illustrate the existing natural environment on the site (note: the property line must be clearly identified) and in the surrounding area;
- ii) Be drawn to a pre-approved scale, with standard mapping elements such as a north arrow, date, legend, etc.;
- iii) Identify all of the terrestrial and aquatic natural features, links and conditions as part of the ecological assessment that may be affected by the proposed development or site alteration;
- iv) Identify the existing features as part of the hydrological assessment and any erosion, conveyance, flood attenuation and groundwater recharge/discharge areas; and,

- v) Include topographic information (i.e. elevation contours) at a level of detail sufficient to show general slope trends and specific topographic features such as valleys or gullies, cliffs or escarpments, hills, post-glacial features (e.g., drumlins, eskers, kettles), etc.

The use of photographs to illustrate and accompany the EIS (whether scoped or full) is also required.

### **3.2.2 Review Existing Legislations, Zoning and Permitted Uses**

The EIS will provide a legislative and land use review with a brief description of all applicable legislation and the current official plan designation and zoning regulations. This section will also detail conformity with the Provincial Policy Statement (PPS 2005).

### **3.2.3 Existing Development Features (If Applicable)**

Provide a description of any existing development features on or adjacent to the proposed lands.

### **3.2.4 Existing Features Assessment within and Adjacent to the Proposal Lands**

The EIS must provide a descriptive summary of each hydrogeological and ecological feature known to be present on and adjacent to, the site. The summary must discuss the value(s) assigned to the feature, clearly identify aspects of the feature that contribute to its significance, and assess the sensitivity of the feature to the proposed plan or development. This information is critical to the assessment of impacts. EIS reports that fail to present clearly this information will be considered incomplete.

Field confirmation of boundaries (e.g., for Provincially Significant Wetlands, significant ANSI's) will be required, and any proposed changes (e.g. to PSW boundaries) will require agency notification (e.g. MNR). Field studies for the EIS will also confirm and/or update the available background information. Thorough searches in the appropriate season, time of day, and habitat must occur for any species at risk reported at or near the site in question. The EIS report must include a fieldwork summary table including date and time of all site visits, personnel involved, weather conditions, and purpose of each visit.

In addition to the identification and assessment of existing features associated with the property and adjacent to the site, the EIS must also address the interference in any way with the wetland with respect to the ecological and hydrologic functions that may be affected by the proposed plan or development. Ecological functions are defined in the PPS (2005) as "...the natural processes, products or services that living and non-living environments provide or perform within or between species, ecosystems and landscapes, including biological, physical and socio-economic interactions."

The EIS must specifically discuss the nature and extent of the ecological functions provided by the site, in relationship to the surrounding area. The EIS must include:

- i) A description of each ecological functions provided by the site and identification of any functions that have contributed to the area being identified as significant;

- ii) An assessment of the significance of each function, using quantitative information if possible, and relating this to the quality and integrity of the area; and,
- iii) An assessment of the sensitivity of the function to the type of plan or development proposed.

Again, this information is critical to the assessment of impacts, and reports without this information will be considered incomplete.

### **3.2.5 Topographical, Soils and Geological Features**

Mapping is a critical component as it provides the framework for the existing conditions, the proposed development and the interference and potential impact. Mapping should include location maps, development proposals and the topographical surrounding.

While a brief description of the physical characteristics of the site is always relevant, detailed information on soils and geology is not required for every EIS report. The need for this information, and the studies required, will be determined through pre-consultation and established in the TOR. In general, a description of the soils and geology on the development site and in the affected surrounding area will be required for any EIS in which the environmental values or functions of the feature(s) or designation(s) that triggered the EIS may be dependent upon or sensitive to the potential effects of the project on landform features (steep slopes), organic soils or geological conditions. Site-specific information may be available from topographical analyses completed previously (e.g. boreholes) and as part of the site analysis. Any relevant aspects of bedrock formations may be described. The significance and characteristics of any earth science features (e.g., Earth Science ANSIs) identified on or near the site must be described in detail in this section.

### **3.2.6 Wetlands**

All wetland hydrological features and ecological features must be identified and assessed. All development within a PSW or major development within 120m of a PSW or within a NPSW will require an EIS. The proposed development must be identified and described; this will be determined in consultation with the NBMCA.

Any Provincially Significant Wetlands on or adjacent to the subject property must be addressed in the EIS and shown on the map of the existing features.

Note: where required, wetland boundaries are to be flagged by a qualified wetland evaluator, and verified by NBMCA staff and surveyed (where required) by a qualified Ontario Land surveyor.

