

## Section 5.7

### Municipal Water Supply Watershed Planning: Model Municipal Planning Strategy & Land-Use By-law and Other Management Tools

#### Introduction

Service Nova Scotia and Municipal Relations retained Jacques Whitford Environment Limited to prepare a model municipal planning strategy and land-use by-law for watershed management. That work was carried out with the assistance of planning staff of the Municipality of the County of Annapolis.

Reference guide for municipal: planners, CAOs/clerks, elected officials and others

This document is based on that work and is intended as a reference guide for Nova Scotian municipal planners, municipal clerks/CAOs and elected officials developing policies and regulations concerning watershed management for municipal drinking water supplies. The objective of the document is to provide guidance so that a municipality can more easily and effectively protect a municipal water supply watershed. Although primarily designed for municipalities embarking on a watershed management process, it is also hoped that it may persuade others that it is a doable and worthwhile process.

The document identifies various policy approaches and regulatory tools available, especially under the *Municipal Government Act* (MGA). Particular emphasis is on planning documents (i.e. municipal planning strategies, land-use by-laws and subdivision by-laws), although other tools are discussed.

A key part of this reference guide is a detailed example or model of a municipal planning strategy (MPS) and land-use by-law (LUB) dealing solely with a water supply watershed area. It is intended to show that planning for the protection of a water supply need not be overly complex or difficult.

Statements of Provincial Interest

This reference guide is in keeping with and should be used in conjunction with the:

- *Statement of Provincial Interest Regarding Drinking Water* (MGA - Schedule B) & the
- *Implementation Guidelines - Statements of Provincial Interest - Guideline 1 - Drinking Water* (Section 5.1 of the *Local Government Resource Handbook*).

Local Government  
Resource Handbook

Other documents also found in the *Local Government Resource Handbook* (LGRH) which may be used in concert with this reference guide are:

- *MPS & LUB Preparation* (Section 5.2),
- *Development Control Techniques* (Section 5.3), and
- *Model LUB* (Section 5.6).

MGA - Information  
Bulletins

As well, Service Nova Scotia and Municipal Relations has prepared “Information Bulletins” relative to the land-use planning process under the MGA which may be of assistance. These are found in the MGA Resource Binder. They are:

- *Citizen Participation* (#28),
- *Adopting Planning Documents* (#25), and
- *Ministerial Approval of Planning Documents* (#21).

All of the above mentioned documents are available through the Service Nova Scotia and Municipal Relations website at [www.gov.ns.ca/snsmr/](http://www.gov.ns.ca/snsmr/)

The Municipal Services Division of Service Nova Scotia & Municipal Relations is also available to advise and assist with respect to matters discussed in this reference guide.

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This municipal water supply watershed management planning reference guide is divided into four parts:

- Part 1 - Watershed Protection - The Basics
- Part 2 - Watershed Protection - The Process
- Part 3 - Model MPS & LUB - Municipal Water  
Supply Watershed
- Part 4 - Other Tools

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## Part 1 - Watershed Protection - The Basics

### What is a municipal water supply watershed?

A municipal water supply watershed is “an area encompassing a surface watershed or recharge area, or portion of it, serving as a water supply area for a municipal water system” (*Statement of Provincial Interest Regarding Drinking Water*).

Reference guide  
focuses on surface  
water supply  
watersheds

This reference guide focuses on watersheds of surface water supplies (i.e. lakes and rivers). This means the area of land within which the water from rain, snow and other sources flows eventually to a common lake or river which forms the source of a municipal water supply. The terms - catchment area, or drainage or river basin - are also sometimes used instead of watershed.

This document does not specifically address ground water supplies (wells) and their recharge areas (land area from which water is absorbed into and supplies the groundwater), since they are more difficult to delineate. However, much of the material in this guide including the various type of control measures talked about can be applied to groundwater supplies as well.

### Why protect a water supply watershed?

Demonstrate  
“due diligence”

Public expectations with respect to water quality, especially the safety (as well as water quantity) of drinking water have increased in recent years. Accordingly those responsible for these water supplies, such as municipalities, must show “due diligence” in protecting their municipal drinking water.

Municipalities may employ various measures “from the water source to the tap” to safeguard water quality. These include: source water protection, water treatment & water system management, and water monitoring & testing. Employing safeguards at all of these stages is referred to as the “multiple barrier” approach.

“Source to tap”  
protection

Protecting municipal water supply watersheds is an essential first step in the supply of clean, high quality drinking water. Municipalities that have a watershed serving as a source of potable water for their own residents or for those of a neighbouring municipality have an obligation to ensure that land-use activity is not allowed to impair the quantity and the quality of the water from the watershed. Where the watershed is owned publicly by the municipality, it is a fairly easy task to regulate or prohibit

development and monitor the activities that take place within the boundaries of the watershed. Where there is private land ownership the job becomes more difficult. The municipality must balance the basic development rights of the property owner with the necessity to maintain high quality water within the watershed.

**What tools does a municipality have?**

Land-use planning  
an important tool

Land-use planning is one of the main tools available to municipalities. It is a powerful yet cost effective way of dealing with concerns about development and its impact on a drinking water supply. Under the MGA, a municipality has primary authority for land-use planning in its jurisdiction, and is empowered to adopt planning documents, to carry this out.