### **3.2.7 Hydrological Function**

Hydrological function, including surface and groundwater features, recharge areas, source water protection zones, quality and quantity analysis, flow directions and connections are to be evaluated. Boreholes may be required. Floodplain, channel meander patterns, and wetlands may also be evaluated depending on the scope, scale and issues identified with the development. A predevelopment/post development water balance may be required for the site if there are existing natural features on the site including wetlands, woodlands and watercourses.

The following information may be required and mapped in the EIS:

- i) Existing surface water drainage pattern;
- ii) Watercourse features (including municipal drains) and associated setbacks;
- iii) Boundaries of wetlands, vernal pools, lakes and ponds (may need to be verified during fieldwork);
- iv) Existing areas of erosion;
- v) Existing water crossings, dykes, etc.;
- vi) Locations of seeps, springs, sinkholes, and other groundwater discharge/recharge areas; and,
- vii) Locations and usage of wells and septic systems on the site and surrounding area.

If not already completed as a result of other studies, the following in-depth field studies may also be required (the requirement for in-depth studies will be determined by the NBMCA):

- i) Floodplain mapping;
- ii) Geomorphological assessment of watercourses, to determine appropriate meander belt width and other channel characteristics;
- iii) Flow monitoring;
- iv) Borehole installation to determine groundwater elevation and direction of flow (must be completed by a qualified engineer or geologist); and/or,
- v) Investigation of connections between groundwater and surface water features.

The relevant findings of any of these studies or other hydrologic or hydrogeological assessments must be summarized in the EIS, especially with respect to their potential environmental impacts and existing constraints. The scope of such assessments must include sufficient detail to define the relationship between groundwater and surface water features (i.e., hydrologic function).

### **3.2.8 Vegetation Features**

Identify vegetation communities, including wetland vegetation, presence of rare species, uncommon species, and species of concern. A description of the vegetation communities, including dominant species of trees, shrubs and/or groundcover for each community on the subject site and in the affected surrounding area is required for all EIS reports. Each of the vegetation communities described must be clearly identified on the map of the natural environment. A detailed plant species list for the property is not required in every case. The level of detail required will vary with the size and complexity of the proposed project and the amount of natural vegetation that may be affected.

For a Full EIS, a thorough desktop review of existing studies and data, which has been ground-truthed through fieldwork, is the minimum standard expected. In some cases, a three-season floral inventory may be required. Pre-consultation and establishment of the TOR is important in order to clarify the requirements of the EIS, prior to starting fieldwork.

### **3.2.9 Wildlife Features**

An EIS may include a description of wildlife species, bird surveys, amphibian surveys, rare or uncommon species, and their habitats. As with vegetation cover, a thorough review of available background information on wildlife is expected as part of any Full EIS. Incidental observations will be the minimum standard required from fieldwork. The need for specific field studies of various taxonomic groups (e.g., breeding bird surveys, etc.) may be identified during pre-consultation.

A Full EIS report will include:

- i) Lists of the species observed, reported or expected to occur on or adjacent to the site, each species' residency status (i.e., is it present year-round, seasonally or only periodically; does it live on the property, forage there or use it as part of a movement corridor) and the evidence supporting its inclusion on the list (e.g., sighting, tracks, previous report, etc.);
- ii) An assessment of the site's suitability for any significant species (including species at risk); and,
- iii) An assessment of whether or not any significant wildlife habitat is present on or adjacent to the site.

For a Scoped EIS, a list of incidental species observations may be considered sufficient. The list should include all wildlife species known or suspected to occur in the vicinity of the property, and should indicate why it is believed to be present (e.g. direct observation, tracks seen, call heard, reported previously). Where possible, the EIS should specify whether the animal lives on the property or whether it is a visitor (e.g. looking for food or migrating through).

### **3.2.10 Aquatic Habitat Features**

Identification of the location and distribution of fish habitat and species, spawning areas, nursery areas, refuge pools, migration routes, benthic organisms, channel characteristics, annual high water marks and temperature may be required. This field work is to be completed in accordance with the work timing window as established by the Ministry of Natural Resources (MNR).

### **3.2.11 Habitat for Species at Risk**

The general term "species at risk" is used here to include any species listed at the Provincial level under the *Endangered Species Act, 2007*, as well as additional species that have been added to the list.