A municipal planning strategy (MPS) is the policy document and it may deal with a broad range of matters with respect to a municipality's physical, as well as the economic and social, environment. Adopting policy to limit the type and amount of development permitted in a drinking water supply watershed is one example.

To regulate land-use in light of such MPS policy, the MGA enables a municipality to adopt a land-use by-law (LUB) and use the various development control tools - zoning, development agreements and site plan control. These documents may be very basic and deal solely with a municipal water supply watershed area. Alternatively, they may cover a larger area, even the entire municipality and be very complex.

Other MGA tools

Still, there are other, non-regulatory powers, available to municipalities under the MGA to assist in protecting a drinking water supply, including: land purchase and public education programs.

Protected Water  
Area designation

Other legislation, such as the *Environment Act*, which provides authority to designate a Protected Water Area (PWA), can also be utilized by a municipality when developing a management strategy for its drinking water supply.

This document focuses mainly on planning documents - the MPS and LUB. However, it also touches on these other tools (in Part 4), such as those mentioned above, that are available to complement them.

## What is the - Statement of Provincial Interest on Drinking Water?

Adopted under the MGA to protect the quality of drinking water

The provincial government has recognized that municipal drinking water supplies are a resource fundamental to the physical, social and economic well-being of many Nova Scotians. Accordingly, it adopted a *Statement of Provincial Interest Regarding Drinking Water (Statements)* under the MGA to protect the quality of drinking water within municipal water supply watersheds. This *Statement*, as well as the others adopted under the MGA, serve as guiding principles to help government officials, municipalities and individuals in making decisions regarding land-use.

MGA provisions sections 193 - 198

The MGA requires that new municipal planning documents or amendments to existing ones, must be “reasonably consistent” with a *Statement of Provincial Interest* [MGA - section 198(1)]. The *Statement* on drinking water requires municipalities to identify municipal water supply watersheds in their municipal planning documents and include strategies for their protection.

Implementation Guidelines

Service Nova Scotia and Municipal Relations has prepared an *Implementation Guideline* on this *Statement*, as a tool to further assist municipalities when preparing their planning documents. This *Implementation Guideline* is found in section 5.1 of the *Local Government Resource Handbook*.

The items discussed in this document, in particular the Model MPS and LUB for a Municipal Water Supply Watershed, are consistent with the intent of this *Statement*.

**Part 2 - Watershed Protection - The Process**

As with any planning process there are some key steps. Here is a listing of what those steps might be:

- Step 1 - organize planning project framework,
- Step 2 - gather information/data,
- Step 3 - analyze information/data and identify issues,
- Step 4 - prepare the plan (MPS/LUB, management plan), &
- Step 5 - adopt/implement the plan.

The process as noted above may not be appropriate in all situations, but it does give an idea of what is involved in a planning exercise.

Below is a discussion of this five step planning process. The level of detail of the planning exercise is a decision of the municipality.

**Step 1**

**Organize planning project framework**

A first step in the process is to answer some basic questions about the planning exercise for the water supply watershed. Here are some things to consider:

- **Plan Area:**

Does the planning area comprise only the watershed itself or is it part of a program that covers a larger area?

If the watershed is in a remote rural area, there is little development, and no land-use planning and regulation exists or is anticipated anywhere near the watershed, it may be most practical to limit the exercise to the watershed alone. In contrast, if the watershed adjoins a built-up area and there is a MPS & LUB in effect, or the municipality is considering a plan and by-law for the entire municipality, then it may be better to include it as part of this broader exercise.

It is not unusual for a municipal water supply watershed to extend into or be located entirely in a separate municipality. This is often the case where a town has a central water system and the watershed is in the adjacent county/district municipality. Municipal cooperation in these cases is critical.

Is this a conventional MPS & LUB or a more comprehensive management strategy?

- **Product:**

There are numerous factors which influence whether a municipality prepares a comprehensive watershed management strategy or a traditional MPS & LUB. One is whether the plan area is limited to the watershed alone or covers a larger area, perhaps even the entire municipality. If the latter, then a conventional MPS & LUB is more likely. A second factor is what resources are available, and this includes financial, staff and community expertise. Where a municipality has limited resources a more basic product, such as a MPS & LUB may be more appropriate, at least in the short term. A third is the type and severity of the issues and how quickly the exercise must be completed. For example, if a municipality is concerned about residential development which is quickly encroaching on a municipal water supply watershed, it may want to get a MPS & LUB in place as soon as possible. Later it might consider a more comprehensive strategy of which the MPS & LUB is a component. The decision about the type of product is typically made at the onset of the project, however, in some situations this may be left until somewhat later in the process when the information and issues are better known.

- **Planning Team:**

The composition of the planning team will be influenced by the complexity of the watershed, the comprehensiveness of the project and product (e.g. basic MPS & LUB or comprehensive strategy), as well as other circumstances with respect to the municipality itself. For example, does the municipality have staff with the technical knowledge and resources to carry out this exercise? The municipality should decide, early on in the process, who is going to be involved in this planning exercise and what is the role of the team as a whole as well as the individuals themselves. For example, is this going to be a technical team, a steering committee, or is there a need for both. It may be appropriate that this planning team is the municipality's planning advisory committee (PAC) as enabled under the MGA (Section 200)[see also MGA Information Bulletin #28 *Citizen Participation*]. Where the watershed is located totally or partially in an adjacent municipality, there should be members on the team that represent the interests of that municipality.

What expertise is needed and who will be involved?

Are planning consultants or other experts required?

What expertise and interest is there in the community (e.g. an environmental or watershed group)?

The discussion below regarding the other steps in this planning process will also help show what is involved in such an

undertaking, and therefore what other resources a municipality may require to effectively carry this out.

**Step 2**

**Gather Information/data**

One of the key aspects of any planning exercise is assembling appropriate, and accurate background information. In the case of water supply watershed planning and management this is certainly critical. Like many planning exercises this would entail gathering information, such as:

Natural and man-made environment of the watershed

- natural environment: geology, soils, slopes, vegetation, and hydrology, and
- man-made environment: roads, land-use (i.e. residential, commercial, industrial, recreational, agricultural, forestry, extractive), and property ownership.

Water data and management practices

Since watershed planning and management is principally concerned about water quality and quantity and any real or potential threats to this, the information gathering process might also deal with:

- water data: historical water quality, surface water currents, stormwater inputs, and trophic status, and
- management practices: current management practices, that is the policies, procedures and practices in place that (may) affect water quality or quantity.

Maps and GIS

Most of this information would be assembled and displayed on maps in order to demonstrate the location of the various factors. In light of today's technology, the information is often compiled and presented in a digital form, for example using a geographic information system (GIS), although this is not essential.

Who will gather the data?

If the municipality has the staff capability, it may choose to compile this information on its own. However, it may be desirable or necessary to contract out some or all of this work to planning, engineer or resource management consultants. Some of this information/data may be accessible from provincial government departments such as Department of Agriculture and Fisheries, Department of Environment & Labour, Department of Natural Resources and Service Nova Scotia & Municipal Relations.

### Step 3

Issues differ from one watershed to another

'Point' and 'non-point' sources

Issues in a watershed may include some or all of these, as well as others

### Analyze information/data and identify issues

Compiling this information is really only the first step. The more important part is analyzing the data to reveal what significance this has for water quality and quantity in the watershed currently and what to expect in the future. Since each municipal water supply watershed is unique in terms of its natural and man-made environment, this also means that the types and magnitude of the issues in a watershed differ. For example, in the case of an undeveloped and remote watershed, normally the issues are few and the threats very low. However, for watersheds in which development currently exists, or where new development is expected, this is typically not the case. This analysis should address both known and potential 'point' (i.e. originate from specific sources such as an industry or a sewer outfall) and 'non-point' sources (e.g. carried to the water supply source through stormwater runoff, such as sediment and fertilizer) of contamination (pollution). It might also deal with other possible effects on the watershed, such as increased stormwater runoff.

Here are examples of some possible concerns and potential sources:

- **siltation/sedimentation**
  - residential/commercial/industrial etc. - land clearing and construction practices associated with new development
  - agriculture - soil erosion from exposed farm fields
  - forestry - soil exposure during logging operations
  - extraction - topsoil, peat or minerals
  - roads - construction of new roads
- **bacteria**
  - livestock operations (manure)
  - on-site sewage disposal systems
  - pet waste
- **pesticides / herbicides / insecticides /fungicides**
  - farm fields
  - tree plantations
  - residential properties
- **toxic substances** (e.g. engine oil)
  - parking lots
  - auto service stations
  - salvage yards
  - roadways (spills & highway accidents)
- **salt**
  - public & private roads
  - driveways
  - parking lots

This is not intended to be a complete listing, but only touches on some possible key issues that may arise.

Information with respect to some of these issues may be available from government departments.

As with the task of compiling the information/data, a municipality may seek the services of a consultant to assist with this. The responsibilities of the planning team in this part of the exercise will vary, and depend on the role assigned and agreed to by the municipality.

**Step 4**

**Prepare the plan**

Who will prepare the plan?

As with the previous step, the “plan” may be prepared by municipal staff or by outside consultants. The type and scope of this product is determined at or near the outset of the exercise and may be a conventional MPS and LUB or a broader management strategy of which the planning documents are a component. In cases where a consultant is the primary author, municipal staff would normally review and provide input before the plan/strategy is adopted. Interest groups and the general public in the municipality would also typically be provided with an opportunity to comment on the plan/strategy at some point(s) during its development. With respect to a MPS & LUB, the MGA (Section 204) requires that a municipality adopt a public participation program indicating how it intends to seek the opinions of the public on proposed planning documents. As with other planning documents a municipality is encouraged to forward a draft of any MPS and LUB to SNSMR for comment.

How will the public be involved?

**Step 5**

**Adopt/implement the plan**

Municipal council adopts the plan or strategy

Regardless of who prepares the watershed plan/strategy, it is the responsibility of the municipal council to adopt it. If the strategy is a comprehensive watershed management strategy package, those aspects other than the MPS & LUB (eg. emergency response plan, forestry management plan) are adopted according to the requirements of MGA, Part 7 (Section 168 - 170) for by-laws, or Part 3 (Section 48) in the case of policy. A MPS & LUB, whether part of a comprehensive watershed management strategy, or simply stand-alone conventional planning documents, are adopted by a municipal council in the manner prescribed in Part 8 of the MGA [also see MGA Information Bulletin #25, *Adopting Planning Documents*].