If the potential is identified for species at risk to occur in the area, and suitable habitat exists on the subject property, then a field survey must be conducted by a qualified person who is familiar with the species, during the appropriate time(s) of year. The proposed field survey methodology must be reviewed by the MNR Species at Risk Biologist prior to commencement of the work, to ensure that the proposed approach is appropriate and to determine whether any permits will be required under the ESA, 2007. If the presence of species at risk is confirmed, the EIS must include a map showing location(s) of species observations, specific habitat area(s) and movement corridors on the development site or in the affected surrounding area. The general map of the natural environment may also serve as the map of habitat for species at risk, if the scale and resolution allow precise depiction of species' locations and habitats. The MNR may require that this map and other specific data on the location(s) be removed from the EIS report prior to public circulation for the protection of the species. In such cases, the map of habitat for species at risk cannot be combined with the general map of the natural environment.

In cases where apparently suitable habitat is identified adjacent to the subject property, but access cannot be obtained to conduct the field survey, the EIS must proceed on the basis that the species may be present, and map the habitat as unconfirmed. Recommendations for mitigating any potential impacts on the species or its habitat from the proposed plan or project must be included in the EIS.

Significant habitat for Provincial species at risk is considered significant wildlife habitat, which is protected under the Provincial Policy Statement, 2005.

### **3.3 DESCRIPTION OF THE PROPOSED DEVELOPMENT**

This section will provide information about the proposed development and/or site alteration. In order to assess the environmental impacts of the proposed project on the identified natural features and functions, a clear understanding of the project is required. The project description must include information about all phases of the project, including proposed land uses, density, necessary services, site preparation, construction, landscaping and intended use of the property once the construction work is completed, and (in some cases) decommissioning, if this information is available.

The level of detail should reflect the size and complexity of the development or site alteration; for example, a simple country lot severance may require only a single paragraph of description, whereas a plan of subdivision may require supporting plans, studies and reports. The description must be accompanied by one or more graphic representations of the project (e.g. concept plan, preliminary site plan or plan of subdivision, proposed land use schedule, etc.). The level of detail will be determined during the establishment of the TOR. This should include:

- i) Stormwater management;
- ii) Grading/filling;
- iii) Erosion and sediment control measures;
- iv) Soils;

- v) All building and septic system envelopes or municipal services;
- vi) Vegetation to be removed and retained and tree protection measures;
- vii) Lighting;
- viii) Trails and walkways;
- ix) Timing of construction and phasing if applicable; and,
- x) Floodproofing requirements.

### **3.4 EVALUATION OF THE IMPACTS**

Impacts are assessed to evaluate their significance and to examine measures to prevent, reduce or compensate for the impacts. Impacts will occur during site preparation, construction and from ongoing use after construction. Determining the impact will require a scientific approach looking at direct causes and effects as well as secondary synergistic consequences to the surrounding environment, community and/or watershed.

The assessment of impacts will evaluate all of the features and functions identified in the description of the environment for both the ecological and hydrological functions. Negative impacts expected on specific functions that contribute to the significance of a designated wetland must be addressed (e.g. hydrological impact to a PSW; the loss of breeding sites for species at risk or in areas of significant wildlife habitat).

Potential impacts on wetland features and functions and cumulative impacts should also be addressed, where applicable.

### **3.5 MITIGATION STRATEGIES**

Mitigation measures must be identified for each potential negative impact, to eliminate or reduce the impact to the extent possible. Preferred mitigation measures avoid or minimize impacts, and may be supported by compensatory measures such as site rehabilitation or restoration.

Examples of possible mitigation measures are included in the Provincial Natural Heritage Reference Manual (MNR, 2010).

The description of mitigation measures must include identification and explanation of measures that would effectively mitigate, eliminate or reduce potential negative impacts of the proposed or development on the natural area features and functions. These may include modifications to the proposed development, dedications of lands, buffers and timing restrictions. Avoiding or eliminating impacts through design (or redesign, where necessary) is the preferred approach, and should always be considered as a first step. Designing around the feature is the only option when PSWs or significant habitat for endangered and threatened species occur within a proposed project's boundaries.

Minimizing impacts to the extent possible is expected when avoidance is not feasible. Examples include the establishment of limits on the extent of vegetation clearing for new residential lots, or

the use of specific timing windows for construction to reduce impacts on wildlife by avoiding sensitive life stages such as breeding seasons or hibernation. The supporting rationale for these measures should be included in the EIS.