Intermunicipal planning strategy

Where the municipal water supply watershed is located within more than one municipal jurisdiction and the municipalities are working

cooperatively to prepare a management plan, the MGA (Section 215) enables the municipalities to adopt a mutually binding intermunicipal planning strategy. Where the intermunicipal planning strategy contains policies regulating land-use, the municipalities each then adopt a land-use by-law (or amendment the existing land-use by-law) for their own jurisdiction (MGA Section 219(1)) to implement the policy.

**Part 3 - Model MPS & LUB - Municipal Water Supply Watershed**

Basic example or model of a conventional MPS and LUB

What follows is an example or model municipal planning strategy (MPS) and land-use by-law (LUB) that deals solely with water quality protection in a municipal water supply watershed. This example is written as if it were an actual MPS & LUB in order to give an idea of how these documents are formatted and how they work together.

Local Government Resource Handbook

This is a basic example of a conventional MPS and LUB. [For more information about developing a MPS & LUB see the ‘how to’ guide entitled *Municipal Planning Strategy and Land-Use By-Law Preparation* in the *Local Government Resource Handbook* (LGRH) (Section 5.2)]. The example or model below uses standard “as-of-right” zoning as the development control tool in the LUB. [For more information about the LUB see the ‘how to’ guide entitled *Model Land-Use By-Law* in the LGRH (Section 5.6)]. However, a municipality could use other development control tools, such as development agreements. [For more information about this see the ‘how to’ document *Development Control Techniques* in the LGRH (Section 5.3)].

MGA ‘Information Bulletins’

The model below provides an example of the format and content of a MPS and LUB. It does not address the process aspect of developing a MPS and LUB. Vital to any planning program is the involvement of the people that will ultimately be affected by what is finally adopted. Without their support and understanding the program will not be successful. For more information about process, refer to the following “Information Bulletins” in the MGA Resource Binder: *Citizen Participation* (#28), *Adopting Planning Documents* (#25), and *Ministerial Approval of Planning Documents* (#21).

For the purposes of this exercise a fictitious lake (Lake Thomas in Gainsborough County) and a fictitious town (Mayfair) are used in the model to illustrate the concepts.

In the model , comments found in a box like this are intended as explanation only and are not meant to be part of the strategy or by-law itself.

## - The Lake Thomas Watershed Municipal Planning Strategy -

### Part 1 - Background

#### Authority:

This Municipal Planning Strategy and accompanying Land-use By-law are legal documents prepared pursuant to the Municipal Government Act c. 18, SNS 1998. The strategy is an expression of land-use policy for the Municipality of the County of Gainsborough with respect to the use and development of land within the Lake Thomas watershed.

Lake Thomas and its surrounding watershed is the only source of drinking water for the town of Mayfair. The lake also supplies water to three neighbourhoods just outside of the town boundaries.

This Municipal Planning Strategy and the accompanying Land-use By-law are prepared in conformance with the Statement of Provincial Interest Regarding Drinking Water adopted by the Province of Nova Scotia in 1998.

#### Purpose:

The purpose of this Municipal Planning Strategy and Land-use By-law is to protect and preserve the quality of water in Lake Thomas and its surrounding watershed through the use of land-use regulation and development control.

#### Context:

*This part of the strategy would describe the lake and the watershed giving its size, topography, rates of flow, any unusual characteristics and so on. A watershed study should be conducted, by a qualified person, giving sound scientific and technical information specific to the watershed. This part would also describe what, if any, existing development is located within the watershed and the size and extent of the land holdings, as well as what development may be expected.*

### Part 2 - Goals

The overall goal of this strategy is to control land-use activity within the Lake Thomas watershed to the extent necessary to ensure water quality guidelines adopted by the Province - (i) *Guidelines for Canadian Drinking Water Quality*, and (ii) *Canadian Environmental Quality Guidelines* - are maintained.

A secondary but equally important goal is to introduce a public awareness campaign to explain to all residents of the municipality the effect that they can have on water quality and steps they can take to make sure they are not the cause of any impairment.

### Part 3 - Lake Thomas Watershed Policy Statements

## Land-use Policy

Designating the Lake Thomas watershed is an important first step in developing watershed land-use policy for the municipality. The designation will form the basis of further policy and serve as a framework for the necessary land-use control measures to be introduced.

Policy 1. It is the policy of Municipal Council to designate the entirety of the Lake Thomas watershed, as described in (the engineering study) and shown on Map 1, the Generalized Future Land-use Map, as Water Supply Watershed.

Applying to the Minister of Environment & Labour to designate the watershed as a Protected Water Area under the *Environment Act*, if it become necessary, allows for further control of activities that may impair water quality. These would include such things as forestry activity and recreational use of the lake itself.

Policy 2. It is the policy of Municipal Council to monitor activities in and around Lake Thomas and if deemed advisable apply to the Minister of Environment & Labour to take steps to designate the Lake Thomas watershed as a Protected Water Area under the *Environment Act* and apply appropriate regulations for its protection.

*There are some activities that can occur in the watershed that a land-use by-law cannot control. Forestry activity, for example, is not a development and cannot be controlled by the land-use by-law. Also, swimming, boating, fishing, hiking and so on, are activities that can have a significant impact upon lake water quality but cannot be controlled by the land-use by-law.*

Development within the watershed will be limited to single unit dwellings, parks and playgrounds and water utility uses. It is recognized that there is no sewer collection system in the area but properly functioning and maintained septic systems in low densities should not pose any health risks. Monitoring and septic system education will be a key to ensuring no future problems arise.

Policy 3. It is the policy of Municipal Council to apply a Watershed (W) Zone to the area designated Water Supply Watershed on the Generalized Future Land-use Map and to allow single unit dwellings, parks, playgrounds and water utility uses as permitted uses.

*Because the land within this watershed is private property there must be some basic as-of-right development permitted. The Municipal Government Act does not allow for a total prohibition of development of private land except in very limited and specific situations - S. 220(3) and S. 220(5)(n),(o) and (p).*

Policy 4. It is the policy of Municipal Council to apply development standards to any residential development within the Watershed (W) Zone that are sensitive to the special needs of the zone. In that regard minimum lot area and frontage requirements will be larger than normal in order to keep density low.

*Development standards are applied only to residential uses because these are the only uses that will involve a structure of any size that will be privately owned. If other uses are to be permitted the policy and regulation will have to be adjusted accordingly.*

An important part of the protection of water quality in the lake itself is the retention of vegetation around the lake shore and any streams or rivers that feed it. This will be accomplished by requiring a buffer area, that cannot be disturbed, around all watercourses.

Policy 5. It is the policy of Municipal Council to further protect the watercourses within the Watershed (W) Zone by requiring a large buffer area around all watercourses within which no structure, other than those related to the water utility, may be constructed and no vegetation may be removed.

*The size of this buffer area will depend very much on the topography of the land surrounding the watercourse. This will be determined by the watershed study that will have to be done at the outset.*

### **Administrative Policy**

Policy 6. It is the policy of Municipal Council to adopt a Land-use By-law, concurrently with the adoption of this Municipal Planning Strategy, to carry out the land-use intents as described in the policy.

Policy 7. It is the policy of Municipal Council to appoint a Development Officer to administer the Land-use By-law in accordance with the policies of this Municipal Planning Strategy and the requirements established in the Municipal Government Act.

Policy 8. It is the policy of Municipal Council to review this Municipal Planning Strategy and if deemed advisable, replace it or amend it as the case may be:

- ▶ when an amendment to the Land-use By-law is requested that is contrary to the policies of this strategy,
- ▶ when an amendment to or a new Statement of Provincial Interest is adopted that would result in this strategy no longer being in conformance with said statement,
- ▶ at any time, at the request of any member of Council, and
- ▶ not later than five years from the date of adoption.

Policy 9. It is the policy of Municipal Council, during the review of this Municipal Planning Strategy, to hold at least one public information meeting at which all stakeholders

and interested citizens of the municipality can be fully informed as to the proposed change or changes as the case may be.

- Policy 10. It is the policy of Municipal Council to undertake an extensive public awareness campaign to inform the general public and in particular land owners within the Lake Thomas watershed of the best management practices when living and partaking in recreational activities in and around Lake Thomas.

*Some municipalities may want to charge a fee for the administration of the land-use by-law. This would be done through an application fee for a development permit. Also, if someone applied to have the land-use by-law amended, a fee could be charged to cover the required advertising costs. If fees are to be charged it should be stated in policy. A fee schedule can be attached to the land-use by-law. In areas where development activity will be very low, as would be the case here, charging a fee may be more trouble than it is worth.*

### - The Lake Thomas Watershed Land-use By-law -

*Since this is a single issue municipal planning strategy and land-use by-law the land-use by-law portion will not be as detailed as one would normally be.*

#### **Title and Purpose**

- 1.1 This By-law shall be known as the Land-use By-law for the Lake Thomas Watershed and shall apply to all lands within the boundaries of the Lake Thomas watershed as described on Schedule “A”, the Zoning Map.
- 1.2 The purpose of this By-law is:
- (a) to carry out the land-use development policies found in the Lake Thomas Watershed Municipal Planning Strategy; and
  - (b) to establish a fair and systematic means of development control for the planning area.

#### **Administration**

- 2.1 The Development Officer shall administer this By-law.
- 2.2 (a) Unless otherwise stated in this By-law, no person shall undertake a development on a lot within the Lake Thomas planning area without first obtaining a development permit from the Development Officer.
- (b) The Development Officer shall only issue a development permit in conformance with this By-law except where a variance is granted or in the case of a nonconforming use or structure in which case a permit shall be granted in conformance with the Municipal Government Act.

- (c) A development permit shall be valid for 12 months from the date issued if the development has not commenced.
- (d) The Development Officer may revoke a development permit where information provided on the application is found to be inaccurate.

2.3 Unless otherwise specified, no development permit shall be required for:

- (a) a development that involves the interior or exterior renovation of a building that will not change the shape of the building or increase its volume, will not add more dwelling units or otherwise intensify the use of the building, or will not involve a change in use of the building;
- (b) a fence or wall that does not exceed two (2) metres (6 ft. 6 in.) in height; and
- (c) an accessory building less than 20 square metres (216 sq. ft.) in area.