Recommendations for the preservation of natural features within or adjacent to the project area must be accompanied by recommendations regarding appropriate setback distance(s) and any buffer(s) required to protect the feature and its ecological functions from impact.

Compensation may be required in specific circumstances where impacts cannot be avoided or minimized.

For projects involving changes in land use or severance of lots, where there may be no physical impacts associated with the project (in the absence of actual site alteration or construction), the recommended mitigation measures should focus on avoiding or minimizing the potential for future impacts from subsequent projects.

A detailed EIS will include the following:

- i) A full description of proposed mitigation measures for all potential negative impacts;
- ii) For each negative impact, an indication of whether there will be any residual impact following implementation of the recommended mitigation measure(s); and
- iii) A description of proposed restoration or enhancement plans to compensate for impacts that cannot be avoided or minimized.

### **3.6 MONITORING**

Where impacts have been avoided or minimized through the EIS process, using conventional mitigation measures with proven effectiveness, monitoring may not be needed. In cases where negative impacts have not been eliminated, or where new or unproven mitigation measures are being used, monitoring may be required to measure impacts over time. The EIS must identify any monitoring needs associated with the project, and should provide recommendations regarding the design and implementation of the required monitoring program, including who's responsibility it is to undertake the monitoring, at who's costs and reporting timeframes. Consultation with NBMCA staff will be required to establish the scope of all monitoring programs, and to ensure that recommendations are feasible and appropriate.

Monitoring will usually be site-specific and may be required during the pre-construction, construction, and/or post-construction periods. The EIS should:

- i) Clearly differentiate between monitoring recommendations aimed at ensuring effectiveness of mitigation, and any monitoring required for legal compliance (e.g. to meet conditions of a Certificate of Approval);
- ii) Specify the appropriate stage(s), schedule and duration for the monitoring program;
- iii) Propose appropriate thresholds or benchmarks for monitoring purposes;

- iv) Identify who will be responsible for monitoring, and the reporting structure required to ensure that results are acted upon as needed; and,
- v) Outline contingency plans if an impact is detected or if the proposed thresholds are not met.

### **3.7 SUMMARY AND RECOMMENDATIONS**

A Full and Scoped EIS report must include a concise summary that addresses major points, and highlights any issues of concern from each subject area. Limitations of the study should be clearly identified (e.g., assumptions, timing, and context). Recommendations should outline how the proposal can maintain or enhance the ecological functions of the natural area and include the following:

- i) Should the proposal proceed as planned;
- ii) Should the proposal be revised to reduce/eliminate effects, and if so how;
- iii) Mitigation measures required; and
- iv) Development conditions, including timing and recommended monitoring requirements.

Appendices to the report should include:

- i) Literature cited;
- ii) A list of people consulted during the study, along with their title and agency affiliation, where applicable, and the subject(s) on which they were consulted;
- iii) Species lists; and,
- iv) Resumes of those who contributed to the report (including field technicians).

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## **4.0 Finalization and Submission**

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An EIS focuses on significant environmental issues, documents how a development/undertaking complies with the intent of all Municipal, Provincial, Federal policies, CA regulations, Best Management Practices and guidelines. The EIS will concisely summarize how a proposal can be constructed and operated without having a negative impact to critical natural functions and features. It will summarize the data collected and cite the methods used in interpreting the data. The report will characterize the potential impacts and the strategies for avoidance or mitigation. The report can be structured on the following outline:

- i) Executive Summary;
- ii) Property Information;
- iii) Description of the Environment and Significant Features;
- iv) Description of the Proposed Development;
- v) Evaluation of Ecological Impacts;
- vi) Assessment of Mitigation Strategies;
- vii) Monitoring;
- viii) Summary and Recommendations; and,
- ix) Maps, Photos, Appendices, Calculations, List of References and CV of Study team.

The EIS report is submitted to the NBMCA as part of development or Permit application process. If the report is not complete or the content is insufficient, it will be returned to the applicant or consultant for modification.

Ministry of Natural Resources staff may also participate in the review of the EIS when Provincially Significant Wetlands, significant areas of natural and scientific interest and/or endangered and threatened species and their habitat are addressed.

NBMCA staff may require one or more site visits in the course of reviewing an EIS, in order to gain a better understanding of the environmental context of the proposed plan or project or to verify the findings of the EIS. NBMCA staff will notify the applicant prior to any proposed site visits, to arrange for access to the property.