*The Act clearly enables a municipality to set out in its LUB 'developments for which a development permit is not required' (Section 244(2)).*

*The 20 square metres referred to in clause (c) is also the size threshold in most building by-laws at which a building permit would be required.*

*It should be noted that even though the development of some uses may not require a development permit the development is still required to be in compliance with the LUB.*

2.4 (a) Every application for a development permit shall be accompanied by a sketch or plan, in duplicate, drawn to an appropriate scale and showing:

- (i) the shape and dimensions of the lot to be used;
- (ii) the distance from the lot boundaries, dimension, and height of the building or structure proposed to be erected;
- (iii) the distance from the lot boundaries and size of every building or structure already erected on the lot and the general location of the buildings on abutting lots;
- (iv) the proposed location and dimension of any parking space, loading space, driveway, and landscaped area;
- (v) the proposed use of the lot and any building or structure; and,
- (vi) any other information the Development Officer deems necessary to determine whether or not the proposed development conforms to the requirements of this By-law.

- (b) Where the Development Officer is unable to determine whether the proposed development conforms to this By-law, the Development Officer may require that the plans submitted under clause (a) be based upon a survey certified and stamped by a Nova Scotia Land Surveyor.

2.5 The application for a development permit shall be signed by the registered owner of the lot or by the owner's agent duly authorized in writing to act for the owner.

2.6 This By-law shall take effect upon the date of publication.

*The date of publication is simply the date the notice advertising, that the new By-law or amendment is in effect, is printed in the local newspaper.*

### **Zone and Zoning Map**

3.1 For the purposes of this By-law one zone shall be applied to the entire planning area:  
- Watershed (W) Zone.

3.2 Schedule "A" is the Zoning Map and forms part of this By-law.

### **Interpretation**

4.1 (a) In this By-law, words used in the present tense include the future, words in the singular number include the plural, words in the plural include the single number, the word "used" includes "arranged to be used", "designed to be used" and "intended to be used", and the word "shall" is mandatory.

(b) All official measurements are in metric. Where imperial measurements are provided they are for information purposes only.

4.2 (a) In this By-law any use not listed as a permitted use in the zone is prohibited in that zone unless otherwise indicated.

(b) Where a permitted use within the zone is defined in this By-law the uses permitted in the zone include any similar uses that satisfy such definition except where a definition specifically excludes any similar use.

### **General Provisions**

5.1 (a) An accessory building or structure is permitted and may be used only as an accessory use to the main building or use, but it shall not:

- (i) be used for human habitation except where a dwelling is an accessory use;
- (ii) be built in the front yard of any lot;
- (iii) be built closer than \_\_ metres to any lot line;
- (iv) be built within \_\_metres of the main building.

- (b) Notwithstanding anything else in this By-law, awnings, clothesline poles, flag poles, garden trellises, retaining walls, signs, and fences shall be exempt from any requirement under subsection (a).
- (c) Unless otherwise provided in this section, no accessory building or structure shall be constructed:
  - (i) prior to the time of construction of the main building to which it is accessory, or
  - (ii) prior to the establishment of the main use of the land where no main building is to be built.

5.2 No building shall be erected or used unless it is erected on a single lot.

5.3 (a) Nothing in this By-law shall exempt any person from complying with the requirements of any other By-law of the municipality or from obtaining any license, permission, permit, authority, or approval required by any other By-law of the municipality or any regulation of the Province of Nova Scotia or the government of Canada.

- (b) Where the provisions of this By-law conflict with those of any other By-law of the municipality or regulation of the Province or the government of Canada, the higher or more stringent provision shall prevail.

### **Watershed (W) Zone**

6.1 The following uses shall be permitted in the Watershed Zone (W):

- (a) parks and gardens
- (b) playgrounds
- (c) single unit dwellings
- (d) water supply treatment and distribution uses.

*It is almost inevitable that there will be existing uses that do not fall into any of the permitted use categories indicated above. These uses may be handled in a variety of way. Often the approach taken relates to the degree of risk to water quality posed by the uses themselves. Uses that do not pose a significant risk, for example two unit dwellings, could be treated as "existing permitted uses". They are permitted to continue and may expand according to the zone requirements. These uses should be clearly identified in the by-law (e.g schedule to the by-law) so that there is no argument in the future as to their existence. These uses can be listed by using property identifiers such as the PID number, assessment number or the civic address. Uses that may pose a greater risk, like certain commercial uses, could also be listed as permitted uses, but with additional limitations on their ability to expand. A development agreement may be an appropriate development control tool for this purpose. (See section 5.3 of the Local Government Resource Handbook for details on Development Control Techniques.) For those existing commercial or industrial uses that pose a significant risk, for example those that use, store, or in any way incorporate hazardous materials in any process, they should be made nonconforming*

*and encouraged to relocate from the watershed. As non-conforming uses they would be prevented from any form of future development (See Municipal Government Act sections 238-242).*

6.2 The following requirements apply to single unit dwelling development only:

<b>Requirement</b>	<b>Standard</b>
Minimum lot area	1 hectare (2.5 acres)
Minimum lot frontage	100 m. (330 ft.)
Minimum front yard	6 m. (20 ft.)
Minimum rear yard	6 m. (20 ft.)
Minimum side yard	3 m. (10 ft.)

*The development standards for single unit dwellings in this zone are suggested to be quite large to keep density low. There are no standards for the other uses permitted in the zone because they are, for the most part, open space uses. If existing uses are to be permitted and they are not single unit dwellings, the general requirements will have to be adjusted accordingly.*

6.3 Notwithstanding anything else in this By-law, within the W zone no structure, other than a water treatment or distribution facility, shall be located closer than 30 metres (100 ft.) from a watercourse.

*This special requirement provides added security to the quality of the water in the watershed. Thirty metres is suggested but individual circumstances, such as steepness of slope or vegetation cover, may require a larger distance or allow for a reduced one.*

6.4 In relation to a development, the natural vegetation surrounding a watercourse shall be maintained for a distance of 20 metres (65 ft.) back from the shore line.

*This regulation is enabled under S. 220(5)(d), but it requires supporting policy in the strategy. Its purpose is to help prevent any sedimentation and erosion of the watercourse shore line when a development takes place. The 20 metre distance is only a suggestion. Shorelines with steep slopes, for example, may require a wider natural vegetation buffer. Individual circumstances should be studied before specific distances are determined. Also, rather than an outright ban on removal of any natural vegetation in the buffer area, consider establishing a percentage of existing natural vegetation that must be maintained, for example 90%.*

## **Definitions**

A. **Accessory Building** means subordinate building or structure on the same lot as the main building devoted exclusively to an accessory use;

- B. **Accessory Use** means a use customarily subordinate and incidental to a main use of land or building and located on the same lot;
- C. **Development** includes the erection, construction, alteration, placement, location, replacement or relocation of, or addition to, a structure and a change or alteration in the use made of land or structures;
- D. **Development Officer** means the person appointed by the municipal council in accordance with the *Municipal Government Act* and charged with the duty of administering the provisions of this By-law;
- E. **Dwelling** means a building occupied or capable of being occupied as a home, residence, or sleeping place by one or more persons, containing one or more dwelling units, and shall not include a hotel, motel, apartment hotel or a travel trailer;
- F. **Dwelling, Single Unit** means a completely detached building containing one dwelling unit;
- G. **Lot** means a parcel of land described in a deed or as shown on a registered plan of subdivision;
- H. **Lot Area** means the total horizontal area within the lot lines of the lot;
- I. **Lot Frontage** means the length of a line joining the side lot lines and parallel to the front lot line;
- J. **Main Building** means the building within which is carried out the principal purpose for which the lot is used;
- K. **Watercourse** means any lake, river, stream, ocean or other body of water;
- L. **Watershed** means the Lake Thomas watershed;
- M. **Water Supply Treatment and Distribution Uses** means any building, structure or facility necessary to provide municipal water services;
- N. **Yard** means an open uncovered space on a lot next to a building and unoccupied by a structure except as specifically permitted elsewhere in the By-law;
- O. **Yard, Front** means a yard extending across the full width of a lot between the front lot line and the nearest wall of the main building on the lot. The **minimum front yard** means the minimum depth allowed by this By-law between the front lot line and the nearest wall of any main building on the lot;

- P. **Yard, Rear** means a yard extending across the full width of a lot between the rear lot line and the nearest wall of the main building on the lot. The **minimum rear yard** means the minimum depth allowed by this By-law between the rear lot line and the nearest wall of any main building on the lot;
- Q. **Yard, Side** means a yard extending from the front yard to the rear yard between the side lot line and the nearest wall of the main building on the lot. The **minimum side yard** means the minimum depth allowed by this By-law between the side lot line and the nearest wall of the main building on the lot.

## Part 4 - Other Tools

Here are some other tools that a municipality may use in order to more effectively manage its municipal water supply watershed. These may be used in conjunction with a MPS and LUB or on their own.

### Land Ownership

Municipality may acquire land by various means under the MGA

A municipality may acquire land within a water supply watershed [MGA - Section 50(5)]. The power to acquire land is not limited to lands within the municipality itself. If necessary a municipality may acquire land by way of expropriation [MGA - Section 52] and again this can apply to lands within another municipality. As well a municipality can receive land as a gift or by way of a trust [MGA - Section 50(1)].

Where the municipality owns the land in the watershed it has the ability to prepare a by-law which would regulate activities such as swimming, camping, cutting of trees, fishing, and so on [MGA - Section 180].

Land acquisition often important in a management plan

Land ownership provides the municipality with the greatest degree of control over uses and activities in the watershed. Still, the biggest drawback to land acquisition is often the cost. In any case, land acquisition should be a key component in the overall management plan for a water supply watershed.

### Designation Under the Environment Act

Protected Water Area Designation

Section 106 of the *Environment Act* gives the Minister of Environment & Labour the power to designate any area surrounding a water supply source as a Protected Water Area (PWA). This is done only at the request of the operator of the water works. This is usually the municipality, although in some cases this may be a separate water commission. Along with the designation the Minister can impose regulations that would prohibit or regulate any activities that may impair water quality within the area designated. This typically means activities such as swimming, forest harvesting, road construction, and application of pesticides.