Based upon the results of the review, an EIS report may be accepted as written, or it may require revision to address comments and concerns raised by the reviewers or changes to the proposed plan or project arising during the plan or application review process. The resolution of comments or concerns may be achieved through discussions or meetings, or may in some cases require additional research or field investigations, with subsequent revision of the report.



# **APPENDIX A**

## **EIS Requirements**



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Y - required N - not required M - maybe required

Regulated Category	Wetland Function	EIS Assessment	Minor Development			Major Development			Agricultural Use			Peat Extraction		
			in PSW	PSW buffer or NPSW	Non-evaluated	in PSW	PSW buffer or NPSW	Non-evaluated	in PSW	PSW buffer or NPSW	Non-evaluated	in PSW	PSW buffer or NPSW	Non-evaluated
<b>Policy Review</b>		PPS compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		Official Plan Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		Zoning Compliance	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
<b>Hydrological Function Assessment</b>														
	Existing Features	Surface Water and Drainage Pattern	N	N	N	Y	Y	Y	Y	N	N	Y	Y	Y
		Watercourse Features	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
		Wells/septic systems	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Erosion Control	Storage Capacity	N	N	N	Y	M	M	M	N	N	Y	Y	Y
		Loss of Vegetation	N	N	N	Y	Y	M	Y	Y	Y	Y	Y	Y
		Reduction in Water Levels	N	N	N	Y	Y	M	Y	N	N	Y	Y	Y
	Groundwater Recharge/ Discharge	Wetland Groundwater	N	N	N	Y	Y	M	Y	Y	M	Y	Y	Y
		Adjacent Groundwater Levels	N	N	N	Y	Y	M	Y	Y	M	Y	Y	Y
		Geology	N	N	N	Y	Y	M	N	N	N	Y	Y	Y
		Discharge/Recharge Quantity	N	N	N	Y	Y	M	Y	N	N	Y	Y	Y
		Discharge/Recharge Quality	N	N	N	Y	Y	M	Y	N	N	Y	Y	Y
		Groundwater Assessment	N	N	N	Y	Y	M	Y	M	N	Y	Y	Y
	Conveyance	Conveyance Assessment	N	N	N	Y	M	M	Y	Y	N	Y	Y	Y
	Flood Attenuation	Flood Assessment	N	N	N	Y	Y	M	Y	Y	M	Y	Y	Y



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Y - required N - not required M - maybe required

Regulated Category	Wetland Function	EIS Assessment	Minor Development			Major Development			Agricultural Use			Peat Extraction			
Ecological Assessment	Habitat for Flora, Fauna, Biology	Wetland Boundary Staked with CA Staff	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	
	Species at Risk	Habitat Review	N	N	N	Y	Y	Y	Y	M	M	Y	Y	Y	
	Botanical Survey	Season 1		N	N	N	Y	M	M	Y	N	N	Y	Y	Y
		Season 2		N	N	N	Y	N	N	Y	N	N	Y	N	N
		Season 3		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Breeding Bird Survey	1 Visit		N	N	N	Y	M	M	Y	N	N	Y	Y	Y
		2 Visit		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Migratory Bird	Analysis of Records		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Breeding Frog/Toad Survey	Visit		N	N	N	Y	Y	M	Y	N	N	Y	Y	Y
		2 Visit		N	N	N	Y	N	N	Y	N	N	Y	N	N
		2 Visit		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Breeding Salamanders	1 Visit		N	N	N	Y	Y	M	Y	Y	N	Y	Y	Y
		2 Visits		N	N	N	Y	N	N	Y	N	N	Y	N	N
		Sampling		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Turtle and Snake Survey	1 Visit		N	N	N	Y	M	M	Y	Y	N	Y	Y	Y
		2 Visit		N	N	N	Y	N	N	Y	N	N	Y	N	N
	Aquatic Habitat	Other		N	N	N	Y	N	N	Y	N	N	Y	N	N
		Visual		N	N	N	Y	M	M	Y	N	N	Y	Y	M
		Electrofishing		N	N	N	Y	M	M	Y	N	N	Y	Y	M
		Netting		N	N	N	Y	N	N	Y	N	N	Y	Y	M
		Habitat Assessment		N	N	N	Y	M	M	Y	N	N	Y	Y	Y
	Benthics	Sampling		N	N	N	Y	M	M	Y	N	N	Y	Y	M
	Mammal Survey	Visual		N	N	N	Y	Y	M	Y	N	N	Y	Y	M
		Cumulative Impacts and Ecological Links Survey	Observation and Historical Records	N	N	N	M	M	M	M	N	N	Y	N	N