### Education

Public education programs can take many forms

A critical part of any watershed management scheme is public education. Section 65(al) of the MGA gives a municipality the power to spend money on its water system, and this can include funding public education about protecting the water supply watershed. This education program may be limited to those who live or work in a water supply watershed.

However, it may also include water supply users and the general population as well. People need to be aware of what the issues are in a water supply watershed and how an individual's activities and actions can affect water quality.

Some of the issues that often need to be addressed in a public education program are: on-site sewage disposal (septic) systems, home landscaping practices, development along the shoreline, vegetation retention, use of pesticides and fertilizers, and the recreational use of the lake.

Some of these matters are addressed in more detail in Appendix "A" - Best Management Practices for residential and recreational areas.

## Appendix A - Best Management Practices

Best Management Practices (BMPs) are widely accepted approaches, procedures, or actions which, in the case of municipal water supply watershed, are intended to minimize human impact on the natural environment.

BMP objectives for water supply watersheds

BMPs for municipal water supply watersheds share many of these common objectives:

- ▶ minimize pollution threats;
- ▶ minimize soil erosion;
- ▶ minimize vegetation loss; and
- ▶ reduce storm water runoff volumes and velocities.

Here are some suggested Best Management Practices with respect to a few of the issues that can affect a watershed: on-site sewage disposal systems, landscaping and waterfront recreational practices.

### **On-site Sewage Disposal (Septic) Septic System Best Management Practice**

Failing septic systems can pose serious health risks

Residential on-site sewage disposal (septic) systems are perhaps the most troublesome aspect of dealing with land-use activity within a water supply watershed. Failing septic systems can pose serious health risks. Hepatitis, dysentery, and other diseases may be spread by bacteria, viruses and other parasites in waste water. Inadequate treatment of waste water can also allow excessive nutrients to reach lakes or streams, promoting algae or weed growth. Algae blooms and abundant weeds not only make it unpleasant for swimming and boating, they also affect water quality for fish and wildlife habitat.

A properly constructed and maintained septic system should not be a problem. Here are several best management practices that can be used to keep a septic system in good working order.

- Discharge all sewage waste from the house into the septic tank. Do not run waste water from the laundry directly into the drainfield as the detergent or soap scum will quickly clog soil pores and cause septic system failure.
- Do not add “starters” to the septic system. Enough bacteria are available in the waste flushed into the septic tank. Even after the tank has been pumped, enough bacteria will be provided when the system is used again.

Pump septic system regularly

- Do not use additives in the system. They are of no benefit and may cause harm to the system.
- Pump the septic system every year to remove solids and scum. Annual pumping is excellent insurance for systems in a watershed.
- Remove the manhole cover when pumping the system to make sure that all solids have been removed. The sludge in the tank should be mixed during pumping. A tank cannot be adequately cleaned through a four inch inspection pipe.

**Landscaping Best Management Practice**

Minimize exposure of bare soil

- Keep the site covered. Any disturbance of ground cover (grass or shrubs) will expose soil. This leads to erosion and slope failure. Use hay or straw as much as possible to cover disturbed areas after re-seeding. A good rule of thumb is one 50 pound bale (22.5 kg) per 500 square feet (45 sq. m.). Consider working only in small areas and stabilizing that site before working on another.

Maintain vegetation buffer

- Minimize disturbance to plants and trees. Select and save trees to gain time in landscaping later. Large trees, especially birch, can be killed by heavy traffic that compacts the soil. Putting fill material too deeply over root areas can also kill trees.
- Maintain a buffer zone of natural vegetation along the banks of lakes and streams. The best filter strip is mature woodland with undisturbed grass and shrub layers.
- Establish permanent cover. After the grounds have been graded to minimize and control runoff, the next step is to plant a permanent cover on all areas that have been disturbed. Trees and shrubs are excellent at protecting soil from rain and are practical erosion control measures. Use native species of trees and shrubs where ever possible. They are well adapted to our climate, insects and diseases and create a natural, low maintenance landscape.

Plan for runoff from roads and driveways

- Plan roads and driveways to take advantage of the natural contours of the area. Where steep slopes cannot be avoided consider putting in “water bars”. These small, raised ridges on the road surface help to divert runoff water to road ditches rather than allowing it to run the entire length of the slope.

Minimize use of pesticides and fertilizer

- Avoid the use of chemical pesticides. If they must be used consult a professional to determine which pesticide to use and how much can safely be applied.
- Nitrogen is a fertilizer for rich green lawns and gardens but it is a very mobile nutrient. Attention must be paid to the amount applied and the timing to eliminate the possibility of water contamination.
- Yard waste such as leaves, grass clippings, fruit and vegetable waste should never be permitted to enter the water. These materials contain phosphorus and may contribute to the degradation of surface water quality.

#### **Waterfront Recreational Best Management Practice**

Maintain the natural shoreline

- Maintain a buffer zone. Do not alter the natural shoreline.
- Avoid burning on the beach. The remaining ash is highly alkaline and may change the pH of the lake which will promote the growth of undesirable plants.
- Use a diving platform or raft instead of developing a beach for swimming.
- Do not wash or urinate/defecate in the lake.
- Do not use motorized boats on the lake.